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# Information flow, technological progress and self-domestication: another view on the transition from the Middle to the Upper Palaeolithic in Europe

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**Abstract.** The understanding and theories about the emergence of the Middle Palaeolithic and the appearance of anatomically modern man in the regions surrounding the Mediterranean, especially in Europe, are shaped by cultural bias. The origin of this understanding lies in the 19th and early 20th centuries. In those times of colonialism modern anthropology emerged and developed its scientific methods of measuring human skeletons. These methods have led to false claims about possible classification criteria concerning racial and cognitive skills. Although some of these claims have been retracted, they still influence palaeoanthropology significantly.

**Keywords:** Migrations, colonialism, racialism, technological progress, gene flow, information flow Neanderthal man, self-domestication.

Archaeology's view of this science as objective — and therefore superior to its own cultural hypotheses — has led to shortfalls which need to be corrected. The naive views of emigration, symbolic thinking, creation of art and the numerical overestimation of carved bone tools over wooden tools has to be re-examined. An approach to this can be found in this article. Also, the latest offshoot of palaeoanthropology, palaeogenetics, is not seen by archaeology as a young science still saddled with mistakes, but rather its findings are taken as given truths.

Yet at the same time it has become a fact of human biology: it is not just the genes which determine the existence of man. It is also our own existence which influences our genes. Palaeoanthropology and archaeology have to take this into account when making statements about the appearance of anatomically 'modern' man.

If pre-Historic archaeology wants to understand the formation of the European Upper Palaeolithic better it has to have the courage to re-examine the hypothetical models, whose origins lie in the 19th century. The colonial period influenced insights into cultural differences, racial value judgments and the conquest of new living and economical spaces. These are not suitable as the basis for an acceptable interpretation of today's wealth of anthropological findings.

*1. At the beginning of palaeoanthropological research two significant finds of human remains shaped the notion of separate populations during the Ice Age.*

There were the important discoveries of skeletal remains of Neanderthal man in 1856 and Cro-Magnon man in 1868. These led to the assumption that, in the Lower Palaeolithic, a primitive species of man existed, and in the Upper Palaeolithic an ancestor close to modern man. The cultural differences seemed stark: in the older time there were scrapers and hand-axes, in more recent times blades, burins and hunting tools carved from bone. The notion of progress and the scientific thinking of the time did not allow any detailed perceptions about how the transition from Middle to Upper Palaeolithic might have taken place.

*2. The emergence of engraved, painted and sculpted animal depictions from the Upper Palaeolithic, together with the European understanding of art in the first half of the 20th century, seemed to confirm the mental superiority of Cro-Magnon over Neanderthal man.*

The Western artistic aesthetics of the time were based

on the notion that the creation of art was connected to individuality, creativity, genius and that it was free from function (Fiedler 2003). These premises were thought to have been found in the pictographic and lifelike displays from the Upper Palaeolithic. However, at the beginning of the 20th century, cave art was attributed to hunting magic and in the second half it was attributed to symbolisms relating to clans, sexuality, initiation rites and shamanistic iconography.

These observations were justified with ethnological and sociological observations and seemed to possess their own respective truth. With this symbolic interpretation the narrative, but unjustifiable conviction, slipped into Palaeolithic science: the 'art' proves Cro-Magnon man's capacity for symbolic thinking (Fiedler 2002). At the same time the lack of symbolic art in the Middle Palaeolithic was thought to prove that Neanderthal man was not capable of abstract or symbolic thinking.

The application of the historic Western artistic aesthetics to the Palaeolithic, as well as an inappropriate naivety in judging abstraction, symbolism, concepts and cultural presentation, exactly match the anthropological scenario of a genetic separation of Neanderthal man from 'modern man' and to the expulsion or extermination hypothesis (Fiedler 2010). Almost no one seemed to challenge this celebrated Western self-conception of the genetic superiority bestowed by nature on technically progressive peoples.

*3. In the past, physical anthropology made the decisive mistake of drawing a two-dimensional linear genealogy based on the measuring of human bones/remains and on statistical analysis.*

It obviously is very difficult to define criteria from human bones from a huge range of geological epochs and geographies which sufficiently serve the purpose of constructing a valid genealogical tree of evolution. By the end of the 20th century the conventional methods of this anthropology delivered a multitude of confusing and contradicting deductive models of human evolution from pongid pre-forms in the Neogene to the Holocene *Homo sapiens*.

The difference between Upper Palaeolithic man and his late Middle Pleistocene predecessors blurred due to the lack of clear demarcations, yet genetic anthropology initially presented seemingly convincing evidence for a virtually insurmountable genetic barrier between these human forms (Fiedler 2003).

This is all the more surprising as it was equally impossible to find significantly different behavioural traits in the cultural remains. Proto-Cro Magnon and Neanderthal man showed the same spectrum of tools and technological traditions (Fiedler 1999). This may have led to the conclusion that, in the overlapping areas where these human remains were found, populations with matching customs and forms of existence lived who in fact had significant differences in their physical appearance. The traditional assumption of two different forms of humans, prevalent in research, prevented — and still continues to prevent — the possible notion that man then (i.e. the first half of the last cold era) did not take note of genetic or palaeo-anthropological differentiations and may have lived in joint communities (Fiedler 1999).

A significant turn in the notions of separate evolutionary lines of past man came about at the beginning of the 21st century with the genetic analysis of so-called Denisova-man from the Upper Palaeolithic (around 45 000 years old). It has become clear that at that time in central Eurasia there were gene sequences hinting at an evolution towards 'modern man' as well as towards Neanderthal man. A second find — supposedly of a similar age — then appeared of all places in faraway northern Spain (Atapuerca), whose genes resemble those from the Denisovo Cave. It suddenly became clear that man's genetic diversity and span of variation during the last 300 000 years was much larger than had been interpreted from the morphology of the skeletal remains.

At the same time genetic anthropology now seems to revert its statement that 'modern man' and Neanderthal man had not — or only in an insignificant way — interbred (Khrameeva et al. 2014). The latest announcement from the University of Copenhagen about the genetic analysis of the so-called K 14 (Kostenki) find from the Upper Palaeolithic finally proves conclusively that large parts of the genetic Neanderthal sequences are also present in Upper Palaeolithic 'modern man'. Hence the generated extermination and extinction scenarios were hasty and, from an archaeological point of view, completely unacceptable (but were still kept in the scientific community (Highham et al. 2014). It was a myth to support our own self-conception as a creature above nature.

*4. Even without this analysis it would be nonsense to assume that Neanderthal man remained for over 300 000 years isolated from other Middle and Upper Pleistocene human groups. Especially in the Middle Eastern periphery of their dispersal, they were continuously exposed to 'other' archaic sapients who were similar in looks and culture. It is inconceivable that during this period no genetic exchanges took place.*

The archaeological evidence of the Middle Palaeolithic in Africa, Asia and Europe shares a striking resemblance in the period which directly followed (Fiedler 2013). Throughout this entire region it is possible to note the emergence of the Levallois technique *sensu stricto* (shape-prepared cores and thin flakes, which received during the preparation of the core a fixed point of percussion) up to 350 000 years ago. This is connected to a blade technology whose peak usage was approximately 100 000 years ago. Specific ways of working and tool shapes (among others Kostenki-technique, flat soft hammer retouched scrapers, the increase in bifacially worked leaf-point tools (*Blattspitzen*) as well as knives with massive backs) cannot have been developed entirely independently from one another, because the ways of living and lifestyle in this large area would have tended to separate tool technologies. This almost global development is clear proof of contact among human beings and their cultural exchange of information. This contact must have existed the entire time, because the corresponding technical development was a long process. A genetic isolation of the European Neanderthal is hence highly unlikely and can be excluded (Fiedler 2001).

*5. Archaeological migration scenarios which are supposed to explain the genetic renewal of man at the end of the*

*Middle Palaeolithic are currently no more than hypotheses, unsupported by findings. So far we can only claim that all of today's humans are genetically 'mixable'. Why should this have been different 100 000 years ago? The testimonies of material culture from the upper Middle Palaeolithic prove an astonishing degree of similarity between Africa and Europe. This proves a successive, certainly not linear, 'wafting' flow of information. The tens of thousands of years available for this should — even with a low population density — suffice to explain the technical congruency in the findings of both continents. The genetic transfer can also be easily understood in the correspondingly long time frames.*

Throughout the last century archaeologists have tended to explain all new phenomena in a cultural space with migrating people entering from outside (Fiedler 2001, 2013). That way they could reach agreement in their own circles and deliver easily understandable models about significant changes to the public. The colonialism of the last three to four centuries provided the basis for this. America and Australia were conquered by Europeans who brought the blessings of the occident into those continents. Further examples from the more distant past are the Islamisation of northern Africa by migrating Arabs, the expansion of Roman culture in southern and south-western Europe and the Hellenisation of parts of Asia (although already more limited, as the Greeks and Romans did not expel the people living in those areas, preferring to integrate them into their economic and social structures). In pre-Historic times, particularly during the Palaeolithic era (which is important for this work), there were significantly less people inhabiting the world. Explanations for the aforementioned migrations or conquests probably did not exist. The conquest of land happened, at most, on small scale. Whether this triggered drastic cultural changes is questionable.

Better suited than the Palaeolithic migration theories are diffusion models, in which smaller groups of humans bring new cultural elements into new territories and at the same time, through feedback, adapt their lifestyle to the new environment and the proven modes of behaviour of the local population. There are historic and ethnologic examples for this. Concerning the Upper Palaeolithic, this would remain vaguely based on the fact that new genes and new cultural goods or achievements in pre-Historic times could also be explained by contact with neighbours and successive transfer as the time span over which this could have happened probably took thousands of years. Even the much later Neolithisation of Europe took place step by step and lasted for at least three thousand years. Ethnic diffusion and information flow also help understand the significant commonalities of the cultural and biological changes of mankind throughout the entire Palaeolithic of Africa.

*6. Regarded as 'modern', some of the human skulls from Africa's middle Pleistocene do not look much more progressive than the skull from Steinheim in central Europe.*

Also, in Europe the technologies for narrow blades or bone tools were already in existence in the Middle Palaeolithic (Fiedler 2009). They were only less visible behind general conservative production methods and the shaping of tools (Fiedler 1999). From the European upper Acheulian (from about 350 000 BP), blades are not an uncommon phenomenon, but an initial, primarily blade-based way of producing tools only began at the end of the last warm period between 120 000 and 70 000 BP. After this, inventories with largely traditional Middle Palaeolithic tool shapes dominated. Also among them are 'hidden' burins, end scrapers, bifacially retouched leaf-shaped tools (*Blattspitzen*) and partially retouched flakes and bladelets, Kostenki-terminations, carinated end scrapers, backed/blunted retouched flakes, stone tools shafted with birch tar and rare bone tools. There are also sometimes first engravings in cave walls, cupules, engraved bones, usage of read ochre/haematite and areas of caves marked through burials as 'mystic/holy' (Fiedler 2011; Fiedler and Humburg 2013). The elements of material and spiritual culture hint at needs in the behaviour of Neanderthal man pointing beyond the Middle Palaeolithic way of living.

*7. In the beginning of the Lower Palaeolithic the technological curve of development was rising with a slowness and flatness that is difficult to comprehend. After all, the hand-axe culture lasted approximately 1.5 million years. Only shortly before 300 000 BP did the development curve rise significantly with the spread of the Levallois-technology (Fiedler 2014). It rose increasingly faster from that point onwards. Yet this technology is only partly due to the ability to use experience to produce more effective and ergonomic tools. Rather, it was developed to suit the increased needs in the social and subsistence areas of existence. In Europe and the more northern parts of Asia it became increasingly important to be able to adapt as well as possible to the colder periods of the Ice Age. The increasing share of stone tools of Upper Palaeolithic character and quality reached such a peak in the last cold period that the corresponding new needs had, by 40 000 BP, triggered a decisive, non-reversible change (Fiedler 1999).*

Improvements in tool technology meant improved clothing and hunting technique as well as changing group sizes and more complex social organisation. This new, self-created cultural environment in the final Middle Palaeolithic (e.g. in the Sungir culture, in the Jerzmanovician and Châtelperronian) is, in Europe, related to the assertion of 'modern' genes, which triggered the replacement of the Neanderthal type relative to the biological make-up of today's human beings. The process can be understood as an unintentional 'self-domestication' through which both the external genetic input as well as the proprietary progressive traits of Neanderthal man changed (Bednarik 2008a, 2008b, 2012a, 2012b, 2014).

In central Europe, technical progress becomes especially visible in the younger, leaf-point culture (*Blattspitzenkultur*), which was notably still part of the Middle Palaeolithic. The production of narrow blades, resembling the ones from the Upper Palaeolithic— where suitable raw material was accessible — reaches an important share in the tool inventories (e.g. Ranis). A need for optimally-suited raw materials for the production of stone tools became visible for the first time. In the upper Middle Palaeolithic findings of Rossdorf, Hattendorf, Harle or Gilsa (all in the state of Hessen, Germany; Fiedler 2010) only a small number of tools were made from

flint which had been transported over 100 km or more. During the 'midway' of the Middle Palaeolithic, including the time of the so-called central European Micoquien groups, this has only been recorded in rare, one-off cases. The changed mobility at which this hints could be linked to more effective hunting methods, which allowed the hunting of more wild game in one singular action than was previously possible with simple wooden spears. Small, thin and easy to shaft leaf-points (*Blattspitzen*) and bladelets, which are suited for shafting and using as projectile points, point to this (Fiedler 2009). The consequence of man's more effective hunting methods for game was a decimation of their population and modified escape/flight behaviour. It was only possible to counteract these consequences by man increasing his hunting mobility. This must have triggered efforts to develop new forms of temporary shelters with mobile construction elements and means of transporting them.

The aforementioned new life circumstances also meant a better supply of provisions, increasing group sizes and changes in the social organisation of the communities. This did not happen in a form of revolution corresponding to the notion of the 'Neolithic Revolution', but rather over the course of many centuries.

Climatic and cosmic incidents during the middle of the last cold era may have increased this development. The result was, without any doubt, a changed cultural milieu with new technologies, strategies, group structures and underlying convictions. The probability that these circumstances also changed physical traits and elements in the make-up of the human body is highly likely. I would like to refer to this as part of 'self-domestication'.

*8. With this unavoidable self-domestication caused by drastic changes of the living and social environment something comparable happened to wild animals on a biological scale: creatures, such as wolves, adapted to humans. The same happened to aurochs (bos primigenius), which were grazed and farmed. Other examples of sudden morphological changes are well known from animals kept under zoo conditions. These adaptations led to new physical traits which were then passed on genetically.*

These thoughts are more than a mere hypothesis because archaeological evidence proves the changes and also because the anatomically *Homo sapiens sapiens* completely prevails in European populations. This theory is not based on hypothetical mass migrations from Africa and expulsion processes with their historic-narrative backgrounds, rather on a clear biological and cultural structures.

J. B. Lamarck's postulated observation — that the changed conditions of the general environment and of their existence also triggers changes in the biological make-up of the creatures living with it — entered the teachings of Charles Darwin on a modified basis (against this theory argued Gould and Eldridge but take no notice of the Galapagos fauna; Gould and Eldredge 1977). It is, as shown in the evolution of our own species *Homo*, especially pertinent for us as human beings. The implicit assumption which has so far prevailed — that during this time there was a purely biological separation of human species, caused by natural environments and life conditions — can be rejected, based on archaeological evidence. On the contrary, man-made cultural milieu and man's active metaposition above nature was a boundary-crossing network with an increasing self-dynamic throughout history (Greve and Fiedler 1998). This led us to who and what we are today. With the theory of 'self-domestication' the notion that Neanderthal man was of lower-grade and naturally inferior to 'modern man' becomes superfluous.

The hypothetic models of large migrations of genetically active population groups through a 'bottleneck' or a 'Danube-corridor' do not sufficiently explain the appearance of the Aurignacian and its bearers. Furthermore, these hypotheses ignore the fact that archaeological research has long since known of carved bone points and 'ornamental artefacts' (ochre, fossils) from the Middle Palaeolithic of the Old World (Fiedler 1999).

In the Upper Palaeolithic of western Europe, the only new elements were the eye-catching depictions of animals, animal-man hybrid-beings and man himself. Until now there was no easy non-refutable explanation in archaeology and anthropology for this. Working in conjunction with J. Greve and C. Humburg, the new notion I proposed — that this palaeo-art may be a reaction to more effective hunting and larger human communities which needed to be provided for — has of yet been without effect on established science circles (Fiedler 2003; Greve and Fiedler 1998). It is, however, still today part of man's nature to permanently optimise his access to natural resources and deal with scarcity as a turn of fate, reacting to it with new myths (in the sense of E. Cassirer (1944; Sonderegger 2001). Palaeoart, proto-religious notions and striving for mastery (over chaotic nature) were developed in this way as an intellectual unity/concept in the Upper Palaeolithic. The portrayal of animals is evidently a controllable reification of the animated world, an imaginary magic act, whose benefit lies in the seeming realisation of the represented. Man has since then become a 'trickster', a religious and political interpreter and manipulator of reality.

It is to be added that the seeming 'presence' of the represented in depictions may be of symbolic nature, but this is not an explanation for the thought that 'symbolic thinking' has only emerged with the ability to create animal depictions. Culture has been present in a symbolic way from the dawn of the Acheulian onwards. Otherwise, it would have not been possible to produce/realise hand-axes in a consistent way (Fiedler 2002).

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**REFERENCES**


Bednarik, R. G. 2008a. The domestication of humans. *Anthropologie* 46(1): 1–17;

Bednarik, R. G. 2008b. The mythical moderns. *Journal of World Prehistory* 21(2): 85–102;

Bednarik, R. G. 2012a. An aetobiology of human behaviour. *HOMO — Journal of Comparative Human Biology* 5, 319–335; (http:// www.elsevier.com/copyright).

Bednarik, R. G. 2012b. The origins of human modernity. *Humanities* 1(1): 1–53; http://www.mdpi.com/2076-0787/1/1/1/

Bednarik, R. G. 2014. Doing with less: hominin brain atrophy. *HOMO — Journal of Comparative Human Biology* 65: 433-449; www.elsevier/locate/jch.

Cassirer, E. 1944. *An essay on man, an introduction to a philosophy of human culture*. Yale University Press, New Haven.

Fiedler, L. 1999. Repertoires und Gene — der Wandel kultureller und biologischer Ausstattung des Menschen. *Germania* 77: 1–37.

Fiedler, L. 2001. Buhlen, Rörshain, La Micoque und Gafsa — die Verbreitung des Micoquien. In S. Hansen and V. Pingel (eds), *Archäologie in Hessen. Neue Funde und Befunde. Festschrift für Fritz-Rudolf Herrmann. Internationale Archäologie, Studia honoraria* 13: 1–31.

Fiedler, L. 2002a. Form, Funktion und Tradition. Die symbolische Repräsentanz steinzeitlicher Geräte. *Germania* 80(2): 405–420.

Fiedler, L. 2002b. Vom Bild im Kopf zur Darstellung. In L. Fiedler and A. Müller-Karpe (eds), *Marburger Beiträge zur Prähistorischen Archäologie Nordafrikas*, pp. 9–21.Kleine Schriften aus dem Vorgeschichtlichen Seminar Marburg 52. Marburg.

Fiedler, L. 2003. Was ist Palaeo-Kunst? Kommentar zu R. Bednarik, 'The earliest evidence of palaeoart. *Rock Art Research* 20(1): 3–28.

Fiedler, L. 2009. *Die Steinartefakte: Formen, Techniken, Aktivitäten und kulturelle Zusammenhänge. Die mittelpaläolithischen Funde und Befunde des Unteren Besiedlungsplatzes von Buhlen*, Band II. Fundberichte aus Hessen, Beihefte 5,2. Selbstverlag des Landesamtes für Denkmalpflege Hessen, Wiesbaden.

Fiedler, L. 2010a. Anthropologie und Urgeschichte. Ein kritischer Essay. *Fundberichte aus Hessen* 50: 57–67.

Fiedler, L. 2010b. Spätmittelpaläolithische und frühjungpaläolithische Fundkomplexe mit Blattspitzen in Hessen. *Fundberichte aus Hessen* 46/47: 1–58.

Fiedler, L. 2011. The Mousterian structures of La Ferrassie. Peyrony's 1934 results revisited. *Pleistocene Coalition News* 3(5): 1–3.

Fiedler, L. 2013. *MTA und Micoquien. Längerer Beitrag in der Homepage der Arbeitsgemeinschaft für Altsteinzeit und Mittelsteinzeit Hessen*, admin. N. Kissel; http://altsteinzeit-hessen.de/?=269#more-261

Fiedler, L. 2013. *Zweifel an 'Out-of-Africa'; Mittelungen zu Dmanisi Schädel 5, cranium D4500*. http://altsteinzeit-hessen.de/?p=615#more-615

Fiedler, L. 2014. Paläolithische Abschläge mit Schlagflächenpräparation. Die Levallois-Technik unter dem Aspekt ihrer historischen Entwicklung. *Fundberichte aus Hessen* 51/52: 1–38.

Fiedler, L. and C. Humburg 2013. *La Ferrassie und die Vorbedingungen zur Entstehung figürlicher Darstellung — Thesen zur Klassifizierung und Entstehung von Paläokunst*. Homepage der Arbeitsgemeinschaft für Altsteinzeit und Mittelsteinzeit in Hessen, admin. N. Kissel; http://vorzeit-hessen.com/downloads/fiedlerhumburgvorbedfiguerlkunst.pdf.

Gould, S. J. and N. Eldredge 1977. Punctuated equilibria: the tempo and mode of evolution considered. *Palaeobiology* 3: 115–151. Greve, J. and L. Fiedler 1998. Die jungpaläolithische Kunst im Ökokontext. *Ethnographisch-Archäologische Zeitschrift* 39: 101–116.

Higham, T., N. Conard et al. 2014. The timing and spatiotemporal pattering of Neanderthal disappearance. *Nature* 512: 306–309.

Khrameeva, E. E., K. Prüfer, S. Pääbo et al. 2014. Neanderthal ancestry drives evolution of lipid catabolism in contemporary Europe. *Nature;* http://www.nature.com/ncomms/2014/140401/ncomms4584/full/ncomms4584.html.

Sonderegger, A. 2001. Ursprung des Menschen — Mythos und Wirklichkeit paläoanthropologischer Herkunftsmodelle. *Stichproben — Wiener Zeitschrift für kritische Afrikastudien* 1: 81–102.


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# Valcamonica rock art recording course 2016

In the splendid setting of Valcamonica, the Valley of Landmarks — on the UNESCO World Heritage List since 1979 — the State University of Milan (through its branch known as the University of the Mountains, a centre of excellence for study, research and training in mountain themes) and the Centro Camuno di Studi Preistorici (Camunian Centre for Prehistoric Studies), at the forefront in the documentation and analysis of rock art for 50 years, are organising the first interdisciplinary advanced course in the recording of rock art. The lectures will involve the leading experts in the sector, both nationally and internationally, some participating by streaming links from major research institutes.

Maximum number of participants: 30
Cost of course: € 680 (accommodation in structures with agreed room rates)
Dates of course: 22 August to 4 September 2016
Admission to the course: Admission will be based on the evaluation of potential participants' Curriculum Vitae. To apply one must send one's CV along with an accompanying letter that details the applicant's level of knowledge and specific experiences in rock art research.To apply, write to *corso.edolo@unimi.it* attaching your CV and cover letter. Registration will be completed during the month before the start of the course using the appropriate forms.

Location and secretary:
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Fieldschool location:
Centro Camuno di Studi Preistorici
via Marconi 7 – Capo di Ponte (BS) – Italy

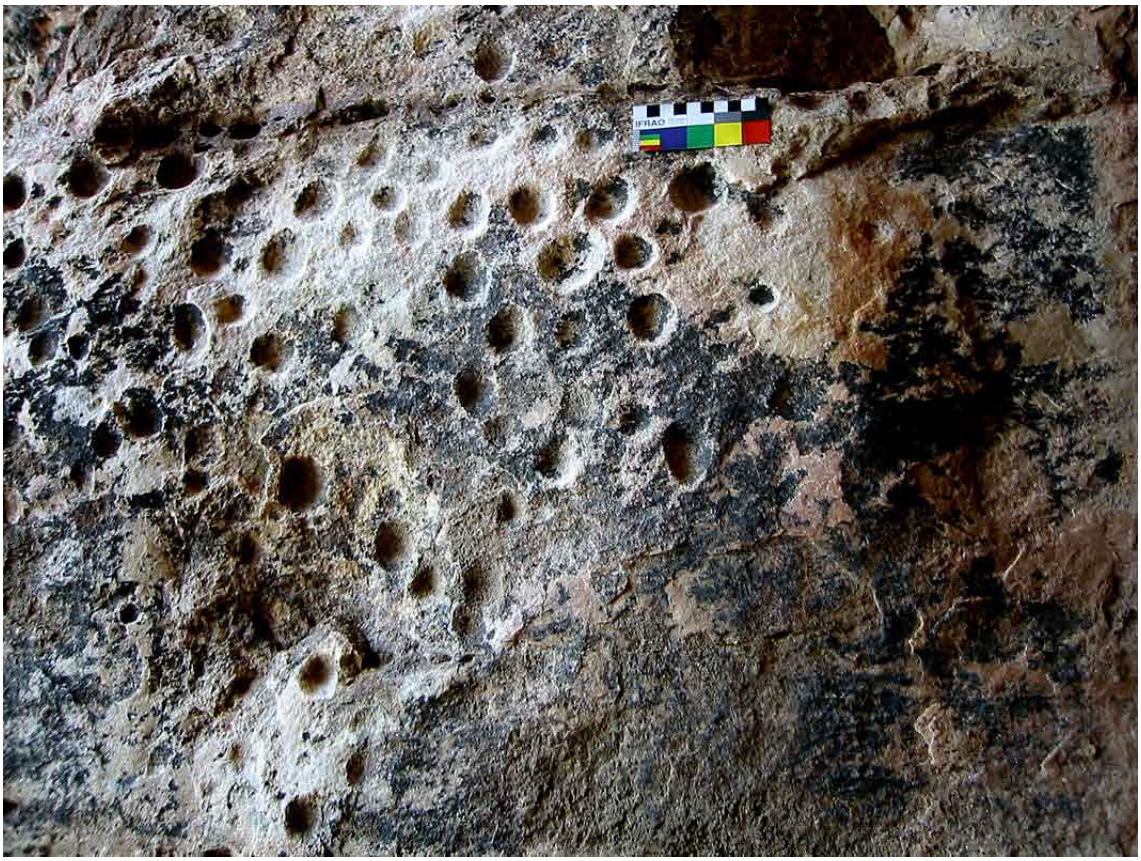
# Book review

***Rock art of India***, by GIRIRAJ KUMAR. 2015. Sharada Publishing House, Delhi; xxviii + 228 pages, 75 colour plates, 40 monochrome plates and drawings, appendix, bibliography, index, hardcover, ISBN 978-93-83221-06-6.

There have been a number of attempts to summarise the rock art of the subcontinent in a single volume, but the great wealth and still inadequate coverage of India's rock art render the production of an overarching synthesis of this massive corpus rather difficult. Wisely, Kumar has made no attempt to produce such a wide-ranging compendium, but has instead presented a representative cross-section and summary, situating it in the greater picture of how Indian rock art research needs to relate to that of the rest of the world. He is uniquely qualified to attempt the task of delivering the Indian discipline from its insularity: he is well versed in the rock art research traditions of other world regions, such as China, Australia, Europe and South America, all of which he has visited repeatedly; and he is the first Indian rock art researcher who has adopted fundamentally scientific principles, especially through his extensive replication work in rock art technology.

Consequently this volume differs from previous similar endeavours in various respects, for instance it includes the *Rock Art Glossary*, an attempt to normalise the terminology of world rock art studies. There is a brief review of the International Federation of Rock Art Organisations (IFRAO), and the IFRAO Code of Ethics is published in full. There is also an introduction and description of the IFRAO Standard Scale, another initiative to standardise rock art studies globally. These elements help considerably in situating the Indian discipline within that of the rest of the world, and their inclusion needs to be applauded.

The book's main chapters deal with the history of research, the chronology of the rock art, and the forms found in the main regions. Besides a list of the major concentrations of Indian rock art, the Introduction provides a useful listing of the major tribes, which at 843,000 people account for some 8.2% of the country's overall population. Many of these tribal people are still hunters and foragers (p. 17). The chapter describing the history of rock art studies in India is brief, but soon focuses on the recent developments in introducing scientific formats of investigation. This leads to the book's highlight, the consideration of chronology, antiquity and dating, in Chapter 3. A valuable and accessible account of the history of estimating the age of Indian rock art is provided, from the beginning of the 20th century to the present. Whereas the attribution of various painting styles to the Pleistocene remains controversial, Kumar does provide sound evidence for the Pleistocene antiquity of




*Some of the 530 cupules in Daraki-Chattan, one of the two earliest rock art sites in the world.*

*Bhimbetka*

*Bhimbetka*

some of India's petroglyphs, including very early traditions dominated by cupules. This extends the duration of rock art production in this country by a substantial margin, rendering it unmatched in the rest of the world so far. On that score alone, this volume covers a great deal more ground than any other that has attempted to summarise Indian rock art. The project responsible for exploring the earliest petroglyph traditions of India is described in some detail, focusing on the author's own excavations at Daraki-Chattan and the microerosion analyses of petroglyphs at several sites in Madhya Pradesh and Rajasthan.

The Palaeolithic component, which extends beyond the beginning of the Acheulian at two sites, Auditorium Cave and Daraki-Chattan, leads to the rock art assumed to be of the Mesolithic — although so with limited justification. The subsequent period of cattle domestication is considered next, particularly in respect of central India. Much attention is given to the appearance of zebu cattle (*Bos indicus*), which many Indian rock art commentators perceive as a chronological marker in the rock art. The humped cattle is said to have been used exclusively by the time of the Chalcolithic period, which began at different times in various regions, ranging from 3500 to 2000 years BCE (p. 63). There is no credible direct dating available from this vast corpus of Indian rock art, so the chronological model is largely based on iconographic or pareidolic interpretation of the imagery. Another time marker is the supposed introduction of chariots as interpreted in the rock art, but here the author concedes that the chronology is unresolved. Finally, the appearance of Brahmi inscriptions can be safely placed into the third century BCE.

Chapter 4 offers a well-illustrated quick tour of India's major rock art corpora, which illustrates the great diversity of the country's rock art. It also presents some of the global background of the Indian petroglyphs of the Lower Palaeolithic, showing that they are not entirely without a context in the world's palaeoart. There is also a brief discussion of a key element in Kumar's own work, his program of replicating cupules on very hard quartzite rock. Unfortunately the captions provided with most illustrations in this chapter attempt to tell the reader what is depicted in the image, which of course neither the author nor his reader can know with any degree of certainty. Also, the cultural attribution of most of these images should have been omitted; they are far from certain and detract from the value of the volume. Neither the meaning nor the age of the rock art is accessible to scientific attention as it currently stands — although the second variable may eventually become accessible to testing.

The next chapter explores the relationship of the people

*Raisen*

*Bhimbetka (all images by R. G. Bednarik)*

with their rock art sites and the possible use patterns of the landscape. It includes some valuable information about the ethnography of some rock art corpora. For instance Kumar mentions, only too briefly, that people of the Gond tribe at Dharul in Atner taluka, Betul district of M.P. still today produce rock art in their rockshelters, perform rituals and recite songs (p. 150).

The concluding chapter defines the current paradigm shift in the study of rock art. 'Gone are the days when every researcher was after the interpretation of rock art according to his/her own imaginations. Now emphasis is on the scientific study by methods that can be tested and refuted by any one at any time' (p. 156). Kumar shows how rock art research is increasingly leaning towards scientific, multidisciplinary work, and that this trend needs to take root in India too. He pays tribute in this book to V. S. Wakankar, his teacher, as the 'founding father' of Indian rock art research, whilst he himself — Wakankar's pupil — has become the founder of *rock art science* in India.

In conclusion, this book is a most worthwhile work as Indian rock art research finds itself at the crossroads, and in that sense it differs from every previous attempt to characterise the large body of Indian evidence. It seeks to break away from the traditional parochialism and pareidolic priorities of Indian rock art studies and adopt a more holistic genre of research; and it endeavours to situate Indian rock art research within the global discipline. These are laudable objectives and Professor Kumar is to be commended for them.

**Robert G. Bednarik**

# AURA Treasurer's financial statement 2014/2015

ROBERT G. BEDNARIK

**Balance in hand on 30 June 2014: $8605.95**

| INCOME: | $ | EXPENDITURES: | $ |
|---|---|---|---|
| Sales of books | 286.00 | Postage | 188.35 |
| Bank interest | 241.06 | Business Affairs Registration | 53.00 |
| | | Telephone and faxes | 31.66 |
| | | Website costs | 105.12 |
| | | Bank and merchant account fees | 108.36 |
| TOTAL | 527.06 | TOTAL | 486.49 |

**Balance in hand on 30 June 2015: $8646.52**

Again there is very little change from the previous year's financial statement. Book sales have slowed down further, but AURA's very substantial Web presence has attracted significantly reduced costs. AURA's archive and stocks of publications are currently valued at $24 025.00. This does not include back issues of *RAR* which are not included on AURA's books.

*AURA Newsletter*
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