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BEHIND THE IMAGE

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EDITORIAL NOTES

INTRODUCTION

What do images show and what do they hide? The making of images is a cultural acquisition practiced by humans in the last few tens of thousand years. Before that, for a few million years the ancestors of man did not make images. This acquisition marks a revolutionary event in cultural evolution. It is the transfer of information to an external memory. It is a means of memorizing, communicating, expanding, and rethinking. The rock surface was the first computer.

Images are produced by the hand, which is dictated by the mind. They express the personal visual transfer of the maker, from the concept to the shape. Behind the image are the hand and the mind of its maker.

Images are like ideas and their meaning has to be decoded. What do they mean? Figures represent something and mean something. Does somebody from a different age or cultural environment see and understand them as was intended by the maker? The consequent debates are a concern of conceptual anthropology and they are present in almost every one of the 42 issues of *Expression*.

This issue 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. The first paper of the issue considers a different aspect of the topic, that is, what we can discover behind the images of leaders in human society. This is another topic of concern for conceptual anthropology. Is becoming a leader a personal choice or are leaders chosen by society? And what do they hide behind their images?

The San rock paintings of South Africa memorize the images of a rich patrimony of beliefs and traditions. Behind the images, the imaginary world expresses natural and supernatural forces. It is the conceptual literature recorded by images, a semiographic writing

preceding phonographic writing. A major question arises: what moves the human mind to elaborate beliefs beyond facts? Is this an archetype?

The art of Arnhem Land is an extraordinary record of 50,000 years of human intellectual adventure. It reveals remarkable conceptual changes in the Stone Age by showing varying images of human society, changing styles and content from period to period, by producing the historical record of ages in the course of the Stone Age, for many millennia, new chapters of history before history.

The decorated stelae and the images decorating pottery vessels of the Dauni people in southern Italy tell us stories of a population addicted to opium drugs and describe daily life and habits. The traces of what the objects contained indicate what kind of drugs were used. The images unveil the story of the rise and fall of a local culture of 2,500 years ago, for a number of centuries, including their pleasures, concerns, and failures. It is a very meaningful story.

The tale of Neolithic and Bronze Age stone monuments in Ireland continues the stories of previous *Expression* issues about similar monuments in various parts of the British Isles, describing the hidden role of standing pillars playing with their own shadows, an interplay of the stone monuments with the landscape and the light and shadows caused by the moving position of the sun in the sky. Behind the standing stones there are expressions of a conceptual mysticism of people living 4,000 years ago.

Then our itinerary brings us to North America where a myth is described by the rock art images. Social habits and gender relations emerge, revealing intimate aspects of the daily life and beliefs of a pre-Columbian population.

Images are messengers of ideas in different periods, different cultures, and different parts of the world. The papers are laid out to be read in their order; then take time for reflection. Readers are invited, as always, to join in actively.

E.A.

A NOTE FOR THE AUTHORS

EXPRESSION is a quarterly journal on conceptual anthropology addressed to readers in over 90 countries. The readers are cultured scholars and students in anthropology, archeology, the arts, and other sectors of the humanities, eager to keep alive the dialogue, to communicate, to learn, and to contribute in opening 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 and produce culture: they are addressed to learned and open-minded people. If you wish to contribute a paper, try to make it interesting and enjoyable to those who are not specialized in your specific research field. You talk to them, not just to the restricted circle of experts in your specific field. Articles are expected to be stimulating and pleasant to read. The target of EXPRESSION is to promote dialogue, knowledge, and ideas concerning the intellectual and spiritual expressions of non-literate societies. This journal is an open forum on conceptual anthropology, where over 250 authors from 50 countries, so far, have published their research and their ideas. Papers should be conceived for an audience involved in various fields of the humanities, mainly anthropology, archeology, art, sociology, and psychology. Your ideas, 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: quality images and text should complement each other.

Authors should address readers openly, and avoid long descriptions, catalogues, and rhetorical arguments. Please refrain from unnecessary references and excessive citations; they make reading discursive and do not improve the scientific level of the article. Excessive quotations may be a symptom of an inability to express independent ideas. Do keep in mind that short articles are more read and appreciated than long ones. Avoid unnecessary words and sentences. Communications on current topics and short notes may 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. New thoughts and concepts are welcome; they may awaken debate and criticism. 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 debatable 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. Additional information on how to submit a paper is found in the 'Notes and News' section.



Front page image

A group of male dancers showing the undulating movements of the arms. One of them seems to play a tube or a flute. Obiri, Arnhem Land (After Mountford, 1956; see Anati, p.18, this issue).

DISCUSSION FORUM

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

SELECTING LEADERS

A DEBATE IN CONCEPTUAL ANTHROPOLOGY

Preamble

Several animal societies include leading individuals, each group of elephants or baboons have leaders. For the elephants the leader is usually a female, for the baboons is a male. Human hunting-gathering clans have leaders. The head of the clan is usually an adult male. Human society evolved in the course of four million years. The development of food production, in the last twenty thousand years, caused an immense growth of the human population and of a complex society where leadership is determining the orientation of material, intellectual and spiritual life. Leaders have a tremendous role in the destiny of humankind. How are they selected?

The conceptual roots of leadership

Ever since historical records have been available, a few individuals have emerged as milestones in human history, geniuses and leaders in different fields, in art as in scientific research or in social, economic, political, and spiritual life. Can we define universal trends in the processes of reaching the status of leadership?

We will never know how many potential Mozarts existed in Mozart's time. Only one has emerged to express himself and spread the product of his creativity. The other potential geniuses never existed because they remained unknown. How many Einstein-level minds existed in Einstein's time who did not become Einsteins? Can we hypothesize that there were others among billions of human beings? Geniuses are those who are recognized as such. What are the factors and contingencies that lead to the recognition of leader-

ship?

Individuals with potential similar to Mozart or Einstein may have existed who were never recognized. Can human society make a better use of its potentials? Brilliance is often the result of a combination of talent, opportunity, dedication, and luck. Recognition as a genius or as a top leader depends on a number of factors.

Personality is determinant in one's destiny, and personality is shaped by both natural qualities and acquired experience. But the socio-cultural context varies. In Europe no one would consider recognizing a leader in the way the Dalai Lama is recognized in Tibet.

According to the Western socio-cultural context, a prince is more likely than others to become a king. Because of his inherited status would he (or she) have the same chance as anybody else to become a renowned scholar, musician or painter? Perhaps. But he would have better chances than others to become a leader.

Some factors influencing the achievement of leaderships

- Will. Does he (or she) want to be a leader? Myths tell of gurus and prophets becoming leaders despite their will. Are these just myths?
- Genetics may contribute to the predisposition for certain abilities, but environment and education play a fundamental role in the development of potential.
- The environment in which a person grows up and the opportunities given can influence the manifestation of leadership abilities.
- Even if one has the potential qualities, achieving a leading position may require significant commitment in perfecting style and skills. Like Mozart and Einstein, most geniuses are intensely dedicated to their work. Relying on faith or waiting for miracles may be successful or disappointing.
- Recognition of genius is often the result of innovative contributions to a specific field. Achievements become extraordinary if society recognizes them. It is not unlikely that revolutionary discoveries or achievements remain ignored or refuted because the social context failed to recognize their value or considered them as undesirable.
- The recognition of genius leadership can vary over time and space. There may be historical periods or contexts that are more open to accepting and recog-

nizing innovative personalities and bright geniuses, while in other settings it may be more difficult or even dangerous to emerge as an inventive and original leading personality.

- Every individual has the potential to make significant contributions to society in different ways, without necessarily reaching the level of Mozart or Einstein. Identifying the field of one's talent is relevant, as it may not be the field one is following or the one is trained for. To what extent are cultural patterns preventing individuals to discover themselves?

From the variety of factors, two fundamental elements emerge, the disposition of the individual to be a leader and the disposition of the social environment to recognize him/her.

Can we define universal trends in the processes of achieving leadership? Are leaders selecting themselves or is society selecting them? As a trend it goes both ways. Therefore, leaders are conditioning society and society is conditioning leaders.

The debate extends

What other elements are determining the selection of leaders?

- Historical and social contingencies. The historical period in which a person lives can significantly influence the opportunities and visibility he/she has to bring out their leadership abilities. For example, persons with great artistic talent might not have been recognized as a genius in art in times or places where their art or their style was less appreciated or supported.

- An individual's visibility and recognition as a leader often depends on the ability to make his/her achievements known. Some potential geniuses may not be successful at self-promotion or at finding social or political support.

- Some individuals with revolutionary ideas or talents may be marginalized or unrecognized due to social resistance to new ideas or just to his/her personal conceptual, religious, class or ethnic identity. Cultural conformism can hinder the recognition of leadership.

- The definition of leadership is subjective and can vary over time and culture. What we consider a genius today may not have been viewed the same way in the past or be considered in the future. Additionally, leadership can manifest itself in many different fields, from art and music to science and technology,

to sport, to social, conceptual, religious, political and economic fields.

- Geniuses have become famous for their exceptional works, but there are also many talented people who remain anonymous or do not have the opportunity to create works that have survived history. This does not favor society. Many potential human resources are getting lost.

Also, there are people having leading roles unsuitable to them that cause more damage than benefits to society. In which way were they selected? The selection of leaders reflects the features of their society. It is unlikely that Confucius would have reached the same success as spiritual leader if his concepts were proposed to the Tuareg tribes of the Sahara. Wolfgang Amadeus Mozart could have never been recognized as a leading musician by the ears of music lovers in Afghanistan, and there, Albert Einstein would have had his throat cut by presenting his theory on relativism.

Can the debate reach conclusions?

In different societies different kinds of leaders have different degrees of influence. Religious, political, social, or cultural leaders may have different degrees of public recognition. Leaders in the arts and sciences, or spiritual and religious leaders can be more or less influential and can be more or less ignored. In most cases, however, their selection depends on both, personal engagement and the popular acceptance.

The fatalistic belief of predestination, that leaders are born to be leaders, may apply to Dalai Lamas, to prophets or to kings. Other leaders, thinkers or creators in different fields, like William Shakespeare, Karl Marx, Sigmund Freud, Pablo Picasso, or Mao Zedong, became leaders in their specific fields, by shaping their identity and experience in the course of their life.

According to traditions and popular beliefs, the presence of prophets and leaders can be announced by angels and visions, or even by the very voice of God. Reality and truth can only be what the human mind considers them to be. The selection of leaders varies because reality and truth are non-necessarily the same in different societies.

Ever since the pithecanthropian, human society has become ever more complex. Pigmy tribes of the Congo tropical forest and the town council of Tokyo have different ways of selecting their leaders.

Kings and emperors have claimed to be master leaders by God's will. And then their heads may have been cut off by the human will. The destiny of entire populations has been decided by leaders selected by either popular beliefs or popular will. And also by ignoring both, popular beliefs and popular will.

The role of leadership in human society is so relevant for culture and progress, for freedom of expression, education, level of living, values and intellectual life, that should concern conceptual anthropology.

Mozart and Einstein became leaders by the results they produced, recognized in their social context. We cannot say the same for all leaders.

Each human being has a degree of leadership but leadership has different extensions and different degrees of recognition. And also different ways of selection. Immense potential creative energies are getting lost for not being recognized. Is there a way to recover them? The core of the question is how to select leaders.

The debate on selecting leaders continues. You are cordially invited to participate.

E.A.

A BRIEF SITUATING NOTE ON THE SIGNIFICANCE OF SAN ROCK ART RESEARCH

J. D. Lewis-Williams

The significance of southern African rock art for the study of rock arts worldwide has been insufficiently recognized. Overall, the art comprises a number of

traditions: images made by hunter-gatherer San, pastoralist Khoekhoe and agriculturalist Bantu-language speakers, and several in between that combine elements of more than one tradition. Most researchers have focussed on San art. Unfortunately, its popular designation 'Bushman paintings' has tended to marginalise it as 'simple' images made by 'primitive' people. Ample evidence of different kinds shows that this is far from the truth.

Excavated stones with San-type images have been dated to 26,000 BP (Wendt 1976; Vogelsang *et al.* 2010). Though few, they seem to be very similar to the much more common and more recently painted images preserved today in thousands of southern African rock shelters. It is on these more recent San images that research has tended to concentrate, though by no means exclusively. Some have been dated to as much as 5723–4420 cal BP (Bonneau *et al.* 2017). The most recent were made at the end of the 19th century and the beginning of the 20th.

Taken together, the 19th-century southern and the 20th-century Kalahari San are well documented – probably better than any other hunter-gatherer people worldwide if we take three factors into account: the time-depth, multiplicity, and detail of the record (Barnard 1992, 2019). In addition to the published voluminous and well-known 20th-century publications on the Ju|'hoansi (!Kung), G|wi, !Kō, and other linguistic groups, we have the 19th-century southern |Xam people's beliefs, lives and myths preserved in their own, but now unfortunately extinct, |Xam language. This |Xam record was compiled in the 1870s by Karl Lep-

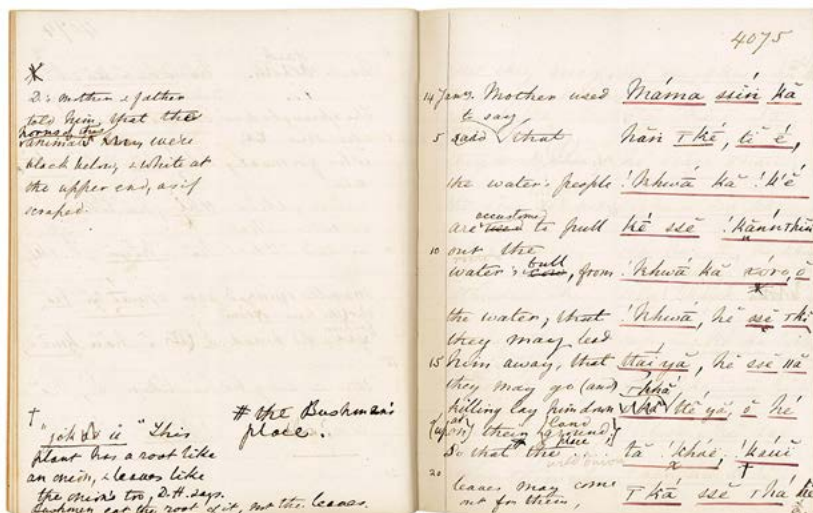


Fig. 1. Two pages from one of Lucy Lloyd's 1875 notebooks.



Fig. 2. San rock painting of two spotted eland-like rain's animals, covered with dots. They are in dying postures, surrounded by fish and approached by a shaman-of-the-rain (!khwa-ka !gixa).

sius's philology student Wilhelm Bleek and his sister-in-law Lucy Lloyd. Their verbatim, phonetic record is preserved on over 12,000 manuscript pages (numbered on the right-hand pages only and with English transliterations). The priceless collection is now available on the internet: lloydbleekcollection.cs.uct.ac.za. When considering southern African San rock art, it is essential to remember that there is nothing bland or superficial about the relationship between the temporal and geographic mosaic of the ethnographic record and the rock art images themselves (Lewis-Williams 2019; Witelson 2023). First, the fit between the rituals and beliefs of the 19th-century southern |Xam and those of the 20th- and 21st-century Kalahari San is, despite environmental differences and the fact that the northern people do not have a rock art tradition (there are very few suitable rock surfaces in the sandy Kalahari Desert), striking and multiple. It has been amply demonstrated in the literature. Though not exactly similar in every detail, major cultural features are clearly common to all San groups. Even more remarkable is the fit between these combined ethnographies and the meticulously painted details of the southern images. Many researchers who pay fleeting visits to a few sites completely miss key details and, as a result, see only what they take to be superficial records of daily life. After all, many painted details are measured in millimetres only, yet we know from the ethnographic record that they carry decisive semantic weight and,

moreover, that the images were powerful things in themselves.

Indeed, the available evidence leaves no doubt that the southern painters practiced a form of what has been called shamanism, though the word has become controversial and is today avoided by many researchers. The painters, very probably themselves possessors of potency, made strikingly detailed (and often very beautiful) images of their power animals together with their highly complex visions and experiences in the spirit realm.

It is not so much the specificity of this insight into San rock art that matters worldwide. Certainly, no one has claimed that all rock art is shamanistic. What matters is that the rich resources available in southern Africa have facilitated the elucidation of principles of belief and depiction that have wide relevance.

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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.

ARNHEM LAND ROCK ART

A STUDY IN CONCEPTUAL ANTHROPOLOGY

Emmanuel Anati

Atelier Research Center for Conceptual Anthropology (Italy)

The chronological sequence¹

How and why do styles and themes of rock art change among populations whose technological level and economic needs apparently do not change? Stylistic changes in rock art, in the same region, from the prevalence of symbols to the prevalence of figures and from that of animal figures to that of human figures, raises questions on the functioning of mental mechanisms that concern not just archeologists, anthropologists, and art historians, but also semioticians, sociologists, psychologists and neurologists. The changes in the dominant subject in rock art reflects changes in the dominant concerns of their makers.²

Aside from the obvious fact that images represent what the artist has in mind, what mental mechanisms modify the dominant themes of visual art? Stylistic, typological, and conceptual changes over the course of 50,000 years area unique study case of what rock art can contribute to the understanding of the evolution of mental processes.

The sequence of art styles in Arnhem Land rock art is today a cornerstone of Australian prehistory, thanks to several authors but mainly to the meticulous work of George Chaloupka who in over 30 years studied the content and stratigraphy of 2,000 rock sites (Chaloupka, 1984, 1993).

Chaloupka provides the essential data for a conceptual anthropology analysis. He divides the sequence into four periods which constitute the four main ages of the local Aboriginal history: pre-estuarine; estuarine; freshwater and post-contact. It is a simple system based on facts; various phases are recognized in each age.

The pre-estuarine period covers the times in which

Arnhem Land, now a land of estuaries, was a continental area, had no estuaries or seacoasts, with an arid climate and vegetation of sparse scrub or thicket with its fauna depicted in the rock art. Australia was then connected by land to New Guinea, before the rise in sea levels that occurred in the transition phases between Pleistocene and Holocene.

The estuarine period covers the time since Australia was separated from New Guinea and rising sea levels made a peninsula of Arnhem Land; coastal flora and fauna are represented in rock art, including figures of fish and marine crocodiles. New types of tools and other elements of material culture appear in the depictions.

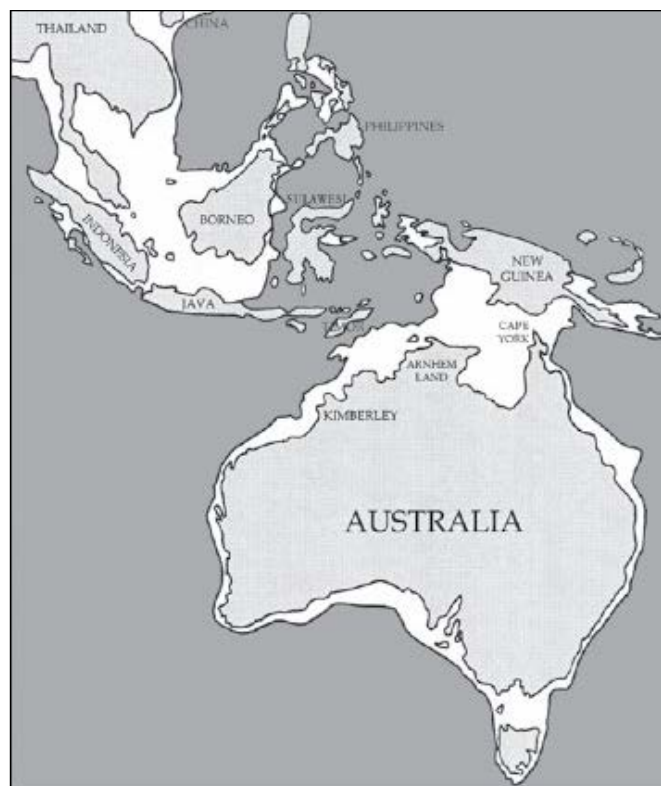


Fig. 1. Map of Australia indicating the seacoast before the rise of sea level at the end of the Pleistocene.

¹ The present article is an updated summary of a chapter in the book *Arte Rupestre dell'Australia* (Anati, 2019).

² References are not provided on data available in updated encyclopedias including Wikipedia.

The freshwater is a humid period with lagoons in the coastal area, illustrated by images of its peculiar fauna and flora. Chaloupka considers the period to be around 1,500 years long, but it might have been longer, preceding the contact with the Europeans.

The post-contact period concerns the last 300 years. The rock art displays new elements like images of exotic objects, domestic animals, and boats of foreign types.

These four periods show the acceleration of evolution, based on our current abilities to discern stylistic, thematic, and conceptual changes. The time periods have become shorter and shorter:

- Pre-estuarine, 50,000-10,000 years BP = 40,000 years.
- Estuarine, 10,000-1,800 years BP = 8,200 years.
- Freshwater, 1,800-300 years BP = 1,500 years.
- Post-contact, 300 BP to present = 300 years.

The general chronology poses problems, in particular

the debated start and end of the pre-estuarine period. The dates mentioned here therefore constitute a working framework open to modifications. Eventual changes in the dates will not change the conceptual processes illustrated by the art.

Regarding the earliest presence of rock art, anthropic traces in Australia have been retained, being present already 60,000 years ago. If they are related to Homo sapiens, he may have arrived here before his counterpart reached Europe, currently considered to be about 40,000 years ago, that is, over 20,000 years later.

Ocher chalks with signs of rubbing and use are found in layers over 50,000 years old in the anthropic levels of the rock shelters of Malakunaneja and Nauwalabila in the Kakadu National Park. These crayons served to color something, perhaps the human body, perhaps rock surfaces.

In the natural environment, both humans and animals were present, but man's choice to preferably depict



Fig. 2. A painted surface counting 12 different phases of human intervention, in the course of thousands of years. Borradale, Arnhem Land (photo Anati, EA2001, XLI-36).



Fig. 3. Stencil prints of human hands, animal feet and objects. Nabarlek, Arnhem Land (Tracing: Anati Archives).

one or the other varies from period to period. Changes in the theme and style of rock art also reflect changes in the transfer process between the seen and the reproduced. The conceptual process that passes from the seen, through the eyes, is processed into memory and is then transmitted to the hand which creates the image. The process does not change over time but the type of selection can change. The mind can be more or less inclined to accentuate certain subjects or certain details, or to ignore others, which conditions the style results in the rock art.

Stylistic variations may encourage the emphasis of certain meaningful detail, or schematization, synthesis or abstraction. Also, the method for producing the image, painting, engraving or other, is facultative. Furthermore, there is the function of the hand executing the image, which marks both its cultural and physical characteristics. The consideration of the cultural, social, conceptual, and economic significance of stylistic patterns can further a better understanding of the minds of their makers.

The pre-estuarine period

During the Pleistocene there were various fluctuations in sea level eventually separating Papua from Australia. The strip of sea between Australia, Papua, and Timor changed according to these fluctuations,

with the presence of vast territories which are now submerged. Papua was finally separated from Australia around 10,000 years ago.

In the sequence of stylistic successions of the pre-estuarine period, Chaloupka recognizes seven phases:

- printed handprints, objects, and repetitive signs
- large naturalistic animal figures
- dynamic anthropomorphic
- decadent dynamic or post-dynamic
- simple figures with boomerangs
- Mountford-style figures
- Prevalence of vegetal themes including yam and others tubers in the iconography.

The succession of four typologies is highlighted from the sequence of dominant themes. The initial one dominated by stencil prints is followed by the only phase in which zoomorphic figures prevail. Then there is a long succession of stylistic periods where anthropomorphic figures dominate. The sequence ends with a phase in which yam and other vegetal elements abound. Rock art is a historical archive to be read.

Phase of printed objects

According to the chronological succession of styles, the first phase is predominantly non-figurative. Chaloupka deals mainly with paintings, while among the oldest works there are also rock engravings, non-figu-

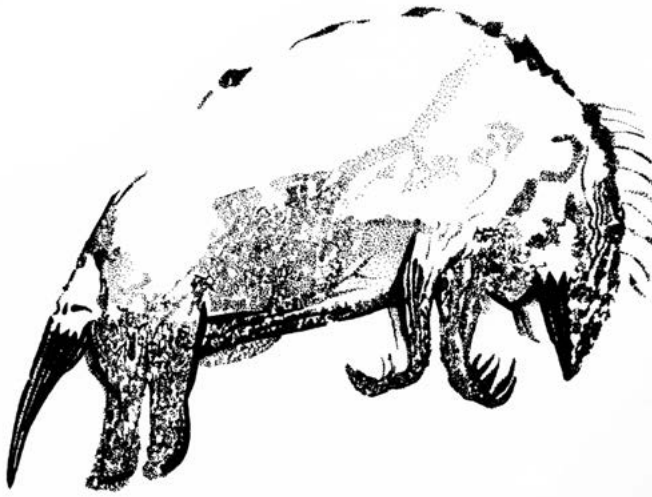


Fig. 4a. Image of *echidna zogoosum*, an animal that became extinct between 15,000 and 20,000 years ago. Kakadu National Park, Arnhem Land (Tracing: Anati Archives).

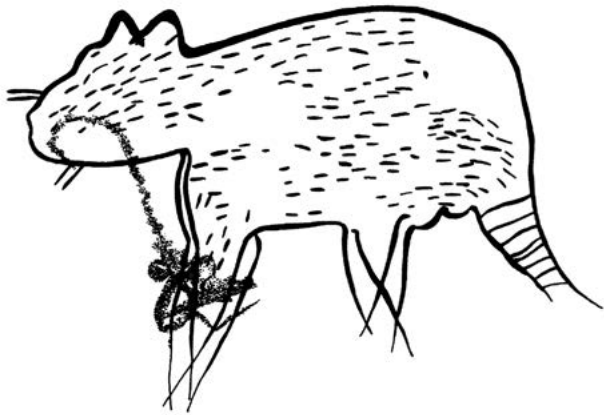


Fig. 4b. Image of the Tasmanian tiger, *Sarcophilus harrisii*, from Worgewongen, Arnhem Land (Tracing: Anati Archives).

rative, linear engravings, and cupmarks. Among the paintings there are positive and negative stencil prints of hands and objects, groupings of dots and signs, including the line and circle (stick and ring), and prints of vegetal items defined as grass-prints.

Most of the images are impressed stencils. The object is sprinkled with color and then printed on the rock surface; or placed on the surface and sprayed with color on and around it, then removed, leaving a negative impression. Images intentionally shaped by the human hand are practically absent, apart from handprints, which are also printed, positive or negative, with the same system and not deliberately hand-shaped.

Defining what is a figurative style and what is not com-

prises two different conceptual horizons. This is not a figurative style, it is a proto-figurative style. Similar proto-figurative horizons are known elsewhere in Australia and other continents. Everywhere they reflect conceptually archaic phases (Anati, 2002a; 2002b).

Naturalistic animal figures

A particular style is characterized by the presence of large animal figures, sometimes larger than their natural dimensions. With the distinctive feature of “*mouvement figé*” (frozen movement) a typical style pattern of the archaic hunters both in European Paleolithic art and in the Early Hunters’ art of Tanzania (Anati, 2003b).

The paintings are monochromatic and almost always in what today appears as burnt Siena brown. The precision and meticulousness of the zoomorphic images show the attention and spirit of observation paid to these animals, which presumably would have constituted the main subsistence resource of their authors. One of the phases of this style shows the animal figures drawn partly with a contour line and partly with a surface color fill. Other animal images have their bodies filled with lines. Both these characteristics are repeated in the art of early hunters in Tanzania (Anati, 2018). Stylistic similarities in faraway areas that exclude contacts are expression of a similar conceptual background, implying similar reasoning. They have no other cultural or chronological implications.

Among the animals depicted are the archaic Pleistocene macrofauna, including the pouch lion, the antelope macropod, and the robust macropod, types of giant marsupials that have been extinct for at least 10,000 years. There is also the Tasmanian tiger, *Sarcophilus harrisii*, a carnivore with fur streaked with parallel dark lines, which survived in Tasmania until the arrival of Europeans, but which had long since disappeared from northern Australia.

This style is the only one in the Arnhem Land sequence that can be defined as the expression of Early Hunters. Big game hunting involves an economy and social organization that allow a team to hunt, kill, cut, and transport back to the camp-base quantities of meat and consume them before they deteriorate.

The similarity in the way of seeing and representing, the same attention to certain details, between different Early Hunter art in different regions of the world can



Fig. 5. Group of male and female figures holding weapons and dilly-bags, some having head and shoulders vegetal decorations. Inyalak, Arnhem Land (Tracing: Anati Archives).

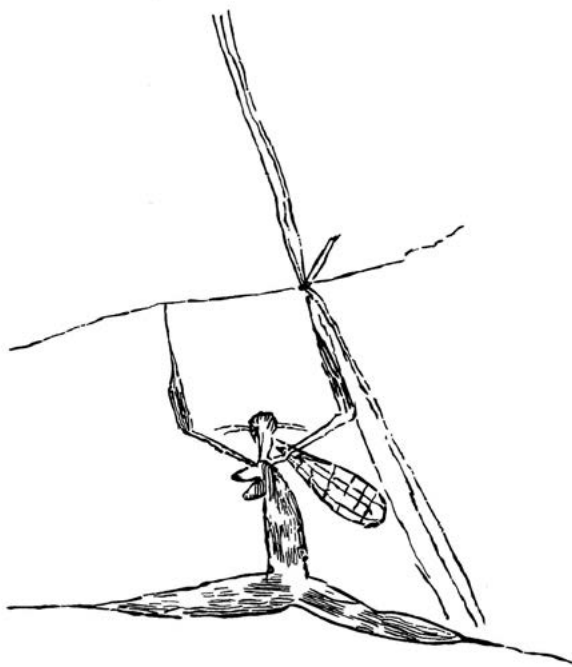


Fig. 6. Image of a running woman holding sticks in her hands, with a dilly-bag on the shoulder and a sort of head-decoration. Djuwarr, Arnhem Land (Tracing: Anati Archives).

indicate analogies in the psycho-associative process; the likeness of the visual output reflects similarities in the focal interests. The style shows attention to details; the syntax is that of simple associations. The subject, the animal, is the dominant element, sometimes accompanied by less highlighted ideograms.

The age of the dynamic beings

While the first typological assemblage was proto-figurative with stencils, prints of hands and objects, ideograms and non-figurative signs, the second assemblage has zoomorphic images as the dominant subject. In the third assemblage the anthropomorphic figure has the upper hand. These three assemblages reflect different mental bases and cannot be considered as a single horizon, as someone suggested earlier. They reflect different ways of thinking and seeing. Each one is the product of different people, has a different identity, expressed in the typology, the style and the associative syntax.

The anthropomorphic images of rock art reveal the presence of a rich material culture which is not documented by the remains of the contemporary lithic

implements. The anthropomorphic figures are treated with attention to detail, are adorned with hair-styles and particular headdresses, are frequently naked, sometimes dressed in a kind of kilt likely made of herbs, tree bark tapa or other vegetable fiber, and have bracelets, leggings, necklaces, pendants, and other body ornaments. They hold elaborate weapons and tools, including clubs, handle axes, boomerangs, spears, and spear-throwers. These figures also come with food bags and sacks slung over their shoulders or carried by hand. The images survived, while the objects themselves, mostly made of organic materials, did not.

The style is dynamic, the figures are in movement, the characters are often running or in dance positions, the stylization tends to the grotesque, but is spectacular and deeply imaginative. The syntax is distinguished by the complexity of the associations. The descriptive and anecdotal scene replaces the previous simple and metaphorical association.

Myths (or myth-history) occupy an important place in this style. Man is interested in himself and in spirits or other imaginary beings, shaped in his own image. Fantasy goes in different directions. Activities of a social nature, gatherings, dances, and choreographies are dominant, occupying much more place in the iconography than economic activities.

Every stylistic change reflects changes that have occurred in human conceptuality and cognitive structure. What happened? What could have caused these changes? Are they the same populations that over the course of millennia have changed their style and the theme of their historizations so radically? Or are they different populations that have come and gone in the same territory?

In the prehistoric and tribal art of various countries we have recorded the repetition of typological patterns according to which populations that have a predominantly carnivorous diet tend to depict animals as the main theme, while populations with a predominantly vegetarian diet tend to have the anthropomorphic figure or that of vegetal elements as dominant themes of their iconography. It is conceivable that food changed from predominantly carnivorous to predominantly vegetal in the thematic and stylistic changes between the horizon of animal depiction and that of the dynamic anthropomorphic (Anati, 2020).

The extreme stylization and high tension of dynamism and the radical transfiguration of anthropomorphic forms are considered indications of states of alteration presumably due to the use of drugs. Likely, these populations, knowledgeable about plant resources and effects, indulged in hallucinogenic practices.

Post-dynamic styles

Chaloupka has made it possible to identify the process of the gradual decay of the dynamic period, during which the figures become more static and, at the same time, the syntactic structure of the anecdotal scene becomes a common syntactic pattern. The fact that these two processes go together indicates that the tendency toward synthesis and schematization accompanies a growing interest in moments, the anecdotal scene, describing events and people and ceremonial events, a new interest in the actual facts of daily life.

The dominant anthropomorphic figure becomes more



Fig. 7. Rock painting of an anthropomorphic figure in ceremonial setting, holding two boomerangs. Head and limbs are schematized. The human body is just the holder of the paraphernalia. Djuwarr, Arnhem Land (Tracing: Anati Archives).

schematic, in that phase that Chaloupka calls “Simple figures with boomerang.” Something happened that modified the style of rock art.

A new trend is illustrated by the Mountford style, mainly illustrated by Charles Mountford (1939; 1956), a harmonious and dynamic style of anthropomorphic figures in series, in slender positions, in dance movement or in rhythmic cadences and elegant stylization. Social order and socialization were fundamental for the society it reflects; this society had a sense of aesthetics worthy of the best periods in the history of art.

It is conceivable that at least 10,000 years had passed from the dynamic phase to the Mountford phase, perhaps more, and we are still in the pre-estuarine period, that is, before the end of the Pleistocene and the rise in sea level which separated Australia from Papua.

In the sequence recorded so far, the only typical style of Early Hunters, according to the canons of comparative research, is the naturalistic one with the figures of large extinct animals. It is the only style in which the dominant subject is the animal figure. The prey, as the main interest and as a fundamental economic resource, is the central theme of the iconography. In the subsequent phases, the anthropomorphic, humans or spirits, are the prevalent figures. Hunting scenes are rare or non-existent, and it is presumed that these works were produced by human groups whose diet was mainly based on food gathering.

This distinction between different iconographic tendencies of populations with a predominantly carnivorous diet and those with a predominantly vegetal diet had never been previously reported for Australia. However, the iconographic differences in repertoire, the grammatical and syntactic structure of rock art, between the two trends, are the same as those found in other parts of the world and the Australian characteristics seem to follow the same patterns (Anati, 2018; 2020).

The last pre-estuarine phases

In the stylistic sequence established by Chaloupka, the last pre-estuarine period is characterized by figures of yam and other tubers which seem to constitute a main interest of the artists of this period. They are animated, that is, they acquire anthropomorphic or zoomorphic features in the iconography; they are plants with



Fig. 8. Rock painting of Mountford Style. A group of five female dancers. Unbalanja, Arnhem Land (After Mountford, 1956).



Fig. 9. Rock painting of Mountford Style, showing a group of women running or dancing. Unbalanja, Arnhem Land (After Mountford, 1956).

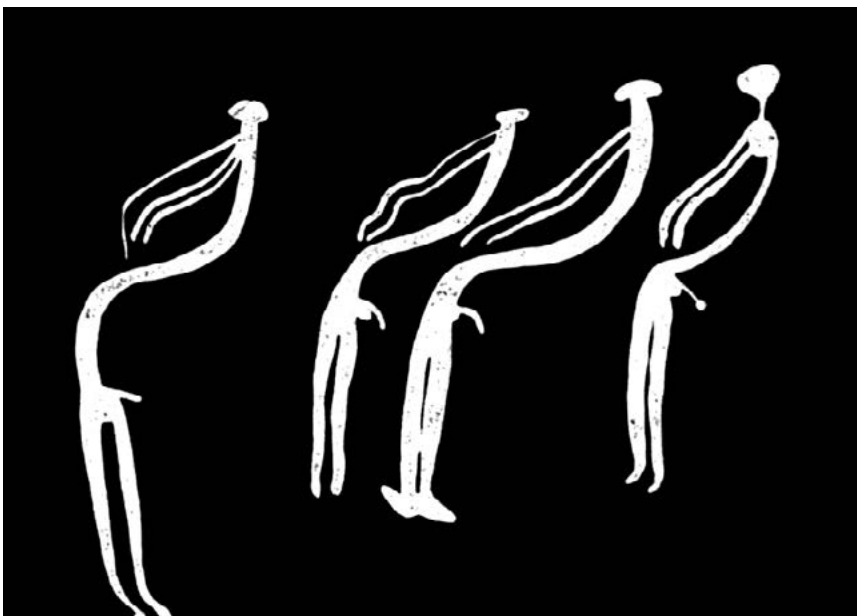


Fig. 10. A group of male dancers showing the undulating movements of the arms. One of them seems to play a tube or a flute. Obiri, Arnhem Land (After Mountford, 1956).

which one may communicate, which are recognized as having the ability to understand and want.

The aborigines still make extensive use of these tubers which they identify thanks to their particular vines growing on the surface. When harvesting the tuber, the Australian aborigines, as do the highlanders of New Guinea, take care to reserve a piece with some roots and put it back in the ground so that it can reproduce. They do not know agriculture, according to ethnological definitions. In terms of conceptuality, this practice can fall within the framework of proto-food-production. This is a custom that foragers have followed for ages, an almost ignored element in the history of agriculture, of which it is a meaningful preamble.

Alongside the various forms of animated yam, images of animals are depicted, often fantastic, which are believed to have predominantly totemic meanings as symbols of the various clans (Elkin, 1932). There also appear dazed and surrealist anthropomorphic figures which would indicate the state of trance or mental alteration of their authors.

In addition to being dedicated to the activities essential for physical survival, these people were busy decoding, imagining, and attempting to understand the world. They were taking care of the sites they frequented, and they painted them, immortalizing beliefs, traditions and history. The traditional idea that hunter-gatherers spent all their time foraging for food does not seem to fit the testimony of rock art. Likely, social activities, artistic creativity, socialization, and the observance of ritual practices, required more time and energy than food collecting.

According to traditional archeological criteria, based on the typology of lithic finds, the way of life would have remained unchanged for millennia. The styles and contents of artistic production show us that remarkable changes have occurred in expressions of spiritual and conceptual life. The structure of art reflects the structure of mind and stylistic variations in visual art have their implications.

An unresolved question is whether the stylistic sequence of Arnhem Land rock art reflects an uninterrupted succession, or whether there are periods of intermittence. There were climate changes. The period preceding the beginning of the estuarine era had climatic phases of aridity and drought, and the area

may have been abandoned or in any case become less hospitable over the course of millennia. The sequence of artistic production may have had some interruptions; at least two intervals are presumable, after the phase of naturalistic animals and in the transition phase from the pre-estuarine to the estuarine period. The succession of different styles over ages narrated by rock art are the emblem of our species. They show man's ability to adapt, renew himself, and evolve conceptually, even if the material culture remains practically unchanged. It is a dimension of the history of man that opens up perspectives for understanding the conceptual and spiritual nature of early man beyond the material aspects.

It is often a commonplace in prehistoric studies to consider that culture remains constant as long as there are no substantial changes in the lithic implements of common use, the typology of material culture. Here we see that the changes in the style and theme of visual art illustrate most relevant conceptual changes in the context of a production of lithic artefacts that has remained relatively constant for millennia and which typologically belongs to the Old Stone Age. The Australian rock-art sequence contributes to the overall theory on cultural dynamics.



Fig. 11. Rock painting of anthropomorphized tubers. Nabarlek, Arnhem Land (After Lewis, 1988).



Fig. 12. Rock painting of a being, likely a spirit, creating or growing tubers or fruits. The hands have four fingers and the head has the shape of his fruit. The image is likely to tell a story or a myth, small 'fruits' are linked by a line to the head and gradually grow in size as they are nearer to the head. One of the 'fruits' seems to acquire an anthropomorphic shape. Adler Creek, Arnhem Land (After Brandl, 1973; 1988).

The rock art of the estuarine period

As learned half a century ago, during my first visits to Australia, the collective memory of myths recalls the flooding of the plains and the escape towards the hills in the Dreamtime. The climatic changes are magnified and idealized, but may well preserve events and emotions of past ages (Spencer, 1914). This universal flood for the aborigines is not the genesis but an event in the course of their history with which the ancestral spirits modified the forms of the territory and reaffirmed their power. The waters submerged entire territories but, contrary to the biblical narrative according to which the waters finally receded, here the waters have forever submerged large plains and hills where people had lived. Entire regions disappeared from the face of the earth.

The dates of these changes are disputed. The 10,000-year, round date, is a working hypothesis. For Chaloupka this change dates back 8,000 years ago, while others would push it back a few millennia, up to 12,000 years ago and beyond. Aboriginal traditions consider the related mythical changes in the topography as an event of the Dreamtime. They do not count years. The various researchers agree on the fact that the rise in the sea level was the main cause of the faunal changes in the depictions of rock art.

About 10,000 years ago, the rise in sea levels of over 100 m drastically changed the topography of the area. New Guinea was separated from Australia; the Arafura plain, between Arnhem land and Timor, was submerged by the waters. The sea coast nearly reached its current level. Arnhem Land, which until then had been a semi-arid plateau, a continental area 200 km away from the sea, found itself on the ocean shores, open to winds and hurricanes, resulting in changes in flora and fauna.

Previously absent images appear in the rock art, figures of bats, fishes, and saltwater crocodiles, while the giant fauna, the previously common animals, had disappeared from the iconography long before.

The human images also changed. The new style gives personal characters to the images. Rock art represents daily life, family and society.

Several typological and stylistic phases show an evolution shifting from actual people to imaginary beings. Icons of new kind appear, describing spirits, that become increasingly present. Some of them seem to

represent the spirits that still populate the Aboriginal mythology.

They are spirits having specific tasks and attributes. Among the mythological figures appears the image of the spirit of lightning and storms, which the current populations of the area call Namarrgon, still manager of coastal storms. Other images of semi-anthropomorphic beings also appear and mythology becomes the dominant theme of rock art. The world of these people is populated by imaginary beings and occult powers. According to rock art, faith and beliefs acquire

new proportions in the rock art.

The conceptual and cognitive change includes the development of the so-called X-ray style in which the painter represents not only the external appearance of the anthropomorphic or zoomorphic being, but also its internal organs. Adding what you know to what you see is a meaningful new conceptual trend shown by art, a process of intellectualization.

The previous sporadic cases of zoomorphic images which include the representation of the alimentary canal are the premise for the development of com-



Fig 13. Rock painting describing a family: a man, two women, and a child. The male is embracing his family. Alligator River, Arnhem Land (After Brandl, 1988).

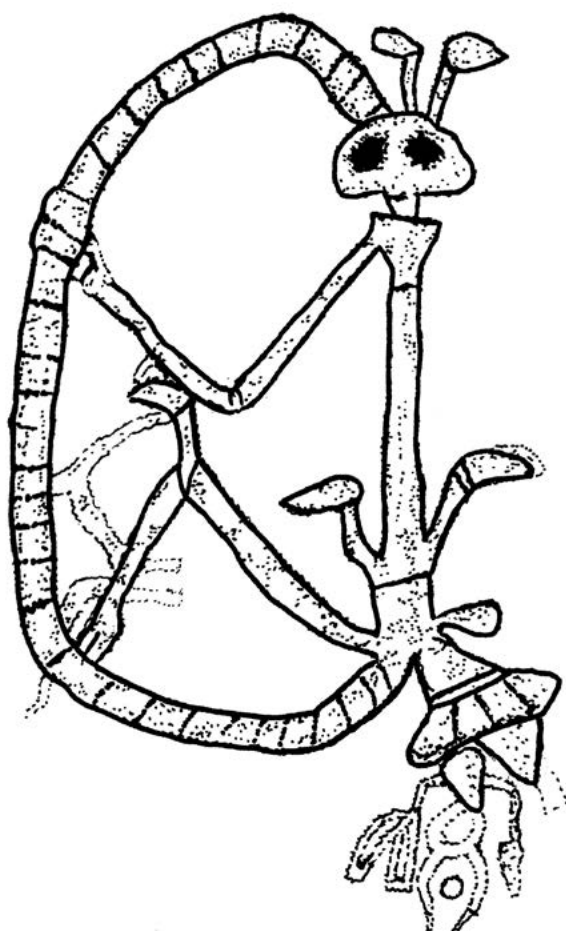
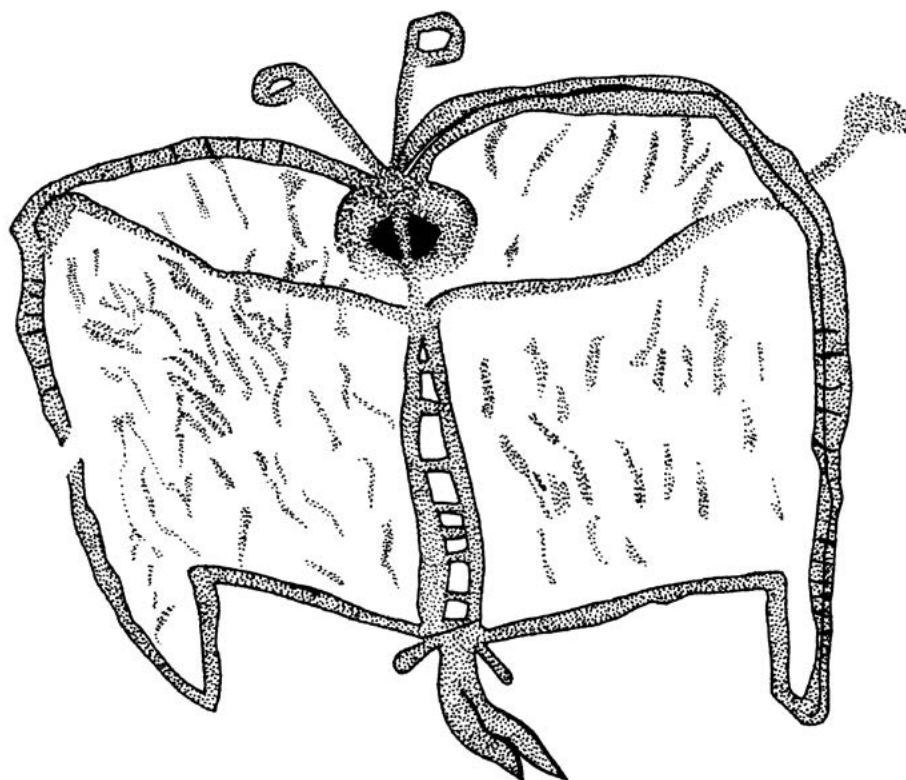


Fig. 14a. Rock painting of Namarrgon, the spirit of storms. Madsjana, Arnhem Land (Tracing: Anati archives).

Fig. 14b. Rock painting of Namarrgon, the spirit of storms. A recent image, likely post-contact, from Anbangbang, Arnhem Land (Tracing: Anati archives).

plex x-ray figurations where details of internal organs appear such as the intestine, the liver, or the spinal column of men and animals and the bones of fishes. This reflects the artist's need to give life, or soul, to images through the figuration of their vital organs. Each internal part of the body is attributed a role and meaning, as highlighted by the conceptual character of this new stylistic trend.

The X-ray images are widespread in rock art, from Siberia in Asia, to South Africa, to British Columbia in Canada. It often reflects an archetypal need, that of using the image to verify and clarify ideas. It is the superposition of two complementary realities: the reality of knowledge or intuition is added to the visual reality. It is a sort of anticipation of surrealism, millennia earlier.

Since Arnhem Land has been lapped by the sea, three main phases of rock art have been recognized, as follows.

1. Archaic estuarine is characterized by images of daily life, some simple X-ray figurations and a naturalistic style defined as intellectual realism. Fish become a dominant theme. The figuration of the boomerang and presumably its use disappear for a long period. During this period, the dingo, the Australian dog, appears for the first time. It is presumed that it arrived from Timor as a domestic dog, brought by navigators; it resumed its wild character when it was abandoned by man and had to survive in the immensity of the Australian territories.
2. In the freshwater period, coastal areas became freshwater lagoons with the related fauna illustrated by rock art. According to Chaloupka, this period, with considerable rainfall, starts around the beginning of the Common Era. Images of new types of prey appear, mainly aquatic animals such as marsh birds. Spirits and imaginary beings become frequent. Among the new elements depicted in the rock art, a new musical instrument, the *didjeridoo* or musical pipe makes its appearance. The depiction of the dingo dog becomes widespread, reflecting its new role, becoming again a companion of man.
3. Contact period defines the style of rock art since contact with Europeans in the late 18th century influenced the lives of Aboriginal people and the theme

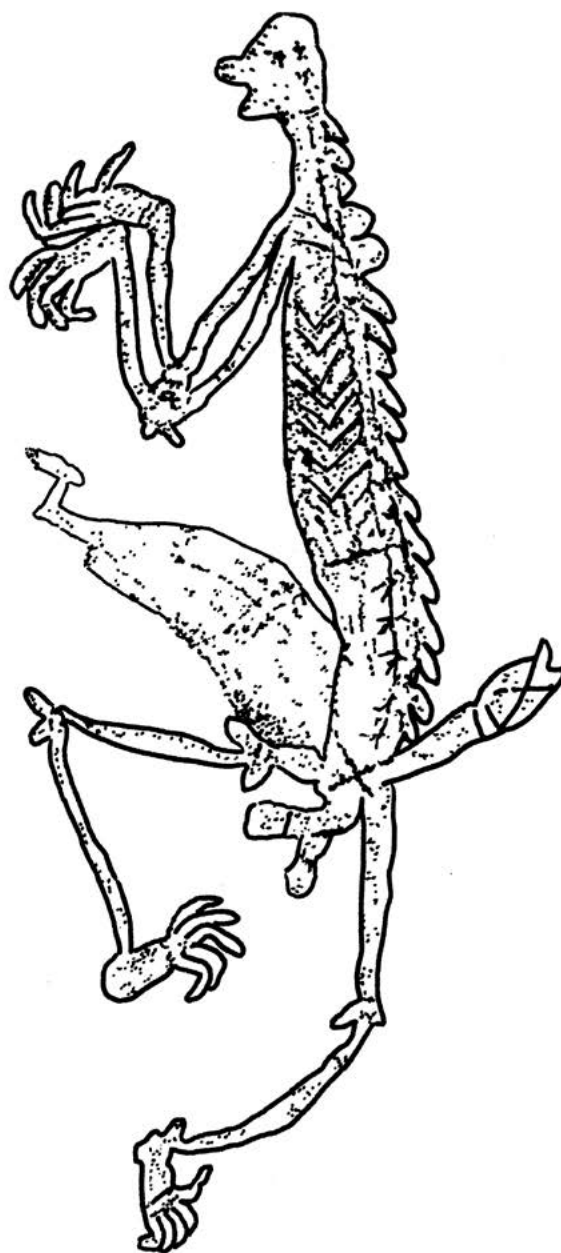


Fig. 15. Rock painting representing Namarnde, the spirit of death. Its bone structure appears as an X-ray image. Djurliri, Arnhem Land (Tracing: Anati Archives)

of their rock art. Steam boats, horses, and other domestic animals and exotic beings appear, complete with colonial hats and pipes in their mouths. The boomerang appears again, retained by some authors to have the main function of a clapping musical instrument. It seems unlikely that its magic role of returning to the sender had been ignored.

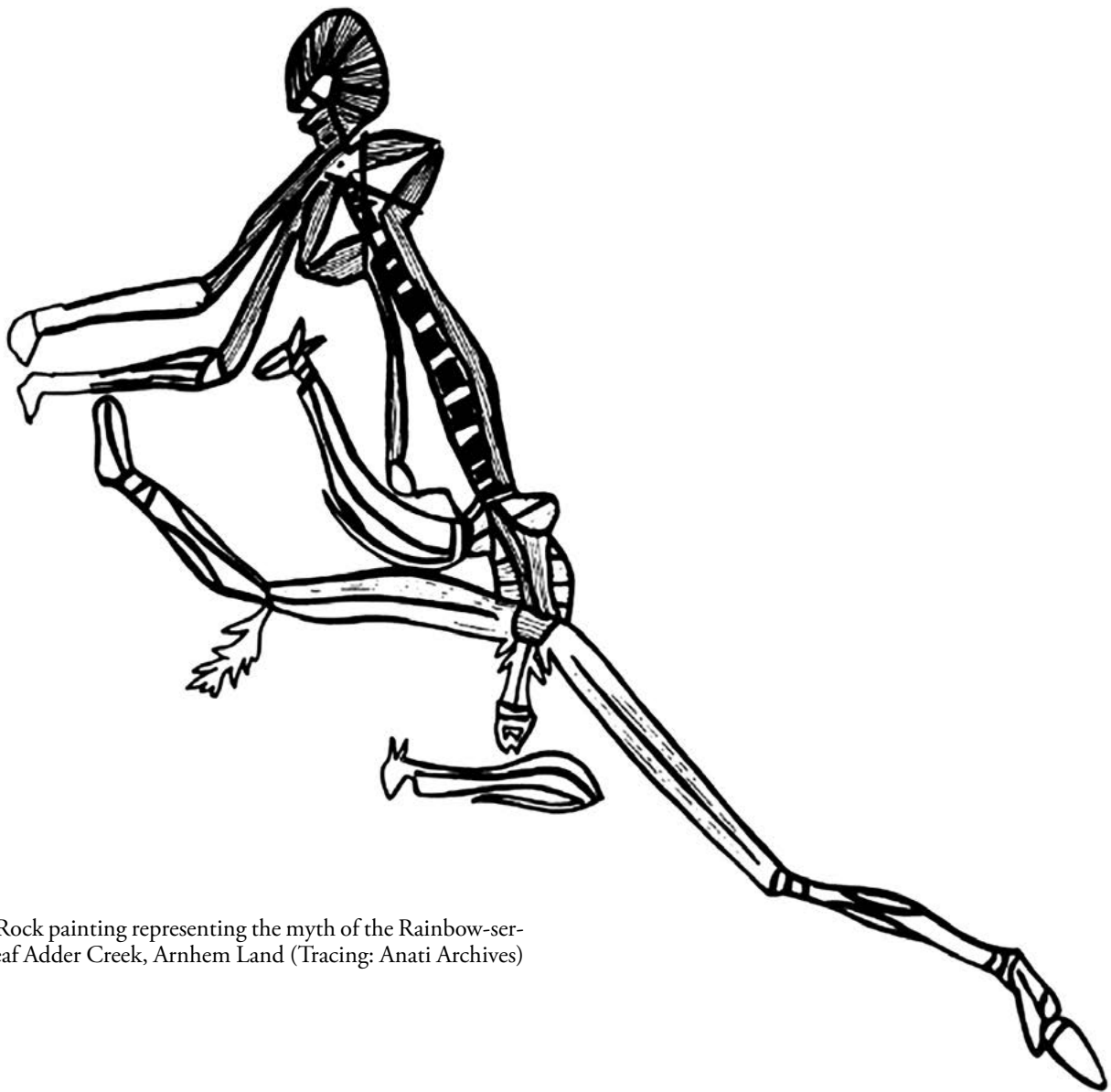


Fig. 16. Rock painting representing the myth of the Rainbow-serpent. Deaf Adder Creek, Arnhem Land (Tracing: Anati Archives)

In this period the use of canoes dug in a single piece from the tree trunk is documented. It is believed that the prototypes were introduced by Indonesian fishermen from Borneo and Celebes, the so-called Macassans, a few centuries ago (Macknight, 1972; 1976). Figures of older vessels are known in Arnhem Land to which, for the moment, no reliable dates can be attributed. Above all, rafts made of two or more trunks tied together, rafts made of bundles of grass or reeds, and even canoes made of tree-bark were used and depicted.

The Arnhem Land rock-art cycle

The succession of rock-art styles in Arnhem Land represents chapters of the history of art, the history of Aboriginal people and human conceptual trends.

In primary societies the resources available largely subject to climate and environmental changes, determined conceptual patterns thus being a factor in the stylistic and thematic changes in rock art. But other factors are present, such as relevant events, ideological and social trends, contingent collective mental orientation, and external contacts and influences.

For the later phases of rock art, the myths that still survive indicate that Aboriginal hang-ups are caused, at least in part, by the search for causes of natural phenomena believed to be the work of spirits and their reactions to human behavior. Until a century ago, feelings of guilt and fear of breaking totemic rules have been preserved in Aboriginal groups that, until the European indoctrination, sought cause and effect relationships in natural phenomena (Elkin, 1933).

Hurricanes, forest fires, floods, thunder and lightning, seasons of drought and rain, abundance or shortage of food resources, and other fortunes or misfortunes were considered to be administered and orchestrated by spirits, according to a logic that the Aborigines struggled to understand and tried to decode. The spirits mastering the behavior of nature are represented in the rock art, and their functions have been dealt with in previous texts (Anati, 2011; 2012; 2014; 2018). The mental output represented by rock art is a unique source of reconstruction of human mental adventures. The repetition of similar natural phenomena made it possible to predict them and in this sense the role of the Karadji, the wise elder, was significant. Spirits were believed to behave like humans; when angry they reacted by sending a hurricane or other spells. What might have caused their anger? The rock art of later periods represent images and events causing emotions and concerns that elders were still able to detect. The decoding of rock art reveals chapters of the intellectual lives of their makers.

Beliefs, myths, and stories about both humans and spirits appear to be the main concerns of the most recent periods of Arnhem Land rock art. Previous periods different inspirations, but all of them may have some relation to the attempt to discover and explain puzzling events and enigmatic powers. Each period had its own visual literature that survived impressed on the rocks.

Summing up the conceptual characteristics of art from the syntactic aspect, four major horizons can be defined.

The most ancient phase of rock art mainly involves imprints of hands and objects, accompanied by repetitive signs, from imprints of grass and other vegetal elements, to imprints of specific parts of animal prey, such as tails and legs, which are often associated with the natural shapes of the rock. As still happens,



Fig. 17. Rock painting representing Algaihgoo, a female naughty spirit with four arms. Likely a post-contact image. Nanguluwurr, Arnhem Land (After Chaloupka, 1993).

natural forms were retained to have a meaning and stencil prints were added. Shapes, protuberances, and cracks in the rock surface indicated its properties; nothing in nature could be fortuitous, every shape had its meaning.

The typology of rock engravings is different from that of paintings. In the archaic phases the engravings mainly consist of associations of lines and cupmarks. Vulvar symbols are present as well. The syntax is that of the simple association, sometimes in sequence, of ideograms which mostly appear to us as non-figurative. In this phase, anthropomorphic and zoomorphic figures are practically absent. The style is characterized by ideograms. Both syntax (associations and sequences) and grammar (subjects and objects) are in the category which in the Old World is defined as proto-figurative. They are like the first iconographic phase in Africa,



Fig 18. Post-contact rock-painting of boats on top of previous phases from Borradaile, Arnhem Land (EA 2001 XL-23).

Europe, and Asia. It is conceivable that this style was part of the primary cultural baggage brought by the first human beings to reach Australia.

Marking the rock surface with hand-prints and the other subjects is an act of recording on the rock surface, which has the function of preserving, like notary acts. Lines, dots, cupmarks, vulvar signs, and other markings appear as a sort of writing. Hand-prints, here as elsewhere, may be signatures or acts of presence.

The phase of naturalistic animal figures is markedly different, both from the previous phase and from all subsequent phases. The theme is typically that of the Early Hunters: large zoomorphic figures either isolated or accompanied by ideograms. The artist's interest is centered on large animals. The prey, a source of food and probably also of veneration or worship, is at the center of interest and the figures can represent, as among other hunting peoples, an aspect of the process of appropriating the prey, or developing contacts with its soul.

It is the only phase of this region, and in fact of the whole of Australia, which reflects a typical mentality of Early Hunters. It overturns the traditional definition of Aboriginal people as hunters. In fact, after this phase, there are no others that reflect the mentality of Early Hunters (Anati 2020).

In the subsequent phases, the anthropomorphic figure prevails over the zoomorphic figure. There are more varied syntactic structures, but often the dominant one is the simple, narrative or anecdotal scene, which aims at immortalizing a moment, an event or a belief. The types of association between the various subjects express a variety of different cognitive structures.

The presence of vegetal themes varies from phase to phase, but the entire sequence reflects the mentality of the population of Hunter-gatherers, who did not practice big game hunting; they may have hunted small animals, which does not require the participation of large teams. Hunting was not the main economic resource.



Fig 19. Rock painting describing the arrival of aliens on a boat, including a pipe-smoker. Djurlirri, Arnhem Land (Tracing: Anati Archives).

Harvesting, not only vegetal products but also small animals such as snails, caterpillars or seafood, could have been the prevailing economic activity. These sets show significant parallels, both in the thematic range and in the associative syntax, with specific phases of the rock art of Hunter-gatherers of various regions and in particular of Gobustan, Azerbaijan (Anati, 2015b), and Central Tanzania (Anati, 2018).

These comparisons, we apologize for repeating, imply similarities of a conceptual nature, not of cultural relations or of chronological synchronization. Societies leading a similar way of life may produce similar visual art. People that live on harvesting seafood, for example, have specific characteristics in their figurative art, even thousands of kilometers and millennia away from each other.

The last phase, which is the one following contact, stands out not only for the theme enriched by exotic elements, but also for the presence of images of magic and witchcraft that were practically unknown previously, and for the complex syntax which includes elaborate scenes of social, initiation, and war ceremonies. Scenes representing acts of violence and struggle between human groups are rare or almost unknown in all pre-estuarine phases. Struggle and war form a theme that emerges at specific times. There are some fighting

scenes in the pre-estuarine Mountford style, but the theme of fighting mainly develops in the later periods and gains importance in the post-contact phase.

The sequence shows changes in the cognitive and associative processes, between the first period, characterized by simple associations of ideograms, the second period of large animals as a dominant theme, which present the object as a synthesis in itself, without associations or by the syntactic structure of the association between pictograms and ideograms, and the subsequent periods, in which the human figure dominates and where the frequent syntactic structure is that of the scene.

In the latest phases the dominant anthropomorphic figures become increasingly images of imaginary spirits, created by human imagination. Zoomorphic images become more quantitatively represented in specific areas.

What has been documented so far constitutes the raw material for analytical research not only in the disciplines of archeology, anthropology, and art history, but also in psychology, neurology, and semiotics, as well as for analysis of the changes and evolution of human intellectual adventures.

A fundamental fact stands out. In the same region, in societies of Hunter-gatherers, who from the techno-

logical level of their material culture belong to archaic phases of the Upper Paleolithic, or to transition phases between the Middle and Upper Paleolithic, there are remarkable variations in the cognitive mental structure as reflected by their visual art. It has implications for the history of art and for the theory of culture, concerning the parameters of synchronization between technical evolution and cultural evolution, as discussed elsewhere (Anati, 2017).

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DAUNIAN OPIUM AND THE CONCEPTS REVEALED BY IMAGES

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The Dauni and their unusual heritage

Before Romanization in northern Apulia (Fig. 1A, B), there lived an Italic population marked by a certain prosperity and uniqueness, as we discern from the abundance of artifacts preserved locally and in collections and museums around the world.¹ They were the Dauni,² creators of vessels with eccentric plastic forms,³ skilled craftsmen of jewelry, armor, boats, seats, with decorated anthropomorphic steles, in some 20 settlements with necropolises.⁴ The traces of *Papaver somniferum* molecules in their vessels and the conceptual depth that can be inferred from their rich iconography are subjects of this text.

The origins of the Dauni remain elusive, despite various sources mentioning them.⁵ They did not employ alphabetical writing. What can be deduced conceptually is recorded in the numerous images they left behind, etched on steles and vessels, an extraordinary repertoire of pre-Roman culture expressed in a pseudo-ideographic form whose syntax is based on the association of images.⁶

Ancient Daunia overlooked a coastal area along the Adriatic Sea with lagoons, now nearly entirely drained. On the shores, among lakes, rivers, reed beds, and millions of birds, lived the inhabitants of Cupola-Beccarini and Salapia Vetus, the two villages from which over 2,000 steles were recovered.⁷ According to present dating, the time range of most monuments is between the eighth and seventh centuries and the early decades

of the sixth century BC. Thereafter, their production ceased and the steles were broken and reused in burials and constructions. They are made of local limestone, engraved with geometric designs and scenes rich in characters, nearly all representing people with a bird-beak face, in the shape of the Dauni sacred animals.⁸

Opium alkaloids in Daunian vessels

It can happen that psychoactive plants, even those considered magical, miraculous, and divine, get lost among images, symbols, and metaphors.⁹ However, iconographical studies can identify them, and in some cases, chemical research provides confirmation.¹⁰ The recognition of the opium poppy in Daunia had been purely iconographic.¹¹ Chemical analyses, on a sample of 14 vessels, has now revealed its molecular presence. (Fig. 2 A-B-C).¹² These vessels are part of the Ceci Macrini collection in Andria¹³ and the analyses

1 Mazzei et Graepler 1996.

2 De Juliis 1988; Mazzei 2002, 2010, 2015.

3 For geometric pottery: De Juliis 1977; Yntema 1985.

4 Nava 1980.

5 For a detailed collection of sources: Notarangelo 2008.

6 A narrative-descriptive method made with images only and used everywhere by pre-literate peoples: Anati 1993.

7 It is possible to see the steles in the Museums of Foggia and Manfredonia.

8 De Juliis 2009.

9 Shultes *et al.* 2021.

10 It happened with the base ring juglets, poppy-shaped jugs from the eastern Mediterranean (late Bronze Age, 1600-1450 BC): Merrillees 2003. Various analyses have detected opium alkaloids: Chovanec and Fluorentzos 2021; the most recent analyses concern a sealed jug from the British Museum: Smith *et al.* 2018, and vases from the Tel Yehud necropolis in Israel: Linares *et al.* 2022.

11 Leone 1990/2020; Samorini 2016b.

12 Vincenti *et al.* 2022, 2023. The research was directed by Prof. Manuel Sergi, with the permission of the Archaeological Superintendence of Foggia represented by Dr. Italo Maria Muntioni. A specific LC-MS/MS (liquid chromatography, tandem mass spectrometry) method, specially developed and validated, was applied. All samples were further analyzed with LC-HRMS (high resolution liquid chromatography-mass spectrum) technique to improve the confidence level of compound identifications. The results were presented at the XXIX Congress of the Analytical Chemistry Division of Milazzo (Messina, Sicilia), 11-15 sett. 2022. Acts: ISBN: 978-88-94952-30-8.

13 A private collection preserved in an eighteenth-century palace, made up of 1121 various finds, including 500 Daunian ge-

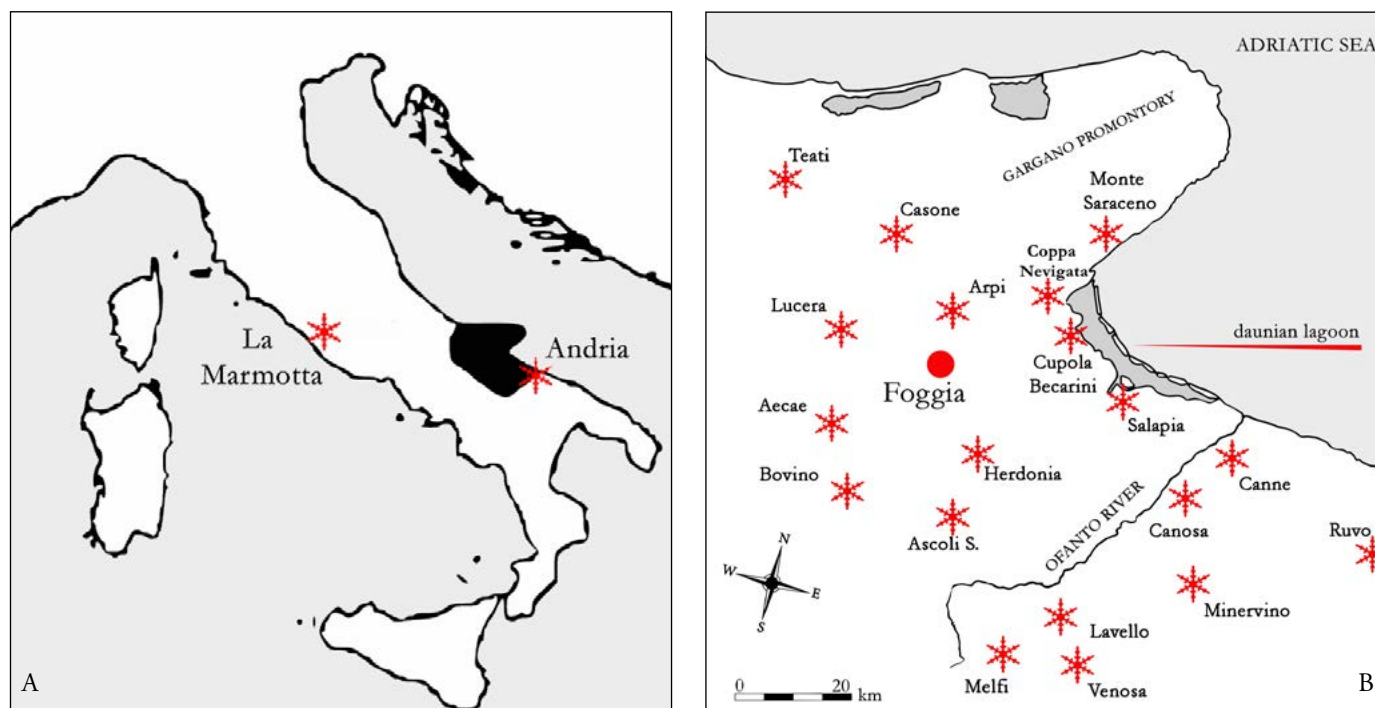


Fig. 1. A. The area of ancient Daunia in black. B. Daunian settlements and the ancient lagoon. (Trac. M.L. Leone).

were carried out at the Department of Chemistry of the University La Sapienza in Rome.

Almost all of them bear calcified traces of their old contents: the patina or burial soil, which represents the Daunian chronological range (from the ninth to the third centuries BC) and the typical geometric ceramics. Among these vessels are four jugs, three pots, two askoi (chicken-shaped vessels), two craters, one glass, one stamnos, and one filter vase, all adorned with bands and geometric motifs (see data table). Out of the fourteen vessels, ten have tested positive for at least one of the following alkaloids: thebaine, morphine, and codeine. Three of these also feature vegetal decorations, and two (jugs 62 and 63) have tested positive for opiates (fig. 3 A-B).

Jug 62 exhibits a row of nine red and black plants, tall and with long leaves. Jug 63 displays a row of brown poppy capsules, of which only six are clearly visible. These capsules are stylized with a three-pointed or rayed stigmatic crown, a graphical expression that also characterizes other Daunian vessels. In addition to the

decorations, the shape of jug 63 resembles a poppy capsule, spherical without a foot and with an expanded lip. Filter vase 35, on the other hand, features two plants but only one is discernible, which is a complete poppy with leaves and a three-pointed crown on the capsule. This filter vase has some peculiarities and will be further considered (figs 4-5).

The most frequently detected alkaloid is thebaine, found in ten vessels. This result aligns with the antiquity of non-datable molecules, as several studies have shown that thebaine, as well as papaverine, are the most stable and aging-resistant opium alkaloids.¹⁴ Morphine was identified in olla 1, the oldest among the vessels investigated (dated between the ninth and eighth centuries), in glass 212 (dated between the sixth and fifth centuries), and in jug 63 (fifth century). Jug 62 tested positive only for thebaine, like the typical olla 17, which also has the form of an enlarged, spherical, footless capsule with a large funnel-like lip. The results from jug 63 were very significant, with all samples positive for thebaine, morphine, and codeine. These findings may suggest a relationship between

ometric vases, of which 221 were published in a catalogue: Rossi 1979. The numbering of the vases adopted here is taken from the same catalogue. To visit the collection, see l.macrin@alice.it

14 Koschel 1996; Smith *et al.* 2018; Chovanec *et al.* 2012; Lin-ares *et al.* 2022.



Fig. 2. A-B Swab sample from jug 63 and encrustations in it. C. Sampling with scraping in filter jar 35. (ft. Ceci Macrini Collection, Andria).

content, vessel shape, and decoration and could serve as a guide for future chemical analyses.

From the archeometric results obtained, it is evident that every type of vessel had contact with *Papaver somniferum*, but we do not know yet in what manner or for what purpose.¹⁵ Certainly, opium poppy was used during people's lives, but perhaps it was also used to accompany the deceased. These vessels, in fact, come from burials and are currently the first sample studied, while awaiting chemical research on artifacts recently unearthed.

A remarkable, sacred, and pharmacological plant The *Papaver somniferum* has been one of the most versatile and important plants for humanity, used for millennia in various contexts, including dietary, medicinal, intoxicating, sacred, mythological, and symbolic. To identify it in ancient iconography it is necessary to know its morphological characteristics. The canonical representation, whether painted, engraved, or sculpted, features a long and rigid stem with a spherical fruit at the top called a head, bulb or capsule, crowned by the rays of the stigmatic crown. An often overlooked detail is the torus, the swelling at the base of the capsule where the petals attach. Occasionally the capsule may have grooves which become more pronounced when it is dry or has been incised for opium extraction. In this rigid form dried poppy can even become a staff or scepter, like those found in the Nahal Mishmar Treasure Cave in Israel (6,500–5,500 years ago), believed to have belonged to kings or priests of the Copper Age (fig. 1 D).¹⁶

Opium contains around 40 alkaloids, both psychoactive and non-psychoactive, with medicinal applications extending beyond narcotic, anesthetic, and astringent properties.¹⁷ However, the pleasant effects that have always attracted humanity are associated with morphine, responsible for a “gentle euphoria and pleasant hallucinations”.¹⁸ There is also evidence of its ritual use dating back to Neolithic times. Numerous

15 For a general overview see: Merlin 1984; Seefelder 1990.

16 Bar Adon 1980.

17 Goodman and Gilman 2019. A popular healing use and also used to put children to sleep, it was practiced until the 20th century in Italy and other areas of the Mediterranean: Mele and Nocera 2018; Mathianaki *et al.* 2021.

18 Merlin 1984: 91.



Fig. 3. A. Jug 62 decorated with red and black foliate plants (Ceci Macrini collection, Andria). B. Jug 63 decorated with three-pointed poppy capsules (Ceci Macrini collection, Andria) (ft. M.L. Leone). C. Dry poppy higher than 30 cm and bronze scepter from the Treasure Cave in Israel (compos. M.L. Leone, from Bar Adon 1980). D. Duck-shaped filter vase, with plants (red and black) and ribbon handle (Ex Gilbert collection, Cambridge, Massachusetts, Published, The Gilbert Collection: by Phoenix Ancient Art, New York, 2019, No. 270 <https://www.e-tiquities.com/gallery/ancient-daunian-terracotta-askos-with-a-ducks-head>); E. Vase for sucking with poppy plants, with and without the capsule (inv. 224, Jatta Museum, Ruvo) (Mayer 1014). F. Emblematic scene of sharing between two affiliates of the poppy cult. The woman has it in her hair, the man uses it as a stick to hold a bag for gathering herbs. Together they share a kind of caduceus as if they were healers (Museo Arch. Manfredonia, stele 614) (tracing M.L. Leone).*

seeds, from a species midway between wild poppy (*Papaver setigerum*) and the domesticated *somniferum* variety, were found in the La Marmotta lakeside village (Lake Bracciano, Sabazia, Rome), carbonized inside a chamber designated for religious practices, along with a Venus figurine reminiscent of Paleolithic examples.¹⁹ Their calibrated dating is the oldest discovered thus far (7,600/7,150 years ago).²⁰ La Marmotta is only

300 km as the crow flies from the province of Foggia and Daunia, where a Neolithic civilization flourished boasting over a thousand villages, some of the oldest in Italy,²¹ yet specific archeobotanical research on the plant is lacking there.

One of the earliest documented medical analgesic uses dates back 5,500 years and is evident in the remains of two miners buried in the Gavà hypogeum mine (Can Tintorer, Barcelona). Analyses of their bones and den-

19 Fugazzola Delpino 2003. <https://www.preistoriainitalia.it/scheda/statuina-di-bracciano-rm/>

20 Rottoli 1993; Samorini 2016b. A series of news and archaeological studies on the opium poppy is at <https://samorini.it/ar->

<cheologia/europa/archeologia-oppio/>

21 Tinè 1983; AAVV 1984; Radcliffe Franchin 2006.



A. Stele with streams



B. Stele with snake



C. Stele with poppy



D. Stele with snake



E. Interior



F. Base

Fig. 4. Il vaso filtro 35, visto nelle varie angolazioni (collez. Ceci Macrini, Andria) (ft. M.L. Leone).



A



B



C



D

Fig. 5. Filter vase 35. The four stelae painted in red with their attributes painted in black: A. with streams of water; B with only one snake visible; C with plants, including a poppy; D with only one visible snake (Ceci Macrini collection, Andria) (ft. M.L. Leone).

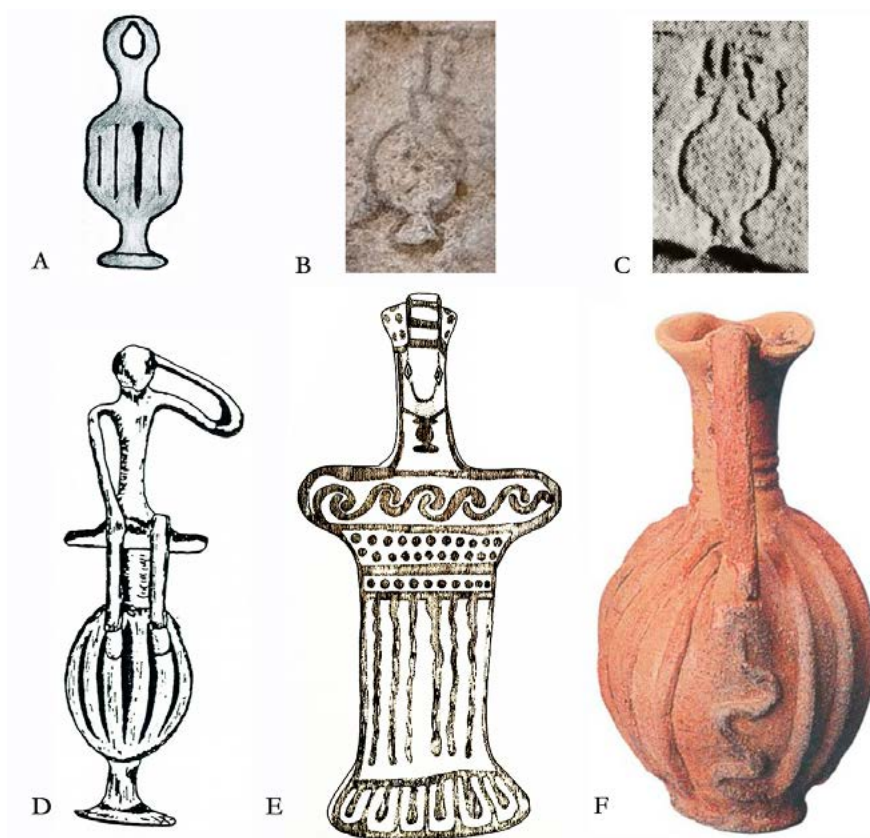


Fig. 6. A. Poppy capsule, in bronze from Salapia (Civ. Museum of Foggia) (De Juliis 1974). B. Detail of a pendant on a female stele (Museo Sansone, Mattinata) (ft. Leone). C. Detail of a pendant on a female stele found at Cupola-Beccarini (Nava 1980, n. 593). D. Poppy capsule, in bronze, from Kozani (Macedonia, Greece) (Merlin 1984). E. Statuette from Boeotia with a poppy-shaped pendant around her neck (Museum of Athens) (Gimbutas 1989). F. Poppy-shaped jug, with snake under the handle (Heraklion Museum, Crete) (Askitopoulou *et al.* 2002).

tal remains revealed the presence of morphine and codeine, as well as fragments of capsules in the dental cast of one of the miners who had survived a couple of cranial trepanations.²²

Unfortunately, opium is addictive and can be deadly in high doses, factors that have contributed to its dual association with sleep and death. In the past it also served as a source of food and played roles in medical contexts and funerary ideology and was attributed to various deities, such as Demeter or the anonymous and well-known Goddess of Gazi (1300-1250 BC, Heraklion Museum, Crete).²³ This goddess or high priestess is depicted with blessing hands and crowned by three capsules of opium poppy, possibly suggesting an incubator and healing sleep (fig. 15 C). The Dauni also connected the plant to a figure comparable with a goddess, depicted in female steles and often holding

long poppy stems attached to her belt (fig. 9 B). This unidentified goddess will have some of her characteristics outlined here for the first time.

The poppy on steles confused with maces and pomegranates

In addition to the extensive studies on the opium poppy, this archeometric research was motivated by the recognition of the plant on steles, vessels, and fibulae.²⁴ Among the jewelry items, there is a bronze pendant found in Salapia (Tomb 1/69, Museum of Foggia),²⁵ shaped like a flattened capsule with typical vertical grooves (fig. 6 A), closely resembling many others found in the Balkan regions on the opposite coast

22 Juan-Tresserras and Villalba 1999. A study on the use of morphine for an individual with a trephined skull in the hospital of Milan in the 15th century, was carried out by the Labanof laboratory: Giordano *et al.* 2023.

23 Marinatos 1960; Askitopoulou *et al.* 2002, fig. 3.

24 Two fibulae, in gold and silver, with a bracket ending in a poppy are in the Museum of Melfi (Location Piscicolo, Tomb 43, 5th century BC), another with a bulb more similar to a bud is in the Museum of Manfredonia (Beccarini, Tomb 1/69). Five ivory fibulae decorated with a poppy are in the Museum of Taranto (4th century BC inv.143579-143584).

25 De Juliis 1974; Mazzei 2010: 74.

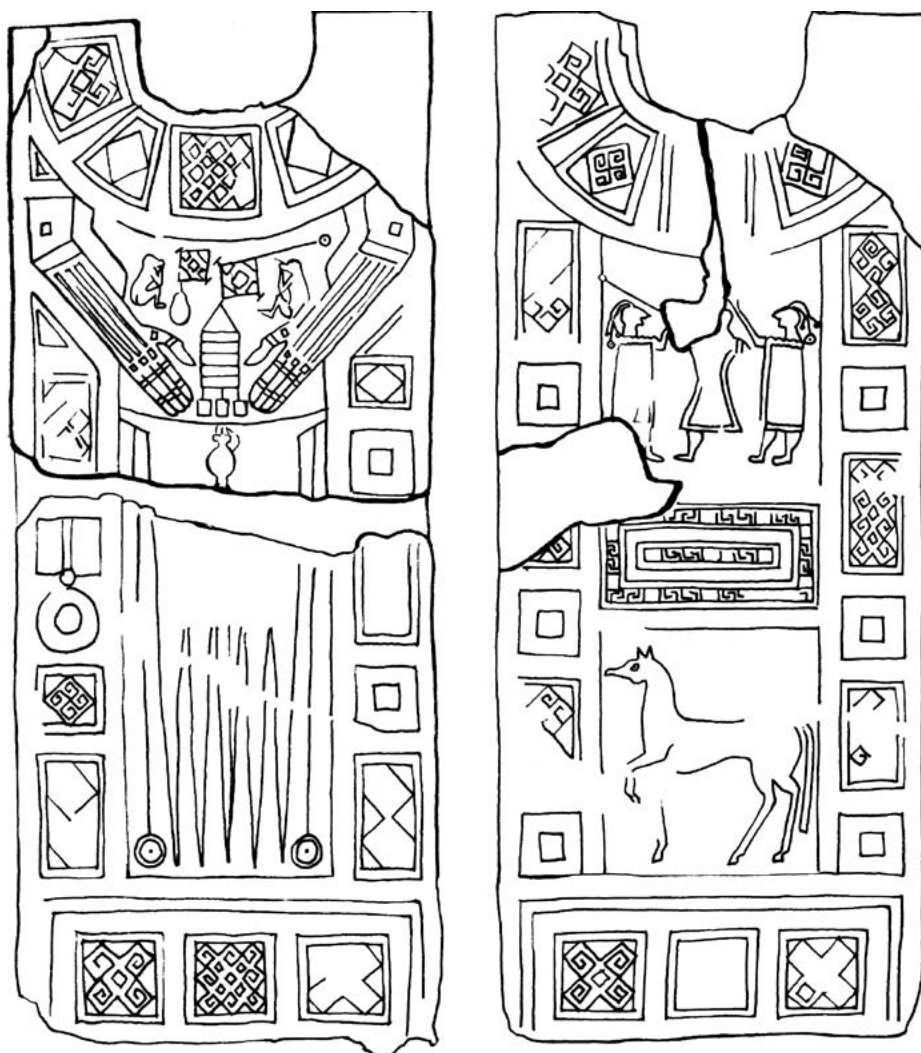


Fig. 7. Female stele from Cupola-Beccarini. A. With a poppy hanging from his belt. B. With a therapeutic scene on the shoulder. The stele has tattooed arms and hands, wears a dress embroidered with geometries, two fibulae and three amulets as circular pendants. The five long triangles, in the center of the skirt, are a metaphor for the monthly cycle. On side B, the therapeutic scene is completed with the presence of a horse, perhaps a gift for the healers, or the reason for the ongoing therapy. (Museo Arch. Manfredonia, stele 593) (tracing M.L. Leone).

from Apulia.²⁶ However, it is interesting to note the similarity to the one from Kozani (Macedonia, Greece), on which a seated man is touching his head to indicate the psychoactive state induced by opium (fig. 6 D).²⁷ The same pendant can also be found on the necklace of a statuette from Boeotia, designated by Marija Gimbutas as a “snake goddess” (fig. 6 E).²⁸ A simplified version of these poppy pendants is also found on a pair of female steles (fig. 6 B-C), and one of them features a therapeutic scene with two healers using a poppy as a scalpel on a person’s head (fig. 7A). The pendant engraved on the stele has been described

as a pomegranate, while the therapeutic scene has been interpreted as a warrior dressing.²⁹ Even the spherical pendants hanging from the belt of the female steles are often seen as pomegranates,³⁰ but other scenes of magical and therapeutic interventions tell us that they are, in fact, symbolic poppies (fig. 8 A-B-C-D). These are schematic representations of poppies, resembling scepters but depicted as a metaphor for anesthetics or analgesics.

In a couple of these scenes, the “patient” receives a drink from an askos and a jug, under the aegis of an opiate. The interpretation previously given to the poppy is that of a weapon, a mace or mace head,³¹ i.e. a

26 Kilian K. “Civiltà preistoriche e protostoriche della Daunia”, 1973: 364, Tav. 108.

27 Daux 1961; Merlin 1984, fig. 78; Guerra-Doce 2002: 75.

28 Gimbutas 1989: 131, fig. 213.

29 Nava 1980: 136, n. 593; 2001: 36, fig. 27.

30 Ferri 1962/67; Ferri and Nava 1974.

31 Ferri in Nava 1988: 54. Tunzi *et al.* 2011: 30.

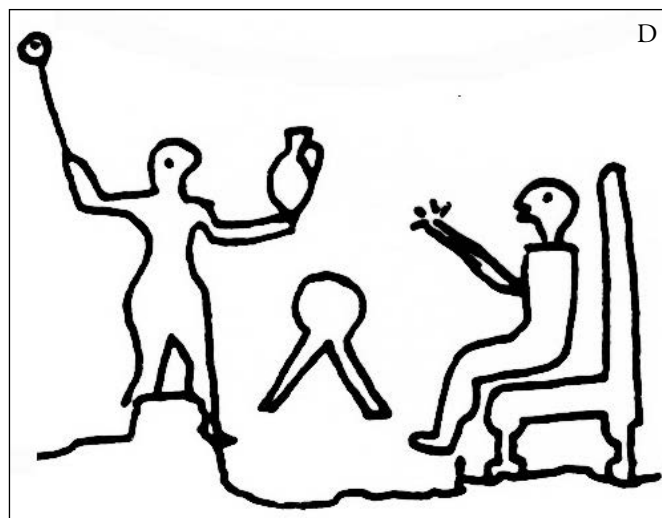
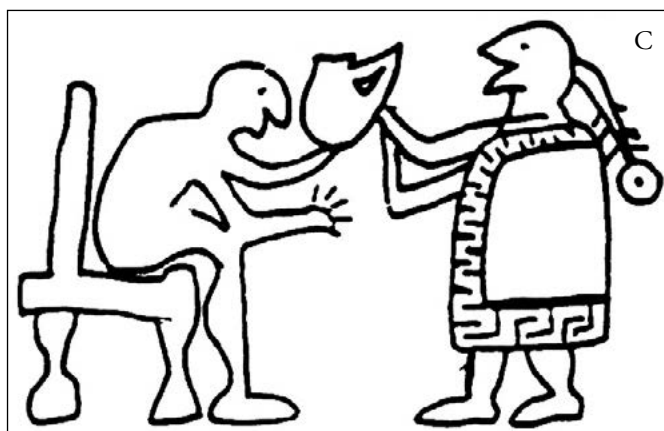
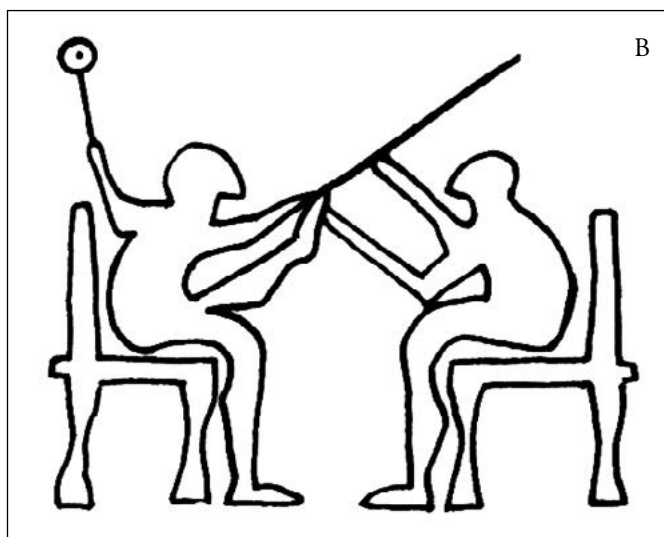


Fig. 8. Therapeutic sessions engraved on female steles. A. Two healers operate on the head of a “patient”. B. A “surgeon” operates on a big toe while the patient is holding a poppy as an anesthetic metaphor. C. A healer, with a poppy in her hair, offers a “medicine” in askos, to a “sick person” who anxiously asks for it. D – Again the offer of a “drug” to a requesting patient. (Museo Arch. Manfredonia, stele: A-593, B-735, C-missing, D-781) (tracing M.L. Leone).

blunt mace with which the deceased is hit, while the situations depicted have been read as “funeral ceremonies with heroized deceased”.³² However, the funerary actions are not consistent with what is happening, nor does the use of a blunt mace make logical sense. Meanwhile, the interpretation of pomegranates, along with the funerary function of stele-markers and effigies of notables, is conventional and favored³³ over the idea of votive simulacra of two Daunian deities, one of which is associated with one of the most important plants in pharmacopeia. It may happen that the silhouette of the pomegranate resembles that of the poppy,³⁴ but it cannot be ignored that the capsules on the steles often have the torus intended for the petals, a detail that the pomegranate does not possess. The iconographic heritage of the Dauni is mostly found on steles, which can be male steles, with shield

32 Ferri in Nava 1988: 24, figs 11, 12 in this scene the askos (here Fig. 8 C) was interpreted as “handing over the helmet to the seated deceased”.

33 Nava 1980; Ferri in Nava 1988; Rocco 2008; De Juliis 2009; Mazzei 2010; Norman 2011, 2018; Tunzi *et al.* 2011; Nava 2022a, 2022b.

34 Samorini 1916a.

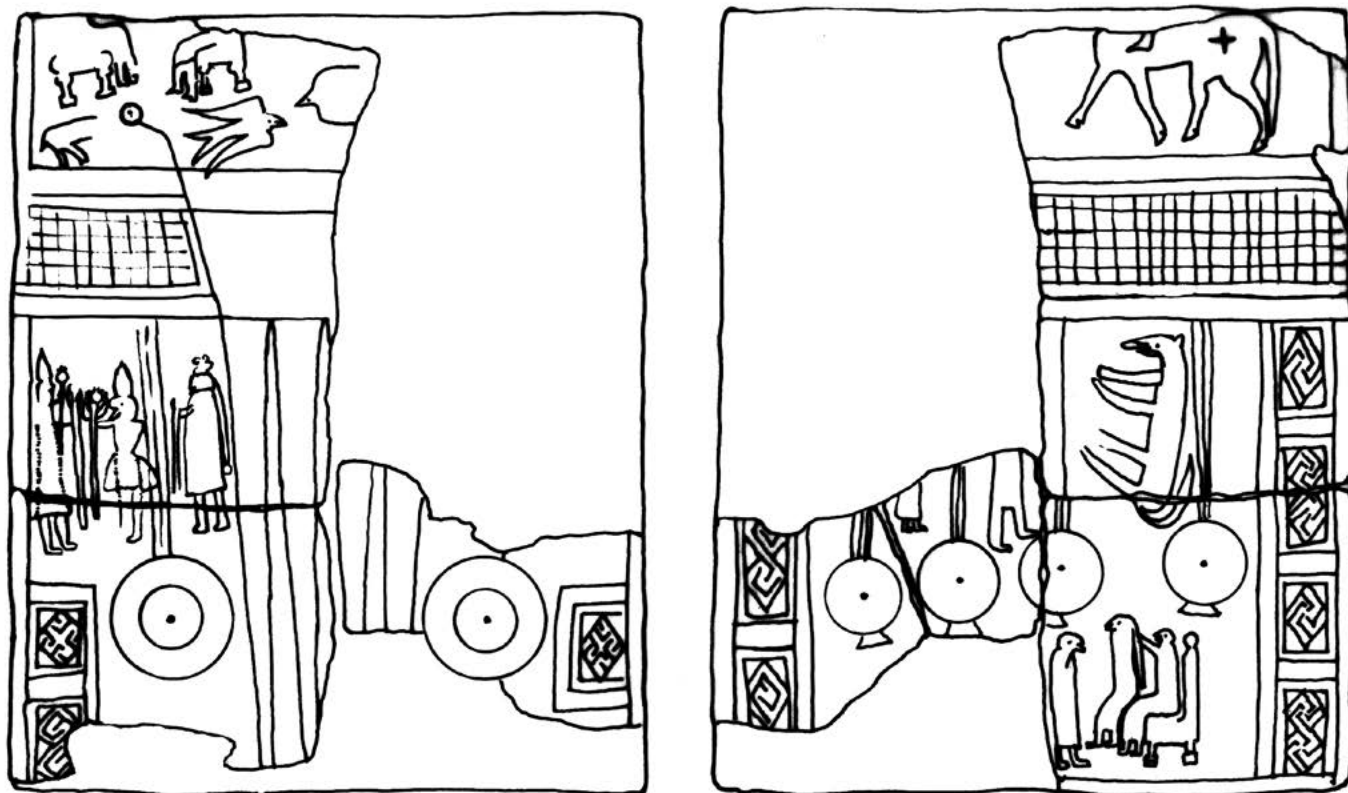


Fig. 9. Central-lower portion of female stele. Side A, two large amulet rings hang from the checkered belt. Three characters have sticks or poppies in their hands and above two seated individuals are talking or discussing. Side B, four poppies hang from the checkered belt and below there are three women. One of them applies therapy to her sitting on her lap, the third assists. A dog, vertically, is part of the story together with other figures. On the belt there is a knight. (Museo Arch. Manfredonia) (tracing M.L. Leone)

and sword, and female steles, adorned with necklaces, fibulae, and symbolic objects. Today more female steles are preserved, and these retain a significant presence of opium poppy, indicated as a status symbol. It hangs from the belt of the stele, with the capsules facing downward (fig. 9 B), and it is a status symbol for those women who wear it threaded through their hair braids, where it protrudes like a pom-pom (figs. 10 A-B, 11). Hierarchically, these women seem to be adherents affiliated with the female stele, the one hosting therapeutic scenes, wearing the poppy on their belts, and sporting fibulae and pendant capsules. This is a sacred figure, evidently a goddess, served by initiates to the miraculous plant and part of a hiero-botanic cult, predominantly led by women.³⁵

Among the images, one can discern the existence of a society organized into defined roles. Men hunt on

horseback with spears, fish with tridents, embark on boat journeys, and engage in armed duels, all actions prevalent on male steles. Women enjoy significant visibility and are portrayed on ceremonial occasions, such as gift-giving ceremonies and processions led by a lyre musician. They are also engaged as healers and potential prophetesses.³⁶ There is a whole world described on these steles, a world of lived life, mythological anecdotes, rituals, cults, and customs.

The poppy and the mythical couple on vessels of mixed style

The opium poppy depicted on vessels is always stylized with a three-pointed capsule³⁷ and even in these cases it is often referred to as a “pomegranate,” “berry,” or

³⁶ Leone 2020: 57, fig. 2b.

³⁷ We see it on three ollas from the fourth century in Ascoli Satriano (Tomb 33-10-64): Tiné Bertocchi 1985; and on four vases from Swiss collections: AAVV 1994, figg. 206, 212, 235, 236.

³⁵ Leone 2020, 2021.

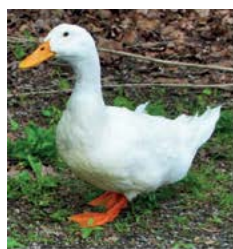


Fig. 10. Central-upper portion of female stele. Side A, under her arms a duck and an adept, with a poppy in her hair, look at each other in a symbolic relationship. Side B, three followers are in the presence of a swallow and a goat. Below the belt is a dog, a monk seal and an armed man with helmet and bolas. (Museo Arch. Manfredonia, stele 615) (tracing M.L. Leone).*

“bud”.³⁸ However, the recently described archeometric research proposes a closer interpretation to that of the poppy. In fact, the decorated jug 63 has been found to be positive for three opiate alkaloids. The same applies to jug 62, which is decorated with vegetation but lacks capsules, resembling both a filter vase (figs. 3 D, 14 A) and a sucking-jar (fig. 3 F) (Jatta Collection, Ruvo).³⁹ However, this vessel also features plants with capsules; what does this mean? Are they all poppy plants, depicted in two vegetative phases or are they two differ-

ent plants? It is possible that chemical analyses, in this case, can complement the iconographic analysis. The three-pointed capsule is not exclusive to Dau-nia and an intriguing example can be found on the bottom of a Cypriot bowl from the 10th century BC (Nicosia Museum, Cyprus), where a raised serpent approaches its mouth to a black poppy with three points (fig. 12 A). Perhaps it is a libation vessel, encapsulating a complex interplay of powerful symbolism involving a poppy, three serpents, a goat, and a lion.⁴⁰ This type of capsule also appears on a series of ceramic

38 Mayer 1914 tav 8,1; De Juliis 1977, LIV, 66, Tav. C; Rossi 1979: 39-40, tav. XXIII-63.

39 Mayer 1914: 130- Tav 13,8; see also the vase at Tav. 8,1

40 Karageorghis 2012: 87, fig. 104; Chovanec et Flourentzos 2021, fig. 12.3.

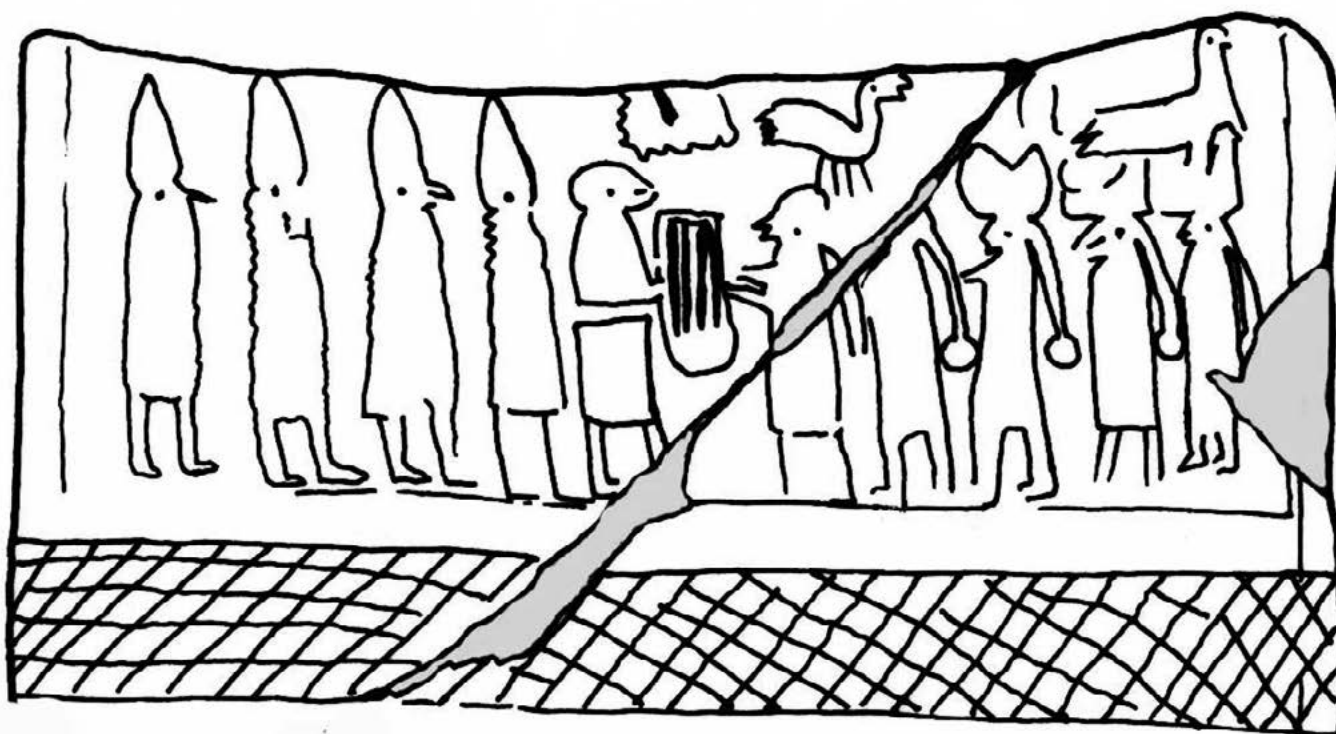


Fig. 11. Detail of female stele. Five followers with poppies in their hair bring gifts to priestesses with high headdresses. They are received by a lyre musician, at the center of the procession. The female followers are assisted by two protective birds, while all the characters have the faces of birds (Museo Arch. Manfredonia, stele 1122) (tracing M.L. Leone).

artifacts dating from the sixth to the fourth centuries BC.⁴¹ A recurring scene seems to depict a hiero-botanical myth related to the discovery or cultivation of an important plant. This myth involves a sacred couple with a goddess who delivers or shares the plant with a paredro.⁴² A significant instance can be found on a fragment of an olla discovered in Salapia,⁴³ where a poppy rooted in the ground stands behind the goddess, who is also planted in the earth. The paredro faces her and has three knights armed with lances behind him (fig. 12 B). A very similar scene is present on a fragment found in Herdonia,⁴⁴ but here, the goddess herself is a plant with leaves emerging from her chest, while her companion is armed with lances (fig. 13 A).

On a kalathos from a Swiss collection⁴⁵ the couple stands alone and the consort, armed with a lance, holds a small plant with ochre-colored fruits in his left hand (fig. 13 B).⁴⁶ The fruits resemble olives, although the color is not realistic. However, this detail is irrelevant because Daunian bicromy is symbolic. Many capsules alternating with palm trees or olive branches decorate an olla from a Swiss collection.⁴⁷ Here, the couple is assisted by participants and is seen consuming the plant. She leans on a staff and he holds a lyre from which a small poppy emerges (fig. 13 C).⁴⁸ On a fragment of an olla preserved in the Archaeologi-

41 Leone 1990/2003, 2020 fig. 11; Mazzei 2010: 208; De Juliis 2009: 106-121, 110.

42 Leone 2020: 62-63; 2021: 3-4.

43 Leone 1990/2003, 2020 fig. 11; Mazzei 2010: 208; De Juliis 2009: 110, nota 13.

44 Iker 186.

45 AAVV 1994: 38, fig. 215.

46 AAVV 1994: 228, fig. 215.

47 Chamay et Courtois 2002: 128-129; De Juliis 2009: 112; Mazzei 2010: 211.

48 In AAVV 1994: 356, fig. 236, the poppy is a plectrum for playing the instrument; in Norman 2011 the lyre is a hand loom on which a spool of yarn is hung. An interpretation of the images in a Homeric key is in: Chamay and Courtois 2002: 128-129, while a funeral key is in Nava 2002b. Nava 2001.



Fig. 12 A. Cypriot bowl with a ram's head, a lion and three snakes on the handle, plus a snake and a poppy inside (Nicosia Museum) (courtesy of the Department of Antiquities, Cyprus). B. Fragment of olla from Salapia with the hiero-botanical scene. A large poppy is behind the goddess and behind the paredro there are three knights (ft. M.L. Leone).

cal Museum of Milan,⁴⁹ the couple is depicted three times, but in the third scene they stand on either side of a plant with ten spherical fruits, possibly ripe capsules ready for harvest (fig. 13 D-E). The couple is easily identifiable, especially when observed on the oldest fragment of all, dating between the seventh and sixth centuries, where the goddess wears the typical skirt of female steles with two circular pendants hanging from her belt. She holds the hand of her consort, while a duck on her head symbolizes her chosen animal (fig. 13 F).⁵⁰ Birds, which are well represented on the steles, are noble animals representing the goddess, and she herself is identified with them.⁵¹

The rare Ceci Macrini filter vase

Filter vases are among the most characteristic and intriguing objects in Daunian pottery. They are rather rare, absent in neighboring regions, and represent a concentrated form of conceptual art, as seen in filter vase 35 from the Ceci Macrini collection. There have been no iconographic studies on filter vases, and their

function remains doubtful.⁵² Therefore, I will briefly present the results of recent research.⁵³ One of the meanings is already evident in their form, resembling a duck floating with its tail forming the filtering basin. An example from a former private collection is an excellent representation (figs. 3 D, 14 A-B).⁵⁴ Even the geometric decoration, often painted in red and/or brown on their surface, is significant and often evokes the aquatic world with snakes, serpents, leeches, plants, birds, and solar boats or both floating and land-based altars (fig. 14 C-D).

These are small vessels, averaging 15 cm in height, and can be classified into two main categories: those with a wide opening in the center of the body and those with a high, cylindrical opening. In contrast to the filtering basin, there is the duck's protome with its head and long neck or, equivalently, a hieratic figure or goddess with a kind of *polos* on her head, necklaces, earrings,

49 Nava 2001

50 Mayer 1914, Tav. XVI, 1.

51 Leone 2023.

52 Mayer 1914; Maes 1975; Chamay et Courtois 2002.

53 Leone 2023

54 Published, The Gilbert Collection: by Phoenix Ancient Art, New York 2019, No. 270. See <https://www.e-tiquities.com/gallery/ancient-daunian-terracotta-askos-with-a-ducks-head>



Fig. 13. The couple and the hiero-botanical scene on vases (B-C) and fragments. A. Here the couple is painted as a serial decoration. She is a vegetable and delivers the sacred plant to the armed paredro (from Herdonia) (Iker 1986). B. In this scene the couple eats a vegetable that can be psychoactive, because their heads are altered; meanwhile, a poppy emerges from the paredro's lyre (Private Coll., Tardivat, Geneva) (AAVV 1994). C. In this case the armed paredro has a plant in his left hand while she observes him, there are also ivy leaves (?) (Private Coll. U.G., Geneva) (AAVV 1994). D-E Three scenes with the couple on an olla fragment. In two cases they exchange the plant, divided by an anthropomorphic swastika, in one case they are near a plant with spherical fruits (Arch. Museum of Milano) (Nava 2001). The dots behind the woman indicate "magic power". F. Here the couple is holding hands, the goddess accompanies her paredro while she speaks to him; the line coming out of her mouth indicates "word" (Mayer 1914). (tracing M.L. Leone).

and fibulae.⁵⁵ Often, the protome is a hybrid woman-bird because there is a symbiosis between the floating duck and the goddess. For the Dauni, the Lady of the Filter Vases was identified as a duck reigning over sacred and blessed waters. The handle is characteristic, often a simple ribbon type, but sometimes it takes on an evocative mask-like form, square with divergent holes resembling eyes and a large bucranium at the top, with a small arch in the center, or more rarely, plastic figures.⁵⁶

Filter vases resemble teapots suitable for holding small quantities of liquid, at most 0.5 l. The one from Andria is larger (height 22.8 cm) and is a rarity both in terms

of its shape⁵⁷ and decorations (figs 4, 5). Unfortunately, it has been broken due to an earthquake, but this allowed us to see the dark patina of the ancient content inside. The body features a through hole in the center, creating an internal annular chamber. The purpose of this type of chamber is unclear, but it is possible that the content could be better mixed by rotating the vase. The opening is tall and cylindrical, with a flared mouth wide enough to insert herbs. The decoration included a set of plastic appendages with strong magical and apotropaic value. The handle, of the mask-bucranium type, resembles a protective spirit that once confronted a protome, of which only the attachment remains; it was almost certainly the plastic figurine of the goddess, now lost (see examples in fig. 14 C-D).

⁵⁵ Two filter jars with this very well depicted character are at the British Museum of London: Maes 1975, figs 8, 9, Inv. H262, H263; Chamay and Courtois 2002: 106-107.

⁵⁶ Chamay and Courtois 2002: 93, fig. 39.

⁵⁷ There are two other specimens in: Mayer 1914, Tav 10,11; Chamay and Courtois 2002: 90, n. 37.



A



B



C



D

Fig. 14. Specimens of filter vessels. A. With duck protome, foliate plants and ribbon handle (Ex Gilbert collection, Cambridge, Massachusetts; Published, *The Gilbert Collection*: by Phoenix Ancient Art, New York, 2019, No. 270 <https://www.e-tiquities.com/gallery/ancient-daunian-terra-cotta-askos-with-a-ducks-head>); B. A duck that is floating and forms concentric circles on the water similar to those painted under the Ceci Macrini filter vase. C. Vase with the female protome, handle-bucranium and "tent" motifs below (Museo Arch. Bari) (Mayer 1914). D. Vase with the female protome, snakes on the sides and leech below (?) (Museo Cív. Foggia) (AAVV 1984).



Fig. 15. A. Plaque with the goddess of snakes (Agorà Museum, Athens; Photo, Sharon Molerus https://commons.wikimedia.org/wiki/File:AGMA_Ancient_greek_terracotta_votive_plaque_with_Woman_and_Snakes.jpg); B. Detail of the filter vase 35. Stele with streams on the sides (coll. Ceci Macrini, Andria) (ft. M.L. Leone) C. The Poppy Goddess of Gazi (Museo Arch. Heraklion, Crete; https://commons.wikimedia.org/wiki/File:Min-oan_praying_women_archmus_Heraklion_Crete_Greece.jpg?uselang=it; Tracing: Figg. 3F; 7; 8 A-B-D; 10; 11 (Nava 1980); Fig. 8 C; Fig. 9 (Nava 1988, figg. 12, 13, 14).

The red and brown decoration remains legible, even if partially eroded, as if the vase had received heat from the inside. At the base, there are concentric bands, and then a series of triangles. Above the triangles rise four red steles, slender and with the typical arching of the shoulder. They are female because each one has a triangle underneath, and the brown head is barely visible on three of them. This is the first time that steles have been “photographed” on a vase and they are also accompanied by attributes. There have been no comparable cases so far. They are rooted in the earth, and each one is flanked by significant figures: two water or liquid streams, two reptiles (possibly a snake and a water snake), two plants, one of which is a poppy (fig. 5).

The vase dates back to the sixth century BC, and its origin is unknown, but it is not unlikely to be from the Laguna area, where the steles were concentrated and where Salapia, in particular, had a well-established production of geometric vases.

Filter vase 35 presents allegories that evoke Mediterra-

nean cultures. For example, the bucranium,⁵⁸ female sacredness associated with the snake, and the relationship between poppies and snakes.⁵⁹ A mysterious goddess from Athens, dated to the seventh century BC, and therefore contemporary with Daunian steles, is depicted on a plaque found in the Agora, possibly Demetra with the unusual attributes of two snakes (fig. 15 A). Her upraised arms are blessings, and she is accompanied by a brown serpent on the left and a red one on the right, two magical entities with supernatural connotations associated with small dots.⁶⁰

Regarding the second “reptile,” its head is not like that of the brown snake; it is rounder and may be a water snake, seen from above as it swims in a sacred river among sacred plants, possibly crocuses.⁶¹ If identified

⁵⁸ Rossi:27, note 115.

⁵⁹ Laughy 2018.

⁶⁰ Giorgio Samorini explains how these trails of points indicate evanescence, surreality, the psychotropic state: Samorini 1995.

⁶¹ In reality, the head of the water snake is larger than the snake's, it is wider at the base and has a shorter snout.



Fig. 16. Male stele with a narrative divided into three scenes. In the first scene (top left) a slinger participates in a scene where a person is killed with a spear. In the second scene (top right) a “potion” is offered to a person sitting on the right. There is a dog of normal proportions. In the third scene the dog has become monstrous and is facing the individual who drank the “magic potion”. (Sansone Museum, Mattinata) (tracing M.L. Leone).

with the crocus, it may have had medicinal significance. Similar plants appear on some Daunian filter vases and are well depicted in the famous collection of Xesté 3 of Thera (Santorini, Greece), where the crocus is the sacred plant of a goddess.⁶² The serpent associated with the poppy, however, in addition to the Cyprus

bowl, is on a poppy-shaped Cretan lekythos (fig. 6 F) (1200–1000 BC, Heraklion Museum)⁶³ and on some base ring juglets.

It is clear that these two figures share common allegories: “poisons,” the afterlife, the underworld; the realms of death and knowledge, domains that have been associated with the Great Mother since the Neolithic period.

62 The hypothesis is that in Xesté 3 initiatory and therapeutic rituals dedicated to women took place, carried out in the presence of a goddess who assisted in the crocus harvest: Alberti 2009.

63 Askitopoulou *et al.* 2002, fig. 1.

Meaning of the steles in relation to the lagoon

In light of these iconological considerations, the function of the steles should be channeled into a dimension that is sacred, ritual, mythological, and even visionary. Surreal beings such as the dragon serpent, chimera, winged horse, or entities from hallucinatory experiences are not uncommon in the scenes depicted. On a male stele a sequence of images is described in which a supernatural encounter occurs between a psychonaut and a monstrous dog, following the consumption of a beverage during which the dog had a completely normal appearance (fig. 16) (Sansone Museum in Mattinata).⁶⁴ It is more likely that the steles were simulacra of deities and were part of a complex religious cult that included the use of opium. The epicenter of this cult was the coastal lagoon, a natural sanctuary where the steles were collected in a natural temenos, while in distant villages there might have been minor shrines. It should be for consideration that the steles were found not in relation to a contemporaneous tomb but as a result of occasional recoveries in the two lagoon villages of Salapia and Cupola-Beccarini. The few recoveries in other villages almost all emerged from *a posteriori* reuses. Therefore, the lagoon was the elective location for the steles, an environmental temple for deities of fauna, flora, and waters, where the devotees came from near and far to receive the benevolence of the gods and dedicate a votive stele to the goddess with poppies or to the armed god.

In this sense, the scenes and narratives become emblematic events, real and legendary, associated with the god who defends from aggression and hostility, a protector in war and hunting. Instead, the female stele, who wears capsules attached to her belt, is the goddess of health, magical plants, but also animals and, above all, birds, with which she identified in the form of askoi, gutti (small vessels with a spout for sucking liquids), and filter vases. It hosts fauna on the steles, and is itself a plant when it delivers the plant to the parent on the artifact found in Herdonia (Fig. 13 B). Logic would suggest that she is also the Lady of the Waters because she floats in the form of a duck. But she was also the Lady of Poppies, and these plants perhaps found fertile ground near the lagoon. In fact, *Papaver somniferum* is a weed that adapts well to various

environments but thrives on heavy (clayey), subacid soils, and in irrigated areas near rivers and lakes; in this regard, I have personally seen thousands of opium poppies towering near the Jarama River, on the outskirts of Madrid, between May and June.

The Dauni have not left us written sources, but in the work of Lycophron's *Alexandra* (fourth century BC) and the *Scholia* to it, there are mentions that echo a botanical and oracular cult with virgins dedicated to a goddess. Cassandra, the prophetess of Troy, is venerated near the swamp of Salpi (Salapia). It is the goddess speaking:

And my cult will not be without fame among men and will not soon wither into dark oblivion: a temple will be erected for me on the shores of Salpi, by the leaders of the Dauni, those who inhabit the city of Dardano, near the waters of the marsh. Maidens who wish to escape marriage, rejecting suitors who, flaunting Hectorian locks, are very ugly or of dishonorable lineage, will clasp my image, obtaining a very powerful remedy against marriage. Clothed as Erinyes and with their faces stained with the juice of malefic herbs. For a long time, I will be called an immortal goddess by those women who carry the staff. (Lycophron, *Alexandra* vv. 1128-40, translated by Guido Paduano).

The passage contains traces of an indigenous cult interpreted from a Hellenic perspective.⁶⁵ Daunian girls who do not wish to marry become adepts (priestesses) of Cassandra/Alessandra and remain virgins, like her; the goddess will be immortal for the Dauni and for the women who carry the staff = *rabdeforai* (from ῥάβδος, *rabdos*: scepter, magic wand, *lituus*, *caduceus*), several characters on the steles hold objects similar to staffs; women who use malefic herbs (also magical herbs in the *Scholia* in Lycophron's *Alexandra*, scholl. 1137), which could be psychoactive plants; women who seem like Erinyes, perhaps because they are feared and have bird-like faces. As mentioned earlier, birds dominate Daunian art, with a preference given to the duck. In conclusion, poppies and ducks are among the most venerable subjects of steles, vases, and bronzes.

Conclusions

We may deduce that the opium poppy, combined with other medicinal or psychoactive plants yet to be identified, played a role in Daunian iatromancy and a

⁶⁴ Leone 2001.

⁶⁵ Notarangelo 2008: 38-44; 128-135.

religious system in which initiates, acolytes, and two deities with the closest references possibly being Demeter and Mefitis (the Italic goddess with the duck) were involved, alongside an agricultural and protective Mars, reminiscent of Latin origins. Around these gods, whose pantheon remains unknown to us, revolved the priestly caste, skilled in manipulating medicinal preparations and conducting rituals. Opium might have been used for hedonistic purposes as well. One might consider the almost abrupt interruption of stele production in the first 25 years of the sixth century and with their subsequent reuse in the third century. Perhaps the steles fell victim to sociopolitical changes or a rebellion against their power groups. However, myths do not easily fade away, and after the steles, we find the sacred couple painted on figurative vases.

The discussion here about the medical and religious practices of the Dauni is just the tip of the iceberg; many more research avenues should be explored. Archeobotanical research, analysis of bone remains, or investigations into the arrival of the *Plasmodium* protozoan parasite are among them. Written sources by Cicero, Titus Livy, Vitruvius, and Pliny the Elder, and above all hydrogeological studies, testify to an unfortunate change in the lagoon into some marshes in the last centuries of the first millennium.⁶⁶ This change forced the inhabitants of Salapia and Cupola-Beccarini to move to healthy areas to escape malaria.

Who knows if opium was empirically used against the symptoms of infection, as happened in 18th-century England?⁶⁷ Such a use would justify even more the importance given to the opium poppy in Daunian images, as well as the centuries-old persistence of its alkaloids in the ceramics examined. On top of all this, the steles indicate knowledge that could not have been limited to the Daunians, and indeed, in Italic and other period art there are artifacts in the shape of poppy capsules that deserve attention.⁶⁸

A fascinating example is the gold diadem of the young

princess from the Vaglio necropolis (Braidia, Potenza Museum),⁶⁹ adorned with sacred animals and eight dangling capsules. Originally, there were ten capsules plus another pendant of unknown origin.

It is an oriental jewel whose symbolism likely protected the young girl on her final journey. With sacred animals for protection and poppies to lull her to sleep on her journey to the afterlife, or perhaps to indicate her age, estimated between seven and ten years. It is just one piece of evidence among others, but so far, the iconographic/archeometric studies carried out in Daunian are the first breach in the archeology of *Papaver somniferum* in pre-Roman Italy.

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66 Caldara *et al.* 2002: 124-128; Di Rita *et al.* 2011.

67 Cullen and Brown made extensive empirical use of opium against all diseases, including malaria; Cullen 1789.

68 Some examples are large Etruscan ollas and certain basins on high feet, of the Pantalica culture in Late Bronze Age Sicily: Samorini 2017: 61.

69 AAVV 1999: 136-137, pl. 32; Bottini and Setari 2003; Teranova 2014.

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STONEHENGE AND IRON AGE BRITAIN, 325 BC: A FRESH ANALYSIS OF THE WRITINGS OF PYTHEAS OF MASSALIA

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Introduction

Pytheas(c. 380–310 BC), from the Greek colony of Massalia on the Mediterranean coast of Gaul, sailed to Britain in the fourth century BC. On returning home, about the year 325, he wrote about his remarkable adventures, *Peri tou Okeanou* (*On the Ocean*), by which he meant the northeast Atlantic, but the complete book has not survived the passage of time. Luckily, segments and citations from the book of considerable anthropological significance about the British Iron Age, Stonehenge and the sources of commercial tin and amber exist in the writings of classical historians. Crucially, Stonehenge is described as a 'magnificent temple' to Apollo and the sun. As a competent social observer, Pytheas made learned comments about aspects of Iron Age British culture, customs, work, food, farming methods, and commerce. He was, by nearly three centuries, the first literate visitor to the British Isles.

Very well educated, Pytheas had a good knowledge of mathematics, geography, astronomy, and other sciences, besides which he was skilled at sailing and navigation. He must have had good teachers funded by likely affluent parents. Although nothing is known of the latter, their implied wealth may have come from trading in tin, amber, and other goods. Tin was an important resource for the Greeks, constantly in high demand for the production of bronze, an alloy of tin and copper. Whatever the occupations of father and son, there would have been sound reasons, probably commercial and to do with tin and amber, as to why Pytheas contemplated the idea of such a risky adventure to the unknown lands of northern Europe. Merchants, arriving in Massalia from across Gaul with horse-drawn loads of these materials, kept secret the origins of their merchandise. The Greeks only heard vague mention of distant Tin Islands (the Cassiterides) supposedly somewhere in unmapped northern or western

Europe. By offering vague, unavailing information like this, traders hoped to dissuade newcomers from becoming competitive merchants. Additionally, Pytheas as geographer and scientist, hoped to gain insight into the nature of the Arctic north and any landmass there, which he named Thule.

In leaving the western Mediterranean for the unknown coastal waters of the east Atlantic, Pytheas likely travelled as a fee-paying passenger, benefitting from using a sequence of merchant ships in the manner proposed by Roseman (1994). The idea is well supported by Cunliffe (2001) and the present author among others. Pytheas took one or more companions for friendship, security, and perhaps help with languages. The voyage specifics are detailed elsewhere (Meaden 2023/24). Landing in southeast England and walking west towards Cornwall and Land's End, Pytheas encountered a 'magnificent temple of Apollo' namely Stonehenge simply because it was on the well-trodden east-west cross-country trackway. Besides this, claims that the 'spherical' monument described in Diodorus's Book 2 was still in use are well supported by the reasoned analyses argued in the present paper. Figure 1 shows the likely searoute and south-of-England cross-country track taken by the Greek explorer.

Starting from the Mediterranean, Pytheas sailed the Atlantic coasts of Iberia and Gaul in his search for the tin-mining islands. By the time he reached northwest Brittany (part of Keltikē/France) he would have learnt, either through port gossip or from ships' masters with whom he sailed, that the sought-after tin came from across the English Channel in southwest England. The target became Belerion, as Land's End was then named, but how did Pytheas get there?

The geographer Clements Markham (1893, 516) makes the point that Pytheas, after leaving a Brittany harbor such as Corbilo near Nantes (fig. 1) and sailing round the western extremity of Brittany to a port on

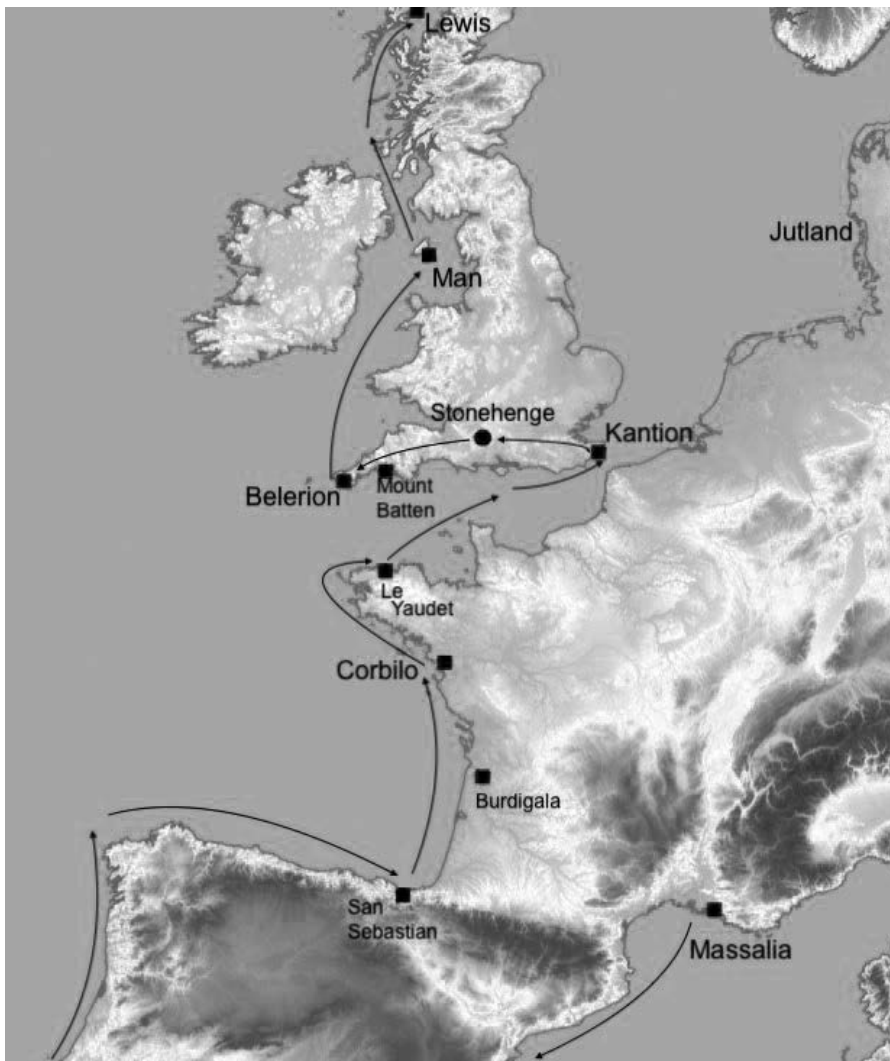


Fig. 1. The route deduced for Pytheas' outward journey from Massalia.

the northern coast, explicitly mentions the long sailing time from northern Brittany to Kantion in southeast England. The length of this stretch of water is such that Strabo, a historian of the first century BC, recorded that Pytheas commented on the distance 'that Kantion is several days' sail from Keltikē', meaning from northern Brittany. Cunliffe (2001,64-66) suggests that the final Brittany port may have been Le Yaudet (fig. 1) because of its Iron-Age archaeology. Kantion was Dover or Folkstone in Kent.

Next, Bunbury and Beazley (1911,703) refer to 'a brief passage of Polybius, cited by Strabo, in which he explains that Pytheas, according to his own statement, had not only visited Britain, but had personally explored a large part of it ('travelled all over it on foot,' according to one reading of the text in Strabo,

book. iv. ch. i).'

The places in Britain that Pytheas visited include Kantion, the Temple of Apollo, Belerion (Land's End), the Isle of Man, Isle of Lewis, and Orkney, Shetland or both. Pytheas' description of a magnificent temple of Apollo is partly preserved in Diodorus Siculus' *Bibliotheca Historica*. Some commentators have concerns as to whether two nearby temples are described rather than one and where a nearby city or polis might be. Such questions are resolved when the classical Greek text is studied afresh in the context of architectural knowledge of temples relevant to the religion of the age.

A fresh examination of Diodorus' manuscript in Greek and a comparison with the Loeb Library English translation reveal a misunderstanding of a key

Greek word from the archeological viewpoint concerning temple architecture. Its correction clarifies that a single ‘magnificent’ stone monument is indeed depicted, not two. Additionally, on-site re-inspection and re-evaluation of the stones of Stonehenge by the present author reveal that the tall, narrow bluestone (Stone 67) that was set axially behind the Altar Stone is a sculpted phallus and arguably a cult icon of a true temple. Moreover, a word-for-word reappraisal of the Greek written evidence reveals the likelihood that Stonehenge was still in use when Pytheas was there.

Pretannikē, its inhabitants, and Pytheas’ chronicle

In his manuscript *Peri tou Okeanou*, Pytheas relates discoveries made during his sailing adventure after leaving the Mediterranean Sea and following the north Atlantic coasts. He wrote, ‘in the regions beyond the land of the Celts there lies in the ocean an island no smaller than Sicily.’ This is Britain. According to Strabo, a leading Greek philosopher of the final century BC and author of the 17-volume *Geographika*, Pytheas referred to Britain as *Pretannikē* and the inhabitants as Pretanni or Pretani, names that he learnt when meeting locals. *Pretannia* was another variation that became Britannia in Latin, hence Britannia.

Pytheas’ chronicle, written soon after his return, is lost and gravely missed, but some instructive fragments had been saved in the writings of Hecataeus of Abdera (Thrace, fourth-century BC) and later saved again by the first-century BC historian Diodorus Siculus in his *Bibliotheca Historica*. The section relevant to Stonehenge is from Book 2, 47, parts 1–6. The Loeb translation by Charles Oldfather (1935) is reproduced below together with crucial sentences in the original Greek.

Diodorus’ account has attracted judgmental comment by scholars since the 19th century. These include Sir Clements Markham (1893,514-518) and Sir Norman Lockyer (1907,51-52) who both likely benefitted from reading Diodorus in the original Greek. More recently, John North (1996,393-395), Timothy Darvill (2006,32, 35). and Mike Parker Pearson (2012,353) republished part of the English translation from the LoebLibrary, as Gerald Hawkins (1965,165-167) did. Confusion has resulted as to whether the description in Diodorus 2.47.3 is about two temples rather than one, and where they and a nearby city or polis might

be. For example, Castleden (1987,145) wondered whether the temple duo, Stonehenge and Avebury, were intended.

The question of two temples or one is resolved when the classical text is studied anew in the context of architectural knowledge of temples relevant to the religion of the age. Close examination of Oldfather’s translation, which follows immediately, helps to explain. The sections subsequently discussed in detail are italicized.

The Loeb translation from Bibliotheca Historica by Diodorus Siculus

1. 2. 47.1. Now for our part, since we have seen fit to make mention of the regions of Asia which lie to the north, we feel that it will not be foreign to our purpose to discuss the legendary accounts of the Hyperboreans. Of those who have written about the ancient myths, Hecataeus [of Abdera, Thrace] and certain others [like Timaeus of Sicily] say that in the regions beyond the land of the Celts *there lies in the ocean an island no smaller than Sicily*. This island, the account continues, is situated in the north and is inhabited by the Hyperboreans, who are called by that name because their home is beyond the point whence Boreas [the north wind] blows; and *the island is both fertile and productive of every crop, and since it has an unusually temperate climate it produces two harvests each year*.
2. Moreover, the following legend is told concerning it: Leto [mother of Apollo and Artemis, fathered by Zeus when they met in Delos] was born on this island, and for that reason Apollo is honoured among them above all other gods; and the inhabitants are looked upon as priests of Apollo, after a manner, since *daily they praise this god continuously in song and honour him exceedingly. And there is also on the island both a magnificent sacred precinct of Apollo and a notable temple[naos], which is adorned with many votive offerings and is spherical in shape*.
3. Furthermore, a city[polis] is there which is sacred to this god, and the majority of its inhabitants are players on the cithara [a stringed instrument like a lyre]; and these continually play on this instrument in the temple [naos] and sing hymns of praise to the god, glorifying his deeds.

4. *The Hyperboreans [of the temple] also have a language, which is peculiar to them, and are most friendly disposed towards the Greeks, and especially towards the Athenians and the Delians [inhabitants of Delos], who have inherited this goodwill from most ancient times. The myth [story] also relates that certain Greeks visited the Hyperboreans [Stonehenge priests] and left behind them there, rich votive offerings bearing inscriptions in Greek letters.*
5. And in the same way Abaris, a Hyperborean [from the temple at Stonehenge], came to Greece in ancient times and renewed the goodwill and kinship of his people to the Delians. *They say also that the moon, as viewed from this island, appears to be but a little distance from the earth* and to have upon it prominences, like those of the earth, which are visible to the eye.
6. The account is also given that the god [Apollo] visits the island every nineteen years, the period in which the return of the stars to the same place in the heavens is accomplished; and for this reason *the nineteen-year period is called by the Greeks the 'year of Meton.'* At the time of this appearance of the god he both plays on the cithara and dances continuously the night through from the vernal equinox until the rising of the Pleiades, expressing in this manner his delight in his successes. *And the kings of this city and the supervisors of the sacred precinct are called Boreadae, since they are descendants of Boreas, and the succession to these positions is always kept in their family.*

Analysis

The first discussion points are italicized in the above text, and below are given in the original Greek. In sections 2, 3, and 6, below, the words for *temenos* (twice) and *naós* (twice) are rendered in bold case.

(2) ὑπάρχειν δὲ καὶ κατὰ τὴν νῆσον **τέμενός** τε Ἀπόλλωνος μεγαλοπρεπὲς καὶ **ναὸν** ἀξιόλογον ἀναθήμασι πολλοῖς κεκοσμημένον, σφαιροειδῇ τῷ σχήματι.

(3) καὶ πόλιν μὲν ὑπάρχειν ἱερὰν τοῦ θεοῦ τούτου, δὲ κατοικοῦντων αὐτὴν τοὺς πλείστους εἶναι κιθαριστάς, καὶ συνεχῶς ἐν τῷ **ναῷ** κιθαρίζοντας ὕμνους λέγειν τῷ θεῷ μετ' ᾧ δῆς, ἀποσεμνύνοντας αὐτοῦ τὰς πράξεις.

(6) βασιλεύειν δὲ τῆς πόλεως ταύτης καὶ τοῦ **τεμένους** ἐξάρχειν τοὺς ὀνομαζομένους Βορεάδας. ἀπογόνους

ὄντας Βορέου, καὶ κατὰ γένος αἰεὶ διαδέχεσθαι τὰς ἄρχας

Beginning with Section 6, Charles Oldfather, the translator of *τέμενός* [*temenos*], chose 'sacred precinct', but 'temple with sacred precinct' or simply 'temple' would better express Pytheas' profounder intention because when one is outside looking at a temple, one sees the exterior and its sacred precinct. However, inside there is a distinct inner temple, a sanctuary or *naos* for use by the privileged.

Again, in the second sentence of Section 2, the English uses the same words 'sacred precinct' for the Greek *τέμενός* instead of 'temple,' but the latter was anyway implied, indeed intended, because of the adjective *μεγαλοπρεπὲς* for 'magnificent' applied to 'temenos.'

Third, in the aforesaid section the English word temple is this time used, but incorrectly, to stand for the Greek word *ναός*. This is important. The *naos* [*ναός*] is the controlled inner space or sanctuary of a temple having a shrine with an icon representing the principal divinity. Indeed, Stonehenge has both (a *naos* and a carved icon in stone, the latter examined below). *Naos* is the appropriate designation. As for the valuable or rich offerings in the *naos*, these would be votives left by worshippers.

Next, in the middle of Section 3, *naos* is preferred for *ναῶν* instead of temple, because *naos* is what is written.

Lastly, the word *πόλιν* (*polin*, from *polis*) (Section 3 [and 6]) is no city in any modern sense but rather a proto-town, settlement or hamlet-community located nearby (Scott 2022,4). For instance, Scott (2022,112) cites Strabo 4.2.1 regarding the Gallic port or polis called Corbilo (in Armorica), and explains that it is a polis only in the sense of being 'little more than a trading station with a harbour and a few buildings.'

These modifications better express the meanings likely intended by Pytheas, and clarify that there were not two temples but a single magnificent temple with a wonderful *naos* inside. Consider the restructured sentences when expressed in correct normal English:

And there is also on the island [of Pretannia] a magnificent temple of Apollo, spherical [*σφαιροειδῇ*] in shape, with a *naos* adorned by many valuable offerings. Furthermore, a 'polis' is there which is sacred to this god ... and the Hyperborean priests of the temple have a language which is peculiar to them ... and they play on stringed instruments in the temple and sing

hymns of praise to the god, glorifying his deeds... The story also relates that certain Greeks visited the Hyperborean priests and left behind them there, fine votive offerings bearing inscriptions in Greek letters. And the priestly supervisors of this community and of the sacred temple are called Boreadae, since they are descendants of Boreas, and the succession to these positions is always kept in their family.

In choosing the word *ναός* the writer, that is, Pytheas, would have known that the innermost part of Greek temples, the naos, is where the image, or representative idol, of the temple's deity is held and safeguarded, and Pytheas may have had reasons to know this for Stonehenge seeing that it does have a splendid naos with an appropriate stone idol (the latter introduced below) which he likely saw in position.

His particular mention of votive offerings in the naos is a common practice in any *sanctum sanctorum* or Holy of Holies that is being used. There are reasons to think that Pytheas saw the monument rather than heard of it by word of mouth, and that it may have been in use by priests during his visit. This could mean that these were descendants of the Late Neolithic builders who were maintaining it.

Note that Lockyer, who had probably learnt classical Greek, used the word naos five times in his study of Stonehenge (Lockyer 1909, 16, 41, 63, 79, 95), every time in the correct context of its inner sacred space and structure as a sanctuary. Lockyer supported the reasoning that Pytheas was indeed describing Stonehenge and that it was a grand temple of the sun. Nevertheless, one needs to consider whether Hecataeus of Abdera when referring to Pytheas' adventures in his own book *On the Hyperboreans* had introduced fanciful imaginations of his own. Despite this possibility, Bilić (2020, 585) writes, 'It is likely that Hecataeus included certain data from Pytheas' report in his account of the Hyperboreans.'

Indeed, the basic description of the temple, evidently by Pytheas, matches that of Stonehenge very well. Hence, whereas it seems certain that Pytheas was writing validly about Stonehenge, and Hecataeus saw Pytheas' authentic account, he possibly introduced a little fantasy for literary effect in his own book, like the reference to dancing, possibly influenced by what he knew of the use of the circular conical-roofed tholos at Delphi. The present author next provides additional

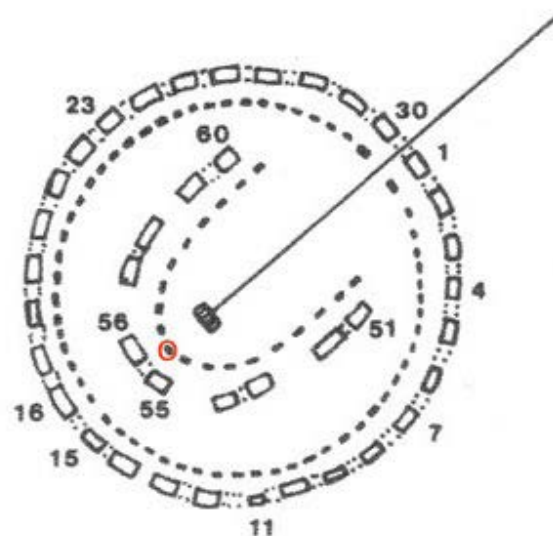


Fig. 2. Plan of Stonehenge, the temple of the sun. The axial stone in the middle is the recumbent Altar Stone. Another stone on the axis is marked by a red circle; this is the male icon, Stone 67. Compare with Figures 3, 4, and 8.

support as to how Pytheas could have visited and spent time at Stonehenge and its naos, and does not accept the flawed doubts raised by Bridgman (2005, 137).

Stonehenge, temple of the sun

The monument, as recorded by Diodorus, is a 'magnificent' temenos-temple having a notable internal naos which matches the Stonehenge monument in Wessex (fig. 2). The adjective 'spherical', *σφαιροειδής*, suggests a three-dimensional circular construction in which elevation is a diagnostic reality appertaining to Stonehenge with its stone uprights and linteled heights.

The aforementioned idol is still in the naos, the inner sanctum. Anyone can see it today but it is no longer upright. In some faraway age it was knocked over by the fall of lintel 156 of the great trilithon. Was Stonehenge in use when he was there? A further point is that if there had been gross damage (like a fallen trilithon stone of the naos) Pytheas would have said so, but he called the naos 'magnificent', not damaged. This suggests Stonehenge was in good condition because descendants of the builders were maintaining it.

Analyzing Diodorus' section 2.47.3 more deeply, we

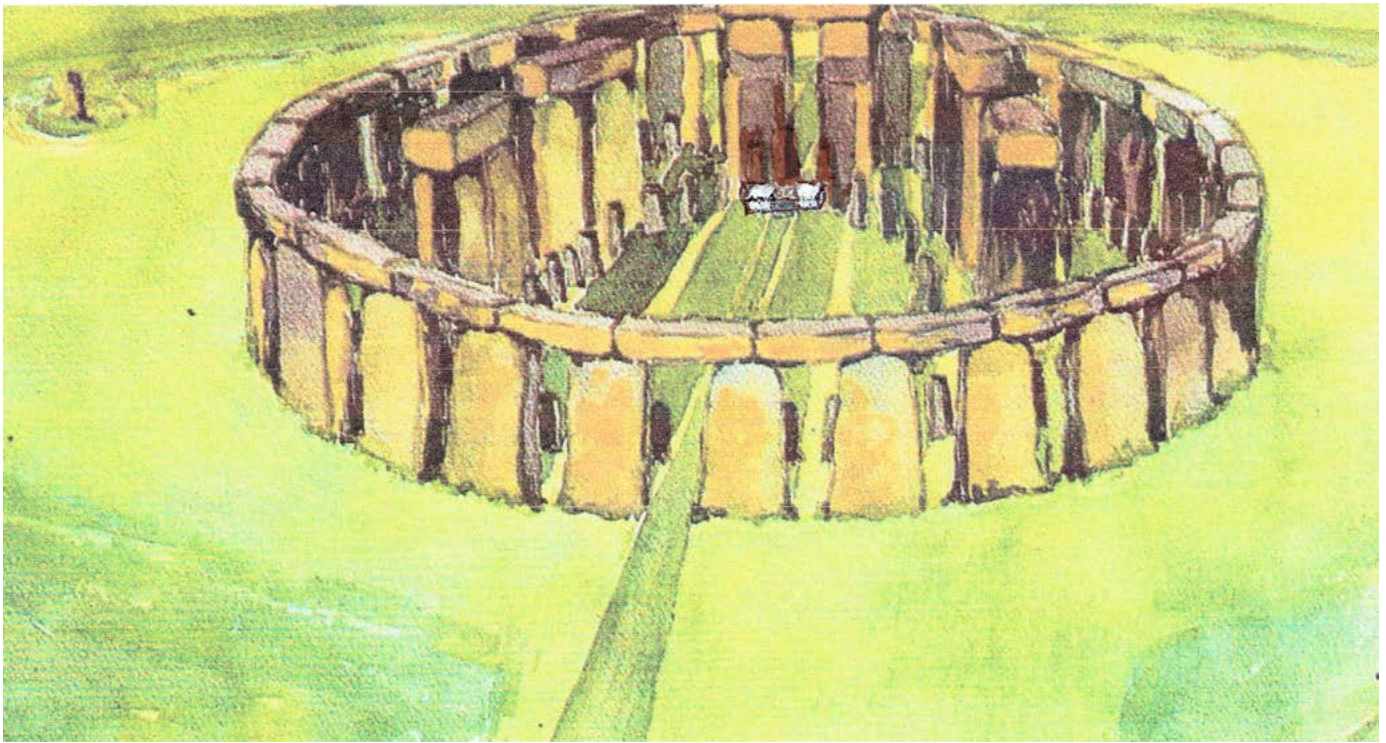


Fig. 3. Stonehenge, temple of the sun. The axial stone recumbent in the naos is the Altar Stone. Behind is Bluestone 67. Only in mid-summer week does the Heel Stone shadow contact the recumbent stone, as illustrated here. Compare with fig. 2.

note that the ‘majority of the inhabitants’ (the rulers and priests) of the sacred *polis* play on stringed instruments in the naos of the temple ‘where they ‘sing hymns of praise to the god, glorifying his deeds.’

First, note that the last phrase would equally apply to monks chanting and singing in a monastery, or to archbishops and senior clergy in a cathedral singing in praise of their God and Christ, and ‘glorifying their deeds’. In this manner, it is entirely believable for Stonehenge.

As for stringed instruments, the oldest remains of a lyre found in archeological circumstances in Britain date from about 300 BC at High Pasture Cave on the island of Skye (Birch and Wildgoose, 2013). One piece is a notched wooden bridge over which strings were stretched. Welsh lyres known as *crwth* (pronounced *crooth*), and played with a bow, date from c.1000 BC. The conclusion is that Pytheas wrote about the music and singing because he witnessed both. Although Hecataeus could have invented this, it is more likely that he did not need to do so. He repeated what Pytheas had written.

Next, Bilić (2020,585) writes, ‘Hecataeus further recounted that Leto was born on this island and that Apollo was the most venerated deity there, describing his spherical temple and sacred precinct, as well as a city [polis] and its priesthood.’

As discussed above, the word *polis* in this context does not merit translation as city, when it likely referred to only a single, or at most a few, timber buildings.

Bilić continues, ‘In another fragment [Diodorus 2.47.2-3] Hecataeus emphasised that Apollo is revered by the Hyperboreans in their lands ... and he interpreted Apollo’s 19-year intervals between his visits of the island [Pretannia] in terms of the Metonic cycle (Diodorus 2.47.6).’

Notice, also, that a named British ‘Hyperborean’, Abaris of Stonehenge, is reported as having traveled to the Greek island of Delos, where there were three cult temples inside the temenos of the sanctuary of Apollo. Abaris is the earliest prehistoric Briton (Iron Age or Bronze Age) for whom a personal name has been cited, and who was presumably a Stonehenge dignitary if not also local ruler.

Bluestones and sarsen stones

Stonehenge is a multi-phase construction. In early times, beginning about 2950/2900 BC the stones of the first circle were bluestones brought from the Prescelli hills of southwest Wales. Contrastingly, the isolated external stone known as the Heel Stone was sarsen sandstone that may have been moved only 2 m, according to the excavator Pitts (2008), from where it had lain for tens or hundreds of thousands of years. The huge megaliths so much admired for their grandeur are sarsen sandstones brought by prodigious labor from near Avebury and Marlborough, an area which is now forested and called Westwoods, 30 km north of Stonehenge. The surfaces of every sarsen stone, initially uneven, were rubbed, abraded and leveled to smoother uniform shapes. The sarsen building period began about 2550 BC and lasted a century or more. The external ring of high linteled stones is also of hard sarsen, as too the grand stones of the splendid naos. Many Welsh bluestones dismantled from the earlier phase were rearranged in two circular settings, one of them inside the five-trilithon naos.

What is decisive in claiming Stonehenge to be a temple is that some years ago a fresh inspection by the au-

thor of the stones forming the naos of the monument revealed that in the third millennium BC the naos had been furnished with a crucially strategic icon, standing over 2.5 m high and serving as a commanding male symbolic focal stone. Through sculpted phallicism (there are photographs below), it is a fertility image that would have been revered as divine as in the religions of the Hindu and the many Indian tribal societies. This megalith, positioned axially in the central zone, is Bluestone 67 (see fig. 2 (plan) and 3). Until knocked over by the fall of the lintel of the great trilithon in the first or second millennium AD, it stood upright closely behind its recumbent female symbolic partner, which is the Altar Stone. The symbolic femininity of recumbent stones in the stone circles of Scotland and Ireland has been repeatedly studied by the author in a series of papers (Meaden 2020, 2021, 2022, 2023a, 2023b, 2023c).

The recumbent stone and phallic stone inside Stonehenge function as a sexually dimorphic pair, likely regarded by myth believers as symbolic surrogates for divinities. The deeper symbolism is the pairing of male and female principles, which in eastern religions symbolize their generative power and entirety of existence.



Fig. 4. This reconstruction, by arc light, illustrates how at every summer solstice sunrise the phallic shadow of the Heel Stone enters the opening of the female-symbolic monument and reaches the waiting Altar Stone. Author's photograph, 1998.

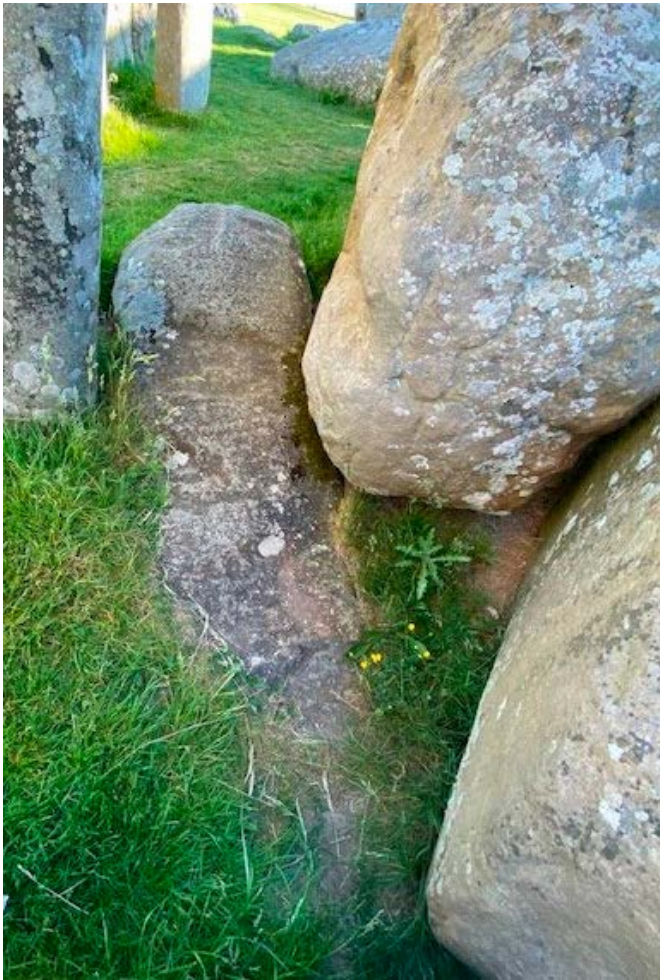


Fig. 5. Stone 67 lies between the upright Stone 68 and the fallen lintel Stone 156. Author's photograph, June 2021.



Fig. 6. A clearer view of the glans-like end of the long Stone 67. Photograph by L. Barnes, taken for the author in August 2023.

Serving as paramount icons inside the monument, they could be attended by ritual throughout the year. Organized ritual was an inevitable part of life in pre-history because of the accepted authority of religious myth. Worshippers held myths to be the indisputable truth because they explained an uncertain world to their level of satisfaction.

In Hecatæus' quotations relating to a temple of the sun, section 2.47.4 of Diodorus carries a crucial sentence that may appertain to the temple language of the 'Hyperborean' priests at Stonehenge: 'The Hyperbo-reans also have a language, which is peculiar to them.' This strikes a familiar note, as with the continuing use of Latin in the Catholic Church and of Sanskrit in Buddhism, Hinduism and Jainism over thousands of years. Does it mean that the old language of the builders of Stonehenge persisted into the Iron Age through

the somber practices and liturgy of priests descended from those of earlier times? Pytheas found ordinary Britons speaking P-Celtic (Scott, 2022) whereas those who ruled Stonehenge were bilingual and communicated in an unrecognizable language in rituals because it was the archaic tongue of those who had built the temple.

The first realization that Stonehenge was a monument dedicated to worshipping a sky god and earth mother occurred to the author in October 1985 (Meaden 1992,16, 156) when recognizing that the shadow-casting arranged for the Heel Stone at the summer solstice sunrise could be part of a staged drama. What happens is that at sunrise the phallic shadow of the phallic Heel Stone enters the vagina passage into the monument (fig. 4) where it unites with the Altar Stone waiting in the naos-womb (Meaden 1992,163-170; 1997,106-



Fig. 7. This prospect of the damaged naos of Stonehenge shows the full 2.5-m height of the grooved Stone 68. The former focal Stone 67 sadly lies in the foreground, hardly noticed by visitors. When upright it stood a little higher than Stone 68. Author's photo.

113). Explanations of the purpose and meaning led to the making of a one-hour film by the British television Channel 4 for the international Discovery Channel in 1998.

Citing *The Secret of the Solstice* (1997, 108), 'The stone circles and "horseshoes", with medial passage and gaps, represent womb, vagina and vulva'. Again, from p. 108, 'The "entry-passage" stones ... were vested with a ... horizontal lintel ... to present the womb-opening as a true hole to guarantee the most effective spectacle. The concept was then continued all round the circle to meet the demands of symmetry and beauty.' P. 109, 'The idea was divine coitus and impregnation.' P. 110, 'This central trilithon archway is the only trilithon which lets the light of the nuptial sun reach the Womb Stone [the Altar Stone]; it is the only trilithon arch which lets through the shadow of the Heel Stone; it is the vulva.'

In a journal of medicine Perks and Bailey (2003, 94-97) offered similar ideas about femininity, although not

realizing that the Heel Stone shadow symbolically impregnates the monument, as had been photographed many times by the present author (Meaden 1992, 1997, 2017, 2021, 2023/24).

Icons in the naos of Stonehenge

Renewed inspections by the author of the naos at Stonehenge revealed that in the third millennium BC the naos had been provided with a crucial icon over 2.5 m high that served as a commanding male symbolic internal focus for worshippers. Through sculpted phallicism (Figures 5, 6), it represents a fertility image likely regarded as divine, like in many primigenial religions. This tallest bluestone, positioned axially, is Stone 67. Until knocked down by the falling lintel of the great trilithon, it stood upright behind a female symbolic partner, the recumbent Altar Stone. Stone 67 lies tightly next to the standing Stone 68 and partly beneath the fallen lintel Stone 156.

Stone 67 is hardly noticed by visitors today (fig. 7), yet when upright it stood higher than the grooved Stone 68 on the axis behind the mid-point of the Altar Stone (fig. 8).

At sunrise in midsummer week the shadow of the distant, externally located Heel Stone penetrates the out-



Fig. 8. The inner sanctum with Stone 67 axially behind the recumbent Altar Stone soon after midsummer sunrise with the Heel Stone shadow upon the Altar Stone. As for the winter solstice sunset in the opposite direction, which is southwest, note how Stone 67 blocks any view of the setting sun for observers approaching axially from the northeast.

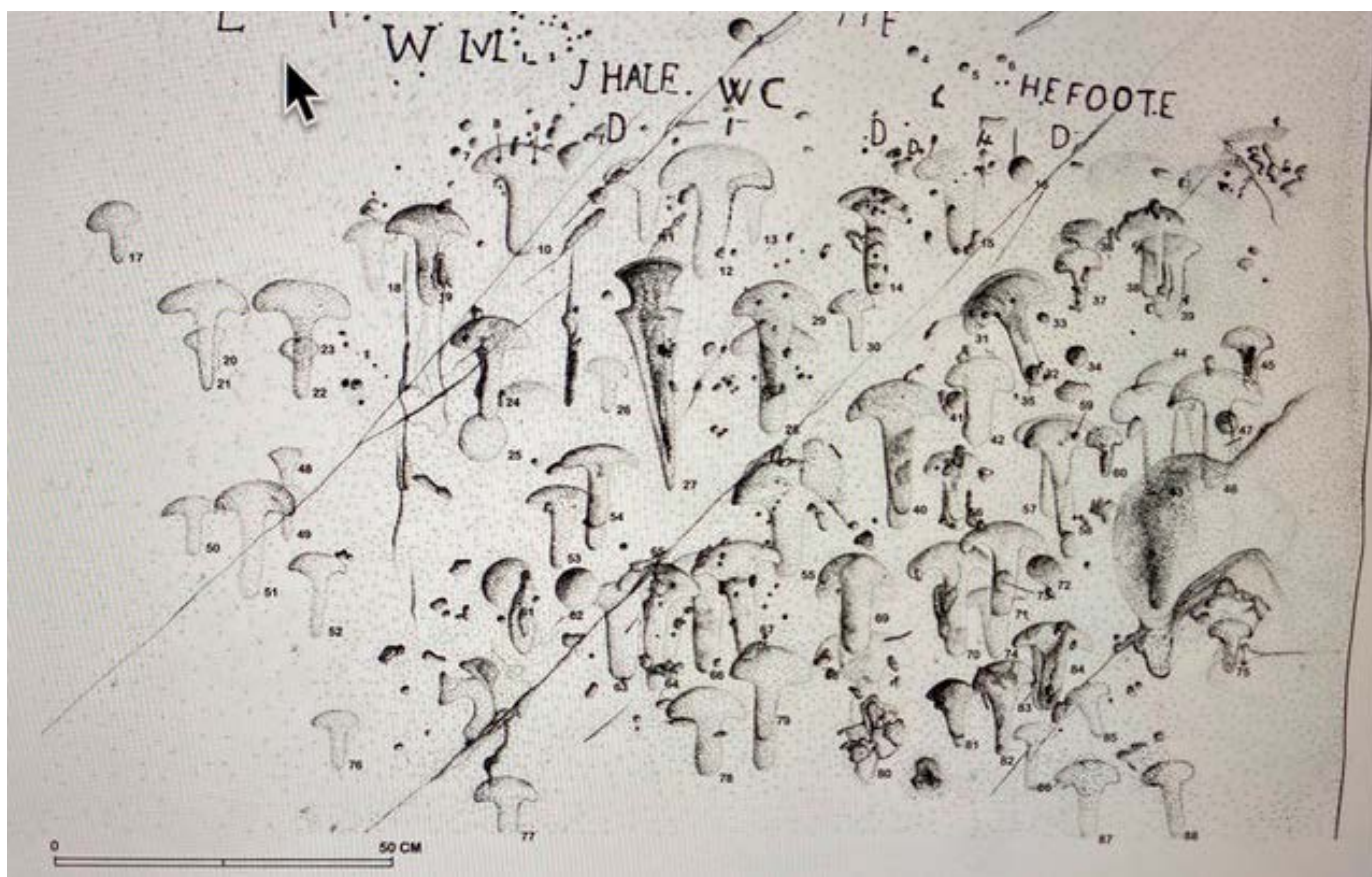


Fig. 9. Engravings on Stone 53 in the grand naos of 67 axes, 22 cup-arks and one non-local dagger. The illustration is the work of Anati and Gomes (2014,29, their fig. 30).

er ring of stones medially along the axis and reaches the Altar Stone. Outside, hundreds of spectators were able to watch the drama of impregnation.

Figure 8 is a reconstruction of the inner sanctum of Stonehenge. The time of day is a little after midsummer sunrise when the shadow of the Heel Stone centers on the Altar Stone. Together, Stone 67 and the Altar Stone are paired idols. Devout pilgrims could address the icons in worship within the naos sanctuary at any time of day or night on any day of the year. The principle is not dissimilar from the concept of coupled icons in the *garbha griha* or naos of hundreds of thousands of Hindu temples.

Crops, mead and beer

Further support for authenticity in Pytheas' narrative about Iron Age Britain comes from his personal observations that because 'the island is both fertile and productive of every crop, and since it has an unusually temperate climate, it produces two harvests each

year' (Diodorus Siculus, 2.47.1).

Two crops of different kinds can be grown in fields in southern England, but this cannot be done in Scotland (too wet and cool) nor in Mediterranean countries (inadequate summer rainfall, and too hot). However, the English southern counties are in a zone of Europe where there is enough summer warmth and sufficient summer rain for the production of two unrelated crops in the same soil. Persevering hard-pressed farmers would have valued using the same fields twice in a calendar year to yield different harvests. Winter wheat can be planted in the autumn and reaped by July, then replaced by a short-season summer crop like peas, beans or a range of green vegetables for autumn harvesting. Iron Age Britons were familiar with such food-plants long before the Romans arrived (Jones, 1996).

Pytheas observed that the inhabitants lived in thatched cottages, stored wheat in sunken caches for baking bread, and made an alcoholic drink called mead

from fermented honey, or beers from barley. Citing Diodorus Siculus 5.21.5, ex Timæus from Pytheas, 'The method they employ of harvesting is to cut off no more than the heads [of wheat] and store them away in roofed granges, and then each day pick out the ripened heads and grind them, getting in this way their food.'

Prehistoric carvings on stones at Stonehenge

Besides the big icons, the reclining Altar Stone and the standing phallic stone, there is more remarkable symbology in the naos. Highly significant are the engravings on Stone 53 of the 53-154-54 trilithon that were spiritually meaningful to the stonemason artists who made them. Anati and Gomes (2014) studied the markings with considerable care (fig. 9) and their paper is extremely important. They counted 67 unhafted axe-blade carvings (cutting edges upwards) and 22 cupmarks, but all are dominated by the presence of a single deeper-cut hilted dagger pointing downwards. Despite thousands of years of weathering the latter is still fairly deep, 10 mm at its maximum. It is 345 mm long.

The illustration expresses how well Anati and Gomes made visual sense of the chaos of overlapping symbols, seeing how severely weathered they are. Note that the prehistoric symbol makers ensured that no axe carving overlapped the deep-cut conceivably Greek dagger of Mycenaean type in the middle. Careful avoidance of this prime feature by later engravers suggests that the dagger is an early carving, probably the first, which was afterwards always respected by later stone-carvers. Whatever the symbolic meanings, the artist-priests kept returning to the same expanse of stone, and, although they never worried whether fresh work overlapped existing features, they certainly ensured that no harm came to the special dagger. This suggests it was the time and effort spent creating a fresh symbolic axe, meaningful to the priesthood and the people, that mattered. It was of no consequence if a new axe symbol overlapped an older one, as long as the precious dagger remained supreme. Therefore, we ask, was the dagger shape cut because of a visit by a high-status pilgrim from Greece, such as Mycenae in the Peloponnese, or a cult center in Athens or Delos, as possibly implied by Diodorus Siculus in 2.47.4 and 2.47.5? Mycenae flourished from about 1600 to 1100 BC and

the dagger is of a type unique to Myceneans.

Pytheas is recorded via Diodorus Siculus 2.47.4 as writing that the story 'relates that certain Greeks visited the Hyperboreans and left behind them there, rich votive offerings bearing inscriptions in Greek letters.' What might this mean?

Note that Diodorus had read Hecataeus, who had read Pytheas, who was told of a traditional tale that was already centuries old. Therefore, word values and original meanings can have changed over time, and one must allow for that.

Such inscriptions could include the deliberate engraving of the dagger, evidently prized by the priesthood and the occasion commemorated forevermore by the cutting of an axe perhaps annually or, who knows, every 19 years (thus, Diodorus Siculus 2.47.6)? The latter recounts that 'the god [Apollo] visits the island [Britain] every nineteen years, the period in which the return of the stars to the same place in the heavens is accomplished. 'Consider then a situation in which high-ranking Greeks from Mycenae would have made votive gifts to the priests upon visiting Stonehenge, and these could have included finely-made Greek daggers of the Mycenaean type being evaluated here.

As for the axe-like peckmarks on the panel, they were created over long periods of time by different hands, while conforming to a limited range of styles. Anati and Gomes (2014, 12, fig. 15) recognized axe-blade forms as having semicircular, subcircular or flat cutting edges, while the blades can be short, medium or long. Anati and Gomes did their research onsite in August 1975 using multiple methodologies. 36 years later, in 2011, Abbott and Anderson-Whymark (2012) worked with 3-D laser technology and photogrammetry. The latter stated that the round cup-like depressions were geologically natural, whereas Anati and Gomes point to the survival of peck marks at the bottom of several. As time passed, the custom of carving outlines of axes spread to Stones 3, 4, 5, and 29.

Richard Atkinson was the first archeologist to notice the unusual dagger. He attributed it to the influence of Mycenae but mistakenly suggested that this coincided with the date of construction of sarsen Stonehenge (we know now that there is a thousand-year difference), whereas the present author is proposing that the carving arose at the time of a visitor from Greece. Atkinson (1979, 92-93) writes:

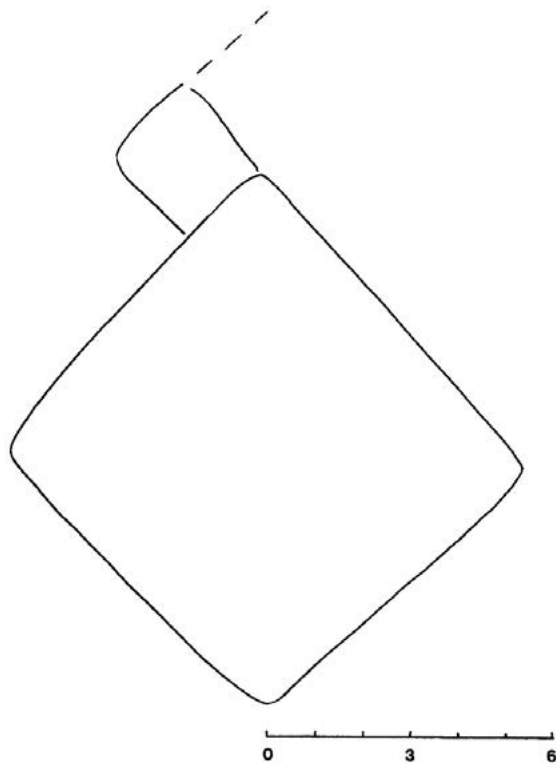


Fig. 10. The big lozenge on Stone 3 has a vertical diagonal length of 11.1 cm. The scale is cm. 31 August 1996.

this specific type of dagger ... was familiar to the person by whom, or under whose orders, the carving was executed. The weapon appears to have a straight-sided tapering blade with a sharp point, expanding into projecting 'horns' at its base, with a short hilt and a wide pommel with a flat top. No daggers of this form are known in the earlier Bronze Age either of Britain or indeed of Europe north of the Alps. On the other hand, fairly close parallels come from the famous Shaft Graves at Mycenae in southern Greece ... which can be dated 1600-1500 BC. Indeed, the best parallel of all for the form of the Stonehenge dagger is another carving, this time in relief, on one of the grave-stones set up over Shaft Grave V at Mycenae, showing a warrior armed with a dagger and driving a war-chariot. The only difference is the pommel, which is spherical but flat-topped at Stonehenge. ... the fact remains that no nearer parallels are known ... Moreover, among the grave-goods of the Wessex Culture there are several objects that provide clear evidence, to which no archaeologists have objected, for trade contacts between southern Britain and the Mycenaean and Minoan civilizations of the central Mediterranean.

Precise meanings of the axe carvings as symbols escape our understanding, but there would have been some sort of cultic character, religious or tribal. It had been supposed that the axe engravings, like the dagger, date

from the British Early Bronze Age (say, 1600/1500 BC), but now we suspect that their creation continued through the Middle and Later Bronze Ages to around 1100 BC (of the Mycenaean era) and perhaps into the Iron Age.

Pytheas is recorded, through Hecataeus and Diodorus, as saying that certain Greeks visiting the Stonehenge community (the Hyperboreans) left behind them, valued 'votive offerings'. Were such offerings one or more genuine Mycenaean daggers? Did the words 'inscriptions in Greek letters' point to carvings on stones? Such inscriptions could include the inscribed dagger, thereafter prized by the Stonehenge priesthood.

Might there be more Greek inscriptions engraved on stones that now lie fallen, face down, or are lost because totally destroyed?

Other carvings

Certain other stones were valued by the priests. It may be because of directionality in the case of axe carvings on Stones 29, 3, 4, and 5 of the outer sarsen ring, viz. to the northeast for Stone 29, and to the east for Stones 3, 4, and 5. Stone 3 differs in having at least six axe carvings and one carved lozenge. This geometrical shape is commonly encountered across all periods of prehistory from the Neolithic Age to the Iron Age and later.

On Stone 3 in the east, 250 mm above the turf line in a middle location, is the outline of a lozenge whose vertical diagonal measures 111 mm. A smaller lozenge may be adjacent (fig. 10). These are the marks to which Richard Atkinson (1979, 209) referred when he recorded 'a trellis or lattice pattern ... low down ... of a kind similar to some of the geometric patterns executed on the kerb-stones of New Grange in Ireland'. Meaden (1997, 125) provides a full-scale drawing of the pattern that was visible on 31 August 1996 at 7 a.m. with the sun shining, but photography did not display the shallow lines well enough for use in this paper. Accordingly, a wire frame was made to the dimensions of the bigger lozenge and positioned correctly, as in fig. 10. Unfortunately, it was raining heavily that morning, so a torchlight was shone on the proxy lozenge to improve the spectacle. Atkinson likely saw more than the author because he speaks of a trellis, but lichen coverage had become more extensive. There are six axe carvings on the same stone towards its south-



Fig. 11. In front of the lozenge-shaped engraving is a proxy lozenge, fashioned by the author and photographed in early-morning heavy rain.

ern edge at a similar level. The carved lozenge marks Stone 3 as special, perhaps because its location aligns with Station Stone 91 and the sunrise azimuths for the calendar quarter dates of March and September, i.e., equinoxes.



Fig. 12. The bas relief image, 25 August 1997, at 1356 BST.

Facial image

On the west-facing narrow side of Stone 54 of the trilithon 53-154-54 is a fine image of features of a human face (fig. 12). Prominent are curving eyebrows, long nose, and angled curving lips. The artwork is in bas relief, created by the abrasion of surfaces to leave ridges.

Conclusions

This paper treats the major facts, chronicled or deduced, that embrace aspects of sociocultural anthropology (like customs and food production), linguistic anthropology, traditional archeology, and comparative religion for this particular period of the British Iron Age. It is confirmed that Pytheas chronicled the monument that is Stonehenge, that it is a temple to the sun and that Pytheas supplied anthropological information about the Stonehenge priests. Significant iconography discovered in the inner sanctum by the author is appraised. The major feature is a previously unrecognized phallus over 2.5 m long sculptured on a bluestone which formerly stood upright on the axis behind the Altar Stone. It would have been a cult icon from Stonehenge's golden age beginning in the middle of the third millennium BC. As a spiritual sanctuary and temple to the sun, Stonehenge had been visited by Greeks before Pytheas' time, probably to do with long-held classical Apollo/Leto mythology, as believed by pious Greeks.

Of recurrent importance every year were the days on



Fig. 13. The facial image on Stone 54, as best seen in sunshine between 13 and 15 hours BST or between 12 and 14 hours GMT.

and close to the summer solstice, when devotees witnessed the shadow of the Heel Stone enter the axial opening of the monument during the first minutes of morning sunshine. This dramatic spectacle was afterwards completed, as in fig. 14, by its gradual withdrawal.

Stonehenge was always a site of wonderment and reverence. There were other uses too, as a healing center (Darvill 2006), for periodical funerals (Parker Pearson 2012), as a working solar calendar (Darvill 2022), and as an integrated solar-lunar calendar (Meaden 2023a). Pytheas of Massalia is the only well-educated traveler to have reached Iron Age Britain and Stonehenge and returned home to write his story. His distinctive voice from the past, about 325 BC, speaks for previously unsuspected anthropological aspects of the use and meaning of the Stonehenge monument.

After Cornwall and Land's End, Pytheas sailed the

seas west of England and Scotland and then went on-north to Shetland where he likely overwintered. In the spring he reached the frozen ocean near Iceland after which he went south and searched for amber at and near Jutland, Denmark. His ambitious voyaging in small boats was spectacularly successful. Full details are given in a monograph (Meaden 2023/24). Pytheas is justly ranked as one of the world's boldest pioneering explorers of all time.

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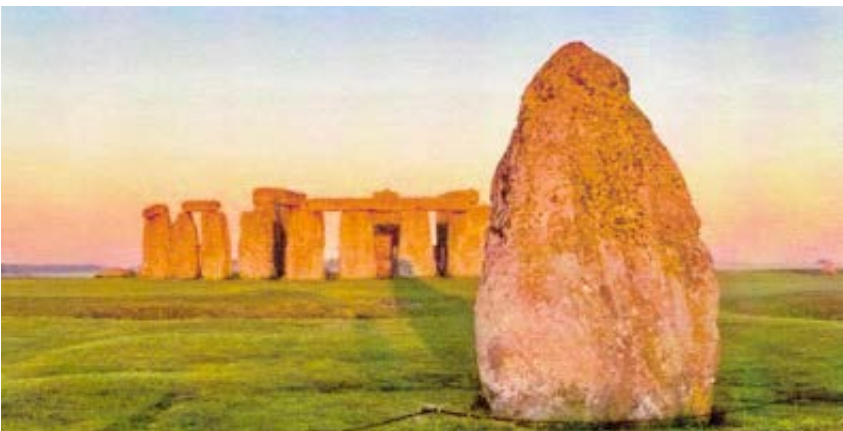


Fig. 14. The shadow created by the Heel Stone is shown withdrawing from the axial opening into the monument and its union with the recumbent Altar Stone. This is achievable only on the days at and near the summer solstice. Photo by the author in June 2021.

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THE WATER JAR BOY, A PUEBLO INDIAN MYTH AND PETROGLYPH PANEL FROM LA CIENEGA, NEW MEXICO

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In the beginning we were one people. Then we divided into summer people and winter people. In the end we came together again as we are today. But you can see we are still Summer and Winter people (Ortiz 1969, 16).

Introduction¹

Located on a basaltic outcropping above the Santa Fe River, adjacent to the prehistoric village of La Cienega, are clusters of petroglyphs spread along the cliff face for a quarter mile (fig. 1). They date from AD1350-1500, called the Pueblo IV period, with some scattered Spanish insignia and cowboy drawings. The descendants of the groups who authored them include the Tewa-speaking Pueblo Indians who are now living between Santa Fe and Espanola, and the Keres-speaking groups who now live south of Santa Fe along the Rio Grande to Albuquerque. La Cienega was the village where Popé, a Tewa medicine man, staged the Pueblo Revolt of 1680 against the Spanish. This village is believed to have had dual occupation by Keres-speakers from Cochiti, a few miles to the south, and Tewa-speakers from Tesuque a few miles to the north. The creation myths of both linguistic groups are represented in the petroglyphs at this site.

Several of the more complex and animated panels exhibit iconography associated with foundation myths of the Tewa and the Keres pueblos. Foundation myths form the essential worldview of a specific culture and this is one of them¹. The Water Jar Boy is identified as a Tewa story by colleagues Dr Alfonso Ortiz, and Dr Greg Cajete, both of northern Tewa villages. "It is the placement of these petroglyphs near the village that had a purpose to remind and instruct the people of who they are and what they believe in as a culture. The initiates were brought to the petroglyphs so the elders can say those who have gone before left this record so that you can understand, so that you can believe"

(Ortiz, in Schler and Patterson, 1996).

The story expresses mythical events on a physical level, yet offers a metaphysical analogy that one can perceive on many levels.

The myth and the petroglyph analysis of the Water Jar Boy site was published previously in Patterson-Rudolph 1990. It was the inspiration for the film, *K'uu T'ahn, Markings on Stone*, by David Schler, that is about the petroglyphs at this site. The film brings in Dr Alfonso Ortiz of San Juan Pueblo, and his knowledge of Tewa worldviews and the importance of myths in Pueblo culture. It features Dr Gregory Cajete of the Tewa Pueblo, Santa Clara (*Kha'p'oe Ówíngéh*, "Singing Water Village"), who remembered his aunt telling him the Water Jar Boy story when he was a child. He was filmed describing the Tewa ways of thinking and recording their stories in picture writing. (Schler and Patterson 1996). See fig. 2.

The earliest recording of the myth was by Voth (1905, 55) called "The Jug Boy," from the Hopi-Tewa village of Hano, that was settled by Tewa refugees from the Rio Grande during the 1680 uprising against the Spanish. The longer version, called "The Water Jar Boy," was recorded by Elsie Clews Parsons (1926) in her *Tewa Tales*. The following is Parsons' version of the myth and my analysis of the petroglyph presented in tandem. "They were living at Sikyat'ki. There was a girl living there, a fine girl, and she did not want to marry any of the boys living there. After a while, boys in the other villages heard there was a fine girl living at Sikyat'ki but she did not want any boy."

The first panel of four shows a line of flute players that are burdened with bridal gifts in their backpacks and wearing ceremonial sashes and feathers to court her. They are passing over the head of what is identified from the myth as the young girl who refuses to marry any of her suitors. They do not engage with her but continue on past. (See fig. 3.)

1 (revised from 1990)



Fig. 1. Site location of the Water Jar Boy panel located on a basalt outcrop overlooking Santa Fe Canyon, in northern New Mexico. The red dot is the location of these petroglyphs.

Figure 3b is an annotated drawing showing the five figures with ceremonial belts, packs of bridal goods, and playing flutes for courting. They are not associated with Kokopelli, Hopi kachina God Kookopölö and Maahu, the cicada Katsina, an insect with a pack of seeds on its back who does not play a flute (Malotki, 2000, *Kokopelli*).

The next part of the story explains how the girl got pregnant.

Her mother was all the time making water jars. One day when her mother was mixing clay and using one foot, she was watching her mother. Her mother said she wanted to go for some water. "You can keep on doing this for me," said her mother. So, she [the girl] stepped on the mud and began to mix it with her foot on top of a flat stone. So, she was trying to mix the mud for her mother. Somehow that mud got into the girl, it flew up. She felt it on her leg, but not higher up inside. Then her mother came back and asked her if she finished the mud.

"Yes," she said. So, her mother went on making the water jars.

After some days the girl felt something was moving in her belly, but she did not think anything about going to have a baby. She did not tell her mother. But it was growing and growing. One day in the morning she was very sick. In the afternoon she had the baby. Then her mother knew (for the

first time) that her daughter was going to have a baby. The mother was very angry about it; but after she looked at the baby, she saw it was not like a baby, she saw it was a *round thing with two things sticking out*, it was a little jar.

Next is panel 2, which describes this immaculate conception (see fig. 4).

The annotated drawing of the upper portion is a description of this immaculate conception. The symbol combinations derive meaning within the context of the myth to describe the act of mixing water and clay for her mother and stamping it with one foot. The copulating couple on the left are attached with a line to the water symbol, that in turn is incorporated with the figure's arms and legs mixing water with mud. The pregnancy was caused by the water and not by one of the suitors in the previous panel. The bird with the large breast represents the mother, who, in gesture, has 'turned away' to go and get more water (Martineau 1988). The bird ideogram for mother is also used at Cochiti to represent the mother of the people and association with the Corn Mother is implied (personal conversation with Joe Herrera, of Cochiti Pueblo, 1989). See also Patterson-Rudolph (1990, 67), the sand painting from Acoma depicting Uretsete (Moth-

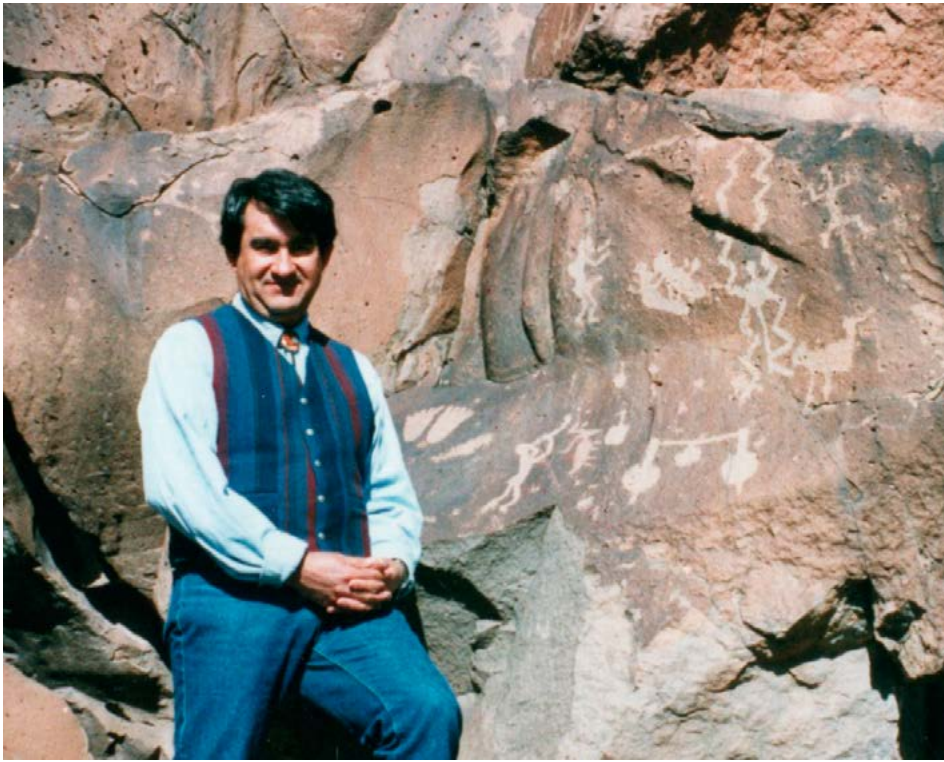


Fig. 2. Dr. Gregory Cajete in front of the Water Jar Boy panel explaining “the role of metaphor in myths for indigenous people as a way of understanding who you are, where you came from and where you are going” (Cajete, in Schler and Patterson, 1996).

er of all Indian People) as a bird woman (from Stirling 1942) and a kiva mural at Pottery Mound depicting a bird woman (Hibben 1974).

The symbol incorporations are broken down for better understanding in fig. 5.

The water jar in the petroglyph is very much like the double-lobed jars shown below that have been found in Pueblo ancestral villages (fig. 6).

The function of duality

The double-lobed jar pictured in the petroglyph panel reflects the culturally constructed world of dualism into which the boy was born. Dualism is defined on many levels from the very basic to the spiritual and metaphysical. It is a formula in ritual and repletion. Ortiz writes:

The basic level of duality is in nature, winter, and summer, providing the fundamental principle of organization for the ritual calendar. At Hopi (Titiev 1994, 129) and Zuni the transition is determined by the solstices, while for the rest it seems to be by the equinoxes, either actual or as culturally construed. But the duality is still winter and summer ...

Other [levels of] dualities cut across all of existence, from the hot and the cold to the raw and the cooked and the ripe and unripe, sometimes all at once. In human society alone, the

two extreme character models are the priest and the witch, one good and one bad. On a still more basic level, the tendency is to combine and balance opposites such as in color and number classifications ... Effective control comes only from letter perfect attention to detail and correct performance (Ortiz 1972, 143-144).

The Tewa divide their social organization into moieties, one for the summer and one for the winter. The summer people are in charge of the gardens and harvest and rain ceremonies, while the winter people are in charge of the hunt of game animals and medicine ceremonies (Ortiz 1972, 144). It takes two to make the whole and to balance opposites. The meaning of the double-lobed jar is further clarified by the Tewa origin story with its simple conclusion stated at the beginning of this paper⁵.

The Water Jar Boy myth continues:

“Where did you get this?” said her mother. The girl was just crying. About that time the father came in. “Never mind, I am very glad she had a baby,” he said. “But it is not a baby,” said her mother. Then the father went to look at it and saw it was a little water jar. After that he was very fond of that little jar. “It is moving,” he said.

Pretty soon the little water jar was growing. In twenty days, it was big. It was able to go around with the children, and



Fig. 3a. Panel 1 shows the wife hunters wearing ceremonial belts and playing flutes for wooing a wife. They carry packs on their backs full of bridal goods and have hopes of finding a wife. The girl is in a birthing position and gives birth to supernatural odd, shaped objects. She has a horned headdress that calls attention to a special power or ability (Dutton 1963, Hibben 1975) (photograph by Dave Manley).



Fig. 3b. Annotated drawing of the wife hunters with ceremonial belts, phallus and flutes for courtship and wooing. The girl is shown in a birthing position with a round thing and something with two things sticking out underneath her. The horns on her head denote strength or supernatural power to give birth from an immaculate conception.

it could 'talk.

"Grandfather, take me outdoors, so I can look around," he said.

So, every morning the grandfather would take him out and he would look at the children, and they were very fond of him and they found out he was a boy, Sipe'geenu (Tewa), Water Jar Boy. They found out from his talking.

About the time of year (December) it began to snow, and the men were going out to hunt rabbits, and Water Jar Boy wanted to go.

"Grandfather, could you take me down to the foot of the mesa, I want to hunt rabbits."

"Poor grandson, you can't hunt rabbits, you have no legs or arms."

"Well Grandfather," he said, "I am very anxious to go. Take me anyway. You are too old, and you can't kill anything."

His mother was crying because her boy had no legs or arms or eyes. But they used to feed him through his mouth (i.e., the mouth of the jar).

The next sequence is portrayed in fig. 7, showing Panel 3. The myth describes exactly what is in this panel. So next morning his grandfather took him down to the south on the flat. Then he rolled along, and pretty soon he saw a rabbit track and he followed the track. Pretty soon the rabbit ran out, and he began to chase it. Just before he got to the marsh there was a rock,



Fig. 4a. Panel 2a is the conception of the Water Jar Boy represented with symbol combinations. Fig. 4b is the annotated drawings of this panel within the context of the myth. The two wavy lines with a figure inside represent the girl mixing the water and mud for clay. To show her stomping the water, her leg and foot are incorporated with the water symbol and a line from her foot goes up into her body. It represents the trail of water that splashes up into her vagina, resulting in the conception from the water (photograph by Dave Manley).

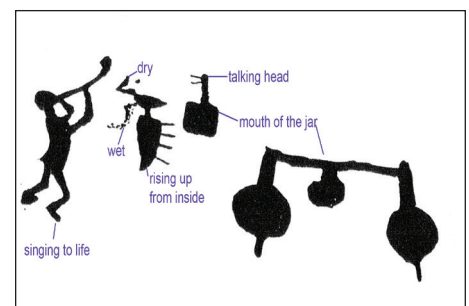
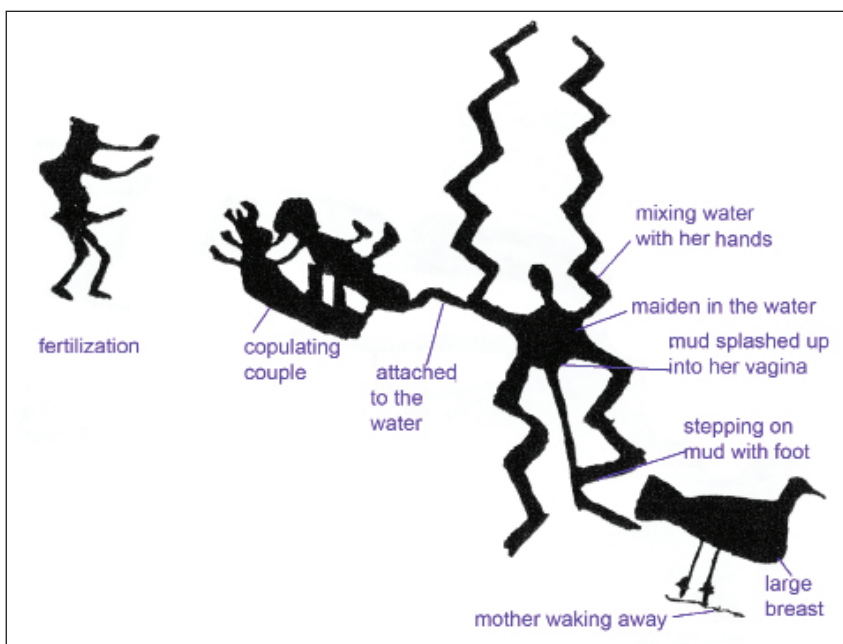


Fig. 4c. The annotated drawing of the lower portion shows the flute player who 'sings to life' the baby inside the pot. He is positioned next to a quadruped with one horn dotted like drops of water, and the other horn solid-pecked. The animal is positioned vertically, as if climbing up from the wet (water) to the dry. In other words, coming to life inside the water jar. The boy 'talks' and is fed through the mouth of the jar.




		
Girl in the water mixing clay with her foot	Water + person stomping on clay water splashes up inside	Bird with large breast= mother feet touch crack

Fig. 5. Symbol incorporations include the water + girl inside stomping her foot on the mud in the water. The bird with the large breast is an ideogram representing the mother, who is turning away and does not see her daughter getting impregnated by the water. The bird's feet are touching a crack leading down and to the right.

and he hit himself against it and broke and a boy jumped up.

He was very glad his skin had been broken and that he was a boy, a big boy. He was wearing lots of beads around his neck and turquoise earrings, and a dance kilt and moccasins, and a buckskin shirt.

Then he chased the rabbit, he picked up a stick and ran. Pretty soon he killed it. Then he found another rabbit and chased it again. He was a good runner. So, he killed four rabbits, jackrabbits.

The drawing of Panel 3 illustrates the water jar breaking open and a young man coming out, covered with water and pottery shards. The symbol of a mountain lion is used as a metaphor for hunting in the context of the story, as the boy continues to hunt rabbits and kills four of them. For the Tewa, the mountain lion is regarded as the supreme hunter².

The mountain lion is an ideogram, as stated in the Tewa Origin story: "When he returned to the people, he became known as 'Mountain Lion', or Hunt Chief (because he was a great hunter)"⁵. A little stone mountain lion fetish might be carried in the pocket of a game hunter to provide good luck.

About that time the sun was setting, so he went home, carrying the rabbits on his back. His grandfather went down to the place where he had carried him and waited for him. While he was waiting, a fine-looking boy came along, but his grandfather did not know who it was.

"Did you see my grandson anywhere?" the grandfather asked the boy. He said, "No, I did not see your grandson anywhere."

"Well, I am sorry he is late."

"Well, I did not see anybody anywhere," said the boy. His grandfather was looking so bad, the boy said: "I am your grandson."

"No, you are just teasing me, my grandson is a round jar, without arms or legs," said the grandfather. He did not believe it was his grandson. But the boy said, "I am your grandson. I am telling you the truth. This morning you carried me down here. I went to look for rabbits near here. I found one and chased him just rolling along. Pretty soon I hit myself on a rock and my skin was broken and I came out of it, and I am the very one who is your grandson, and you must believe me."

So, he believed him, and they went home.

Journey to find his father

The next episode in the myth describes the journey to find his father. Joseph Campbell in his book *The Hero with a Thousand Faces*, writes of Water Jar Boy:

The child of destiny has to face a long period of obscurity. This is a time of extreme danger, impediment or disgrace. He is thrown inward to his own depths or outward to the unknown; either way, what he touches is a darkness unexplored...after a long period of obscurity his true character is revealed. This event may precipitate a considerable crisis; for it amounts to an emergence of powers hitherto excluded from human life. Earlier patterns break into fragments or dissolve.

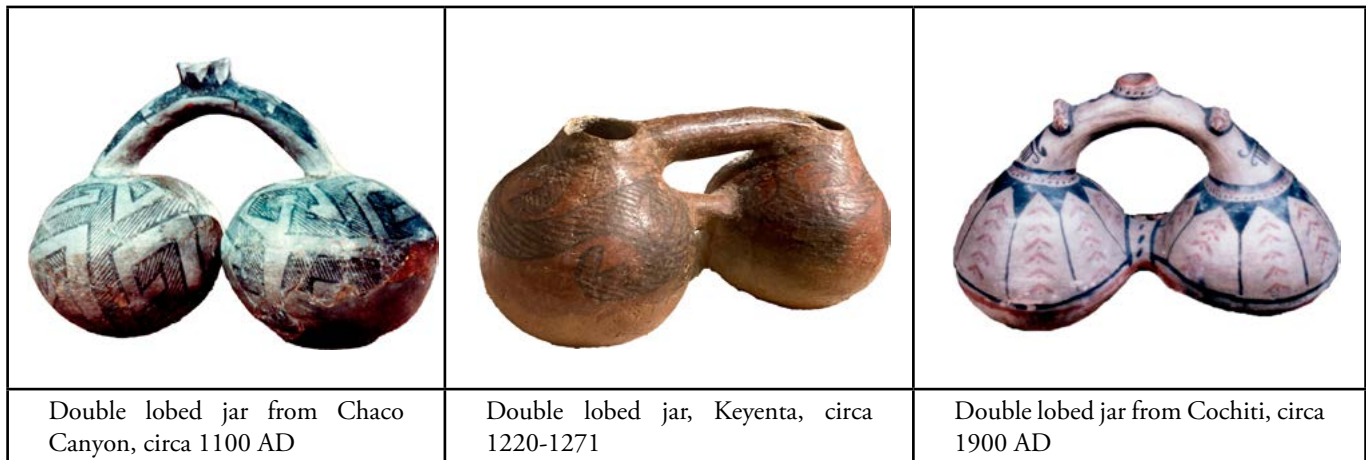


Fig. 6. Double-lobed Jars from ancestral Pueblo villages. 1) Chaco Canyon c. 1100 AD, Chaco Culture National Historic Park, NM. 2) Keyenta, c.1220-1271 AD, edge of the Cedars Museum. 3) Cochiti c. 1900 AD, Millicent Rogers Museum, Taos, NM.

The creative value of the new factor comes to view... the adventure of the second is the going to the father - the father is the invisible unknown. Where the goal of the hero's effort is the discovery of the unknown father, the basic symbolism remains that of the tests and the self-revealing way. The hero blessed by the father returns to represent the father among men. Since he is now centered in the source, he makes visible the repose and harmony of the central place. He reflects the World Axis from which the concentric circles spread - the World Mountain, the World Tree - he is the perfect microcosmic mirror of the macrocosm. To see him is to perceive the meaning of existence. From his presence boons go out; his word is the wind of life (1949, 326-347).

The myth continues.

When they came back to the village and the grandfather brought in a good-looking boy, the girl was ashamed. The grandfather said, "This is my grandson, this is Water Jar Boy," and the grandmother asked how he became a boy, and he told them how it had happened to him, and they believed it. Then after that he went around with the boys. One time he said to his mother, "Who is my father?" he said. "I don't know," she said. He asked her again, "Who is my father?" But she just kept on crying and did not answer.

"Where is my father's home?" he asked. She could not tell him.

"Tomorrow I am going to find my father." "You cannot find your father," she said. "I never go with any boys, so there is no place where you can look for your father."

But the boy said, "I have a father, I know where he is liv-

ing, I am going to see him."

The mother did not want him to go, but he wanted to go. So early next morning she fixed a lunch for him, and he went off to the southeast where they call the spring Waiyu Powidi (Horse Mesa Point). He came close to the spring, and he saw somebody walking a little way from the spring. He went up to him. It was a man, and he asked the boy, "Where are you going?"

"I am going to this spring."

"Why are you going?"

"I am going there to see my father," he said.

"Who is your father?" said the man.

"Well, my father is living in this spring."

"You will never find your father."

"Well, I want to go into the spring, he is living inside it."

"Who is your father?" said the man again.

"Well, I think you are my father," said the boy.

"How do you know I am your father?" said the man.

"Well, I know you are my father."

Panel 4 portrays the events when the boy goes hunting again (as a mountain lion) looking for his father (fig. 8).

The boy goes hunting for his father whom he finds near the spring. The boy and his father travel down into the center, where they encounter his aunts, symbolized by more birds with large breasts. His mother later dies and goes to live there too. The Water Jar Boy is represented by the mountain lion, an ideogram that conveys his strong intent as the hunter and seeker of his father. It is positioned near the spring where he encounters a man he claims to be his father. The spring is a symbol combination of "wet" and "descend" and is used to describe a spring whose source is under-

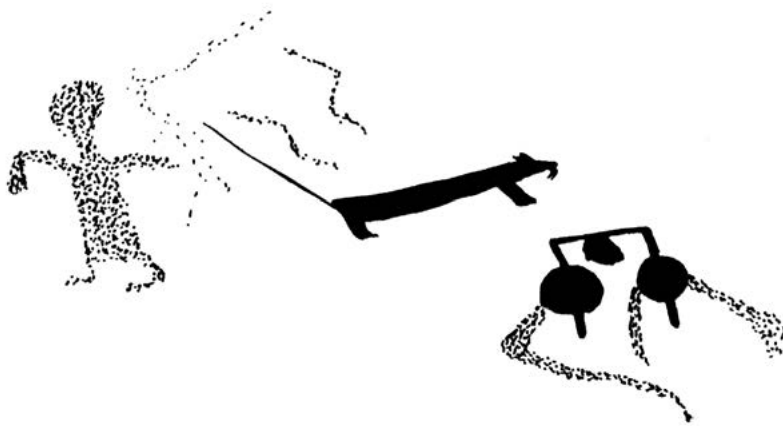


Fig. 7. panel 3, photograph and drawing. The Water Jar Boy accidentally hits a rock and breaks open. The panel shows the double-lobed water jar with water streaming out of both lobes. These dotted particles refer to water and pot sherds breaking out from the sides. On the left is a figure rising up, all covered with dots representing water and broken pottery. The image of a mountain lion represents the boy going off hunting rabbits.

ground. The center place is represented by a circle with a line through it. This concept is represented in gesture language by passing your hand through an imaginary circle or place. The pictogram is a circle with a line through it, indicating passed through the center (Martineau 1973, Mallery 1881). (See fig. 9.)

Panel 4 uses the symbol combinations of a coil that is a symbol of descend + wet + water, (a wavy line) to represent the spring. The bird with the large breast is an ideogram for a female relative (his mother) who resides in the spring. The circle with the line through it means they passed through the center of the spring. The mountain lion ideogram with a bent tail incor-

porates the symbol or grapheme, for 'return' with the end of his tail. Tails often indicate a 'trail behind them'. The two vertical lines on his back represent something being carried by the position on top of his back. They are inferred to be rabbits within the context of the myth (Martineau 1973, 1988 p.c.). The addition of these graphemes creates an ideogram that literally describes the boy's action returning to the village carrying the rabbits he killed to eat.

The center place

The petroglyph image of the coil spiraling inward to a center point and circle is consistent with the pueblo's



Fig. 8. Photograph and drawing of Panel 4 illustrated with a mountain lion approaching the spring. The myth recounts how the boy goes to the spring in search of or *hunting* his father. The circle in the center is bisected by a line representing a trail going through it. It means *to pass through* the center. The boy is shown again as a mountain lion with a bent tail that indicates he is *returning* to the village *carrying* two things (rabbits) on his back as well as something in his mouth *to eat* (photograph Dave Manley).

use of the circle as a symbol of the middle or center of the cosmos. "All the pueblos also have a well elaborated conception and symbolization of the middle or center of the cosmos, represented by a sipapu, an earth navel, or the entire village," (Ortiz 1972, 142).

Jane Young describes her experience at Zuni when viewing a coil image thinks it spirals outward, while the Zuni see it spiraling inwards³. Lange notes that the men in Cochiti, begin planting their fields, at the edge of the field and work in a spiral counterclockwise towards the center where they finish (1959, 94).

This sacred space may be visually represented by a small circle in the center of a sand painting, a ring of rocks in the village plaza or a hole in the floor of a kiva. Ortiz writes (1972, 142), "The elaboration of the notion of the center has the further implication that the domi-

nant spatial orientation, as well as that of motion, is centripetal or *inward*. That is to say, all things are defined and represented by reference to a center"⁴.

The myth continues:

The boy kept saying "You are my father." Pretty soon the man said, "Yes, I am *y o u r* father. I came out of that spring to meet you," and he put his arm around the boy's neck. His father was very glad his boy had come, and he took him down inside the spring. A lot of people were living down inside the spring, women and girls. They all ran to the boy and put their arms around him because they were glad their child had come to their house. Thus, the boy found his father and his aunts, too.

On another level, the spring down in the underworld represents the spiritual world, the dwelling place of the unconscious, the source of the life-giving spirit, and the home to which one returns after death. The

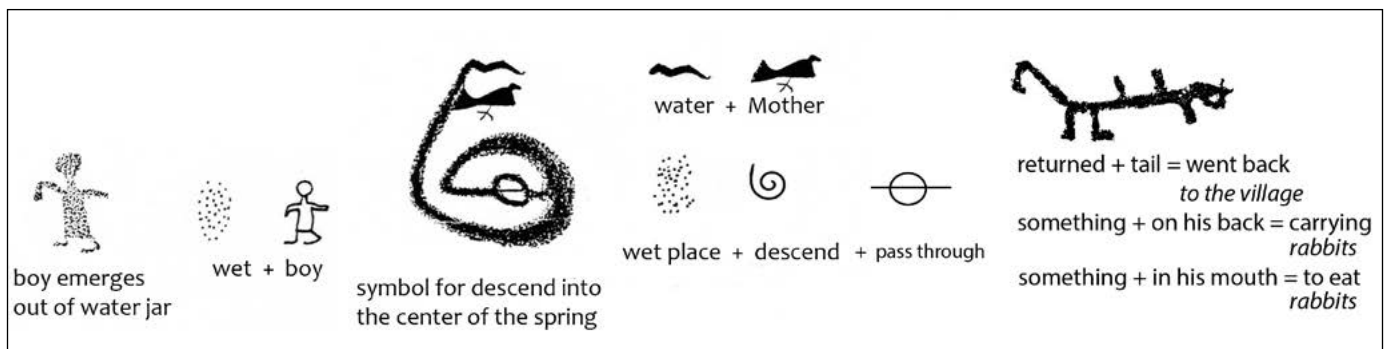


Fig. 9. Panel 3, the symbol incorporations combine wet with boy to show his condition.

boy as a mountain lion ‘returns’ to the spring, the home of his spiritual father and mother, spiritual in the sense that the deceased live in the spirit world located in the underworld.

The myth concludes,

Well, the boy stayed there one night and the next day he went back home and told his mother he had found his father. Then his mother got sick, and she died. Then the boy said to himself, “No use for me to live with these people.” So, he left them and went to the spring. And there was his mother. That was the way he and his mother went to live with his father. His father was Avaiyo pi’i (Water Snake Red). He said he could not live with them over at Sikyat’ki. That was the reason he made the boy’s mother sick, so she died and “came over here to live with me,” said his father. “Now we will live here together,” said Avaiyo to his son. That’s the way the boy and his mother went to the spring to live there. (Printed with permission from the American Folklore Society, from “Tewa Tales,” by Elsie Clews Parsons, the American Folklore Society Memoirs, Vol. XIX, 1926).

The myth states that the boy’s mother dies but rejoins him inside the spring. She is located near the top of the spring in panel 4, along with his other female relatives. The boy’s father is identified as Avaiyo (Awanyu) the water serpent, of the Rio Grande Pueblos. He is associated with springs but often portrayed as a horned water serpent that represents a flashflood deity that appears in the arroyos after a heavy rainstorm. In this story he is a personage who lives inside the spring.

Discussion

Greg Cajete summarizes:

When talking about myths I think of it as windows and mirrors. They are windows in the sense, that for indige-

nous people, it provides them a window into their past to the place that they came from. As a mirror, it reflects back to the people, how they have changed, and how they have evolved and the kinds of things that their ancestors have considered important to them and shared with the next generations. So, the oral traditions and stories, the metaphors, the art forms all come together in such greatness, and rich expression in a variety of different ways, that it is really the foundation of cultural identity in terms of people and how they understand themselves. (Cajete in Schler and Patterson film outtake 1990)

Alfonso Ortiz states:

Myths have to do with the ultimate realm of existing realities, the most important things that people believe about themselves or how the world came to be what it is. Yes, myths don’t change, they can’t change, or people would have to change their whole way of life. Because we call them foundation myths, we call them genesis myths or emergence myths, traditional myths. Traditionally myths account for the beginning, for life at the very beginning, the source and there have been three prior worlds to this. I don’t know what caused the change or why it’s so important.

It helps place the people as they are now, where, and how they are. It also accounts for why there is a gradual collusion of a reality because if things changed in the three prior underworlds to which they passed, *you know*, each one went [through] a kind of change, which was fundamental, that they still rely on it in their life today. I can’t see anything meddling with that.” (Schler and Patterson outtakes, 1996)

Investigations made by other scholars who have studied the traditional visual art of the Pueblo Indians conclude that in Indian pictography there was little concern with realistic representations of actual animals

or people. Nancy Olsen (1989, 423) summarizes: When the meanings are restored to form and context, documented evidence of social categories emerges such that animals, birds, reptiles, and amphibians are used exclusively to refer to man-made situations, such as clan symbols, as representatives of power for curing, as assistants to spirits and kachinas, and as messengers for the People. In the emic view, animals have power to travel between men and spirits/kachinas to mediate between them. The natural abilities of an animal or bird are interwoven with their powers in myth and histories.

The deeper interpretations rely on the multifaceted meanings of metaphors known in Pueblo culture. Animals-as-metaphors for people are demonstrated in Panel 2 with the use of the bird symbol representing the girl's mother, and further demonstrated in Panels 3 and 4 with the mountain lion. Joseph Campbell writes, "The distinguishing function of a properly read mythology is to release the mind from its naive fixation ... in material things as things-in-themselves. Hence the figurations of myth are metaphorical in two senses simultaneously, as both psychological, and at the same time metaphysical" (1986, 56). In this case, the double-lobed jar is the dualities on the psychological plane, from which the boy has to break free in order to find the source of his spiritual being.

Others have also written on the concept of duality in pueblo world views. Lévi-Strauss writes that the action of the unconscious mind expresses itself through social forms. "A moiety system ... makes a visible representation of the mind's natural proclivity to divide and subdivide" (Lévi-Strauss in Douglas 1982, 165). It is this dualistic physical world that the boy has to transcend in order to enter into the spirit world.

What has been suggested in the myth also holds true with the visual depictions of these myths in the petroglyphs. The simplified gestures encode the behavior and character of the participants in the story. Animals are used as metaphors on a metaphysical plane that enable the viewer to transcend the physical realm to one of spiritual meaning within the context of the pueblo world view. The hero has to overcome tremendous obstacles using sheer determination and intuitive power. For the Tewa the mountain lion is a metaphor of profound intent in seeking out its objectives. The theme occurs in the mythology of many oth-

er Native groups, when the son of a virgin birth asks the question: "Who is my father?" and sets forth on a hero's journey to find him, whether his father be the sun, the wind, or the water.

Endnotes

Parsons designates the origin of the Water Jar Boy myth as Tewa. It is also recorded at Hano, a Tewa village at Hopi. The Southern Tewa or Tana people who fled to Hopi in 1696 were originally from the Galisteo Basin of the Rio Grande Valley. During the Pueblo Revolt of 1680, the Keresan pueblos of San Marcos and La Cienega joined the Tanos in the attack on Santa Fe. The years following were of tremendous struggle and relocation. Those southern Tewa who did not go to Hopi joined neighboring pueblos, both Tewa and Keresan. Most of the evidence determining the linguistic affiliation of La Cienega suggests an influence of both Tana (southern Tewa) and Keresan. It therefore is not a complete mystery how the appearance of Tewa mythology, associated with a petroglyph, could be found alongside a Keresan myth-related petroglyph at the same site.

The image of a mountain lion is identified by his long body and tail, and facial whiskers. The mountain lion is traditionally considered the symbol of a great hunter by both eastern and western Pueblo societies. The lion symbol can evoke the whole concept of going hunting with the power and ability of the great mountain lion. It is a symbol of the supreme hunter, who has the power to attract deer, antelope, and the power to be lucky, i.e., succeed. Parsons writes; "Eastern Pueblo hunters carry their arrows in a mountain lion skin quiver. They make shrines in the mountains to the north of their villages for the mountain lion's spiritual power to assist them in their hunting seasons. They may even "feed" a mountain lion fetish blood from fresh game to encourage the lion to attract more game in the future" (1939, 335).

Jane Young writes:

"The spiral could be described as referring to this event from two different perspectives. The central point of the spiral is itself a condensed symbol, but so is the rest of the figure; years of travel and hardship are encoded in the inward-turning coils. It is of interest that the Zunis, with whom I worked, perceived a figure that I see as "opening out" was "turning inward" instead. They described the

journey in search of the Center as motion through time directed inward, often following the coils of the spiral in toward the center point with their fingertips. This perspective is quite consistent with the inner-or center-directed ethos of the Zuni people" (1985, 136).

Alfonso Ortiz writes:

"In contrast the Navaho (western Apache) have a dominant centrifugal *outward* orientation. A Pueblo dry painting is set out with the borders and works its way inward to the center. A Navajo begins in the center and works his way outward. Dry paintings are one of the most sacred acts performed in either culture ... represent some aspects of the cosmos and has implications for understanding well-known differences in other art forms, dance, in substance and in settlement patterns" (1972, 143).

Tewa Origin Story by Ortiz (1969, 13-16) and Parsons (1939, 249):

"They were living at *Sipofene*, beneath Sandy Place Lake far to the North....

First mothers of the Tewa were Blue Corn Woman "near summer" or Summer Mother and White Corn Maiden, "near ice" or Winter Mother ... these mothers asked one of the men present to go forth and explore the way by which the people might leave the lake ... they told him to go to the above. On his way he came upon an open place and saw all the *tsiwi* (predatory mammals and carrion-eating birds) gathered there ... on seeing the man these animals rushed him knocked him down and scratched him badly. Then they spoke telling him: "Get up" we are your friends." His wounds vanished immediately. The animals gave him a bow and arrows and a quiver, dressed him in buckskin, painted his face black, and tied the feathers of carrion-eaters in his hair. Finally, they told him: "You have been accepted. These things we have given you are what you shall use hence forth. Now you are ready to go."

When he returned to the people, he became as Mountain Lion, or Hunt Chief (because he was a great hunter). This is how the First Made person came into being.

Hunt Chief then took an ear of blue corn and handed it to one of the other men, and said, "You are to lead and care for all of the people during the summer." To another man he handed another ear of white corn and told him, "You shall lead and care for the people dur-

ing the winter." This is how the Summer and Winter chiefs were instituted. They joined the Hunt chief as Made People.

Six pairs of brothers were created and each pair was stationed on the four mountains of the cardinal directions to guard the people.

The people journeyed to the south. Hunt Chief divided the people between the Summer Chief and the Winter Chief. Those who followed the Summer Chief would proceed along the mountains on the west side of the Rio Grande. The Winter Chief and his group would proceed along the mountains of the east side of the river. The summer people subsisted by domestic and wild plant food. The winter people subsisted by hunting game animals.

Each group took 12 steps, that represented 12 stops, or settlements going south. They rejoined and founded the village called *Posi*, near present Ojo Calente. The village grew and prospered, however, an epidemic struck, and the elders decided to abandon the village. Six different groups left and founded the six Tewa villages we know today. San Juan was founded first and is the "mother pueblo" for the other five. Each of the six departing groups include summer and winter people." The myth ends with "In the beginning we were one people. Then we divided into summer people and winter people. In the end we came together again as we are today. But you can see we are still Summer and Winter people" (Ortiz 1969,13-16).

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Dr Gregory Cajete, Indigenous educator, University of New Mexico: "Myths that are considered important to people are really another way of looking at yourself. They are another way of reflecting on who you are and where you've come from. The stories, the metaphors and the visuals provide indigenous people with a window into their past, their place of origin. The things that are considered important to people, how they related to the land, the plants, the animals, the place that they came from."



Edward T. Hall, anthropologist and author, "The water jar boy myth, why he's in a bottle, he is encased, and he can never get out, but he does get out you see. He becomes real, before that he's just a voice in a bottle, but now he's a beautiful man in real life. This is a beautiful myth."



Dr. Alfonso Ortiz, anthropologist, Professor, University of New Mexico
 "I can understand that the distant past and the present are clearly related, they are still with us now. Things that are being done now that have survived all this time were likely being done hundreds of years ago.... These petroglyphs convey more mythic events, not read from on point x to point Y but rather to be grasped as a whole field read as a whole field."

NOTES AND NEWS

ATELIER, RESEARCH CENTER FOR CONCEPTUAL ANTHROPOLOGY

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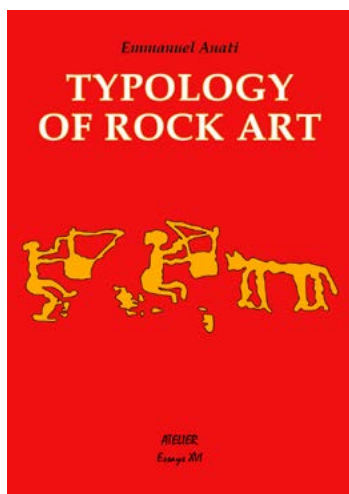
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T TYPOLOGY OF ROCK ART: typology is a frame or structure to locate assemblages of rock art. Defining typology is not a goal but a step in research, enabling progress. Conceptual research in rock art is leading to the understanding of the mental processes at the roots of the human ways of thinking in the last 50,000 years.

READING THE LANGUAGE OF PICTOGRAMS: art becomes language, images become writing, their makers become people with feelings and emotions, and new horizons on the formative ages of culture and on the conceptual identity of our species are re-emerging.

IMAGES AND CONCEPTS: 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.



Typology of Rock Art

Anati, E.

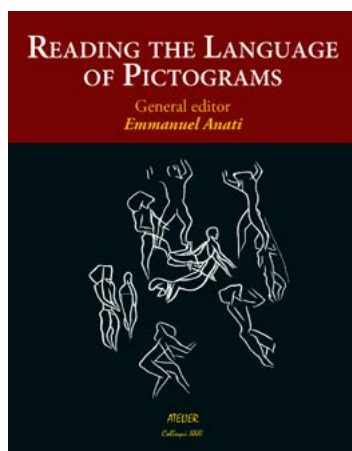
2023, *Typology of Rock Art*

Essays XVI

Capo di Ponte (Atelier), 106 pp., 37 figg. € 20

Rock art is a human expression, produced over the millennia, on five continents. In the frame of the UNESCO “World Report on Rock Art: the state of the art” (2008), the author presented a typological structure of rock art, which has since been updated and revised. This text presents an updated version considering the following topics: elementary concepts of typology; definition of rock art site; the grammar of rock art: typology of signs and figures; categories of rock art according to the way of life of their creators: archaic hunter-gatherers, hunters who use bow and arrows, shepherds and animal breeders, complex economy including agriculture, others; syntax: the systems of associations of graphemes, associations, compositions, sequences, scenes, etc.; archetypes and variants; purpose, results and purpose of the typology.

- | | |
|---|-----------------------------------|
| 1. Prologue | The Art of Pastoralists |
| 2. The Basic Concepts of Typology | The Rock Art of Farmers |
| 3. Essential Elements of Typology: Grammar and Syntax | 5. The Typological Classification |
| 4. Economic and Social Categories | The Grammar |
| The Proto-Figurative Phases (Hunter-Gatherers) | The Syntax |
| Early Hunters (Eh) | The Postulates |
| The Art of Food Gatherers | 6. Conclusions |
| Evolved Hunters | 7. References |



Reading the Language of Pictograms

Anati, E. (ed.)

2023, *Reading the Language of Pictograms*

Colloqui XXXI

Capo di Ponte (Atelier), 206 pp., 80 figg. € 40

Reading the language of pictograms is one of the aims of the new archeology: making history of pre-history. Art becomes language, images become writing, their makers become people with feelings and emotions, and new horizons on the formative ages of culture and on the conceptual identity of our species are re-emerging. Decoding is progressing toward the aims.

PART I

Introduction

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Expression 39 (March 2023)
The Conceptual Function of Simple Associations in the European Paleolithic Art
2. *Luc Hermann (Belgium)*
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Vulture and Bird-Head Anthropomorphs in Saimaluu-Tash, Kyrgyzstan
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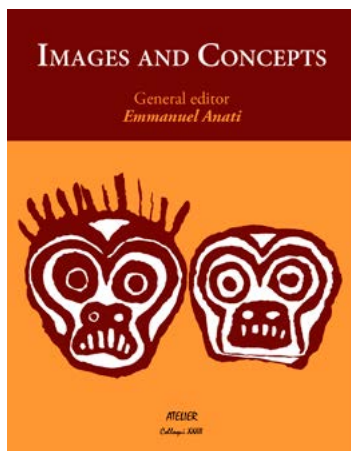
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SHORT COMMENTS BY READERS

After reading those different articles from Expression, I remember what you told me many years ago “ Double your knowledge, Double your power.” I have used that as a life lesson. The immensity of your knowledge about rock art is extraordinary and I recognize your preeminence in the field and feel grateful for your participation in my film.

Salvatore Mancini
Photographer, NEW YORK, USA

I would like to congratulate all of you for your work. It's fascinating and I wish you all the best!

*Best regards to you all, and especially to Professor Anati!
Cordialement,*

Représentant permanent auprès de l'OIF
Ambassade de la République du Kosovo, Paris
Prof. Shemsi Krasniqi
University of Pristina, Kosovo

Many thanks for the excellent issue of Expression. You present very interesting innovations which belong to the collective memory, with a more complete communicative expression.

Dr. Giuseppe Orefici
Nasca Research Center (ICA), Peru

*Many thanks, will gladly (as always) read the new volume of
EXPRESSION,
With my best wishes,*

Prof. Anna Belfer-Cohen,
The Hebrew University of Jerusalem, Israel
*I am a private researcher and enjoy receiving and reviewing
each issue of Expression. Please continue in your endeavours
as it provides great information to all whom you share with.*

Mary Ann Guggemos
State and National Parks, USA

*My gratitude, for keeping up this glorious effort, for sharing the
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Thank you!
Best regards,*

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