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LOOKING FOR THE MISSING LINK

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EDITORIAL NOTES

INTRODUCTION

Looking for the link between the facts and their roots is a constant concern of the human mind: the search of reasons for realities is a source for both science and religion.

Our knowledge is made up of segments of evidences defined by the information available and by both individual and collective rational and emotional abilities. History is made up of facts and events considered to be worth remembering, and the acquisition of new elements adds new chapters to our history, including prehistory. Looking for causes may involve major events in human evolution or minor details of local issues. The meaning of both cause and effect varies according to the weight given to them, but knowledge stimulates reason and enhances the ability to understand behavior. Recovering motivations behind facts of millennia ago reveals significant performances of the human mind.

In both personal and collective memory, knowledge does not necessarily mean understanding causes and effects. This aspect of knowledge is, however, crucial for recognizing essential conceptual and cultural processes. Retrieving roots or causes from the evidence is a permanent mental practice. Recovering causes, looking for the missing link, is an expression of the eternal question of why. The human species turned into sapiens when this question became conceptually dominant. And knowledge acquires additional weight when causes are understood.

Archeology and anthropology unveil outcomes of human actions, events and creativity, which enrich our memory and stimulate our minds to recover the stories. Every issue of *EXPRESSION* journal has dealt with some aspect of this search for the cause behind the effect, looking for the eternal why.

The present issue of *EXPRESSION* has a major topic in the discussion forum: the function and malfunction of peer reviewers, one among the growing number of

bureaucratic innovations to control the expression and the diffusion of scientific information and communication. Its causes and effects are being considered. The topic involves a fundamental principle of freedom of expression, potentially conditioning the search for missing links.

Another issue of the Discussion Forum is the meaning of the figures of axes engraved at one of the world's most celebrated archeological monuments, Stonehenge, the prehistoric megalithic structure on Salisbury Plain in Wiltshire, England. Why are the engraved images there? What was their function? Further discussion may follow.

The main articles focus on different aspects of recovering missing knowledge. What was the missing material culture in Paleolithic sites? What were the objects and tools that did not survive the test of time? The missing links in our knowledge of the material culture of Paleolithic hunter-gatherer societies are revealed in glimpses from the more recent hunter-gatherer Aboriginal Australian material culture.

The meaning and function of European megalithic monuments and their evident and less evident iconography are considered from two angles. The much-discussed conceptual background of early African rock art receives new inputs on the religious and magical supposed function of problematic images. Different topics from different corners of the world have the search for missing links in common.

To specify, Emmanuel Anati's paper on the material culture of aboriginal Australia is mainly addressed to research in material culture where many daily objects and tools made of wood and other organic materials were not preserved in the Paleolithic sites.

Two articles, one by Terence Meaden and the other by Erica Newmann, face two aspects of decoding the elements and functions of the megalithic funerary monuments of the British Isles, revealing new insights into the minds of their makers. Both of them present new research, providing new knowledge and new thinking

on the vast phenomenon of European megalithism. Jitka Soukopova brings us a provocative hypothesis about the meaning of the peculiar figures of Saharan rock art, suggesting a sort of magic function in rain making, implying the presence of an imaginative mythological background, another valuable search for a missing link.

A series of communications follow in the section of Notes and News.

The finding of the cause behind the effect is a primary

concern of conceptual anthropology. These examples of searching for the missing links and specific facts, events, and realities in the daily tools and objects of the Stone Ages in megalithic monuments, standing monoliths and rock art in different parts of the planet, are an invitation to never stop asking why and to keep alive the communication of ideas. All the published texts are open, as ever, to comments, debate, and criticism. The joint pondering and wondering encourage the progress of research.

EA

A NOTE FOR THE AUTHORS

EXPRESSION is a quarterly journal on conceptual anthropology addressed to readers in over 90 countries. The readers are scholars and students in various fields of the humanities, mainly anthropology, archeology, art, sociology, and psychology, eager to keep alive the multidisciplinary dialogue, to communicate, to learn, and to open up new trends of humanistic studies.

This journal offers space for expression and communication to researchers and authors from all over the world. Published papers are intended to be read, not just to be added to a bibliography. They are addressed to cultured and open-minded people. If you wish to contribute a paper, consider that you are promoting your theme of concern and your ideas, try to make it interesting also to those who are not specialized in your specific research field. You have to talk to all of them, not just to the restricted circle of experts in your particular field. Articles are expected to be stimulating and agreeable to read by a broad audience.

The target of EXPRESSION is to promote dialogue, communication, knowledge, and ideas concerning the intellectual and spiritual expressions of different cultures and societies. It is an open forum on conceptual anthropology where over 250 authors from 50 countries are publishing their research and their concepts. Your topic, even if related to a local or circumscribed theme, should awaken the interest of an international and interdisciplinary audience. The visual aspect is important for communication with the readers: images awaken interest and are memorized, enriching the impact of the article. Images and text should complement each other.

Authors should address readers openly, talk to them, be incisive, and avoid long descriptions, catalogues, and rhetorical arguments. Refrain from unnecessary references, they may indicate the erudition of the author, but do not improve the scientific level of the article. Avoid excessive quotations, they may unveil an inability to express independent ideas. Use your own words and refrain from discursive sentences. Consider that short articles are more read and appreciated than long ones.

The main articles are proposing issues of broad interest. Communications on current topics, debates, and short notes can be included in the 'Discussion Forum' or in the 'Notes and News' sections.

Publication in EXPRESSION quarterly journal does not imply that the publisher and/or the editors agree with the ideas expressed. Authors are responsible for their ideas and for the information and the illustration they present. Papers are submitted to reviewers, not in order to judge them but to help authors to better communicate with their

readers, if needed. Controversial ideas are not censored if they make sense. Progress in research is often caused by debatable ideas. New thoughts and concepts are welcome; they may awaken debate and criticism and keep alive communication. Time will be their judge.

EXPRESSION is a free journal, independent and not submitted to formal traditional regulations. It offers space for ideas and discoveries, including contentious issues, healthy discussions, and imaginative and creative papers, if they contribute to research, are conceptually reliable, and respect the integrity, ethics, and dignity of authors, colleagues, and readers. For additional information on how to submit a paper, see the 'Notes and News' section.



Front page image

Bark painting from Oenpelli, Arnhem Land (see Anati, p. 25, this issue)

DISCUSSION FORUM

The Discussion Forum invites readers to be active protagonists in debates of worldwide interest in Conceptual Anthropology.

FREEDOM OF SCIENTIFIC RESEARCH AND FREEDOM OF INFORMATION: THE QUESTION OF PEER REVIEWERS

Another reader has asked why Expression journal has not adopted the system of peer reviewing. Since previous explanations seem to have been insufficient (see enclosures), the topic obviously needs a new discussion. Some universities require researchers to publish in peer-reviewed journals, and several of our potential authors have asked this question before. The editors of Expression benefit from the advice of reviewers but do not apply the bureaucratic rules of peer reviewing. Conceptual anthropology is a new discipline in the process of shaping itself. Expression is the only existing journal in conceptual anthropology: the main reviewers are its editors and its readers and they perform their roles. To select peer reviewers from experts of other disciplines would be an act of pure conformism to please academic artificial regulations. It is not impossible, but we have not done it so far.

The discussion in favor of and against the application of compulsory peer reviewers does not concern just the editors of journals, but is part of a broad debate on the ethics of diffusion and the communication of information faced both by conservative and liberal researchers and students.

Recent trends have imposed peer reviewing on scientific journals. The first question is whether the complex regulations can be punctually and permanently observed. The bureaucratic system itself is questionable and may not be long-lasting.

Scientific publications in the humanities show the presence of conceptual and political influence and ideological conditioning, not only in Russia, North Korea or Iran, but also in other countries. This trend is affecting the pattern of diffusion of information

by researchers and research institutions. Totalitarian systems, using peer reviewing, operate conceptual conditioning, repressing freedom of expression and censoring topics considered undesirable by socio-political and theoretical conditioners. The imposition of reviewers grants control over the expression of ideas and is suitable for conceptually oriented societies. For liberals, this conditions the freedom of expression, not just in openly totalitarian countries.

Publications in the humanities show a widely spread phenomenon of submission to dominant trends. Academic environments tend to act as conditioners. This conservatism influences research and risks suppressing innovations in research.

Respect for different ideas and concepts, for ethical relations among colleagues and tendencies, and the accuracy of information are the base of correctness in academic publications.

Until a few generations ago, many European publications required the imprimatur of religious authorities in order to be printed, and such rules, in different forms, be the authorities religious, or political or otherwise ideological, persisted and spread in more or less concealed ways.

Thus, a text cannot be accepted by a peer reviewer if its ideas contrast with his own. Such conditioning has a selective function in the diffusion of ideas, and may endanger the freedom of information and progress in scientific research.

To have an unbiased, unprejudiced functioning of scholarly diffusion of information, the reviewers should have not only an authoritative knowledge on the topic treated by the reviewed item, but should also be immune from personal ideologies and social or political conditioning: such settings are unlikely in the peer reviewing operating system. A journal may have its own ideology, but it should not have to depend on the ideology of anonymous reviewers.

Other factors are adding complexity to the discussion to this debate. Frequent cases of peer-reviewed journals offering unreliable and misleading articles indicate another weakness of the system. Pertinent discreet mentions of such cases, avoiding unnecessary personal criticism, but stating the faults, have appeared in previous issues of Expression (see Appendix).

The claim that peer reviewers risk favoring clans of mediocrity and false erudition is another factor of crit-

icism. Could they be responsible for dozens of happily blessed banal papers? Are students inclined towards brain conditioning favored to be promoted and become the teachers of the next generation?

An additional weakness of the system concerns potential ethical misbehavior. A peer reviewer may receive requests to favor specific articles of authors or ideas, a factor which can influence judgements.

Peer reviewing seems to be an imperfect institution, potentially open to abuses of authority and corruption, and to selective decision-making on the publication and progress of scientific research, and not only in autocratic countries and in autocratic academic environments.

Meant to add authority to a journal, in fact it may deprive the editors of their authority and awaken doubts about the abilities of both peer reviewers and editors.

Obviously, a publisher acquiescing in conceptual conditioning would not publish contrary writing. This happens not only in totalitarian countries. Similar but more veiled behavior is caused by the work of peer reviewers. Political movements, woke tendencies and populism are other kinds of peer reviewer conditioning.

The real dilemma is who should reflect the stance of a publication. The orientation of an author should be that of the author, the orientation of a publisher should be that of the publisher, and the orientation of a journal should be that of the editor. Liberals claim that editors and publishers are certainly authorized to consult reviewers if they wish, but compulsory peer reviewers are limiting the authority of publishers and editors, which should be preserved. It is a basic element of freedom of expression and information, and also of the identity of the publication they produce.

Depending on opinions generates conformism and opportunism, which are negative influences on scientific research and culture at large. They express a weakness of the performing system.

In the present discussion, authors, publishers and editors are each responsible for the integrity and correctness of what they publish and distribute. The identity of a publisher and an editor is defined by what he releases to the public. Adding baby-sitters and limiting this responsibility is a choice which risks confusing or shielding responsibilities.

The editors can have advisors by their own choice, and

it is up to them to select them, but they should maintain their authority and their decision-making. Ideas and concepts must flow without censure, and not only in countries or academic circles where freedom is suppressed.

The real judge of the value of ideas is time. Wrong concepts tend to have a short life. Freedom of scientific research and expression, as in other aspects of culture, is the main source of progress and a major concept to defend.

The debate remains open, respecting different ideas, opinions and concepts.

Editor

ENCLOSURES

ON PEER REVIEWERS IN PREVIOUS ISSUES

(Expression 34, December 2021, Discussion Forum)

A debate recently arose about the value and correctness of the methods of peer reviewing which is here summarized. Facing the positive opinion of academic traditional institutions, another tendency emerged opposing the system and considering it to be anti-scientific.

Some accepted peer reviewing as an objective system of selecting scientific articles. Others defined it as a practice adopted by academic institutions, possibly aimed at preventing the diffusion of non-conventional or not desired ideas. It was named a reactionary, conservative, bigoted system. "The easiest way to have the green light from peer reviewers is avoiding expressing new ideas." It was said that in some cases it may be a method of favoring the academic progress of certain candidates and preventing that of others. Also, it was said that it may be that one can acquire favorable evaluations by systems nearer to corruption than to the concern for the advancement of scientific research. Some elementary considerations emerged: scientific publications, as first requirement, must contain correct information; in the present-day availability of data, this may be easily verified. Also, they should propose innovative concepts, and this is what conservative peer-reviewers may try to prevent. Freedom of research should leave evaluation to time. Wrong ideas are bound to have a short life in any case. Innovative ideas, if they survive, may be evaluated after one gen-

eration. Even if controversial, they may contribute to the advancement of research.

The main reviewer and the decider of the value of a text should be the editor. His/her decisions determine the reputation and prestige of the publication. The editor is certainly entitled to refer to the opinions of reviewers, but it is up to him/her to accept them or not, and to decide whether the text or the ideas expressed should be published or not. This is his/her responsibility, not that of the often anonymous peer reviewers. This debate can be extended to a wider audience. Readers are welcome to express their opinion. Please consider that innovative texts may be published. By sending your text or ideas you agree to the possibility that they may be published.

(Expression 35, March 202 Discussion Forum)

After the text on peer reviewers appeared in the previous issue, some of the comments from readers are here summarized:

"Peer reviewers are useful to verify the conformity of my articles".

"Publications in journals applying the compulsory control of papers by peer reviewers grant me more points for my academic career".

"Peer reviewers are a guarantee on the acceptability of ideas but are not-conformist ideas necessarily wrong? Should they be censured?"

"If peer reviewers existed when the Bible was put into writing, most of it would have never been published".

"Peer reviewers may make political evaluations of ideas, then imposed upon authors, editors and readers. This is happening not only in Russia".

"Peer reviewing could be a mean of conditioning the orientations of research. Several cases of authors refuted by peer reviewers, later received the Nobel Prize. Was the Nobel Prize Committee misjudging?"

"As a publisher, I welcome reviewers that protect me from my own judgments".

The debate continues.

**SOME EXAMPLES OF CRITICAL COMMENTS
IN EXPRESSION JOURNAL ON MISLEADING
ARTICLES IN PEER-REVIEWED PERIODICALS**

Critical comments in Expression quarterly journal avoid openly referring to individual researchers or to

specific articles. They refer to both, without mentioning them explicitly, eluding personalizing criticism. They tend to promote debate on trends and concepts, not to attack colleagues, just help them, help correct information and contribute to the healthy orientation of research.

**DOES BEING "SCIENTIFIC" IMPLY KEEPING
ARTICLES STRICTLY ADDRESSED TO
SPECIALISTS IN SPECIALIZED PUBLICATIONS?**

(Expression 34, Dec. 2021, Discussion Forum)

In various corners of the world scholars involved in prehistoric and tribal art research are often inadequately known, or only locally or sectorally. What would a historian or a psychologist have to say about the ideas of an archeologist or an anthropologist?

The exchange of multidisciplinary information on a world level is increasing analytical abilities, is promoting the knowledge of the researchers' valuable efforts and, at the same time, is contributing to enhancing communication and the progress of research. Investigation in different continents may face similar queries or develop different ideas on analogous enquiries. Keep in touch! Let your ideas circulate and connect with others' ideas, favoring communication among the researchers and between them and the public.

**MISLEADING RECORDING OF TRACES OF
WORKING TOOLS AS WORKS OF ART AND
MISCONCEPTS ABOUT DEFINING VISUAL ART**

(Expression 35, March 2022, Discussion Forum)

Graphic non-figurative markings done with the intent of memorizing or communicating something, including stencils and hand-prints, have been practiced by humans for some 100,000 years. Along with the deliberate ones, markings left on stones and bones may be traces of functional actions, such as the signs of cutting left by flint tools while shaping a wooden object, often arguably claimed to be works of art. Asking the question, why was this done, what did the makers intend to communicate or obtain, is unavoidable, even when hypotheses awaken debates.

Images, intentionally depicted or engraved, were a means of memorizing and communicating 50,000 years ago in a few corners of the planet. And 30,000 years ago, this graphic means of expression was pres-

ent in five continents.

The ability to make conscious, graphic records and communications with deliberate images is the effect of a turning point in the conceptual evolution of the human mind. This system of memorization is currently given the name of visual art.

SEMIOTIC DECODING: THE ARCHEOLOGICAL DESCRIPTION OF AN EXCAVATED SITE IS THE BEGINNING OF RESEARCH, NOT ITS GOAL

(Introduction of Expression 37, Sept. 2022)

Archeology brings back fragments of the past. Excavations unveil parts of our buried memory. The remains of the floor of a hut provide information about that floor and may allow us to reconstruct the plan and shape of the hut. The researcher may then try to reconstruct the meaning of the hut: who lived there, when, what date was it, for how long was the hut in use, how many people lived in it, why the hut was built just there, what attracted people to that place, what activities were involved, and so on. The study process produces chapters of history or presumed history out of archeology. Reliable ideas survive, wrong ideas usually have a short life.

ON MIDDLE PLEISTOCENE TIBETAN HANDPRINTS AND FOOTPRINTS: ARE THEY WORKS OF ART?

(Expression 37, Sept. 2022, Discussion Forum)

Prints of limbs, produced by stepping and touching mud before it became solidified, were attributed to a date between 169 and 226 ka BP. The article interprets the occurrence as a deliberate act that produced a work of art, an intentional composition of hand and foot prints. The first question coming to one's mind is what may have been the purpose and function of this association of hand and foot prints. Besides this central question, two other queries arise: first, are the proposed dates reliable? Second, was it a deliberate artistic act intended to immortalize this assemblage of imprinted limbs?

Regarding the first query, the imprint on mud, now solidified travertine, implies a time previous to the fossilization of travertine. It could hardly be much later than what is proposed. The attribution to the Middle Pleistocene is reliable. The second query concerns

the conceptual meaning. The sizes of both hand and foot prints are smaller than those of an adult Tibetan of today. The maker may either be an adolescent or a pygmy, an individual having small limbs. According to the article mentioned, the imprints belong to two people.

The photo displays the prints of five legs and four hands. All of the leg prints seem to relate to a right leg, while three of the hand prints belong to the right hand and one to the left hand. The three right hands show the same peculiar position of the thumb. Also, the foot prints are likely all to belong to the same individual. The question is do they indeed belong to two different people, or just to one and the same person? Whatever the case, they do not represent a recurring cultural pattern. Deliberately made Paleolithic hand prints are maintained to be signatures or acts of presence, related to initiation rites or intertribal agreements. Their presence is documented in the last 70,000 years, at least 100,000 years later than this case. The presence of both hands and feet assembled together in deliberate visual compositions is unusual in Paleolithic graphic representations.

Both handprints and footprints reveal the deep imprint indicating an effort. At least two of the four hand prints show the position of pushing. The evident signs of pressure of the foot prints seem to testify the action of pushing aside the block. The superposition of feet and hands indicates successive actions at pushing the block. They appear to be the result of a physical action to move the mud block. The presumed intent of producing a piece of visual art does not seem likely. The term rock art seems to be out of place. To our minds, it may just be the result of the effort of a single individual to move a block of mud. The finding is relevant as a testimony of *homo's* presence in that area, at that time, but does not seem to illustrate the existence of art in Tibet over 100,000 years before any other place in the world.

THE CONCEPTS ABOUT THE ARRIVAL OF *HOMO SAPIENS* IN EUROPE

(Expression 40. June 2023. Discussion Forum)

The identification of a stratigraphic sequence of three levels of Upper Paleolithic at Mandrin excavations gave birth to a questionable theory about the 'con-

quest' of Europe by Homo sapiens.

Ksar Akil type points found at Mandrin or Mandrin points found at Ksar Akil do not imply a connection between the two sites as suggested; they imply similar outputs due to similar needs using similar raw material, made with a similar level of technical ability. Similar technical abilities constitute a culturally relevant factor but do not necessarily imply direct relations or ethnic association.

The theoretical possibility of three migration waves of Homo sapiens into Europe, with the conquest of Europe in the third round, is arguable. What is the concept behind this view? That a congregation of Sapiens, having their headquarters in the Middle East, planned a military campaign to conquer Europe?

The main migration routes into Europe have been three: from the Near East, through Anatolia and the Caucasus; from Asia crossing the Urals; from North Africa, into Iberia through the Gibraltar Straits. Likely, the European population of the Upper Paleolithic used these three routes to expand in Europe. To our mind, the peopling of Europe by Homo sapiens was a gradual, spontaneous, multi-millenary process of penetration by clans or small nomadic groups, coming from various directions, bringing various traditions, beginning in the Middle Paleolithic and continuing during the entire Upper Paleolithic. The hypothesis of three planned migrations waves would require at least some additional evidence besides the hypothetical interpretation of a stratigraphic sequence of levels in a cave.

paintings are attributed to the Middle Paleolithic and considered to be the production of Neanderthal man (traditionally defined as Sapiens Neanderthalensis), preceding the arrival in Europe of Homo sapiens (traditionally defined as Sapiens-Sapiens). These early graphic expressions have markings, signs and stamped stencils like hand prints, but no figures deliberately shaped by human hands. We do not know if the makers were indeed Neanderthals or rather an early phase of Homo sapiens, but in one case or another, if they are just signs and stencils without deliberately made figures, they are non-figurative or proto-figurative graphic productions. Where a deliberately drawn image is present, it is the expression of a mind having the abilities to make images.

E.A.

ON THE ABUSE OF THE TERM FIGURATIVE ART

(Introduction of EXP 41, Sept. 2023)

Some researchers have suggested that isolated artistic images were produced much before the presence of Homo sapiens. Most if not all such early items are unlikely to be deliberate works of art. Some may have traces of functional human manipulations with no figurative or artistic intents. The ability to create images is a conceptual archetype; when it is present it is not just by an isolated image in millennia. The production of visual art is an acquisition of mental evolution and it is a cultural pattern present from that moment on. As discussed in *Expression* 40, in Europe some cave

Edges Up. A Short Note on the Possible Meaning of the Unhafted Axe-Blades on Stonehenge Sarsen Stones

Mário Varela Gomes

IAP- Instituto de Arqueologia e Paleociências da Universidade Nova de Lisboa, Academia da História, Academia Nacional de Belas Artes, Associação dos Arqueólogos Portugueses (Portugal)

When, in the summer of 1975, we studied and recorded the engravings on the surfaces of some of the Stonehenge monoliths, we found that all 180 representations of related bronze axe-blades identified there, showed their edges pointing upwards, towards the sky (Anati and Gomes, 2014).

That position is contrary to that used when one wants to represent something linked to the earthly or Chthonian world, namely uses or activities of an economic nature. Thus, the representations of axe-blades, and it should be noted that they are not complete axes, despite the diachrony they present - given the morphological differences, especially in the edges, dimensions

and the many vertical and horizontal stratigraphies, or associations, observed between those, such as the reshaping, revival and reuse of the forms of some, possibly because they are less visible or with an inappropriate shape - demonstrate a long survival. Such evolution is also inseparable from the socio-religious practices expressed in the iconographic production that gave them shape throughout the Wessex Culture I and II (2100-1900/1900-1700 BC), according to the chronology proposed by C. Renfrew (1979, p. 308).

It would be in the edge, suitable for cutting, wounding, and killing, that the power of the axe was considered to reside, as still occurs in many ethnographic societies, which also happens with other offensive weapons. The axe handles, carved from wood and easy to obtain, therefore perishable, would have little economic or symbolic value.

In the middle of the last century, O. G. S. Crawford (1954, p.31), wrote: *"No doubt the axes and daggers were the attributes or symbols of particular divinities"*. So do we, in the title of the book we published about the Stonehenge engravings (Anati and Gomes), use

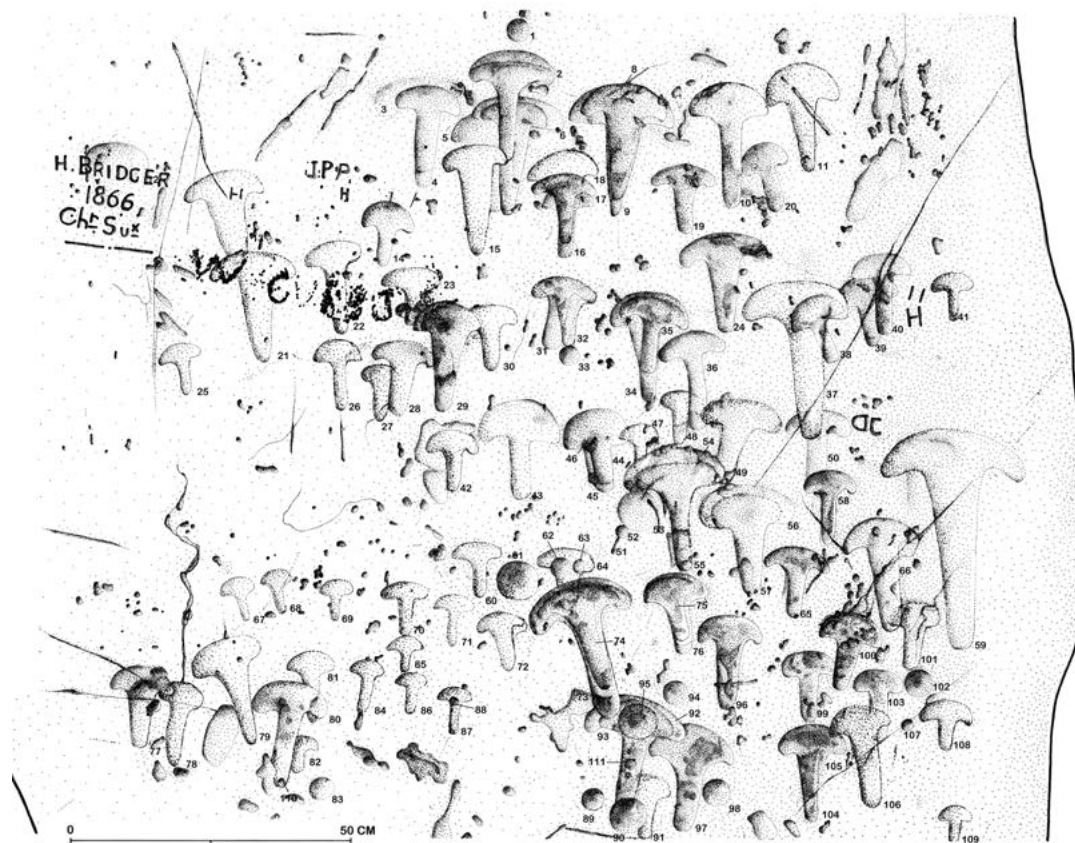


Fig. 1. Stonehenge. Stone 4. Prehistoric engravings (after Anati and Gomes, 2014, p. 16, fig. 20).



5 CM

Fig. 2. Axe blade in jade/nephrite, measuring 0.047 m in height, acquired in the 19th century, in Egypt, and today held by the British Museum. Offers Greek inscription, where the name Javé can be identified (after C. A. Faraone, 2014, p. 13, fig. 7).

“Weapons for Ancestors or for Gods” as a subtitle. But which deities are we talking about? What are their attributes, qualities, diffusion, etc.?

In that book, we dismissed the widespread idea of a “cult of the axe” (Crawford, 1957, p. 76; Fleming, 1969, p. 249) and discussed, between archaeological and literary arguments, the ancient beliefs and legends that, even today, link thunder and lightning to the blades of polished stone axes, considered to have fallen from the sky and protectors of lightning, which the ancient Greeks called *kerauniae*. We then refer to a passage by the Greek author Pausanias (*Description of Greece*, X,14,1), which reports on the votive offerings of such artefacts to Apollo, in the sanctuary of Delphi. Stone axe blades, and later metallic ones, were, quite possibly, the most important artefacts used in depositional and votive practices in Atlantic Europe, from the Neolithic to the Bronze Age, as they constituted the main element of the most useful multifunctional artefacts created by Man, being present since the beginning of our existence.

Today we can present new arguments that indicate

the relationship between astral super-deities of Europe during pre-classical and classical times, the dynamic lords of lightning, thunder and storm, and axe blades. In this context, it is important to mention that Jupiter was worshipped as the god of thunder and lightning (*Iovi Tonans*). He, among others, had a temple consecrated to him in Rome (Campidoglio), erected by Augustus, according to Suetonius (*Augustus*, 29, 90), in recognition of not having been struck by the lightning that fell near him and thunderstruck one of his servants, during the Cantabrian campaign (27-25 BC) (Landucci Gattinoni, 1989; Gusso, 2005, p. 46). The same classic author also recorded the appearance, in a Cantabrian Lake, of twelve axe blades, as a religious deposition but certainly deposited there in previous times.

A dozen prehistoric polished stone axes are known to be reused in the Roman world as amulets, especially in the Eastern Mediterranean (Ephesus, Argos, Pergamum, Smyrna, Egypt, Herculaneum), containing various inscriptions and symbols, engraved a few millennia later of its primary use, namely with images of celestial gods (Yavé, Mitra, Zeus) (Faraone, 2014).

We conclude this note, despite the polysemy inherent in all symbols, believing in the possibility that the almost two hundred engraved representations that are preserved in five of the silicified sandstones or sarsen stones of Stonehenge, testify the cult that took place there during the Bronze Age, to a dynamic celestial super-deity of the smiting god type, lords of both storm, thunder and lightning, as well as war, belonging to societies with heroic ideologies. They will have constituted offerings or marks of the presence or passage, and individual homage, of their devotees, with a view to personal and collective well-being.

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FORTHCOMING NEW DEBATES

Readers are proposing themes for debate. When at least three articles are submitted on the same theme, the topic is considered for a forthcoming issue.

1. **IS *HOMO SAPIENS* THE INVENTOR OF FIGURATIVE ART?** Is visual art the sign of his presence?
2. **OUT OF AFRICA: THE ETERNAL DIASPORA. WHY DID STONE AGE PEOPLE MIGRATE?**
3. **MEGALITHISM: WHY? CAUSES AND EFFECTS**
4. **SEAFARING DEPICTIONS: RECORDING MYTHS AND EVENTS** Considering the story of seafaring and its earliest documentation.
5. **MYTHS OF ORIGINS: WHERE DID THE ANCESTORS COME FROM?** Global and local versions.
6. **VERNACULAR DECORATIVE PATTERNS AND THEIR SOURCES.** Decoration of objects, huts or rock surfaces as the expression of identity.
7. **THE ART OF HUNTERS AND GATHERERS:** Different patterns as expressions of different lifestyles and different resources.

PROPOSALS FOR NEW DEBATES

Proposals for papers and suggestions on these and other issues are welcome.

STONE-AGE MATERIAL CULTURE: OBJECTS OF DAILY USE AMONG THE AUSTRALIAN ABORIGINES

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Premise

In sedentary societies, where fixed residence prevails, there is a tendency to accumulate things, even if not immediately usable, to which is attributed a material value. For nomadic populations, the accumulation of non-functional artifacts does not respond to the same logic, and is an impediment to moving freely. Among primary hunter-gatherer societies that do not have permanent dwellings, the conservation of objects

is usually limited to those of immediate use, such as tools for hunting or gathering, specific objects considered sacred, and raw materials that have preset purposes, such as food-bags, tools for the manufacture of tools or materials that are difficult to find, kept in anticipation of events that require them. Among these there are ochers and other substances intended for body coloring or paintings on bark or rock, or adhesive materials intended for the production of composite tools. Often, all material assets can fit into one bag.



Fig. 1. Kaitish woman with bibi (wooden container). She wears kangaroo bone earrings as ornament. Borrow Creek, Northern Territory (photo W.B. Spencer, 1901; Spencer and Gillen, 1904).

Living Places And Holy Sites

The territory is the habitat of the clan, its space of hunting and food collecting, and every corner is known and has names (Brendt, 1959; Mountford, 1976). There are holy places within this territory, where gatherings with other clans occur at recurrent and special occasions, and there are bivouacs. The holy sites have graveyards, rock art, traditional meeting places for the elders, and secret locations where churingas and other sacred objects are hidden (Spencer and Gillen, 1927, 1928).

Bivouacs are habitual camping places next to water pools. Each has a name and is also a point of reference in the area. There may be several bivouacs in the territory of each clan (Anati, 2018c).

Often the surface of these bivouacs bears signs revealing the activities carried out, such as the living-room with a windbreak or sun protection of wooden branches, location of the cleared areas for sleeping, and the arrangement of the fires. Those used for cooking food have remains of animal bones and other traces of the food consumed. There are workshop corners with flint flakes or debris of wood-working, where adults prepared their tools and left the processing waste, and so on. The plan is that of an open-air home. The bivouacs do not have spaces reserved for latrines. Everyone chooses corners outside the bivouac.



Fig. 2. King Edwards River, Kimberley, Australia. Rock art associated with funerary remains., The spirit is depicted in a whitish color with thin red contour lines on the vault of the cave. The image exceeds 2 m in length. The spirit is in the rock, impenetrable to the living, as the image shows. At its feet are the skeletal remains of the deceased (Anati, 2018a).



Fig. 3. Burial cave ravine in the Kimberley with storage of skulls and fleshless bones (photo Anati, 2000, CXVIII-1 Australia, Kimberley).

The archeological layer found on the surface may have been abandoned yesterday for the last time, and may have been frequented for generations. In 10,000 years the main evidence for the bivouac will be stone implements similar to the Paleolithic bivouacs brought to light in archeological excavations.

The Material Culture

Heavy tools, such as grinding stones, are left in the bivouacs, and are used by whoever stops there. Sacred objects, such as the churinga, are hidden in cave crevices in sacred places where the dead are buried and where the clan returns for generations for the purpose of relating to the ancestral spirits and for corroborating events with other clans. Debris of stone working, flint flakes and splinters, broken tools, and flint nodules and other stones collected to be used for the man-

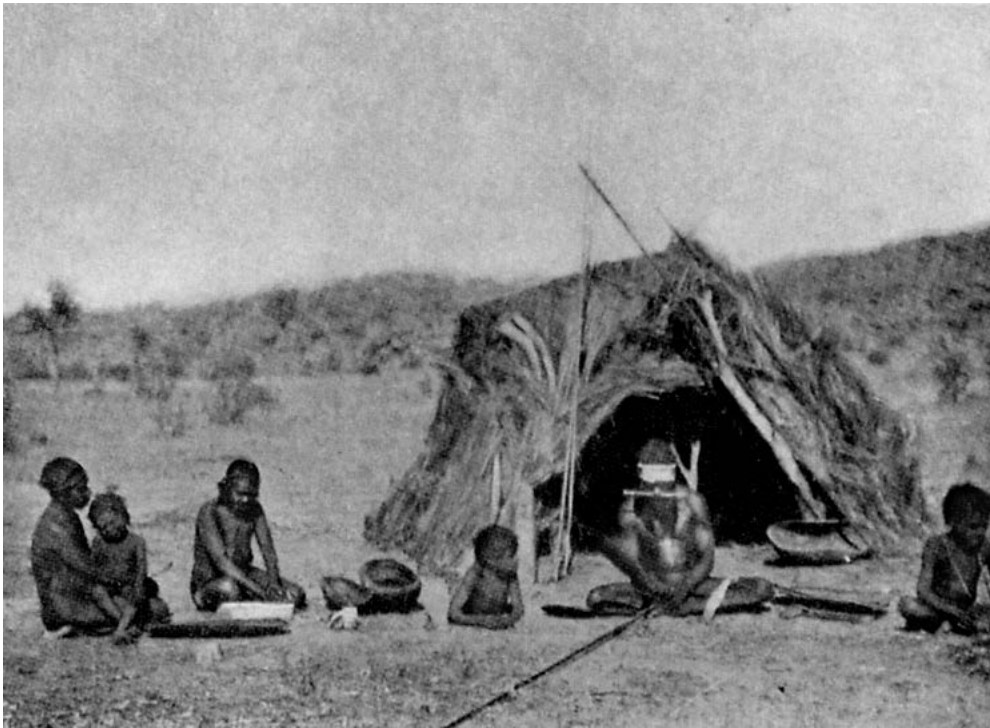


Fig. 4. Aranta family. Father, mothers, and children each busy with their own work in front of the structure of branches. The male is preparing a spear for hunting, while the women are grinding vegetal seeds to prepare a focaccia. The social basic unit is a family with an adult male, one or more adult women and their children. The material culture is mainly made of organic raw materials and the debris of their preparation is left on the ground. Alice Springs, Australia (photo W.B. Spencer, 1896).



Fig. 5. Group of Kaitija women and children with a windbreak hut behind them. The woman in the foreground is grinding seeds to prepare a bun to be cooked on embers (photo W.B. Spencer, 1901).



Fig. 6. The preparation of food from the collection of wild seeds using stone and tree bark containers. (Labbi-labbi, 1957; Anati Archives).



Fig. 7. Little girls play at being mothers with artificial breasts and dolls made of tree bark and mud, Milingimbi, Australia (photo D.F. Thomson, 1935).



Fig. 8. Karadji meeting, the assembly of elders, the wise men who guide the social laws of the group, Alice Springs (Anati Archives, 1984).

ufacture of tools are found on the surface in the bivouacs. There are also remains of woodwork and food waste such as animal bones. The ground retains traces of its guests.

The material culture in use in daily life in primary hunter-gather societies is minimal and is mainly made of organic materials that do not have a long life. Mainly stone materials are found in archeological excavations of prehistoric layers, which consist of the surviving parts of objects whose organic materials have not been preserved.

The study of recent primary societies offers a vision of the material culture that also includes objects made of organic materials rarely found in archeological levels of hunter-gatherer peoples. In this sense they offer consistent documentation of what is missing, in the

thousand-year-old archeological levels, because it has not been preserved.

The hunter does not have an arsenal of rifles, just two or three spears that he prepares before the hunt and often abandons when he collects the hunted prey. He will produce more spears when he next sets out to hunt. Before their contact with the Europeans the Australian Aborigines did not know about the bow and arrow, did not have containers for cooking food, and rarely used even a simple loincloth as clothing. The material culture of hunting peoples is limited to the essential, and mainly to what is transportable, which does not hinder action in obtaining food.

This functional equipment is often decorated for purposes of magic or auspiciousness, individual or tribal identity, or even personal expression of an aesthetic

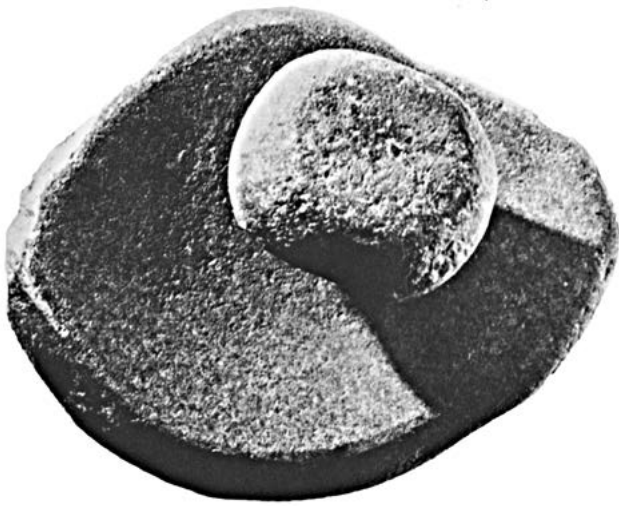


Fig. 9. Ernabella, Central Australia, Aranta tribe. Grinding stone with traces of color (diameter 22 cm) (from Anati, 1978).

nature (Anati, 1978, 1990, 1998, 2001a). In addition to revealing the activity, resources, knowledge, and ability of its holder, this equipment opens a window on its conceptual and artistic identity. Material culture is the set of objects with which the individual surrounds himself and reflects his identity.

The Aboriginal Material Heritage

Since our first trips to Australia, half a century has passed during which the lives of the Aboriginal people have profoundly changed. Many of them have

moved on from bivouacs in the bush to prefabricated houses or missionary centers or towns; from the spear and the boomerang to the rifle, from the light of the wood fire to electricity, from smoke messages to telephones and television. Aboriginal people have projected themselves into a technological world that involves an age leap and are adapting to it. Our experience of direct contact with traditional Aboriginal society half a century ago was an exceptional experience that can no longer be repeated (Anati, 1978, 2006b, 2011a, 2011b).

The same flint processing techniques are those of the European and Middle-Eastern Paleolithic, mostly from phases of the final Middle Paleolithic and the initial phases of the Upper Paleolithic. These horizons are not necessarily an obligatory phase of technological evolution and the parallelism of lithic processing techniques raises the question of defining which factors have determined the dynamics of technological evolution. Man strives and invents new techniques useful for survival when contingencies require it; when nature guarantees needs, man has no reason to worry about changing his material culture. The use of similar raw materials, needs, and technical capabilities leads to similar results.

The concept that Aboriginal culture is 40,000 years behind European culture is a theoretical misconception. As the different styles of rock art show us, the aborigines have had remarkable emotional and ideo-



Fig. 10. Arnhem Land. Rock surface used to prepare colors and two stone pestles found in situ as shown in the photo (EA 2001 XLI-33).



Fig. 11. Aboriginal couple go spear-fishing in a typical canoe made of one piece of tree bark (c. 1900; photo Anati Archives).

logical experiences and conceptual evolution, but different from those of technological societies. The Aborigines did not need the devices of Western society for their survival, because nature offered them unlimited resources of vegetal and animal proteins in a territory where the human population density had never exceeded that of one inhabitant per sq. km, where natural food supplies were a source of well-being and could easily have guaranteed the survival of an infinitely larger population (Berndt, 1964; Elkin, 1938).

Over millennia Aboriginal culture has developed notable intellectual and spiritual skills, as revealed by the thematic, stylistic, and conceptual evolution of their art, their vision of life and death, their beliefs, and their ideological world, which we have described elsewhere (Anati, 2007, 2011a, 2012a, 2014, 2018a). This development was different from that of the Western

world, just as their immaterial needs or their outstanding abilities in artistic creativity were different. Western technologies simply did not serve their needs (Mountford, 1956).

Stone Artifacts

The artifacts are by definition objects shaped by human hand, though often the Aborigines, like other peoples with similar economic resources, use collected stones, shells or bones that already have suitable shapes and qualities and use them as tools, often adding handles on them. Flakes or blade flint artifacts, deliberately cut and retouched, are part of the material culture. Simplifying a more complex issue, the production of large flakes and elongated blades are the results of different working techniques. The predominance of flakes indicates the use of techniques that prevail in Eurasia in



Fig. 12. Aboriginal family collects seafood (photo undated, Anati Archives).



Fig. 13. Aboriginal family: the man makes a boomerang while the woman tends the fire. The child watches and learns (photo undated, Anati Archives).

the Middle Paleolithic, while the dominance of blades characterizes the Upper Paleolithic. Both of them are present in the Australian flint implements.

Quartz and flint are the most used among the stones for small tools. Grinding stones, pestles, axes, hammering tools, and other larger objects are produced with suitable available stones of various types. Even

if the cutting technique of the lithic industry is the same, the typology may vary from area to area of Australia. Different food resources lead to different types of tools: hunters' economies and food-collecting economies have different types of equipment.

The flaking of flint and quartz was the system used everywhere to make spear points, knife blades, scrap-

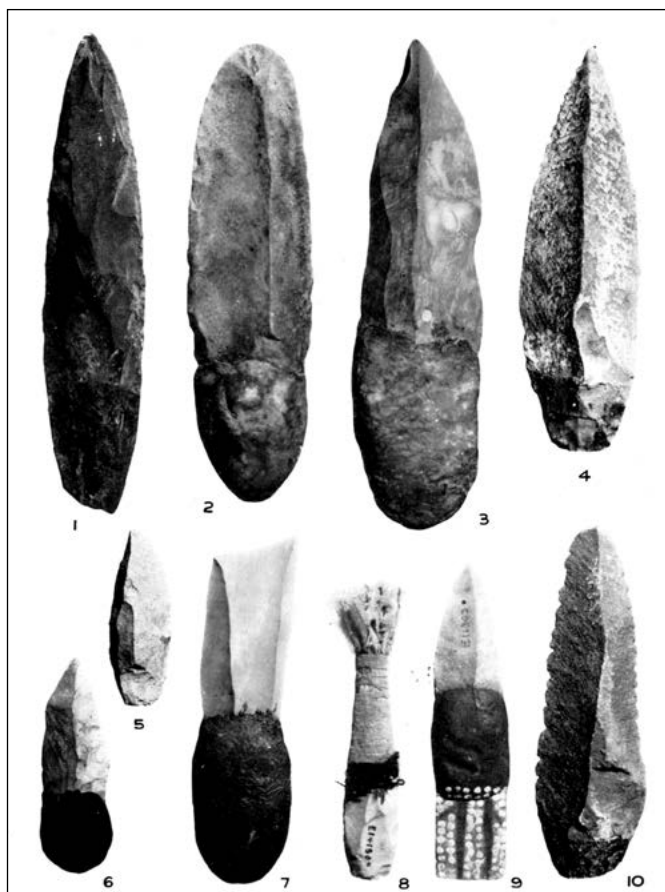


Fig. 14a. Aboriginal lithic tools with handles made of vegetal gum. 1. Bifacial point, Arnhem Land; 2. "Woman" knife, Central Australia; 3-9. Leilira blades; 3. Lawn Hills, Queensland; 4. Oenpelli, Arnhem Land; 5. Wilson River, southern Queensland; 6. Western MacDonnell Ranges, Central Australia; 7. Urandangie, Queensland; 8. Wologorang, southwest Queensland; 9. Warramunga Tribe, N.T.; 10. Leilira blades with serrated edges, Kimberley. (After McCarthy, 1967).

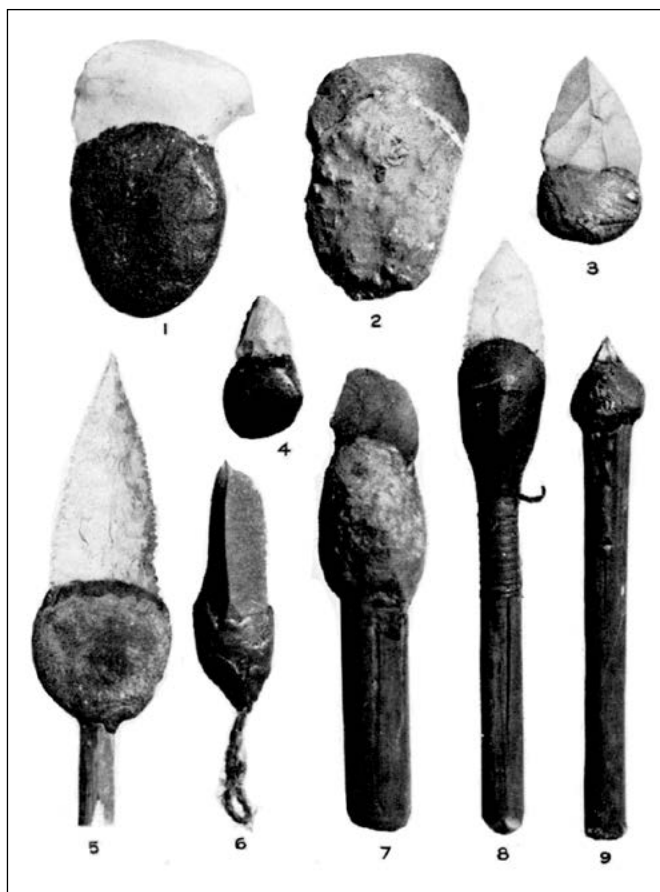


Fig. 14b. Tools coated with gum and other natural glues. 1. chipped quartzite knife, Alice Springs, N.T.; 2. "Ground edge" knife; 3. Knife, Boulia, Queensland; 4. Knife, Port Darwin, N.T.; 5. Bifacial toothed tip. made of glass and sleeved like a spearhead, Kimberley; 6. Ornament of quartzite blade, Marion Downs Station, Queensland; 8. Bifacial toothed point sleeved like a spear point, Kimberley; 9. Quartz crystal coated with vegetable resin. Half life size (after McCarthy, 1967).

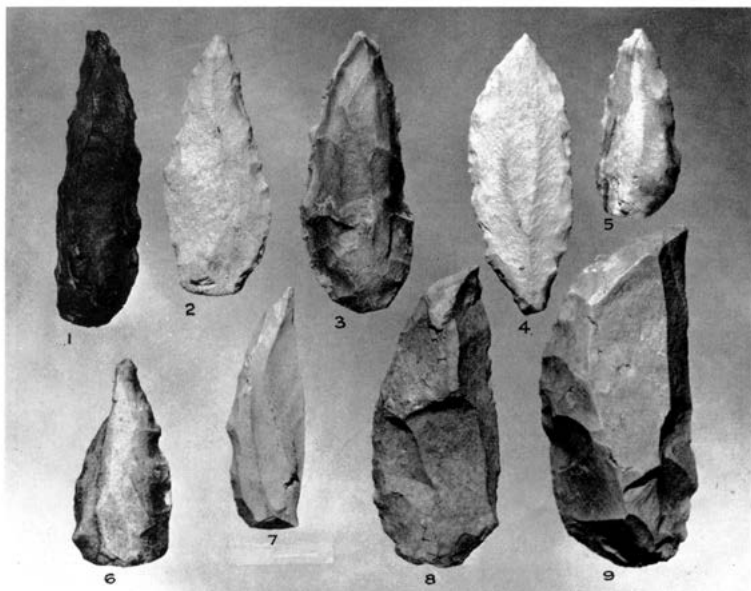


Fig. 15. Lithic tips with continuously retouched sides. Similar finds appear in Europe and the Middle East in the Upper Paleolithic. 1. Burrundi, N.T.; 2-6. Arnhem Land; 7-9. Juan knives; 7. Fullarton River, S.A.; 8. Amby, Queensland; 9. Lake Eyre, Central Australia. About half life size (from McCarthy, 1967).



Fig. 16. Carnavon Gorge, Queensland. Association of stencils, handprints and tools such as boomerangs and handled axes. Various stages of handprints sign the surface. The grid sign overlaps and is more recent. The stenciled tools, associated with handprints, had a meaning that made this rock surface a holy place till modern times (AUS 87 DAIAB-3).

ers, and awls. As we have personally observed, the technique mainly used is that of chipping in mid-air, without the use of an anvil, holding the object to be shaped in one hand and the striker in the other, an archaic technique used in the old world for the processing of lithic tools in the Paleolithic, mainly preceding the spread of the Gravettian culture, i.e. over 25,000 years ago.

The results obtained are flakes and blades, which are retouched. They are similar to the Paleolithic ones from the old world. There are also assemblages of lithic tools of modest size, similar to the Middle Eastern Micro-Aurignacian lithic industries. It is surprising to find tools typical of those produced in Europe or the Middle East 30,000 or 40,000 years ago, made with a beer bottle glass!

The first polished stone artifacts come from layers over 20,000 years old. The attachments to the wooden

handles are very resistant, using natural resins together with the joint in the handle and bonds with vegetable weavings. The images of such tools in the rock art of 20,000 years ago represent items similar to those still in use.

According to available data, polishing was practiced for stone tools in Australia and Papua before the Middle East, Africa, and Europe. Stone polished axes for cutting wood or extracting bark are still used today, but the native clans are increasingly providing themselves with metal axes imported mostly from England, which are available in bush shops.

Flat stones are used for grinding, on which they work with pebbles to crush wild grains and transform them into flour or to temper colors used for bark paintings, rock art, and body decoration. Stones with natural suitable shapes have a flat side that acquires a slight depression and a lustrous patina with use. Similar



Fig. 17. Bark painting from Oenpelli, Arnhem Land. Pair of Mimi spirits equipped with weapons and tools for hunting and gathering food. The female holds an ax and a digging stick for digging tubers. The male has a set of hunting harpoons and a thruster. Dimensions: 33 x 55 cm (about mid-20th century). The style of realistic imagery has survived for millennia. The new Aboriginal paintings have moved away from it (photo Anati, 1974. From the Edwards Collection, Melbourne. For further details see Anati, 1978, 1998; 2001a, 2002, 2014, 2018b).



Fig. 18. Milngimbi, Arnhem Land, Gupapunya tribe. Totemic figures similar to those performed on the human body during the Duanarra ceremony, in which men ritually transform themselves into animals trying to imitate their movements and cries. The division into two sections represents the two different branches of the tribe and their territorial distribution, one in the lagoons, the other on the sea coast. Various subjects belonging to the animal sphere have been painted on the bark: on the left side there is a long-tailed reptile (goanna) and two mollusks (probably two Australian cuttlefish), represented in different colors. Together with them, rounded/oval shaped figures of different colors are depicted: in nine of these there are white colored dots, and three are characterized by striped motifs. They represent yam leaves and earthworms typical of the lagoon environment.

On the right side (sea coast environment) there is an aquatic bird represented in the act of flight: its presence coincides with the fish-filled areas. In fact, when he manages to fish from the shallows this is an indicator of the absence of sharks: man waits for this signal to go fishing. Depicted together are: four rounded/oval shaped elements colored with white dots; five leaf-shaped elements, also colored with white dots; two more elongated elements resemble the tail of a marine stingray. (87 x 65 cm; mid-20th century; from the Edwards Collection, Melbourne (photo Anati, 1974; see Anati, 1978; 2001a, 2002, 2013, 2015a, 2015b).

grinding stones found in Eurasia and Africa are often considered evidence of agricultural cultures, while in Australia they are part of the material culture of people who collect wild fruits and seeds but have never practiced or known of agriculture.

There are traces of grinding on natural rock surfaces and grinding stones of movable dimensions. They are part of the equipment of the bivouacs, with the water puddle, the remains of the windbreak bushes of the previous visitor, the flint and quartz splinters retouched several times and reusable, some bowls or containers made of tree bark, the spaces of cleared land used as beds, the location of the hearth often surrounded by stones, and other artifacts, used and left in place, ready to fulfill their role.

Conceptual Evolution

The immensity of the Aboriginal intellectual, spiritual, and conceptual baggage revealed by their art and traditions is an exceptional contribution to the understanding of the world of hunter-gatherers (Anati, 2001b, 2001c, 2006a, 2008a, 2008b, 2012a, 2012b). We know about the remains of the material culture found in archeological layers, which do not sufficiently document the presence of such a rich intellectual life. Here not only are there objects and tools made of organic materials, works of art and imaginative creativity, but also the oral traditions that have come down to us (Chaloupka, 1999, Anati 2008a).

Traditional Paleolithic studies of material culture in the old world often give the impression that hunt-



Fig. 19. Darapangan, Arnhem Bay, Ngaimiltribe. This bark painting depicts the myth of the Milky Way, according to the Ngaimil tribe. "Two sisters were sitting around the fire in the company of a wild cat, when an opossum approached and sat down with them. Not appreciating his company, the two threw burning coals at him. The opossum first threw itself into a pool of water and then fled into his own territory, before returning with a member of its family. Together they killed the sisters, who they transformed into ravens (on the left in the painting). In the meantime, the women's husbands, who had gone out in a canoe to fish, were surprised by a storm. The waves overturned the boat and the younger one died, while the older one managed to reach the shore with the help of the crocodile he had previously chased away. The other Julnu men meanwhile were looking for them to tell them about the death of their women, and when they met the older one they lit the fire, played the didjeridu and the rhythm sticks (in the center of the image) and while dancing, they went into ecstasy. In this way they also went up to the sky with the captured crocodile. The crocodile, with its long tail, became the Milky Way. The stars along his body are the dancers and musicians who provided the sad entertainment." (74 x 57 cm; mid-20th century; from the Edwards Collection, Melbourne, photo Anati 1974; see Anati, 1978, 1998, 2001a, 2002).

er-gatherers were not much different from other primates, though making tools, they were above all on feeding themselves and reproducing. (Studies in Paleolithic art are luckily modifying this concept.) The Aboriginal testimony of myths, rites, beliefs, and social and ethical rules illustrates a dimension of the spirit that the scrapers, awls, blades, and other flint tools of

the archeological layers had not revealed. Both rock art and bark paintings are records of the intellectual life describing myths, beliefs, and stories, and are the visual literature of people without writing, supported by oral traditions (Anati, 2017, 2018b, 2019, 2023). In Australia there persisted techniques for processing lithic tools that were previous to the flint lamel-



Fig. 20. Tiwi cemetery on Bathurst Island. There are spirit-poles next to the burials. The decorations of the poles represent the spirits of the buried. The one in the foreground is encased by a bag of tree bark, indicating that the spirit of the dead has not yet been freed from the body. In due time a ceremony will deliver the spirit-pole from its cover, allowing the spirit to abandon the material body of the deceased. Some burials are accompanied by crosses, indicating the presence of new beliefs. Both crosses and spirit-poles are present in the same burial ground. Material objects reveal the immaterial cultural heritage. What evidence is there of all that will survive the erosion of time (photo Anati, 2002. For conceptual context see Brendt, 1960).

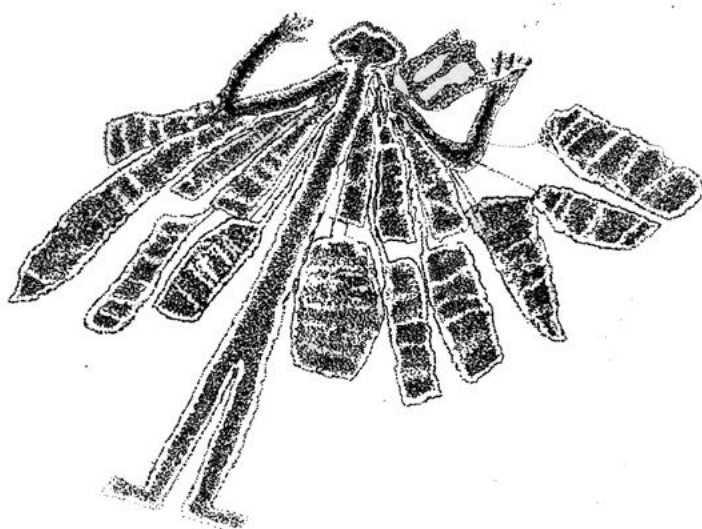


Fig. 21. Inyalac, Arnhem Land. Red cave painting of Wara-Mara, the great primordial parent mother, provider of food, who gave the various tribes their territories. She brings with her 15 bags of food for 15 tribes; an ideogram to the right of her head indicates territory, likely meaning mother of the territory (drawn from photo by Chaloupka, 1999; Anati Archives).

lar Gravettian production methods in the old world, which were never adopted by Australians. Why? The natural answer to the question would be because they did not need it. Considering the extraordinary evolution of the intellectual and spiritual aspects of the succession of styles and content of visual art (explored in depth in Anati, 2019, 2023; Walsh, 1994, 2000), a further question arises about the diversity of evolutionary processes, between those of material culture and those of the intangible conceptual heritage. The imaginative intellect, spirituality, ethical values, and artistic creativity constitute an immense literary baggage, never written down, transmitted orally and through the visual memory of rock art (Anati, 2019). The case of Australia calls into question traditional assessments of the definition of prehistoric cultures on the basis of material culture. The Australian natives are the only people who preserved a pattern of material culture without bow and arrow, cooking pots, or other ingredients acquired elsewhere in the later Paleolithic and the Neolithic.

In the Paleolithic cultures of Eurasia and Africa, the remains of objects produced with perishable organic materials are practically non-existent. The fact that

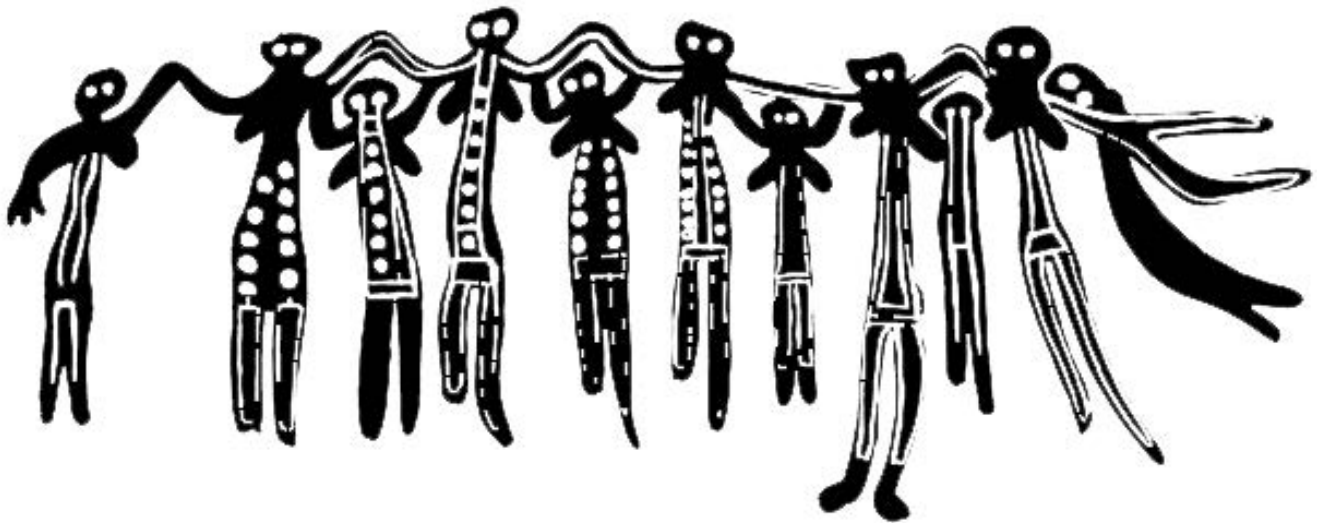
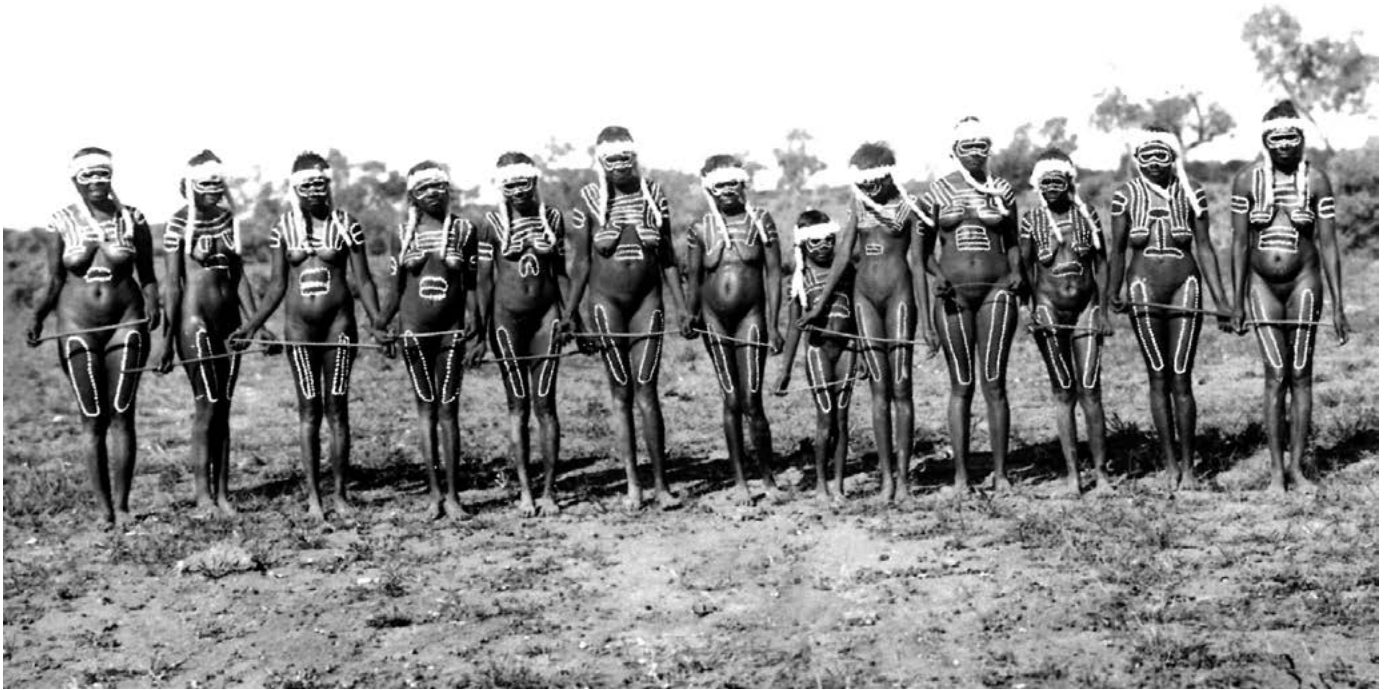
such objects are present in traditional Aboriginal culture is relevant to the understanding of the material baggage of similar cultural horizons, wood being the main raw material used in the Stone Age.

The information provided by the protagonists adds not only notions on technical methods and the uses of material culture, and not only offers a vision of the perishable material culture, but makes us understand the intimate contact between man and matter. We discover the dimension of the emotional, intellectual, and creative capacities of a Stone Age population. Today the study of prehistory cannot ignore the Australian context.

The Functionality Of Material Culture

The Aboriginal clans in the bush rarely keep an object, but they make it, use it, and abandon it or leave it in the bivouac when they move away. They rarely profess a sense of ownership of material objects, while they have a strong sense of ownership of immaterial concepts. Each karadji, or senior wise man, has secret knowledge inherited from the previous generation, to be transferred to the candidate to be the retainer of the same secret knowledge of the next generation, including magic spells, knowledge of secret sites, secret myths of origins, secret ways to contact ancestors, and secret stories (Anati, 2011a, 2018a). These are very personal conceptual properties, jealously preserved, while no such sense of ownership is expressed of material items. They mainly care to keep items such as churinga that they deem sacred. (For the meaning and function of the churinga see Anati, 2011a, 47-59.)

Most of the rock art and bark paintings were originally made for initiation purposes, for teaching the young generation, for commemorating ancestral spirits in holy places, or for memorizing concepts or events (Anati, 2019). The rock art is usually located in multi-millenary holy sites. The sacred sites are vitally important and custodians take care of them, as they are the conceptual heritage and property of the ancestors, inherited by the tribal entity, the clan being the custodian (Anati, 2018b). Objects which are no longer functional, like many magnificent articles on display in the Australian museums or collections, are largely considered by them to be disused waste. The spear and the dart-launcher have been replaced by the rifle, and so have other objects that are no longer part of their material culture.



Figs. 22a, 22b. a. Top, Charlotte Waters, Northern Territory. Women of the Aranta tribe dance to the rhythm of music produced by men. Gillen recalls that this dance was called Unintha corroboree (photo W.B. Spencer, 1914). b. Bottom, Inagurdurwil, Arnhem Land. Cave painting of a group of 11 women with red and white body paint who appear to be dancing. The alternation of two different sizes of the figures would indicate the participation of adults and teenagers, mothers and daughters, in a shared event (from Mountford, 1956).

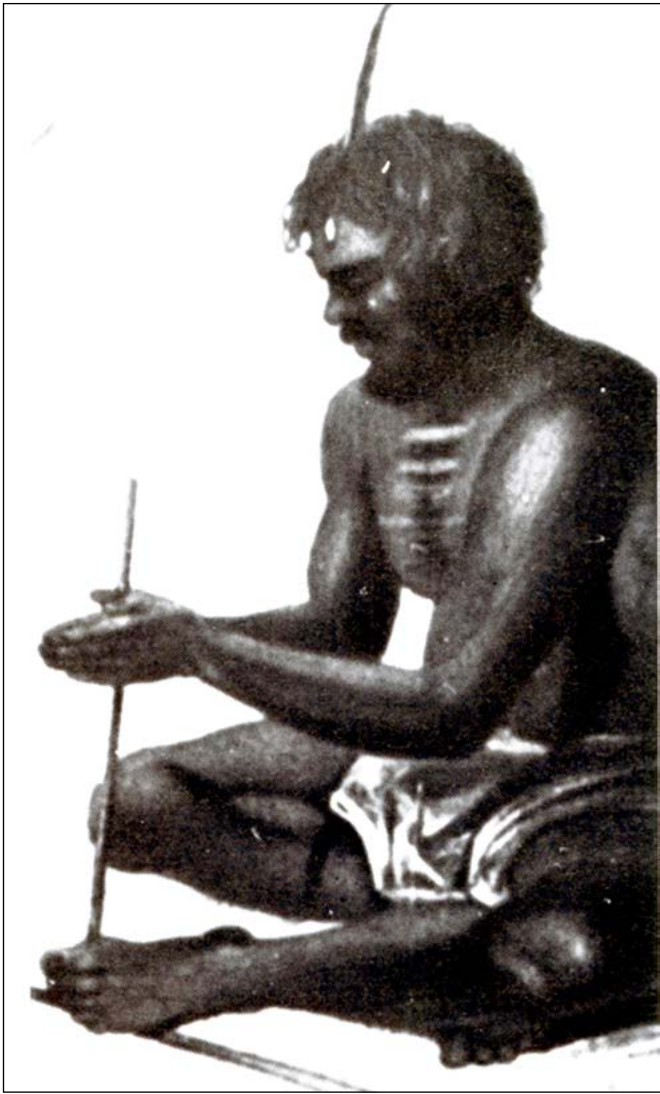


Fig. 23. Lighting the fire with a fire starter sick (vintage drawing from 1847. Anati Archives).

Half a century ago, during my early research journeys in Australia, the rare Aborigines who still lived according to their traditions returned to the same wells and bivouacs used for centuries or millennia, where the soil preserves tools made of flint or other stones abandoned on the ground. A notable percentage of the lithic finds from these bivouacs have more than one processing phase. The differences in patina indicate that they have been retouched and reused after centuries if not millennia.

In lithic industry theory the dynamics of the manufacture of tools and their use is often schematized and idealized. The method is useful for the typological analysis of finds, but the production and use processes can be more complex. In Australia, a flint splinter or point produced by a nucleus and left in a bivouac is collected by somebody else after one day or one generation or one millennium, and can be transformed into a scraper or a knife, based on the needs of whoever collects it and deems it suitable to allocate it a new function. After use it is abandoned again and can be retouched and put to other uses by those who return to collect it. It can be handled differently at each new use.

Heavy grinding stones remain on site and are reused for generations by those who come and go in the bivouac. Some still in use may have begun their functions thousands of years ago. They are practically identical to those found in old archeological layers in Australia, and similar to those used in the caves of Mount Car-



Fig. 24. Cooking a kangaroo on hot coals. The prey is put to cook without removing the skin or entrails (photo undated).



Fig. 25. Woman and child from the Aranta tribal group, near Alice Springs. She holds a digging stick and has a large *bibi* food container made of bark on her head. Her objects are made of organic, degradable materials, unlikely to survive long. Both the digging stick and the *bibi* are natural pieces of nature, used in their natural form (photo Spencer, 1896).



Fig. 26. Section of a large panel of rock painting in the Kimberley, in dark red, in a style named Tassel Bradshaw, over 20,000 years old. It shows four beings, a range of equipment, and associations. Some of the more elaborate clothing includes dotted-line strings draped from parts of the headdress and the body, combined with long semicircle-shaped decorations. Every anthropomorphic figure has different clothing. The three larger figures have peculiar headdresses or hats. The figure on the left holds a tool in her hand and a dilly-bag at her shoulder, and has a small marsupial associate positioned below the level of the headgear, which may indicate a totemic belonging or a name. The second figure is the largest one; she has a dilly-bag and a larger kilt than the others but no tools in her hands. The third figure has a toothed spear positioned next to his/her left forearm. The figure on the right is smaller than the others, has a different headdress, and has the arms in a posture of worship or devotion, likely towards the other images. The painting may describe an event, a story or a myth. It shows dresses and decorations, the presence of a material culture which left behind no traces (Kimberley, Bradshaw period. Size of tracing: 905x215 mm. From Walsh, 1994).

mel, in Israel, dating back 20,000 years. Some show deep traces of wear which indicate their persistent use, and they are still in use when it is necessary to grind seeds to transform them into flour and make focaccias cooked in the embers, or to grind ocher and make powder for the preparation of colors to use for body paintings, or for paintings on rocks or tree bark.

The same artifact can be reused several times over the course of millennia. The one found in a Paleolithic archeological layer may be identical to the one which is still reused today or which is found on the surface in some bivouac. When an object is found in a datable archeological layer, this indicates the last phase of use, not necessarily its date of creation. This is as true for Australia as it is for any other part of the globe.

Traditional Aboriginal people light a fire with a fire starter wooden stick, rubbed between the palms of the hands until the heat of the ignition is achieved, using an ancient method. Moving from one bivouac to another, they often carry with them either the fire-making-stick (named *wirry-wirry*) or a burning ember to reactivate the fire more easily at their next stop.

Their usual equipment consists of one or two boomerangs, two or three spears, possibly a dart launcher (named *woomea*), and the firebrand. The woman, in addition to the infants that she carries in her arms or at her breast, may also have her digging stick, her *bibi* or food tray that she keeps on her head and a dilly-bag hanging on her shoulder.

Usually they are not in the habit of preserving food; they gather and hunt when and how much they need for current consumption, on a daily basis. Some clans dry the meat, but mostly it is consumed as soon as the animal is hunted. They collect and consume wild fruits, tubers, edible leaves, and animal prey. Some Aboriginal groups are predominantly carnivorous, others predominantly vegetarian, based on the resources of the territory they frequent.

Much of the material culture is made of wood, bark, leaves or other plants which are burned or thrown away after use. If artifacts made of flint, quartz or other stones remain in the bivouacs, everything produced in organic materials quickly disappears. Lithic artifacts from various periods of human activity can accumulate on the floor level of the bivouac. It is mainly the waste left for generations in these trampling levels that form archeological layers. Functional objects, such as

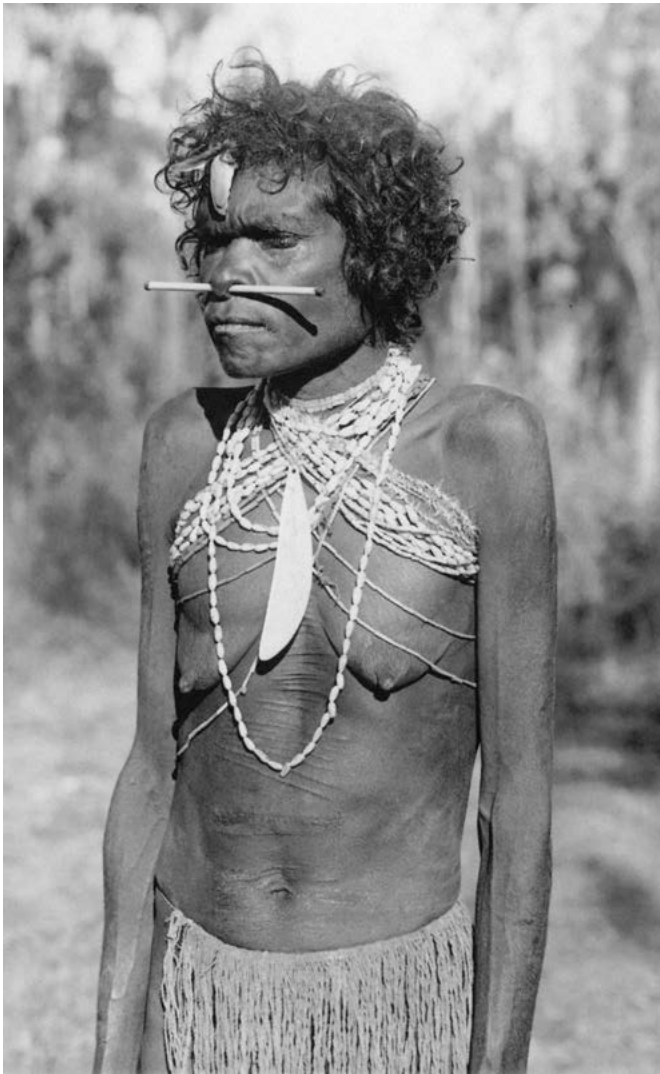


Fig. 27. Woman wearing mourning ornaments. Lin's Ghitti group, Peninsula of Cape York, Queensland. Most of the adornments are made of bone and shell (photo D.F. Thomson, 1933).

stone tips of spears or javelins, are often left on the hunting ground when prey is collected and the hunting tool is thrown away to create another similar one on the next occasion.

On the same stepping floor of the same bivouac, there may be, close to each other, objects reused or left there ages apart. The date of the floor does not necessarily represent the date of all the objects found in it.

Traditions And Innovations

In the 1970s there still existed, both in the Central Desert and in the three northern peninsulas (the main areas frequented by myself), clans of Aborigines whose material culture was traditional, includ-

ing flint tools with wooden or pitch handles, sticks for starting fires, darts, and wooden dart launchers for hunting. Today, many of them have acquired elements of Western material culture, from clothing to metal tools. Much more powerful tools such as cars and tractors, radios and TVs, household appliances, and telephones have completely transformed habits and customs. Even the last Aborigines who still maintain the ancient traditions of material culture are abandoning it. The Aboriginal Stone Age has come to an end.

During our first journeys to Australia, we encountered clans naked or dressed only in loincloths, who went to collect food with spears, boomerangs, and digging sticks. Today, such scenes remain only in memory.

The traditional arsenal was generally sparse. In addition to wood, which was the most used material, the main raw materials of artifacts were stone and bone, mainly to obtain tips to be inserted into wooden handles. The teeth of certain animals such as crocodiles or the beaks of certain birds were used as tools without the need to modify their natural shapes. A sleeved crocodile tooth made an excellent awl. Removed from the handle it would have been difficult to guess that it had been a tool. Some lithic tools



Fig. 28. Rock art from Unbalanja, Arnhem Land. Group of five dancing women in a rhythmic posture, painted in dark red. The crescent lines above their heads likely indicate singing or music, traces of an immaterial patrimony which has not been preserved (after Mountford, 1956).



Fig. 29. Young people waiting to receive gifts of candies from the author. The hand in the foreground has only four fingers. Tiwi tribe, Bathurst Island, Australia (photo Anati, 2002).

were retouched but many others were flints and other stones collected from nature and used in their natural form.

Conclusions: Yesterday, Today, And Tomorrow

Visiting a bivouac in 1974 with Aborigines who produced lithic tools, in the company of Francois Bordes, an expert in flint artifact typology of the European Paleolithic, I remember his amazement at the identity of the results of ongoing processing of lithic tools with those of European Paleolithic artifacts, but also his surprise at the use of unretouched lithic splinters, previously classified by him as processing waste, not real tools, which instead were efficient tools and had practical uses.

In various regions of Australia over the last 50 years, the material culture of Aboriginal people has undergone such changes that it has become an exemplary case. In the deep bush bivouacs artifacts with mille-

nary forms are used, but where roads and electricity have arrived, the material culture of the grandfather and that of the grandson would have been classified as two different ages separated by millennia if they were found in anthropic layers of archeological excavations. The pressure of Western indoctrination has transformed tools and needs. Everyday objects two generations old are now museum pieces or folk curiosities. In the 1970s, boomerangs, spears, and *bibi* tree-bark vessels were indispensable tools for everyday use. Today those collected by museums or collectors have been saved. Furthermore, anew craftsmanship is emerging, *ad usumalienorum*, of imitations, even in smaller dimensions, of everyday objects, which invade the curio markets. This tendency cannot be avoided but devalues traditional culture, and transforms the hunter into a craftsman for tourists. Thus, not only the material culture is transformed, but also the very spirit of the Aboriginal people and their way of thinking. Even the

primary bush is now invaded by plastic garbage. How long can millenary traditions still survive? They are part of world history, of a common heritage, and every effort should be engaged to keep alive the knowledge and their cultural, educational, and historical meaning.

Only 50 years ago, some Aboriginal people still lived in the traditional way, obtaining everything they needed on a daily basis directly from the environment. In the life of hunter-gatherers, much care was devoted to esthetics, art and decoration, by people without a fixed home and without aims to have a career or to achieve social success. Body decoration, rock art, and bark paintings may have taken more time and energy than food collecting and hunting. As much concern was devoted to their never written but immensely rich and imaginative literature of knowledge, myths, rituals, and beliefs described and preserved by millenary rock art and oral traditions. Can we claim that Stone age people, besides being excellent creators of material culture, were highly civilized intellectuals?

The last Paleolithic people are now speaking English, drinking beer, driving cars, and becoming Christians or Muslims according to the missionaries that got them first. The ancestral spirits retired to their havens. Their material culture is now different and their immense conceptual patrimony of myths, beliefs, and traditions remains a remarkable legacy for all humanity to preserve as a world heritage.

The innovations of the material culture that took place in the last century are far more determinant than those that occurred in the last 100,000 years, a result of the alien colonization. The traditional material culture was produced by the users for their consumption. The new age brought a material culture that the users are unable to produce. Yesterday as today, the material culture is the reflection of the way of life and its transformations indicate the epochal changes that take place in the history of a people. Tools, like clothing and other products, are now acquired, not self-produced. The human group is no longer autonomous. This is a drastic cultural change. The story of Aboriginal material culture appears as the synthesis of a world trend. What can we learn from all that? Can the past and present of material culture provide hints about its future? When knowledge ends, imagination does not.

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CULT IMAGES CARVED ON STONES AT THE WEST KENNET LONG BARROW AND AT AVEBURY, ENGLAND

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Introduction

The long barrow at West Kennet, near Silbury Hill and the Avebury stone circles, is one of Britain's best-known chambered monuments (Fig. 1). Restored in 1955-1956 it is open every day of the year and free to enter. Topping a ridge (Fig. 2) two kilometres south of the megaliths of Avebury, it was built by Early Neolithic Britons hundreds of years earlier than the Avebury monuments. Its date is reckoned to be about 3650 BC (Whittle 2008). Over a millennium later in the Copper Age around 2400–2300 BC, the barrow was sealed and shut down.

When it was being built, cult images were worked into several stones. Their nature implies a belief in the ideology of animism together with belief in a female divinity. The present author noticed these images having previously found and described artwork indicative of animistic belief on positioned standing stones at Avebury and on neighbouring hills, as reported for the hills in *Expression 33* (Meaden 2021).

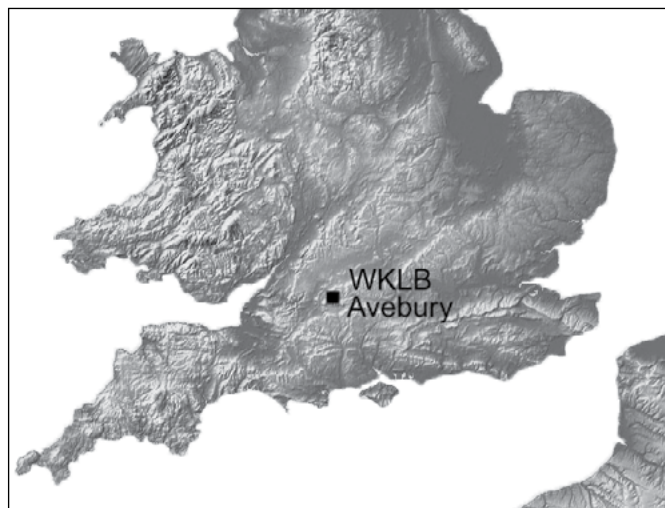


Fig. 1. The locations of Avebury and West Kennet Long Barrow in central southern England.

This five-celled long barrow comprises a medial gallery aligned east to west, which is entered from the east (Fig. 4). There is a terminal cell at the western end and two cells off each side of the gallery.

Over 40 sarsen stones were used for the upright stones of the gallery and chambers (Fig. 4), and numerous capping stones and corbel stones formed the roof which was overspread with turf. The stones are of the sarsen sandstone type like those at Stonehenge and Avebury. Excavations in 1859 by Dr John Thurnam (1861) and in 1955-1956 by Prof Stuart Piggott (1962) revealed large numbers of human bones and simple ritual objects and ground-positioned skulls. Because of the bones, most archaeologists refer to the site as a tomb of the dead and declare it to be a monument where funeral practices and bone portage were carried out as a common purpose (e.g., Shanks and Tilley 1982; Smith and Brickley 2009, 23-29, 37, 69, 73). When the community decided to seal the barrow, it was filled solidly with soil and chalk rubble, and huge stones were raised as a spectacular façade.

However, this well-known monument is more than just a tomb. It was viewed as a death-and-rebirth womb-tomb through a belief in an Earth Mother or other female deity, as implied by the findings and the nature of the stone planning. Inside the end chamber (see plan, Fig. 4) there is a carved image of a human head of such subtlety that it went unnoticed during the first 40 years, from 1957 to 1997, that the barrow was open to public view. The same applies to an animal head on the lintel at the entrance. Similar carvings, existing at sites nearby including Avebury, are introduced in this paper too.

The central cult megalith, Stone 45, in the façade of the long barrow

Most significantly, at the outside eastern end of the monument there is the huge vulva symbol pecked as



Fig. 2. An angled prospect looking southwest, showing the extent of the barrow which is 100 m long and 20 m wide between side ditches. The east-west gallery extends 12 m inside.

a long narrow hollow on the medial blocking stone (the 20-tonne Stone 45 in the plan). This feature is a vertical groove 1.60-m long and half-a-metre wide at maximum. It is the sixth prominent Neolithic vulva identified on megaliths in the Avebury region (Meaden 1999). Its maximum depth is 70-75 mm.

The long groove was made by pecking and abrading along the middle of the biggest stone which stands directly in front of the east-west gallery behind. That is to say, the external carving signals the presence of the vagina gallery and attendant womb-like cells. Together they express the idea that aspects of a fertility religion may be involved. A carved vulva when perceived as a fertility icon signifies regenerative female power whereas a carved phallus illustrates male creative power.

The left-facing human head in the terminal chamber

Next, there is a masterly carving in low relief of a human head in left profile that occupies the entire surface of Stone 21 in the gallery's end cell (Fig. 8). This natural stone likely had aspects that attracted the sculptor's attention and which were subsequently improved. The principal features of left eye, nose, mouth, chin and left ear are present in perfect relative proportions (Fig. 9). As explained elsewhere

(Meaden 1991), left-facing features-indeed anything left-handed in the symbolism and beliefs of traditional societies-imply femininity. This suggests that in the beliefs of the community the carving, as an icon, represents the female deity of the tomb-womb. The praiseworthy sculpture, executed with such finesse, was positioned deep inside the barrow such that only the privileged would know it was there. Additionally, its presence on the far western wall facing east allowed the rising sun to illuminate it only in the week of the March and September quarter days (Q2 and Q4, the so-called equinoxes), and that arrangement persisted for more than a millennium of the Neolithic era until the sealing of the barrow.

The lintel at West Kennet Long Barrow

Surprisingly, the author had entered the barrow dozens of times before noticing another major shaped stone on 22 May 2002. It is the full-body carving of either a bovine calf or a deer fawn on the lintel of the barrow's portal entrance (Figs. 10, 11). The working of the animal's ear was a remarkable achievement in a difficult hard-stone medium, and that was done thousands of years ago using primitive tools. Moreover, the rear end of the animal is fully rounded with legs not visible (Fig. 12). This implies that the image represents



Fig.3. View along the gallery. 21 August 1996.

Fig. 4. Two stones with meaningful carvings are Stone number 45 in the east-facing façade (marked V) and Stone number 21 at the west end of the gallery inside the monument. Against Stone 15 on the floor lay three skulls, marked SSS on the plan. Also, a child's skull lay between Stones 21 and 22. Plan after Piggott (1962).

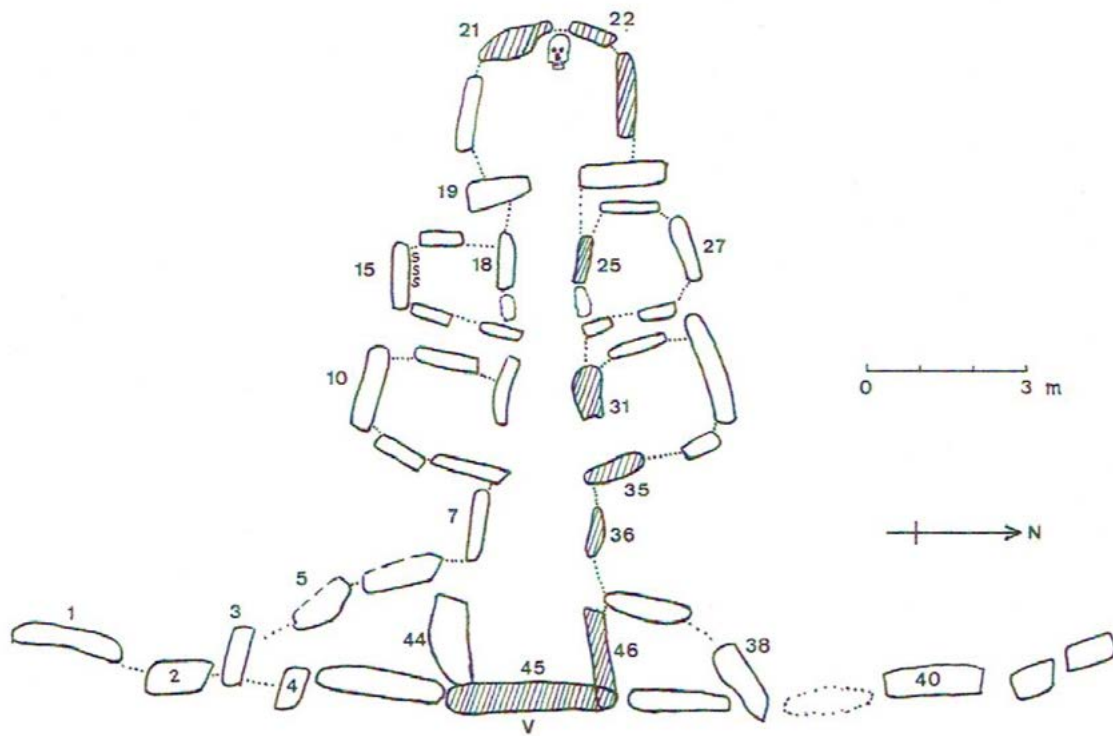




Fig. 5. The façade at West Kennet Long Barrow. The biggest stone has a long vertical groove carved centrally on it. Compare this photograph with Figures 6 and 7.



Fig. 6. The narrow groove follows the vertical centre line of the biggest façade stone which aligns with the east-west gallery directly behind it.

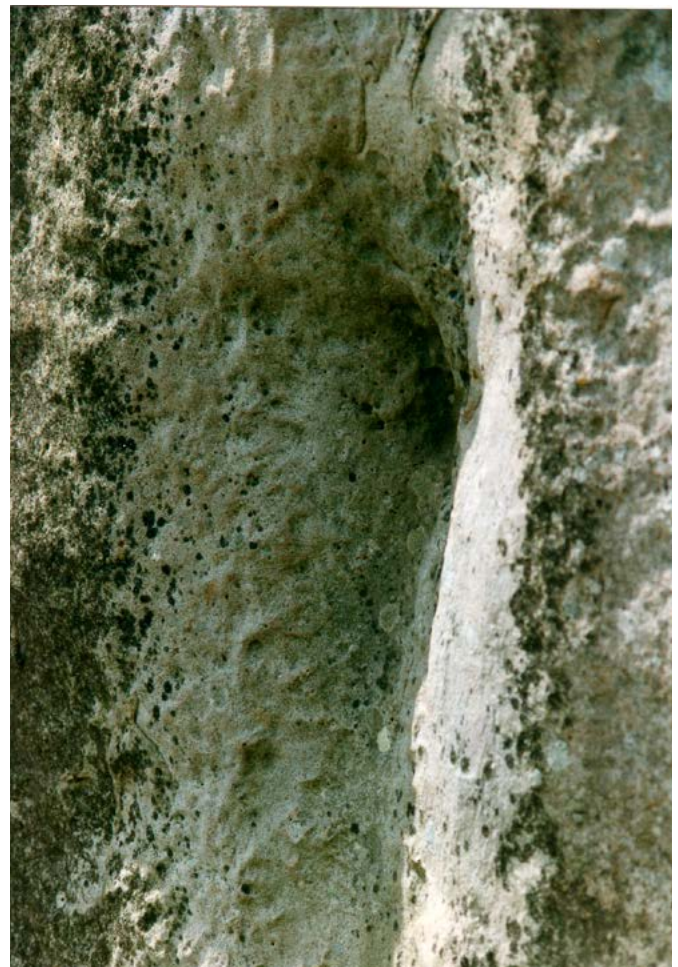


Fig. 7. The deepest part of the carved groove is 70-75 mm.



Fig. 8. Stone 21: Left profile of a human head with eye, nose, mouth, chin and ear.

Fig. 9. Angled sketch of the image carved upon the stone in the end chamber.

birth, at which time the legs are tucked underneath (Fig. 13). Such a 'birthing' sculpture likely depicts a clan totem or cult image, appropriate for a site having aspirations of rebirth. The best photographs are taken about midday when the grazing rays of the sun are from the south.

Animism

These findings expose for the people of the Avebury region a Neolithic belief in animism, which is that natural and physical objects are endowed with mystical spirits having otherworldly properties. Indeed, any geological feature, especially those having a resemblance to some aspect of, or part of, a presumed deity, was thought to have a 'numen' or divine power or spirit (Anati 2020). Vulva similitudes, especially, are relatively common features in the natural world, and were revered worldwide in prehistoric times as being sacred to feminine deities and spirits. At Avebury there are several such carvings (e.g., Meaden 1999, 22-25, 32-33, 57). Bender (2020) provides a range of pertinent examples from North America. Hence such features, among others, were worshipped in the hope of receiving favors because of the spirits residing in them. In a previous article in *Expression* some of the animal depictions carved into megaliths on hills near Avebury were introduced (Meaden 2021a). The best examples represent Sheep, Bear, Hare, Beaver, Frog, Toad, and Buzzard or Eagle, and we have no idea about how many have been destroyed by commercial stone-breakers in recent centuries. The sheep example is reproduced in Fig. 14. They were likely objects of worshipful devotion, as for instance serving as shrines linked to aspects of farming life (the productivity of food, and rewards of the hunt among them).

The rediscovery of purposeful images in the Early Neolithic long barrow at West Kennet near Avebury has considerable consequences for recognizing the community's rebirth hopes, and leads to a limited understanding of the spiritual thinking behind the construction of megalithic long barrows. Besides serving to safeguard and honor ancestral bones, chambered long barrows functioned as cultic enclosures bearing hopes for after-death rebirths in what amounts to an artificial cave serving as an Earth Mother's womb as well as an ancestral tomb. In other words, such sites were more like death-and-rebirth tomb-temple-



Fig. 10. The lintel carries a carving of a bovine calf or a deer fawn. 8 June 2007.

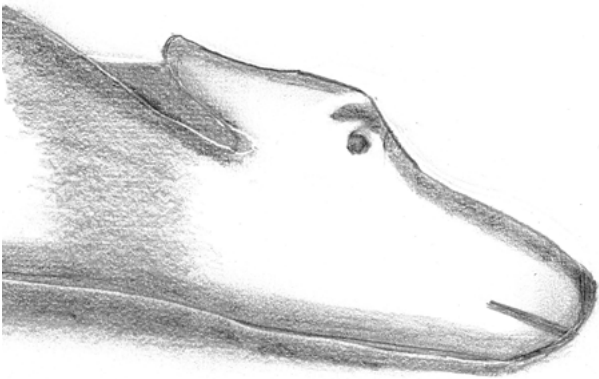


Fig. 11. Sketch emphasising the principal carved features of Fig. 10.



Fig. 12. The deliberately rounded rear of the abdomen of the carved animal intimates that this is a depiction of a new-born animal. 16 May 2006.

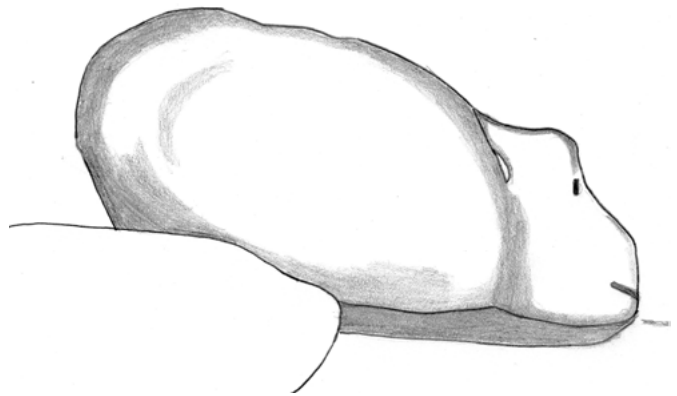


Fig. 13. Sketch demonstrating the intentional roundness of the rear of the carving.

shrines influenced by a belief in the Earth Mother or other female deity.

Such structures were deemed to be under the control of a female agent or deity thought responsible for the afterlife of the ancestors and a place for rebirth of the recently deceased. Hence, might such thinking have also applied to the great monuments of County Meath in Ireland, namely Newgrange, Knowth and Dowth? These great mounds could similarly be earthen covers enclosing the internal chambers and gallery of the cave-like womb of a purported female divinity (Meaden 1991; 2016; Prendergast 2012; 2017a; 2017b).

What is strongly emphasised here is that artists in

the tribal communities at and around Avebury in ancient Wessex pursued the same artistic ideas that images could be worked into stone as *expressions* of matters significant to them in their cultures and spiritual thoughts; and that, moreover, this extended in time from the Early Neolithic (the chambered long barrows) through to the Late Neolithic and Early Bronze Age (carvings on the stones of the circles, coves and avenues). This kind of achievement appears to be a local matter limited to this particular area of prehistoric Britain. The author has inspected most of the prehistoric megalithic sites of the British Isles and Ireland in the last 40 years, yet despite ear-



Fig. 14. A big stone shaped into the head of a sheep. Photographed in the light of the summer-solstice rising sun. 22 June 1996.

nest searching he has found virtually nothing artistically similar elsewhere, in contrast to the dozens of clear-cut examples found around Avebury, and it is always with sarsen stones.

Some unknown genial artist must have started it all. Such artistry was accepted by an appreciative community and became routine from at least the age of the oldest known example at West Kennet (ca. 3650 BCE) through to the end of Avebury's megalithic period, about 1500 BCE. Known instances seem to be cultic or myth-related, i.e., deemed mythical by us but regarded as true by the myth-believers.

A splendid example was published in *Expression* number 18 (Meaden 2017a, 42-47) in an article titled "Paired Megaliths with Sculpted Images Facing Sunset at the Summer and Winter Solstices and the Implication of Paradisiacal Belief."

Moreover, might the concept of "the marriage of the gods" or *hieros gamos* play a role too, in which light at sunrise from their supposed Sky God couples with the female deity overseeing the chambered barrow (Meaden 2021b, 42-61). In a future article for *Expression*, this and similar matters are to be discussed for the Neolithic chambered long barrow of Stoney Littleton

near Bath in Somerset which is some 50 km to the west of Avebury and West Kennet. At Stoney Littleton, as at Newgrange, the midwinter rising sun shines along the length of the gallery to the end chamber.

At West Kennet the sunrise alignment of the gallery is instead appropriate for the portentous quarter days of March (the 22nd) and September (21st). The expectation is rebirth of the dead because souls were hoped to survive mortal death. At the east-facing long barrow of West Kennet the carved facial image (Fig. 8) in the terminal cell on these auspicious occasions may therefore denote the fertility Mother of Spring and Autumn.

North America

Images indicative of an earth mother-sky father type of religion together with fertility rites are known worldwide. Consider the example of tribal Wisconsin when the native peoples were encountered by colonists in recent centuries. Herman Bender researching in North America (2020, 200-214) reported numerous petroglyphs of vulva form, made by native Indian communities, that exist in both natural and enhanced forms in rock art at several sites in association with

caves or rock fissures. His homeland of Wisconsin, located in the woodlands and plains of the western Great Lakes, is where his expertise lies through enterprising discovery *and influential meetings* with native Indians. The diamond or lozenge shape-a truly female symbolic feature known worldwide-is commonly found near cave entrances across southern Wisconsin. On more open ground there is a vulva rock at a petroglyph site aligned to the winter solstice sunrise. Elsewhere, another landscape feature of relevance is King Phillips Seat known to be a sacred vulva-rock site for the Wampanoag people of eastern Massachusetts and Rhode Island.

The vulva images are said by American Indian people to have a Mother Earth relationship. Several mark what are claimed as entrances to the womb-as similarly with caves and springs. Others, such as the above-mentioned solstice-aligned vulva-rock, act in the consummation of the Marriage of Sky with Earth at particular times of the year. Several of the North American vulva rock sites likely date to the American Archaic period (4000 to 1500 BC). Such images have also been reported widely across the continents of the Neolithic and Bronze Ages.

Stones of the Avebury Neolithic circles

Avebury's great cove-stone features the carving of a hare (Fig. 15) either seated upright or possibly in springtime boxing mode (Figs. 16 and 17). On site all four carved legs can be made out. The stone has been in position for nearly 5000 years. The age of the carving is unknown but by rationally comparing it with other Avebury carvings a date in the Late Neolithic or Early Bronze Age is justified.

What is more, an extraordinary thing happens when this same carving (Fig. 16) is regarded from the side, that is to say, edge on, or parallel to the hare. The result is that the hare has transformed into a human head facing left (Fig. 18).

It is artistic sculpture of very high merit, a unique example of an image changing as if by metamorphosis from an animal into a human depending on direction of view. There are more carved images on stones at Avebury. Figs. 19 and 20 illustrate the human-head carving on Stone 106 which is one of very few perimeter stones surviving in the northern circle which used to have 27. The fine detail of carved mouth and chin (Figs. 20 and 21) show well, as also either plaited hair or a spiralled horn (Figs. 20 and 22).



Fig. 15. The surviving cove stones of the original four.



Fig.16. A battered carving of a hare facing left. In the photograph the forelegs are visible but damaged after up to 5000 years of weathering and rubbing by livestock.

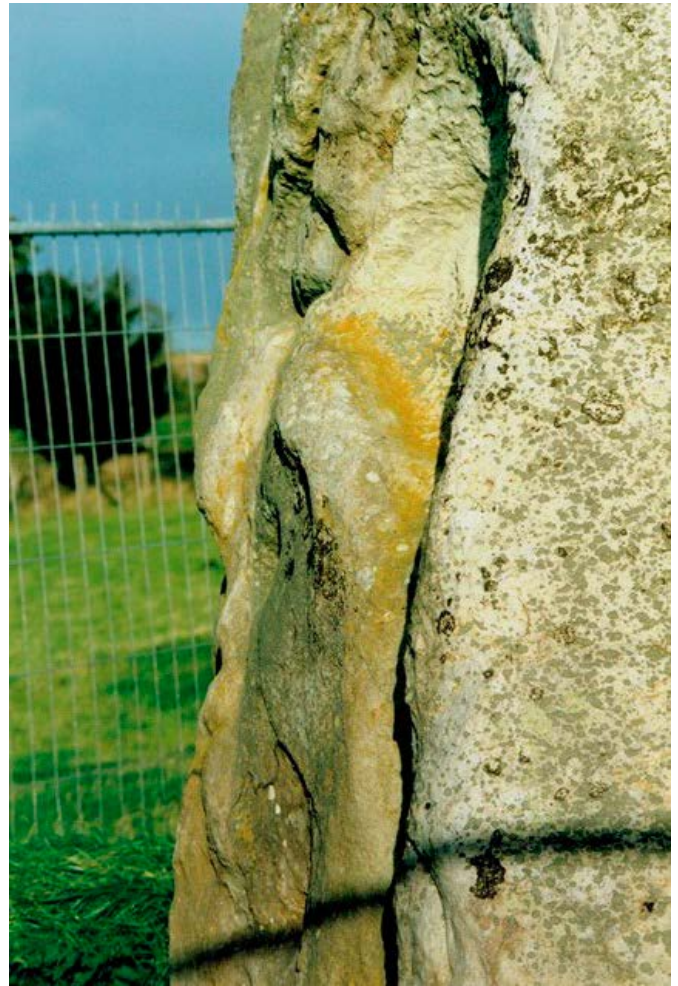


Fig. 18. The hare and this face-profile occupy the same stone surface of the great megalith.

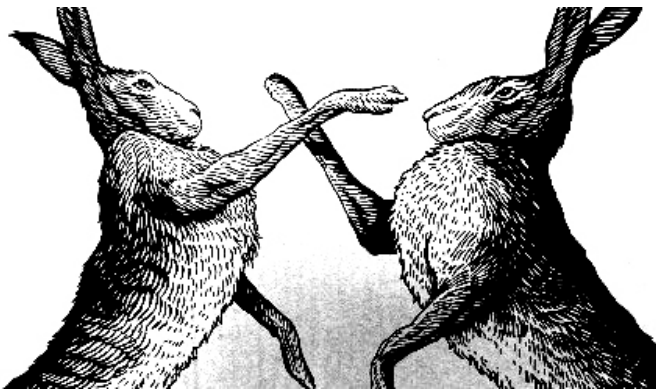


Fig. 17. The attitude of the arms of the hare on the right is similar to that of the ancient sculpture.

Conclusions

For the first time in any journal of anthropology or archeology three carved stones at the chambered long barrow at West Kennet in England are described. Outstanding, because of its position in the middle of the east-facing façade of megaliths, is a carved vulva 1.6m in length. On the lintel of the barrow's entrance is a splendid carving of an animal as if just born. Inside the terminal cell of the barrow is a well-executed carving of a human head facing left. Professor Piggott (1962) who spent nearly two years restoring the barrow in 1955-1956 did not see these carved features or he would have reported them. How do we explain this a gnosis because it is also relevant that the present author had visited the chambered barrow several times until at last noticing images in 1997 and the lintel stone in 2002?



Fig. 19. Stone 206 of the northern circle at Avebury, possibly spared from destruction by villagers because of the fine image.
Fig. 20. The sculpted head, based on there being a natural eye and nose.



Fig. 21. Stone 206, detail of chin and mouth.
Fig. 22. Stone 206, detail of plaited hair or horn.

Next, some of the carved images at Avebury stone circles are discussed. The present author had missed seeing them on his first few visits to Avebury's stones. What caused the author finally to see what he had often missed? Part of the answer is that, like other visiting archaeologists, he had not thought to look. Another reason comes from a growing awareness during the passage of time that such possibilities could exist, and this because of knowledge acquired about prehistoric images noticed elsewhere under other circumstances. Louis Pasteur, discoverer of the principles of vaccination, declared in 1854 that "in the fields of observation chance favors only the prepared mind". Moreover, as reported elsewhere, the enigmatic carving on the recumbent stone at the Drombeg Stone Circle in County Cork is, in the context of semiotics, another highly-valid female genital carving (Meaden 2016, 28-31; 2017b). This judgment is supported by a phallic carving and an egg carving on one of the portal stones at Drombeg. These three images at Drombeg are pure carvings, and also the carving on the façade stone at West Kennet Long Barrow were carried out in the spirit of fertility hopes and worship. The other carvings reported for Avebury and for the lintel and the internal stone at the long barrow were likely inspired by the natural outline or surface contours of the megaliths, such that with some subtle skillful artwork the desired images were brought prominently into view. Behind it all is the people's belief in animism. With a firm background of relevant knowledge in the signs and symbols of semiotics, the conscious minds of modern investigators are better prepared for spotting fresh eventualities. It was only after achieving this higher level of anthropological alertness that the author came to recognize the numerous images of Neolithic and Early Bronze Age date at Avebury's stone circles and at West Kennet Long Barrow that are quite obvious now.

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A PROXY SKY FOR A MODELLED DECIPHERMENT OF IRISH NEOLITHIC ROCK ART

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Introduction

Contextual interpretations are useful methods for the decipherment of ancient symbol systems,¹ and this assertion could be applied to the interpretation of Irish Neolithic rock art, including the petroglyphs located at the megalithic Brú na Bóinne complex. The rock art analyzed here is carved into stones at the Brú na Bóinne passage tomb complex, and nearby Fourknocks tomb, in Co. Meath, Ireland, and the original context of these petroglyphs is well documented.² Skies likely held distinct meaning to Neolithic people, who viewed the sky without access to modern scientific knowledge and in non-technical terms.³ Considering the sky within an ancient context could provide key information in the decipherment of Irish Neolithic rock art. For this purpose, I analyze the sky, mirroring an ancient approach, whereby evidence is gathered based on visible characteristics from a viewpoint on the ground. Results from my evaluation are visualized in the original context of Irish rock art and include clouds composed of smoke, stars representing distant bonfires, and skies comprised of water, since the sky shares the blue colors seen in water and produces rain. Notably, a sky comprised of water parallels the widespread ancient view of skies interpreted as primordial oceans.⁴ These three evaluations generate what could be considered a “proxy sky” and may aid in interpreting the underlying meaning of Irish rock art. Using a proxy sky expands the original context of Irish rock art to provide additional possibilities for motif inspirational sources and motif use. This method of interpretation also offers insight on strategies towards decipherment. Unless distinct worldviews are recog-

nised, misunderstanding of sky motifs created by ancient artists and interpreted by modern scientists can occur. The results are based on the format of a thought experiment that show by using a pictorial model, the Irish motifs are interpretable, producing narratives that describe an agrarian based belief system highlighting sunlight, soil and water, and adding to the explanation of how the site was used.

Context

The original context might provide valuable information that may have possibly inspired the motifs. When an artist creates representational motifs, objects and elements are often depicted according to their prominent features. Considering this, the context of the Irish rock art is analyzed with emphasis on the prominent features of objects and elements as inspirational sources.

The megalithic Brú na Bóinne complex is a UNESCO World Heritage Site featuring numerous petroglyphs that were used in my analysis. Brú na Bóinne includes three sections containing the round-shaped Newgrange, Knowth, and Dowth tombs and is the largest megalithic site in Ireland (Figure 3).⁵

Newgrange

Initial construction of Newgrange began in 3305 cal. BC and continued through 3020 cal. BC.⁶ A rectangular roof box, built over the entrance (Figure 4), aligns with the winter solstice sun, which casts a long line of light into the chamber.⁷ The ray extends to a central niche, one of three, ending near a three-spiral petroglyph discussed in this study. More petroglyphs, in-

1 Gelb and Whiting 1975.

2 McLaughlin *et al.* 2016.

3 Ruggles 1997.

4 Witzel 2015.

5 Cooney 2000.

6 Schulting 2015.

7 Patrick 1974; M.J. O’Kelly 1982a.



Fig. 1. Detail, Irish Neolithic rock art (Photo: author).

cluding numerous spirals, are featured in each niche.⁸ This art, being in the innermost chamber, was likely meant for the dead and those permitted access beyond the passages.⁹ Findings in the tomb include artefacts, stone basins, and both cremated and disarticulated human remains.¹⁰ Later contributions document barrel-shaped Grooved Ware pots.¹¹ The art outside adorns kerbstones encircling the tomb, three of which are discussed in the analysis. K52, K67 and K1 are part of ninety-seven kerbstones, with K1 marking the passage tomb entrance.¹² The view from the tomb entrance includes the river Boyne below. Exterior sites at Newgrange include a geometric henge,¹³ comprising a large circle made up of rectangular, earthen pits, and a cursus, a processional avenue consisting of a raised, elongated U-shaped embankment.¹⁴

Knowth

Knowth was built on a hillside and has been dated to at least 3160 cal. BC.¹⁵ The view includes the vaulted sky, hills and fields far into the distance, and the river Boyne below. Inside, a petroglyph composition resembles an accurate representation of the topography of the moon, including the horseshoe-shaped grouping of the lunar maria and the round-shaped

individual maria.¹⁶ Three Knowth kerbstones, K52, K93 and K15 are discussed in this study.¹⁷

Dowth and Fourknocks

The Dowth tomb is sealed and includes multiple exterior stones which are buried (Figure 6) and are therefore not included in this study. A visible section of the entrance stone depicts two cupule motifs, like cupules seen on select Newgrange stones. Further south of Dowth is the Fourknocks tomb with the lintel stone which is analysed at the interior.¹⁸ Exterior, the view includes the horizon of the Irish Sea.

Agrarian and Natural Elements

Irish Neolithic peoples were primarily agrarian¹⁹ and elements associated with an agrarian lifestyle might include sun, seeds, water, soil, foliage and fields. The overall shape of an early Irish field system potentially dated to the Neolithic, or at least to prehistory, is divided by a gridded stone wall system.²⁰ Other early Irish work included quarrying and axe manufacturing, as well as clearing the land of timber.²¹ This was used to build dwellings, which were rectangular in shape, and later, round in shape.²² The prominent light source was likely fire, which emits curling or billowing smoke. Early Irish peoples likely endured weather systems similar to those experienced in the modern context.

8 C.O'Kelly 1982; M.J. O'Kelly 1982a.

9 Nash 2006.

10 Fraher 1982; M.J. O'Kelly 1982b; O'Sullivan 1982.

11 Eogan and Roche 1999.

12 M.J. O'Kelly 1982a; C. O'Kelly 1982.

13 Condit and Keegan 2018.

14 Condit 1997.

15 Schulting *et al.* 2016.

16 Stooke 1994.

17 Eogan 1986.

18 Hartnett 1956–7.

19 McClatchie *et al.* 2014; Whitehouse *et al.* 2014.

20 Caulfield *et al.* 1997.

21 Cooney 2000.

22 Grogan 1996; Cooney 2000.



Fig. 2. Brú na Bóinne features the River Boyne, traversed en route to a passage tomb. A scene such as this likely held distinct meaning to the Neolithic Irish, who viewed skies without access to modern scientific knowledge, which separates clouds from smoke (Photo: author).

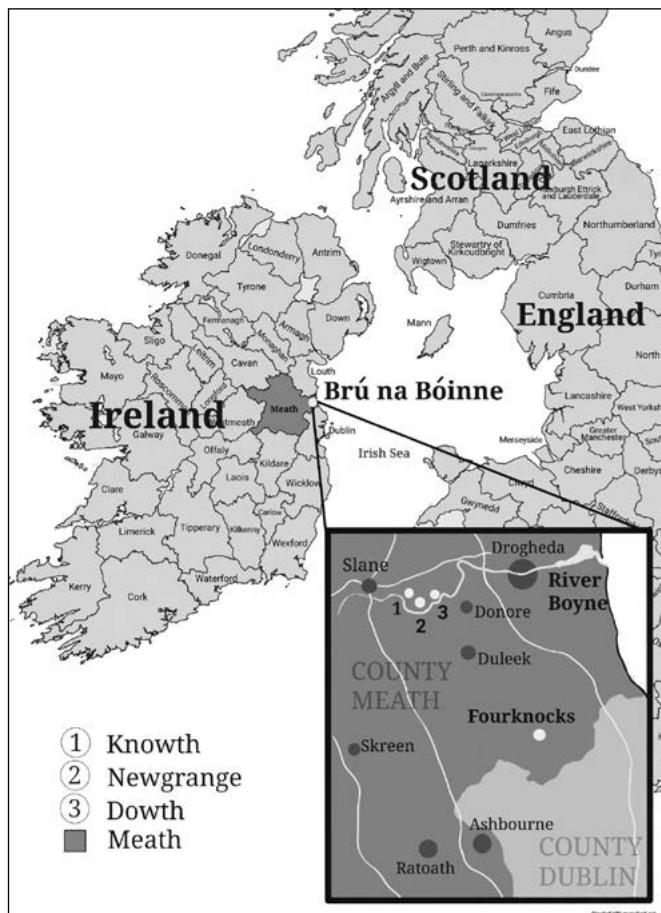


Fig. 3. Locations of selected petroglyphs (map: mapchart.net, creative commons; map inset: author).

These include a strong wind, visible in fast-moving, low-lying clouds, and heavy rain forming diagonal parallel lines. The rainfall creates ring shapes on the river Boyne, and at the turbulent sections, spiral shapes form. At still sections, the sky and land appear inverted in reflection. At night, stars scintillate, and the moon rises in phases of crescent, round, or dark shapes.

Motives

There are likely multiple motives informing the Irish megalithic art.²³ One theory proposes the art was made to time the planting of crops, with the petroglyphs on Knowth K15 depicting symbols that tracked the movement of the sun to mark a solar year.²⁴ This motive can be also accomplished without art, by noting sunrise positions next to landmarks within the landscape.²⁵ Universal motivating factors have inspired art throughout human history, including memorialising birth or death, indicating directions and instructions, depicting scenes, myths, and honoring iconic figures.

²³ Hensey 2012.

²⁴ Brennan 1994.

²⁵ Ruggles 1999; Prendergast *et al.* 2017.



Fig. 4. The Newgrange roof box and K1 entrance stone (Photo: author).



Fig. 5. The Knowth passage tomb with satellite tombs (Photo: Alex Neumann, with permission).



Fig. 6. The Dowth entrance stone. The cupule to the right is approximately 6 inches in diameter, while the cupule to the left measures approximately 5.5 inches in diameter (Photo: author).



Fig. 7. A modern Irish field system seen from the Dowth tomb. The elevated locations of the tombs offer expansive views (Photo: Alex Neumann, with permission).



Fig. 8. An early Irish rock art composition from the Fourknocks tomb featuring chevrons (Photo: Alex Neumann, with permission).

Methods

The methods used for the experimental interpretation include a pictorial model based on visual similarity.²⁶ This means the motifs are interpreted as simplified representations of objects and elements commonly encountered by Irish Neolithic peoples at Brú na Bóinne. Motifs linked to possible inspiring sources might lead to definitions that are interpretable. The motifs comprise chevrons, circles, lozenges, arcs or horseshoe shapes, spirals, gridded lattices, triangles, cupules, lines, and pecked masses.²⁷ These vary in size and position within compositions on separate stones.²⁸ I travelled to Ireland to see the sites firsthand, and include my illustrations of the stones with the interpretations. The pictorial model was selected for three reasons, all of which point to representational strategies possibly being used in the art. First, the varying size relationships within compositions suggests the use of an artistic convention often associated with representational art called hierarchical perspective. This is a perspective seen in early Egyptian, Byzantine, and novice art²⁹ where the artist exaggerates the size of a motif to reflect how important the subject is (i.e., a ruler might

be represented by the largest motif). The hallmarks of hierarchical perspective seen in the Irish rock art suggests representational strategies may be in use.

Second, in two instances the Irish chevron is used in both upper and lower areas of compositions, areas often interpreted as sky and ground. This chevron is visibly identical to widespread modern and historical³⁰ chevron motifs used to depict water. The Irish chevron attributes and placement could indicate a representation of water depicted within a distinct sky.

Third, the accurate representation of lunar topography in the Knowth tomb,³¹ suggests early Irish ability and interest in representational style. Consequently, linguistic models, often used with systems where motifs are relatively similar in size, were excluded from this study. The neuropsychological model,³² where motifs are viewed as spontaneous images created during trance states, could potentially work with the proxy sky. However, for the reasons discussed above, the pictorial model was selected. This model is presented within the organized structure of what I call a thought experiment.

First, I tentatively define as many individual motifs as possible on the stones I selected, based on the prom-

²⁶ Nakamura and Zeng-Treitler 2012.

²⁷ C. O'Kelly 1982.


























²⁸ Ibid.

²⁹ Sofron 2015.

³⁰ Patterson 2023. For one historical example in the broader context see p. 70.

³¹ Stooke 1994.

³² Lewis-Williams *et al.* 1988.

Table 1. Experimental definitions of twenty-five Irish Neolithic signs.					
Sign					
	IS1 Water	IS2 Water (variation)	IS3 Stars	IS4 Nimbus ascending (smoke)	IS5 Nimbus descending (smoke from fires above)
Description	Source: waves of water. Definition: water in the place below; the sky as composed of water in the place above. Notes: IS1 appears on Newgrange K52, K67, Knowth K52, K15, and the Fourknocks lintel stone.	Source: diagonal parallel lines of falling rain; rivers; water in a basin. Definition: IS2 augments other signs with water. Notes: IS2 appears on Newgrange K1, K52, K67, Knowth K93, and K15 as an outline around other signs or as repeating parallel lines.	Source: starlight. Definition: distant bonfires above. Notes: IS3 appears on Knowth K15 and K52 as a pecked mass.	Source: rising smoke. Definition: rising smoke. Notes: IS4 appears on Newgrange K1, K52, K67, the three-spiral figure, Knowth K93, and K15. The endpoints of IS4 point to the bottom of the composition.	Source: smoke originating from above. Definition: sky phenomena. Notes: IS5 appears on Newgrange K1, K67, the three-spiral figure, and Knowth K52. The endpoint of the IS5 points to the top of the composition.
Sign					
	IS6 Nimbus	IS7 Waxing crescent moon	IS8 Waning crescent moon	IS9 New moon rising	IS10 Ceremonial area (moon, henge, star, tomb)
Description	Source: combination of smoke originating from above and below. Definition: sky phenomena. Notes: IS6 appears on Newgrange K1, K52, the three-spiral figure, and Knowth K15. IS6 endpoints do not point to the top or bottom of the composition.	Source: the waxing crescent moon. Definition: ceremonial finale. Interpreted information from the compositions (see Part 2) outlines ceremonies sending a substance to the place above, on smoke, at the new moon phase. The increasing light of the waxing phase may have signalled the end of activities or successful transfer of the substance. Notes: IS7 appears on Newgrange K52, Knowth K52, K93, and K15.	Source: the waning crescent moon. Definition: the decreasing light of the moon as a signal for the approaching time for ceremony. Notes: IS8 appears on Knowth K52.	Source: the rising and setting trajectory of the moon during the dark phase between waning to waxing moon. Definition: timeframe for ceremony; each peak represents one night, each trough a day. Notes: IS9 appears on Knowth K52, K93, and K15.	Source: the horseshoe-shaped grouping of the lunar maria. The outline around the sign could be the water variation sign (see IS2). Definition: a series of areas separate from daily life, perhaps linked conceptually by fire to the place above. Notes: IS10 appears on Newgrange K1, K52, K67, Knowth K52, K93, and K15.
Sign					
	IS11 New life (rising)	IS12 New life (falling)	IS13 Field (place below)	IS14 Field (place above)	IS15 Solstice sunlight
Description	Source: the upward thrust of the landscape such as hills and mountains. Definition: new life growing upward from this place. Notes: IS11 appears on Newgrange K1, K52, K67, Knowth K15, the Fourknocks lintel stone, and underlies the pictorial composition of the tri-spiral.	Source: the upward thrust of the landscape such as hills and mountains, reflected in water. Definition: new life and renewal arriving from above. Notes: IS12 appears on Newgrange K1, K52, and K67, and the Fourknocks lintel stone.	Source: new life (rising, falling) signs (see IS11 and IS12); perhaps the water variation sign (see IS2) or stone field wall boundaries. Definition: field or land-based crops. IS13 represents one plot in a field comprising multiple plots. Notes: IS13 appears on Newgrange K1, K67, and the Fourknocks lintel stone. IS13 often appears in multiples as a lattice motif. The field in the place below is surrounded by an outline.	Source: new life (rising, falling) signs (see IS11 and IS12). Definition: fields of the place above or marine-based crops; ponds in the place below. Notes: IS14 appears on Newgrange K1, K52, K67, and Knowth K15. IS14 often appears in multiples as a lattice motif. This field sign is not surrounded by an outline.	Source: a beam of solstice sunlight. Definition: initiates growth. Notes: IS15 appears on Newgrange K1, K52, and Knowth K15, as a vertical line, widened to create a prominent negative space, perhaps to represent light.
Sign					
	IS16 Up	IS17 Down	IS18 Person	IS19 Mother	IS20 Reborn
Description	Source: abstraction of a concept. Definition: upward action between signs. Notes: IS16 appears on Newgrange K67, Knowth K93 and K15. IS16 is shorter in length and not as wide as IS15	Source: abstraction of a concept. Definition: downward action between signs. Notes: IS17 appears on Knowth K52 and K15.	Source: the sun, moon and lunar maria. Definition: a person or large group of people; a figurative sign representing the metaphysical aspect of a person. Notes: IS18 appears on Newgrange K52, K67, and Knowth K15 as a hole gouged into the rock. Variation in size relationships may indicate male, female, adult/child.	Source: rings caused by raindrops on water and the person sign (see IS18). Definition: mother generally, mother of the number of children indicated by the number of rings. Notes: IS19 appears on Newgrange K52, and K67. This sign has a gouged cup in the centre	Source: the round shape of the moon with the interior sign representing increasing light. Definition: rebirth. The interior sign increases in size on Knowth K52. Notes: IS20 appears on Knowth K52, K93 and K15. This sign has an outlined circle in the centre.
Sign					
	IS21 Dying/sick	IS22 Death/remains	IS23 The dead (seeds)	IS24 Earthen pit	IS25 Pot
Description	Source: the round shape of the moon, with the interior sign representing decreasing light. Definition: dying or illness. The interior sign decreases in size on Knowth K52. The visibly decreasing light may have indicated the fading of the moon's vitality or a dying state. Notes: IS21 appears on Knowth K52.	Source: the darkness at new moon; the round shape of the moon with the interior sign seen in IS20 and IS21 omitted. Definition: a state of dark emptiness; remains of the dead depicted as an empty shell. Notes: IS22 appears on Knowth K52 and K15.	Source: the person symbol (see IS18) depicted with three aspects. Definition: aspects of the dead as seeds, or multiple people, buried or stored. Notes: IS23 appears on Newgrange K52.	Source: the rectangular shape of the earthen pits at the Newgrange geometric henge. Definition: earthen pit. Notes: IS24 appears on Knowth K93 and on K15.	Source: a barrel shaped pot. Definition: pottery vessel for water ceremony. Notes: IS25 appears on Knowth K15

inent features of elements mentioned in the context. For example, I begin with a gridded lattice motif for fields, and the chevron for water. Defining a few motifs provides information that can be used to tentatively deduce the possible meaning of other motifs. Definitions are then repeatedly tested for consistent meaning on multiple stones. A regular pattern of use may emerge. With more motifs 'defined', others become more easily definable. In this way we can create a reading of the rock art.

These methods provide consistent results for interpreting 33 stones and two artefacts. The initial eight interpreted stones are presented for discussion. These are physically accessible for firsthand study and used to obtain reference material for my original illustrations. The eight stones discussed depict multiple motif types, repeated in various combinations. Each stone depicts a new aspect of an interpreted belief system. A list of twenty-five plausible sign definitions is provided as an interpretive framework for the Irish stones which could be used to interpret other stones. The implication for using such approaches to interpret Irish Neolithic rock art emphasizes the relevance of using a proxy sky to gain insights to possibly decipher Irish rock art.

Analysis

Experimental Interpretation Part 1: individual signs

In this thought experiment, I expand the original context of Irish Neolithic rock art to include the proxy sky. I draw on experience with visual-based communication to predict possibilities for using representational motifs, or signs, to depict my scenario. For example, a sign related to water may represent both sea and sky, and another sign may depict variations of water such as rivers. A sign representing 'rainclouds of smoke' might have three components: smoke rising from the ground, smoke from bonfires above, and all smoke united as rainclouds. Multiple signs could be used to represent stars: one for groups of distant stars and another for stars associated with bonfires on the ground. Viewing stars as bonfires in the sky could lead to a perception that people above tend the fire, therefore, signs for people could appear relative to sky elements. When the sky is believed to be composed of water, above and below might link conceptually through

mutual reflection or inversion. To navigate this, signs might indicate directionality.

Signs are included in the annotated list below when they link to prominent features of an element in the context, and when they retain consistent meaning in the compositions. Some signs are defined abstractly, which I clarify in the annotations of the sign or in Part 2 (below). The list is intended to be regarded as an interpretive framework that can be added to and refined. I interpret twenty-five Irish Neolithic signs (IS) with the experimental definitions in Table 1.

Experimental Interpretation Part 2: the signs on the stones

The compositions were then interpreted on individual stones using the definitions from Part 1. Subtle relationships between the signs, related research and the rationale behind my results are discussed with some of the interpretations. The interpretations describe the interaction between objects and elements. Early Irish mythologies or names that might lend deeper meaning to the interactions are not currently interpretable.

Newgrange

Interpretation of Newgrange K1

A vertical line on K1 lines up with the tomb entrance, pointing to the roof box (Figure 4), which in turn aligns with winter solstice sunlight.³³ Interpretation: the solstice sunlight and the rain (nimbus) pass into this tomb. This tomb (ceremonial area) is lifeless until the sunlight and rain (nimbus) bring new life (rising) into the tomb, which in turn rises on smoke (nimbus ascending), joining clouds over the fields below and above.

Interpretation of Newgrange K52

My interpretation of K52 describes an agrarian-based belief system initiated by a beam of sunlight. Notably, solar alignment is a feature at multiple Irish tombs.³⁴ Interpretation: central to these events is sunlight surrounding a person. People wait at this tomb to rise with the smoke (nimbus ascending) from this tomb (ceremonial area). They enter the water (variation) of this tomb and exit with the smoke (nimbus). The

³³ Patrick 1974; M.J. O'Kelly 1982a.

³⁴ Prendergast *et al.* 2017.



Fig. 9. The Newgrange passage tomb encircled by kerbstones (Photo: Alex Neumann, with permission).

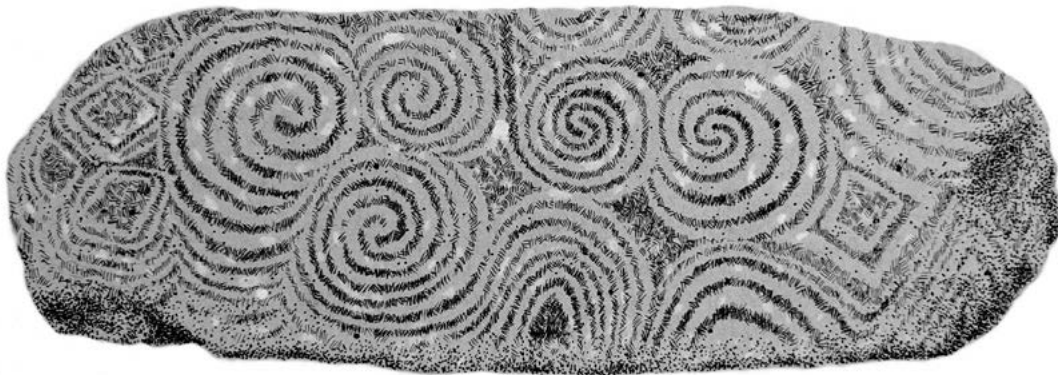


Fig. 10: Illustration of Newgrange K1. Two horseshoe shapes, one containing a triangle, anchor the bottom of the composition (Illustration: author).



Fig. 11. Illustration of Newgrange K52. Horseshoe shapes emanate from rectangles with rounded corners (Illustration: author).



Fig. 12. Illustration of Newgrange K67. Lattice motifs mirrored above and below interlocking triangles (Illustration: author).

person is submerged in a pond containing new life. People are at the sky (water), at the stars (ceremonial areas). Three aspects of the dead carry new life (rising and falling). Three aspects of the dead arrive from all places to the moon (ceremonial area). Three aspects of the dead with new life leave the moon (ceremonial area). New life spreads in all directions, to many places (ceremonial areas). Three aspects of the dead grow with new life at the places (ceremonial areas), reborn through mothers.

Interpretation of Newgrange K67

My interpretation of K67 describes clouds as a vehicle of exchange between a perceived place above and this place below. Interpretation: man and woman. Over the course of two nights and a day, the nimbus receives (something) from the fields near rivers and from the smoke (nimbus) and ascends to the field above. From the field above (in water), the nimbus returns to the fields of this place. The fields above are the same as the fields below. New life (rising, falling) is exchanged between both places.

Interpretation of the Newgrange three-spiral figure

The three-spiral motif is approximately 11x13 inches, carved low on a stone at an angle facing a basin at the

tomb interior. Three spirals arranged in a triangular shape, which may contribute to the meaning, are conjoined by a continuous line (Figure 13). I interpret the three-spiral figure as an iconic representation of a revered figure. Interpretation: the signs describe three aspects of the nimbus: nimbus cloud, perhaps including wind and rain, smoke rising, and smoke arriving, forming a continuous cycle of new life.

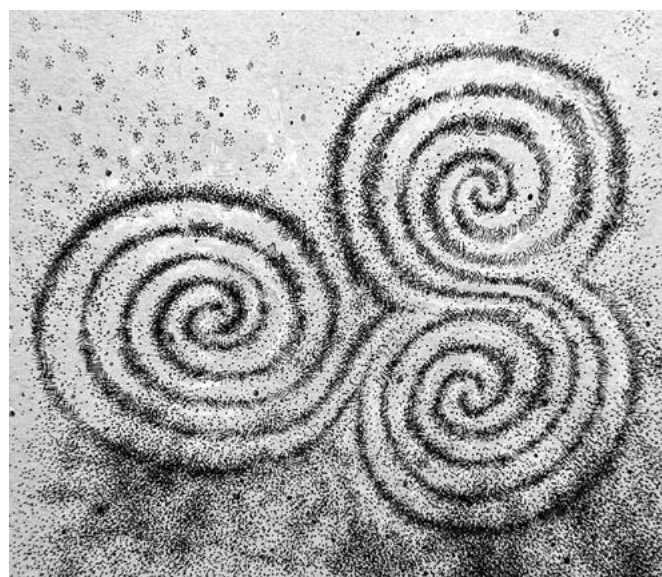


Fig. 13. Illustration of the three-spiral figure (Illustration: author).



Fig. 14. The Knowth passage tomb encircled by kerbstones (Photo: Alex Neumann, with permission).

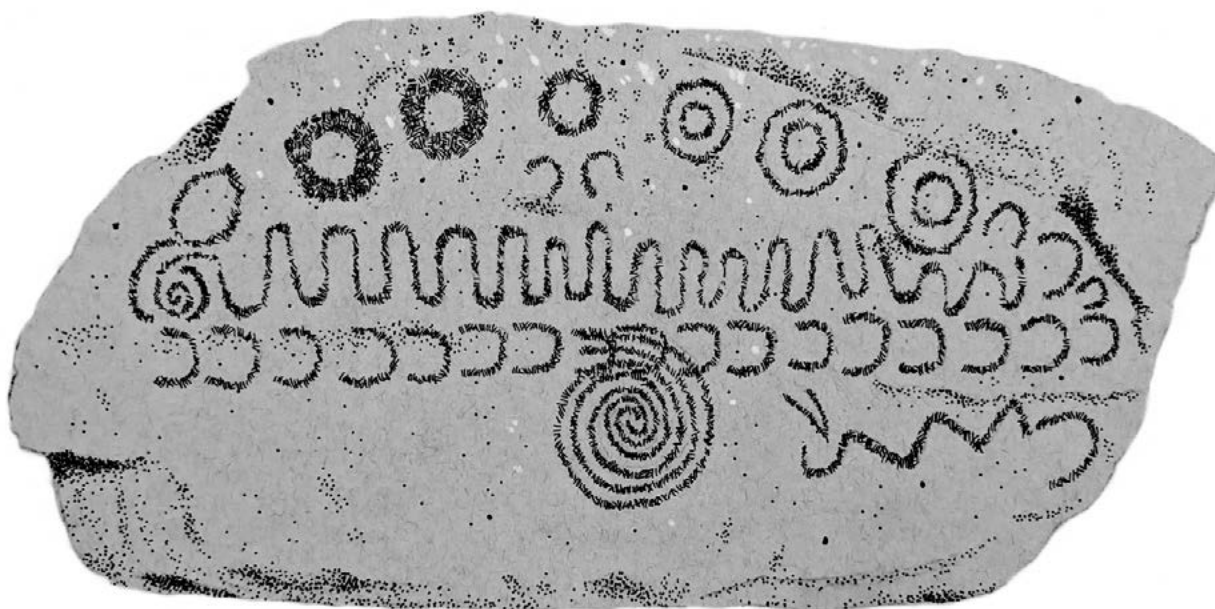


Fig. 15. Illustration of Knowth K52 (Illustration: author).

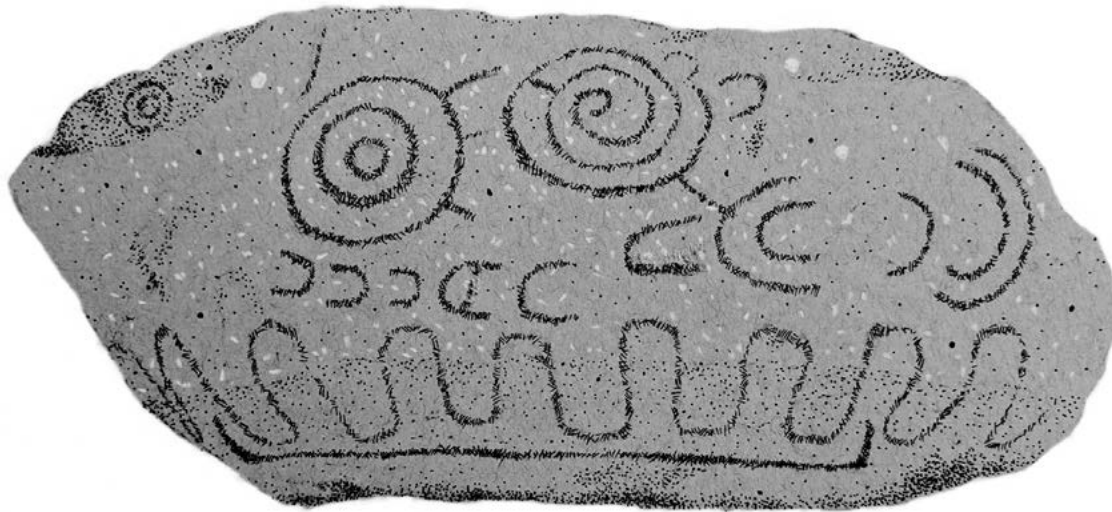


Fig. 16. Illustration of Knowth K93. A horizontal motif under scores seven sections of a wavy line with various motifs positioned directly above (Illustration: author).

Knowth

Interpretation of Knowth kerbstone 52

The halfway point of the interpreted moon rising signs seen on K52 (Figure 15) corresponds to the new moon phase when counted from the waning crescent located on the left, approximately seven days. I interpret the wavy line motif on the stone as referencing a specific time period comprising the new moon phase.

Interpretation: this stone describes the (nimbus descending) time between the waning and waxing crescents (bracketed motifs, far left). There are sixteen moon risings (counting peaks on the wavy line left to right) from the waning moon to the waxing moon. The moonlight decreases (inner circle contracts). The moon signals emptiness on the seventh night, during the new moon (empty circle). The ceremonial areas reverse orientation. The moonlight increases (inner circle expands). The rainwater (from nimbus descending) collected at the many ceremonial areas moves down into the water at the major ceremonial area. The seventh night after the new moon is important (horizontal peak on the wavy line).

The interpreted ceremonial area signs appear adjacent to the decreasing light, indicating a possible association between tombs (death) and the waning moon phase. Conversely, birth may have been associated with the waxing phase as the signs reverse orientation at the in-

terpreted new moon. This is the reasoning for defining the dying, death, and reborn symbols, which, in this experimental model, retain the same meaning on Knowth K93 (Figure 16) and Knowth K15 (Figure 17).

Interpretation of Knowth Kerbstone 93

My interpretation here expands information interpreted from Knowth K52 by describing seven days of ceremony after the new moon.

Interpretation: reborn (upper left, interpreted to indicate the topic of the composition). The seven nights (new moon rising) before the waxing crescent are important. Activities at ceremonial areas begin on the second night after the new moon. After three nights, and on the fourth day, the ceremonial area reverses orientation and activities at the pit henge begin. The fifth night is designated for the ceremony at what may be the cursus. The sixth night is designated for smoke rising from the ceremonial area. The substance prepared at the pit henge (see below), rises from water at the henge on the smoke. Likewise, this ceremony is performed at the ceremonial areas above. Smoke rises up to one source (motif unknown). On the seventh night, the waxing crescent is visible. On the eighth night, the ceremonial area reverses orientation. The sixth and eighth nights involve water at the ceremonial areas.

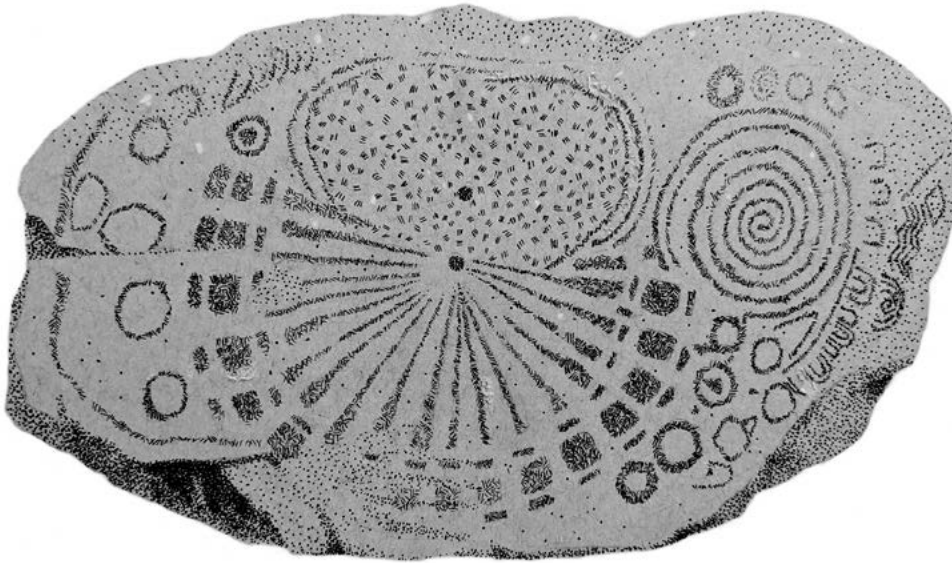


Fig. 17. Illustration of Knowth K15. The interpreted pit signs change size from thick to thin throughout the array (Illustration: author).

Interpretation of Knowth kerbstone 15

K15 is viewed as a sundial.³⁵ In contrast, my interpretation describes a water ceremony. At the centre of K15 are interpreted star motifs contained within an interpreted water (variation) sign (Figure 17). The barrel shapes at the end of each interpreted sun ray sign resemble the form of a pot. The barrel shapes have a straight end that alternates orientation throughout the arc of the array. Interpretation: remains from this tomb are placed into the pots (large arc with empty circle on the left side of the composition). In the water filled pots, the person is surrounded by the stars (perhaps reflection) until the person is surrounded by the sun. For successful ascension (waxing moon, upper left) the remains pass through the pit henge, and are filled with new life. The pots tip into the henge and out, filling the pits. Remains are put down. Remains also move up with the smoke (nimbus). The results of the activities outlined here will move up to other ceremonial areas. Water is shared between the place above and below, by the clouds (nimbus). Water from ceremonial areas moves up to the field (above-pond).

Fourknocks

Interpretation of the Fourknocks lintel stone

Mirrored chevron motifs cover the lintel stone (Figure

19). Interpretation: a representational image depicting the reflection of the sky in the sea, separated by fields. This stone might also indicate that above is the same as below.

Discussion

Stones excluded from discussion are physically inaccessible (i.e., at Dowth), or worn, interpreted to repeat simple phrases with a limited number of motifs, to depict representational scenes, or are complex, requiring a separate article to discuss. The interpreted artefacts, excluded from this text to preserve text length, include water pots and an implement interpreted to sprinkle water, similar to an aspergillum.

The expanded context provides additional possibilities for motif inspirational sources and motif use, leading to multiple insights. The added inspirational sources include water both above and below for the Irish chevron as representing sky and sea, and smoke originating from bonfires above and below, for three types of Irish spirals as representing rainclouds of smoke. Added possibilities for motif use include spatial orientation according to the proxy sky, where upper sections of pictorial areas often depict sky elements, and lower areas often depict ground elements. The added objects and elements have prominent features, and twenty-three motifs are experimentally defined based on visual similarity to a number

³⁵ Brennan 1994.



Fig. 18. The Fourknocks tomb interior, with the interpreted lintel stone to the right (Photo: Alex Neumann, with permission).

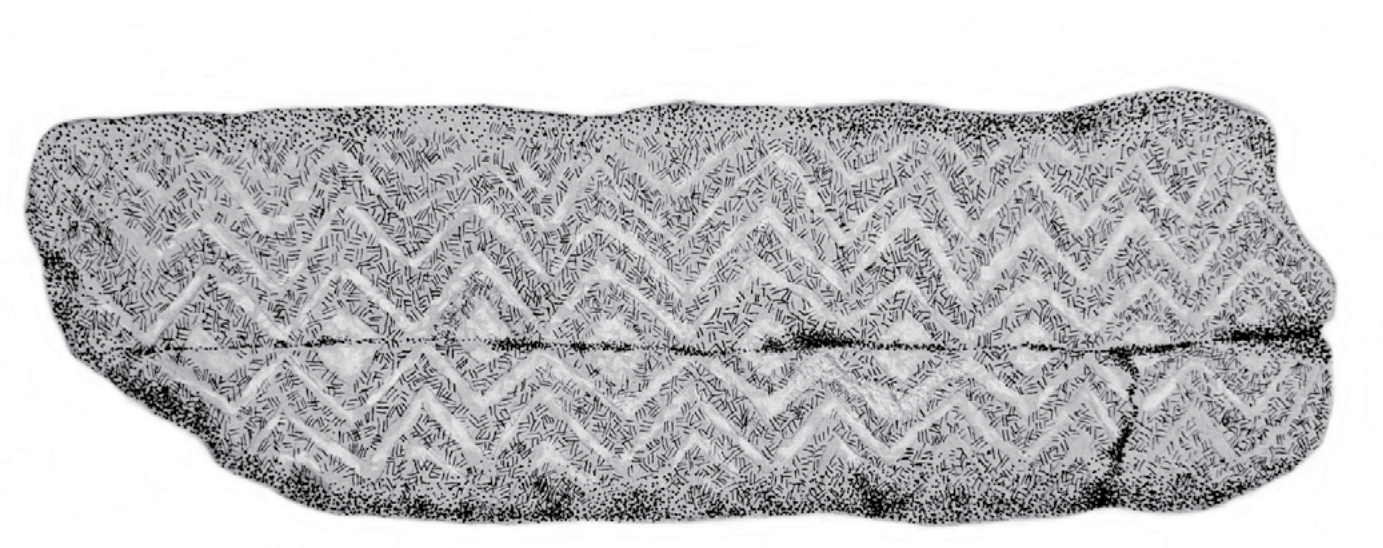


Fig. 19. Illustration of the lintel stone at Fourknocks tomb. The view from the tomb entrance includes the horizon of the Irish Sea (Illustration: author).



Fig. 20. The Boyne Valley as seen from atop the Knowth passage tomb, where views of the starscape would be unobstructed on a clear night (Photo: author).

of these. Two additional motifs are interpreted to represent abstract ideas. These twenty-five motifs are interpretable consistently on eight stones, with compositions read in a non-linear direction. In turn, consistent interpretation reveals patterns of motif use including: motifs often interacting with the real world (see K1 and K15), motifs often depicted with orientation reversed, shapes repeated to possibly indicate movement, and motifs depicted with orientation inverted. These patterns suggest an underlying system. This, combined with evidence of hierarchical perspective seen in compositions, the resemblance of one composition at Knowth to the lunar maria, and the twenty-three motifs that can be viewed as simplified representations of objects and elements in the context, suggests the system may be representational in nature.

Considered within the experimental context, the narratives can point to possible motives for kerbstone use, interior art, overall site function, and monumentali-

ty. The narratives interpreted from the exterior kerbstones, in addition to expanding information from one stone to another in one case (see Figure 16), generally comprise instructions. This provides a possible motive for kerbstone art as instructions for ceremony. The interior Fourknocks stone is interpreted to be scenic. This points to a possible motive for select interior art as comfort, perhaps for the dead, and on other occasions, perhaps for women attending potential birth ceremonies interpreted on Newgrange K52. Additionally, the three-spiral figure is interpreted as an iconic depiction of the nimbus, and Newgrange K1 is interpreted to depict the nimbus entering the tomb. This provides a possible added motive for select interior art as intended for a potential revered figure. These possible motives are separate, which is in line with research discussing multiple motives for the art, as mentioned previously. Overall, the compositions interpreted in this experimental model depict funerary activities, in-



Fig. 21. A Knowth kerbstone also interpretable using the experimental method (Photo: author).

cluding a time frame and the dispersal of remains, involving pots, earth and water. In comparison, Brú na Bóinne is a recognized funerary monument. Further, the narratives interpreted from K52 indicate a beam of sunlight surrounding a person as important. Comparatively, the Brú na Bóinne complex is renowned for solar alignments. More, the narratives experimentally interpreted from the lintel stone and K67 depict a perceived mirrored relationship between the places above and below. This, considered within the expanded context with stars as distant bonfires, provides a possible motive for monumentality: a megalithic structure can provide the means to interact with and be seen at night by people perceived to be in a similar place above. The proxy sky is a result of evaluating distant sky phenomena while mirroring early methods, and the sky as water is in line with recognized ancient worldviews. The ancient Hindu, Babylonian, Mayan, Maidu, Siberian,

Boshongo, and Egyptian people all feature a primordial ocean in their origin myths.³⁶ For this reason alone, a sky of water might merit consideration in an experimental interpretation of Irish rock art. Such experiments, like the one presented here, can offer new insights towards possibilities for decipherment of Irish rock art.

Conclusion

The sky considered in an ancient context offers new insight towards possibilities for decipherment of Irish rock art at Brú na Bóinne. A distinct sky with clouds of smoke, stars as bonfires, and a sky composed of water enables select Irish motifs to be interpretable as simple representations of objects and elements in a pictorial system. Pre-existing factors seen in the Irish art point to likely representational strategies. With a

36 Witzel 2015.

pictorial model and the proxy sky to expand the original context, experimentally defined motifs are interpretable within compositions, producing narratives that, in one case, expand information from one stone to another. Further, the narratives in their experimental state, can point to possible motives for site function, artefact use, and monumentality.

Together, the possible motives suggest an encompassing purpose for the megalithic art at Brú na Bóinne with the aim of sustaining, celebrating and honoring aspects of an ancient belief system for contemporary generations while preserving the belief system for future generations, with images carved into a durable, long-lasting medium of stone, depicted in the areas ceremonies occur. The interpreted belief system represents an agrarian viewpoint of life and death which includes perceived places both above and below. The origin of such beliefs can be determined by analyzing and interpreting distant sky phenomena using evidence based on visible characteristics in Neolithic rock art that have endured well beyond a Neolithic sky.

Considering these are initial results from the first eight stones of 33 experimentally interpreted, this suggests the proxy sky in a modeled decipherment is relevant and promising.

The proxy sky can aid other interpretations of ancient culture, by researchers from multiple disciplines using a variety of interpretive models. Examining successive and outlying later cultures through a similar lens might provide additional useful information, and the interpretive framework in this article could be refined and expanded accordingly. With added insights and expertise of interested researchers, perhaps the mysterious Irish rock art carved over five thousand years ago could soon be fully recognized, and the communications preserved.

Acknowledgements

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RAIN ANIMALS IN CENTRAL SAHARAN ROUND HEAD ROCK ART: AN ETHNOGRAPHIC APPROACH

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Introduction

This paper is a result of prolonged fieldwork undertaken by the author between 2005 and 2023 in the Libyan Acacus, the Algerian Tassili and Algerian Tadrart mountains (Map 1). The field research aimed to study mainly the earliest prehistoric rock art, with special focus on the Round Head paintings. The fieldwork involved only non-invasive techniques based on observation and photography of the rock art, sites and landscape (Fig. 1).

As it became more and more evident over the years, a significant part of the Central Saharan rock paintings and engravings were connected to rainwater, judging from their location next to or directly under ancient water cascades (Soukopova 2016; 2020). In addition

to this, among Round Head animal figures, the author noticed the presence of unidentifiable down-headed animals which had repeating and similar characteristics meaning that these designs were intentional. Some of these animals were already known in the literature and described and classified by various authors as real species, although somehow “weird”. For example, the same animal at Tin Aboteka site in the Tassili (Fig. 2) was interpreted by different researchers as a bovid, hippopotamus and feline (Soukopova 2011).

After a detailed examination of several hundred pictures of Round Head animal figures from the Tassili, Tadrart and Acacus, 57 unidentifiable animals with similar characteristics have been identified and they constitute the basis of this paper. A research hypoth-



Map 1. The Central Saharan mountains discussed in the text (Google maps).



Fig. 1. The mountains of the Algerian Tadrart.

esis is tested here, namely that these images of unidentifiable animals can be categorised as rain animals. Each of these unidentifiable animals presents one or more characteristic features which are listed below (Tab. 1), and they are compared with analogous animals in the South African rock art, which also present these features.

The climate and rock art

The oldest painted images probably originated around the 10th millennium BP, during a humid period which started first in the Central Saharan mountains at around 15,000 BP. This wet phase was preceded by an arid period during which life was possible only in certain parts in the mountains (Maley 2004). The onset of the wet climate also in the lowlands in the 10th millennium BP represented an important change in the Central Saharan environment and corresponded with the beginning of the Epipalaeolithic phase. Thanks to the possibility of human and animal mobility throughout the whole Sahara new subsistence strategies developed and the sites became much more

numerous (Fig. 3). The archaeological record testifies that the Epipalaeolithic hunters were a complex society with excellent quality of lithic tools, grinding equipment and pottery. Several burials were found in the Tassili and in the Acacus; laboratory examinations of cutaneous remains have revealed dark-skinned individuals (Aumassip 1980-1; Mori 2000).

The excavations in the Tassili and Acacus confirm the presence, between 10,000 and 7,500 BP, of hunter-gatherer groups which preceded the advent of the pastoral economy at around 7,500 BP. Although we do not possess direct dating from the oldest paintings, several elements indicate that in this revolutionary period also a new rock art style appeared, namely the Round Head style (Soukopova, 2011). The Early Holocene archaeological stratigraphy is reflected in the rock art where the distinction between the Round Heads without domesticated animals and the pastoral phase with bovine painted imagery is evident. Another similarity between the archaeology and the paintings is the predominance of mouflons since the excavated faunal remains dating before 7,500 BP present a pre-



Fig. 2. This unidentifiable down-headed animal at Tin Aboteka site in the Tassili was interpreted by different researchers as a cattle, hippopotamus and feline.

ponderance of moufflons and this animal species also dominates in the Round Head rock art (Cremaschi and Di Lernia 1996; Sansoni 1994).

The Round Head complex is dominated by anthropomorphic figures (whose head shape gave the name to the style), often with decorated, horned, masked and

dancing people suggesting that many sites were not used for mundane activities (Figs. 4; 5). Animal figures are also frequent, usually depicted in a static pose without any behavioural characteristics and narrative scenes are an exception. The majority of the images are moufflons and antelope, less frequent are the representations of bovid, elephant, bird, giraffe, warthog, rhinoceros and hippopotamus.

After a short arid phase around 7,000 BP, pastoralism spread throughout the whole territory of the Central Sahara (Aumassip 2004). The newly arrived pastoral populations also produced rock art but their art is diametrically different from the older Round Head art, both in theme and technique. Pastoralists mainly depicted herds of domesticated cattle and everyday life scenes, which are not seen in the imagery of the hunters (Hachid 1998). As pastoral art belongs to a distinct cultural group, it will not be discussed here, and this study will address exclusively the Round Head corpus.

ALL RAIN ANIMALS identified	Tassili 49; Tadrart 2; Acacus 6 IN TOTAL 57
Characteristic features identified:	Sites and number of features:
DOUBLE BACK	Tassili 20; Tadrart 2; Acacus 2
DOTS	Tassili 10; Tadrart 0; Acacus 1
ONE HORN	Tassili 8; Tadrart 0; Acacus 0
LINES from the animal	Tassili 10; Tadrart 0; Acacus 3
PROMINENT BELLY	Tassili 2; Tadrart 0; Acacus 5

Tab. 1. Chart showing rain animals identified in the study area and the characteristic features. These are minimum numbers as other unidentifiable animals may be revealed in the future.



Fig. 3. One of the many rock shelters which contain prehistoric paintings and engravings (Uan Tabarakat site, Algerian Tadrart).

The similarity with South African rock art

Whilst there are some ethnographic records for the historical periods of the Central Saharan rock art, there are no ethnographic records for the prehistoric Round Head phase. These paintings were created by hunters who mostly migrated towards sub-Saharan Africa with the onset of an arid climate at around 3,000 years BP (Maley 2004; Brooks *et al.* 2003).

An alternative way to approach the interpretation is to undertake comparative studies with other rock-art complexes. The ethnographic record of South Africa is particularly suitable for the interpretation of the Round Head paintings as there are some striking similarities in the painted scenes, which suggest a similar ideology persisted in time and space. This resemblance

especially concerns the category of unidentifiable down-headed animals.

In Round Head art, animal representations are very simple in their form, however, it is nevertheless always possible to identify the species intended as the painters used conventional marks such as horns or tusks (Figs. 6; 7). There are, however, some animals that are not determinable. They bear marks of more than one animal or they have no marks, as they consist only of a body with four limbs, a tail but no ears or horns (Fig. 8). Since other animals are always recognizable from their distinguishing traits, the particular form of indeterminable quadrupeds must have been fully intentional, especially because their bodies present common features.



Fig. 4. A female figure with body decoration characteristic of the earliest Round Head style (Sefar, Tassili Plateau). Photo elaborated with Dstretch.

Fig. 5. Male figures with body decoration and wild animals, mainly mouflons (Tan Zoumaitak, Tassili Plateau).



Fig. 6. An example of recognisable Round Head animals: mouflons with characteristic horns. Smaller figures of domesticated cows were painted later (Adaba, Tassili Plateau). Photo elaborated with Dstretch.



Fig. 7. An example of a recognisable Round Head animal: an antelope with characteristic horns (Sefar, Tassili Plateau). Photo elaborated with Dstretch.

Fig. 8. An example of an unidentifiable animal: a down-headed quadruped without ears or horns (Jabbaren, Tassili Plateau). Photo elaborated with Dstretch.





Fig. 9. A rain animal painted above a natural hole in the rock (Tin Tartait, Tassili Plateau). Photo elaborated with Dstretch.

When first described (Soukopova 2011), the author noticed two main characteristic features of these enigmatic animals:

- they are intentionally indeterminable.
- they are represented with the head downwards.

The down-headed position is what distinguishes them clearly from the recognizable animals, which are never represented as “down-headed”. These two main traits, as well as the shape of the animals, were likened to the South African rock art, where similar animals exist and were interpreted, on the grounds of ethnographic record, as animals of the rain (Solomon 1992; Lewis-Williams 1981, 2004).

The rain animals feature prominently in South African ritual, myth and art. In the rock art they are characteristically rounded, fat, and herbivore-like (Fig. 14). They bear little resemblance to known species, and their form is therefore not determined by a con-

cern for realism. However, snakes, bovids, antelope, hippos, and non-real confluents of these and other animals, also fall into the category of creatures of the rain (Lewis-Williams 2004; Challis 2005).

Rain animals are managed, in altered states of consciousness (trance) by rain men, who catch a rain animal beneath the water surface and lead it through the sky to the place where the rain is needed or to the top of a hill. There the animal is killed so that its blood would fall as rain. Indeed, as Lewis-Williams (1981; 2004) notes, in rock art, down-headed animals represent dying animals in difficulty and not able to stand up.

As for their representation in both South Africa and the Central Sahara, they are not representations of real animal species. However, for the people who created them, these creatures were familiar enough to be able to recognise them from their characteristic traits and body shape, even though their forms may vary. For the hunters of the time, the unidentifiable animals were

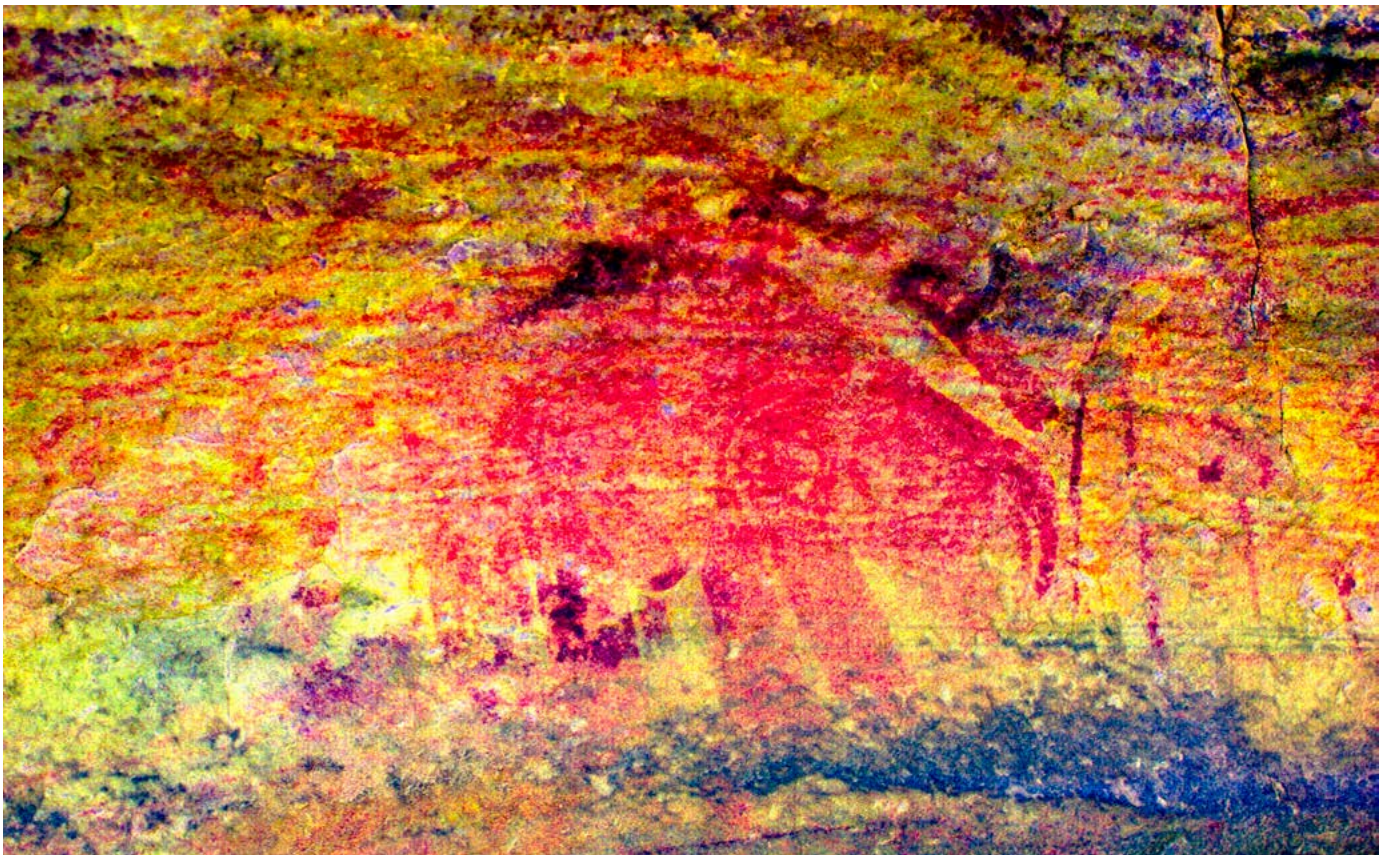


Fig. 10. A rain animal with a characteristic double back (Tin Ibrahim, Tassili Plateau). Photo elaborated with Dstretch.

as real as any other spirits or mythical ancestors, also living in a parallel world.

Round Head rain animals

From examination of the images collected during fieldwork and after a detailed study of the South African rock art, this paper aims to demonstrate that the unidentifiable down-headed animals in the Round Head art are rain animals. Rain animals are creatures used during rituals with the intention of bringing (or perhaps ceasing) rain. Even though we cannot know exactly how, these animals played a fundamental role in rainmaking and for this reason they were painted in rock shelters in selected places (Fig. 9).

Down-headed animals in the Round Head art are of various dimensions, ranging from 3 meters long down to just a few centimetres, but those of large dimensions prevail. They are typically located in the central part of the wall with all other anthropomorphic or zoomorphic figures, usually smaller, being placed around them. Their importance in the rock art is therefore

evident and it suggests the significant role that these animals had to play in the ideology of the painters and their society.

The Round Head rain animals are of two types, one is bulky with short legs, the other is slenderer with longer legs. This distinction might also find an analogy in South African ethnography as the San distinguish two kinds of rain, each having its respective animal: a rain-bull is an unwelcome thunderstorm that destroys people's huts; the rain-cow is the gentle, soaking rain bringing fertility (Lewis-Williams 2004). Besides their unique shape and posture, there are five characteristic features which some of these animals present. They are listed in the chart below and discussed in the following sections.

Double back

The unidentifiable down-headed animals in the Round Head art have one characteristic which distinguishes them from real animals: their back is often made of two parallel lines (Fig. 10; 11; 12; 13). These

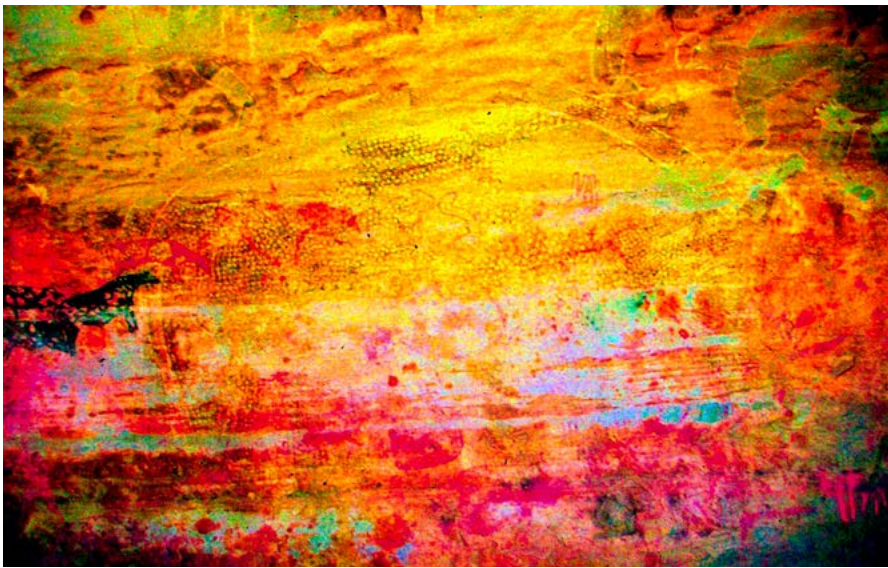


Fig. 11. A spotted rain animal with a characteristic double back (Jabbaren, Tassili Plateau). Photo elaborated with Dstretch.

Fig. 12. A spotted animal with a double back and one horn. In front of it, there is another smaller animal with dots and one horn (Tin Taharin, Tassili Plateau). Photo elaborated with Dstretch.

Fig. 13. This down-headed animal with a multicolour double back evoking a rainbow is covered with spider web like motifs possibly representing snowflakes (Adaba, Tassili Plateau).

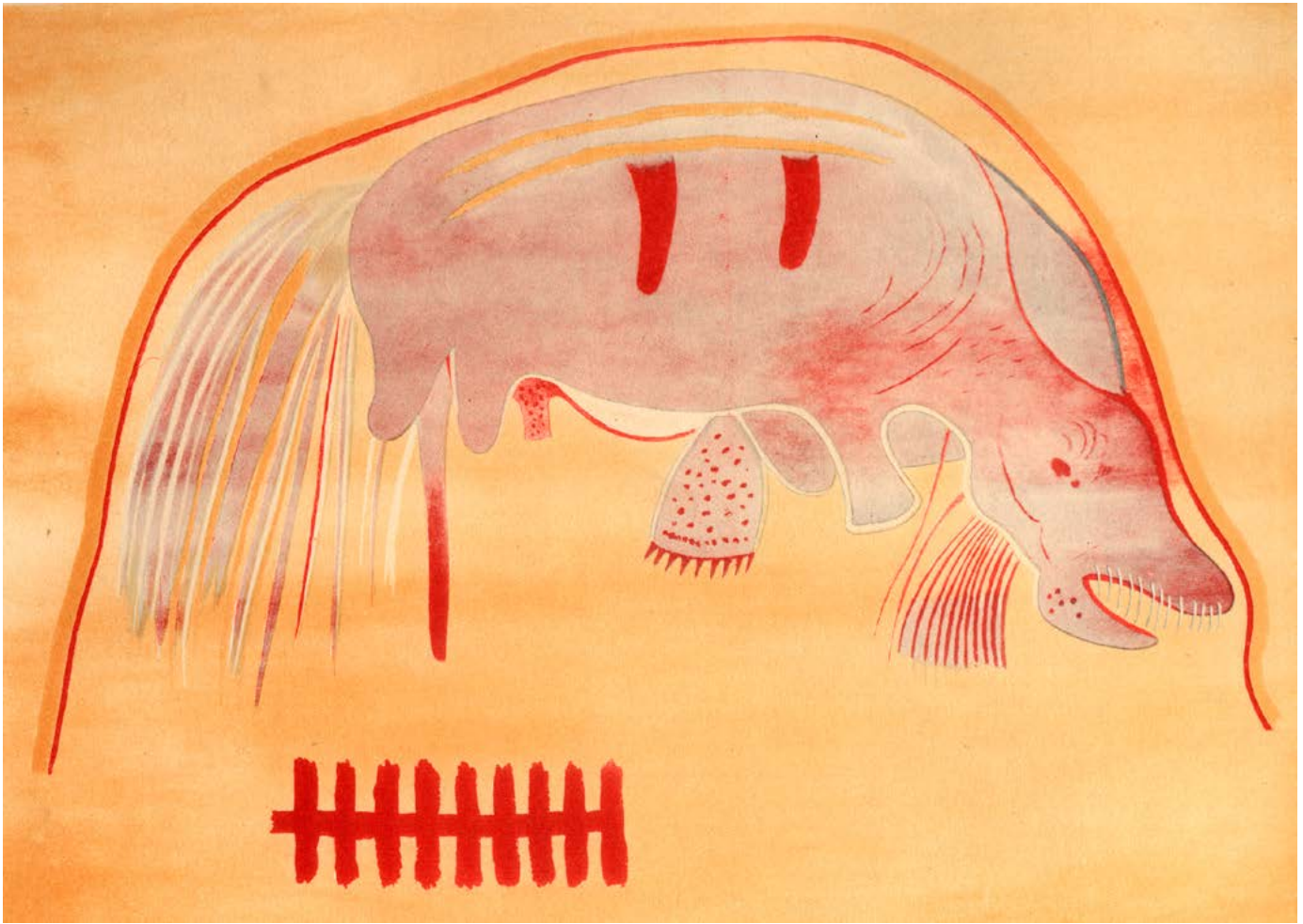


Fig. 14. South Africa: according to the San people this rounded fat quadruped is a female rain animal surrounded by a rainbow (George Stow's copy, from Le Quellec 2004).

double backs were first interpreted by the author as probable later repainting representing occasions of rain rituals, where the existing rain animal was simply repainted instead of making a new one (Soukopova 2020). However, more detailed examination has shown that in most cases the double back was not a repainting, nor a refreshing of an old picture, but the animals were actually intended to have a double line on the back.

This characteristic feature of Round Head rain animals consists of two separated parallel arcs, the lower one representing the back of the animal and the upper one copying it. The lines may be of the same colour or they can have up to three different colours: white, red and dark brown.

Considering the close relationship of the rain with

the sky, we are tempted to hypothesize that the monochrome arcs around the animals represent the sky and the polychrome arcs represent a rainbow. Such a hypothesis is supported by the comparison with the South African rock art where a rain animal surrounded by a rainbow has been documented (Fig. 14). The representation of the sky as a double arc is also known from ancient Egypt, where Nut, the Goddess of the sky and all heavenly bodies has this same shape (Britannica 2023).

Spotted animals

When further comparing the South African and Round Head rain animals we notice other similarities. Besides the two main characteristics already mentioned, namely the unrealistic form and the down-headed

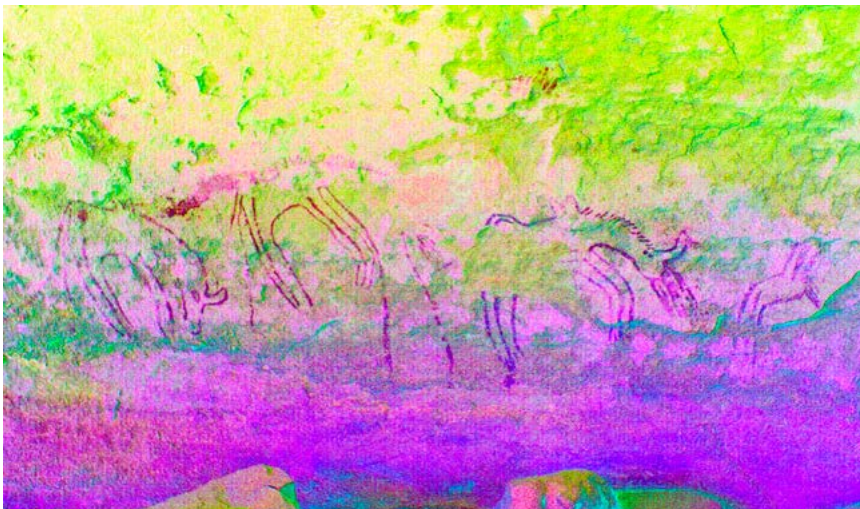


Fig. 15. This bulky one-horned animal was painted under an ancient rain cascade, so that during rain water was crossing its belly (Uan Bender, Tassili Plateau). Photo elaborated with Dstretch.

Fig. 16. A down-headed animal represented with only one horn (Tin Mzghigauin, northern Tassili). Photo elaborated with Dstretch.

Fig. 17. Two down-headed animals with only one horn. The animal on the right has parallel lines leading from its mouth (Tin Taharin, Tassili Plateau). Photo elaborated with Dstretch.

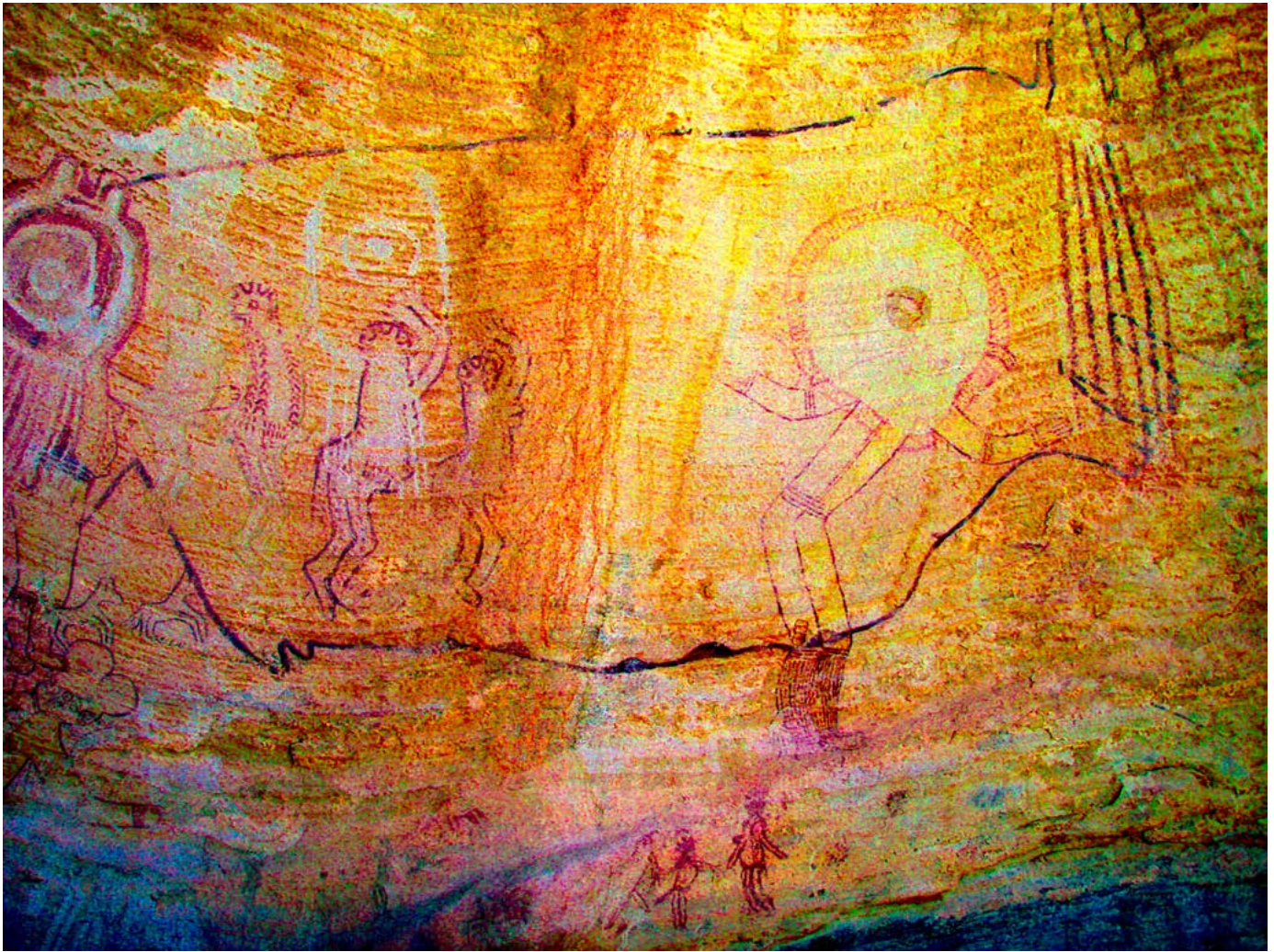


Fig. 18. A bulky animal with parallel lines over its head. Inside its belly there are several women in a worshipping position. The animal was painted on the spot of the wall where water was running down during rains as it is evident from the dark line crossing its belly (Sefar, Tassili Plateau). Photo elaborated with Dstretch.

position, it is the fact that some of these animals (in both geographic regions) are spotted (Figs. 11; 12). Their bodies may be entirely covered with small dots, or they may just appear as dotted stripes, lines or dotted clusters on the body. Sometimes the dots are also painted outside the animal, around it.

According to J.L. Le Quellec white dots inside animals represent raindrops because they are found both on mythical snakes and on other rain animals, and he postulates that spotted bodies are a “monopoly of mythical beings” (2004). Therefore, if dots represent rain, there is nothing more natural than to depict a spotted creature as an embodiment of rain.

In one documented case in the Tassili, a Round Head

animal is not covered with dots but with spider web like motifs (Fig. 13). Considering the climate in this 2,000m high mountainous range with snowy winters even today, we may hypothesize that the motifs inside the animal are snowflakes and the creature represents a snow animal.

One-horned animals

Another surprising similarity of the Central Saharan and the South African rock art is the presence of one-horned animals which are evidently not rhinoceros (Witelson 2023). Based on San mythology, Dorothea Bleek suggested in 1909 that one-horned antelope are rain animals, as they represent a “water-child” which



Fig. 19. At Anshal in the Libyan Acacus a down-headed animal is depicted with parallel lines exiting from its belly (tracing by the author, from Mori 2000).

have a single horn (Stow & Bleek 1930). These creatures are thus another form of rain animals. To support this hypothesis is the fact that some South African rain rites involve single horn containers for “rain medicine” (Blackwell & d’Errico 2021).

We find one-horned animals in the Round Head art too (Figs. 12; 15; 16; 17). In the Tassili, 8 examples have been documented so far: they are down-headed and some of them are spotted which liken them further to the South African rain animals. The intention to deliberately paint only one horn is clear as all other herbivores in the Round Head style are painted with two horns. In the Tassili one of these one-horned animals was deliberately painted under an ancient rain cascade, so that during rain water was running across its prominent belly (Fig. 15).

Lines from the animals

Parallel lines leading from rain animals were docu-

mented in 11 cases in the Round Head art (for example Figs. 13; 17; 19). A study of engraved lines in the Algerian Tadrart has shown that they were connected to rain-water and also painted parallel lines have been interpreted as rain running down from a cloud (Soukopova 2020). Lines leading from rain animals would therefore represent falling rain. If we compare this with the South African ethnography, we find that water is sometimes described as a striped horse-like animal. Lines are associated with the rain in San thought, where the “water’s children” are described as striped quadrupeds (Witelson 2023).

Prominent belly

Rain animals in the Round Head art sometimes have an exaggeratedly big belly, which does not seem to be the representation of an udder. A large belly is also a characteristic of South African rain animals - which is understandable if they are intended to represent crea-

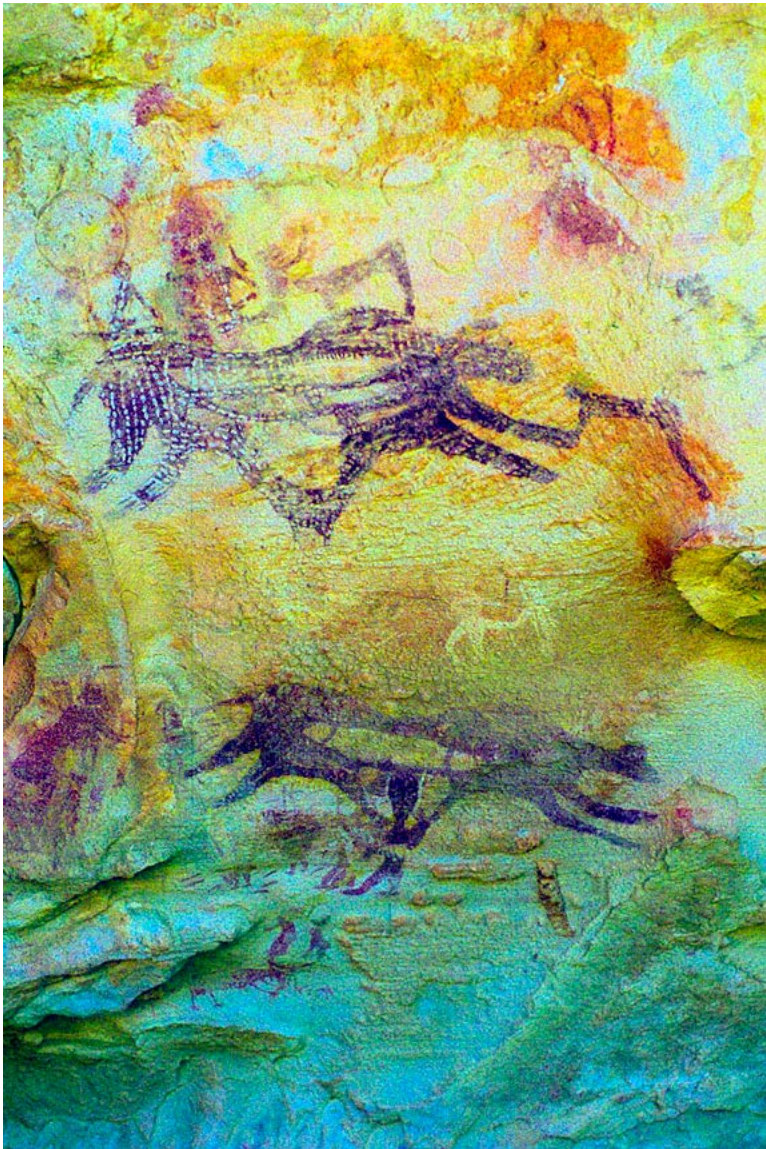


Fig. 20. Two unidentifiable animals with a prominent belly and a particular shape of heads. The upper animal is covered with dotted stripes (Tin Barsaoula, Acacus). Photo elaborated with Dstretch.

Fig. 21. An unidentifiable animal of the Tassili plateau presents a similar shape of head as two animals in the Acacus in the Fig. 11 (Jabbaren, Tassili plateau). Photo elaborated with Dstretch.

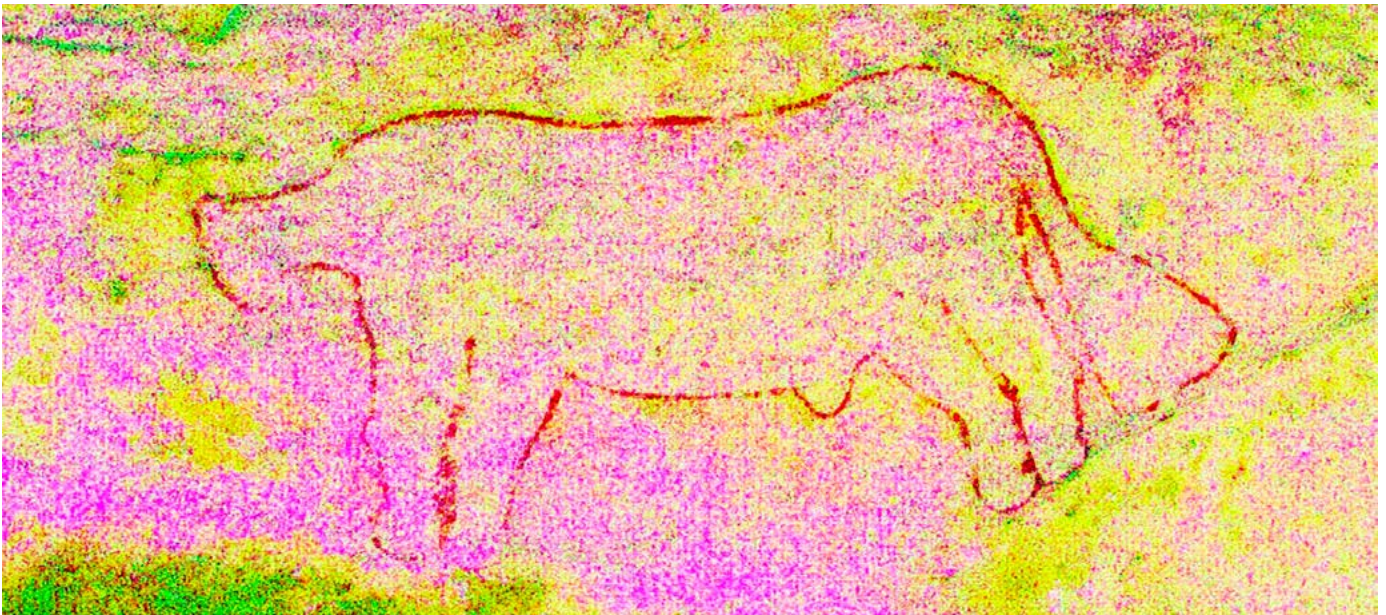




Fig. 22. The spectacular rock shapes of the Tassili plateau attracted prehistoric painters.

tures full of water. Painted inside one of the big bellies of a Round Head animal in the Tassili were images of apparently pregnant women in a posture of adoration with their arms raised (Fig. 18). Rain and fertility are two inseparable realities in traditional African belief: rain is considered God's sperm bringing life to the earth (Melis 2002). At Anshal, a site in the Libyan Acacus mountains, a down-headed animal is depicted with parallel lines exiting from its prominent belly which resembles rain running from a cloud (Fig. 19). At Tin Barsaoula site in the Acacus, there are two unidentifiable animals in the Round Head style with prominent bellies, which have been interpreted as domestic cattle (Muzzolini 1995). However, such interpretation cannot be considered correct because these animals are depicted without horns (Fig. 20). Horns were a fundamental part in the depiction of

domestic cattle and indeed, there are no paintings of cattle without horns in the pastoral art. One of the animals at Tin Barsaoula is completely covered with dots which suggests that they belong to the category of rain animals. Moreover, they both present an identical shape of head, and a similar head shape is also present on some of the unidentifiable animals on the Tassili plateau, which signifies that it was a codified form of head reserved for special creatures (Fig. 21).

Why rain?

The attribution of unidentifiable down-headed animals in Round Head art to the category of rain animals may be seen as arbitrary. It may be argued that these creatures represent mythological animals known and understood in prehistory, but their meaning is now lost. This paper proposes the attribution to rain



Fig. 23. Pastoral style: an unidentifiable down-headed animal covered with dots is connected through a dotted line with a spotted cow also head down (Uan Assakamar, Tassili Plateau). Photo elaborated with Dstretch.

animals for two main reasons:

The comparative study of South African rock art (based on the attested ethnographic record) shows that at least six features belonging to rain animals are also present in the Round Head art. These features are: unidentifiable shape of the body, down-headed position, dots on animals, one-horned animals, arc over animals and motif of lines. Such similarity in both geographic regions cannot be considered accidental, on the contrary, we are apparently dealing with a phenomenon which was firmly established and understood over a large territory.

Considering the priorities that prehistoric people would have had, it is evident that nothing would have been more important than water. Their very existence was based on water, water was the essence of animals, humans and plants. Everything else, including fertility, procreation, art and rituals came only after the basic need for water was met. This reality is best expressed in African traditional belief, where God is associated with the sky; the same word is often used for God, rain and sky and rain is the saliva of God (Mbiti 1969; Haruna 1997). To perform rain rituals and depict rain animals is a logical consequence of this primary need. The Round Head rain animals are depicted mainly on the Tassili plateau (Fig. 22) but they are found also

in the lower mountains of the Algerian Tadrart and the Libyan Acacus. It indicates that these creatures were a generally known and used concept, which may be explained by the constant necessity, in all African societies, to assure the rain. Regarding the frequency of these animals, there is another parallel with South Africa. In the South African rock art there are often only one or a few, often large and prominent, rain animals in a rock shelter, whereas there are numerous depictions of eland. It is exactly the same situation as in the Tassili where there are less than 60 depictions of down-headed animals compared with more than 300 antelope and mouflons. The relatively small number of rain animals in South Africa is explained by the fact that the painted image was a manifestation of the rain man's particular rain animal caught in trance (Lewis-Williams and Pearce 2004). It is possible that the Central Saharan rain animals were also painted in occasion of a specific rain ritual performed in the same place.

It would be interesting to conduct the same research in the following rock art complex, namely in the pastoral art, and reveal possible rain animals. The need for rain must have been even stronger for herders, and indeed, there are indices suggesting that rain rituals continued also in this period. For example, at Uan

Assakamar site in the Tassili, there is an unidentifiable down-headed animal completely covered with dots but painted in the pure pastoral style (Fig. 23). This creature is connected through a dotted line with a down-headed cow which is also spotted. The presence of rain animals in other Saharan rock art complexes should not surprise. Rainmaking and rain controlling have always been practiced in Africa and the similarity of this phenomenon in different periods and regions may indicate the same prehistoric origin.

Conclusion

Rain has always played a fundamental role in life of African societies and the connection to rain-water has been attested in many Central Saharan rock art sites. Based on the ethnographic record from South Africa, where the existence of rain animals has been firmly attested, this paper aimed to demonstrate the existence of rain animals in the Round Head complex as well. It presented the characteristic features of these creatures and it showed evident similarities between rain animals in both geographic regions.

A hypothesis of mythological creatures, rather than rain animals, in the Central Saharan rock art can certainly be tested for those animals which do not fit well into the category of unidentifiable down-headed animals. In the Round Head complex there are truly fantastical animals with multiple horns or legs for instance, who cannot be categorised as rain animals because they do not find analogy in the South African rock art. For such creatures the study of the ethnographic record and oral traditions from the Sub-Saharan Africa region might be useful. As for the category of rain animals in the Round Head art, their substantial analogy with the South African rain animals seems to justify this interpretation, unless a more convincing explanation is found.

Unlike the South African rock art research where interpretation has been carried out for decades, the Central Saharan rock art is still at the beginning of its interpretation. This is mainly due to the lack of an ethnographic record directly applicable to the earliest art. However, if used with caution, comparative study may open a new way of looking at this, not only in the study of the Round Head art, but also in the study of other African rock art. This will only be possible, though, if researchers take the risk and abandon the

comfort zone of research based only on documentation and description of rock art.

Acknowledgements

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NOTES AND NEWS

ATELIER, RESEARCH CENTER FOR CONCEPTUAL ANTHROPOLOGY

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BEHIND THE IMAGE

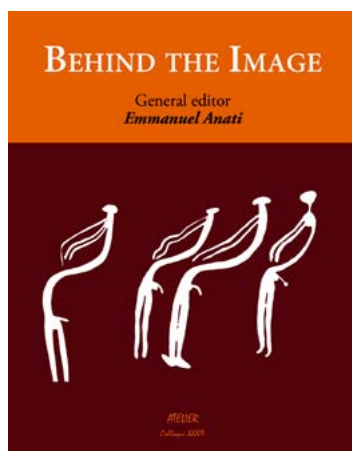
This publication takes us on a tour, looking for images and their meaning from the art of hunter-gatherers of the San people of South Africa, to that of Arnhem Land in Australia, to the Iron Age statuary and pottery art in Italy, to the conceptual images of Neolithic and Bronze age stone monuments of Ireland, to the mythological rock art of food producers in North America.

EXPLORING THE ROOTS

Exploring roots has always been a human quest. When knowledge stops, imagination does not. The border between material truth and ideological truth is never fully defined. Myths of origins occupy every people on earth. They are part of what young people have to learn in most tribes and other human aggregations in the process of initiation to knowledge and belief, to be accepted by society as being an adult.

INTRODUZIONE ALL'ANTROPOLOGIA CONCETTUALE (in Italian)

Also defined as 'The New Archaeology', a meeting between anthropology, psychology and sociology, conceptual anthropology proposes a new dimension of research, reconstructing, through the finds, their origins, the motivations and contingencies that gave rise to them. New perspectives and new methods broaden the horizons of knowledge of the past and understanding of the present.



Behind the Image

Anati, E. (ed.)

2024, Colloqui XXXIII

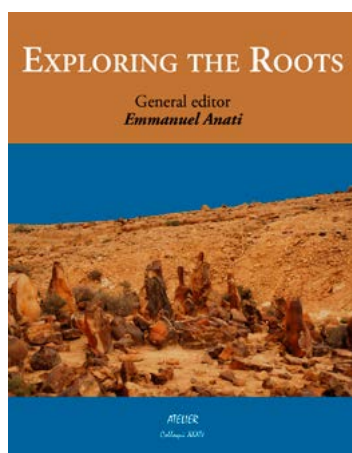
Capo di Ponte (Atelier), 114 pp., 71 figg. € 25

The ability of making images is a recent acquisition, of the last fifty millennia. Beforehand, for a few million years, the ancestors of man evolved without producing images. It marks a radical event in cultural evolution. It is the transfer of information to an external memory: the rock surface was the first computer. Looking for cases of image-making, in different ages and contexts, in Australia, Africa, Europe and America, queries emerge on motivations and meaning of art production, a revolutionary achievement changing the conceptual abilities of humanity.

1. Introduction
2. *Emmanuel Anati (Italy)*
Arnhem Land Rock Art
A Study in Conceptual Anthropology
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Daunian Opium and the Concepts Revealed by Images
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5. *Carol Patterson (USA)*
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panel from La Cienega, New Mexico

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A Debate in Conceptual Anthropology
2. *J. D. Lewis-Williams (South Africa)*
A Brief Situating Note on the Significance of San Rock Art
Research
3. Publications of Atelier. Index by Topics
4. Atelier Catalogue



Exploring the Roots

Anati, E. (ed.)

2024, *Exploring the Roots*

Colloqui XXXIV

Capo di Ponte (Atelier), 124 pp., 72 figg. € 25

Identity, the search for or doubts of identity, the defense of identity, is a major cause of conflicts, racism, persecutions and wars. Why? Why is the quest for identity so strong? Different societies have different answers to the crucial question: who are we? This book looks at issues concerning the exploration of specific aspects of roots, meaningful samples ranging over different cultures, continents, and ages.

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Har Karkom Since the Lower Paleolithic
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Introduzione all'antropologia concettuale

Anati, E. 2024

Con un contributo di Luigi Baldari

Essays XVII (in Italian)

Capo di Ponte (Atelier), 91 pp. 14 figg. € 25

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Conceived for the study of prehistoric and tribal societies, conceptual anthropology opens up to new sectors, social and political phenomena of tribal societies, of the agricultural world and of the urban one, from prehistory to the present day.

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Illustrations should be presented separately from the text and have a resolution of 300 dpi, with a base of 14 cm. They should have exhaustive captions, including source when relevant. Both text and illustration should be free from copyright and any other obligation, and preferably not having been published elsewhere. Authors are fully responsible for the submitted text and illustrations.

SHORT COMMENTS BY READERS

Updating the name of the journal:

Expression: The International Journal of Conceptual Anthropology

This is a good move. The revised title of the journal, I suggest, meets the essential requirements as to clarity by expressing the nature of the approach to the anthropological content. In particular it signals that if the reader is seeking to know about the latest advances, considerations and understandings in "conceptual anthropology", this is the place to find them-and we know very well that is true.

There is no competition, strictly speaking, in this research category.

Terence Meaden
Oxford University, UK

WOW! This Journal is fantastic! This journal topic is precisely that I have been researching.

Bill Claps
Photographer and filmmaker, New York, USA

I have always been a great admirer of what you have been able to offer to the international scientific community, thanks to research focused on the analysis of human societies from an innovative and global point of view. Through the magazine Expression, the new discipline of conceptual anthropology has found an excellent channel of diffusion.

Dr. Giuseppe Orefici
Director of the Italian Studies Center
and Pre-Columbian Archaeological Research
Brescia, Italy

Conceptual anthropology founded by Prof. Anati, is a multi-disciplinary field that explores human behavior and culture by integrating various aspects of the humanities and social sciences, drawing from past experiences to understand the present. It aims to comprehend human evolution, social dynamics, intellectual pursuits, and spiritual pathways, while also addressing fundamental questions about culture and human existence. Through this exploration, it encourages interest and discourse in lesser-known but significant aspects of global culture.

Dr. Shpend Bengu, University of Tirana, Albania

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