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EXPRESSION

QUATERLY E-JOURNAL OF ATELIER IN COOPERATION WITH UISPP-CISNEP. INTERNATIONAL SCIENTIFIC COMMISSION ON THE INTELLECTUAL AND SPIRITUAL EXPRESSIONS OF NON-LITERATE PEOPLES

N°13 September 2016

MEANING OF ABSTRACT SIGNS?

People are sitting around waterholes, with spears and shields.
Australian Aboriginal painting, acrylic on canvas, cm. 30x 52 (by Judda, ca. 1990).

EDITORIAL NOTES
MEANING OF ABSTRACT SIGNS?

"ABSTRACT FOR YOU NOT FOR ME"

The clan was preparing for a fight against another clan that had abused hospitality, having hunted kangaroos without asking permission, in the hunting ground of the offended clan. The painter made a record of the event. The selected crucial moment was not the fight, as a European would have expected, but the moment in which the elders had to make the important decision of expelling the guest clan from the hunting ground. The painter represented it, as the elders were sitting near water holes, ready to fight, having with them spears and shields. The results would appear, to an alien, as a composition of abstract signs. To the members of the clan the drawing was fully naturalistic. It represented human beings, seated on the ground, having with them their war weapons. Spears may be used for hunting as well, but shields are used only for fighting against other people. The image was self-explanatory. The painting was the record of a crucial event: decision-making. The art-dealer who got hold of the painting, described it a"Aboriginal abstract composition". The Aboriginal community had a better explanation. A more detailled case of "Abstract for you not for me" is given below on how fire is represeted in prehistoric art.
E.A.

CONCEPTUAL ANTHROPOLOGY

Conceptual anthropology is the discipline that combines various aspects of human and social sciences in respect of human behaviour and culture, using experiences of the past to understand the present and build the future. The concept gestated for some time until it was formalized during the UISPP Congress in Florianopolis, Brazil, in 2011, setting new horizons for human sciences. It was decided to make of the newly proposed discipline, conceptual anthropology, a concern of the International Scientific Committee on the Intellectual and Spiritual Expressions of Non-Literate Societies (UISPP-CISNEP). The goal of this new discipline is to understand human behaviour and cultural trends, recurring and isolated phenomena, predictable and unpredictable evolution and change, not only in technology, but also in social, intellectual and spiritual life. It is a permanent journey of discovery and emotions.
Each discipline has its own memory as the basis of research and the advancement of the discipline itself. Combining disciplines is also a union of memories for a broader base of research and culture. Today media replace technical and historical memory. But the human mind's insights and associations are still irreplaceable.
Our being and our actions are rooted in the memory. When we err, we often owe it to our memory blurring. When we reach positive results, it is because we have made good use of our memory. We do not refer to electronic memory but to the one expressed in intuition and discovery, the memory that springs from the deep well of our psyches.
Every being, like every discipline, focuses on certain aspects of memory and neglects others. Together, various disciplines and various cultures share wider dimensions of memory. Such approach offers an immense contribution to the study of the intellectual and spiritual expressions of non-literate peoples.
One of the purposes of UISPP-CISENP,

in addition to the pleasure of meeting and growing by dialogue, is to promote a common commitment to the understanding of such human expressions, with the support of multidisciplinary research. As students of various disciplines, anthropologists and archaeologists, psychoanalysts, educators, sociologists, semioticians, philosophers and historians, we all wish to face questions which a shared commitment can help clarify. The meeting of different disciplines offers a wider dimension of knowledge and greater capacity for analysis and synthesis. Faced with the fashion of extreme specialization, which risks reducing scholars to technicians, conceptual anthropology goes against the tide. No doubt technicians are needed, but we seek a cultural vision and broad overview in the common work of the humanities and social sciences. Let technicians and intellectuals be aware of their different roles, let them do their own jobs and then enrich each other through the joint dialogue.

Research has a real social function when it produces culture. When culture is creative and innovative, it promotes the growth of intellect and stimulates new thought. The dialogue is open to all disciplines of the humanities and social sciences as well as to those who do not identify themselves with any specific discipline or who just want to listen. Each listener is a potential transmitter of ideas and ideas grow and spread not only through those who produce them, but also through those who listen. The dialogue does not stop and is a source of growth and enrichment, and also of cooperation and friendship. Research is a provocative, stimulating and inspiring source of awareness. You are welcome to join.

The present world crisis is a cultural crisis, a crisis of values and wisdom that has economic, social and political consequences. Reviving the role of culture is our modest joint effort to contribute to overcoming the crisis.

APPRENTICESHIP IN CONCEPTUAL ANTHROPOLOGY

The apprenticeship, under the guidance of Prof. Emmanuel Anati, may last from a minimum of two months to a maximum of one year. It grants the apprentice the title of *research assistant*. The apprenticeship is oriented to the acquisition of practical operational abilities and conceptual formation; it includes participation in research, editorial activities, compilation, organization and layout of exhibitions and publications, the arrangement and cataloguing of ethnological collections, and the planning of cultural and scientific projects.

Traditional learning as an accumulation of theoretical notions is enhanced by applying the notions in practical activities, learning to do by doing.

During their stay in the Camonica Valley, the student will have access to self-catering accommodation on campus, at a student fee. Preference is given to graduates and other seriously motivated young people with knowledge of the English language and operational abilities on a database. Application in an informal letter should specify the motivations and skills of the candidate and be accompanied by:

- curriculum vitae;
- copy of record of studies;
- copy of identity card or passport;
- passport standard photo;
- letter of presentation or recommendation from a university professor or a previous employer.

Applications should be addressed by email to:
atelier.etno@gmail.com

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Readers interested in learning editorial work may apply for three months' editorial training at EXPRESSION Quarterly Magazine. Skills required: perfect knowledge of the English language; ability to manage various relevant computer programs; ability in public relations; special interest in anthropology and archaeology. For applications or further information, please address a letter showing your interest, including a copy of an identity document, to: atelier.etno@gmail.com.

POSITION OF ASSISTANT CURATOR OF ETHNOGRAPHY

Graduate students in anthropology and ethnography are given the opportunity of training as curator of ethnography. The engagement consists in classifying old ethnographic collections of art objects from Oceania and Africa. The expected result is the compilation of a catalogue of a given collection, eventually to be published under the name of the compiler. The successful experience gives the apprentice two important additions to his or her curriculum vitae: the publication of a scientific work and the position of "Assistant Curator" for the period of time of his/her engagement. The experience takes place in the Camonica Valley, northern Italy, and is expected to last a minimum of three months. Candidates should have mastered the English language and posses university degree in the human sciences. During their stay active presence the accepted candidates will have access to self-catering accommodation on campus at a student fee. Applications should include a letter expressing motivations, a record of studies, a copy of an identity document and any other document worthy of consideration. Applications should be addressed by email to: atelier.etno@gmail.com.

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EXPRESSION, this e-journal, is produced by ATELIER, the Research Centre in Conceptual Anthropology, in cooperation with the UISPP-CISENP (the International Scientific Committee on the Intellectual and Spiritual Expressions of Non-Literate Societies), an organ of the UISPP. UISPP also offer other facilities, including participation in its World Congress. Membership of the UISPP will ensure you official status as a UISPP Active Member of CISENP. If you are a member of UISPP, please confirm your status to <atelier.etno@gmail.com>.
If you are not yet a member, and you wish to attend the World Congress, become a member of the UISPP. For further information contact the office of the General Secretary: loost@ipt.pt

EDITORIAL NOTE

EXPRESSION magazine is published by Atelier Research Center in cooperation with UISPP-CISNEP, the "International Scientific Commission on the Intellectual and Spiritual Expressions of Non-literate Peoples". The goal of EXPRESSION is to promote knowledge and ideas concerning the intellectual and spiritual expressions of non-literate societies. It is an open forum in conceptual anthropology welcoming contributions. Colleagues having something to say will find space in this e-magazine, which is reaching people of culture and academic institutions in over 60 countries. Authors are fully responsible for their ideas and for the information and illustration they submit. Letters on current topics are welcome and may be published in the section "Discussion Forum". Publication in EXPRESSION magazine does not imply that the publishers agree with the exposed ideas. Papers are submitted to reviewers and to their evaluation.
For further information or for submitting papers: <atelier.etno@gmail.com>.

HOW TO CONCEIVE YOUR PAPER

Please consider that the magazine is addressed to readers from various disciplines of the human sciences in over 60 countries of five continents and should be of interest to all of them. The language is English. Papers should be pleasant to read, not dry scientific reports or inventories, they are addressed to cultured readers involved in the human sciences. Texts should be concise (1500-3000 words) and should awaken interest in their specific topic. Illustrations should have a resolution of 300 dpi with a base of 14 cm. Each illustration should have pertinent, explanatory captions. The source of illustrations must be provided. All the material presented, texts and illustrations, should be free from copy-rights and any other obligation, and not yet published elsewhere.

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It may be easier to subscribe, but the last issue of the magazine is offered free of charge to any individual person asking for it. Back issues may be obtained at a reduced price for subscribers.

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Subscribers for 2016, until December 2016, will benefit from a special offer.
Subscription for 2016 includes issues 11,12,13 and 14. In addition to these four issues, upon request, subscribers may receive all the 10 back issues of EXPRESSION for the additional cost of only € 10.- They may further extend their subscription for 2017 at the additional cost of € 10.- (The cost of the annual subscription for 2016 is € 20.- for individual subscribers, and € 40.- for institution. The cost of each back issue is € 10.-)
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FORTHCOMING DEBATES

Readers are proposing themes for debate. Some of them may be considered in future issues:
1– WOMEN: the role of women in prehistoric and tribal art.
2– SEX: the role of sex in prehistoric and tribal art.
3– ART AND ECONOMY: relations between economic conditions and artistic creativity.
4- MYTHS AND MEMORIES: stories told by pictures.
Proposals for papers and suggestions on these and other issues are welcome.

DISCUSSION FORUM

The Discussion Forum invites readers to be active in debates of worldwide interest in conceptual anthropology.

COLONIZATION

HOW DID HUMANS REACH ALL THE LANDS OF THE PLANET? MANY DIFFERENT STORIES CAN BE LIKE STONES IN A MOSAIC PIECING TOGETHER AN OVERVIEW.

Scholars, students and other persons of culture are welcome to propose their contributions: a paper illustrating a case, a trend, an idea or a detail, of such immense process that gave to most (not yet all) peoples and cultures of the planet their homeland. Papers may concern art, archaeology, anthropology, history, myths, beliefs, traditions or popular tales. From an original land of origins, likely to have been in Africa, the ancestors of humankind colonized all corners of the globe. They reached far away islands in the oceans and remote highlands in the mountains, territories in the desert and in the deep forest. Other primates still survive in their limited habitat; humans live in the equatorial regions as well as near the Arctic pole. How did present day populations reach their "homelands"? Each case is a special case: the first inhabitants of Easter Island and those of the Falklands have different origins and different stories. The first inhabitants of America and those of Australia have different stories. But also the quality and size of our knowledge differs on each one of these events. Processes of cultural diffusion concerning art and material culture reveal relations between continents, expansions of certain cultural trends and restrictions of others. The entire story of humankind is made of bits and pieces of colonization. Many open questions are awakening interest and concern. How and why did human beings expand from their land of origin? How did they reach and colonize Australia or America, or an island like Iceland, or the top of a mountain like Machu Picchu? How did people penetrate and occupy the forest, in central India, Borneo, the Congo or Amazonia? How was New Zealand in the Pacific or Malta in the Mediterranean first inhabited? How did various human waves colonize Europe? From the early hominids that reached Europe, to the Neanderthals who evolved and spread over Europe, to the early waves of *Homo sapiens*, to the Neolithic colonizers, to recent arrivals, the secret of European success is likely to be due to the overlappings and encounter of different people and cultures. The same can be said for America or Australia. And what about Japan or Madagascar, or Sri Lanka, or Tasmania? No one, not even the local natives of five continents, were originally born in their land, though some believe they were. From a primary core humanity reached everywhere. Each culture, like each village, or clan, has a story or a myth of origin. Can you contribute your paper on an aspect of this feature of world history? Papers proposed for the December issue should be presented before November 15. For submitting papers or for further information: contact <atelier.etno@gmail.com>.

FIRE

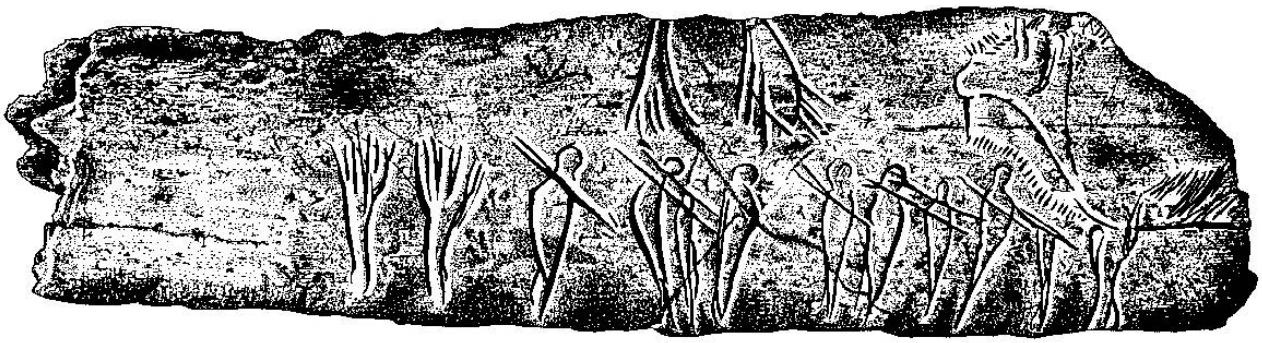
THE QUESTION OF FIRE: HOW IS IT REPRESENTED IN PREHISTORIC AND TRIBAL ART?

A small question aroused a big debate. The whole thing started with the caption of an illustration in my book ***"Decoding Prehistoric art and the Origins of Writing"*** which defined a figure open to interpretation as the image of fire (Fig. 80., p.135). In January 2016 Dieter Redlich (Germany), wrote:

"You invite the reader to criticism… When you interpret a certain ideogram as having the meaning of "fire" (bone of Les Eyzies), you construct a story of migration from Azerbaijan to today's France; this is extremely hard to believe."

My reply (Jan. 21, 2016) was: " The conceptual background of pre-literate visual art reflects a mental structure upon which also modern writing is based. Grammar and syntax are in our brain much before conventional writing. You consider a serious problem that of interpreting figures such as "fire" without providing proofs…. What kind of proofs would you expect? … An easy habit of critics is to say, "it is not" without proposing what it is. Do you have an alternative decoding?

It is time to start reading prehistoric art. Just describing it says what you see, not necessarily what it means. The story of migration from Azerbaijan to Dordogne is a marvellous story, whether it is a true story or a myth and it might be both. The presence of similar flint tools assemblages in both areas may appear as an old fashioned banality. The fact that the appearance of a similar typology of material cultures in Western Europe is not locally born, it may have oriental origins, is another argument which was repeated too often. Probably the engraving on bone is describing an event or a myth, which appears also in other artifacts, but without the explicit



Les Eyzies, Dordogne, France. A fragment of decorated bone from the Magdalenian period of the Upper Palaeolithic. A group of eight anthropomorphs in profile are holding on their shoulders the forked bâtonnet. On the right side there is a bison in profile and on the top and the left side are two double signs. The tentative interpretations of this composition: it could describe a migration, of people who identified themselves with "fire marks", from a region marked with this ideogram, "the Land of Fires" to the "Land of the Bison". This interpretation is suggestive because Azerbaijan, since the beginning of written history, has been known as the "Land of Fires", where emanation of petroleum and gas at the surface create fire choreographies. The "Land of the Bison", in such case, could be identified with the Franco-Cantabrian area, where this fragment was found. (After Anati, 2001b).

indication of what I suggest to indicate "the Land of Fires". I agree that the interpretation is open to debate. But this is the way research may progress. Without attempt and even errors, it may be easier to make a career, but research would not progress".
This short debate has stimulated the question about the presence of fire in prehistoric visual art and a letter was mailed to a few colleagues around the world:

Jan 22, 2016
Dear colleague,
We are trying to find out the ways of representing fire in prehistoric and tribal art. Could you please let me know of any such representation that you might be aware of?
Many anticipated thanks,
Emmanuel Anati

Replies started arriving. It turned out that most experts are unaware of depictions of fire in prehistoric art.

Jan 22/ 2016
Denis Vialou, Brazil
Cher Emmanuel,
à défaut de document rupestre évoquant le feu - je n'en connais pas -, je t'adresse en retour nos meilleurs franco-brésiliens voeux festifs et amicaux à partager avec Ariela,
Denis.

25/01/16
Jean Clottes, France
Cher Emmanuel
Je ne vois rien dans le Paléo qui puisse évoquer le feu. Quant aux signes, ce seraient plutôt des traits que des points ou des figures géométriques construites, mais on est là dans la spéculation la plus pure !...
Amitiés
Jean

25/01/16
Fernando Coimbra, Portugal
Dear Professor Anati
Unfortunately I'm not aware of representations of fire in rock art. However I will pay attention to possible examples that I may find in bibliography.
Warm regards,
Fernando Coimbra

25/01/16
Rick Bury, USA
Hi Emmanuel,
I am familiar with many interpretations of various rock art elements, so now that you have led me to consider it, it surprises me that I have never heard of someone proposing that a certain prehistoric rock art figure or element represents fire. If someone has, I am not aware of it, and I do not know of any rock art panels that suggest fire to me.
However, Jean Clottes and some other European rock art specialists have hypothesized that fire played a role in creating and viewing some of the upper Paleolithic dark-zone cave art of France. In the movie "Cave of Forgotten Dreams" torchlight at Chauvet is used by researchers to "animate" 28,000 year-old painting of horses, lions, and bison. Even though this is probably not what you are looking for, you might want to check out Clottes research.
Sincerely,
Rick Bury
The Rock Art Documentation Group
1484 Azalea Dr.
Carpinteria, CA 93013
805-455-9893
rbury@cox.net

Reply:
Emmanuel Anati to Rick Bury, 25/01/16
Hi Rick,
Many thanks for your message. As you mention Clottes, please find enclosed his reply. He is not aware of depictions representing fire in Paleolithic art. The

real problem is that it is unlikely that fire was not represented in prehistoric art, as claimed by several experts. It may be in one of the many symbols that have not been decoded as yet. Which one?
Cordially,
Emmanuel

26/01/16
Azizo Da Finseca, South Africa
Good morning Professor Anati.
In my 14-year of digitization of prehistoric art I never came across depictions of fire, however, there are ethnographic images depicting fire. We should seriously think of digitizing your photographic collection, we might find there these images!
Kind regards

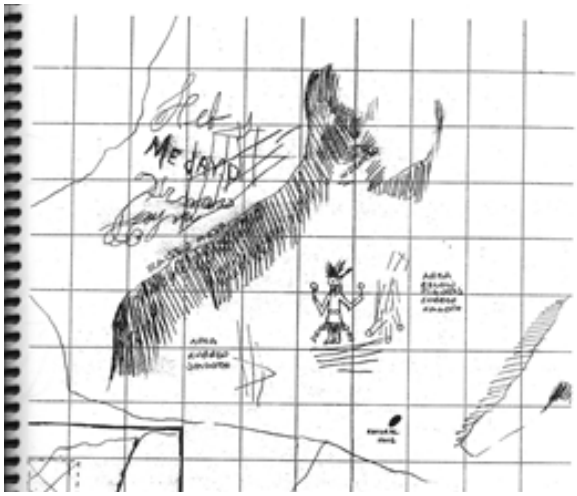
29/01/16
Benjamin Smith, Australia
Fire is VERY rarely depicted in sub-saharan African art, as you well know. The most plausible example is published in Harald Pager's Ndedema Gorge (1971) volume Figure 212 (the fire is near the middle of this complex panel and has people sitting around it – the rest of the scene suggests a mythical/ritual context). Hope this helps. Very best wishes from Perth for 2016.
Benjamin Smith
Associate Dean (International), Faculty of Arts
Professor of World Rock Art, Centre for Rock Art Research + Management
School of Social Sciences, University of Western Australia

01/02/16
Benjamin Smith
Dear Emmanuel,
The original full sized copy of the Ndedema panel is in the Rock Art Research Institute at Wits. They will have a high-resolution scan of the image (but it will be very large).
I cannot think of a single diagnostic fire depiction in Australia and I have asked others here too and they concur. As in East Africa, some 'sunburst' designs have been interpreted as fires, but they could just as easily be waterholes or something else (even suns!).
The lack of fire is more interesting in Africa, given its central role in those San and Pygmy rituals that are the subjects of many paintings. Many paintings show people dancing or sitting clapping and one can interpolate that there would have been fire in the middle of them, but it almost never shown. Fire is also of great importance to all Aboriginal Australian peoples (as you will remember), but it was not closely connected to the subject or motivation for painting and so its absence is less surprising.
Best wishes,
Benjamin Smith
Associate Dean (International), Faculty of Arts

People sitting round the fire. Rock painting of "Sorcer's Rock" (from H. Pager, *Ndedema*, 1971).

30/01/16
Pascale Binat, France
Cher Professeur Anati, en ce qui concerne les peintures rupestres de la Serra da Capivara et de Caïaponia au Brésil, sur lesquelles je travaille, je dirai, spontanément, que je ne connais pas de figurations qui puissent laisser penser qu'il s'agisse de représentations du feu. Je vais toutefois y regarder de plus près.
Pascale

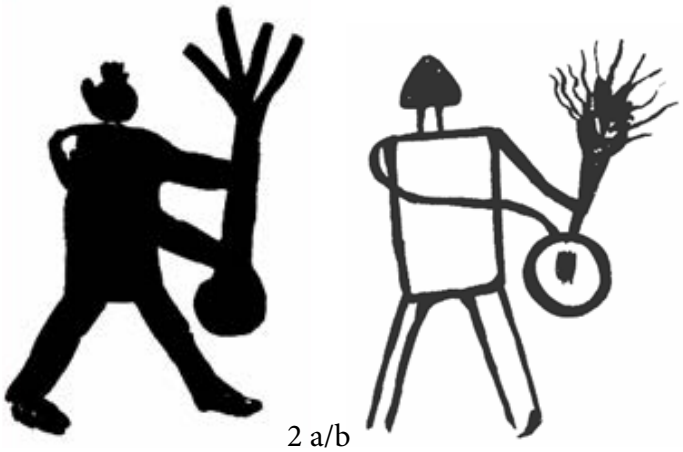
29/01/16
Jane Kolber, USA
Dear Emmanuel,
We believe that the drawing next to the human-like figure is a fire with wood logs at the bottom and the vertical lines above representing fire. The human-like appears to represent one of the ceremonial figures of the Navajo. Together they seem to represent a scene in a ceremony still practiced today by the Navajo people.



Jan 22
Erwin Neumayer, Austria
Dear prof. Anati,
Indeed, depictions of the element "Fire" are strangely absent in India. I therefore think that we probably can't "read" this culturally so important elements in its symbolism. Already in the Indian Mesolithic pictures there are extensive groups showing women busy in many chores like catching small game, collecting fruits, grinding, emptying baskets and attending children. These scenes are shown as taking place at shelter sites (shelters are actually shown in the pictures!). Here we also would expect hearth or fire places indicated in the same "realism" as groupings and spacing of other entities would suggest. Still such pictures have not come forth yet. I suspected that fire and hearth might be shown in an "other" symbolic way, which cannot be "read" by us immediately as "hearth-fire-flame-smoke etc. ". Searching for that symbolic entity I did look for situations occupying a "centre" stage around which some activities evolve. There are only three depictions of "fire" known to me, all of them from the historic rock paintings in Mahadeo Hills. They all show -as we expect- fire in a hearth in a camp scene with women cooking and even stirring in vessels which are set above fire. And in one -doubtful- case the picture is connected to the collecting of honey. Although the burning material (wood-sticks?) are shown, the fire itself as "object" is not shown in the way we would expect, flames or smoke to rise upwards. Even where bee are obviously smoked away from their comb, it is the burning-material which is shown rather than flames or clouds of smoke. As to the date of these pictures: There are no direct dates and also no inscriptions, but on account of their stylistic closeness to the "Kushana" paintings in the Vindhyas, as well as by technological- and thematic inventory shown, I take these pictures as belonging to the 1st millennium AD.
Yours, Erwin

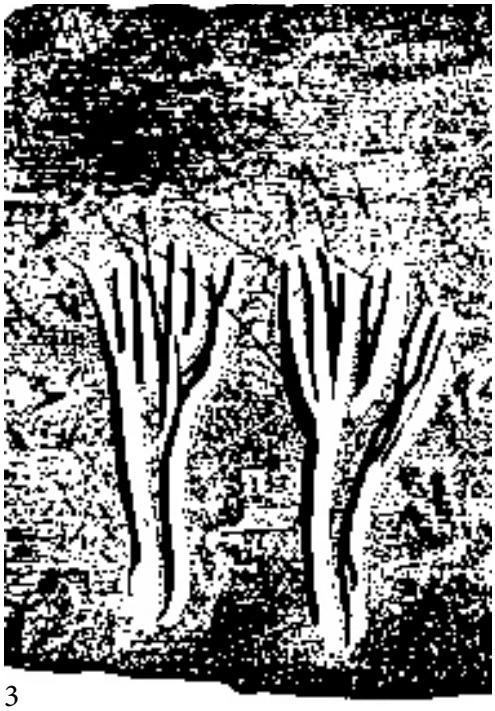
Rock Art from the Mahadeo Hills, India. Women are stirring with spoons in flat dishes set over fire. (Drawing by E. Neumayer).

1- Historic Rock Art from the Mahadeo Hills, India. Women with a spoon in her hand before a pot set on the fire. (Drawing by E. Neumayer).



2 a/b

2 a/b- Rock paintings in red. Chattisgarh, India. G 025. Two human figures holding fire. Height 15 cm Ongna; Height 20 cm. (Drawings by E. Neumayer).
3- Detail of the figure in the Les Eyzies decorated bone which may represent two fires.



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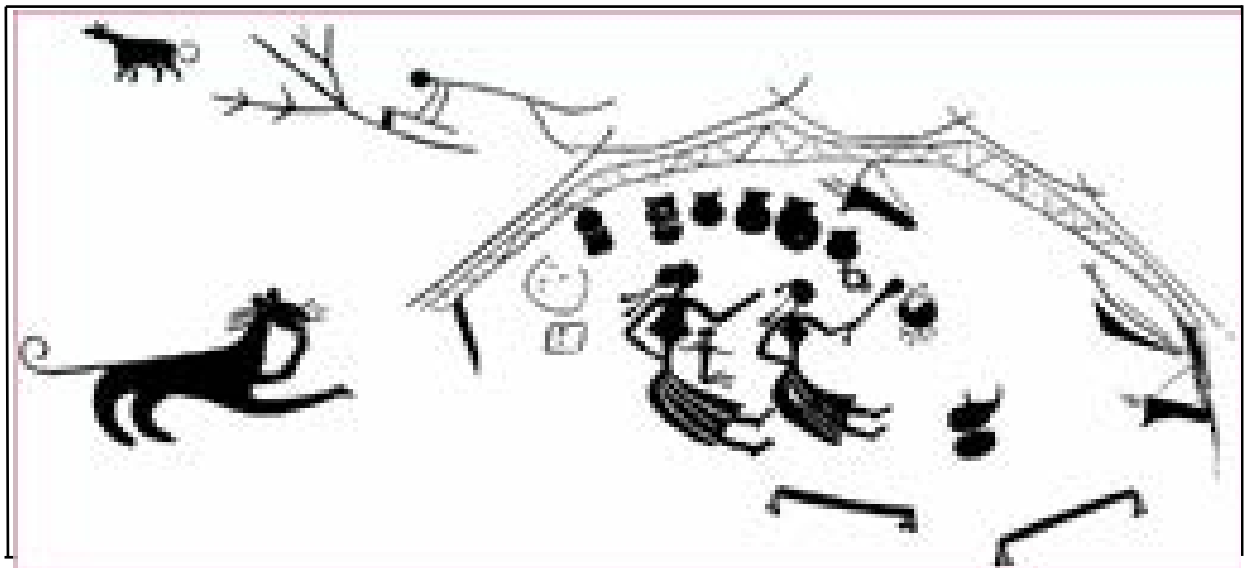


Historic Rock Art from the Mahadeo Hills. Marodeo; Historic; White with red contour lines; Length of the cat 12 cm. Two women are inside a house; vessels and arrow quivers are hung from the rafters. Parts of the household are two low bedsteads and one hand mill. While one woman sits near the fire with a large ladle, a second woman attends a small child in her lap. Outside the house is a man splitting wood. As usual in these camp scenes, a tiger threatens the harmony. (Drawing by E. Neumayer).

31 Jan 2016
Robert Mark, Flagstaff (USA)
This 10 cm yellow figure is painted inside a kiva ruin in Pictograph Cave, located in east-central Arizona. It could represent the torch-bearing deity Maasaw (Malotki and Lomatuway'ma, 1987, p. 98). The high shelter contains extensive ruins and rock art, ranging from Basketmaker II to Pueblo II in age. The kiva has been attributed to Pueblo II Period (900 to 1150 CE) (Quirolo, 1982, p. 47). Malotki, Ekkehart and Michael Lomatuway'ma, 1987, Maasaw: Profile of a Hopi God. Quiroro, Mary M., 1987, The Cultural History of Canyon del Muerto, Arizona: Basketmaker II - Pueblo I.

23 feb. 2016
Jarl Nordbladh, Sweden
Dear Emmanuel
Warm thanks for nice time together in Valcamonica in September.
It is quite astonishing that we have so very few depictions of fire in rock art. Fire was important for light, heat, industry, probably health care etc. The only quite evident example I can think of, is a Viking big bed-rock with a mythological text, the adventures of heroes, among them a smith.
All the best
Yours Jarl

The Viking rock with mythological text. The smith has the tools but the fire is not represented. (Photo provided By Jarl Nordbladh).

28/01/16

Lambert, Arnaud, USA

Dear Emmanuel:

I have attached a drawing of Chalcatzingo Monument 12 - the figure is holding a torch in its right hand (in front of its head). I have also included a drawing of Chalcatzingo Monument 1 - this petroglyph contains a flame eye motif on the zoomorphic cave image in which the central figure is seated. This too is a common motif in Olmec-style art but is more often shown in the form of a flame eyebrow on serpents and jaguars.

Best,

Arnaud

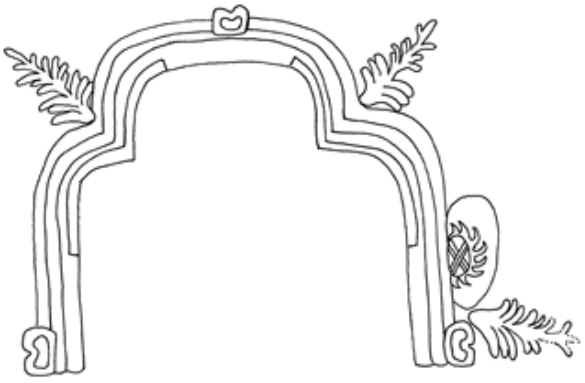
Arnaud F. Lambert, Ph.D.

Associate Professor / Coordinator of Anthropology / Chair of the Social Sciences and Philosophy Department

Onondaga Community College

Social Sciences and Philosophy Department

1- Figure from a Chalcatzingo Monument 12.



2- Figure from a Chalcatzingo Monument 1.

3- Paleolithic cave painting likely to represent torches or fire. Cave of Santian. (From *Les Cavernes de la Région Cantabrique (Espagne)*, H. Alcade del Rio, l'abbé Henri Breuil. le R. Père Lorenzo Sierra, Monaco 1912).

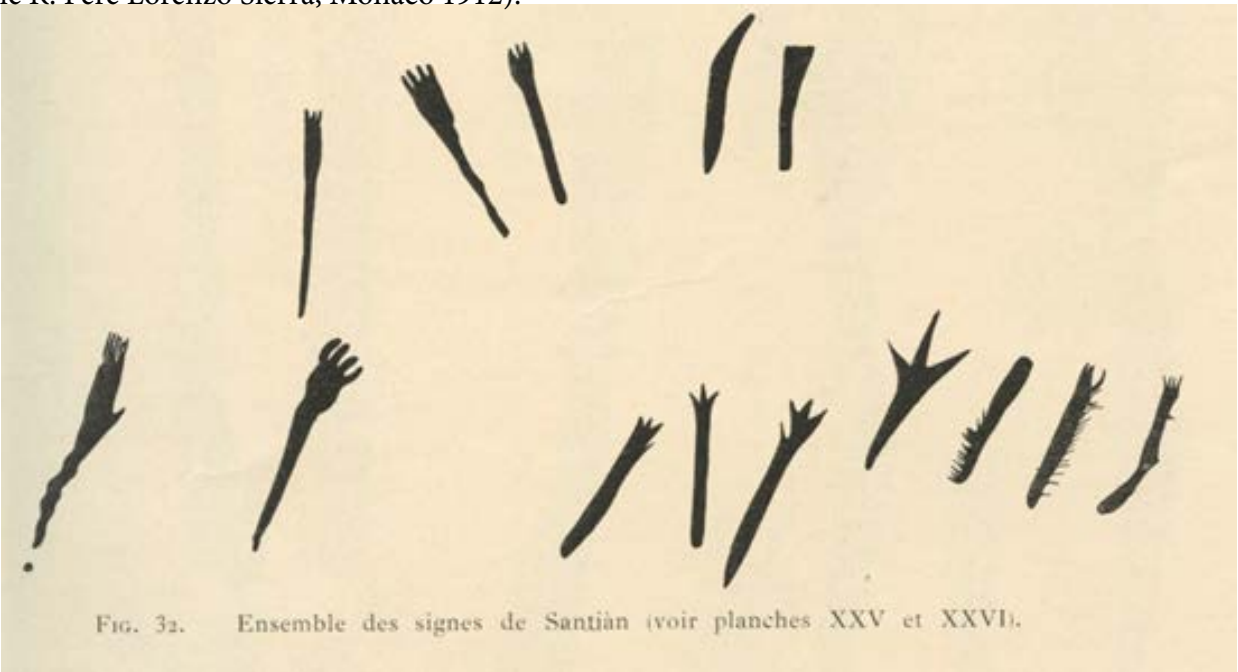


Fig. 32. Ensemble des signes de Santian (voir planches XXV et XXVI).

1

1- Representations of fire. Pastoral rock paintings of Tassili Ouan-bender, Algeria. A man and the woman are inside the tent and a fire is near the entrance. From Anati 2002, *Lo stile come fattoe diagnostico dell'arte preistorica.* (Edizioni del Centro), p. 88.

2- Quan Derbaouen, Tassili-n-Ajjer, Algeria. Pastoral rock painting. It describes a rite of assigning the task of fire preservation. Source: R. Kuper (WARA Archive W07133) Area Code: C-II; Cat. D-II. From Anati, 2015, *World Rock Art* (Atelier), p. 167.

2

a b c

3 a/b/c- Comparing images of fire.

We are grateful to all friends and colleagues who have contributed to the collection of figure and ideas about fire from various periods and different parts of the world. After this short survey, what can we say about the enigmatic figures of the Les Eyzies bone? Is it indeed representing fire? And, if not, what else could it be? E.A

Contents

ABSTRACT SIGNS AND SYMBOLS IN PREHISTORIC TO MODERN ART

Margalit Berriet
Memoire de l'Avenir
Présidente - fondatrice
France

The profane – perfumes, music and colors – are inherently identical, and their differences lie only in human perception. As for the scholars, they invented this plausible tale so that the strength of the soul and the strength of an electric magnetic vitality would be of the same species.[1] (*Translation / Margalit Berriet*) Using our five senses and our intuition, impressions of places, people, nature, or objects are integral parts of the process of accumulating memories and associations. These are the sources for comprehending the process of the mind that produces the means of communication and invention. The study of mankind's behaviour, language and origins is often based on intuitive assumptions, yet only a few pieces of evidence have managed to last tens of thousands of years: The Upper Paleolithic period in Europe, dating to between 10,000 and 40,000 years ago, is an exciting time in our history. It is here that we find some of the earliest examples of humans behaving … they buried their dead, they made music, they carved elaborate tools, jewelry and figurines in a wide variety of materials, and they decorated the caves and rock shelters that they frequented with a rich array of paintings and engravings. Of the three main categories into which this rock art is divided (animals, humans, geometric signs), it is the signs that André Leroi-Gourhan (1982) considered to be the 'most fascinating area of Paleolithic art'. And while he himself included them in his studies, in general these abstract markings have tended to be overlooked in favor of their figurative counterpart.[2] Mountains are massive shapes, pointing up, reaching into the untouchable spaces of the universe, from where many phenomena appear – storms, rains, hail. These became the triangular form of the pyramids, where at the summit we can be in contact with the controlling forces of nature. The sex of a woman is in the same triangle form, but pointing down, towards the earth, where it merges with the life of flowers, plants, grains, trees. A human figure, its arms spread, looks strangely like a flying bird, or a tree reaching from the earth towards the sky, its energy rooted in the centre of the earth. His mind can reach as far as the non-material summits, his arms point to the

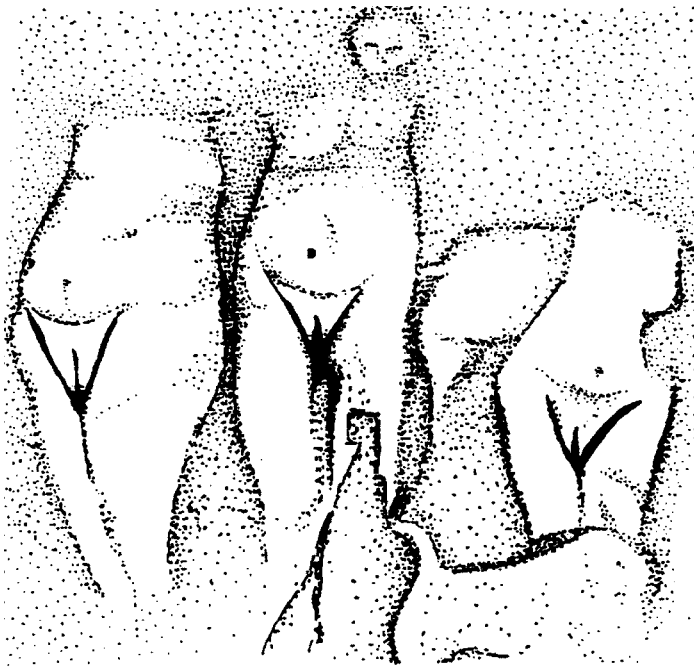


Fig. 1 Roc- aux-sorciers, Angles-sur-l'anglin, Vienne, France. (Anati, *Aux origines de l'art*, Fayard 1999, p.343).

[1] Yasunari Kawabata /la danseuse d'Izu/Edition Albin Michel, 1973/ ISBN 97862603529-9_1er publication LGF/p. 43.
[2] The Geometric Signs - An Introduction /Genevieve von Petzinger (Dept of Anthropology, University of Victoria, Canada).

four corners of the world. Every basic drawing of the human figure, or of a flying bird, looks like two batons crossing each other. Examples can be found all over the world, as, for instance, in the Shaft Scene at Lascaux, one of the most complex scenes in Franco-Cantabrian cave art. Blood is always red. It is always related to life. In ancient languages like Armeien and Hebrew, dam means red and blood. An etymological connection between Adam, first human in Jewish theology, and dam is made by adding the letter A=Alef. Aleph is the first letter in Semitic and in Phoenician: Ālep, in Hebrew Ālef, in Aramaic Ālap, in Syriac Ālap, in Arabic Alif, as in Persian. The Phoenician letter is derived from an Egyptian hieroglyph depicting an ox's head, and is most likely the foundation for the Greek Alpha (A), being reinterpreted to express not the glottal consonant but the accompanying vowel, and hence the Latin A and the Cyrillic A.[3] A+DAM+AH = adama, means the earth and, more specifically, red clay. In traditional Jewish theology, a strong etymological connection between the two words is often assumed. Maimonides believed the word adam to be derived from the word adamah, analogous to the way in which mankind was created from the ground.[6]

The colour red carries various interpretations and cultural attributions that are examples of human diversity, so that red can mean love, danger, marriage, the colour of the devil, or a stop sign. The languages of the arts mirror this complexity, while demonstrating similarities, parallels and universalism all at once. The symbols, marks and lines found on rocks, in hidden caves, or at sites such as mountains or deserts, are expressions of these abilities of man to observe forms, colours, objects and space in nature, while composing complex comprehensive responses to the mysteries of life.

The expression of spiritual ideas and the creation of myths are propositions that are an attempt to understand the phenomena of human, animal or natural behaviour. Man's abstract and concrete capacities of expression are the fundamental elements of our ability to give form to emotions. They reflect both universal and diverse behaviours, communications and art forms. Within these diversities of signs, marks and forms, we can, strangely, illustrate a general schema of communication that transcends time and differences.

What is the definition of a symbol? According to the Collins-Robert French Dictionary, it is 'what represents something else through an analogical connection'. Thus, anything can be a symbol. Numbers and letters are abstractions, ideograms standing for concepts, imitating the universe. Symbols endeavour to codify systems or ways of thinking, and are understandable as part of a certain cultural and linguistic realm, yet they evoke reactions to common or universal occurrences. Symbolic forms thus witness the patterns of human thinking. Approaching the arts brings us closer to the symbolic thinking of mankind. Symbolic elements are tools to promote the convergence of ideas within humanity's diversities. Signs and references found throughout the world witness an infinite numbers of ways to express different, similar, and universal messages, the matrix of our pluralism.

Intangible cultural heritage is a living set and a perpetually constant re-creation of practices, knowledge and of representations, that enabling individuals and communities at all levels of society to express ways of seeing the

[5] Andersen, F.I.; Freedman, D.N. (1992). 'Aleph as a vowel in Old Aramaic'. Studies in Hebrew and Aramaic Orthography. Winona Lake, Indiana: Eisenbrauns. pp. 79–90.

[6] Diamond, James Arthur (2002). Maimonides and the Hermeneutics of Concealment: Deciphering Scripture and Midrash in 'the Guide of the Perplexed'. New York: State University of New York Press. pp. 76–77. ISBN 0-7914-5248-4.

world through systems values and ethical standards.[7]

The creation of signs offered to humanity a tangible sense, a form of control and an established relationship between the world and humanity. We find that humans have attributed sense to their emotions and intentions via anthropomorphic or surrealistic signs. That system of abstraction and personification is related to the progress of communication and attribution that is found in storytelling and artistic manoeuvres, in cultural characters and traditional fables.[8]

Within this relationship, men also needed to create a practical, logical order to comprehend life's ongoing cycles. The Sumerians created writing around 3300 BC to account for the cycles of nature, particularly agriculture, in order to determine their production and use, their sharing and eventually their economy. Here, symbolic vocabulary was imprinted by the natural environment. Abstract forms found their accordance within natural forms, such as the peaks of elevated hills, the flatness of horizons, the circular movements of water, the spirals in the trunks of trees, the circle of pupils or of the sun.

This relationship between perception and creation has been confirmed by research in neuroscience. In 2009, Mark Changizi, a neuroscientist and vision expert, demonstrated that all alphabetical or ideogrammatic signs have evolved in response to natural forms. He reported, remarkably, that the area of the brain triggered by reading is the same as the oneenabling us to identify natural forms. In 2007, a cognitive experimental psychologist, Stanislas Deha ene, showed that the shapes of letters do not stem solely from arbitrary cultural choices, but have beenoriented by our capacity to recognize the natural forms that surround us.[9]

The oldest known traces of signs or symbols, which date back 40,000 years, are the earliest known works of art. Ernst Cassirer studied language, myth and art as symbolic forms. He defined three types of such forms:

"A 'symbolic form' is a direction taken by the senses (Cassirer 1923) p. 234: 'things, states, properties and activities are not given content in consciousness, but follow the patterns and directions of shaping it functions.'

Symbolic forms (and hence meaning) indicate an intuitive activity, non-differentiable from something other than the human spirit: their reality do not pre-exist (symbolic form is not a reflection of reality existing independently of it) but rather it is made intelligible through a symbolic form." See (Cassirer 1923) p. 18-19) (*Translation / Margalit Berriet*).[10]

Thus, what we observe in the evolution of drawing and writing throughout time is the creation of concrete allusions. The pictogram, throughout its different stages, becomes more abstract.

To illustrate this hypothesis, we can study Egyptian hieroglyphs. The sign designating water is made out of three swelling lines placed one on top of each other: a mimetic form. Borrowed by the Phoenician alphabet, the sign evolved in the sound 'maiem' in Semitic languages, meaning 'water'. Analogical approa-

[7] Texte de la Convention pour la sauvegarde du patrimoine culturel immatériel-UNESCO- Déclaration adoptée à Istanbul par les Etats participant à la table ronde de l'Unesco, 16 and 17 September 2002.

[8] Hutson, Matthew (2012). The 7 Laws of Magical Thinking: How Irrational Beliefs Keep Us Happy, Healthy, and Sane. New York, NY: Hudson Street Press. pp. 165–181. ISBN 978-1-101-55832-4.

[9] http://www.college-de-france.fr/site/stanislas-dehaene/course-2007-05-03-09h30.htm/UPL3535621825208553248_Cours2.pdf.

[10] 1211. Une approche sémiotique en philosophie : La notion de forme symbolique chez Ernst Cassirer et son application au cas du langage/ formes-symboliques.org/IMG/pdf/doc-6.pdf/ Cassirer 1923, pp. 18-19.

ches demonstrate a letter that is also a synonym for a word, and which expresses a sound corresponding perfectly with its concrete representation. The letter 'mem' then became (mu) in the Greek alphabet, written M in capital letters, m in small letters, m in Hebrew and Arabic. According to Cassirer, that is the process of symbolic development and direction.

The evolution from drawings that representing ideas to symbols, between a geometric sign and its initial form, happens through the evolution from a literal sense to a more abstract one. This explains how, through epigraphy, we can trace a semantic connection, one that requires an intuitive, sensitive approach, through cognitive reasoning.

According to Salwa Mikdadi, an independent curator at the Metropolitan Museum (New York), Berber is a generic name given to the indigenous tribes of North Africa by the Greeks, who referred to all North Africans as barbarians or foreigners. The Berbers call themselves Imazighen, meaning free or noble ones. Ethnically, the Caucasians are close to the Semites. Their language, Tamazigh, of the Afro-Asiatic group, uses Arabic, Hebrew and Latin. Their motifs, signs and symbols are found in pottery, textiles, carved or painted wood, leather works, jewellery, amulets and tattoos.

According to Said Hanouz (Knowledge and Syntax of the Berber Language (Library Klincksieck, Paris, 1968, p. 248): 'It's undeniable that the oldest documents of language expression found in North Africa, either ideographic as "hieroglyphs" or consonants as the 'TIFINAGH' express also Berber words. A few examples of words written in hieroglyphs which express Berber (Amazigh) words of today are: to 'drink', spelled 'swi' from the Amazigh verb 'swa' of the same significance; 'lady', spelt 'Ta metut', Amazigh word which refers to 'lady'. To make this epigraphic investigation, I have also followed the paths of modern artistic expression, as found in the works of, among others, Pablo Picasso, Willem de Kooning and Keith Haring, which combine abstract, emotional expressions with figurative representation.

Fig. 2 Photo by Margalit Berriet

In Robert Motherwell art, colours and non-defined space are a reflection and an invitation to dive into an emotional space. Motherwell was introduced to the concept of 'automatic' drawings by Roberto Matta. The Surrealists often used this process of abstract automatism scribbling in their research into the unconscious. The concept was applied by Motherwell

differently, dealing with the concept of abstract emotional space via rhythm, colour and light, unlike Wassily Kandinsky, Paul Klee, Joan Miro or Keith Haring (and many others), who were investigating places of abstraction, like minimal scripts or fields of forced trance and emotion. Their stylization of form to the point of abstraction has been fundamentally inspired by ancient cultures. As we studied this artistic process in parallel to that of the creation of symbols, we have been able to come up with certain keys of interpretation. The suitability of a completely abstract form lies in its capacity to convey complex or metaphysical ideas. From what I have observed, it would seem that a geometrical symbol often derives from several natural forms, those gradual stylizations converged into abstract or figurative signs. Those initial forms complete each other, each bringing its specific tonality to a larger meta-signification that the geometrical sign then conveys as a whole.

The circle is one such geometrical shape. Other shapes, from which it may derive, include the stars and the sun, human pupils and irises, certain fruits and vegetables, and water drops that create concentric circles when they fall into still water. The sun, a crucial element of life on earth, is often represented by a circle in ancient scripts. Studies show links between the sun and the circle, while research in iconography and epigraphy leads us, for example, to ancient Egypt, where solar divinities such as Re-Horakhty were always easy to identify through the discs crowning their heads.

This code is also found in vexillology, the study of flags and related emblems. Japan's national flag, for instance, is a red circle, representing the sun, on a white background. The flag itself is called Hi-no-maru, meaning solar disc in Japanese. In some military flags, rays shine around the circle, asserting even more strongly the association of that shape with the sun. In contemporary art, we immediately associate a circular shape with the sun, as it is a common, intuitive visual code.

We see it, for instance, in the painting 'Figures and Dog in Front of the Sun', 1949, by Joan Miro, in which, via shapes and colours, he expresses ideas, messages, sounds and emotions. There is a free aspect in his lines, offering whimsical and organic forms in contrast to pure geometric language. According to Cassirer's typology, these are mimetic symbolic forms.

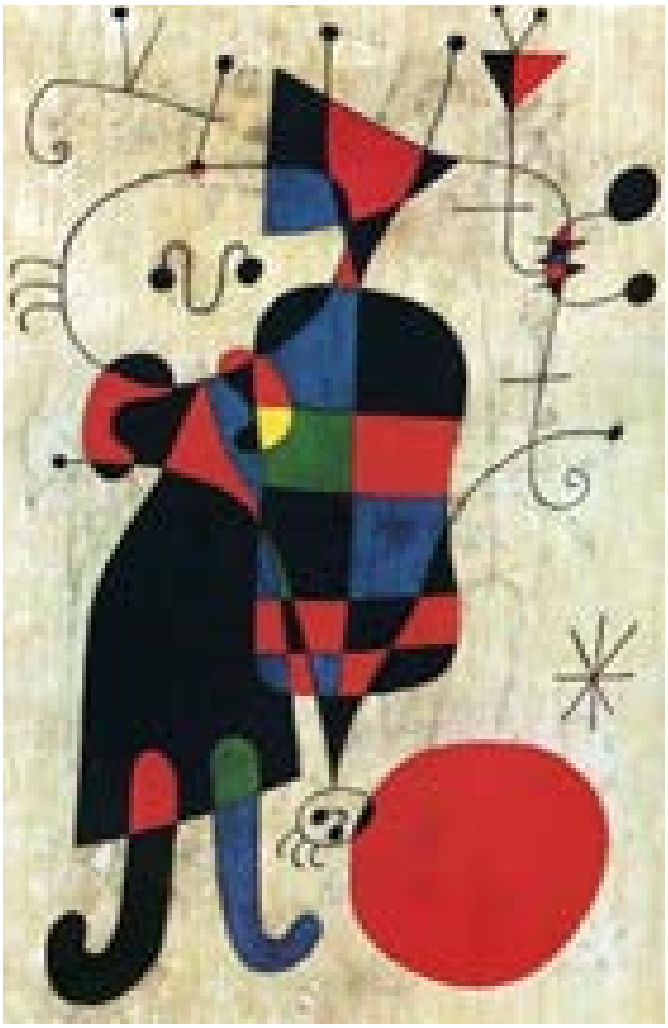


Fig. 3 'Figures and Dog in Front of the Sun', 1949, by Joan Miro. Courtesy of www.Joan-Miro.net.

The Mayan character representing the sun has a shape between that of a circle and a square, to which are added four lobes and a central dot. It is enlightening to compare that sign with the sun ideograms in ancient Egypt and China (around 1500 BC), which have a central dot within a circle. The three signs closely resemble one another, except for the semi-square shape of the first one.

The Chinese character has evolved for thousands of years, its dot stretching out until crossing the circle that had, on its part, evolved into a vertical rectangle. The Mayan sign for the sun might be the result of a similar process of stylization. 'Kin,' which means sun in the Mayan language, also delivers the idea of day, of the non-static aspect of time. These four parts could therefore refer to the shifting of the sun or to the four cardinal points, both very present aspects of the way the Mayans considered life. The myth of the sun, leaving his house in the morning and returning there at night, is significant to such an extent that in most idioms deriving from the Mayan language, the east is called 'exit' and the west, 'entrance'. The sun god Shamash, in Mesopotamia (Iraq, around 1750 BC), is symbolized by a circle embellished with a stylized cross, plus four rays diagonally undulating towards the outside of the circle. In the centre is a dot or a circle within a circle. That symbol is very close to circular signs, called sun wheels, marked with a cross that has both vertical and horizontal axes (around 1500 BC), associated with a cult that existed during the Danish Bronze Age. Since human beings have always used the shifting of the sun to define the time, seasons and the cardinal points, that cross pattern may have been used to represent this very same solar phenomenon, uniting in a single form space, time and the sky. The Mayan lobes can be understood in the same way.

The central dot represents the centre of the sun. It could suggest that the sun is a powerful element, associating it with the idea of radiating, as is made evident in the Shamash symbol. It could also suggest a complex idea of an inner energy spreading towards the outside, or the centres that all elements are attached to and which turn around it. The circle is a symbol of time, denoting infinity by its geometrical nature. The sun is born again every morning after its nightly disappearance. It has been associated with the possibility of life after death, an idea made evident in ancient Egyptian mythology. The ouroboros, a snake biting its own tail, is also a circle. It expresses the idea of eternity, its shape and meaning thus related to those of the sun.

In the representations of Shiva Nataraja, the Hindu divinity does his dance to destroy the world, which happens within a circle of fire. Here, the circle is not only a representation of the universe, put in motion by godly powers, but also an image of life and universal energy that the divinity can conjure up at any given time. The bi (China, 3000 BC) is a circular jade disc with a hole in its centre. This prestigious object, placed on the deceased's body in Neolithic times, is probably a symbol of the sky, as the firmament is round in Chinese cosmology. The sun and the circle thus unite in a purely symbolic form, that of the cycle of life, of the eternal resumption of seasons, and of astral movement. It is the sign of the world around us, the cosmos in all its mystery. The idea blends in with the shape, hence the extraordinary efficiency of the sign. Humans have left trails that express and produce throughout time. This human function also leads man to use mental representations, symbols, which constitute the arts as a means of comprehending the world.

Jean Louis Dessalles concludes:

at the same time of the appearance of argumen-

tative functioning, [came] the development of humans' aptitudes for reason and the practice of logic. Without any doubt, we talk here about a cognitive capacity of man that plays an essential role in the manner humans could master and understand their environment.[11]

The word cognition derives from the Latin verb cognoscere, which means 'get to know'. This means that cognition focuses on knowledge, albeit not as a static substance or thing, but as a process. More generally, when we speak about cognition we are focusing on the mind as an information processor, that is, a system that acquires uses and transforms information. It is important to note that cognition is not just about the kind of explicit knowledge and rational thinking that we typically find in scientific or philosophical reasoning. Cognition also includes subconscious, implicit, and affective experiences and feelings, since these, too, are based on the processing of information. [12]

11 Jean-Louis Dessalles, Les origines de la culture, Le Pommier/Cité des sciences et de l'industrie, 2006, p. 109.

12 Francis Heylighen, 'Cognitive Systems, a cybernetic perspective on the new science of the mind', Lecture notes 2008-2009 (ECCO: Evolution, Complexity and Cognition - Vrije Universiteit Brussel), p. 5.

THE LASCAUX SHAFT

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The Lascaux Shaft has become world-famous because it contains one of the rare indubitable scenes, however mysterious it may be, ever found in Palaeolithic cave art. All the images were made with black paint (manganese dioxide). However, for the rhinoceros and the scene itself different pigments were used (Aujoulat 2005: 158), so that we cannot be certain that those different images were linked, no more than with the partial black horse on the wall in front of them.

The scene represents a schematic or even filiform man with a bird head sporting an erection. With his arms open he is falling backwards in front of a bison charging with its head lowered. The animal is losing its entrails and the small of its back seems to be struck by a long barbed spear. Another such weapon, with a double barb at its base, lies isolated under the man. The two might be interpreted as a broken lance. A bird, whose head is identical to the man's, appears to be perched on a vertical stick with also a barb at its lower end (Fig. 1). To the left of the scene, a rhinoceros seems to be going away calmly. Like the bison, its tail is upraised. Six dots, two by two, were painted in a line close to its hindquarters and right below its tail. On the opposite wall is a partial black horse.

To reach those images one must walk to the end of the Lascaux Apse, after having crossed the great Chamber of the Bulls and then the Passage, a short gallery where draughts have erased most of the paintings. At the time of discovery, it seems from testimonies that access to the shaft was somewhat difficult. It was ne-

Fig. 1. The Scene in the Lascaux Shaft. Photo by Norbert Aujoulat.

cessary to crawl over 2 metres before reaching a thick red clay infilling that partially blocked its entrance. The young discoverers, however, went down the few metres with a mere length of rope without too much trouble.

The infilling has now entirely vanished and access to the shaft is possible by climbing down a metallic ladder. Norbert Aujoulat remarked that, according to the testimonies of one of the discoverers (Jacques Marsal) and of his friends, the original clay was overhanging and, at each descent, blocks of it would collapse and fall down to the bottom. For long that fact was interpreted as only testifying to a very small number of prehistoric visits, perhaps just one, to that most concealed and secret part of the cave. Aujoulat went further. According to him, the shaft used to belong to another gallery with a different entrance, now closed off by rocks and clay, that would have enabled people to get there more or less horizontally (Aujoulat 2005: 42-46), in which case, it would not be a remote Lascaux gallery but a second painted cave inside the same hill, a case well known elsewhere, for example in the French Pyrenees with the three Volp caves (Enlène, Les Trois-Frères, Le Tuc-d'Audoubert), Niaux and Le Réseau Clastres in the Ariège; Erberua, Oxocelhaya and Isturitz in the Basque country; and the four Monte Castillo caves in Cantabrian Spain (El Castillo, La Pasiega, Las Chimeneas, Las Monedas).

The atmosphere in the shaft is notorious for its very high level of carbon dioxide. Normally it is extracted by special machinery to enable curators to get there whenever necessary. When the machine stops for some reason, CO2 concentrations quickly rise to perilous levels and

any visitor will suffer immediate discomfort and will have to leave quickly.

The representations known in the shaft are indeed linked to some in the rest of Lascaux, as has been said before. The partial horse is identical to many in other galleries. In addition, what we call 'geometric signs' are exactly repeated in other parts of the main cave. For example, the six black dots under the rhinoceros tail remind us of the six red dots in the same disposition (as André Leroi-Gourhan first noticed) to be found right at the end of the narrow Felines Diverticule. It is impossible to provide an interpretation for them. On the other hand, in the shaft scene, the other 'signs' can be interpreted: the bird seems to be sitting on a stick. As to the bison losing its entrails, it is cut across by a barbed shaft that seems to be broken at one end and looks like a lance or a big spear.

In that scene two facts recur which might provide a clue for it. First, the image of a bird, extremely rare in cave art, has been represented twice: the man who is falling backwards has been given a bird's head; under him is an exactly identical bird. Second, the idea of death is also repeated: through the man falling in front of the aggressive bison and through the bison itself who is mortally wounded.

After the cave was discovered, the shaft Scene was first interpreted literally, that is, as the representation of a hunting accident, despite the unlikely bird head for the man, to the point that excavations at the foot of the wall were contemplated to find the possible burial of the unlucky hunter.

However, all the ethnological studies of hunter-gatherers have shown that their conceptions of the world were quite far from the simplicity they were mistakenly attributed with and that their drawings on rocks did not relate anecdotes, particularly on sacred sites. Very often they expressed themselves with metaphors which depended on the myths and sacred stories of their tribes.

In this case, it might be possible to read the scene at two levels by taking into account the quoted repetitions as well the conditions of the place. Couldn't the idea of death be related to the noxious and potentially deadly effects of the carbon dioxide ever present in that deep place? From such a point of view, the theme of the bird might suggest the flight of the soul and it would thus reinforce the warning message.

One may also go one step further and contemplate the hypothesis that the theme of death should not be taken at its face value and that it might refer to trance and to the shamanic voyage, that is, to that strange moment when the soul of the practitioner leaves his/her body to fly to the supernatural world there to meet the spirits or gods he/she wanted to contact and get benefits from. Such an interpretation is possible because we know that in numerous shamanic cultures death is the metaphorical equivalent to trance. For example, in the centre of California, the idea of killing a big horn sheep (an animal linked to rain and fecundity) used to mean that the shaman travelled in his/her mind, that is, was 'dead', in order to summon the bountiful rain by his/her action (Whitley 2000).

The scene would thus assume its full meaning as it would refer to an activity of capital importance to the human group, made possible by the particular conditions of the place where it was represented (Clottes 2003). [1]

1 Most of this paper was published in French in Clottes 2003 (pp. 77-79) and in Clottes 2004 (pp. 196-197).

References
AUJOULAT N.,
2004 Lascaux. le Geste, *l'Espace et le Temps*. Paris, Le Seuil. In English, 2005. *The Splendour of Lascaux. Rediscovering the Greatest Treasure of Prehistoric Art*. London, Thames & Hudson.
CLOTTES J.,
2003 *Passion Préhistoire*. Paris, La maison des roches. See 'Retour à Lascaux', pp. 65-79.
CLOTTES J.,
2004 Mythes paléolithiques. In *XXI Valcamonica Symposium*, Prehistoric and tribal art: New discoveries, new interpretations, new research methods, Darfo-Boario Terme (Bs), Italy, 8–14 September 2004, pp. 195-200. Capo di Ponte, Centro Camuno di Studi Preistorici (Pré-Actes).
WHITLEY D.,
2000 *L'Art des Chamanes de Californie. Le Monde des Amérindiens.* Paris, Le Seuil.

Text, Context and Symbolism in Saora Art: An Anthropological Analysis

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Art, as a product of aesthetics, has a socio-cultural text and context. Not everyone in a society may be an artist but everyone should be art lovers because art lies in the core of society and culture. In the context of modernity, many cultural elements may change but art has the immense capacity to maintain its traditional identity. Even though art has several dimensions because of the contexts of its production, starting with secular to sacred, the secular dimensions change most often whereas the sacred ones remain least affected. Art in this way is born out of culture and ultimately helps to maintain the indigenous and original heritage of a culture. Furthermore, it is worth saying that all art has a purpose and a symbolic message which the artist designs in his own mind expressing his or her socialization and culturation. Sacred forms of art maintain traditional cultural traits more than other forms which are usually grounded in the principle of art for art's sake. Such secular forms are more dynamic no doubt, but lack the value orientation of a traditional culture. The sacred ones form an essential part of religion and form the basis of my presentation here.

The story of the value orientations of art is most visible in the art tradition of the Lanjia Saora, who not only love art but also very much live with it. Considering their geographical isolation, cultural richness and economic backwardness, the government of India categorized them as one of the Particularly Vulnerable Tribal Groups (PVTG).

Fig. 1 A double roof Saora icon.

Away from the din and bustle of urban life, in the interior inaccessible forest tract of southern Odisha inhabit the primitive Lanjia Saora. Lanjia Saora, the primitive section of the generic tribe Saora is exclusively shifting cultivators who developed terrace cultivation in about the last 100 years. Unlike most other tribes, Lanjia Saora do not have a clan organization; their society has stratified title groups and they possess a unique age-old tradition of art form known as *Idital*. Lanjia Saora art forms are of two types, secular and sacred. As already discussed, this paper describes the sacred art of Saora. Whereas the secular art forms are drawn on the outer walls of the house, the sacred ones are drawn on the inners wall. Saora have pre-

Fig. 2 A Saora icon by a lady artist.

served all the essential ingredients of their culture through their sacred art *Idital*. Therefore, when any drastic change in their social structure or culture occurs, it greatly affects their sacred art tradition. In the present scenario, the section of the tribe (Lanjia Saora) which has been converted to Christianity no longer continues the art traditions. No doubt, the Christian Saora maintain a distinct livelihood but their traditional concern for the man-nature-spirit complex in the culture has died for ever. In 1953 Verrier Elwin, a British scholar, wrote an exhaustive ethnography of the Saora (especially the Lanjia Saora) religion, explaining *Idital.* His scientific documentation brought this unique art tradition to the outside world. Though it is not the total context of art he presented, he mentioned for the first time an exclusive account of the Saora art or iconography. Each piece of Saora iconography includes a variety of art forms. Elwin categorized all his collected icons into the following seven types.

1. Icons designed to promote the fertility of the crops (six case studies cited).
2. Icons dedicated to gods to avert diseases (ei-ghteen case studies cited).
3. Icons made to assist childbirth (two case studies cited).

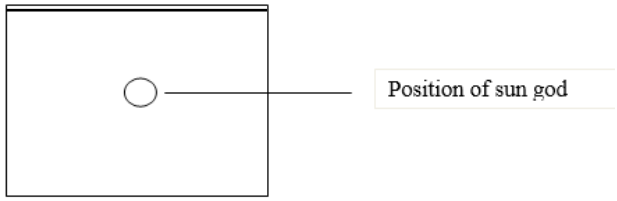
4. Icons which represent shrines and hills (seven case studies cited).
5. Icons drawn in favour of tutelaries (eight case studies cited).
6. Icons made in honour of the dead (five case studies cited).
7. Icons made for those who have been abroad (four case studies cited).

In addition to the above mentioned seven major types, there are also numerous other situations or purposes for which household heads draw icons, as per the following examples.

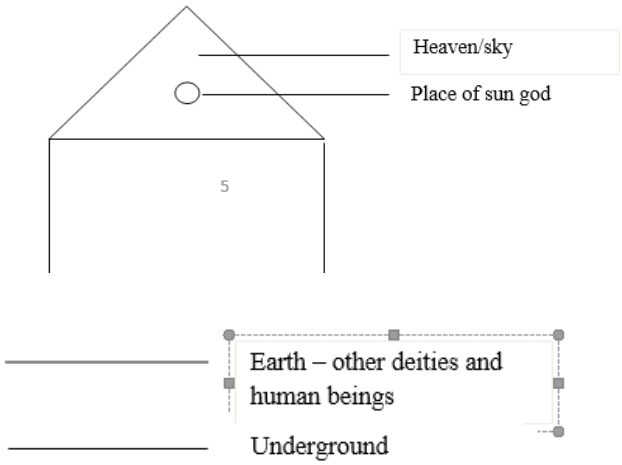
1. In certain festivals like *Jamalpur, Osanadur*, deities like *Labosum* and a few others including *Jemra Kittung* and *Sidibiradi*, along with the ancestral spirits, are placed in the icons meant for them and propitiated for better fertility.
2. *Kittung* and a few other deities, when in need of a male or maid servant, cause illness and demand an icon with the figure of a servant.
3. Some deities or ancestral spirits do not like isolation or loneliness. They demand an icon-house inside the house of somebody. They tell about their desires in dreams and in the case of negligence, cause severe illness.
4. When somebody utilizes or harvests the natural resources without the permission of the concerned deities (when grass is cut without the permission of *Gadalsu*, picking spinach without the permission of *Gunjusum*, clearing land without the permission of *Labosum*, etc), illness is caused.
5. In some cases, when somebody neglects his ritual responsibility under the pressure of liquor, the deities get annoyed and cause illness which can be averted only by drawing an icon in their honour.
6. In a few other cases, it is also noticed that some deities get tired while passing by the villages and want to rest. They cause fever in someone in the village and demand an icon-house for their rest.
7. When somebody does not offer tobacco to the forest deity *(Benasum)* while carrying on forest activities, the deity feels insulted and causes illness. One has to draw the icon for the cure.
8. When a son does not continue the father's shamanistic tradition, and consequently the concerned deities are not worshipped, the spirit of the father as well as the deities become unhappy. They cause illness and demand an icon for the cure.
9. In another case where one of two brothers was found to possess an icon and the other one did not have one, the deity wished to stay in the latter's house and demanded an icon.
10. When somebody neglects his ancestral spirits, they cause illness to him and demand an icon for the cure.
11. Some deities (like *Kondusum*) comes with a girl who is returning home after dancing and desires to stay in her house.
12. The deity *Jaliyasum* wants to have his marriage ceremony depicted in the icon and causes illness for the fulfilment of his desire.
13. For reasons of common well-being or welfare, icons for deities like *Sahibsum, Marmoset, Jammolsum, Sardasum, Barongasum* are drawn on the wall of the living room.
14. For the purpose of smooth child delivery, the concerned household heads draw icons for *Darammaboi and Gadejanghoi.*
15. When the mother's breast becomes dry and the baby suffers, icons for *Tutiyumsum* (for the mother's nipple) and *Uraljungsum* are drawn.
16. For the collective cure, the icon of Uyungsum (sun) is drawn.
17. On an occasion when somebody meets *Karnosum* and his companions and does not pay respect, they cause illness and demand an icon.
18. When somebody does not take care of *Karnosum*, after his father's death the deity causes illness and gives an instruction to continue propitiation through the icon.

Fig. 3 A typical old Saora icon.

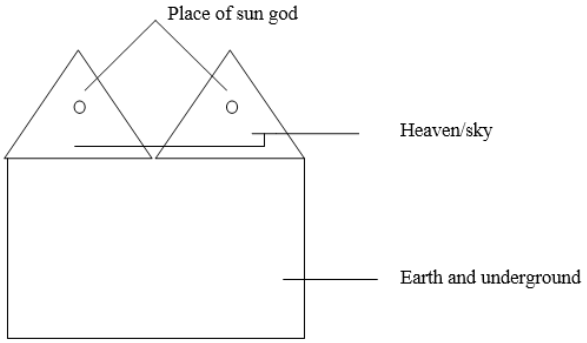
19. Based on the relationship between the shaman and his female tutelary or the shamanin and her male tutelary, many icons are drawn:
a) When the shaman is troubled by marrying two tutelaries, he has to draw separate icons for each one of them.
b) The tutelary may also demand icons for her relatives.
c) The spiritual husband of the female tutelary may also demand a separate icon.
d) The spirits of some ancestors are not satisfied with only guar (mortuary) ceremony and t demand icons for them.
e) When an ancestral spirit is placed in the icon, his spiritual friend may also demand a place in the same icon.
The examples are numerous. The type of house or border design also depicts a definite purpose. Usually the border designs demarcate the boundary of an icon. They symbolize a house for the deities depicted within it. In the diagram, the upper part (sometimes middle) is occupied by the sun god, the middle part by the invoked deities and the rest by human beings (Saora). In general, there are three major types of borders or houses based on three major purposes, as follows.
1. The most popular shape for an icon is square or rectangular.



Here the most common purpose is the name-giving ceremony of a child. Usually the purpose is defined either to the artist or to the host household head in a dream.
2. The second most popular one is square with a slanting roof:



Such border diagrams are mainly drawn on the occasions of Karja (mortuary rites) and learning the magical rites for the deity Ildasum.
3. The third most popular shape or design is a double-roof structure.



Such a double-roofed structure is usually drawn during ritual occasions like *Lajat Abdur.* On all the above icon-houses, the triangle part above is the house of the deities or heaven, symbolizing the power of the concerned Saora deities. The square or rectangular part is the place of the human spirits (after death) and living human beings. This may also be the place of earth and underground.
On the occasion of making *Idital*, first, some ritual offerings are made to the Raudasum for selecting the inner wall of the house. Then another ritual is performed for starting the icon or artform, which is known as *Idital Susuna.* In the making of an icon or art, these regulations are usually followed. There must be an Idital in the house of all *Kudanmar* (male shaman) and Kudanboi (female shaman). Some, as per the instruction in a dream, keep the figure of *Ildaboi/Ildamar, Labosum* (deity of earth) or *Jadasum* (deity of water resource). After a diagram or icon becomes five or six years old, the concerned deities will instruct the household head in a dream that their faces are fading and becoming pale, and a new icon or Idital must be made. Anybody who needs to organize Karja (mortuary rites) or a name-giving ceremony for a child (*Anjuman)* has to make all the arrangements for making a new Idital. Sometimes people have to propitiate the deities in the Idital of the shaman's house. Usually all Saora artists are male. Female artists are not usually encouraged in view of their menstrual pollution, the responsibility of childcare and varieties of other household responsibilities. However, due to modernization, female artists in Saora society today have started drawing icons. However they do not draw any icon during the menstrual pollution. They are not also allowed to touch the wall on which the icon is drawn during this time. While making a new icon, the Saora females are not allowed to touch the wall. After the completion of the icon, it is covered with a piece of cloth till the time of worship. During other pollutions like birth or death the wall containing the wall painting is neither touched nor observed. The *Italmaran* or artist who makes the icon remains fasting till the completion of the art. He is allowed only to take fermented sago palm juice during the icon-making, though in the evening, he goes home and eats. On the completion of the icon, the *Italmaran* is offered raw food grains by the host family. He is usually paid about 10 kg of paddy as remuneration. He also takes home all the sacred items like rice, paddy, millet and distilled as well as fermented liquor after they are offered to the deities of the icon. On the day of worship, he is invited mainly to correct mistakes, if any are pointed out by the shaman. On the day of worship, the *Kudanboi (Shamanin)* will sit at the *Idital.* After the rituals are over she is offered food and is also allowed to perform rituals at the icon of a particular family if permitted. About a week is required to complete an icon. Some artists who are quite expert in icon-making may take half that time.
Lanjia Saora celebrates several festivals in a

Fig. 4 An old Saora icon retouched by a male artist.

year. All the major festivals are mostly connected with icon-making. The symbolic diagrams of the deities are drawn in the icon for propitiation .

There are definite rules and regulations for drawing the diagrams of the supernatural entities in the icon. All diagrams are symbolic in nature. Any mistake or exception in this regard dissatisfies the concerned deity.

In *Karja* the activities of the ancestors and their choice of vehicles are depicted in the icon, for example cultivation work, collection of firewood, pictures of trains, aero planes, cars, bicycles, bullock carts etc. In the middle part, the diagram of the sun god is there mainly because he is the supreme deity of the Saora. The dia grams are decided according to the purpose of the icon. When the icon is mostly dedicated to the ancestral spirits, the supernatural and human figures will be there inside the box. The domestic species like common house lizard, chameleon and wild species like tiger, bear, fowl, peacock, monkey, snake, crab, scorpion, porcupine, hyena, jackal will be outside the box or boundary of the icon. In the icon for learning magical rites and spells, the sun god will be in the middle. Around him *Rat sum* (the deity of the forest), *Labosum* (earth deity) and a variety of other deities will be sitting on tigers, snakes, etc. The color black is used along with white.

Sometimes deities demand worship whenever they desire. Sometimes they instruct either the *Italmaran* or the head of the family to specially draw an icon for their satisfaction.

In the name-giving ceremony of a child, the sun god usually occupies the central place. Around him mostly the ancestral spirits are drawn in order to bless the baby of the family. Only the flute and *sarangi*, a string instrument, are played. No other musical instrument is allowed on this occasion. A special diagram is drawn to commemorate the presence of the baby, in which the baby is sitting on a buffalo.

In *Abdur (*first eating ceremony), the village god *Manduasum* is specifically represented in the icon along with the sun god. The house or border of the icon is made with a double slanting roof, one occupied by the sun and the other one by *Raudasum.*

This general description provides a basis for analysis in the context of cultural rights education. As already stated, the Saora icons socio-culturally and psychologically make people confident to move forward in life. Culturally Saora creates art and art in return depicts their cultural values, preserves them for the future generations and contributes greatly by providing value-oriented symbolic messages and the uniqueness of the Saora world view. The total text of Saora art is thus, from an anthropological point of view, a multidimensional visualization of the world within and outside.

Conclusion

Saora love to live in nature and like to respect supernatural beings. They reflect all their feelings, sentiments and emotions both socio-culturally and psychologically in their icon or wall paintings. They perfectly understand that without the blessings of gods and goddesses as well as the contributions of plants and animals their existence on the earth is severely questioned. The symbolic messages of their icon or art impinge on their thoughts and feelings. Art has been therefore the strongest medium in their society to spell out all their cultural values and rights, and the text of Saora wall painting in the context of Saora culture very rightly testifies that art is symbolic, which ultimately helps to shape society and people.

References

Behura, N.K. and Dash, Jagannath,
1991 'Art, Symbolism and Ritual in a Non-literate Society: A study of the Saura icon', Tribal Art: *Primitivism and Modern Relevance*, Working Artists Association, Bhubaneswar, India.

E. Verrier,
1951 *Tribal Art of Middle India*, Oxford University Press.

E. Verrier,
1955 *The Religion of an Indian Tribe*, Oxford University Press.

IN PICTURE GENESIS, THE ABSTRACT PRECEDES AND ENABLES DEPICTION AND CODING: SOME ARGUMENTS AND SPECULATIONS BASED ON THE INVESTIGATION OF EARLY PICTURES IN ONTOGENY

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Introduction

Questioning early manifestations of pictorial art in phylogeny, the elucidation of the abstract – above all, its time of appearance, its first characteristics and development, and its pictorial status – may prove to deliver some of the most important contributions to the understanding of why and how pictorial art emerged (on the general matter of the origins of art, see Lorblanchet, 1999; D'Errico et al., 2003; Anati, 2003, 2014).

However, in this paper, neither early art development in prehistory nor abstract manifestations in tribal art are directly addressed. In terms of a detour, general findings concerning early pictures in ontogeny (often termed early child art) are presented here, and they are interpreted with regard to the early abstract of pictures in general. The considerations are based on a long-term and comprehensive investigation of drawings and paintings of children aged between around one and six years old, including very different geographical, social and cultural contexts of picture production, and the investigation of the early picture process in ontogeny (Maurer and Riboni, 2010; Maurer et al., 2013; Maurer, n.d.). Further, they also integrate and advance earlier reflections on the matter (Maurer, Riboni and Gujer, 2009a, 2009b; Maurer, 2013).

A direct comparison of early graphic expressions in ontogeny and phylogeny is confronted with two major obstacles. One the one hand, with rare exceptions, there is no archaeological record for the time of early pictures. The prehistoric pictures from about 40,000 to 10,000 BCE that have been discovered up to the present reflect a highly developed artistic level of drawing and painting abilities and, therefore, cannot be regarded as early graphic expressions. For the period of c. 500,000–40,000 to BCE, we only know of singular manifestations with graphic characteristics – in general, they are of the abstract kind – and the status and the significance of some of these manifestations are a matter of debate (Lorblanchet, 1999; Henshilwood et al., 2002; D'Errico et al., 2003; Joordens et al., 2014). For a phylogenetic investigation, we are thus lacking a concrete foundation of early pictures. On the other hand, different descriptions of the characteristics and the development of early drawings and paintings produced by children are given in the literature, related to different interpretations of their pictorial status (Maurer, 2013). In addition, it is not possible to directly compare characteristics and developmental tendencies of graphic expressions produced by adults and children because of obvious differences in production conditions, above all sensomotoric and cognitive skills and cultural encoding.

However, at least the second obstacle is surmountable. Because of our new empirical basis, we take the stand that this new basis allows for clarifications of early pictures in ontogeny, especially for their first characteristic as abstract, their first pictorial status as self-referred.

and their role in enabling depiction and codes. The aim of the present contribution is to explain in more detail these three characteristics and to discuss the role they play for the conceptual consideration of early pictures in general, also including phylogeny.

Early pictures in ontogeny: empirical findings

It is often assumed that the first characteristics as well as the first development of drawing and painting in early childhood consists of sensomotoric traces and marks (hence termed scribblings) and that only when the first figurative manifestations appear can there be a production of graphic forms that do not reflect the sensomotoric apparatus. This view corresponds to a structuralistic understanding of syntactic differentiations imperatively related to semantic differentiations, in which the syntactic manifestation, here the picture, stands for something other than itself, here the depicted (figure, object, scene, event) or a signification related to a code. Yet a comprehensive empirical investigation of early drawings and paintings of children contradicts such a view (Maurer et al., 2009a; Maurer and Riboni, 2010). The following summary provides an explanation. (Note that an extensive illustration is given online; please refer to http://www.early-pictures.ch/expression).

Already the very first characteristics of observable manifestations on paper – and also of corresponding manifestations on other flat surfaces – during the second year of life reveal the creation of types of graphic movements according to their visual contrast. Thus, children at this early age do not produce simple and accidental sensomotoric traces or marks, but they begin to act according to the visual appearance, its formal understanding and its formal differentiation. From the beginning, it is the visual understanding of a graphic figure (the term used here in its broad sense) on a ground, and not the general understanding of a trace on a surface that makes the picture (see also Böhm, 1994, for the '*ikonische Differenz*' engendering a figure–ground contrast as the primary character of a picture).

Figure 1. Four types of graphic movements according to their visual contrast: strikes, strokes, perpendular or push-pull movements, circling movements. Three European children and one Indian child, age range = 1y 0m to 2y 0m.

Because this is what children do, they rapidly advance in this formal production and understanding. In the same year, they overcome or get rid of the rhythmic character of their arm motor function : they slow down the movement and try to lead the pencil during the graphic action, until a single line appears. As they progressively succeed in doing so, they differentiate the course of the line by creating different line forms. At the same time, they start to vary some attributes of the graphic manifestations, such as the size and extension of graphic movements. They also start to link different line forms. Further, they start to organize single graphic manifestations into simple types of topological arrangements, such as scattered, overlaid or forming angles.

Finally, they also relate to the visual effect of the colour, for example by producing multiple contrasts or by emphasizing a specific colour in terms of a very dense application.

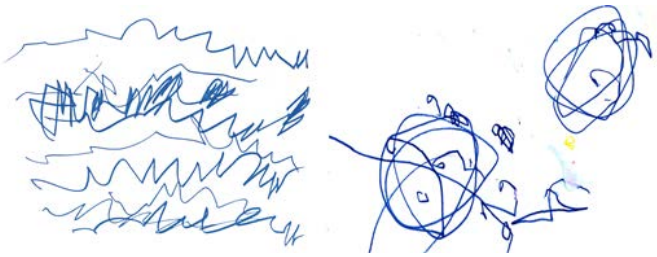

Figure 2. Two distinct line forms: zig-zag and spiral. Two European children, age = 1y9m and 1y5m.

Experiencing line formations, from the age of two onwards, children discover how to bring the end of the line to its beginning, thus producing a closed form. Succeeding in doing so, in the third and fourth year of life, they progressively become able to produce and differentiate various kinds of closed forms, such as circles, ovals, trapezoids, rectangles, squares, triangles, polygons and so on. At the same time, the variety of graphic manifestations, both drawing and painterly, sharply increases. Forms are further varied, they are composed in very different ways in order to appear as graphic combinations, complexes, structures, patterns and aggregates; they include geometrical aspects such as radiuses and diagonals, they are arranged in very different ways, such as overlapping, abutting, adjacent, inside one another, with a gap, reciprocally aligned, arranged in a series, or as parallels, or orthogonally, or concentric, mirroring a symmetry, showing distinct proportions and so on. Colour application includes variation in line density and thickness width, and effects of circumscribed surfaces and colour relations are produced.

.In the fourth and fifth year of life, this graphic evolution culminates in a first abstract picture scheme, in which individual graphic aspects

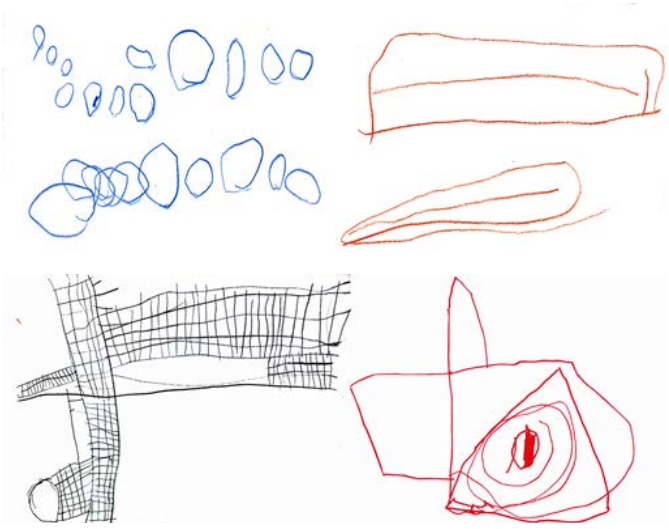

Figure 3. Closed forms and form compositions. 3a: Early closed forms and their differentiation. Two pictures of an Indonesian child, age = 2y 5m. – 3b: Two form compositions. Pictures of an Indonesian (up) and a European child (down), age = 4y 1m and 3y 6m.

are subordinated to a visual effect of the entire surface of the picture. In parallel, in the third and fourth year of life, children sometimes make verbal statements about their drawings and paintings with regard to either the

Figure 4. Four examples of an early „abstract" picture scheme, in which individual graphic aspects are subordinated to a visual effect of the entire surface of the picture. Pictures of four European children, age range = 3y 4m to 4y 5m.

graphic itself (as the intention or appearance of a form or a form configuration), or a depiction or another type of reference. However, verbal expressions of this kind are very complex: some may be acoustically or verbally incomprehensible, or only partly intelligible, others are clearly understandable; some statements are inconsistent (changes of opinions during or after the drawing), others are consistent; some refer to representations that are not recognizable (adults cannot recognize the denoted), some are intelligible only by having attended the drawing process or through closer acquaintance with the child, others are intelligible at once; some are lengthy and complex, others are short and simple; and so on.

In this course of development, part of the described graphic forms, compositions, arrangements and colouring are brought into the service of an analogy formation in terms of a depiction attempt of figures, objects, scenes and events, or of an analogy to actions. However, in their turn, these analogy formations are again of a complex kind: some only concern an analogy of single graphic attributes with single attributes of the denoted, others concern different forms and multiple types of arrangements; some are only intelligible by taking into account the child's comments, some need the knowledge of the context of the picture production, others are clearly recognizable visually; and so on. Further, first attempts at drawing characters emerge. During the fourth, fifth or sixth year of life, the development of analogy formation often engenders a figurative picture scheme,, in which individual analogies are subordinated to an overall analogical picture effect of the entire picture plane.

Figure 6. Two examples of an early figurative picture scheme, in which individual analogies are subordinated to an overall analogical picture effect of the entire picture plane. European children, age = 5y 9m and 4y 1m.

subordinated to an overall analogical picture effect of the entire picture plane. Subsequently, depiction establishes a schematic structure both in terms of the production process and the syntactic structure of pictures, characterized by elementarization, model building and repetition: abstract graphic forms, few in number, and a limited set of types of combinations, arrangements and colouring are used for an extensive number of different depictions; simple models are used for analogy formations; elements and models are repeated over longer time periods with no or only small variations.

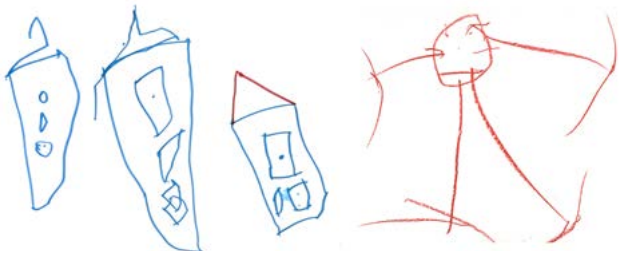

Figure 5. Two early analogy formations which are visually recognisable. European children, age = 3y 0m and 2y 10m.

Figure 7. Two drawings of houses illustrating the schematic structure of early depiction. Pictures of a European (left) and an Indian child, age = 5y 7m and 5y 0m.

The abstract precedes and enables depiction and coding of graphic expressions

On the basis of such findings about early picture development in ontogeny, we assume that the abstract must precede depiction and graphic codes structurally and temporally, not only in ontogeny, but in early picture genesis as such. We also assume that the abstract is not subsequently superseded by depiction or coding, but it is continuously evolving either inherently in the latter or independently from it. The following arguments support this thesis. Pictures are products, which means that certain skills are required to create them. Skills have to be learned, and learning proceeds from the simple to the difficult and from limited to diverse productions. The first graphic manifestations, the most simple ones, must be abstract, because graphic formal differentiations are needed for any depiction or code: depictions and codes rely on the ability and consciousness of syntactic differentiation which must already previously have achieved a certain level: How could an individual produce an analogy between graphic form configurations and a percept of the visual world, or a visual imagination, without a consciousness of graphic differentiation as such and without an already developed set of types of forms and their arrangement? No visually recognizable early drawing of a house can be produced without understanding the difference between a straight and a curved line and their arrangements; no visually recognizable early human figure drawing can be produced without, again, understanding the difference between a straight and a curved line, graphic arrangements such as inside–outside, tangent–adjacent and possibly open–closed. And so on. The same applies to establishing a code between graphic form configurations and any mental concept not directly related to the graphic as such. It is important to consider that the formal understanding of very early graphic forms, compositions, arrangements and colour effects cannot be derived from looking at the outer world, because such a derivation would need highly developed conceptual abilities and skills of realization. The development of very early abstract pictures is not a result of a copying process related to the visual experience of the outer world.

Neither do we assume that very early abstract picture development is a result of teaching. In ontogeny, a substantial part of the early picture development is similar for very different contexts of picture production, that is, it is cross-cultural. Moreover, most adults are not aware in detail of the first types of graphic differentiations made by young children and therefore they are not apt to teach early picture making (therefore adults name early graphic manifestations scribblings and permanently ask what it is).

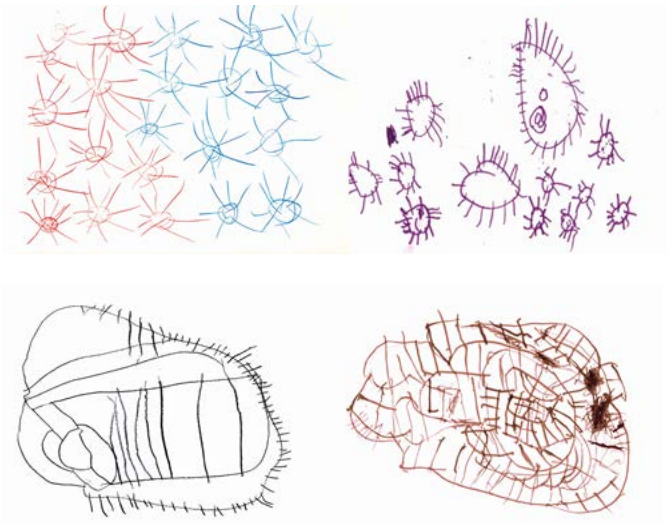

Figure 8. Cross-cultural aspects of early graphic expressions. 8a: Similar form configurations in pictures of an Indian (left) and a European child (right), age = 3y 10m and 2y 8m; 8b: similar drawing structures of two graphic complexes in pictures of an Indian (left) and a European child (right); age = 4y 10m and 5y 8m.

The view that the formal understanding of very early graphic form configurations cannot be derived from looking at the outer world is strongly supported by the schematism of early depictions. The first system of depiction must be schematic: Only schematic drawing and painting allows for the depiction of very different motifs with very limited graphic skills, experiences and differentiations, and with only an emerging awareness of the possibility of visual analogy formation on a flat surface. Thus, early depictions are schematic not in terms of simplifications but in terms of simple form configurations associated with an analogy. Hence, a rectangle can represent a part of a house, a leg, the body of a cow, the rays of the sun and so on. And similarly, this also holds true for the early kind of coding by means of using abstract graphic forms as symbols for something not connected to the graphic itself. These early codes are in their turn schematic and rely on the same graphic forms and types of arrangements as observed for depiction.

The abstract as the inherent syntactic character of drawing and painting

Pictures do not emerge resembling something, nor are they ruled by a code. Resemblance and coding need a previously developed syntactic basis and a corresponding formal consciousness. We are misled by both the concept of pictures as basically being depictions (and abstract pictures as ornaments, or an aspect of tribal art or a phenomenon of modern art, and so on) or coded denotations, and the concept of a syntactic manifestation as in principle referring to something other than itself. We are also misled by the concept of aesthetic expressions as principally being related to beauty. The difficulty we are confronted with is to understand how it is that graphic forms and their confi gurations as the syntactics of pictures emerge self-referred; with no meaning other than the graphic itself, and its conceptual character as such preceding a valuation of beauty. Or if, in a specific context of very early graphic expressions, there is a reference to something else in terms of a depiction or a coded denotation, then this reference is attached (i.e. the same graphic manifestation in different contexts referring to very different subjects) or it is associated (i.e. concerning only basic analogy formations between a graphic configuration and a depicted subject, or concerning a very limited set of graphic configurations for denotations); and if, in a specific context, the graphic manifestation is validated when viewing, then this contemplative attribution is a consequence of, but not a imperative reason for, early graphic expressions.

Further, we must face the fact that the abstract in pictures is always inherent in terms of its syntactic character as such, and that the abstract is to a certain part autonomous of depiction or coding, both with regard to the attributes and structures of pictures and to their development. The very early pictures in ontogeny on the one side and the digital character of today's pictures on the other may stand for this abstract inherent character as a paradigm.

What early abstract manifestations in pictures are, and what they are not

Early graphic manifestations are often named abstract in terms of a negation of the figurative. But early graphic manifestations, although indeed not depicting, do not oppose depiction. They precede depiction.

Because of their abstract character, early graphic manifestations are often understood as signs or ornaments, associating either a coded symbolic function or only a supplemental function of adornment. But, again, these manifestations intheir emerging state precede both graphic co-

des and the differentiation between primary and secondary or supplemental roles. They are not, as such, coded denotations or ornaments. (However, according to Peirce, they have sign character; see below.)
Early graphic manifestations are often named abstract because they are simple in graphic form, variation, composition, arrangement and colour effects. However, although they are indeed simple, as said, they are not simplified.
These manifestations are also often named abstract because they are conceptual. However, they are not to be understood as primarily a product of abstraction in terms of reduction and induction.

A reminder: in the early development of produced tools, form does not simply follow but also yield function

To put these considerations in a general context of the development of produced forms, a similar view as taken here has already been present in the literature for a long time with regard to the first produced forms we know of humans, that is, stone tools. Already Commont (1916; see Bredekamp, 2014) assumed that the development of early stone tools in prehistory follows a form-related awareness, consciousness and semantics, according to which form production yielded function, and not form production followed function. This thesis has recently been considered by some scholars discussing the development of stone tools (Lorblanchet, 1999; Le Tensorer, 2012; Bredekamp, 2014; in this context, note also the discussion of non-utilitarian lithic objects; see e.g. Moncel, 2012): above all, these scholars emphasize
(i) the double character of the tools as sculptural and functional;
(ii) the difference between a single generalized form of the tool related to multiple kinds of use;
(iii) the necessity to dissociate or even isolate the conceptual aspect of the tool form from its function during the process of tool production, involving a highly developed stereometric notion and conceptualization;
(iv) the complexity of the tool production process involving in its turn a highly developed conceptualization, linking stone materials, form imagination and processual stroke techniques;
(v) the embedding of the tools into tradition and teaching, thus creating form dialects, tool fashions and a tool history;
(vi) the observation of a substantial number of tools without any traces of their use; and
(vii) the observation of relating the tool production to fossils and to rare stone materials.

Icons: the early pictorial abstract as early graphic ideas

However, tools are not pictures. Pictures have no function in terms of a physical use. Thus, given that even for early tools and their development, motivated by and related to a physical use, their abstract (conceptual, self-referred) form can barely be understood as being derived in a simple and direct way from their use as a tool, then, how could one imagine that the first graphic forms are ever derived from something? If they were derived from a motivation or concept of figuration or of coding, where would these motivations and concepts have come from?
Thus, if the formula of form production may yield function may prove to let us better understand the early development of tools, the formula of graphic form production offers depiction and coding may prove to help us understand the early picture development.
Considering picture genesis in phylogeny, we should not rely on the magnificent and stunning cave paintings and figurines attributedto Homo sapiens. We should account for a lar-

ge time range of graphic development back to Homo erectus (on this matter, see also Bredekamp, 2014). Although we do but have a few records for this time range (Lorblanchet, 1999; Henshilwood et al.; 2002, Joordens et al., 2014), they are generally of the abstract kind. We should also reflect upon the fact that the abstract graphic forms that have been found are strikingly similar both in their concrete manifestation as well as in their general graphic structure, although they relate to very different time periods and very different geographical areas. As mentioned above, early picture genesis in ontogeny also proves to be cross-cultural. According to Peirce (1932, 2.304), 'An icon is a sign which would possess the character which renders it significant, even though its object had no existence; such as a lead-pencil streak as representing a geometrical line.' A line as a graphic manifestation, although being abstract, is thus considered as a sign, and its meaning, its signification is self-related in terms of its relation to an idea, without which the visual manifestation is not understood as graphic but is experienced as a mere trace. Based on such a definition, we assume that pictures in their early stages emerge and develop as humans become aware of the differentiation of graphic ideas. Thereby, their character is defined by the understanding of a concrete application of colour or an engraving on a flat surface as related to a concept of the two-dimensional and a concept of formal differentiation within that dimensionality. Thus, the abstract of early pictures is understood here as the first iconic character of pictures, first in terms of both their structural character as two-dimensional and their temporal emergence in the course of picture genesis, which is self-referred and ideational. Early pictures are realizations of early graphic ideas. Only in the course of their development willthe feasibility of figuration (analogy formation, resemblance) and coding come about.

Addition

To avoid misunderstandings: We do not want to insinuate that early pictures in phylogeny emerge purely, that is, that they are not related to or even permeated by other kinds of productions and expressions, their conceptual basis and the related needs to survive in a specific environment, or that they are unrelated to social and communicative motivations and aims, including teaching and tradition, and so on. On the contrary, we suspect that the emergence of graphic manifestations is strongly related to living conditions, social contexts and interaction, tool production and language. Here, our only aim was to argue for very early graphic manifestations as not being directly derived from a depiction or coding purpose, but as revealing the discovery of graphic icons, probably as a consequence of a contemplative state of mind.

References

ANATI, E.
2003 *Aux origines de l'art,* Paris (Fayard).
ANATI, E. (ED.)
2014 *What caused the creation of art?*, 2nd digital edition, Brescia (Atelier).
BÖHM, G.
1994 Die Wiederkehr der Bilder, in Böhm, G. (ed.), *Was ist ein Bild,* München (Fink).
BREDEKAMP, H.
2014 Höhlenausgänge, in Stock, G., Parzinger, H., Aue, St., *ArteFakte: Wissen ist Kunst, Kunst ist Wissen,* Bielefeld (transcript), pp. 37–58.
COMMONT, V.
1916 Contribution à l'étude des silex taillés de Saint-Acheul et de Montières, *Bulletin de la Société Linée du Nord de la France*, 36, pp. 345–369.
D'ERRICO, F.; HENSHILWOOD, C.S.; LAWSON, G.; VANHAEREN, M.; TILLIER, A.-M.,

SORESSI, M.; …; JILIEN, M.
2003 Archaeological evidence for the emergence of language, symbolism, and music – an alternative multidisciplinary perspective, *Journal of World Prehistory,* 17 (1), pp. 1–70.
HENSHILWOOD, C. S.; F. D'ERRICO, F.; R. YATES, R.; Z. JAKOBS, Z. ; TRIBOLO, CH.; DULLER, G.A.T.; …; WINTLE, A.G.
2002 Emergence of Modern Human Behavior: Middle Stone Age Engravings from South Africa, *Science,* 295 (5558), pp. 1278–1280.
JOORDENS, C.A., D'ERRICO F., WESSELINGH, F.P.; MUNRO, ST.; DE VOS, J.; WALLINGA, J.; …; ROEBROEKS, W.
2014 Homo erectus at Trinil on Java used shells for tool production and engraving, *Nature,* 518, pp. 228–231.
LE TENSORER, J.-M.
2012 Faustkeile, in Floss, H. (ed.), *Steinartefakte vom Altpaläolithikum bis in die Neuzeit,* Tübingen (Kerns).
LORBLANCHET, M.
1999 *La naissance de l'art – Genèse de l'art préhistorique*, Paris (Éditions Errance).
MAURER, D.
2013 Early Pictures in Ontogeny and Phylogeny – Preliminaries to a Comparison, in Sachs-Hombach, K., Schirra, J.R.J. (eds), *Origins of Pictures,* Cologne (Halem), pp. 353–377.
MAURER, D.
n.d. *Early Pictures,* research homepage, http://early-pictures.ch (accessed 21 August 2016).
MAURER, D.
n.d. *Early Pictures*, research homepage, http://www.early-pictures.ch (retrieved 30 August, 2016).
MAURER, D.; GUHL, X.; SCHWARZ, N.; STETTLER, R.; RIBONI, C.
2013 *Wie Bilder «entstehen» – Band 4: Prozess und Produkt*, Bern/Frankfurt a.M. (Peter Lang Verlag).
MAURER, D.; RIBONI, C.
2010 W*ie Bilder «entstehen» – Band 1: Eigenschaften und Entwicklung*, Zürich (Verlag Pestalozzianum).
MAURER, D.; RIBONI, C.; GUJER, B.
2009a *Early Pictures* in Ontogeny, Image, 9 (1), pp. 2–21.
MAURER, D.; RIBONI, C.; GUJER, B.
2009b Picture Genesis and Picture Concept, *Image*, 9 (1), pp. 22–39.
MONCEL, M.-H., Chiotti, L.: Gaillard, C.; Onoratini, G.; Pleurdeau, D.
2012 Non-utilitarian lithic objects from the European Paleolithic, *Archaeology Ethnology and Anthropology of Eurasia*, 40 (1), pp. 24–40.
PEIRCE, C.S.
1932 *Collected Papers*, Volume 2, Paragraph 304, edited by Hartshorne, C. and Weiss, P., Cambridge, MA (Harvard University Press). See http://www.philosophiedudroit.org/le%20tensorer,%20harmonie.htm

ABSTRACT SIGNS IN ART AS SHORTHAND FOR CULTURAL STRUCTURE

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Some recurrent abstract shapes in art and rock art are figurative, but stylized, or poorly drawn. Part of their meanings lie in what they occasionally illustrate of other cultural media, such as myth, ritual, and occasion conventions. But their core meaning is in their inherent differentiation, that we have an innate compulsion to express, and to associate with parts of other cultural sets. Structural analysis of abstract forms in rock art and the art of pre-civilized, pre-literate, literate and a-literate cultures (such as post-Roman Orkney), confirms that the core content of art is universal and subconscious, but within conscious reach.

Mixed sets of figurative and abstract shapes are variations on the standard visual grammar of culture. They do not arise from conventional art, myths, rituals, oto-visual (entoptic) experience, zodiacs or alphabets, but also appear in the spontaneous media of cultural crafts. Rock artists and schooled artists are equally ignorant of the details and layers of the structure they express. Even close study of cultural media by artists, does not affect the core content of art, nor the structural quality of expressions, which varies within a narrow range. Archetypes could be labelled by numbers, myths, gods, constellations or shapes, but they do not derive from any cosmology, craft or convention.

The four c-types are transitional border characters in complex artworks. *The two g-types are 'galactic equator crossings', usually on abstract features. The two p-types are 'galactic poles', usually on limb-joints, not eyes.*

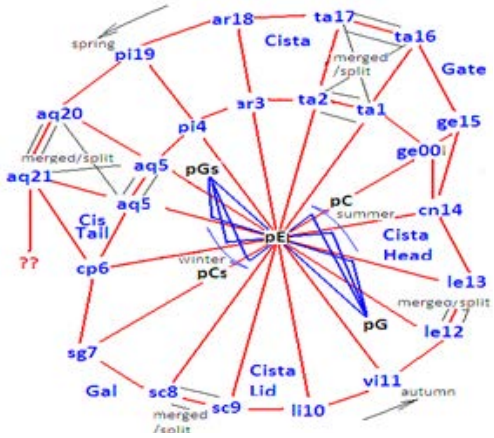

Fig. 1. Universal elements of cultural expression were isolated in structural analyses of 500 art and rock art works worldwide (after Furter 2014: 50-51, 82-84). Each of the 12 main types, or expanded 16 types, appears in all groups of 11 or more figurative or abstract characters, identified by one or more of their optional attributes. The four potentially doubled types (1 /2; 5,20/5,21; 8/9, 12/13) are near identical in options, but they usually express different options when doubled. The eyes of typological characters are always spaced on an axial grid. Their attributes include certain species, postures, items and/or abstract shapes, in this circular sequence:
1 /2 Taurus; 48% Twisting, 19% bovid. Lightning, cluster, rain
3c Cista Mystica; Woven texture, container
3 Aries; 42% Neck long/bent, dragon
4 Pisces; 26% Rectangular, 25% squatting
4p Galactic South Pole; 50% Limb-joint
5 20/21 Aquarius; 44% Varicoloured, 31% hyperactive, 30% horizontal. Tailcoat head, large
6c Cista Tail; bent tail?
6 Capricornus; 48% Polar ingress/egress. Tree, U-shaped camp, double-headed
7 Sagittarius; 25% Bag. Rope
7g Galactic Centre; Water, vortex
8 /9 Scorpius; 34% Bent forward, 31% strength feat. Pillar
10c Cista Lid; Woven, cover, shield, wheel
10 Libra; 53% Arms in V/W posture, 34% staff. Wheel
11 Virgo; 87% Womb. Oval
11p Galactic Pole; 68% Limb-joint
12/13 Leo; 85% Heart, 14% feline, 11% inversion, 10% weapon
14c Cista Head; Head?
14 Cancer; 45% Polar ingress/egress. Tree, bird
15 Gemini; 33% Rope, 21% bag, 16% smiting, 9% sceptre/mace. Canine
15g Galactic Gate; Crossing, path.

Near the centre are three further poles;
Ecliptic Pole; 100% at the axial centre, 26% limb-joint.
Celestial Pole; 'summer point', 50% limb-joint.
Celestial South Pole; 'winter point', 37% limb-joint.
The vertical or horizontal plane may confirm one edge of the polar triangles. The polar configuration indicates the cultural inspiration, named after the spring point, either Age Taurus1, Age Taurus2, Age Aries, or Age Pisces.

The table of the currently known elements of universal subconscious structure enables comparative art and rock art analysis. The current analysis test formula is: __/25 attributes (more are rare), __/16 ocular axial points (more are rare. Type 11 Virgo always has her womb on the grid. Type 12/13 Leo always has his heart on the grid. Both may also have eyes on the grid), _/5 polar markers, _/4 general thematic features (amplifying one of the types); total __/50, minus _ extra eyes off the axial grid; total __/50, or __%. Any art or rock art analysis typically scores about 60%, varying between 40% and 80%. Scores below 40% indicate analysis error (usually rectified by finding the grid with the most axes); or a damaged copy; or a rare exception to the rule. Linear rows of characters may be untestable. Artworks with about 45 characters usually express double mindprints (see Expression 10: 18), often with some interlocking characters.

An archetypal set of Ice Age 'abstract signs'
The potential archetypal sequence of Ice Age signs are (with relevant archetypal attributes in brackets), and with examples:
1 Taurus; Zigzag (48% twisting. Lightning). See USA Cienega Mesa turtle-woman engraving (Furter 2014: 110)
2 Taurus; Dots (cluster, rain). See Babylonian

Fig. 2. Ice Age rock art sites include about 25 abstract shapes, usually among figurative characters (Von Petzinger 2016. Graphics after National Geographic, with percentages of presence among sites. Mindprint labels by Edmond Furter). The features of these shapes are limited, yet their range of inherent and conventional meanings is wide.

seal of Etana on an eagle (op cit p114)
3c Cista; Spiral (woven texture, container). See Gobekli Tepe spider totem, and reed hut (Expression 9: 22)
3 Aries; X-cross (42% neck long/bent. Entwined, caduceus). See Narmer palette rear (Furter 2014: 118)
4 Pisces; Rectangle (26% rectangular). See Palenque Lid engraving 'seat'
4p G.S.Pole; Hand with some fingers retracted (50% limb-joint). See Easter Island Hau Kota engraving (op cit: 108)
5 Aquarius 20; Ladder, H/I-shape (similar to opposite type 12 comb. May be 6 instead, or a winter marker). See Gobekli Tepe H-shapes (Expression 9: 22), and Inca engravings. H/I may express 'horizontal', but is less categorical than postures.
5 Aquarius 21; Tent-over-crossbar? See Narmer palette rear. See polar decans. See Las Papas engraving in Argentina (Expression 8: 10 bottom right)
6 Capricornus; Triangle (tree shape, U-shaped camp). See Colorado bears and trees engraving (Furter 2014: 199); and Narmer palette rear
7 Sagittarius; Kidney-shape (25% bag). See Zimbabwe, Matobo rock painting (op cit: 165)
7g Galaxy; Large Cupule (water), or vortex. See

South African antelope-horse rock art panel 102HC (op cit: 164)
8 Scorpius; Snake (tail, healer, 34% bent, 31% strength feat). See Tello obelisk engraving at Chavin de Huantar, where 8 is the 'neck mouth eye' on both sides (after Roe 2007. Furter 2014: 177). A pillar may appear here, but is not apparent in the given set.
9 Scorpius; Brush or antlers (horns, antlers). See San paintings of healers in antelope costume; and Siberian shamanic antler headdresses
10c Cista Lid; Bird in flight /sky /lid (lid or shield). See Peche Merle (op cit: 232), and Altamira art
10 Libra; Tree /Arms-up (53% V/W posture, 34% staff). See Naqada grave 454 pot painting central figure (op cit: 126); and South African Robberg painted pebble D
11 Virgo; Oval (87% womb). See oval owl in Nine Mile Canyon engraving, USA
11p G.Pole; Hand (68% limb-joint). See Queen of the West on a Chinese funerary tile mould (op cit: 197)
12 Leo; Comb-shape (many-legged. Ambiguous with opposite type 5/20's ladder. May be a summer marker). See engravings of Odin's horse, Sleipnir; and of shrimp on Painted Rock, California. 'Inversion' may appear here, but is not apparent in the given list
13 Leo; Heart (85% heart). See Daegok Ri engraving, Korea (op cit: 199)
14 Cancer; Birdfoot (tree shape). See Tello obelisk at Chavin de Huantar; on the 'male' side it is the 'manioc semen tree eye' (after Roe 2007. Furter 2014: 176)
15 Gemini; Mace (16% smiting, 9% sceptre or mace). See Narmer palette front
15g Gate; Crosshatch (grid, path). See Mayan Coricancha engraving in Peru.
The two kinds of hands are not entirely abstract, but Von Petzinger lists them as signsfor meaning more than 'hand'. The potential structural analysis score for an artwork containing all these shapes, in this sequence (assuming indications of where their eye' were, or if they each labelled a figurative character), is 18/25 attributes, 9/16 axial points, 2/5 polar markers, _/4 thematic features (geometric styling); total 29/50, minus _ extra abstracts off the grid; total 29/50, or 58% (about average); in addition to relevant attributes of any figurative characters with their eyes on the same axial grid. The potential score indicates that these abstracts probably form an archetypal set. Only about half of the known attributes of each type is reliably expressed in this set. No artwork contains them all, nor in identical sequence. They probably act as subconscious determinatives to figures (see decans below).
Abstract art involves geometric styling, where shapes are visual shorthand for characters. Abstracts are selective, optional and somewhat interchangeable, like figurative characters in art are. However, some shapes tend to express only two or three types, thus allowing structural analysis. Abstracts invite conventions to fix them into appropriate relative places, and to assign some meanings, from the ranges of inherent meanings in shapes. In context with other shapes, their ranges of potential meanings become limited. Type 5 Aquarius, for example, has four known attributes of significant frequencies, which abstract shapes could not securely express. Sounds, postures, items and functions are also partly abstract, as hieroglyphs indicate. However, language uses sets of sounds and modulations in more abstract and conventionalized ways, than art uses shapes; or ritual uses items, postures, parts of language, and parts of art (such as signs).

Structure in Gobekli Tepe abstracts

About ten abstract features appear in the largest extant cultural site of the Younger Dryas thaw, about 8000 BC, at Gobekli Tepe in Turkey. An apparently illiterate culture built a series of brochs or kivas on a low hill, in a large waste till (as later in Orkney). On one of the two densely decorated pillars, D43 (Expression 9: 22), among figurative reliefs, appear some abstract shapes; in four or five registers, some with chevrons, one with a ribbon, on a T-shaped pillar, with a furrow down the narrow edge 'chest' or between the 'legs'. The archetypal structure is: 1 and 2 Taurus; Reed hut for domestic stock (similar to later Inana huts in Sumer. Bos and ovis appear on other pillars. Later Sumerian trade weights were shaped as reed bundle huts, some as tent cover anchors).

3c Cista; Reed hut (woven, container) under spider totem (weaver). In some myths and emblems 3 is a crayfish, including the Triangulum claw, and pentagonal Cetus tail.

3 Aries; Long-necked (42%) bird, from a hut among reeds.

4 Pisces; Water-bird or ibis (birds)

4p G.S.Pole; Bird knee (50% limb-joint); and front edge loincloth (rectangular, of 4)

5 Aquarius 20; Water-bird heart (of its opposite 12/13), or tailcoat head (See John Baptist icons), next to two H/I-shapes.

5 Aquarius 21 /6 Capricornus; bird or chick with tailcoat body (of 5), nearest the pole (of 6)

6 Capricornus /7 Sagittarius; Triangular body (of 6), or tailcoat head (of 5)

7 Sagittarius /7g Galaxy; Skin bag (25% of 7), headless, its genitals on the grid. Perhaps a 'buck bag' (common in rock art), or a bird meat fermentation cache.

8 Scorpius; Large bird

9 Scorpius; Large scorpion (rare)

10c Cista Lid; Fox (Lupus, Wolf myth)

10 Libra; Snake (Serpens, Snake myth)

11 Virgo; Vulture womb (87% womb), a maternal animal

11p G.Pole; Vulture elbow (68% limb-joint)

12 Leo; Vulture heart (85% heart) or pendant

13 Leo /14 Cancer; Vulture (bird of 14, Ursa Minor myth. See Decans)

14 Cancer /15 Gemini; Small bird (Ursa Minor, decan of both) hut totem, top left

15 Gemini /15g Gate; Headless, genitals on the grid, like 7 opposite, perhaps a skin bag (21%). Decapitation may indicate the end of Age Gemini (In Age Pisces spring rituals, type 3 or 4 is skinned; see Xipe Totec).

The axis 5-13 could express 6-14; which could express 7-15; which could express 7g-15. Precessional ambiguity is typical of transitional eras. The celestial pole may be on the orb, and on the vertical plane, placing summer in Leo1; but the celestial south pole may be on a bird hip, placing winter in Pisces-Aquarius. Thus spring and the time-frame could be in Age Taurus1 or Age Gemini-Taurus. The rectangular loincloth on the 'face' as 4 Pisces /5 Aquarius Pegasus (a shared attribute), may confirm the earlier, transitional era. Celestial polar positions are not categorical. The age usually expresses an era preceding the artwork. The structural analysis score here is 17/25 attributes, 14/16 axial points, 3/5 polar markers, 3/4 thematic features; total 37/50, minus 0 extra eyes off the grid; total 37/50, or 74%; near the top of the range, despite transitional ambiguity between adjacent types.

Archetypal abstracts in 'cosmology'

Decans are abstract calendric concepts, expressed by a mixed set of species, characters, postures and abstract signs (rope, post, sword, foreleg, staff, spike, spear, disc); allocated to 'gods' or abstract principles; labelled by hieroglyphs, which is also a mixed set of species, trades, gods and abstract signs (reeds knot, wave, crossbar, fold, horizon, rectangle, sky, flag, booth, ox-ro-

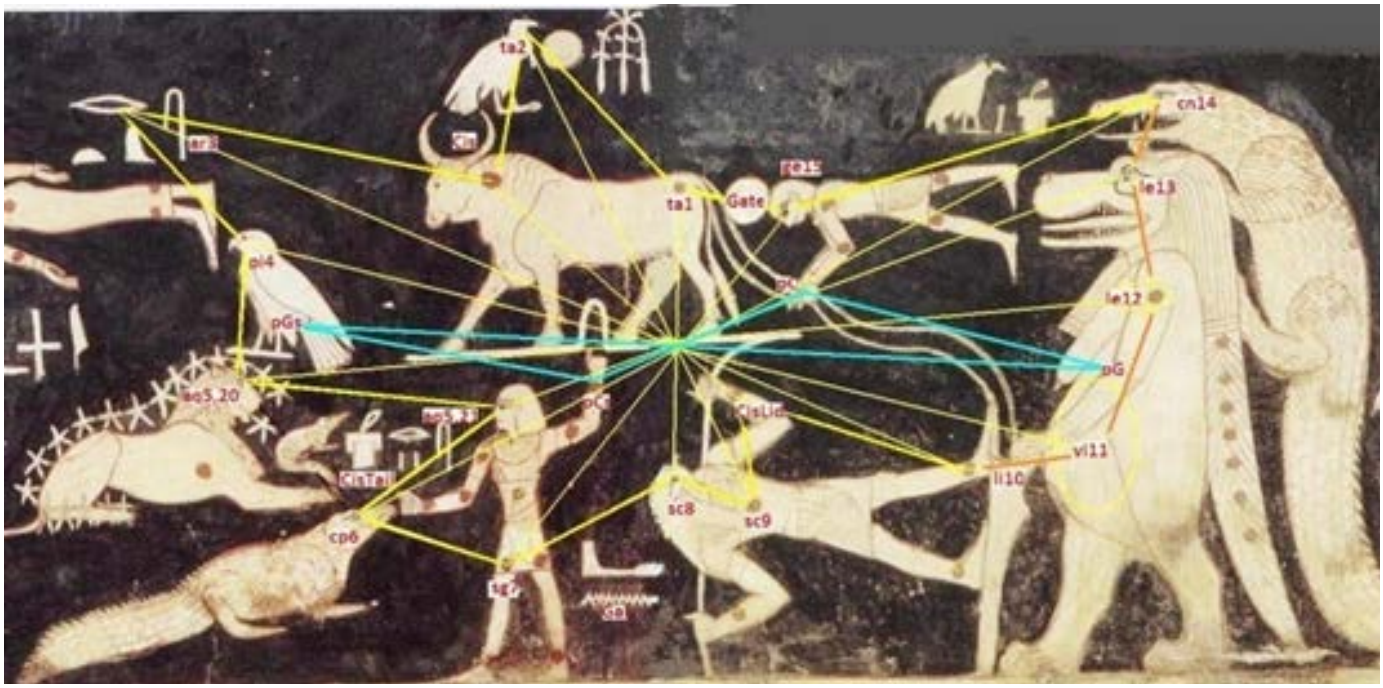

Fig. 3. Egyptian polar decans of Seti 1 (mindprint labels and axial grid by Edmond Furter). Structural analyses reveal most polar decans as transits, or half-hours, each ambiguous with its two adjacent decans (as some primary decans also are). The archetypal structure in the average polar decans list (after Neugebauer, of which the Seti 1 art is a variant), omitting some of the types that are not polar decans, is (with relevant attributes), and with some relevant hieroglyphs:

3c Cista Mystica; Mes, Foreleg and shoulder (50% limb-joint. Celestial pole, formerly in Ursa, later in Ursa Minor), of a bovid (of 2), resembling a fat rain animal, ophiotaurus (snake-bull in myth and rock art. See Orpen 1874, citing San guide Quing on cloudy bovids and crocodile-men dragons (of 3) as 'snakes'. Sometimes Sak, a small crocodile with bent tail. Also a spring or former spring marker.

4p G.S.Pole; Falcon or A-bird or Tyu-bird (of 4 or 5).

5 Aquarius; Lion God Between Two (Crocodiles). Once croc is 6 (amphibian) or 6 Cista Tail; one is a variant of the other half of 5. Type 5 often expresses its opposite, 13 Leo, as a lion or heart; some adding a croc tail (amphibian), or a small croc. Including [flag, feather, crossbar, water]. Crossbar +shape may be an attribute of type 5, perhaps an expression of '30% horizontal', or a former midwinter marker.

6c Cista Tail; Man taming a croc (tail. Of 6 or 7). His rear hand upward (polar ingress /egress 48% of type 6). He is never labelled. A myth formerly of Cygnus, or Lacerta, Lizard?

6 Capricornus; Sak, croc (amphibian) with bent tail (limb-joint, polar; 48% polar ingress /egress). Some paintings add another croc, labelled Haku, Capturer, Plunderer; some include [scorpion] (bent tail, ambiguous with a rare attribute of 8/9); or [flower-trio] (polar trio).

7g Galaxy; Crocodile, under row of stars (galaxy), rampant (galactic obliquity). Labelled 'Restful of Feet', thus Sobek at a pool (galactic centre). Including [feet] (limb-joints).

10c Cista Lid; Anu, man or falcon-headed, sideways on the foreleg shin (limb-joint, polar), with a staff (of 10, mythic Bootes), extending across the centre (Ecliptic Pole), to form a canopy (lid) as platform for 3 Cista opposite. 11p G.Pole; Post (polar) or Foreleg shin (68% limb-joint)

14c Cista Head; Croc vertical (of 14 Hydra head myth), on the back of Taweret hippopotamus (13 Leo, her womb of 11 Virgo). She holds a sword /small stiff croc /post /shin (limb-joint, polar) which stands at 10, thus ecliptic pole over Bootes. Some label Hsa-Mut-i, including [vulture] (bird of 14, eagle in some cultures)

15g Gate; Serket, god under a Disc (celestial pole of 14); under a small crab (Celestial Pole over 14 Cancer, at Ursa Minor); holding Rope or Ropes (of 15), connecting the spring bull to the ecliptic pole shin. His body could be pictured over Gemini, Lynx, and Ursa, but decans are archetypes in mixed media, and asterisms tolerate great variety.

pe, braid, bread, feather, limbs). Hieroglyphs retain some of their inherent conscious and subconscious meanings, and acquire some abstract meanings; and allocations to parts of speech; and provide pictographic determinant signs to clarify ambiguous meanings. Decans, like hieroglyphs, are more variable in their total, attributes and sequence than types in art and rock art are. Most cultures assign 24 or 28 or 32 moon stations to asterisms on the celestial equator (which slowly migrates due to precession). Some cultures also mark out 36 segments (Allen 1899), perhaps to obtain 9 night half-hours, or 36 weeks per year; and add 11 adjustment days; and some poles (triangle decans in Egyptology); and home positions for seven planets. Decanal art, however, is not astronomical in any practical sense (Neugebauer 1969: 167), nor astrological, nor divinatory. They need not arise from astronomy. Decanal lists seem conventional, yet they always subconsciously express the universal standard structure among their symbolic ambiguity, as art does. Some of their extra cosmic points are repeated among the adjustment days and polar decans. Mixed media tend to suppress correspondences between their elements, by expressing divergent options for each type in names, labels, images, shapes, species, postures and hieroglyphs. Decans are also magic spells, as artworks are, thus visual and verbal abstracts serve to activate or balance abstract qualities in life and afterlife. They are painted on some coffins and tomb walls. The structural analysis score of a full decanal list is about 75%, however they are usually fewer. In art they appear in a row, thus without an ocular grid, and interrupted by a cluster of polar decans (see below).

Archetypal abstracts in 'astronomy'

The general theme in this set could be type 8 Scorpius, of strength feats, taming, pillars, tails and the adjacent galactic equator. The structural analysis score of the artwork is 11/25 attributes, 12/16 axial points, 5/5 polar markers, 3/4 thematic features; total 31/50, minus 2 extra eyes off the grid; total 29/50, or 58%, about average. Polar lists reveal more details of precession and ages than equatorial lists do, but in artworks they are structurally identical to any kind of scenes. Steiner (2016) wrote in Expression 12: 'Petroglyphs that are presumed to depict asterisms and constellations, should not be interpreted as sky maps – which the nomad does not need – but as graphic references to well-known stories and concepts, told and illustrated by the stars.' However, culture and consciousness do not need sky maps either. Concepts and stories are intuitive, subconscious, prompted by nature and sustained by inspiration. Time does not come from stars or clocks. Interrogating artists or astronomers about their stories does not reveal the meaning of the stories, nor of art that may seem only to illustrate them. Our subconscious eye-hand-mind co-ordination uses abstracts to recite visual prayers. The resulting cultural record varies in options and styling, but not in content. Variation runs to stand still.

Archetypal structure in 'hieroglyphs'

The celestial pole is on a knee (50% limb-joint). The celestial south pole is on an ankh elbow (37% limb-joint). The vertical plane confirms the summer pole in Cancer-Gemini, thus spring and the cultural time-frame in Age Aries-Pisces, about 80 BC, or up to 200 years before, or 1000 years after. The two extra top central 'mountain/land/city' signs are summer markers, often off the grid. The general theme here could be type 14 Cancer and its decan Ursa (shared with 13 Leo), of time, summer, transformation, and raptors. The structural analysis of this engraving scores 14/25 attributes, 12/16 axial points, 4/5 polar markers, 2/4 thematic featu-

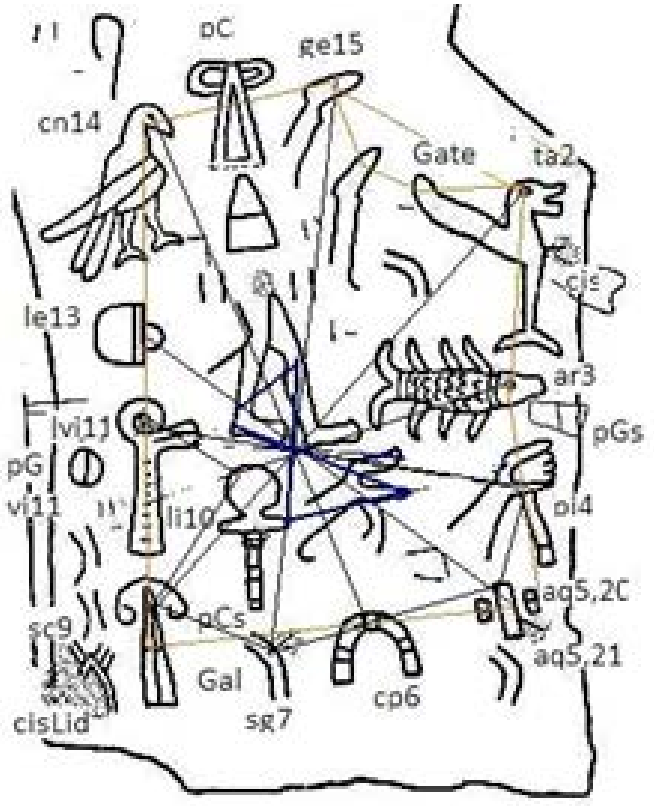

Fig. 4. A 'Hittite hieroglyphic text' (after Gelb 1939. Mindprint labels and axial grid by Edmond Furter). The figures and abstracts may be myths, hours, months, gods, stars, or syllables; derivative or original. Either way, they subconsciously express the standard archetypal structure:
2 Taurus; Bird (bird, see swift people, Furter 2014: 108-109), wing twisted (48% twisting)
3 Aries; Dolphin /crayfish (Triangulum and Cetus tail myths. See Tarot trump 18, moon over dragons and crayfish), with bent tailfins (more often bent neck)
4 Pisces; Hand, 'Child'? (king?), with ribbon? (Horus Eye shape?), and another on the same axis (twinned)
4p G.S.Pole; Thumb (50% limb-joint)
5 Aquarius; Rectangles (Pegasus myth). See H/I-shapes at Gobekli Tepe (Expression 9: 22)
6c CistaTail; curve
6 Capricornus; U-shaped camp (see Narmer palette)
7 Sagittarius; Curve (rope? Or adjacent 7g Galaxy)
7g Galaxy; Radiant Cone (brightest area)
9 Scorpius; Scales, 'High king' (Ophiuchus myth), arms out, healer, pillar; and an ankh person (healer, and pillar)
10c Cista Lid; Crown? (cover. Corona myth)
10 Libra; Womb (exchanged with 11), arms forward (53% arms V/W posture)
11 Virgo; Woman, large eye (her womb exchanged with 10, perhaps by subconscious confusion of opposite 3 Aries dolphin, as 4 Pisces fish. Cetus /Whale is a decan of both). The halved circle could mean 'womb', or adjacent 11p Galactic Pole. See the circle at the pregnant vulture at Gobekli Tepe (Expression 9: 22).
11p G.Pole; Heel (68% limb-joint)
13 Leo; Purse /weight, 'Man' (85% heart), horizontal (11% inversion)
14 Cancer; Falcon (bird), under a crook (Ursa Minor)
15 Gemini; Face /speaker /creator /eel (rope)? And a twin (twinned)
15g Gate; Curve (crossing or path?).

res; total 32/50, minus 3 extra features off the grid; total 29/50, or 58%, about average, good for a small artwork.

Archetypal structure in 'abstract letters'

Five extra symbols at bottom left could be summer markers in Leo. The celestial poles may be on the vertical plane, placing summer in Leo 12-13, thus spring and the cultural time-frame in Age Taurus 1-2. The central bovid head may be a spring marker, thus the time-frame could be Age Taurus-Aries, about 1500 BC. The general theme here could be type 12/13 Leo, of hearts, inversion, mirror images (Furter 2014: 210), death, and weapons; or type 3 Cista, of textures, tables and records. The structural analysis score in the right half is 9/25 attributes, 12/16 axial points, 2/5 polar markers, 2/4 thematic features; total 25/50, minus 5 extra features off the grid; total 20/50, or 40%, at the lower margin of the average variance, typical of abstracts. The score on the left half is 32%, thus a rare incomplete expression, due to overlap and mirroring.

Archetypal structure in 'abstract symbols'

The celestial south pole is on a D-person's foot (50% limb-joint), placing summer in Gemini, thus spring and the cultural time-frame in Age Pisces, after 80BC. The hole in Pisces may be a subconscious spring marker, and a general

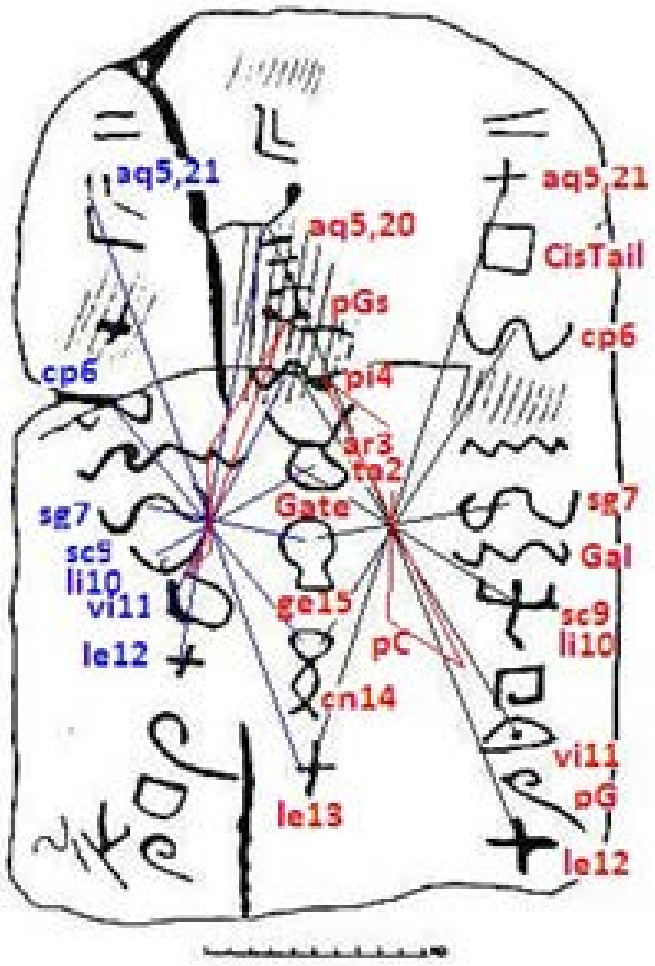

Fig. 5. Sinai, Serabit el Khadem tablet or stele (Bultin 1932, After Harvard Expedition 1931; Sass 1988. Double mindprint labels and axial grids by Edmond Furter). The two outer columns are near identical, and share the types in the central column. They may read from the bottom right, upward; or from the central bovid head, downward. The archetypal sequence is, from the central bovid head upward:
2 Taurus; Head of a Bovid (19%)
3 Aries; Same Bovid head (rarely combined, but see Seti's 2 and 3 beside a bovid)
4 Pisces; Land hill?
4p G.S.Pole; Marks? (50% limb-joint)
5 Aquarius 20; Snake, heart (of its opposite, 13), under L-shape (30% horizontal)
5 Aquarius 21; Crossbar (as its opposite, 13), under lines (30% horizontal), over rectangle (decan Pegasus)
6 Capricornus; Camp? (U-shape)
7 Sagittarius; Horns /rope (rope)
7g Galaxy; Waves (water). Omitted in the left column
9 Scorpius; Man, bent forward (34%)
10 Libra; same Man, arms up (53%)
11 Virgo; Oval with a dot (87% womb)
11p G.Pole; Spiral /staff (?)
12 Leo; Crossbar (85% heart?)
13 Leo; Crossbar (85% heart?)
14 Cancer; Braid? Water?
15 Gemini; Head (large face).

theme marker; typical of rectangles, quadrants, gardens, fields, sun, twins, kings and horses. Few attested constellations resemble these abstracts, thus they are a universal structural set in cosmic style. The structural analysis score is 5/25 attributes, 12/16 axial points, 4/5 polar markers, 3/4 thematic features; total 24/50, minus 2 extra features off the grid; total 22/50, or 44%, in the lower range, typical of sparse and abstract works.

Archetypal structure in a rock art cosmogram

The celestial poles may be on the vertical plane, placing summer in Cancer, thus spring and the cultural time-frame in Age Aries. The general theme is type 3 Aries, of long and bent necks (three animal shapes, and a hat top, and two baubles), and palette or shield shapes (as in the border. See the Narmer palette, in Furter 2014: 118). Compare transitional ambiguity with polar decans. The structural analysis score 20/25 attributes, 7/16 axial points, 1/5 polar markers, 4/4 thematic features; total 32/50, minus 1 extra feature off the grid; total 31/50, or 62%, about average. Abstract shapes are as capable of structural expression, as figurative art is.

Archetyal structure in abstract rock art

The celestial pole is on a hoof or hip, on the horizontal plane, placing summer in Cancer or Gemini, thus spring and the cultural time-fra me in Age Aries or Are Pisces, before or after 80

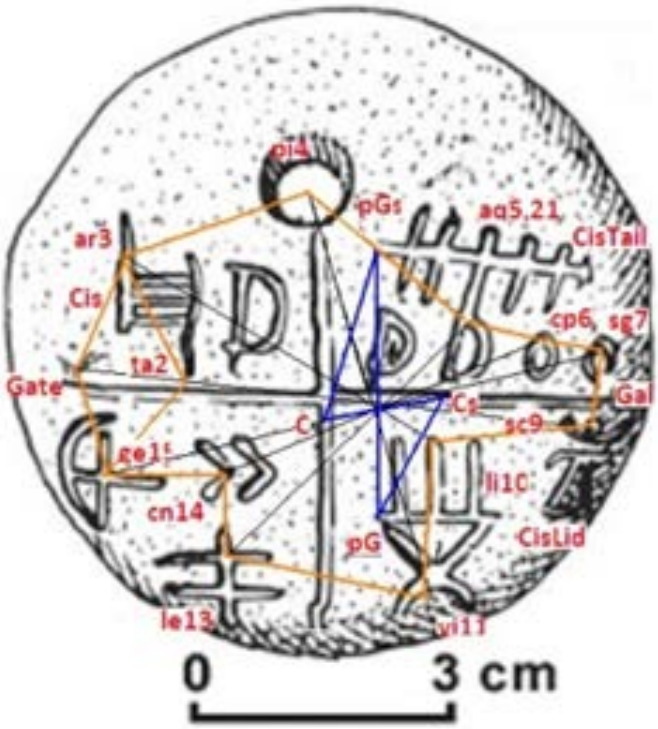

Fig.6. Romanian Tartaria tablet with abstract signs in four quarters (The living moon; after Vlassa 1961. Mindprint labels and axial grid by Edmond Furter). The archetypal sequence is:
2 Taurus; Mark, or ladder lower neck? (48% twisting)
3c Cista; Ladder rungs (woven texture)
3 Aries; Ladder upper neck? (42% neck long/bent)
4 Pisces; Hole as spring sun (sun), flanked by two D-people (twinned)
5 Aquarius 21; D-person with a rack (31% hyperactive, 30% horizontal)
6 Capricornus; Circle (more often a U-shaped camp)
7 Sagittarius; Circle (25% bag)
7g Galaxy; horizontal bar
9 Scorpius; N-person with arms out, and staff or horns (31% strength feat; staffs; horns)
10 Libra; V-person with arms up (53%), and staff-head
11 Virgo; V-person's womb (87%)
12 Leo; Animal skin vertical (11% inversion. Death), heart (85% heart) on the grid
14 Cancer; Chevron (more often Y-shape), near the centre (45% ingress/egress)
15 Gemini; Bow (33% rope) and arrow (star Sirius is a bow in China)
15g Gate; horizontal bar.

BC. The general theme is type 10 Libra, of ecology, nature-culture balance, hunt, economy, cycles, and teaching; and type 10 Cista Lid, of cycles and revelation; and type 9 Scorpius, of trance, vision, healing and human-animal mergers. The structural analysis score is 19/25 attributes, 18/16 axial points, 3/5 polar markers, 3/4 thematic features; total 43/50, minus 4 extra features off the grid; total 39/50, or 78%, in the top range.

Psychograms express structure, not meaning

Viewing recurrent rock art geometric shapes as pictographs or proto-syllables is speculation, based on paradigmatic developmental assumptions about ancient art; not supported by studies of historic art (Gombrich 1979), nor linguistics (Chomsky 1991). We could interpret abstract signs as psychograms (Anati 2010), in the sense of universal, compulsive, subconscious expressions of elements of narrowly variant archetypal structure. Anthropology could study visual elements, as linguistics study grammar, as sociologists study interrelationships, as physics involves the study of chemistry and mathematics. We learn more of culture, its crafts, perception, and ultimately of nature, from the structure of artefacts, than we learn from the conscious meanings that various re-creators imagine that they express, or convey, or explain. Art is as deceptive as grammar. Most people view it as a logical and incidental accumulation of conventional rules, passed along by learning, and developed while it is innate and eternal. Language seems to be wholly abstract and arbitrary, but under the layer of conventional allocations of short strings of sounds to meanings, lies a hard-wired structure that requires only a few social prompts to apply to various media (gestures, sounds, items, signs), and thus transform media into a 'carrier

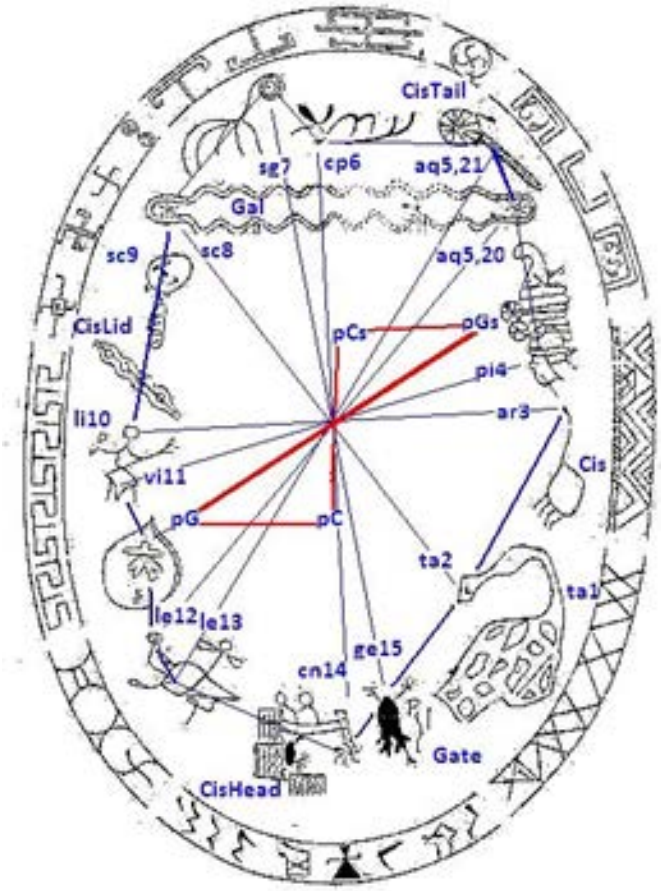

Fig. 7. Brazil, Pedra Pintada engraving of an oval shield or palette with abstract characters, and geometric signs in a border (after Homet 1962. Mindprint labels and axial grid by Edmond Furter). The copyist may have imposed some styling, thus perhaps expressing his own variant structure. This is not an alphabet or text. The border characters are more abstract, like determinants, perhaps divinatory, but also decorative. The archetypal sequence is:
1 Taurus; Twisted (48% twisting) dragon (more usual at 3)
2 Taurus; Bird (bird) with neck twisted (48% twisting)
3c Cista; Dragon body (cistas are often off the grid)
3 Aries; Dragon with a long neck (42% neck long/bent)
4 Pisces; Man's head (more usual at 15)
4p G.S.Pole; Headband tassels (varicoloured?)
5 Aquarius 20; Cocoon or mummy tailcoat-head (of adjacent 6), reclining (30% horizontal)
5 Aquarius 21; Heart (often as its opposite, 13) of a bauble (44% varicoloured), reclining (30% horizontal)
6c Cista Tail; Snake tail (tail)
6 Capricornus; Horned snake? (horned; snake)
7 Sagittarius; Rope animal (rope)
8 Scorpius; Cocoon or mummy (more usual at 7)
9 Scorpius; Placenta, or bauble baby (more usual at 7), bent sideways (34% bent forward), OFF THE GRID or opposite a character in the bird's throat
10c Cista Lid; Woven (texture)
10 Libra; Woman (usually a man), arms in W posture (53%), with sceptre (34% staff)
11 Virgo; Womb (87% womb)
11p G.Pole; Hair? on bellows?
12 Leo; Puma (14% feline)
13 Leo; Heart (85%) of the puma (14% feline), under a sun? (former summer)
14c Cista Head; Mats or hoed fields (texture), and a weaver or ploughman
14 Cancer; Hoe? (Ursa Minor decan), over a star (celestial pole); far from the centre (45% ingress/egress)
15 Gemini; Rope and bag man (33% rope, 21% bag).

wave' of meanings. Mindprint reveals variant meanings to be as rule-bound as the innate structure.

Art is too laborious to serve fickle 'here and now' communication; however, its reading is more immediate, but more subconscious, than hearing or reading language. Art has a higher function; to express the core content of nature, perception and culture, in an apparently endless variety of combinations and styles. Abstract signs seem to be abbreviated psychograms for more elaborate styling, perhaps a visual shorthand for culture. However their core functions could not be separated from picture characters, nor from the five layers of structure, which is the abstract matrix of meaning. Abstract also means recall, evocation, and conjuring of the absent. Pictures and signs both invite the assumption that art is primarily a record of events or imagination, with some decorative or poetic structure added for entertainment. However art evokes, distils, abbreviates, elaborates and distorts as well as, or better than, language does.

Our ability to read pictograms and hieroglyphs of foreign cultures, illustrates the universality of cultural structure. Gelb (1952) wrote that 'Chinese writing appears in the Shang dynasty, as a fully developed phonetic system. Its

Archetypal structure in Bronze Age symbols

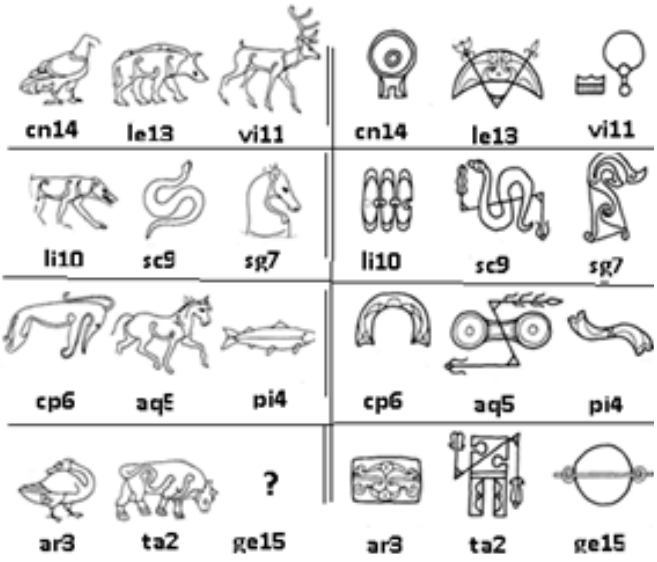

Fig. 8. Scotland, Pictish Bronze Age beasts (left), and symbols (right), perhaps a post-literate return to a-literate pictograms (Aberdeenshire Council, after Devorguila 2011. Animal sequence, and mindprint labels by Edmond Furter). The two sets are often mixed in art, but a panel of 11 or more characters could not be found to confirm their sequence. The calendric sequence starts top left, from type 14 Cancer as an eagle, or summer sun (see Egyptian decans 14 Cancer vulture). Signs for the four double types are under doubled rods. The archetypal sequence of both sets starts bottom centre, going left:
2 Taurus; Bull (19% bovid). Chariot twisted (48% twisting)
3 Aries; Goose (42% bent neck). Shield /book (of 2, or 3 Cista)
4 Pisces; Fish (rare). S-cloth (ribbon)
5 Aquarius; Horse (equid). Dumbell-Z-rod (horizontal)
6 Capricornus; Dolphin? (amphibious). Arch-collar (U-shape)
7 Sagittarius; Water-horse (buck bag). Flower head (unfolding buck bag)
9 Scorpius; Snake (tail). Snake-Z-rod (tail)
10 Libra; Wolf (Lupus decan). Armlet trio (arms up?)
11 Virgo; Stag (female?). Comb and mirror
Comb is a feminine fertility symbol in many cultures (Tressider 1997)
13 Leo; Boar (Ursa decan). Crescent-V-rod
14 Cancer; Eagle (bird, Ursa Minor). Sun-disc on rectangle
15 Gemini; also Eagle? (Ursa Minor shared). Cauldron / crossbar.

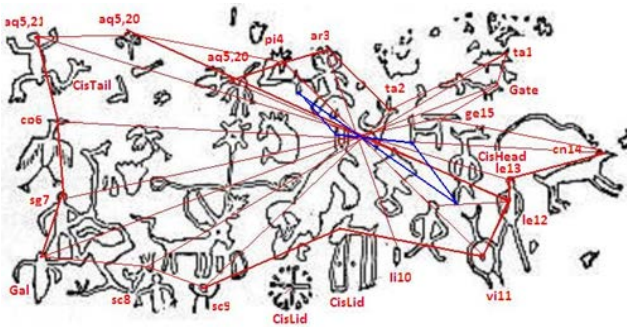

Fig. 9. North American 'picture writing' with surreal and semi-abstract characters (Mindprint labels and axial grid by Edmond Furter). The archetypal sequence is:
1 Taurus; Horned animal (19% bovid)
2 Taurus; Ophiotaurus snake-bull (19% bovid) or griffin, rain animal; twisting (48%)
3 Aries; Crab-man (dragon), three necks (42% neck long/ bent). See Gobekli Tepe spider (Expression 9: 22)
4 Pisces; antelope or equid, squatting (25%)
5 Aquarius 20; Volute /bird; and bird horizontal (30%); and feather-man (44% varicoloured)
5 Aquarius 21; Man with tailcoat head (see Gobekli Tepe 6. See John Baptist icons), triple-headed (more typical of 6)
6 Cista Tail: Tailcoat head
6 Capricornus; Raptor bird (more usual at 14 opposite), spread out (triangular)
7 Sagittarius; Man holding galactic 'rope of the sky' (rope. See San myth)
7g Galaxy; Amphibian? (water), or unfolding 'buck bag' (of 7)
8 Scorpius; Parrot or antler (horned)
9 Scorpius; Man with arms out (of 10, but see the Tartaria tablet)
10c Cista Lid; Wheel (or shield. See a buck wheel in the Egyptian Hierakonpolis tomb 100 mural. See Tarot trump 10, Wheel of Fortune). Cista half-types are often off the ocular grid
10 Libra; Mark, with a canine? (Lupus decan). Its arms-up posture is opposite at 3, unusually
11 Virgo; Goat?, womb (87%)
12 Leo; Man's heart (85%)
13 Leo; Tall man
14 Cista Head; Man with fox (canine) headdress
14 Cancer; Canine? (Lynx decan), far out (45% ingress/ egress)
15 Gemini; Animal; and fox-headdress (canine), behind a snake /rope (33%)
15g Gate; Ophiotaurus bull-snake (of adjacent 1, but see the Apop snake in Egypt).

outer from has changed greatly in the course of its long history, but inner characteristics of the oldest inscriptions hardly differ from recent times.' If Chinese and Egyptian hieroglyphic sets express, over millennia, the same five-layered structure that art is now found to express, then our definitions of art, pictogram, sign, ideogram, psychogram, hieroglyph, alphabet, communication, grammar, ritual, culture, and human, should involve the concepts of structural expression, and of archetype. Anthropology may have to leave evolution to biology; diffusion to technology; and crypto-astronomy to conspiracy theorists. The study of art, including abstract rock art, has significant implications for several human sciences.

References

Allen, R.H.
1899 *Star names and their meanings.* USA: Stechert. Glastonbury: Lost Library
Anati, E.
2010 *World rock art: the primordial language.* Oxford: Archaeopress
Butin, R.F.
1932 T*he Protosinaitic Inscriptions*. Harvard Theological Review, Vol 25 No.2
Chomsky, N., and M. Halle. 1968; 1991 Sound Pattern of English. London: MIT Press
Furter, E.
2014 *Mindprint, the subconscious art code.* USA: Lulu
Furter, E.
2015a Gobekli Tepe, between rock art and art. *Expression 9*: 21-25
Furter, E.
2015b Art is structural magic, not illustration. Expression 10: 15-22
Gelb, I.J.
1939 *Hittite hieroglyphic monuments*. Chicago. Fig 38
Gelb, I.J.
1942 *Hittite hieroglyphs*, iii. Chicago. Frontispiece table
Gelb, I.J.
1952 *A study of writing,* Chicago: University of Chicago Press
Gombrich, E.
1979 *The Sense of Order.* London: Phaidon
Homet, M.F. 1962 Sons of the sun. São Paulo: Ibrasa
Neugebauer, O., and R.A. Parker.
1969 *Egyptian astronomical texts* III; Decans. Rhode Island: Brown University Press
Orpen, J.M.
1874 *A glimpse into the mythology of the Maluti Bushmen*. South Africa: Cape Monthly Magazine, July
Roe, P.G.
2007 *A further exploration of the Rowe Chavin seriation.* Studies in pre-Columbian art and archaeology, Vol. 13
Sass, B.
1988 *The Genesis of the Alphabet and Its Development in the 2nd Millennium BC*. Wiesbaden: Otto Harrassowitz
Schmandt-Besserat, D.
1981 From Tokens to Tablets: A Re-Evaluation of the So-called Numerical Tablets. *Visible Language 15*: 321-44
Steiner, G.F.
2016 The goddess and the copper snake: metallurgy, star-lore, and ritual in the rock art of Southern levant. *Expression 12:* 73-92
Tresidder, J.
1997, 1999 *Watkins dictionary of symbols.* London: Watkins
Vlassa, N.
1961 *Tartaria tablets.* Prehistory.i/ftp/arta_populara
Von Petzinger, G.
2016 *The first signs.* Canada: Simon & Schuster

PATTERNED BODY ANTHROPOMORPHS OF THE COSOS: HOW MIGHT CONCENTRIC CIRCLE PSYCHOGRAMS FUNCTION IN ETHNOGRAPHIC SCHEMES?

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Abstract
In this paper we examine deep time and space parallels in rock art patterns pertaining to the patterned body anthropomorph iconic motif (PBA) found in Coso Range rock art sites in eastern California. The authors propose that recurring geometrical patterns found on some of the more representational or identifiable shapes in the region reveal the presence of an ancient set of visual motifs that continue to be found in oral tradition and the symbolic culture of descendant Numic and broader Uto-Aztecan native peoples, including the Hopi and Huichol.
Coso PBAs have become a prominent archetypical image of California and American rock art, evinced by their use as trademarks for both the Maturango Museum in Ridgecrest, California and as employed by the United States national rock art organization, the American Rock Art Research Association (ARARA). The present research investigates the possible evolution of ideas and interpretations associated with these abstract figures. We explore the PBA as a formalized perception of a deity and/or supra-mundane being, as an adorant shaman, animal master/mistress, and bearer of the 'eye of god' or nierika motif of southern Mesoamerican, Uto-Aztecan ethnic groups.

Keywords adorant, animal master, aboriginal cosmology, Coso, Huichol, Kawaiisu, *nierika,* Numic, *ojo de dios*, PBA, psychogram, rock art, Uto-Aztecan, *Yahwera*

Introduction: Reasons Behind a Study of Coso Petroglyphs

The rock art of the Coso Range, Inyo county, eastern California, consists of arresting visual images and patterns that were carved principally by pre-Numic aboriginal populations mostly during a time period from about 4000 BC or earlier through AD 1000/1300 (Hildebrandt and McGuire 2002; Hildebrandt and Ruby 2006; Rogers 2010; Gilreath 2003; Garfinkel 2006, 2007; Garfinkel et al. 2009, 2010). Apart from abstract geometrical patterns, the Coso rock art assemblage includes certain elements that are called patterned-body anthropomorphs or PBAs. The Coso Range rock art locality is well known by anthropological, archaeological and rock art scholars, since it contains the greatest concentration of prehistoric rock drawings in the western hemisphere.
Art throughout the native world always relies on metaphor and is a tether for artefacts, ritual regalia and symbols. Any artistic motif can be connected with many cultural contexts (Wagner 1981: 38). Following Rappaport (1979, 1999), a trifold framework of meanings may apply. The simplest and most straightforward is object and semantic distinctions. These are commonly part of simple descriptive catalogues of rock art elements (such as animal, bird, projectile point, snake, etc). Higher-order meanings are discovered through pattern recognition employing quantification and formal analysis. The latter might relate to the disco-

very of the conventionalized or iconic images of the classic, boat-bodied, Coso-style bighorn sheep. Finally, at the highest levels of interpretive analysis are the most sophisticated contextual meanings, embedded in native cosmology, ceremony and ritual, that hinge on a deep and abiding understanding of a particular culture's internal relational framework. The latter is of course the most difficult and most conjectural and often is based on ethnographic and ethnohistoric analogies and cross-cultural studies of comparative religious thought.

The authors of this study are attempting to tease out these deeper constructs by employing a bevy of hermeneutical techniques that rely on cognitive neuroscience, and on an in-depth study of sacred narrative and religious ontology.

We argue that the Coso PBAs are indeed prehistoric images containing deep-seated, cognitive, templates or patterns that seem to communicate shamanistic (or even pre-shamanistic) messages or codes. The function of these icons might, in certain cases, be rather transparent: to focus the viewer's attention and encourage participation in ritual or performance (Renfrew 1994).

With respect to Coso PBAs, sufficient documentation and analysis have been completed so that we might attempt to visually deconstruct them. Such an analysis may show that the figures might best be considered semiotic assemblies (Leroi-Gourhan 1982; Anati 1994). Our research seems to suggest that such iconic representations exhibit homologous attributes across a wide variety of distinctive ethnic groups, not only in the immediate environs of the Coso region but also across a much wider region, including the American southwest, Lower Pecos in Texas and within the cultures of Mexico, including the Huichol of northern Mexico and into the Baja Peninsula within the great mural rock art tradition.

Coso Geographical Location

Geographically, Coso rock art is in the Coso Range that is bounded by Rose Valley in eastern California and the Indian Wells Valley of the western Mojave Desert, and is further located in the southwestern corner of the Great Basin of the western United States (Whitley 1998a: 109; Whitley and Dorn 1984: 310, 1987; Garfinkel and Austin 2011: 454). The peak period of Coso rock art production was also a period of intensive hunter-gatherer activity in this region, where native peoples lived for thousands of years. The prehistoric Coso were the predecessors of contemporary Native Californians of Timbesha-Shoshone (aka Panamint, Koso or-Coso), Owens Valley Paiute and Kawaiisu heritage (Zigmond 1977: 59; Hultkrantz 1987: 34; Garfinkel 2006: 203; Gilreath and Hildebrandt 2008: 4; Garfinkel and Austin 2011: 453).

What are Coso Patterned-Body Anthropomorphs (PBAs)?

The Coso petroglyphs form an abundant and distinctive complex consisting of an estimated 100,000 examples of discreet visual diagrams (Garfinkel et al. 2009: 2; Whitley 1998a, 1998b; Maddock 2015: 1-2). There are two distinctive classes of elements within Coso. First, there are abstract geometricals: these may be either curvilinear or rectilinear Euclidean patterns, which do not seem to have any easily specified or transparent semantic reference.

However, perhaps the more interesting features of Coso petroglyphs pertain to their appearance as representationals (Heizer and Baumhoff 1962: 202; Wilcox 1973: 31; Whitley 1998a, 1998b). Representationals include PBAs, which comprise arrays that resemble animal-human figures. These figures conflate animal and human attributes (like bird talons in place of feet) and exhibit bodily embellishments executed

with abstract designs and patterns (like rings or shafts or outlines of hunting tools like the atlatl, a dart throwing board). For more contemporary scholars like Whitley and Garfinkel, the PBA form might potentially be deciphered or discerned in sufficient detail to possibly make out what the artist was most likely intending (Whitley 1998a: 120; Garfinkel et al. 2009: 181). The PBAs are conventionalized, iconic motifs. Grant et al. estimate that there are 700 such figures in the entire Coso Range. Maddock (2015) has sketched, photographed and mapped 400 of them. Simply, PBAs are animal-human conflations with decorated torsos.

PBAs invite a very interesting question in the context of rock art conventions within a larger sphere of Uto-Aztecan and Mesoamerican cultures as a whole. In all probability the Coso PBA is not just a representational icon but a paradigm of far deeper and implied, imbricated, metaphor, a symbol with embedded compound, multivalent meanings. The process of meaning formation here seems to depend on methods of array formations, though in the case of our PBAs, they seem to have an accumulative function. Simpler abstract components add with superior expressions of energy to form a structure resembling a psychogram, a time-tested technique proven to be prevalent in European rock art of the Pyrenees and the lower Mediterranean (Anati 1994, 2004; Scarantino 2004; Ambrose 2006). The Coso PBAs, like their inter-continental counterparts, reflect an early consciousness of using or conjoining simpler visual figures to create a more complex and integrated visual system. This peculiar cumulative agency of conjoined abstracts has been designated as the art of psychograms by Anati, and cognitively explained by Hodgson, Layton, Clottes and others as a process derivingfrom a hyper-agglutinative capacity of the neurovisual system (Anati 1981, 1994, 1999; Helvenston and Hodgson 2010). The applications of the same theory to Coso rock art contexts is probably very helpful in deciphering the visual image on a cogently perceptive level for these human-shaped figures from eastern California. More interesting is the evocative process that shows how abstract visual units are employed in this system of art to suggest correspondences and meanings which have distinct ethnographic parallels in the ancient stories of an entire ethnologically defined region (Whitley 1998a, 1998b; Garfinkel and Austin 2011; Garfinkel and Waller 2012).

Figure 1. PBA employed as an emblematic pattern for the Maturango Museum, Ridgecrest, California.

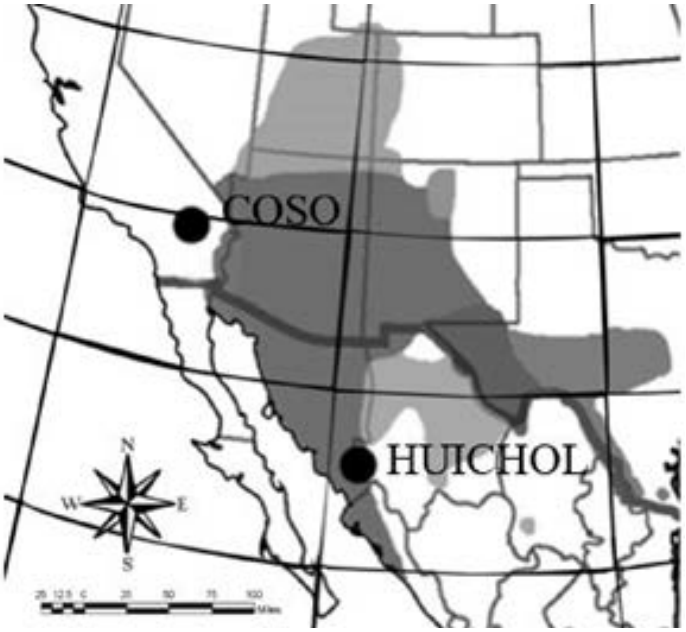
An animal-human conflation with a number of homologous attributes appears in Coso iconography, and also later in time associated with the native Kawaiisu who inhabited this very same area. The design and context of the Kawaiisu animal-human , supernatural appears to function in a similar vein, perhaps implying similar meanings and metaphors.

It is apparent that we can identify certain formal attributes of the Coso animal-person images that have intriguing parallels with other distant and distinctive rock art traditions. Diagrammatic PBA archetypes similar to the Coso figures appear to recur in the Dinwoody Wind River petroglyphs (rock drawings) in Wyoming (Whitley 1996, 1998a: 109; Keyser and Klassen 2001: 107; Francis and Loendorf 2002; Garfinkel 2006: 239, 2009: 7; Garfinkel and Waller 2012: 40), the Great Mural Tradition of Central Baja California, and the rock paintings of the Lower Pecos in Texas (Turpin 1990: 263; Furst 1997: 49; Whitley 2005: 3).

Other areas within an even larger sphere provide us with signs that might indicate a series of distant symbolic, analogic links in a chain of potentially related icons for the prehistoric cultures of Coahuila, Nuevo Leon,and San Luis Potosi in north-central Mexico. We can also identify similar visual motifs among rock art clusters in Santa Catarina in Coahuila, Mexico (Figure 6) and the Boca de Potrerillos rock art of Nuevo Leon. The rock art of Mexico and Nuevo Leon has been most recently studied by Turpin, Murray and others (Turpin 1990: 263; Turpin and Eling 2014: 177-194; Murray 2007: 162). One can also encounter compelling parallels in the contemporary ritual symbols in Huichol and Nayar iconography (Furst 1997: 255; Maclean 2000: 75).

The northern Mexico rock art assemblage is most fully referenced in reviews of the Lower Pecos Region rock art and in the extensive studies crafted by Schaafsma, Turpin, Boyd and Joel y Ram, and then Murray in Spanish (Schaafsma 1986; 152; Turpin 1988: 120, 1992: 275; Boyd 1996: 153 Joel y Ram et al. 2005; Murray 2007: 20). The Santa Catarina rockart complex is concentrated around the Chichimec Sea, the Rio Grande and Pecos Region of Texas, and in the areas of Coahuila and Nayarit states in Mexico, as is shown in Map 1.

The emergence of a consistent visual typology across distant regions might not have been possible unless the image was cognitively embedded for distribution in the different mental



Map 1. Map showing the distribution of Numic and Takic groups in California and the Great Basin and other Uto-Aztecan linguistic groups in the American southwest and Mexico. Shaded area represents the area of transitions and adaptations of south-bound Uto-Aztecan groups. Darker areas represent hypothesized Uto-Aztecan movements through the Sonoran Desert towards northwest Mexico and the Chichimec Sea. Lighter grey indicates the transitions of the Uto-Aztecan groups towards the Lower Pecos and northeast Mexico (the Sierra Madre Oriental in Nuevo Leon).

templates for various cultures. Analysis of the various attributes of PBAs might illustrate precisely which aspects of this archetypal symbolism were transferred or even reinvented by migratory hunter-gatherer groups that transitioned towards the southern latitudes. Visual fonts on the body of PBAs might act like morphological codes for a complex visual ethnography, which also finds its way into contemporary indigenous forms. Such connections could be evaluated against the archaeological assumption of the hypothesized autochthonous evolution of visual symbology for the Coso Region and the American Great Basin itself (Fowler 1972: 105; Hildebrandt and McGuire 2002: 242; Quinlan and Woody 2003: 380). Caroline S. Maddock's recently published work, *A Study of the Coso Patterned Body Anthropomorphs (2015),* contains the most exhaustive and detailed listing of the Coso PBA assemblage of figurative rock art. It provides a vast inventory (n = 400 figures) of Coso PBA renderings, including a large number of these PBAs that incorporate identifying recurrent patterns relating to their individual attributes. Some of the PBAs key morphological attributes are discussed in the following sections.

The Anthropomorphic Head or Face of the Coso PBA:

Concentric Circles

The PBA feature that perhaps most immediately attracts a viewer's attention is the concentric circle head or face pattern. In the Maddock study the head and face configuration admittedly varies but the concentric circle form is overwhelmingly the most predominant and consistent template. It appears on a minimum of 153 of her 400 PBA figures.

Speculation on the meaning and metaphor of the concentric circle head or face results from an engagement with such circular and spiral shapes in almost all kinds of rock art. They are argued to be universal or entoptic form-constants of shamanistic rock art (Lewis Williams and Dowson 1988: 245; Bednarik et al. 1990: 77; Jones 2003; Garfinkel 2007). But we also believe there may be deeper levels of meaning. In fact, the Coso concentric circle face form may best be understood in terms of its distinctive structure as having some specific semantic function within the visual (iconographic) scheme of PBAs. Maddock (2015) and Garfinkel and Waller (2012: 37) observe that concentric circles are repeated features in PBAs (Garfinkel et al. 2012) (Figure 4). Much of the ethnographic and rock art literature seems to indicate that these concentric circles in shamanistic and forager cosmology are magical shapes used to visually delineate concurrent access points in an abstract, transcendent corridor (Garfinkel et al. 2009: 188). These shamanistic portal corridors

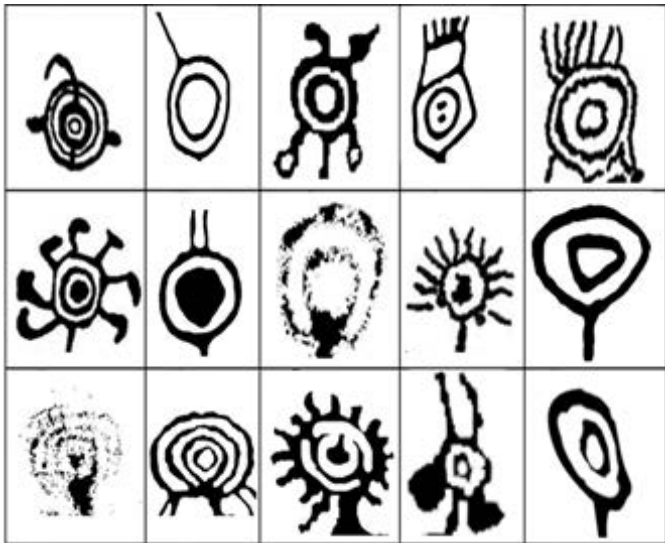


Figure 2. Coso PBAs with concentric circles depicting head patterns, indicating presumably an eye or tunnel motif.

are mutable centres, or form a nexus acting as an axis mundi used to connect mythic time and space – the underworld and celestial spheres with a terrestrial plane of current space and time (Jones 2003: 283).

Ethnographic parallels further suggest that this corridor-portal metaphor is precisely the functional attribute implied by the concentric circle face and concentric circle demarcations at the *Kawaiisu Yahwera Kahnina* (Animal Master's home). This is a place described in the sacred narratives of the Kawaiisu as the entry-way, corridor to the underworld home of the animal master (Figure 3). A prominent painting on stone hosts a nearly 4-ft tall figure revealing a central animal-human with avian qualities that adorns the identified entrance to the animal netherworld (Garfinkel et al. 2009; Garfinkel and Waller 2012). The rock art panel is located in Back Canyon near Caliente, California. This location is recognized in over six versions of the sacred oral narratives of contemporary Kawaiisu and hence may have some significant time depth, as evidenced by the number of versions of the Kawaiisu (Numic) oral traditions and that it references a specific and prominent eponym (placename) in their ethnogeography. Such a notable marking for the entrance is parallel to suggestions where a centre or hole, in the middle of a concentric iconographic architecture, is symbolically associated with a hole or tunnel to the underworld, as is typical of the Tewi (of northern Mexico) *sipapu*, or the Mayan popol vuh narrations on chthonic origins, and the Huichol concentric circle sacred geometry with their *ojo de dios* iconography of a divine eye.

Figure 3. Kawaisu *Yahwera* deity, Back Canyon, Kern County, California.

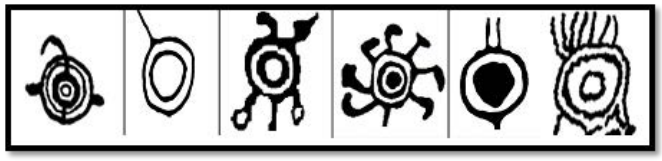


Figure 4. Apophasic eyes in the middle of a concentric circle shaped face is exhibited in a large number of Coso PBAs.

Singular Eye at the Centre: Apophasic Eye?

A second and related attribute of the Coso PBA pertains to the eye-shape constituted by the innermost circle within the series of concentric circles that adorn the face or head. Maddock's extensive discussion on the Coso PBAs finds that virtually none of these figures has eyes per se. However, we would like to gently define that there is a unique sensate object-hole in the concentric head structure of many Coso PBAs. It is not a diagram of a real, visual organ *per se* but is an analogical sign or an apophasic eye, literally referring to an image suggested by means of denial of an explicit sign. The Coso PBAs seem to peer at us with their concentric heads and monocular eyes, demanding our immediate attention, like a proto-human

shape, both flourishing and iconic. Coso PBAs might then be assumed to have a central eye-like feature symptomatically represented by an inner circle within a concentric circle structure. Face recognition techniques require that both children and adult observers fix their gaze on eyes as a means of detection of the mind or the assumed intention of the person being viewed. Psychological experiments show that techniques of face recognition and animacy enhance, with prolonged training and learning experiences, face recognition by children and adults (Gosden 2005; Looser and Wheatley 2010: 1854). But learning about faces alone does not explain how faces and eyes elicit the attention of almost any viewer: 'it is presumably not the face itself that interests people but the mind behind it' (Looser and Wheatley 2010: 1858). Scientists

Figure 5. Various alternative representations of Coso, decorated, animal-human figures with concentric circle faces/ heads and monocular eyes.

generally agree that human beings are highly attuned to specific facial cues, carried largely in the eyes: they are considered as the gate for the categorical perception of life or animacy (Goren et al. 1975: 545; Tanaka and Farah 1993: 230; Tomalski et al. 2010: 570; Looser and Wheatley 2010: 1858). The tipping point of animacy is also best identified through the eyes (Looser and Wheatley 2010: 1860).

Findings in relation to face recognition are indeed startling. If the cognitive capacities for face recognition are acquired from an infantile period (Goren et al. 1975: 555), presumably such a faculty enables humans to associate animacy with eyes. Thus if the centre of the patterned concentric head were a non-eye feature on a form which only resembles a face, the Coso PBAs would not be assumed to have an engaging, master or spirit-like character, or a mind behind it.

When any normal subject tries to identify a cluster of features as a face it takes both global parameters of the form, that is, the whole face, as well as the eyes, which are local parameters, as constitutive features of the face (Langton et al. 2000: 50; Looser and Wheatley 2010: 1854; Looser et al. 2013: 804). Concentric shapes have an extraordinary effect on the cognitive process, and create a shock-effect that is definitely exploited in visual models, especially of ritual objects and in related art such as would be embodied in masks, totemic dolls, effigies, deities and ultimately rock art. All of these are examples of this communicative effect taken to its extreme, even towards intangible conditions in which the users of such symbols might claim to have the ability to create effects without visible connections of causality (Sagiv and Bentin 2001: 945; Wilmer et al. 2010: 5238). Hence a PBA contains a sug gestive eye, rather than two realistic eyes. The same issues are now acknowledged in the literature on the subject (Joyce 2005: 150; Ruth 2000: 227). Hence, rock drawings might have certain effects akin to hypnosis (Dimberg et al. 2000: 88; Gray et al. 2007: 619). Coso PBAs may be assumed to have a central eye-like feature symptomatically represented by an inner circle within a concentric circle structure – hence a means by which attention is riveted and meaning implied.

Adorant Posture: Symbolic Cue for Reverence

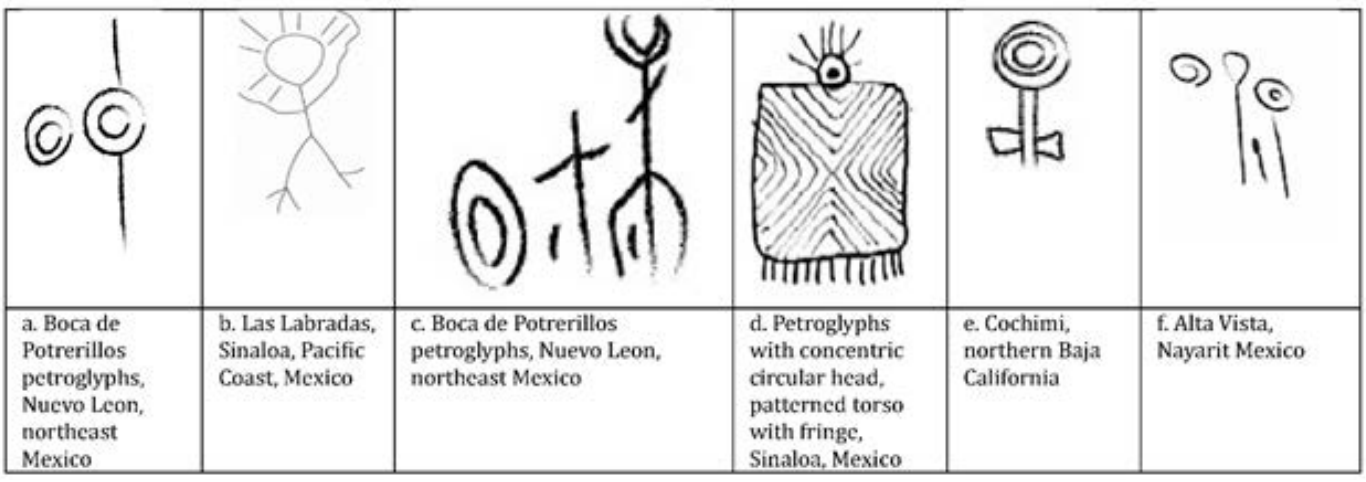
A third important attribute of the PBAs is their full frontal and somewhat static and rigid form that would seem to indicate a very early origin of conceptual, spiritual numinosity for the iconography of the Uto-Aztecan hunter-gathering-groups that predated the later complex cultu-

Figure 6. Numinous figure, two with raised arms and object(s) in hands. Figure on left is a female, right appears to be male. Left figure has quail feathers adorning her head, pendant labias or a mid-birth pose with seeds, rain or mist in her belly. The female figure may in fact be in the act of giving birth to a child with the child's head breaching… Both figures have a long rod in their right hands. This can be an *atlatl*, spear, digging stick or rod of power *(aka poro)*. In their left hands can be dart foreshafts or rabbit sticks. The central male figure may also have a digging stick or seed beater in their right hand. Note the spatulate attachment at the end of the rod. Are these figures communicating concepts and metaphors relating to fertility, reproduction, increase, hunting, world renewal, or even all of these various matters in one symbiotic package? These three examples are typical of such Coso relational symbols of animal, human figures with objects like shafts, head ornamentations and other objects. (note snake and possible basket on rightmost figure).

res of the Mesoamerican geography. According to Johannes Maringer, prehistoric religious iconography contains images of 'adorants', indicated by gestures of supplication, prayer, oblation or sacrifice (Maringer 1979: 215). Maringer's wide-ranging synthesis, covering both prehistoric and ethnographic religious symbolism from 30,000 BC to the historic era, consistently finds that the act of adoration 'is always accompanied by a posture of the body … to express or emphasize a desire to enforce a request'. The posture is hands and arms up, frequently with palms exposed. Maringer argues that this expression belongs to many forms of religion and has existed for thousands of years. It is a means of expressing the special, transcendent relationship of people to their deity. It is variously described as homage, prayer, act of offering, adoration, worship, supplication, reverence, imploring, request and humble surrender.

Indeed, the story of Coso PBAs and other animal-human conflations exhibit this paradigmatic morphology of supplication and prayer. According to Maringer, a typology of adoration is constituted by gestures of 'raised hands' (Maringer 1979: 216) or 'uplifted arms with spread fingers' (Maringer 1979: 230).

However, visual anthropomorphs (like Coso PBAs and related animal-human conflations) may not necessarily be supplicants or oblators *per se*; their visual appearance does not provide absolute evidence for the fact that the PBAs are shamanic 'adorants', as Maringer describes them to be. In the Coso Range, as is likely elsewhere, these engravings, where numerous PBAs appear to have their arms in a raised position with gestures holding an atlatl or other recognizable objects or motifs, PBAs and other such iconic forms with this adorant posture appear to us as more likely mythical or supernatural spirit-providers resembling supernatural figures such as those described in the ethnographic literature identified by Schaafsma, and Garfinkel and his colleagues (Schaafsma 1986: 33; Garfinkel et al. 2009: 183). The Coso PBAs wield a realistic rod or dart and similar rigid, shaft-like objects that associate them with symbols of hunting, spirit-gifting, beneficence and increase rites (fertility), which are likely ritual themes for the Coso artisans (Bard et al. 1979: 246; Hildebrandt and McGuire 2002: 246; Hultkrantz 1987: 40; Garfinkel et al. 2009: 185; Garfinkel and Austin 2011: 460).



a. Boca de Potrerillos petroglyphs, Nuevo Leon, northeast Mexico	b. Las Labradas, Sinaloa, Pacific Coast, Mexico	c. Boca de Potrerillos petroglyphs, Nuevo Leon, northeast Mexico	d. Petroglyphs with concentric circular head, patterned torso with fringe, Sinaloa, Mexico	e. Cochimi, northern Baja California	f. Alta Vista, Nayarit Mexico

Figure 7. PBA-like facial (?) formations in presumed ancient Uto-Aztecan areas of, northern Mexico.

Everywhere, the figurative association of these human, and sometimes gendered, forms appear with associated animal images (birds [thunderbirds and quail], bighorn sheep, snakes, dogs, deer and chuckwallas). The PBA figures are sometimes associated with symbols of hunting (dart points, atlatls) and consumption (holding 'wands' that have been interpreted as *atlatls*, spears, seed-beaters, digging sticks or even the shaman's rod of power [the poro]) with their torsos decorated with ambivalent grids, spirals and zigzag lines appearing reminiscent, as elsewhere, of sanctificatory motifs and further revealing the animal-human figures as players in a system of relationships, and not just as 'adorants' (Quinlan and Woody 2003: 372; Webster et al. 2006: 317).

Meaning of Coso: Oral Traditions of the Numic as Potential Analogs for Coso PBAS

The age and character of bighorn game hunting and related increase rites suggests that the Coso artisans who produced the PBAs were 'pre-Numic', an ancient expression of an indigenous people affiliated with the Uto-Aztecan language family (Fowler 1972: 107; Madsen 1975: 84; Quinlan and Woody 2003: 380; Garfinkel et al. 2007, 2009: 184; Garfinkel et al. 2010). Among the pre-Numic groups that are thought responsible for the production of Coso rock art specifically are those that ultimately were replaced by Numic affiliated populations (Lamb 1958: 99; Bettinger and Baumhoff 1982: 500; Myers 1997: 40; Garfinkel 2007: 203-243; Garfinkel et al. 2007: 90). Some of these Numic people include the Kawaiisu and Great Basin Paiute or Shoshone. What is it about their sacred narratives, their oral traditions, that these groups carried forward from their pre-Numic predecessors? Indeed, there may be no better line of study for the Coso PBA images than the context of findings provided by Campbell Grant and his associates (Grant et al. 1968; Hultkrantz 1961, 1987) and Garfinkel et al. (2009: 181) with respect to comparisons of the Coso PBAs with the *Yahwera* sacred narrative traditions of the Kawaiisu and Tubatulabal of eastern California (Barras 1984; Whitley 2000b: 78–79; Zigmond 1977: 90). Garfinkel and his colleagues argue for a potential interrelationship between Coso figures and the Yahwera deity of the Kawaiisu (Garfinkel et al. 2009; 30; Garfinkel and Waller 2012). In all, the indigenous sacred narratives identify a supramundane being that appears both as a spirit-keeper figure resembling a shaman and wise ritualistic supplicator (of game and food resources), that is also identified as a spirit that provides such gifts. This dual identity is remarkably similar to that identified for a key divinity, namely, the *Huasteca Tatutsi Maxa Kwaxi*, that is also recognized in many Aztec oral traditions of further south (Zigmond 1977: 70; Furst 1997: 49; Ramon 1996; Schaefer and Furst 1997: 13).

Thus the symbolic meaning of Coso PBAs has been associated with the desert people's oral traditions of the Animal Master or Mistress (Hultkrantz 1981:44, 84; Garfinkel et al. 2009:195; Garfinkel and Waller 2012). The association of a master or guardian figure is reminiscent of Nurit Bird-David's proposition that spirit-keepers in ancestral religions reproduce the notion of such masters as part of a sociological process of integrating social needs and habit (Bird-David 1999: 85; Porr and Bell 2012: 205). In the case of hunter-gatherers, the animal master or mother would have acted as a guardian who provides the wild sheep and other game animals necessary for survival. Scholars have also suggested that the icon may be an early counterpart of a widespread set of figures of the animal master or mistress (Garfinkel 2009:185) in such line of study for the Coso PBA images than the context of findings provided by Campbell Grant

xthe cosmology of the ethnohistoric Kawaiisu, Chemehuevi and Tubatulabal (all Uto-Aztecan groups of California and the Great Basin) (Hopkins 1965: 55; Bettinger and Baumhoff 1982: 493, 499; Gilreath and Hildebrandt 2008: 2).

The Greater Southwest and Mesoamerica: Huichol Nierika or Eye of God

Considered in the larger context of the American Southwest and the Great Basin, the presence of some decidedly similar depictions are reported by Garfinkel, Schaafsma, Maclean, and Furst (Schaafsma 1986: 100; Maclean 2000: 75; Furst 1997: 49, 61; Garfinkel 2009: 184, 195, 198-199). The Coso legacy, if we could call it so, consists of templates that reappear in varied contexts of visual culture for a very large geographical area, which only reaffirms their resilience as cultural ideas.

Perhaps the concentric eye shape acts like a cosmological trope for indigenous populations of the region for several centuries at a stretch,

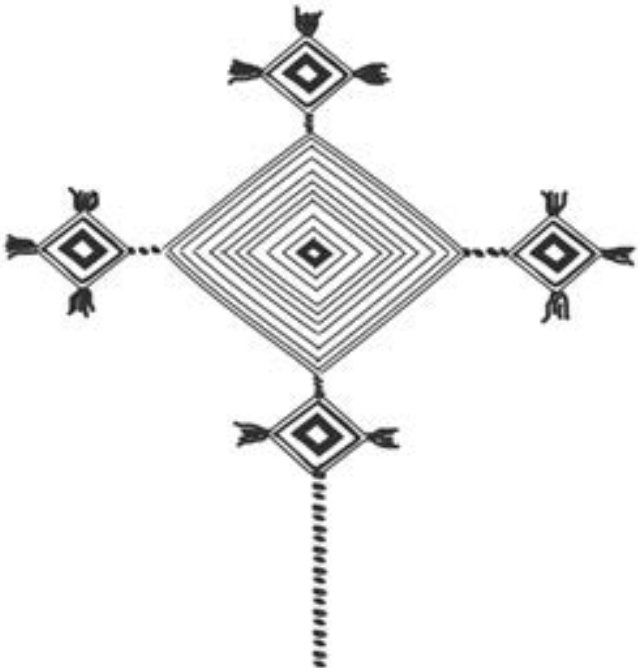


Figure 8. Huichol eye-of-god motif.

and continues to effect variations and expressive tendencies even today. Concentric circles are archetypal markers of seasonal and astronomically significant events in Hopi, O'otam and Pueblo belief-systems of the American southwest; circles with diagonals appear to indicate the horizon and also the four directions (Tanner 1948: 26; Cole 1994: 90; Maclean 2000: 75).

The Uto-Aztecan cultures have evidence of such an emic cultural marker itself. The Huichol most prominently have a concentric patterned PBA-like attribute or visual motif as one of their most important iconographic symbols, namely the *nierika*, whose Spanish translation is the *ojo de dios* or the eye of god. Both Huichol and the Tepehuano (also called the Tewi), have very similar iconic motifs, none more important in their belief systems than the *nierika* or eye of god. This eye of god motif symbolizes in all such contiguous cultures the divine eye of an anthropomorphic deity or ancestral spirit. The *nierika* symbol of northern Mexican ethnic groups offer a parallel to the similar motif that appears in the pre-Numic, hypothesized, Uto-Aztecan Coso rock art tradition of c. 6000 BC to AD 1000/1300 (Garfinkel 2007; Rogers 2010). In the California and Great Basin archetypes the divine eye symbolism acts as an image of an eye that alsoconnects the ritual viewer to the spirit world, acting like an *axis mundi* (Garfinkel 2006, 2007; Garfinkel et al. 2009; Garfinkel and Austin 2011; Garfinkel and Waller 2012)). The same idea of an axis mundi is repeated in the discussions centred on northern Mexican Huichol-Tepehuano ritual symbolism. The studies of Lumholtz (1900), Negrin (1975), Mountjoy (1987:167), and Negrin and Neurath (1996: 60) attest to the metaphor and functional impor-tance of the *nierika* motif. Not only this, but the connective function of a divine eye is apparently one of the most important symbolic guides

to Mesoamerican (predominantly Uto-Aztecan) belief-systems. Our collaborative research provides evidence for the expressions of an extensive artistic and cultural fluorescence that thrived between the southwestern fringes of the Great Basin and the cultures of central Latin America, including the Yucatan in the Atlantic coast of Mexico, to Guatemala. Evidence for later manifestations of a divine eye motif is also expectedly abundant in Mayan cultures (Neurath 2002; Furst 2007; Milbrath 2015).

Furst, following Hrdlicka's earlier classic studies, also points to the presence of an origin myth in the Tewi (also called Hewi) mythological narratives: the Tewi being intruders from the north, and of more ancient origin (like the Tepehuano), saying that the world was created out of a spider-mother goddess who came out of a hole or *sipapu*-like centre (a Huichol word which probably refers to a hole or centre through which one could pass in a metaphorical sense). This chthonic metaphor provides a striking parallel to the distant Kawaiisu creation narratives and the oral traditions relating to the *Yahwera* deity, in which these deities have been symbolically rendered in graphic forms with concentric circles and a centre or hole in the middle (Garfinkel et al. 2009: 188). This rendition also presupposes an underworld chthonic parallel to the idea of passage or origin, a kind of tunnel into or out of another world (Hultkrantz 1981: 15, 129; Garfinkel and Waller 2012: 45; Garfinkel et al. 2009: 187). This millennia-old symbolism of a central hole within a larger circle found in Tepehuano-Tewi groups reappears in later manifestations of the Huichol *nierika* (also an iconic passageway for souls to the spirit world, especially for shamanic vision questors). The centre of a layer of concentric circles or concentrically patterned squares, appears to consistently symbolize some kind of portal and is most specifically identified with the Huichol eye-of-god motif, which is also synonymous with their metaphoric mirror symbol, through which not only do gods look down at mortals but also one through which mortals try to look and pass through to a world of their gods (Negrin 1975; Negrin and Neurath 1996: 56; Furst 2007: 34).

Additionally and of import is the psychological association of an intricate woven ritual pattern, often typical of woven mats, fringed moccasins and the weaving of basketry from the Great Basin cultures. This last is recognized as an element of the body decoration of the PBA and is sometimes considered a likely object of ritual contemplation (Kitchell 2010: 819-840). It is also, to cite a parallel, similar to the concentric Nahua and Huichol itari, which is none other than a prayer mat, which is used for hunting rituals and survives to this day in the fabric yarn designs among Huichols of Durango and Jalisco in northern Mexico (Lumholtz 1900: 165; Mountjoy 1982: 110; Neurath 2015; MacLean 2000: 80; Kindl 2000, 2005).

Conclusion

Coso PBAs thus contain visual-metaphorical templates that may have been acquired and transmitted by migrations. Perhaps the most distinguished of them that stands out from the rest is the concentric centre or hole pattern, which tends to prefigure an eye motif for a larger and diverse animal-human complex. Our Coso-based research of the PBA template supports the idea that the concentrics are perhaps universal templates in Mesoamerican iconography, and may reappear as the *nierika,* eye, or eye of god, or the *nierika* in contiguous migratory cultures. These patterns appear to have existed within the system of sacralization and memorabilia and are re-circulated through generations of socially organized cultures.

References

Anati, E.
1981 The origins of art. *Museum Internationa*l 33(4), 200-210.
Anati, E.
1994 Constants in 40,000 years of art. Nöth, W. (Ed.).
1994 Origins of semiosis: sign evolution in nature and culture (Vol. 116). Walter de Gruyter.
Anati, E.
1999 The art of beginnings. *Diogene*s 47(185).
Anati, E.
2004 Introducing the world archives of rock art (WARA): 50,000 years of visual arts. In *Prehistoric and Tribal Art: new discoveries, new interpretations and new methods of research.* XXI Valcamonica Symposium, Capo di Ponte, Italy. Retrieved October (Vol. 20, p. 2007).
Ambrose, D.
2006 30,000 BC: painting animality: deleuze and prehistoric painting. *Angelaki: Journal of the Theoretical Humanities 11*(2), 137-152.
Bard, J. C., Busby, C. I., Kobori, L. S., and Spencer, L.
1979 Ezra's Retreat: A Rockshelter/Cave Occupation Site in the North Central Great Basin. Davis, CA: *Center for Archaeological Research* at Davis.
Barras, J.
1984 *Their Places Shall Know Them No More.* J. and B. Barras. Privately printed by the authors. Tehachapi, CA.
Bednarik, R. G., Lewis-Williams, J. D., and Dowson, T. A.
1990 On Neuropsychology and Shamanism in Rock Art. *Current Anthropology* 31(1), 77-84.
Bettinger, R. L., and Baumhoff, M. A.
1982 The Numic Spread: Great Basin Cultures in Competition. *American Antiquity* 47(3), 485-503.
Bird-David, Nurit.
1999 'Animism' Revisited: Personhood, Environment, and Relational Epistemology 1. *Current Anthropology* 40(1), 67-91.
Boyd, C. E.
1996 Shamanic Journeys into the Otherworld of the Archaic Chichimec. *Latin American Antiquity 7*(2), 152-164.
Cole, Sally J.
1994 Roots of Anasazi and Pueblo Imagery in Basketmaker II Rock Art and Material Culture. Kiva 60(2), 289-311.
Dimberg, U., Thunberg, M., and Elmehed, K.
2000 Unconscious Facial Reactions to Emotional Facial Expressions. *Psychological Science* 11(1), 86-89.
Francis, J. E., and Loendorf, L. L.
2002 *Ancient Visions: Petroglyphs and Pictographs from the Wind River and Bighorn Country, Wyoming and Montana.* Salt Lake City: University of Utah Press.
Fowler, C. S.
1972 Some Ecological Clues to Proto-Numic Homelands. In Great Basin Cultural Ecology: ASymposium, Don D. Fowler (ed.), pp. 105-122. *Desert Research Institute Publication in the Social Sciences* No. 8, Reno and Las Vegas.
Furst, P. T.
1997 Assimilation and Transformation of Some Catholic Icons in Huichol Myth and Ritual. *Journal of Latin American Lore 20*(2), 249-74.
2007 *Visions of a Huichol shaman*. Philadelphia: University of Pennsylvania, Museum of Archaeology and Anthropology.
Garfinkel, A. P.
2006 Paradigm Shifts, Rock Art Studies, and the 'Coso Sheep Cult' of Eastern California. *North American Archaeologist 27(*3), 203-244.
2007 *Archaeology and Rock Art of the Eastern Sierra and Great Basin Frontier.* Ridgecrest, CA: Maturango Press.
Garfinkel, A. P., Marcom, G., and Schiffman, R. A.
2007 Culture Crisis and Rock Art Intensification: Numic Ghost Dance Pain-

tings and Coso Representational Petroglyphs. *American Indian Rock Art 33*, 83-103.
Garfinkel, A. P., Austin, D. R., Earle, D., and Williams, H.
2009 Myth, Ritual and Rock Art: Coso Decorated Animal-Humans and the Animal Master. *Rock Art Research 26(2),* 179-197.
Garfinkel, A. P., Young, D. A., and Yohe, R. M.
2010 Bighorn Hunting, Resource Depression, and Rock Art in the Coso Range, Eastern California: A Computer Simulation Model. *Journal of Archaeological Science 37*(1), 42-51.
Garfinkel, A. P., and Austin, D. R.
2011 Reproductive Symbolism in Great Basin Rock Art: Bighorn Sheep Hunting, Fertility and Forager Ideology. *Cambridge Archaeological Journal 21(3)*, 453-471.
Garfinkel, A. P., and Waller, S. J.
2012 Sounds and Symbolism from the Netherworld: Acoustic Archaeology at the Animal Master's Portal. *Pacific Coast Archae-ological Society Quarterly 46(*4), 37-60.
Gilreath, A. G.
2003 Age and Function of Rock Art. In Archeological Testing of Fourteen Prehistoric Sites within the Coso Target Range at Naval Air Weapons Station, North Ranges, China Lake, Inyo County, California, by W. R. Hildebrandt and A. Ruby, pp. 209-214. On file Environmental Project Office, Naval Air Weapons Station, China Lake, CA.
Gilreath, A. J., and Hildebrandt, W. R.
2008 Coso Rock Art within its Archaeological Context. *Journal of California and Great Basin Anthropology 28(1)*, 1-22.
Goren, C. C., Sarty, M., and Wu, P. Y.
1975 Visual Following and Pattern Discrimination of Face-like Stimuli by Newborn Infants. *Pediatrics 56*(4), 544-549.
Gosden, C.
2005 What Do Objects Want? *Journal of Archaeological Method and Theory 12(3)*, 193-211.
Grant, C., Baird, J. W., and Pringle, J. K.
1968 *Rock Drawings of the Coso Range: Inyo County,California: An Ancient Sheep-Hunting Cult Pictured in Desert Rock Carvings.* Ridgecrest, CA: Maturango Museum.
Gray, H. M., Gray, K., and Wegner, D. M.
2007 Dimensions of Mind Perception. *Science* 315(5812), 619.
Heizer, R. F., and Baumhoff, M. A.
1962 *Prehistoric Rock Art of Nevada and Eastern California.* Berkeley: University of California Press.
Hildebrandt, W. R., and McGuire, K. R.
2002 The Ascendance of Hunting During the California Middle Archaic: an evolutionary perspective. *American Antiquity*. 67: 231-256.
Hildebrandt, W. R., and Ruby, A.
2006 Prehistoric pinyon exploitation in the southwestern Great Basin: A View from the Coso Range. *Journal of California and Great Basin Anthropology 26(1*), 11-32.
Helvenston, P. A., and Hodgson, D.
2010 The Neuropsychology of 'Animism': Implications for Understanding Rock Art. *Rock Art Research 27(1),* 61-94.
Hopkins, N. A.
1965 Great Basin Prehistory and Uto-Aztecan. *American Antiquity* 31:48-60.
,Hultkrantz, Å.
1961 The Masters of the Animals Among the Wind River Shoshoni. *Ethnos* 26(4), 198-218.
1981 *The Religions of the American Indians* (No. 5). Berkeley: University of California Press.
1986 The Peril of Visions: Changes of Vision Patterns among the Wind River Shoshoni. *History of Religions.* 26(1). 34-46.
1987 ***Native Religions of North America: The Power of Visions and Fertility***. San Francisco, CA: Harper Collins.
Jones, Bernard M., Jr.
2003 Shamanic Symbols: Visual Metaphors in Rock Art Images. San Diego Museum of

Man Papers 41, Rock Art Papers 16: 47-57.
Joel y Ram, S.,
2005 Los petrograbados del norte de Mexico. See www.academia.edu
Joyce, R. A.
2005 Archaeology of the Body. *Annual Reviews in Anthropology 34:* 139-158.
Keyser, J. D., and Klassen, M.
2001 *Plains Indian Rock art. Seattle,* WA: University of Washington Press.
Kitchell, J.
2010 Basketmaker and Archaic Rock Art of the Colorado Plateau: A Reinterpretation of Paleoimagery. *American Antiquity* 75(4), 819-840.
Kindl, O. S.
2000 The Huichol Gourd Bowl as a Microcosm. *Journal of the Southwest* 42(1), 37-60.
Kindl, O.
2005 L'art du nierika chez les Huichol du Mexique. Un instrument pour voir . Les cultures à l 'Œuvre. Rencontres en art. Paris: Biro éditeur/Éditions de la Maison des Sciences de l'Homme, 225-248. P26.
Lamb, S. M.
1958 Linguistic Prehistory in the Great Basin. *International Journal of American Linguistics* 24(2), 95-100.
Langton, S. R., Watt, R. J., and Bruce, V.
2000 Do the Eyes Have It? Cues to the Direction of Social Attention. *Trends in Cognitive Sciences 4*(2), 50-59.
Leroi-Gourhan, A.
1982 The dawn of European art: An introduction to Palaeolithic cave painting. CUP Archive.
Lewis-Williams, J. D. and Dowson, A.
1988 The Signs of All Times: Entoptic Phenomena in Upper Palaeolithic Art. *Current Anthropology 29(*2), 201-245.
Loendorf, L. L., Chippendale, C., and Whitley, D. S. (eds).
2005 *Discovering North American Rock Art. Tucson,* AZ: University of Arizona Press.
Looser, C. E., and Wheatley, T.
2010 The Tipping Point of Animacy: How, When, and Where We Perceive Life in a Face. *Psychological Science* 21(12), 1854-1862.
Looser, C. E., Guntupalli, J. S., and Wheatley, T.
2013 Multivoxel Patterns in Face-Sensitive Temporal Regions Reveal an Encoding Schema Based on Detecting Life in a Face. *Social Cognitive and Affective Neuroscience 8*(7), 799-805.
Lumholtz, C.
1900 Symbolism of the Huichol Indians. *Memoirs of the American Museum of Natural History* Vol. 3 Part 1.
MacLean, H.
2000 The 'Deified' Heart: Huichol Indian Soul-Concepts and Shamanic Art. *Anthropologica 42(1*), 75-90.
2012 *The Shaman's Mirror: Visionary Art of the Huichol.* University of Texas Press.
Maddock, Caroline, S.
2015 *A Study of the Coso Patterned Body Anthropomorphs. Ridgecrest,* CA: Maturango Museum Press.
Madsen, D. B.
1975 Dating Paiute-Shoshoni Expansion in the Great Basin. *American Antiquity* 40(1), 82-86.
Maringer, J.
1979 Adorants in Prehistoric Art: Prehistoric Attitudes and Gestures of Prayer. *Numen*, 26 (Fasc. 2), 215-230.
Milbrath, S.
2015 *The Maya lord of the smoking Mirror. Tezcatlipoca: Trickster and Supreme Deity,* 163.
Mountjoy, Joseph. B.
1982 An Interpretation of the Pictographs at La Pena Pintada, Jalisco, Mexico. *American Antiquity* 47(1), 110-126.
Mountjoy, Joseph B.
1987 Antiquity, Interpretation, and Stylistic Evolution of Petroglyphs in West Mexico. *American Antiquity* 52(1), 161-174.

Murray, W. B.
2007 *Arte Rupestre del Noreste. Monterey,* Mexico: Fondo Editorial de Nueva Leone.
Myers, L. D.
1997 Animal Symbolism Among the Numa: Symbolic Analysis of Numic Origin Myths. *Journal of California and Great Basin Anthropology 19*(1), 32-49.
Negrín, J.
1975 *The Huichol Creation of the World. Yarn Tablas by José Benítez Sánchez and Tutukila Carrillo.* Sacramento, CA: EB Crocker Art Gallery.
Negrín, J., and Neurath, J.
1996 Nierika: Cuadros de estambre y cosmovisión huichola. *Arqueología Mexicana 20*, 56-61.
Neurath, J.
2015. Shifting Ontologies in Huichol Ritual and Art. *Anthropology and Humanism 40(*1), 58-71.
Neurath, Johannes and Bahr, David
2005 The Gift of Seeing. The Initiation Process and its Implications for the Huichol Worldview: Cosmogonic Myths, Ritual Groups, and Initiation: Toward a New Comparative Ethnology of the Gran Nayar and the Southwest of the United States. *Journal of the Southwest 47(4*), 571-614.
Porr, M., and Bell, H. R.
2012 'Rock-art', 'Animism' and Two-way Thinking: Towards a Complementary Epistemology in the Understanding of Material Culture and 'Rock-art' of Hunting and Gathering People. *Journal of Archaeological Method and Theory 19*(1),161-205.
Quinlan, A. R., and Woody, A.
2003 Marks of Distinction: Rock Art and Ethnic Identification in the Great Basin. *American Antiquity 68(*2), 372-390.
Ramon, Da Silva.
1996 *How One Goes Being Huichol. In People of the Peyote: Huichol Indian History, Religion, and Survival.* Albuquerque, NM: University of New Mexico Press.
Rappaport, Joanne.
1988 History and Everyday Life in the Colombian Andes. *Man (New Series) 23* (4), 718-739.
Rappaport, R. A.
1979 *Ecology, Meaning and Religion*. Berkeley, CA: North Atlantic Books.
Renfrew, Colin.
1994 *Archaeology of Religion. In The Ancient Mind: Elements of Cognitive Archaeology*, C. Renfrew and E. B. W. Zubrow (eds), pp. 47-54. New Directions in Archaeology Series. Cambridge: Cambridge University Press.
Rogers, A. K.
2010 A Chronology of Six Rock Art Motifs in the Coso Range, Eastern California. *American Indian Rock Art* 36, 23-36.
Ruth, David.
2000 The Social Reference of Body Symbols inReligion. In Changing Perspectives in the *Scientific Study of Religion*, A. Eister (ed.), pp. 227-247. New York: John Wiley and Sons.
Sagiv, N., and Bentin, S.
2001 Structural Encoding of Human and Schematic Faces: Holistic and Part-based Processes. *Journal of Cognitive Neuroscience 1*3: 937-951.
Scarantino, L. M.
2004 Memory and its Expressions. On Two Recent Books by Emmanuel Anati. *Diogenes* 51(201), 119-124.
Schaafsma, P.
1986 Indian Rock Art of the Southwest. Albuquerque, NM: University of New Mexico Press.
Schaefer, S. B., and Furst, P. T. (eds).
1997 *People of the Peyote: Huichol Indian History, Religion, and Survival.* Albuquerque, NM: University of New Mexico Press.
Tanaka, J. W., and Farah, M. J.
1993 Parts and Wholes in Face Recognition. *The Quarterly Journal of Experimental Psychology 46(*2), 225-245.

Tanner, Clara Lee.
1948 Sand Paintings of the Indians of the Southwest. *Kiva* 13(3/4), 26-36.
Tomalski, P., Csibra, G., and Johnson, M. H.
2009 Rapid Orienting toward Face-like Stimuli with Gaze-Relevant Contrast information. *Perception 38*(4), 569-578.
Turpin, Solveig. A.
1988 Arroyo de los indios: A Historic Pictograph in northern Coahuila, Mexico. *Plains Anthropologist 33(1*20), 279-284.
1990 Rock Art and Hunter-Gatherer Archaeology: A Case Study from SW Texas and Northern Mexico. *Journal of Field Archaeology* 17(3), 263-281.
1992 More Sacred Holes in the Ritual Landscape of the Lower Pecos Region. *Plains Anthropologist. 37,* 275-278.
Turpin, Solveig and Eling, Herbert H.
2014 Trance and Transformation in the Northern Shores of the Chichimec Sea, Coahuila, Mexico. In Rock Art and Sacred Landscapes, D. L. Gillette, M. Greer, M. H. Hayward and W. B. Murray (eds), pp. 177-194. New York: Springer.
Wagner, R.
1981 *The Invention of Culture. Revised and Expanded Edition*. Chicago/London: University of Chicago Press.
Webster, Laurie D., Hays-Gilpin, Kelley A. and Schaafsma, Polly.
2006 A New Look at Tie-Dye and the Dot-in-a-Square Motif in the Prehispanic Southwest. Recent Perishables Research in the U.S. Southwest. *Kiva* 71(3), 317-348.
Whitley, D. S.
1996 **A Guide to Rock Art Sites: Southern California and Southern Nevada.** Missoula, MT: Mountain Press.
1998a *Meaning and Metaphor in the Coso Petroglyphs: Understanding Great Basin rock art.* In E. Younkin (ed.), Coso RockArt: A New Perspective, pp. 109–176. Ridgecrest, CA: Maturango Press.
1998b Finding Rain in the Desert: Landscape, Gender and Far Western North American Rock Art. In C. Chippendale and P. S. Taçon (eds), T*he Archaeology of Rock Ar*t, pp. 11-29. Cambridge: Cambridge University Press,
1999 Whitley, D.S., Simon, J.M., and Dorn, R. I. The Vision Quest in the Coso Range. *American Indian Rock Art* 25, 1-31.
2000b *The Art of the Shaman: Rock Art of California.* Salt Lake City, UT: University of Utah Press.
2005 *The Iconography of Bighorn Sheep Petroglyphs in the Western Great Basin.* In K. L. Johnson (ed.), Onward and Upward! Papers in Honor of Clement W. Meighan, pp. 191-203. Chico, CA: Stansbury Publishing.
Whitley, David S. and Ronald I. Dorn.
1984 Chronometric and Relative Age Determination of Petroglyphs in the Western United States. *Annals of the Association of American Geographers*,74(2), 308-322.
1987 Rock Art Chronology in Eastern California. *World Archaeology 19*(2),150-164.
Wilcox, A. R.
1973 The Rock Art of North America: Some Impressions and Comparisons. *The South African Archaeological Bulletin 28*(109/110), 27-31.
Wilmer J .B,., Germine, L., Chabris, C. F., Chatterjee, G., Williams, M., Loken, E., Nakayama, K., Duchaine, B.
2010 Human Face Recognition Ability is Specific and Highly Heritable, *Proceedings of the National Academy of Sciences 107*(11), 5238-41.
Zigmond, M. L.
1977 The Supernatural World of the Kawaiisu. In T. C. Blackburn (ed.), *Flowers of the Wind: Papers on Ritual, Myth, and Symbolism* in California and the Southwest, pp. 59–95. Socorro, NM: Ballena Press.

CONCEPTUALIZING THE NATURE OF ABSTRACT REPRESENTATIONS IN PREHISTORY

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Abstract signs have played the main role in human intersubjective communication, structured worldviews and, looked at from the evolutionary perspective, have changed their meaning and values (Robb 1998). A question, however, remains: how can conceptualization of the diverse roles abstract representations play in prehistoric symbolism be approached? Is it possible to consider them only as isolated social phenomenon – something similar to modern discourses such as history, literature, etc – or do they have to be studied in relation to the other figurative forms, the morphology of tools and structures of everyday use?

Their narrow consideration as a particular social phenomenon leads to absurdity. For example, Upper Palaeolithic symbolism has been called the symbolic revolution. While rare during the Middle Palaeolithic symbolic expression through various materials became a common feature in Upper Palaeolithic assemblages, only to become rare during the final Palaeolithic in Europe. Taken in its narrow meaning based on presences in the archaeological record this cyclic evolution could be interpreted as that Neanderthals with their rare symbolic expressions reappeared in the Final Palaeolithic. The only novelty associated with this reappearance is the use of the microlithic toolkit. Contrary to this formal consideration the little evidence available so far suggests that Neanderthals created and extensively used complex symbolic technologies (D'Errico et al. 2003).

If this example is taken further it will be seen that while temperate Europe's final Palaeolithic is characterized by rare occurrences of symbolic expressions, a culture of rich symbolism appeared in the final Palaeolithic and Pre-pottery Neolithic, mostly on the margins of the Fertile Crescent. This puts doubts on the understanding of the nature of prehistoric symbolic expression in association with modern concepts of fertile lands, carrying capacity, etc. They cannot be considered as separate cognitive categories that correspond exactly to the rigid knowledge categorization that underpins modern human behaviour.

Does all this mean that abstract signs with their arbitrary nature and occurrence are hard to predict? Is it possible to make any spatial predictions about their appearance and spatial distribution? The answer is that accurate predictions cannot be made but their cyclic appearance and disappearance and variation in time and space in association with other forms may reveal some of the features of the evolution of human cognitive capacities through building integrated natural and cultural environments.

Correspondence between art and natural objects

This is a complex relationship which has been described by R. Layton, who based his analyses on several experiments of how people belonging to different cultures and racial groups recognize natural objects, human faces or schematic representations (1991). He grounded his approach in understanding that the schematization that occurs in the art of small-scale societies is not a product of deficient skill, perception and intellect. For example, the ability to recognize Western-style pictures and render depth in pictorial representations requires literacy and knowledge of cultural conventions. The latter appear in human culture under the

pressure of working memory's adaptations to the increasing amount of upcoming information from the outside world. While natural objects possess a great amount of information, the artist has to decrease it by schematizing it in order to reduce the cognitive load of the observer and in this way to make the picture immediately recognizable to an audience. Further, he clarifies the necessity of acquiring a cultural background as a tool for the interpretation of Australian Aboriginal art (1991, 167). He cites the attempts of a researcher to identify species and subjects among the figurative paintings in two rock shelters. Without any cultural knowledge the rate of success in his proper recognition of images is about 10%. Beyond immediate recognition of the depicted natural forms, deeper understanding of these paintings requires higher levels of knowledge about why paintings are placed in that particular shelter and the cultural significance of the depicted subjects and the shelter itself.

Cultures shape the meaning of abstract signs in association with figurative art and even with artefacts and materials for everyday use. For example, during the Palaeolithic the practice of depicting stand-alone animals is often encountered. They may be naturalistic in style but the empty space around them may be abstract and contextualized by place and culture. The inference is that even similar abstract and figurative expressions cannot represent similarities in culture. It seems that figurative and non-figurative representations cannot be separated as independent from one another's cultural domains. They form loose associations that may represent different cultural conventions.

The above-mentioned relationship between non-figurative and figurative art and empty space can be seen in the following example. There is a particular way of rendering the eye of an animal – oval concentric curves – that is typical of the Upper Palaeolithic in France. For instance, an animal with eyes represented in this schematic way occurs in the Paire-non-Paire site (Petzinger 2009, 138). Only eyes represented in this schematic way (no animal present) are known from several other sites (Petzinger 2009, 138).

These examples show dynamic relationships which reveal similarities and differences that are unpredictable in time and space. Thus some elements of rendering particular parts of the body of an animal follow strict rules that may be considered as schematization. Prehistoric artists depicted these schematic representations at different sites but for a modern observer their spatial distribution remains unpredictable. Such is the case with the ways of representation of some animals of Magdalenian parietal art in southern France (De Beaune 2009). In this particular example close similarities of these representations can be found both in an adjacent site and at sites at several hundred kilometres' distance. From these examples it is possible to assume that figurative and non-figurative representations constitute a vast landscape of distributed cognitive artefacts that form a widespread and variable continuum of cultural conventions.

Transfer of community and personal identities and knowledge

It has been shown above that abstract signs are tightly related to figurative art and empty spaces. Yet they have other long-term regularities. The first one concerns the origin of abstract signs. Surprisingly they appeared all at once as an already defined set of marks. The exact timing of their appearance in Europe is related to the initial Aurignacian where 19 out of 26, the total number of abstract signs so far registered for the Aurignacian, have been discovered (Petzinger 2009). Approximately the same

number of signs occurs in the later Upper Palaeolithic cultures and the Neolithic. While their number varies little through time they show a striking similarity with Palaeolithic and Neolithic signs. For example, the well-known Middle Palaeolithic zigzag motif from the Bacho Kiro cave, Bulgaria, is reproduced in several zigzags on the Karanovo stamp from the Neolithic (Bulgaria) (Tsonev 2011). These long-term cultural traits and similarities are confirmed by the striking uniformity of the colour spectrum that was used both during the Palaeolithic and Neolithic. The blue and green colours in this spectrum, although widely encountered in nature, were never culturally recognized and used by these early cultures.

This selectivity of early human cultures concerns also raw materials for making stone tools. For example, during the Palaeolithic in Anatolia obsidian was rarely used for making tools (only in areas close to the Central Anatolian sources, Steven Kuhn, personal communication). Instead obsidian became the dominant raw material for chipped-stone tools in Anatolia during the later periods of Pre-pottery and Pottery Neolithic. On the other hand, obsidian was extremely rarely used by the Neolithic populations in the eastern Balkans.

The example suggests that the distance between obsidian sources in Central Anatolia and the eastern Balkans played the main role for the early farmers' choice. Abstract signs, however, show greater volatility in time and space than raw materials. Thus similar marks, forms and shapes can be painted or made on and from different materials. The most unusual example of such a transformation can be given by the close similarity of the penniform signs typical of the Upper Palaeolithic in France (Petzinger 2009) and the Khiam flint points in the Pre-pottery Neolithic in the Levant (Goring-Morris, Belter-Cohen 2014, Fig. 11.3). Less formal in similarity but even more important is the comparison between the monumental art in Lipinski Vir in the Danube gorge and Gobekli Tepe, southeastern Anatolia (Tsonev 2012).

The question is what makes possible the transfer or cultural convergence of similar abstract cultural forms over vast distances and across time. Abstract knowledge, considered only as an assemblage of separate conceptual categories that correspond exactly to particular ways of material expressions, does not permit the making of comparisons between phenomena that are distinct in time and space. In this approach the archetypes of transcendental knowledge represented through the morphology of form, logic and other tangible and intangible expressions are dominant. Thus archaeological knowledge of origins excludes important examples and comparisons that are considered as marginal phenomena or even defined as impossible.

The underlying reasons for this process of knowledge production may be sought in the human cognitive capacity of the extended mind. The pitfall of this approach is to consider the causal adult organization of the brain as containers of a detailed categorization of knowledge (Theiner, forthcoming) that function as ultimate sources of reasoning. This concept automatically leads to an exclusive focus on information-processing capacities that leave apart senses and affections. If such an automatic functioning of the brain were a fact then it would be plausible to assume that prehistoric signs and symbols will follow a strict hierarchy that will be able to change according to discernible regularities across time and space. According to the parity principle (Theiner, forthcoming) between internal (in the human brain) and external cognitive resources, such an exact correspondence would outline perceptible patterns that would have unimodal distributions

with a pronounced central area and well-defined peripheries (Tsonev 2015). In such a case the transfer of symbolic knowledge or cultural convergence that evolves in different cultural and natural niche-constructing environments will happen as continuous processes. More than that, each symbol or small set of symbols would have a single place and time to appear and would be able to form a diachronic seriation pattern of its evolution. Thus the parity principle of understanding the process of human cognition is at odds not only with the problems of origins in archaeology. It requires discernible and regular evolutionary patterns that lead from simple to complex and converge in an inevitable meta-evolutionary process. Yet prehistoric abstract signs in association with figurative symbolic representations do not show such patterns of origins, evolution and spatial distribution.

Dynamic identities, special places and special objects

In an alternative consideration, the appearance of personal and collective identities may be understood as an emergent phenomenon within the frame of interaction between humans and their social and natural worlds. From this point of view the emergence of personal identity cannot be placed as a single category that is considered typical of later stratified societies. It has always been present in social interactions in association with kin-group, lineage or community identities. This dynamic quality of human knowledge about the self and other human beings and natural objects finds its material expressions at least as early as the Middle Palaeolithic. For example, the zigzag motif from the Middle Palaeolithic sequence in the Bacho Kiro cave may be taken as an illustration. What are specific of this object are the characteristic way of accumulation of the Mousterian layer which it was found in and the way the mark was made. The first question concerns the process of sedimentation of the Middle Palaeolithic layers which is characterized by the regularity that the number of artefacts found at each layer of the sequence depends on the thickness of the layer (Drobniewicz et al. 1982, 112). This means that human groups occasionally but regularly visited the cave for short-term stays, coupled with the process of the gradual accumulation of sediments. The second question asks how the zigzag motif was made. It was found out that it bears the characteristic marks of twisting the instrument with which the motif was carved into the bone surface, which leaves no doubt that this mark is a purposeful human action (Marshack 1982, 117). The key question is whether this object was deliberately left in the cave or forgotten. A misleading suggestion is that most of the Middle Palaeolithic lithic assemblages are expedient in nature, which means that people leave their instruments at a particular place with the aim not to carry them around but use them again du-ring later visits. Contrary to this fact, the most of the Upper Palaeolithic lithic assemblages are not expedient, and despite this fact numerous portable symbolic artefacts were left (intentionally deposited) at the sites they were found. The latter assumption suggests that the zigzagmotif had been deliberately placed in the Bacho Kiro cave. This assumption is supported by another fact. The artefact distributions are denser in association with remains of bones of large mammals. This suggests that the short visits to the cave were hunting expeditions in the vicinity of Bacho Kiro. Probably hunting was not practised in or near the cave because cave bears were extremely rarely hunted (Drobniewicz et al. 1982, 112; Tsonev 2000). This outlines a clear distinction between the living and the subsi-

Figure 1. (left) Anthropomorphic vessel, the site of Gradeshnitsa, Vratsa district. (right) Anthropomorphic vessel, the tell Gabarevo, Stara Zagora district. After History of Bulgaria, v. 1, part 2, p. 67.

stence areas. It seems that in this special place the group or community identities were inter twined with personal skills in hunting or mastering some tasks, which brought about the deliberate deposition of this symbolic object at this particular place.

As a formal resemblance to the concept of functioning of the human brain as a container of human reasoning, the example of the anthropomorphic vessel decorated with geometric motifs may be considered (Fig. 1). Its elaborate form and decorative design may be interpreted as a container of personal identity, which is expressed through the aspiration for increasing personal wealth and prestige. But a person is a composite entity that consists of multiple identities each of which is related to mastery of a particular craft or activity, special knowledge or skilled practices, travels and established contacts. From this point of view the decorated anthropomorphic vessel is not full of a categorical, strictly defined personal identity that is mutually exclusive to other personal and collective identities. Rather it is a container of multiple identities of a person and is related to his/her collective identities that are construed through a complex entanglement created by individual and collective interactions. The material expression of these interactions requires greater abstraction of symbolic design. At the

same time this demand for greater abstraction in human communication leads to the social necessity of the rejection of any decoration on symbolic surfaces. Coloured empty spaces became convenient objects charged with social significance for shaping intersubjective interactions and personal and collective identities. Thus the anthropomorphic vessel without decoration (Fig. 1) shows an elaborate and stylized rendering of the human body that has the natural colours of the human body and earth. Both representations of these complex identities reveal a dynamic process that involves various materials and means for achieving social significance. Thus the combination of abstract representations with other forms and tangible and intangible expressions may be considered as an emergent property of making special personal and collective identities that are constituted through the interpersonal relationships related to them.

References

De Beaune, S.
2009 *Le materiel lithique non taille.* In Pincon, G. ed. Le Roc-aux-Sorciers : art et parure du Magdalenien, Catalogue des collections, Paris, ed. Reunion des Musées Nationaux. Available at http://www.catalogue-roc-aux-sorcie

D'Errico, F., Henshilwood, C., Lawson, G., Vanhaeren, M., Tillier, A-M., Soressi, M., Bresson, F., Maureille, B., Nowell, B., Lakarra, J., Backwell, L., Julien., M.
2003 Archaeological Evidence for the Emergence of Language, Symbolism, and Music - An Alternative Multidisciplinary Perspective. *Journal of World Prehistory*, 17, 1, 1-70.

Drobniewicz, B., Ginter, B., Ivanova, S., Sirakov, N.
1982 Middle Palaeolithic Finds. In Kozlowski, J.K. ed. *Excavation in the Bacho Kiro Cave (Bulgaria), Final Report*, 81-116. Warszawa: PWN.

Goring-Morris, A.N., Belfer-Cohen, A.
2014 In: Steiner, M., Killebrew, A. eds. *The Oxford Handbook of the Archaeology of the Levant* (ca. 8000–332 BCE), Chapter: The Southern Levant (Cisjordan) during the Neolithic Period, 141-163. Oxford: Oxford University Press.

Layton, R.
1991 T*he Anthropology of Art,* 2nd edn. Cambridge: Cambridge University Press.

Robb, J. E.
1998. The Archaeology of Symbols. *Annual Review of Anthropology*, 27, 329-346. (Accessed: 12. 07. 2016). Available at: www.jstor.org

Marshack, A.
1982 Non-utilitarian Fragment of Bone from the Middle Palaeolithic Layer. In Kozlowski, J. K. ed. *Excavation in the Bacho Kiro Cave (Bulgaria), Final Report,* 117. Warszawa: PWN.

Theiner, G.
Forthcoming. The Extended Mind. Wiley Blackwell Encyclopedia of Social Theory. (Accessed: 14. 07. 2016). Available at www.Academia.edu

Tsonev, Ts.
2000 Factors for Middle/Upper Palaeolithic Transition in Eastern Balkans. In Orschiedt, J. and G.-Ch. Weniger. *Neanderthals and Modern Humans - Discussing the Transition: central and eastern Europe from 50 000 - 30 000* B.P.,183-190. Neanderthal Museum.

Tsonev, Ts.
2011 The Interpretation of Karanovo Stamp from Bulgaria and Meta-Narratives of Modernity. In Anati, E. ed. XXIV Valcamonica Symposium,. Prehistoric and Tribal Art, 272-281.'*Art and Communication in Pre-literate societies*', Capo di Ponte, 13-18 July.

Tsonev, Ts.
2012 Ontology of human predation and appearance of the first monumental architecture and art. In Anati, E. ed. The Intellectual and Spiritual Expressions of Non-Literate Peoples.

Colloquio UISPP-CISNEP, Capo di Ponte, Valcamonica, 216-227, 22-24 June.
Tsonev, T.
2015 Archaeological Approach to Linear Transformation of Surfaces (Kriging, ArcGIS Geostatistical Analyst) and its Potential for Expanding Archaeological Interpretation. In Papadopoulos, C., E. Paliou, A. Chrysanthi, E. Kotoula and A. Sarris. eds. *Proceedings of the 1st Conference on Computer Applications and Quantitative Methods in Archaeology*, Greek Chapter (CAA-GR), Rethymnon, Crete, Greece, 6-8 March 2014, 28-36.
Von Petzinger, G.
2009 Making the Abstract Concrete: The Place of Geometric Signs in French Upper Paleolithic Parietal Art. Master of Arts Thesis, Department of Anthropology, University of Victoria (unpublished).

FINGER FLUTINGS, TECTIFORMS AND THE AUDACITY OF HOPE

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In the spring of 2013, I, along with a group of rock art researchers, visited a rock art site in New Mexico in the US southwest where the tradition of the creation of rock art continues into contemporary times. Led by an elder of the pueblo, we first visited an ancient site, taking in both the context of the site as a favourable place from which to see a long valley stretching below and the markings of a wide variety of animals and symbols carved into the stone beneath us. He then took us to another site where the community had been actively involved in trying to coax a spring that had become dry in modern times back into flow. There, he directed us towards a panel of recent rock art (Fig. 1) that had been created to commemorate the story of the community coming together to work on this project. Explaining the initial symbology of the drawings, including one of a dolphin (though we were in New Mexico) to speak of creatures of the great waters, he asked if any of us knew what was the important part of the panel. Though many voiced their opinions, the elder listened to their interpretations and then broke into a smile. Pointing at a tiny mark on the panel with his finger nail, he said, 'This is the most important thing on this panel.' Continuing, he pointed to tiny divots throughout the stone, saying, 'You see, this? This is the memory of rain.'

He went on to recount how both times he had worked on the panel, both in its original creation and in a later touchup, upon his completion, the skies clouded over and it rained hard enough to mark the panel while it was still soft. In a land of little rain, he considered this to be powerful validation of the work he had done and it was recorded in the physical record of the panel. His people, he said, looked for those marks far more than they cared whether he had depicted a dolphin or frog. In his eyes, the real story had everything to do with knowing where to look and what to see. The tiniest marks were the most highly valued in this case. I, as a researcher, without him, would never have known. I would have thought they were simply weathering, which in a way, they also were. A year later, standing before the Art Gallery passage of Koonalda Cave in South Australia, Clem Lawrie, a senior lawman of the Mirning People, and I were discussing the white wall of moonmilch over which thousands of streams of finger flutings had been drawn. Covering 95 m of the chamber in abstract lines, we both noted that the streams were almost always made up of three or four fingers (Fig. 2). Unlike places in

Fig. 1: Contemporary rock art panel on private pueblo, central New Mexico, United States

Fig. 2: Finger Flutings in Art Gallery Passage, Koonalda Cave, South Australia

Europe where we sometimes see single-finger or double- finger drawn lines, in Koonalda the streams were almost consistently three or more fingers. 'It is because it is rude in my culture to gesture with one finger. I would never point as you would with your index finger. I would point using three fingers.'

To demonstrate, he folded his thumb and pinky together and pointed using his middle three fingers. He said he did not know why one finger was rude and three fingers were not, any more than I knew the origin of why if I raised my middle finger alone in my culture it would be considered rude in a different way, but we were both deeply cognizant that our cultures had gestural mores that translated into the way in which we might use our hands on another surface like a cave wall. We both wondered how much the finger flutings captured not only some form of communication, but also the social codes of gesture, in something concrete and visual. Absent a member of that culture, we might never even think to ask that question or wonder what else we were or weren't seeing in the abstract lines captured on the wall.

I share these two anecdotes because they shape some of the way in which I have come to approach the study of Upper Palaeolithic finger flutings, as a question of individuals and their actions, rather than translatable collective symbols. Finger flutings are lines that were drawn with fingers on the soft surfaces (generally wal-

Fig. 3: Finger Fluted Deer with horizontal fluted lines beneath, Las Chimeneas Cave, Puente Viesgo, Spain

ls and ceilings though very occasionally floors) of caves. They are found in France, Spain and Australia and though no finger flutings have been directly dated themselves, they are found in caves as old as El Castillo, Chauvet, Gargas, Pech Merle and Altamira, as well as caves of the Magdalenian such as Las Chimenas and Rouffignac. Although some finger flutings depict figurative images of bison, mammoth, rhinoceros and deer, they are largely abstract lines and as such have invited a host of interpretations (Fig. 3).For many years I worked in Rouffignac Cave in the Dordogne region of France, which has the largest collection of finger flutings in any European cave. Lying beneath a ceiling covered in hundreds of twisting lines drawn with fingers some time more than 13,000 years ago, it is easy to feel overwhelmed by abstraction in cave art (Fig. 4). Confronted with the same lines in Chamber A1 of Rouffignac Cave, its earliest researchers Nougier and Robert saw snakes, naming the ceiling the Plafond aux Serpents or Serpent's Dome (Nougier and Robert 1958, Figures 16-18), titling flutings in their photographs of the ceiling of Chamber A1 with such words as 'serpent' and 'anthropomorph'. Barrière (1982, 205; LVG transl.) writes similarly of the same ceiling, 'unique in all of prehistoric art, offering … interlaced macaroni, serpentines, and easily distinguishable individual snakes'. Breuil referred to unidentifiable lines as 'traits parasites' and removed them from his figurative drawings as being less important than the animal drawings. Bahn reports, 'Where lines seemed to have no relevance to the animal figures, he (Breuil) often ignored them, dismissing them as traits parasites' (Bahn 51). Marshack (1977) referred to them as meanders and thought they might be water signs. Even the slang term for digital traces in both French and Spanish is 'macaroni', which speaks to a desire to call the tangle

Fig. 4: Finger Flutings, Chamber A1, Rouffignac Cave, Dordogne, France

Fig. 5: Finger Flutings inspired visions of serpents to early researchers, Chamber A1, Rouffignac Cave, Dordogne, France

of lines on the ceiling something reassuringly familiar (Fig. 5). Today we believe the lines on the ceiling of A1 were largely created by a small group of people made up of at least three children and two or three non-children (Sharpe and Van Gelder 2006a; 2006b; 2009b). In some places at least one very small child with a 22-mm three-fingered mark was lifted up to mark the ceiling. We have been able to identify which children drew which lines (Van Gelder 2015) and though never having made claims to the effect, they have been described by some in the popular press as evidence of 'prehistoric play pens' and the equivalent of finger painting on cave walls (Guardian 2011). I believe they are neither, but as a Rorschach test of our imaginations, finger flutings seem to have invited past researchers and modern media to indulge in the time-honoured tradition of attempting to find and tell the story they see in the tangle of lines. Absent any survivors from the past to verify or deny, and absent any interpretive framework or hard methodological test against which theories about these lines must pass or fail, finger flutings, like many other non-figurative line markings of the same time period, have allowed us to inhabit the audacity of hope in offering the tantalizing possibility of someday being able 'to crack the code' and 'unlock the mystery' (Von Petzinger 2016).

If anything, the abstract lines seem to create a mirror that reflects us back to ourselves far more than gives us insight into the symbolic landscape of their world. As Von Petzinger (2016) writes in her recent book, 'Welcome to the wonderful world of interpretation in ancient rock art. Since we don't truly know why they were making the art, there really is no wrong answer – which can lead to all sorts of fun speculation, though not always a lot of consensus. Obviously, some proposed meanings are more likely to be right than others' (91).

What they do most effectively in their absence of mutually agreed upon purpose and meaning is mirror our desires. While the figurative art has entranced us over the last century and a half since its early discoveries, it is the enigmatic signs that we cannot define but which we see recurring that become the holy grail of researchers.

I, too, have participated in this, and my early work at Rouffignac was largely motivated by the question my late husband, and research partner, Kevin Sharpe, brought to the subject. In a 2009 Semiotica paper we ask, 'Given the visual orderliness of two panels depicted in Rouffignac (Fig. 6), we would go so far to ask whether their fluter(s) intended the panels to convey thoughts and ideas (as opposed to only passing on feelings and sensations). Is it possible objectively to establish that such a communication intention lay behind the fluting of the two panels? (Sharpe and Van Gelder 2009a, 161).

We explored the use of the application of Zipf's law from communications theory to the panels to verify if the variables of number of fingers used in a stream of fluting could be indicative of a deliberate form of communication,

Fig. 6: Finger Flutings used to study the question of writing, Abbe Breuil Panel, Rouffignac Cave, Dordogne, France

and indeed they could. But other than establishing that this might be a form of recognizable communication, we were no closer to knowing what it could mean than we were before. As we cautioned in 2009, 'Hypothesizing as to meaning requires responsibility' (161).

To be responsible to that, we shifted focus away from meaning, as it remains at present, an unanswerable question. Instead, we focused on the identification of individuals. To respond to the question of whether this is writing required us to know if a panel was made by 100 people each making one single-fingered line, or two or three people who had drawn with multiple fingers standing closely to each other. As we shifted from interpretations that might have to do with large-scale ritual or solo shamans, using a method that allowed us to identify individuals (Sharpe and Van Gelder 2006a, 2006b, 2007, 2010; Van Gelder 2015) we came to see small numbers of people creating panels in concert with each other. It did not change our desire to know what the lines meant, but it shifted our focus away from applying our own lens of meaning to the lines, and instead saw them as the key to identity.

Perhaps it is the identification of the individual that mirrored something powerful in the abstract back to me. I ceased to search for a universal understanding and grand theory and instead focused on the idiosyncratic natures of the fluters I encountered. They became and re-

Fig. 7: Tectiform 32, Chamber G, Rouffignac Cave, Dordogne, France

main unique individuals. I began to recognize that the three-fingered zigzags in Rouffignac that were measurable had largely been created by the same person, a child with a 34-mm marking width. She also often made arc shapes. Were these universal symbols of her people or pleasurable shapes to a young child, or both? I will never know. But for now, I know who made them.

Taking this individual approach has allowed us to shed some new light on a well-documented regional symbol (Fig. 7), the tectiform, which is found in eight caves in the Dordogne. Bracketing the question of meaning and purpose, which in the past has sometimes been explained as a hut symbol, though even recently Von Petzinger speculates that it is 'some sort of clan sign or other marker of a specific group's identity, and it may have been that no one else was allowed to use it' (2016, 133), focusing solely on identity, in Rouffignac (Table 1) we were able to identify six individuals who created 14 of the 16 tectiforms (two were unable to yield measurements to which we could apply our methodology). Two in Chamber H1 were made by different children whose hand measurements suggest they were as young as four or five (Sharpe and Van Gelder 2006a; Van Gelder 2015). At least one tectiform was made collectively by four members of the group, whereas six of the fourteen tectiforms were all made by the same individual who had a 38-mm mark

In Gargas we noted a series of panels that had been made in similar fashion by a tall left-handed man who made similar gestures in at least three places in the cave (Fig. 8). (Sharpe and Van Gelder 2007, 330). The other individuals did not make these particular lines. Do they have a symbolic importance? Perhaps. Are they evidence, as Clem and I discussed ,of culture gesture or sensual pleasure, or are they unimportant to the big scheme of things and what was actually important to him was that he lifted up his child who had a 22-mm hand to also make lines on the same wall on which he had made his own marks? I will never know.

I am as conscious of the audacity of hope, in what we as researchers bring to the abstract images we study in the hope of entering into the minds of the creators. But equally I am more conscious of the risk of the arrogance we might evidence in the laying of concrete interpretations about meaning over the lives and histories of those who cannot speak for them selves.

At the pueblo in New Mexico, a modern informant could tease a group of archaeologists byreminding us that what we thought was impor-

Table 1

Chamber and tectiform (numbering system from Barriere 1982)	Individuals (identified by the width of mark made by three fingers)
E: Tectiform 175	41 mm
G: Tectiform 36	34 mm (close proximity to 38)
G: Tectiform 35	38 mm (close proximity to 34)
G: Tectiform 29	38 mm
G :Tectiform 48	38 mm
G: Tectiform 32	44 mm
G: Tectiform 211 (two-fingered tectiform. Measure is of three-fingered stream next to it.)	41 mm
G: Tectiform 210	41 mm
H1: Tectiform identified by Plassard and Plassard (2001)	28 mm
H1: Tectiform 247	31 mm
H1: Tectiform 246	38 mm
H: Tectiform 245	38 mm (a line by 31 crosses the bottom)
H: Tectiform 238	38 mm
H: Tectiform 239	34 mm, 38 mm, 44 mm, 41 mm

Fig. 8: Flutings made by left handed man, Gargas Cave, Haute Garonne, France

tant was much less important. In our desire to make meaning we must be careful not to apply the intentional fallacy to peoples long gone who leave us no opportunity to remind us of what may have truly mattered to them.

The snakes, water signs, anthropomorphs, parasite lines and macaroni of Rouffignac remind me that while we may all respond with our creative imaginations to the abstract lines we see on the walls of caves, as researchers we must hold ourselves to a higher standard that does not permit speculation without a genuine and testable method for verification. As our approach to tectiforms suggests, by bracketing the tantalizing desire to know the meaning of lines we can still learn much about who made the lines and perhaps through the exploration of unique identities can learn all the more about who were the cave artists after all.

References

Bahn, P. and Vertut, J.
1997 *Journey through the ice age*. Berkeley: University of California Press.

Barriere, C.
1982 *L'art parietal de Rouffignac: La Grotte aux*

cent mammouths. Paris: Picard.
Guardian. 'Stone-age toddlers had art lessons, study says' (30 September 2011). Retrieved https://www.theguardian.com/science/2011/sep/30/stone-age-toddlers-art-lessons.
Marshack, A.
1977 T*he meander as a system: the analysis and recognition of iconographic units in Upper Palaeolithic compositions.* In: Ucko P.J. (ed.), Form in Indigenous Art, pp. 286–317. Canberra: Australian Institute of Aboriginal Studies.
Nougier, L.-R. and Robert, R.
1958 *L'art pariétal de la grotte de Rouffignac.* Transl. D. Scott. London: George Newnes.
Plassard, F. and Plassard, J.
2001 Figures inédites de la grotte de Rouffignac. *Gallia Préhistoire*, 86–106.
Sharpe, K. and Van Gelder, L.
2006a Evidence for cave marking by Paleolithic children. *Antiquity 80*(310), 937–947.
Sharpe, K. and Van Gelder, L.
2006b Finger flutings in Chamber A1 of Rouffignac Cave, France. *Rock Art Research 23*(2), 179–198.
Sharpe, K. and Van Gelder, L.
2007 Human uniqueness and Upper Paleolithic 'Art': An archaeologist's reaction to Wentzel Van Huyssteen's Gifford Lectures. *American Journal of Theology and Philosophy 28*(3), 311–345.
Sharpe, K. and Van Gelder, L.
2009a Paleolithic finger flutings as efficient communication: Applying Zipf's Law to two panels in Rouffignac Cave, France. *Semiotica 177,* 171–190.Sharpe, K. and Van Gelder, L.
2010 Fluted Animals in the Zone of Crevices, Gargas Cave, France. *Proceedings of the Eleventh Congress of the International Federation of Rock Art Organizations,* Lisbon, Portugal, 4–9 September 2006.
Van Gelder, L. and Sharpe, K.
2009b Women and girls as Upper Paleolithic cave 'artists': Deciphering the sexes of finger fluters in Rouffignac Cave, *Oxford Journal of Archaeology 28:4*, 323–333.
Van Gelder, L.
2015 Counting the children: the role of children in the production of finger flutings in four Upper Pal*eolithic caves.* Oxford Journal of Archaeology 34 (2), 120–131.
Von Petzinger, G.
2016 *The First signs. Unlocking the mysteries of the world's oldest symbols*. New York: Atria Books.

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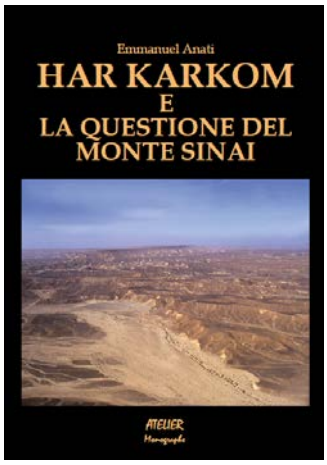
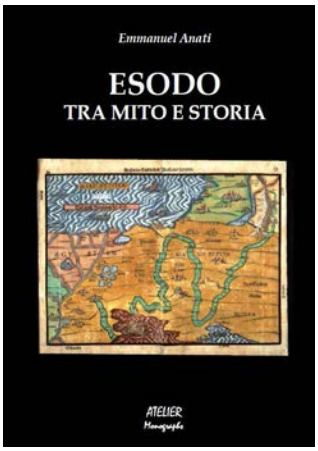


Anati, E., 2016: ***Har Karkom e la questione del Monte Sinai*** *(Har Karkom and the question of Mount Sinai)*, Capodiponte (Atelier), pp 220; 138 ill., Italian edition, (€30,00)
The findings of shrines and encampments of the Bronze Age at Har Karkom, a mountain located in one of the driest places and inhospitable parts of the Negev desert, in the north of the Sinai Peninsula, arouses a global debate on the hypothesis that this mountain can identify with the biblical Mount Sinai. The book presents a summary of the discoveries; it calls into question previous assumptions about the reliability of the Exodus Biblical narrative, both on the location of the mythical Mount Sinai, and on the chronological discrepancies proposed by various researchers. The book is richly documented by photographs, maps and other illustrations, it updates on recent discoveries, analyzing their possible historical significance, suggesting a new vision of the events narrated in the Bible.



Anati, E., 2016: ***Esodo tra mito e storia*** (*Exodus between myth and history*), Capodiponte (Atelier) pp. 340; 138 ill., Analytical Appendix.
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Different opinions divided the academic world about the historic reliability of the Biblical narrative of Exodus. The events in Egypt, the wanderings in the desert under the leadership of Moses and the events at the foot of Mount Sinai are they based on facts or are they just legend? Broad and systematic explorations on the ground and new archaeological discoveries open up the possibility of tracing back the geographical and environmental context, by providing elements that bring new insight on the historical roots of this magnificent epic passed down from the Bible.

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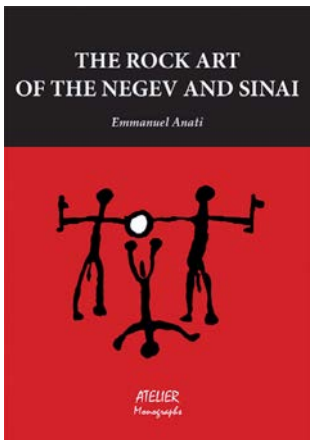

Anati, E.2015, ***The Rock Art of the Negev and Sinai***, Third English edition, Capodiponte (Atelier), 248 pp.248; 196 ill., €20,00
The book deals with a new theme of Near-eastern archeology: the rock art of the Negev and Sinai. It presents new discoveries and reconsiders content and assumptions of previous articles and of a book by the same author that dates back to 1979. The richly illustrated book is offering a new vision of this immense archive engraved and painted on rocks that reveals events and beliefs of the desert. The rock art of the Negev and Sinai illustrates stories and customs of the Sinai Peninsula over the past 10,000 years. Some depictions of the Bronze Age may refer to people mentioned in the Pentateuch. Others, of Roman-Byzantine times, illustrate life and customs from the age of early spread of Christianity.

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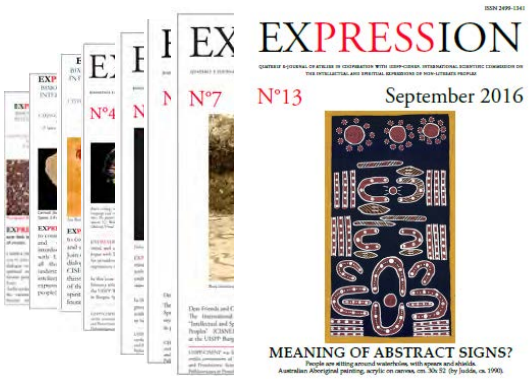

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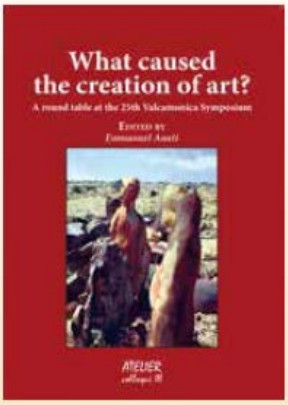
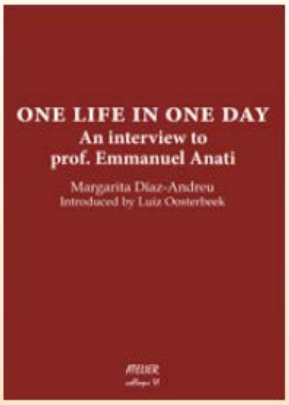


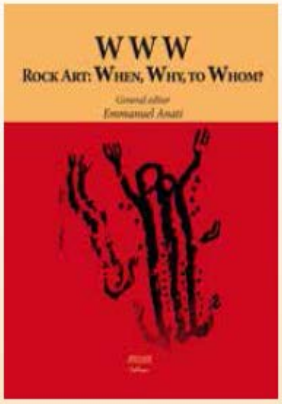
Anati, E. (ed.) 2013. *What Caused the Creation of Art? A Round Table at the 25th Valcamonica Symposium*, Capo di Ponte (Atelier) 44 pp. € 10.

'What caused the creation of art?' People from different disciplines and different cultural backgrounds present contrasting views. And yet, the same question has bothered thinkers for generation.



Díaz-Andreu, M. 2015 *One life in one day, an interview to prof. Emmanuel* Anati, Capo di Ponte, (Atelier), 104 pp. 51 pls. € 20

In the gardens of the campus of Burgos University, while delegates were moving from sessions and lectures to coffee breaks and back, Margarita Diaz-Andreu recorded, for hours, the words of Professor Emmanuel Anati. It was the 5th of September 2014 and when the electric lights of the evening replaced the sunlight, a life-long story was drafted.



Anati, E. (ed.). 2015 *WWW. Rock Art: when, why, to whom?* Capo di Ponte, (Atelier), 218 pp. 184 pls. € 40

How come that Rock art is widespread in five continents? Some sites, in South Africa, Australia or Brazil, count well over one million figures. They were produced over centuries and millennia. What made generations persist in this tradition of marking the stone surfaces with the records of their minds? Why did they invest on it such immense time and energy? Fifty authors from five continent face the query: when, why and to whom?

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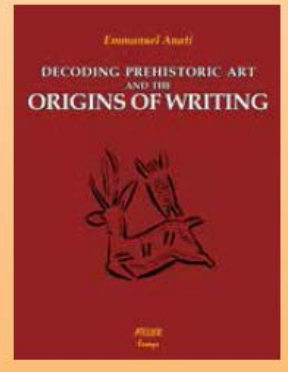
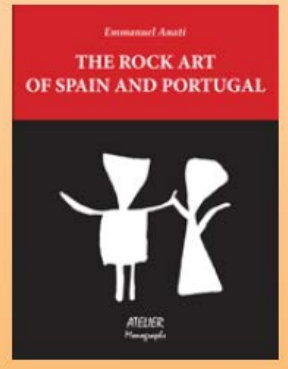


Anati, E. 2015. *Decoding Prehistoric Art and the Origins of Writing*, Capo di Ponte (Atelier), 152 pp. 83 pls. € 20.

This text examines the cognitive process that led to the invention of writing and highlights constants of memorization and associative synthesis held in the mind of Homo sapiens for thousands of years. Some examples of decoding prehistoric art propose a new vision for the beginning of writing.



Anati, E. 2014. *The rock Art of Spain and Portugal, a Study of Conceptual Anthropology*, Capo di Ponte (Atelier), 104 pp. 87 pls. € 20.

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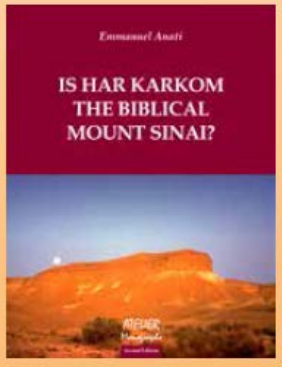
The major concentrations of rock art are considered as expressions of their different cultural and social patterns.



Anati, E. 2013. *Is Har Karkom the Biblical Mount Sinai?* (II ed.), Capo di Ponte (Atelier), 96 pp. 53 pls. € 20.

Remains of ancient sanctuaries and camp-sites tell the story of a hitherto unknown mountain in the heart of the desert of Exodus. Is Har Karkom the biblical Mount Sinai? To what point can we consider the biblical narratives as a source of historical documentation?

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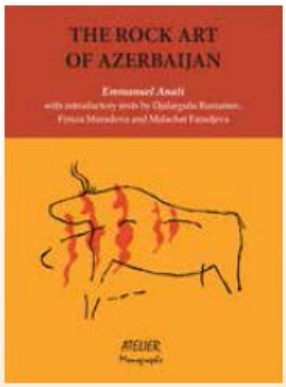
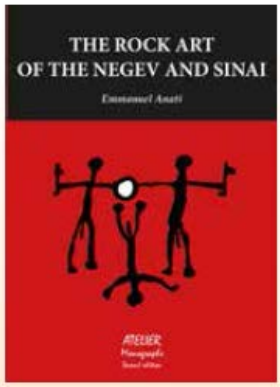
MONOGRAPHS



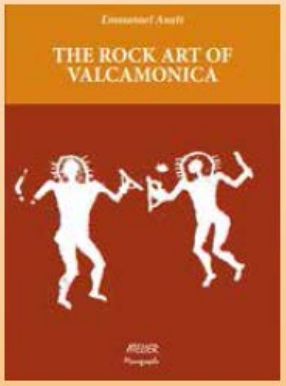
Anati, E. 2015. *The Rock art of Azerbaijan*, Capo di Ponte (Atelier), 156 pp. 190 pls. € 20

In the course of centuries, Azerbaijan, was a great centre of rock art. This gateway of Europe, between the Caucasus Mountains and the Caspian Sea, was a major way of migrations from Asia to Europe. New chapters in the history of art are revealed by beautiful design and stylisation.



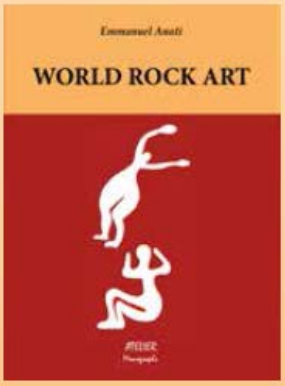
Anati, E. 2015. *The Rock Art of the Negev and Sinai*, second edition, Capo di Ponte (Atelier), 242 pp., 190 pls. € 25.

The present volume is concerned with a new theme of archeology and anthropology: the rock art of the Negev and Sinai, which never had before a general analysis in English. It elaborates on articles and a book written in the last 60 years, to produce a synthesis and an overview.



Anati, E. 2015. *The Rock art of Valcamonica*, Capo di Ponte (Atelier), 260 pp. 153 pls. € 20

Valcamonica, in the Italian Alps, with over 300,000 images engraved on rocks, is the major rock art site in Europe. It is the first "World Heritage Site" listed by UNESCO in Italy and the first rock art site listed in the world. Its study reveals the largest archive left behind by the ancient inhabitants of Europe. After having excavated, traced, descri.bed and analyzed it for over half a century, the author presents this synthesis bringing new light on 10,000 years of history. The present work represents a turning point in the methodology of archaeological research. Europe acquires back mil.lennia of its forgotten history.



Anati, E. 2015. *World Rock Art*, Capo di Ponte (Atelier), 208 pp. 193 pls. € 20

This book is a fundamental introduction to rock art studies. It marks the starting point of a new methodology for rock art analysis, based on typology and style, first developed by the author at the Centro camuno di Studi Preistorici, Capo di Ponte, Brescia, Italy. He can be seen the beginning of a new discipline, the systematic studi of world rock art.

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