20 Years of Partnership

Monday 12 October

10.45-13.00: MAEDI excavations in Southern Africa

J. Braga (Univ. of Toulouse):
Kromdraai, a birthplace of Paranthropus in the Cradle of Humankind

D. Gommery (CNRS):
Bolt's Farm Cave System, a potential Rosetta stone for human evolution

Among the different Plio-Pleistocene sites of the Cradle of Humankind, Bolt's Farm is one of the most problematic. Authors often considered Bolt's Farm to be a single deposit whereas it is an area with several fossiliferous and unfossiliferous cave fill deposits and cavities related to a vast ancient, but interconnected karstic system, the Bolt's Farm Cave System (BFCS). If this area is known since 1936 (see R. Broom' works), it remained relatively unknown until the Franco-South-African agreement in Palaeontology and Prehistory signed in 1995. The oldest deposit of the Cradle of Humankind, Waypoint 160, was discovered at BFCS the following year by B. Senut, M. Pickford and J. Michaux. In 2006, the current franco-south-african team, the HRU (Hope (Human Origins and Past Environments Programme) Research Unit) started a systematic prospection of the area and discovered new loci. More than 30 loci are currently identified at the BFCS, ranging in age from between 4.5-4 to about 0.9 million years. Unlike East Africa (Ethiopia, Kenya and Tanzania), long geochronological sequences do not usually exist in the Cradle of Humankind, South Africa. An abundant litterature in palaeontology and geology exists concerning the evolution of the environment for such sequences for East Africa but not for South Africa. The modification of the environment impacts biodiversity and human evolution (anatomy, behavior, culture). The future research at BFCS could probably answer the questions we have concerning the evolution of the environment and the biodiversity (including hominids) between 4.5-4 to about 0.9 million year and when migrations took place within and out South Africa.

L. Bruxelles (INRAP):
Looking for a new part of the cradle of "Humankind: the Human Origins in Namibia" program

If there are no doubts that our ancestors originated from Africa, it becomes more and more difficult to say where precisely. The recent datings from Sterkfontein cave on the famous Little Foot australopithecus confirmed that South Africa yield fossils as old as in East Africa. That means that hominins were already widely spread in Africa and that their preservation depends mainly on the geological and geomorphological settings.

Our work in South Africa, in the place called the "Cradle of Humankind" by UNESCO in 1999, permits us to understand some of the conditions which permit to find so numerous Human and pre-Human fossils. According to a specific geomorphological evolution, caves can trap and then preserve hominins fossils in a very good condition. In Namibia, we identified a very remote place where such conditions

seem to be gathered. A new mission, funded by the French Ministry of Foreign Affairs will start in December in order to survey the Aha Hills (Aha Berge), close to the Botswana border. An interdisciplinary team will look for caves, map them, study them and their fillings and, we hope, confirm that these calcareous hills could contain a new part of the cradle of Humankind.

P-J. Texier (CNRS):
1998-2013: Diepkloof and its contribution to the history of Late Pleistocene modern humans

Initiated in 1998 the research project at Diepkloof Rock Shelter was a joint program between the University of Bordeaux and the University of Cape Town. A multidisciplinary study of the Middle Stone Age deposits permitted to investigate the main cultural changes and their tempo recorded at Diepkloof Rock Shelter from OIS 5 to OIS 3. A model was proposed to explain the early appearance of symbolic marking within the Pleistocene hunter-gatherer societies of Southern Africa.

G. Porraz (CNRS/IFAS):
Bushman (Limpopo Province, South Africa): sitting east, looking north

Bushman is a large rock shelter located on the margin of the great escarpment, in the Limpopo Province. Investigated by the University of Pretoria in the 1970's, the site exposes a long and well-stratified sequence with good organic preservation throughout ca. 8 meters of archaeological deposits.

The Bushman Rock Shelter project was initiated in 2014. It aims at investigating the earliest and latest expressions of the Pleistocene history of Anatomically Modern humans, poorly documented in Southern Africa. The project discusses evolutionary models at a multidisciplinary scale and represents an opportunity to connect the South African Stone Age with data from countries further north.

The project involves the participation of scholars and academics from South Africa and overseas. It benefits from the support of the French Ministry of Foreign Affairs, the Fyssen Foundation as well as the Evolutionary Studies Institute. A field school program started in 2015 at the site in collaboration with Dr. C. Sievers and Dr. D. Stratford from the University of Witwatersrand.

D. Pleurdeau (MNHN Paris):
Mission Archéologique en NAMibie (MANAM): Settlement dynamics in Erongo Region during Holocene

In recent years, a Franco-Namibian multidisciplinary team conducts archaeological research in the Erongo Mountains, in central-west part of Namibia. Born from a collaboration between the National Museum of Namibia (NMN) and the National Museum of Natural History (MNHN), this research has particularly allowed the discovery of a Holocene Later Stone Age site, Leopard Cave, which delivered early evidence of domesticated in Southern Africa, about 2,300 years ago. During last excavations (2012 & 2014), human remains have also been recovered. Directly dated from ca. 6,600 Cal BP, they document burial practices of pre-pastoralists in the region, which are largely unknown.

Since 2014, this research project benefits from a French MAEDI grant and from a logistical support of the National Heritage Council of Namibia. It also aims to strengthen the Namibian capacity in terms of high education and research in archeology. Namibian students regularly participate in the fieldwork, and two Namibian students received their Master at the MNHN and are currently conducting a PhD. A cooperation agreement is also being developed between the MNHN and the University of Namibia.

14.30-17.00: Panel of South African and French collaborations

B. Rubidge (Director ESI)

S. Mavuso (Wits)**, D. Stratford** (Wits)**, R. Maire** (Univ. of Bordeaux)**, L. Bruxelles** (INRAP)**:**
The deposits of Jacovec Cavern, Sterkfontein: A high resolution application of sedimentological analyses for palaeanthropological studies

Sterkfontein is one of the most productive paleoanthropological sites in the world. Investigations in the Jacovec Cavern, one of Sterkfontein's deepest chambers, were prompted by the discovery of an in situ *Australopithecus sp.* partial cranium. The site provides a rare opportunity to investigate well preserved, morphologically intriguing hominin fossils and stratigraphically associated fauna from a highly fossiliferous, discrete and in situ deposit. Previous works in the Jacovec Cavern provided initial hominid morphological descriptions from the original fossil and 11 ex situ specimens and placed them within a preliminary taphonomic, stratigraphic and chronological framework. This project applies high resolution sedimentological analyses (from thin sections, petrographic descriptions and facies analysis) and identifies four stratigraphic units documenting the long sequence of deposition in the cave. The units include a basal laminated, micaceous, carbonate-deficient silty mudstone erosionally overlain by a cherty gravelly horizon. These are overlain by laterally extensive, fossiliferous carbonate-rich breccias (an older 'brown' and younger 'red'). Micromorphological clastic analysis has contributed greatly to our understanding of karst development at Sterkfontein, with the presence of ghost rock structures denoting the phreatic stages of the cavern and subsequent lithification and reworking of allogenic and autogenic sediments. The uppermost breccias indicate a primary deposition of locally sourced fossilifeous sediments represented by laterally extensive, correlatable deposits. These interpretations are contrasting to that of previous work from Partrigde et al. (2003). This study demonstrates the importance of high resolution sedimentary analyses in complex palaeoanthropological studies.

C. Verna (CNRS)**, S. Prat** (CNRS)**, F. Thackeray** (Wits)**, T. Jashashvili** (Wits/Georgian National Museum)**, J. Parkington** (UCT)**:**
Pleistocene hominins. Past, present and future Franco-South African cooperation for key periods of hominin evolution

South Africa plays a central role in the study of hominin evolution and a long term multifaceted research collaboration between South African and French researchers has involved many scientists. This cooperation has mainly focused on two particular periods. Firstly, the Pliocene and Early Pleistocene: the "Cradle of Humankind" UNESCO World Heritage Site has yielded a tremendous number of fossil remains from this period that are crucial for understanding the origin of genus *Homo;* secondly, the Upper Pleistocene. South Africa is indeed a region of great interest when investigating the origin and evolutionary history of anatomically modern humans (AMH): large samples of AMH remains preceding the "Out-of-Africa" event have been unearthed, and numerous techno-economic and symbolic innovations in the Middle Stone Age have shed light on southwestern Africa as the possible Cradle of "behavioral modernity". Within the last two decades, French-South African field projects have allowed the discovery of new hominin remains from the Early Pleistocene (*e.g*. Bolt's Farm, Drimolen, Kromdraai) and from the Upper Pleistocene as well (*e.g*. Diepkloof Rock Shelter; Blombos). Apart from fieldwork, French and South African researchers co-operate in the laboratory. Joint projects have already led to several publications focusing on early hominin taxonomy and morphological diversity, contributing to lively debates such as the sexual identity of "Mrs Ples" (a key specimen of *Australopithecus africanus*) as well as the diversity within the *Paranthropus* genus. In addition, recent analyses of Upper Pleistocene AMH remains concur with other studies in underlining a high morphological diversity of South African MSA populations, adding to the growing evidence for AMH population structure in Africa in the Upper Pleistocene. As a continuation of this fruitful past collaboration, present and future collaborative research projects that we present here aim to

investigate and interpret the morphological diversity of hominins in these two key periods in hominin evolution. We are grateful for financial support from French and South African funding agencies.

K. Douze (Wits)**, A. Delagnes** (CNRS)**, S. Wurz** (Wits)**, C.S. Henshilwood** (Wits/Univ. of Bergen)**:**
Tracking the dynamics of Middle Stone Age cultural changes in the southern coast records of Blombos Cave and Klipdrift Shelter

Understanding the mechanisms of change in human behaviour is essential for insight into the emergence of "modernity" as inferred to *Homo sapiens* and its development during the Middle Stone Age. Although these mechanisms are frequently investigated through the lens of environmental influences, the understanding of the techno-cultural aspects of behaviour and their evolution over time is not well understood. This contribution presents our ongoing work on two iconic sites of the southern coast of South Africa: Blombos Cave and Klipdrift Shelter. The technological approach of lithic assemblages fuels the understanding of cultural ties or disconnections for a key period of the Middle Stone Age, between 100 ka to ca. 50 ka.

A. Val (Wits)**, L. Wadley** (Wits)**:**
Bird/human interactions in the southern African Middle Stone Age: new data from Sibudu Cave, KwaZulu-Natal

Sibudu Cave has yielded rich archaeological deposits that contain pre-Still Bay, Still Bay, Howiesons Poort, post-Howiesons Poort and late Middle Stone Age industries, associated with abundant faunal remains, seeds, pollen, and charcoal. The avifaunal assemblage, dominated by columbiformes (i.e. pigeons and doves), is the largest known for South African Middle Stone Age sites. Taphonomic analysis of the bird remains revealed evidence for human modifications. Cut marks, tooth marks, and disarticulation impacts have been observed on bird bones from various layers, as far as ~77 ka ago. They constitute the earliest direct evidence of anthropogenic consumption of birds in the Middle Stone Age in Southern Africa. In order to reconstruct the steps of the butchery process and to identify the products (e.g. feathers, meat, claws) sought after by the inhabitants of the shelter, we conducted a series of butchery experiments on doves (*Streptopelia semitorquata*) and pigeons (*Columba livia*). Using our experimental results as well as information available in the literature as comparative data to interpret the "chaîne opératoire" related to bird exploitation at Sibudu, we were able to identify various butchery motions associated mostly with meat consumption and feather removal.

M. Wojieszak (Wits)**, T. Hodgskiss** (Wits)**, L. Wadley** (Wits)**:**
Finding chemical and physical evidences about heating treatment of the Middle Stone Age ochre from Rose Cottage and Sibudu

Rose Cottage and Sibudu Caves yielded a large quantity of ochre pieces and traces. Some attributes of the ochre have already been studied purely from a visual point of view. Visual comparisons have been made between sites to understand use of ochre during Middle Stone Age occupation in South Africa, but physico-chemical evidences are needed to complete the work. This project aims to use a multi-analytical approach (including Raman spectroscopy, FTIR, XRD and XRF) to characterise ochre pieces from both archaeological sites. Physico-chemical investigations on ochre traces will help us to gain a deeper understanding of changing ochre collection, preparation, and use through time. Part of the preparation phase may have involved heat treatment to alter the colour and mechanical properties of the ochre. This possibility will be investigated because heat treatment has important implications for the cognition of the people who were practicing it.

L. Dayet (IFAS)**, R. Erasmus** (Wits)**, A. Val** (Wits)**, G. Porraz** (CNRS/IFAS)**:**
Ochre residues on beads at Bushman Rock Shelter, South Africa: ornamental traditions in the early Holocene

Beads and pigments represent compelling evidence that humans decorated their bodies and, whether intentionally or not, used them to convey complex social messages. Early Holocene sites in South Africa yielded dozens and hundreds of ostrich eggshell beads sometimes associated with marine and terrestrial shell ornaments. The processing steps of their manufacture are well established, as well as their mobility among human groups. The association of ochre residues and beads documented on several sites is however poorly documented. What was the red pigment used for? Was it used to polish the beads? Was it part of the ornamental system? Does it come from the rubbing of the beads against stained clothes, skins or hairs? We propose here to combine chemical analyses of the red residues and use-wear analyses of the beads in order to determine the function of the red pigments and to document the diversity of early Holocene ornamental traditions. The newly excavated beads from Bushman Rock Shelter were used to establish a protocol based on non-destructive microscopic examination, SEM-EDS analyses and Raman analyses.

C. Sievers (Wits)**, S. Naidu** (Wits)**, A. Val** (Wits)**, G. Porraz** (CNRS/IFAS)**:**
Fruits and seeds, mainly marula, at Bushman Rock Shelter

Bushman Rock Shelter (BRS) is one of a handful of sites in southern Africa that has fruit and seed remains recovered from Middle Stone Age (MSA) layers. Previous archaeobotanical research at the site indicated the abundant presence of marula (*Sclerocarya birrea*) in layers 25-28 (MSA) and in layers 1-8 (Later Stone Age - LSA). Significantly, an almost complete absence of marula was identified in layers 9-17. Marula is frost-sensitive and it was suggested that the clear absence of the taxon could be an environmental indicator, although social issues were not discounted. During the 2015 BRS excavations, marula remains were again recovered in MSA and LSA contexts and indicate the important contribution this taxon can make to the interpretation of the past at BRS.

A. Novello (Wits)**, M. Bamford** (Wits)**, Y. van Wijk** (Rhodes Univ.)**, P. Bande** (Wits)**, S. Wurz** (Wits)**:**
Phytolith investigation at Klasies River: new approaches and first results

The archeological site of Klasies River (34°S, 24°E) is famous for the richness of its Middle Stone Age deposits, which offer the opportunity to document behaviors of early modern humans in Africa. The site is located at the meeting of three modern vegetation biomes: the Thicket, Fynbos, and Forest biomes, and under the influence of two different climate systems favoring high amounts of rainfall during the year (911mm/year). Some paleosols of the Main Cave especially include abundant plant remains such as seeds, charcoal, and even phytoliths (microscopic silica particles formed in plant tissues). The analysis of phytoliths has never advanced further than a preliminary report in the 90's. Yet, phytoliths can provide precious information on past vegetation but also on past human practices during the late Pleistocene.

This project proposes to analyze phytoliths extracted from 32 paleosols formed in the Main Cave and integrated in the LBS, SAS, RS, and DC members. These samples represent together a time period ranging from 115 to 90 ka. No phytolith reference collection had been produced yet (or at least published) for this geographic area, which complicated the interpretation of the phytoliths preserved in the cave deposits. One of our challenges was therefore to build a new and comprehensive phytolith reference collection of modern plants and soils occurring today in the vicinity of Klasies. For this purpose, we sampled >140 plants from different 16 vegetation patches occurring in the area, as well as the soils present underneath. The sampling includes thicket, forest, fynbos, and riparian vegetation, all located in a perimeter <10 km² around the Cave. Phytolith analyses have been so far limited to a set of 32 modern species related to 21 plant families, which were selected for their: i-ability to provide reliable paleoenvironmental information, ii-potential to have been used by humans during their

occupation of the cave. The first results of this project will be presented for the first time here, in the context of the 20th Anniversary of the Franco-South African Cooperation in Archaeology.

P. Colomban (CNRS)**, L. Prinsloo** (UP)**, A. Tournie** (CNRS)**, F. Koleini** (UP)**, W. Biemond** (UNISA)**, J.C.A. Boeyens** (UNISA)**, M.M. van der Ryst** (UNISA)**:**
Non-destructive identification of trade beads characteristics and origin

Identifying the source of excavated beads is useful for understanding the trade routes. Morphological and compositional changes in beads between 8th and 20th century make the historical markers and technology specific to a time or geographical area. A classification system of southern African beads from the precolonial period (700-1500 AD.) (Wood, 2011; Wood *et al*., 2009), based on visual morphological and technological characteristics defined different sets of beads. To improve this ranking system, elemental analyzes were conducted (Dussubieux *et al*., 2008; Robertshaw *et al*.,2010). Meanwhile, Raman spectroscopy has emerged as the most effective non-invasive method to identify chromophores, pigments and opacifiers in glasses and enamels and the types of glass matrix (Colomban, 2013; Caggiani et al., 2014 Prinsloo & Colomban, 2008). Some pigments and chromophores are unique technological chrono-markers. Beads excavated from major sites of the upper valley of the Limpopo River in South Africa (Mapungubwe/K2), in Botswana (Koleini *et al*., 2015a), as well as Zimbabwe-related sites, rivals of Mapungubwe and K2 ones (Koelini *et al*., 2015b) have been analysed and compared with beads collected in the early 20th century at Vohemar, a 13th-17th harbour occupied by Malagasy Islamized and recently at Antsiraka Boira 12th-13th necropolis Mayotte Island (Fischbach et al. 2016). The efficiency of mobile Raman microspectrometry, able to work in museum reserves and on site () was demonstrated. This non-destructive technique appears very useful for complex beads (recycled/composite glass).

Caggiani et al. **2014** *J. Raman Spectrosc.* 45: 456. Colomban, Ph. **2013** *Arts*, 2: 77. Dussubieux et al. **2008** *Archaeometry* 50: 797. Fischbach et al. **2016** *Archeosciences submitted*. Koleini et al. **2015a** *to be submitted*. Koleini et al. **2015b** *J. Cultural Heritage*. Prinsloo & Colomban 2008 *J. Raman Spectrosc.* 39: 79. Robertshaw et al. **2010** J.*Arch. Sci.* 37: 1898. Tournié et al. **2011** J. *Raman Spectrosc.* 43: 532. Wood **2011** *J. African Arch.* 9: 67. Wood et al. **2009** *South. African Hum.* 21: 239.

D. Pearce (Wits) **et al.:**
Researching rock art: South African and French collaborations

South Africa and France have a long history of research exchange in the field of rock art study. This is not surprising given the rich rock art found in both countries. Probably the best-known example is that of the Abbé Henri Breuil's war-time work in South Africa and Namibia. Much other collaboration has however taken place. This paper describes some of the research undertaken between researchers in the Rock Art Research Institute, University of the Witwatersrand, South Africa and a number of French researchers and institutions in recent years.

History of Archaeology in South Africa

Tuesday 13 October

09.30-10.15: Keynote lecture

J. Deacon:
The multiplier effect of familiar facts and fallacious assumptions in the history of Later Stone Age research

10.15-11.15: The presence of the past

N. Ndlovu (UP)**:**
The unfulfilled dream: the failure of the Transformation Charter in archaeology

E. Worby (Wits)**:**
A Star is Born: Homo naledi and the History of Paleoanthropological Performance

11.30-12.30: The invention of periods 1

A. Esterhuysen (Wits)**:**
Our Time is not your Time: the chronopolitics of archaeological impact assessments

Archaeology is popularly perceived as the study of the pre-colonial, a 2.5 million year block of time that begins with the first tool-using hominins and ends with the arrival of the European colonialists. The archaeological past is divided further into several developmental stages – in South Africa this broadly includes the Earlier, Middle and Later Stone Age, and Early, Middle and Late Iron Age. This use of time-based terminology has been vigorously criticized in archaeological and anthropological circles. Academics have recognized that the use of this crude periodization reinforces the popular, but flawed, notion of linear evolution, and ideas about the unchanging 'primitive' are bolstered by spatiotemporal criteria that construct and constrain the pre-colonial subject. Crucially, it separates the 'pre-colonial' subject from historic processes, and sets the archaeological past apart from the historical past, even when these are coeval. Despite these criticisms, chrono-based criteria have been used to define archaeological practice, and continue to set the standard for legislated archaeological impact assessments and heritage impact assessments in the South Africa. This paper takes a look at how these problematic categories have gained traction in neo-liberal South Africa.

K. Sadr (Wits)**:**
The origin of herding in southern Africa and the 'neolithic' concept

For long the conventional (and colonial) view of 'pre-historic' developments in southern Africa had been that everything new came from the north. This presentation examines the history of discussions around the questions of how and when livestock herding started in southern Africa and what role indigenous populations may have played in this economic transformation. In particular, we examine the concept of 'neolithicization' and resistance to its use in southern African archaeology, and wonder to what extent this resistance reflects the survival of colonial attitudes.

13.30-14.30: The invention of periods 2

P. Bonner (Wits)**:**
The invention of the Iron age: Swazi oral tradition and Northern Nguni historical archaeology

D. Pearce (Wits)**:**
"Really marvellous it is": changing concepts in the study of southern Cape human burials

Human burials along South Africa's southern coast have long been a source of amateur and professional interest. The nature of the interest and the ways in which the burials have been treated have changed dramatically through time. This paper explores the changing practices applied to studying human burials from this region, but also investigates the concepts underlying this changing practice.

14.30-16.00: History and archaeology: demarcation lines

N. Schlanger (École des Chartes)**:**
Labour in the history of archaeology: from Europe to the world

This presentation seeks to highlight a hitherto neglected constituent of prehistoric science since its early nineteenth-century inception. Alongside fossil man controversies, connected with physical anthropology and natural sciences, and alongside savage man as encountered through colonial expansions, prehistoric man was also formed with the working man in mind, that is, with the reality and implications of the European industrial revolution. Starting with Boucher de Perthes in the 1830s, questions surrounding "primitive industry and arts since their origins" have contributed to shape the study of stone tools. Beyond their potential as chronological or cultural markers, the study of stone tools has served to evidence the centrality of labour in current understandings of humanity, including such issues as the division and organisation of labour, materials, skill and routine, productivity and progress.

J. Wright (Wits)**:**
Thinking towards a deep history of southern Africa in 2015

Since the 1970s, historians who work on the history of autonomous African societies in southern Africa have by and large focused their research on the period after 1700. Broadly speaking, this is as far back as they can go on the basis of evidence derived from the recorded oral histories which they use as major sources. They have left research into the past before this date to archaeologists. Recently a number of scholars, archaeologists as well as historians, have begun to argue that this division between 'archaeological' and 'historical' approaches to the chronology of the past is rooted in a now outdated politics of knowledge-making, and needs to be transcended. They have begun to explore new lines of thinking about southern Africa's past that seek to conceive of 'history' more broadly, and at the same time to push back in time the beginnings of the period it covers. In this talk I will briefly examine the politics involved in the making of a succession of ideas about the time-depth of southern Africa's history, from the Biblical creationism of the early 19th century and before, to the globalizing perspectives of the present.

S. Dubow (Univ. of London)**:**
The Dangerous Allure of the Archaeological Past

Before South African archaeology became professionalised around the 1930s, and even as it was engaged in this process, its allure was deeply bound up in the romance and mysteries of the past. Many of the myths that professional archaeology debunked – for instance, deeply misleading stories about the peopling of the subcontinent – were integral to its popular appeal. In this presentation, I shall touch on some of the key `finds' and speculations associated with the development of a concept of prehistory, from the discovery of the idea of deep historical time in the 1860s and 1870s, to accounts of conquest, cultural achievements and the naturalisation of competing nations in the apartheid era. I shall suggest that professional archaeology has always existed in relation to amateur, unauthorised, endeavours, and that archaeology has to be seen as entangled in wider contexts of prehistory and historical self-awarenness.

16.15-17.00: Keynote lecture

A. Schnapp (Univ. Paris I)**:**
Archaeology and the immaterial: how do societies without monuments manage their past?

All kings need pasts, and the rulers of great empire know that links between past and future are also the source of their power, the tools that will secure their memory. Whether they entrust it to fragile clay tablets or to massive constructions, whether they try to woo their successors or to frighten them, to fill their sanctuaries with precious sculptures or with raw stones, they attempt by all possible means to conjure the future. Mixing religious fervour, political calculation and curiosity, this kind of antiquarianism is as much an art of government as an intellectual discipline. Alongside this material approach – well attested in occidental civilisations – there exist other ways of establishing links with the past. First and foremost, the techniques of oral memory enable traditions to be perpetuated from one generation to the next. In Vedic India oral teaching dominates writing, in Japan monuments are subjected to cyclical dismantling to maintain their integrity, while in Vanuatu (and other places) memory can be purely oral, transmitting precise tangible information over many centuries. "There are no ruins in Africa" lamented Leo Frobenius, because he saw no monuments there. This Eurocentric vision can be further challenged with our better understanding of the multiple links between societies and their material past.

Rock Art

Past experiences and new perspectives in rock art studies

Wednesday 14 October

09.00-10.20: An overeview of past and present rock art studies

N. Schlanger (École des Chartes)**:**
The hand that holds the tracing paper …. Henri Breuil and the making of rock art in historical perspective

This historiographical paper aims to present some of the practices surrounding rock art studies, in the first half of the 20th century. The leading figure in the field, Henri Breuil, was present and active in two very different contexts in terms of methods and interpretations, respectively the "franco-cantabrian" area and Southern Africa "bushman" arts. His well-known – and well-documented –involvement in these fields brings into question the intellectual and manual conditions of knowledge production, in both Europe and Africa, and it also highlights some challenges, still with us today, surrounding the 'objective' treatment of 'artistic' expressions.

B. Smith (Univ. of Western Australia)**:**
Post 1994 Franco-South African rock art research collaborations and future collaboration potential

After 1994, the Rock Art Research Institute sought to break the academic isolation of the late Apartheid era by engaging in a series of international collaborations and exchanges. The aim was to forge new international research links and to expose both RARI staff and students to alternative ways of working with rock art. This paper reviews twenty years of South African - French rock art collaborations from 1994 to 2014. It provides an assessment of what was done and what proved successful with a view to making recommendations for future collaboration

G. Blundell (Wits)**, A. Schoeman** (Wits)**:**
Myths of White Ladies: The Making of Archaeology at the University of the Witwatersrand, 1935-1965

As archaeology came to be established as a discipline at different South African universities during the Twentieth Century, it came under the influence of different intellectual traditions, stemming from Europe and America. In the aftermath of the Second World War, the Bureau of Archaeology, which would eventually become the Archaeology Department at the University of the Witwatersrand, was established. An important factor in the creation of the Bureau was the influence of the French prehistorian, Henri Breuil. The story of his three trips to southern Africa and his eventual visit to the fabled White Lady Shelter in the Brandberg of Namibia are well-known. While Breuil popularised the idea of the White Lady, his arguments about this rock painting and others were not particularly original; he followed a well-established trope about southern Africa's past. This trope, enunciated in fictional writing in the nineteenth century, partly had its origins in the events surrounding the wreck of the *Grosvenor* in 1782. Ironically, those same events would be used to challenge Breuil's and other scholars understanding of rock art. In this paper, we discuss how this trope influenced the dawn of archaeological research at the University of the Witwatersrand.

10.40-12.30: Dealing with rock art interpretation and context

D. Lewis-Williams (Wits)**:**
Interpreting recurring features in myth and rock art

F. Bon (Univ. Of Toulouse)**, J-L. Le Quellec** (Institut des Mondes Africains)**, F-X. Fauvelle** (Univ. of Toulouse)**:**
The ''battle-scene'' of ''Christol Cave'': story of a picture and its interpretations

The South African rock art ''battle-scene'' of ''Christol Cave'' is well known to all specialists of rock art studies, even if this scene is today considerably damaged. Using the abundant documentation available, this presentation provides a tentative reconstitution of it, drawing the story of its interpretations.

C. Namono (Wits)**:**
Rock art from Uganda: contextual interpretations

C. Bourdier (Univ. of Toulouse)**:**
Crossing backgrounds and looks: the contextual approach of rock art

Considering the contexts of creation and reception of rock art is crucial to investigate its social uses and the motivations guiding its making. In this respect, French and South-African researchers do not deal with the same contexts to study the rock art of non-writing societies. The abundant ethnographic, ethnohistorical and historical documentation in South-Africa contrasts with the archaeological and environmental data only available to consider the European prehistoric populations. This presentation offers to confront the contextual approaches of rock art made in the two countries, their relative contributions and complementarity to underline the major interest to cross practices and looks between our two scientific communities.

A. Nhamo (Univ. of Zimbabwe)**:**
Cultural variation and rock art motifs: A revisit to the rock art of Chivi District, Masvingo Zimbabwe

The presentation revisits the rock art from Chivi made popular through the research by Abbe Henri Breuil in 1966. The interpretation of the rock art was characteristic of the time, where differences in motifs were mostly explained from migrationist models. The paper utilizes modern approaches to re-examines the images from Chivi in order to account for their distinctiveness within the Zimbabwean context. The research is conceptualized within the broader issues of regional variation of rock art motifs and cultural diversity among prehistoric hunter-gatherer communities.

14.00-15.40: Using pigment, making paintings

D. Pearce (Wits)**, A. Bonneau** (Wits/Univ. of Quebec)**:**
Establishing a chronology in South African rock art using paint characterization and radiocarbon dating

A longstanding problem in the study of South African hunter-gatherer rock art has been the lack of chronology due to the general technical inability to directly date the art. In this paper we describe the detailed characterization work we have undertaken on some southern African rock paints, the importance of such detailed characterization and the direct accelerator mass spectrometry

radiocarbon dates we have obtained from sites in South Africa, Lesotho and Botswana. We present some of these dates and discuss briefly their archaeological implications.

S. Hoerlé (Wits)**:**
Showing what is invisible: chemical imaging in Rock Art Studies

The spatial distribution of chemical species on and within a rock art panel can help to better understand the relations between paint materials, deposits and alteration products and get a glimpse of events related to the making, alteration and use of the paintings.

Analyses of micro samples with laboratory equipment, including large scale facilities such as Synchrotron, provide insights into the complex fabric of rock, pigments and deposits layers. At a larger scale, handheld portable and non destructive equipments are now sufficiently fast and reliable to perform chemical mapping of entire rock art panels.

With examples from South Africa and Australia, this paper explores the possibilities of chemical imaging at various scales and dimensions, from the surface of the rock art panel to the micro-stratigraphy of the paint layer.

R. Rifkin (Wits)**:**
More than merely pigment: Analytical and experimental perspectives on the evolutionary significance of prehistoric pigment exploitation.

Recent experimental and analytical research has provided significant insight into the applications to which earth pigments may have been put in prehistory. The analyses of *art mobilier* from Apollo 11 Cave confirm the use of various organic and inorganic pigments in the production of figurative art at 30 ka. Experimental research has, however, also established the efficacy of red ochre as 1) an animal hide preservative, 2) an insect repellent and 3) a sunscreen. I propose that the hypothesised and confirmed functional applications of pigments do not necessarily represent replacement theories for the use of pigments in symbolic and artistic contexts, but instead as indicative of the exploitation and extensive application of a raw material with remarkable colourimetric, structural and chemical properties.

S. Wurz (Wits)**, L. Dayet** (IFAS)**:**
Ochre use and behavioural complexity in the Howiesons Poort layers from cave 1A, Klasies river main site, South Africa

Klasies River main site is a coastal Middle Stone Age site, which yielded some hundreds of red and yellow 'ochre' pieces. This deep sequence is well known in the context of the evolution of modern human anatomy and behaviour. . In comparison to the lithic resources, little information is known about the exploitation of the pigmental resources. Here, an analysis of the pigments are reported on and several questions are addressed, for example how the raw materials were selected and processed, and the activities that the ochre processing suggest Macroscopic examination and non-destructive colorimetric, SEM-EDS and XRD analyses were combined to address these questions. The chromatic and compositional range of the mineral pigments used was discussed, as well as the regional variations in pigment use in Southern Africa.

T. Hodgskiss (Wits)**:**
Revisiting the Rose Cottage Cave ochre

Rose Cottage Cave has a long and significant Middle Stone Age (MSA) sequence that was excavated by numerous archaeologists. The ochre collections have been studied in varying detail and there are some discrepancies in reports, making comparisons with other MSA sites problematic. Here I report on the

ochre assemblages excavated by Berry Malan and Philip Harper. These assemblages are from the lower MSA layers, dated to between 35 000 kya and 96 kya. Physical and chemical analysis has been performed to look at collection and selection preferences. Use-traces were also microscopically examined to reconstruct how the ochre was processed at the site. Focus of this ongoing study is directed towards possible ways of identifying enhanced cognition and behaviours, such as the heat treatment of materials.

16.00-17.45: What about the future?

C. Hahndiek (UCT)**:**
Quantifying Ochre and Rock Art in the Cederberg Mountains of the Western Cape (South Africa)

The conspicuous or hidden is present in many facets of rock/cave art, from its final presentation on the rock surface of sites to the earliest stages of ochre procurement and paint production. My research focuses primarily on the ochre as pigment and paint rather than on the iconography and interpretation of the images themselves. A brief discussion on the 'life path' of ochre will be presented. Using colour as a common thread in my research, the ochre and rock art were carefully examined and compared, and the observations from one have been found to have a marked impact on the understanding of the other. Some key findings are: (1) that excavated ochre assemblages may bear little resemblance to the adjacent paintings; (2) that ochres of a particular Hue have a superior streaking quality, which poses the question as to whether painters were motivated by the streaking quality of the ochre rather than by colour selection; and (3) the concept of “ghost ochre” is proposed in order to describe those ochres, in the colours shown to be preferentially used in the rock art, that have been utilised in their entirety and are accordingly absent from the archaeology, which may highlight alternate processing strategies. This research begins to bridge a gap between rock art research and the excavated archaeology and raises new questions regarding the usage of ochre in a variety of contexts.

G. Laue (Wits)**:**
Exploring regionality: using the idea of ‘chaîne opératoire’ as an approach to ‘style’ in rock art

While regional differences in southern African hunter-gatherer rock art have long been noted, little has been done towards the development of a rigorous definition of these regions. In other parts of the world style is regularly used to identify spatial and temporal differences in rock art, but as this concept is seldom defined, further problems are created. As an alternative to vague notions of style, this paper proposes borrowing the concept of the chaîne opératoire from lithic archaeology. I use the chaîne opératoire as tool for analyzing the range of factors involved in the production and consumption of rock art images. Case studies from two sites, in different regions of the Eastern Cape Province, South Africa, illustrate how this approach can be used to make regional comparisons. Although this paper uses examples from southern Africa, I suggest the approach has applications worldwide; the finished images are very different but many of the actions along rock art chaîne opératoires are universal.

Lithic Technology
Overview and propectives
Thursday 15 October

09.00-10.30: From Middle to Late Pleistocene technologies

K. Kuman (Wits)**:**
From uniface to biface: shaping of handaxes in the Acheulean

There is a strong preconception that bifacial working dominates handaxes in the African Acheulean. This can, however, be quite a variable trait, particularly in the earlier Acheulean, making the technology appear more monolithic than it really is. This talk discusses a method for quantifying the degree of flaking of handaxes and defines three more informative subtypes--bifacial, partly bifacial and unifacial. I also apply the method to a series of similarly aged assemblages in Africa to highlight the degree of variability present in the Acheulean. This approach provides a more informative platform from which to make comparisons through space and time for this more informative lithic type.

M. Caruana (Wits)**, A.I. R. Herries** (La Trobe Univ.)**:**
The Acheulean Occupation at Amanzi Springs: 50 years after H.J. Deacon

The Acheulean occupation of Amanzi Springs was investigated 50 years ago, although remains poorly understood. An analysis of the 'Cutting 10' collection is presented to highlight the technology of this site and discuss issues with typology in later Acheulean assemblages in South Africa.

K. Douze (Wits)**, S. Wurz** (Wits)**, C. Henshilwood** (Wits/Univ. of Bergen)**:**
Techno-cultural characterization of the MIS 5 pre-Still Bay industries at Blombos Cave (Southern Cape)

Blombos Cave, on the southern Cape coast, is well known as an important site for understanding the evolution of symbolically mediated behaviours among *Homo sapiens* during the Middle Stone Age, and during the Still Bay in particular. The study of the succession of eleven pre-Still Bay layers show that groups with a stable techno-cultural tradition intermittently visited Blombos Cave between about 105 and 90 ka ago (MIS 5c to 5b). Our lithic technological analysis has allowed documenting the different core reduction methods that are central to an understanding of these industries in which retouched tools are rare. The predetermination of blank shapes by the core reduction is the main techno-cultural characteristic for these pre-Still Bay industries and strongly contrasts with Still Bay and Howiesons Poort assemblages that are based on the production of typical retouched or shaped tools. Of note, is the production of different techno-types of predetermined points that stand out within the flake dominated assemblages. Our work highlights the importance of this phase within the Middle Stone Age cultural stratigraphy and draws new insights on the extent of the techno-cultural ties between MIS 5 sites of the Cape region.

S. Wurz (Wits)**:**
A 100 000 year old quartzite assemblage from the Witness Baulk, Cave 1, Klasies River

There are various interpretations of the degree of technological change in the 10 metre MIS 5 lithic sequence from Klasies River, dating to between ca 120 and 85 ka. This talk aims to develop three aspects in relation to this theme: 1) the characteristics used to recognize time-related change in the Klasies River MIS 5 sequence; 2) a description of an assemblage dating to ca. 100 000 years from the

Witness Baulk in Cave 1; 3) a participatory discussion on the identification of typical products and cores to facilitate optimal comparisons with other contemporaneous sites.

11.00-12.30: Late Pleistocene technologies

P-J. Texier (CNRS)**, M. Igreja** (Univ. of Porto)**, G. Porraz** (CNRS/IFAS)**:**
The Bifacial Still Bay pieces from the West Coast of South Africa.

G. Porraz (CNRS/IFAS)**, K. Douze** (Wits)**, M. Igreja** (Univ. of Porto)**, P. de la Peña** (Wits)**, V. Schmid, A. Val** (Wits)**:**
The Pietersburg lithic technologies: a preliminary insight from Bushman Rock Shelter (Limpopo, SA)

Lithic studies recently contributed to clarify our understanding of the technology of the Later and Middle Stone Age in Southern Africa. However, a few chronocultural phases still remain in obscurity. This is the case for the Pietersburg industry, a chronological and regional variant of the Middle Stone Age. In this communication, we aim to clarify the history of the Pietersburg, discuss its phases and chronology as well as introduce the lithic collections from the upper MSA layers from Bushman Rock Shelter (Limpopo, SA).

A. Delagnes (CNRS)**, K. Douze** (Wits)**, S. Wurz** (Wits)**, P. Schmidt** (Univ. of Tübingen)**, K. van Niekerk** (Wits/Univ. of Bergen)**, C. Henshilwood** (Wits/Univ. of Bergen)**:**
Heating silcrete: innovation, invention or simple opportunistic behaviour for the MSA groups?

Heating stone in order to enhance its flaking qualities lists among the multiple innovative adaptations introduced by the early modern human groups from southern Africa, in particular the Still Bay and Howiesons Poort groups. Very little is known about the role and impact of this technology on the early modern human behaviours and cultural expressions. We address this issue through the technological analysis of a lithic assemblage from a recently discovered and excavated MSA site: Klipdrift Shelter (Southern Cape region, South Africa), that evidences the extensive use of fire for the heat treatment of silcrete blocks. The heat treatment of silcrete at KDS was performed in an early stage of the *chaîne opératoire* and it has thus impacted all stages of core reduction and all subsequent operations of tool manufacturing. For the artisans, the benefits of a heat treatment were multiple. Beyond transforming and improving the quality of silcrete, heat treatment limits the risk of core fragmentation at an advanced stage of production. The Howiesons Poort groups have therefore considerably developed and optimized a technology that emerged before, maybe as early as 164 Ka but still restricted to specific tools and to specific manufacturing stages.

14.00-15.30: From Late Pleistocene to Holocene technologies

P. de la Peña (Wits)**, L. Wadley** (Wits)**:**
What is Howiesons Poort? A technological response from the evidence from Grey Rocky layer in Sibudu Cave (KwaZulu-Natal, South Africa)

The detailed technological analysis of the youngest HP occupation in Sibudu Cave, layer Grey Rocky, has shown the importance of blade production (with different knapping methods involved), but also of flaking methods in coarse grained rock types. Moreover, new strategies of bifacial production and microlithism were important. Grey Rocky lithic technology shows a really versatile example of reduction strategies that were highly influenced by the characteristics of the rock types. This lithic assemblage is another example of the technological variability linked to the Howiesons Poort technocomplex. The reasons for this variability are still difficult to elucidate.Discrepancies between

sites might be for different reasons: diachronic variations, functional variations, organizational variations or maybe different regional variations within what has been recognized traditionally and typologically as Howiesons Poort. The technological comparison of the Grey Rocky assemblage with assemblages from other Howiesons Poort sites demonstrates that there are common technological trends during the late Pleistocene, but they still need to be properly circumscribed chronologically. On the one hand, Howiesons Poort characteristics such as the bifacial production in quartz are reminiscent of production in some Still Bay or pre-Still Bay industries and the flake production or the prismatic blade production described here could be a point in common with pre-Still Bay and post-Howiesons Poort industries. On the other hand, the detailed analysis of the Grey Rocky lithics reinforces the particular character of this HP technocomplex, yet it also shows clear technological links with other Middle Stone Age assemblages.

M. Redondo (Wits)**:**
The Robberg of Rose Cottage Cave (Free State): new data on the lithic industries

The Late Stone Age (LSA), characterized by the emergence of bladelet technologies in Africa, marks a significant departure from preceding techno-complexes. Nevertheless, these technologies are not very described in the South African Prehistory. With the authorization of Professor Lyn Wadley (GAES – Wits), we have begun a reanalysis of the Robberg lithic industry of Rose Cottage Cave (Free State, South Africa). We will present here the new data on the Robberg lithic industries of Rose Cottage Cave.

I. Guillemard (Univ. Paris-Ouest)**, K. Sadr** (Wits)**, G. Porraz** (CNRS/IFAS)**:**
2000 years ago in South Africa: A case study of LSA scrapers from Balerno Main Shelter, Limpopo

Two thousand years ago, South Africa was inhabited by hunter-gatherers who made Later Stone Age lithic industries. From this period, the earliest remains of sheep bones were discovered as well as a 'thin-walled' type of pottery. These new implements and practices are understood to be associated either with migrant herders who come from the north into the southern parts of the sub-continent, or with local hunters with sheep.

In this study, we will outline the main technological and typological characteristics of hunter-gatherers' lithic industries dating around 2000 BP in South Africa. As our first case study, we will present the site of Balerno Main Shelter, which contains a continuous stratigraphy between pre-ceramic and ceramic LSA layers. Our attention will focus on a particular kind of artefact, namely lithic scrapers.

We will introduce the characteristics of these tools, and discuss if they are part of the classic typology, or if they are unusual for this period.

16.30.-17.30: Holocene technologies

D. Witelson (Wits)**, K. Sadr** (Wits)**:**
A preliminary description of lithic technology at Holkrans Rock Shelter, Vredefort Dome, South Africa

Since 2008, annual excavations have taken place at the late Holocene, Later Stone Age (LSA) site of Holkrans rock shelter in the Vredefort Dome, South Africa. Material culture signatures present at Holkrans indicate forager occupation at the site since at least 2000 years ago, and culture contact with farmer groups in the centuries around 1500 AD. A technological analysis of bladelet production on cryptocrystalline silicates (CCS) at the site indicates significant changes in knapping strategy in the contact period, demonstrating the usefulness and ability of the technological approach to studying LSA lithic assemblages of southern Africa.

I. Smeyatsky (Wits)**, K. Sadr** (Wits)**, P. Randolph-Quinney** (Wits)**:**
Discerning and explaining shape variations in Later Stone Age tanged arrowheads, South Africa

Over the past decade a new method of statistical shape analysis, geometric morphometrics, has been applied to the study of artefact shapes. Later Stone Age (LSA) tanged stone arrowheads have been analysed with geometric morphometrics and reveal spatially coherent variations in their shape. These spatial variations may indicate stylistic or other kinds of boundaries between different elements of prehistoric San populations, and understanding them can shed light on the social and economic organization of southern African hunter-gatherers during the later Holocene.

F. Bon (Univ. of Toulouse)**:**
Khoisan lithic technology at the onset of History

The Khoekhoe pastoralist populations of South Africa are well documented in historical sources. Their archaeological remains nonetheless seem to differ very little from those of contemporary hunter gatherer groups. Based on different contexts located in the Western Cape, this presentation offers to discuss the assumption to provide an archaeological signature based on distinctive lithic productions among knapped and polished tools.

On the Nature of Connections

The relationships between the east African coast and the continental hinderland from the 11th to the 17th century

Friday 16 October

09.30-10.30: Oceans of trade

P. Beaujard (CNRS):
The East and Southeast African coast and the transoceanic trade networks (10th-15th centuries a.d.)

"The East African coast once formed a periphery, and then a semi-periphery of what can be considered as an Afro-Eurasian world-system, where this coast played an active role from the 10th century onward. The paper that I present focuses in particular on the place of Southeast Africa in this process, where coastal trajectories were clearly connected to regional developments in the hinterland."

P. Harries (UCT):
Atlantic contacts: Europeans on the south east African coast

This will look at new contacts with the Atlantic Ocean that grew in the 16th century. It will particularly focus on the production of ivory, gold and rice - and on the demand for slaves. It will close with a short account of the region in the first half of the nineteenth century as the demand for ivory and slaves rose sharply and Indian traders moved into the Highveld interior, soon to be joined by Dutch immigrant framers from the Cape".

10.45-11.45: East Africa

T. Vernet (Univ. Paris-Sorbonne):
Long-distance connections between the Swahili Coast and its interior ca.1550-1800. A review of the evidence

Since the 1970s and 1980s, the perception of the origins and borders of the Swahili people of the East African shore has been deeply revised by archaeologists and historians, particularly through the study of their connections with mainland societies. Yet contemporary evidence of the early modern era (mainly Portuguese evidence) has not received the attention it should deserve within this area of research. Strangely, another issue remains understudied: the long-distance connections between the Swahili Coast, north of Mozambique, and the interior. The caravan trade routes of the nineteenth century are now well-studied but not the previous routes that would have existed before that time. Archaeological works do exist but they tend to be limited over time and space.

This communication would like to present - for the first time – a tentative inventory of the various long-distance networks or routes that would have existed between the coast and the mainland ca.1550-1800. Historical evidence in particular enlightens several corridors of circulations from Southern Somalia to Southern Tanzania: the mainland of northern East Africa was not cut off from the littoral and some mainland communities developed early trade routes.

However the extent and nature of those routes and connections are extremely difficult to evaluate and we should be cautious not to overestimate circulations. Thus this communication would like to discuss the issue of the evidence of contacts and connections and the scholarly thinking on ancient inner routes. Besides as initiative and mobility did not only came from the coastal people, this communication will stress the need for wider approach of the pre-nineteenth century Swahili shore.

T. Biginagwa (Univ. of Dar Es Salaam)**:**
Coast -Interior connectivity during the 19th century: Archaeological evidence from north and southern Tanzania

11.45-12.45: Southern Africa

C. Ashley (UP)**, A. Antonites** (UP)**:**
Downstream from Mapungubwe: exploring 12-13th century settlements along the Limpopo Valley

Early complex societies of the Limpopo Valley were closely linked to the riverine landscape and the mobility it offered. At the confluence of the Limpopo and Shashe Rivers, communities at sites such as Mapungubwe and K2 practiced agriculture on the seasonally flooded river banks. At the same time, trade routes are thought to have moved along the Limpopo, drawing southern Africa into global networks of interaction. While the large complex sites of the confluence are relatively well understood, there is still a dearth of knowledge on sites downriver. To establish the impact of trade and the interaction with larger communities of the confluence area, excavations were conducted on 12th to 13th century settlements in the Limpopo river valley. This paper will discuss recent results from these sites.

S. Macamo (Mondlane Univ.)**:**
The establishment of a management system for the archaeological sites of Chibuene and Manyikeni, Inhambane province, Mozambique

14.00-15.30: On the nature of connections

P. Colomban (CNRS)**:**
Towards refining the identification and origin of trade beads

Identifying the source of excavated beads is useful for understanding the trade routes. Morphological and compositional changes in beads between 8th and 20th century make the historical markers and technology specific to a time or geographical area. A classification system of southern African beads from the precolonial period (700-1500 AD.) (Wood, 2011), based on visual morphological and technological characteristics, defined different sets of beads. Elemental analyzes (e.g. Robertshaw *et al*.,2010) and Raman spectroscopy refine the identification of chromophores, pigments and opacifiers in glasses and enamels as well as the types of glass matrix (Caggiani et al., 2014; Prinsloo & Colomban, 2008). Recently analyses conducted on beads excavated from Antsiraka Boira 12th-13th necropolis Mayotte Island (Fischbach et al. 2016) identify a rare minor phase (Cr/Sn-doped silicate) that is also found in some beads excavated from sites of the upper reaches of the Limpopo River. This offers new tools to trace trade routes.

C. Bourdier (Univ. of Toulouse)**:**
Connecting images, connecting what and who? Epistemologic concerns on the socio-cultural interpretations of the techno-stylistic analysis of rock art

This presentation will address the interpretative levels of the internal analysis of rock art in socio-cultural terms, its difficulties and issues. The techno-stylistic analysis have shown notable methodological improvements for the last thirty years, on the one hand with the use of more and more accurate techniques of observation (BEM, photogrammetry), on the other hand with the increase in

the number of studied criteria and variables and the joint use of multivaried statistical tools (factor analysis and ascending hierarchical classification). Nevertheless, similarities and differences over time and space remain hard to interpret: how and to what extend do they account for individuals, social formations (and which type?), cultural traditions, socio-economic ways of life? More generally, how can one reach these for social realities through the motif, the form, the technique and the composition of the rock art sets?

G. Chouin (College William and Mary)**:**
Pandemics as connections: Africa and the plague before 1899

Of the three plague pandemics that shook the world over the last two millennia, only the last one, starting at the very end of the 19th century, is relatively well documented in sub-Saharan Africa. The two earlier pandemics, respectively known as the Plague of Justinian (6th–8th c.) and the Medieval Plague or Black Death (14th–18th c.), are almost entirely absent from the historiography of Africa. At first glance, it would seem the African continent, entrenched behind the Sahara or land-locked behind its eastern and eastern seashores, was one of the few parts of the Old World that remained untouched by a disease that killed millions and contributed to profoundly reshaping the societies it struck.

Plague, in its various forms, was a disease that spread mainly through human agency, through the movement of goods and people. Is it possible that sub-Saharan Africa was so disconnected from the rest of the world during these periods that its people were spared from such an otherwise global calamity? In fact, recent phylogenetic studies of the pathogen, *Yersinia pestis*, suggest that the killer disease escaped the attention of historians, prisoners as they were of mainstream African historiographical tropes.

During this presentation, I will present the research design of the plague axis of the GLOBAFRICA project (2015-2018) that aims to explore both old and new evidence to finally decide whether plague has a place or not as a factor in African history. Documentary, archaeological as well as environmental and genetic evidence form the core of this project and suggest that new ways for us to think of connections. This is particularly exciting as it coincides with an epistemological revolution currently on-going in the field of History of Medicine, Global Health and Infectious diseases.