PLEISTOCENE COALITION NEWS

VOLUME 12, ISSUE 5 SEPTEMBER-OCTOBER 2020

- Challenging the tenets of mainstream scientific agendas -

Inside

-11TH ANNIVERSARY ISSUE-

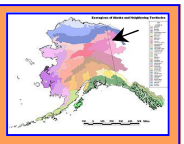
Raghubir S. Thakur, MA History, former Consult. for Sec. and Land Mgmt (India), provides startling rock art evidence of mathematics in 'repeated' cup-mark patterns he discovered and documented in Delhi region, India. See **Thakur p.10**.

Canadian geological engineer, **Guy Leduc**, details the lab where he conducts hyperbaric atmospheric testing of ancient plants such as horsetails little-changed in 360 million years. See **Leduc p.8**.

Archaeologist **Dr. Michael Gramly**, PhD, plays a key role in *Archaeology of North Central Ohio, Vol. 3* produced by the Ohio Archaeological Society's Sandusky Bay Chapter and edited by **Glenwood Boatman** and **Timothy Edwards**. The excellent volume on Paleo Period reproduces two of Dr. Gramly's *PCN* articles. See **Gramly p.15**.

Welcome to the PC!

The Pleistocene Coalition was created in 2009 by researchers challenging suppression in anthropology, rock art journals, and organizations allowing dogma to override evidence. We challenge sciences that keep the public in the dark regarding pivotal evidence Paleolithic humans were equal to us in every way and in the Americas at dates comparable to the Old World. We hope you enjoy *PCN* and invite you to join our community and our quest for truth in science.



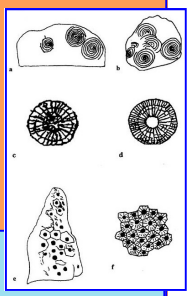
Dr. Virginia Steen-McIntyre PhD, co-founder of the Pleistocene Coalition.

In Religion and art in mankind Tom Baldwin offers yet another compelling demonstration accumulated modern artistic skills and religious expression show no more intelligence than does Paleolithic ingenuity. He brings unique perspective to the Paleolithic art/religion interface noting it was not all that different from those of modern historic societies. See **Baldwin p.6**.

In Part 4 of the "How our ancestors lived" series, Dutch stone tool expert, **Jan Willem van der Drift** (colleague of Pleistocene Coalition founding member and archaeologist, the late Chris Hardaker) continues to challenge the whole notion of 'primitive tools' and 'primitive man.' See **Van der Drift p.2**.

Engineer and rock art researcher, **Ray Urbaniak**, provides evidence supporting the idea that extinction of mammoths and their kin was hastened by ancient Americans killing off the young first. In a second article Urbaniak provides additional perspective on the 'Solutrean Hypothesis' involving the Solutrean people of ancient France, Spain, and Portugal proposing a continental *back-and-forth* and sameness with the American Clovis people. See **Urbaniak p.16** and **p.18**.

This issue: another of Virginia's reprints and an update on her health. See **p.5** and **p.13**.



In *PCN* #s 61–66, a brief background, followed by Parts 1–5, were provided for a published thesis called **The Impact of Fossils**, about how early humans may have been influenced in the development of rock art. The Intro included passionate defenses from eminent science authorities decrying the paper's censorship by *Current Anthropology* and competitive editors and reviewers stuck in the idea early people were not as intelligent as us. **Part 6** challenges the aggressively-promoted neuroscience fad that Paleolithic/Neolithic creators of 'abstract' signs had no idea what they were doing. See **Feliks p.20**.

How our ancestors lived, *Part 4*

Bipolar multitools

By Jan Willem van der Drift,
Stone tool production expert, early man theorist

"Mainstream archeologists

concluded these industries were made by Mode-2 groups that used simpler or even degenerate techniques. But nothing could be further from the truth."

Historical theories

At the turn of the 20th century in 1900, scholars searched for industries without handaxes, because they thought these would be older than the Acheulean. A flake-industry from Clacton-on-Sea (the Clactonian, presented in 1911) and small choppers made by *H. erectus* (on pebbles in Choukoutien-Beijing, in the 1920s) seemed to fit the picture. In the 1960s it became clear that the choppers from the Vallonet cave (France) were 1 million years old (a.k.a. 1 Ma) and in Olduvai choppers were even twice that old. So everything seemed to add up; Dr. Louis Leakey and Professor Francois Bordes told the world that freehand flakes and choppers were the earliest tools. Then our ancestors made the cutting edges longer. This turned the choppers into crude thick 'Abbevillian' handaxes. Finally man mastered the skill of making the thick forms thinner, resulting in the classic 'Acheulean' handaxes.

Everyone believed this in 1975, but today we know our ancestors 3.3 million years ago made oblique bipolar flake tools (OBFs) on the ground, Mode 1 (or Mode-I); see Part 2, The invention of stone tools (*PCN* #65, May-June 2020). The dry climate 1.75 million years ago forced groups to carry large OBFs, and resharpening these tools inevitably led to large and thin LFB-handaxes, Mode-2; see Part 3, How the handaxe was invented (*PCN* #66, July-August 2020).

So, what Leakey and Bordes told us was wrong: neither choppers nor Abbevillian forms took part in the development of the handaxe! The handaxe reached India 1.5 million years ago and Western-Europe and China 900,000 to 700,000 years ago. Because the Clactonian, Choukoutien and Terrace 45 at Abbeville are merely 400,000 years old, mainstream archeologists concluded these industries were made by Mode-2 groups that used simpler or even degenerate techniques. But nothing could be further from the truth.

Fig. 1. Direction of the pioneer migration at the beginning of a warm phase.

Innovative techniques

In the classic flint-Acheulean area (Southern-England and North/Central-France) the plants were decimated during the cold Anglian phase 450,000 years ago (this corresponds to the pre-Illinoian-B stage, see page 10 in my book, *The Paleolithic; How and why*, available as a free pdf online). So all large herbivore herds had to migrate south. All hominids depended on these herds so they also went south; small groups managed to survive this cold phase near Tautavel; see Part 3. When the temperature rose again (430,000 years ago Holstein-phase) the herbivores began to return to the north. Man also reclaimed the north; the pioneers followed river-valleys because these offer both water and food. The Garonne brought them to the lowlands around Bordeaux (**Fig. 1**). But here they no longer found any stones large enough to make handaxes, because the river only carried small rounded pebbles into the lowlands. This forced these pioneers to make *pebbletools*.

Small rounded pebbles cannot be flaked with freehand methods so they had to use hammer and anvil. But this is *not* a step backward: Poverty

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Bipolar multitools (cont.)

"Small rounded pebbles cannot be flaked with freehand

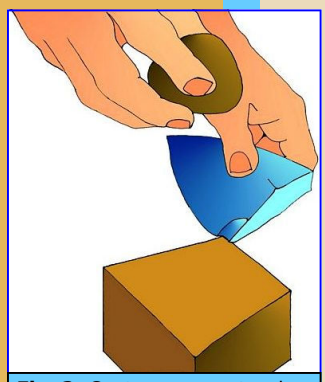

Fig. 2. *Contre-coupe* retouches start in the anvil-contact and run towards the hammer-contact. Jan Willem van der Drift.

methods so they had to use hammer

Fig. 3. OBF and bipolar multitool (with notches, scrapers and a point) from Abbeville.

and anvil. But this is* not *a step backward: Poverty does not degenerate man, it makes him ingenious!"

does not degenerate man, it makes him ingenious!

The lowland groups used an innovative hammer-and-anvil technique called *contre-coupe* (**Fig. 2** and page 82 in my book). This clever method enables its users to make perfectly controlled retouches at angles varying from very steep to very flat, and also to make far deeper notches than with freehand methods. *This resulted in a toolkit consisting of multitools*, with a variety of (sometimes bifacial) knives and points, notches, denticulates, beaked tools, burins and cutters (resembling linoleum-knives). In Mode-2 more than 50% of the modified/curated tools are freehand large cutting tools (classic handaxes, cleavers, pics and choppers), so the bipolar toolkit is both technically and functionally completely different!

North-Sea Plains

In the lowlands near Bordeaux, Southwestern France, parents lacked the raw materials to teach their children how to make classic handaxes. So the next generations only learned how to make bipolar multitools and when they followed the herds further north along the Atlantic coastline (i.e. to Saint-Colomban near Carnac) they kept making multitools. Some groups followed the Channel-river valley (now submerged below the English Channel) and its tributary the Somme upstream to Abbeville. Here they made the bipolar tools in **Fig. 3** (from the collection of my teacher Ad Wouters, who perhaps received them from his teacher Abbé Henri Breuil aka 'le maitre'). The multitool in Fig. 3 resembles a crude thick handaxe; such forms from Abbeville together with crude bifaces from Acheulean sites were, until 1990, believed to represent a developmental 'stage' between the chopper and the handaxe (see Part 3).

The Channel-river itself led the pioneers onto the North-Sea Plains (today submerged by the North-Sea), where they made the pebbletools in **Fig. 4**. Groups that spread from these plains into the Thames valley found huge flint-nodules. So these pioneers had perfect raw materials for handaxes, but their ancestors had for many generations used bipolar techniques. They, therefore, had neither the technical knowledge nor the desire to make handaxes. They simply used the large flints to make larger OBFs: this is the Clactonian flake-industry. **Fig. 5** shows medium sized OBFs, *contre-coupe* retouching of OBFs led to tool-types called flaked-flakes and bill-hooks.

Fig. 4. These pebbletools were made on the North-Sea plains. Note the fine retouches, bifacial flaking and notches, often combined into multitools. **Inset**: Detail of artifact at right.

The mechanism by which various groups when they crossed lowlands switched from handaxes to bipolar tools can be seen all over the world. For example at Beijing, China, or at the Hungarian site of Vértesszöllös. **Fig. 6** on the following page shows Dr. Markó András of the Hungarian National Museum comparing pebble tools I brought from the Netherlands with tools from Vértesszöllös (the site is famous for a Middle Pleistocene human fossil dated c. 400,000 years old). Archaeologist Chris Hardaker (PC founding member) concluded that the finds from Calico were also bipolar tools.

Fig. 5. OBFs (Clacton-flakes) from near Clacton-on-Sea, eastern U.K., two show retouches and notches. The background diagram (by W. Dürre) shows that in 1975 scholars still believed the Clactonian predated the Acheulean.

Second wave

The fast migrating pioneers followed river-valleys (Fig. 1). But when the population of the groups that stayed behind grew, a secondary spreading mechanism appeared. Population growth forced the handaxe-makers in the middle-Garonne valley to search their food further and further away from the main river. This brought them into

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Bipolar multitools (cont.)

Fig. 6. Dr. Markó András (left), at the Hungarian National Museum compares pebbletools from the Netherlands with similar tools from the Hungarian site of Vértesöllös. Vértesöllös is famous for a Middle Pleistocene human fossil informally called 'Samu' or 'Vértesöllös man' discovered in 1965 and presently dated c. 275,000 years old.

the Tarn and Lot valleys, and from there it was just a small step to the Dordogne. These second-wave-migrants 'jumped' from one river-system to the next as shown in **Fig. 7** without crossing the lowlands, so they were never short of raw materials for handaxes. This mechanism brought the handaxe makers into areas that were already settled by bipolar-toolkit-makers. Efficiency always outcompetes finesse, so their fast-cutting handaxes outcompeted the bipolar-multitools: the second wave brought Mode-2 back into the French flint-area as if it had never left.

Fig. 7. Reintroducing Mode-2 through population growth. The shortage of raw material for handaxes blocked Mode-2 on the North-Sea Plains and at the northeastern border of France.

But the sites in the Thames-beds at Swanscombe show that it took Mode-2 far longer to reclaim England. The English Clactonian lasted all through the first halve of the Holstein-phase, until the climate changed. A short cool and dry climate phase killed many trees; the deforestation led to flash-floods that washed the silt away from the riverbeds and carried large stones further downstream. So handaxes could then be made further downstream, this allowed Mode-2 to cross the Channel-valley lowlands back into England.

Germany and the Netherlands

Fossils and tools of *H. heidelbergensis* have also been found in the Netherlands and Germany, but none of the industries are dominated by classic handaxes. The fact that the characteristic Mode-2 toolkit has never been found in the Netherlands and Germany proves that the lack of raw materials for handaxes on the North-Sea plains blocked the migration of Mode-2 from England to the Meuse and Rhine deltas. All migrants switched to the bipolar technology, so on the northern part of the continent we see industries like in Lehringen (famous for its well-preserved spears). This is a flake-industry with only a few non-classic bifaces, so Lehringen is similar to the Clactonian. In the famous German site Bilzingsleben the toolkit consists of multitools made on anvils and retouched with contre-coupe.

So technically these tools are like pebbletools, the only difference is that the raw materials in Bilzingsleben were not smoothly rounded.

There are freehand handaxes in Germany and the Netherlands, but all of these belong to Mode-3. The reason why Mode-3 handaxe-makers did not loose their ability to make handaxes when they crossed the lowlands will be explained in Part 5. If you can't wait to find out, see my book, *The Paleolithic; how and why*. It is available for free as a pdf download.

JAN WILLEM VAN DER DRIFT, a veterinarian in the Netherlands by trade, is a colleague of the late Chris Hardaker, archaeologist and founding member of the Pleistocene Coalition. He is a Dutch lithics expert in stone tool production with over 40 years field experience. Van der Drift is a prolific author in both English and Dutch publishing in such as *Notae Praehistoricae*, *Archeologie*, *APAN/Extern* (publication of Aktieve Praktijk Archeologie Nederland), etc. He is also a producer of educational films demonstrating bipolar techniques of stone tool production and its association with various human cultures of all periods beginning with the Paleolithic. Van der Drift's work is also referenced in Paul Douglas Campbell's book, *The Universal Tool Kit* (2013), a highly-rated overview of stone tool production techniques. Van der Drift is presently Chairman of APAN or Active Practitioners of Archaeology in the Netherlands (Aktieve Praktijk Archeologie Nederland). The organization was started due to the cumulative knowledge and field experience of its members consistently observing inaccurate interpretations of physical evidence regarding the nature of early humans by the mainstream archaeology community. The group was given extra motivation along these lines by Chris Hardaker who, in correspondence with van der Drift related the treatment of Calico Early Man Site in California (excavated by famed anthropologist Dr. Louis Leakey) by the mainstream archaeological establishment. Van der Drift lives in the small town of Cadier en Keer in the province of Lumborg, Netherlands.

Website: http://apanarcheo.nl

Revisiting *PCN* #20 (Nov-Dec 2012)

From the files...

*Early man in Northern Yukon 300,000 years ago**

By Virginia Steen-McIntyre, PhD

(Volcanic ash specialist)

"Artifacts made by humans occur in deposits of Glacial Lake Old Crow laid down before Sangamonian time... they show that humans persisted in the area for some time."

Note:** This is a branch-off from our reprint series from ***PCN #47, May-June 2017, due to continuing interest in the Cerutti Mastodon suppression case and *falsehoods regarding older sites* recently perpetuated through omission and false statements in the journal *Nature*.

Here is the abstract from a very interesting report on ancient sites in the Northern Yukon. The report is another which is not well-known indicating that humans have been in the Western Hemisphere for quite a while longer than is taught in traditional mainstream archaeology.

The figures (**Figs. 1-3)** were added to give a sense of location.

From the journal, *Arctic*, March 1981

Jopling, AV, WN Irving, and BF Beebe. 1981. Stratigraphic, Sedimentological and Faunal Evidence for the Occurrence of Pre-Sangamonian Artifacts in Northern Yukon. *Arctic* 34 (1): 3-33.

Abstract. The stratigraphic position of artifacts of undoubted Pleistocene age found in the Old Crow Basin has long been in question. We report on geological, palaeontological and archaeological excavations and studies there which show that artifacts made by humans occur in deposits of Glacial Lake Old Crow laid down before Sangamonian time, probably during a phase of the Illinoian (=Riss) glaciation. The geological events surrounding and following the deposition of Glacial Lake Old Crow were complicated by a changing lake level, localized soft-sediment flowage, pingo formation and dissolution, and by the colluvial transport of vertebrate fossils and artifacts. Following deepwater stages of the Lake, an environment not greatly different from that of the present is suggested by the excavated vertebrate fauna and by permafrost features, although warming during the succeeding Sangamon can be considered likely. Sangamonian and later phenomena in the Old Crow Basin are referred to briefly; they show that humans persisted in the area for some time.

Fig. 1. Old Crow on the Old Crow River, Northern Yukon, Canada. Photo: Wikimedia Commons.

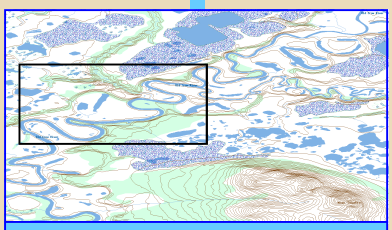

Fig. 2. Study area on the Old Crow River (rectangular box) just under 6 km wide. Mount Schaeffer is seen in the lower right of the map. Crop of topographic map courtesy of Natural Resources Canada.

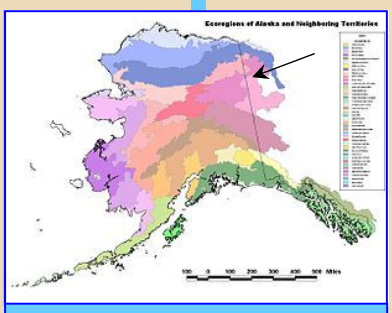

Fig. 3. General vicinity of Old Crow region, Northern Yukon just east of the Alaska/Canada border. Ecoregions map, Wikimedia Commons.

VIRGINIA STEEN-MCINTYRE, PhD, is a volcanic ash specialist; founding member of the Pleistocene Coalition; and copy editor, author, and scientific consultant for *Pleistocene Coalition News*. She began her lifelong association with the Hueyatlaco early man site in Mexico in 1966. Her story of suppression—now well-known in the science community—was first brought to public attention in Michael Cremo's and Richard Thompson's classic tome, *Forbidden Archeology*, which was followed by a central appearance in the NBC special, *Mysterious Origins of Man* in 1996, hosted by Charleton Heston. The program was aired twice on NBC with mainstream scientists attempting to block it.

All of Virginia's articles in *PCN* can be accessed directly at the following link:

http://www.pleistocenecoalition.com/#virginia_steen_mcintyre

Religion and art in mankind

By Tom Baldwin

"The more we study animals the more we find we are really not so different. … However, they do not appear to display any awareness of a god or gods."

Religion and art in mankind are almost universal. They may be less universal today than in the distant past but nevertheless the vast majority of us believe in some higher power. A smaller number, but still a significant plurality of humanity worships God or 'gods' in one form or another.

The fact that religion is so widespread among us suggests its roots are deep in our past. It is part of our humanity and certainly a factor in the equation that dictates our character and actions. It is also at the core of our sense of morality.

Religion or spirituality is the primary trait that separates humans from the other creatures populating the earth with us. Otherwise, the more we study animals the more we find we are really not so different. Animals exhibit love and intelligence; they puzzle solve and even make and use tools. Yet, despite this remarkable list and other similarities, they do not appear to display any awareness of a god or gods. We do not see any religious tendencies associated with them. This is one of the few things that distinguishes us from/in the animal kingdom.

Mankind's most widespread religion, Christianity, worships a personage that is both divine and human at the same time, Jesus Christ. However, this is not a unique concept. 1,300 years before Christ, the Egyptian king, Akhenaten, father of Tutankhamun, declared himself one with the sun god Aten.

Across the ages others have also declared themselves to be some physical manifestation of one god or another. Such claims are not modern and have their roots in our distant past.

Fig. 1. Apart from showing a few 'culturally-accumulated' artistic skills, the 3400-year old Egyptian lion/human deity (Sekhmet) sculpture has nothing over the intellectual originality of the 40,000-year old Lion-Man sculpture, Germany.

Let's look at just a few Paleolithic practices that seem to indicate religion and art in context is not at all a modern invention but part of what has made us human for eons.

Compare, for instance an Egyptian lion/human deity at only 3400 years old with the Lion-Man of Hohlenstein-Stadel Cave in eastern Germany, **Figs. 1–2**. Here we have a mammoth tusk sculpture with a man's body and a lion's head carved a startling 35–40,000 years earlier.

Fig. 2. The 'Lion-Man' sculpture of Hohlenstein-Stadel Cave, eastern Germany, carved from a mammoth tusk 35–40,000 years ago. Obviously, *the whole idea* was already there dozens of millennia before similar Egyptian depictions. Wikimedia Commons.

Now at that time in prehistory the apex predator—i.e., the number one eater of men and other creatures—was the cave lion; and here we have a figurine that is half such a creature and half man. What purpose might it serve other than such as worship or to placate lions so they will leave the early men and their families alone? In either case a spiritual under-

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Religion and art in mankind (cont.)

"While some may believe these are just the artistic expressions of early man most accept them as having an animistic connection with the creatures depicted."

Fig. 3. Famous 17,000-year old horse painting at Lascaux Cave, France, is as moving as any modern art and 35–45,000-year old paintings were just as developed; Wikimedia Commons. Many believe cave paintings had spiritual significance.

Fig. 4. C. 30,000-year old burial at Sunghir, Russia. Bodies were adorned with spears, clothing, and over 13,000 ivory beads requiring thousands of hours work. Wikimedia Commons.

taking. Around the same period all over the world we find early man doing cave paintings and petroglyphs (see **Fig. 3**), again, with skills equal to those of modern painters. While some may believe these are just the artistic expressions of early man most accept them as having an animistic connection with the creatures depicted. Possibly, there was a belief the drawings and paintings would bring good luck to the hunt, make the spear or arrow fly farther and strike deeper.

Perhaps the most obviously spiritual action by early humans showed in their burial practices. A case in point, in Sunghir, Russia, where three people are buried close together. Adorning their bodies are spears and clothing and over '13,000' ivory beads estimated to have taken thousands of hours to produce (see **Fig. 4**).

Why put so much effort into something that is going to be buried with a dead body unless you believe the dead might have a use for them in an afterlife, or possibly those doing the burying are involved in ancestor worship?

I've presented only a small sampling in this article of much evidence that early humans were spiritual/artistic beings just like modern people are. Their religions may not correspond closely with ours of today, but for Paleolithic people they were just as valid, maybe even more so.

In earlier articles I have speculated man's artistic bent may have made him a better hunter (e.g., The art of hunting, *PCN* #33, Jan-Feb 2015). That same artistic tendency might also contribute to man's religiosity. In the Middle Ages most people living in Europe called a wattle and daub hut home. In the center of all this squalor the church built beautiful basilicas. The architects that designed these basilicas were artists. (Michelangelo did not just sculpt and paint, he designed Saint Peters in Rome.) Imagine the experience of a peasant leaving a village of mud and dung shelters and visiting one of these magnificent edifices. They could not help but be awed. This was how God lived. God deserved worship. The same effect seems likely with the splendidly painted Paleolithic caves.

The cave paintings of the Pleistocene were so realistic looking that a hunter viewing them might feel an animistic connection to the game he was about to go out and chase down.

It might just be that you can't separate religion from art.

TOM BALDWIN is an award-winning author, educator, and amateur archaeologist living in Utah. He has also worked as a successful newspaper columnist. Baldwin has been actively involved with the Friends of Calico organization maintaining the controversial Early Man Site in Barstow, California) since the early days when famed anthropologist Louis Leakey was the site's excavation Director (Calico is the only site in the Western Hemisphere which was excavated by Leakey). Baldwin's recent book, *The Evening and the Morning*, is an entertaining fictional story based on the true story of Calico. Apart from being one of the core editors of *Pleistocene Coalition News,* Baldwin has published over 40 prior articles in *PCN* focusing on *H. erectus* and early man in the Americas. His articles on the Denisovan sophistication enigma include: Denisovan bracelet: Advanced technological skills in early human groups is still resisted (*PCN* #35, May-June 2015), Those pesky Denisovans (*PCN* #43, Sept-Oct 2016, our 7th Anniversary Issue), and Update and review of 'modern level' Denisovan culture c. 40-50,000 years ago (*PCN* #50, Nov-Dec 2017), Denisova Cave, Siberia: Art, craftsmanship, and telling DNA (*PCN* #60, July-August 2019), and Denisovan news: Keeping these remarkable yet enigmatic people up front (*PCN* #62, Nov-Dec 2019).

Links to all of Baldwin's articles on Calico, *H. erectus*, and many other topics can be found at:

http://pleistocenecoalition.com/index.htm#tom_baldwin

Blind spots in earth science research

By Guy Leduc,

Geological engineer specializing in Quaternary geology, paleoseismology, sequence stratigraphy, tectonic geomorphology, and connections between geology and archaeology

Fig. 1. Portion of the author's lab where he is presently growing the relic plant, *Equisetum* (horsetails; plants with a believed 360 million-year history) in acrylic tubes under variations of pressure. Other relic plants include ginkgo, cycads, and ferns. The mage shows 'hyperbaric' experiments in process.

"To face any paradox in earth science, you need to work with opposing theories or principles."

In natural science, multi perspectives are essential to correct the 'blind spots.' Having two physical eyes working in stereo helps compensate for each eye's different blind spot. To get an immediate sense of the dramatic effect of a blind spot, and how it can be compensated for, try the simple, quick, and fun test at Wikipedia's Blind spot (vision) page. It will help to actually experience what I mean by 'blind spots' in science and how a multidisciplinary approach can help fill critical gaps of knowledge.

To face any paradox in earth science, you need to work with opposing theories or principles simultaneously. Each offers its own perspective. Positively, each model emphasizes interesting correlations of its own. The worst circumstance for good science is when a particular theory becomes so 'institutionalized' that its protagonists ignore its weak points or blind spots.

Nuclear physics (not cosmology) has the advantage of being experimental within the time scale of small physical laboratories. Experiments in these environments force us to accept paradoxes and counterintuitive phenomena like the ones in quantum theory.

Earth sciences, on the other hand (geology, paleontology, evolutionary biology, inner earth geophysics, etc.), are limited by their necessary historical contexts. You cannot test a whole laboratory model because the necessary scale of time and the size and energy required are prohibitively humongous. Meanwhile, some small-scale experiments are still accessible, but the main obstacle is the institutionalized theory. **Example:** Granite is still a mystery. Igneous petrologists acknowledge that our laboratories are allegedly equipped to reproduce granite artificially. However, we have still been unsuccessful. Our theory on the formation of granite must be wrong. Here are the three models by order of popularity:

1.) Melting origin like *magmatic differentiation*

2.) *Metasomatism*: rock re-mineralization from hydrothermal fluid

3.) Transforming one type of rock existing in a solid state directly into another type of solid rock.

The last one, #3, is so weird that most geologists decide to simply ignore it, even though the theory's arguments have a strong base in direct field observation.

I worked a few summers with granitic rocks of the Canadian Precambrian (i.e. rocks generally regarded older than 543 million years). Everyone was used to thinking in terms of the first option above, 'magmatic differentiation'. At the time, I was not aware of any third option until I read about it in an old monograph. By relying solely on the popular institutionalized theory, we ended up ignoring the *paradoxes* of granite. Modern students of geology learn only one theory. My plan is to go back to the lab with new approaches.

Experimental science

I strongly believe in experimental science to solve, at least partly, a few known paradoxes. Some tests are already in the process. For example, I am presently growing *Equisetum* (horsetail) under 1 bar (2 ATA) of pressure in acrylic tubes (**Fig. 1**). Many clues support the idea that atmospheric pressure was higher during the Carboniferous than it is today.

Some terms

'ATA' is a unit referring to the total pressure of a system

> Cont. on page 9

Blind spots in earth science research (cont.)

"It was easy to attract the attention of botanists worldwide with this line of inquiry but more challenging to find new lab partners. You hardly see any laboratories taking up this challenge."

Fig. 2. Example of *Equisetum* (horsetails; plants believed to have a 360 million-year history. Horsetails and their relatives are known to have grown 100 feet tall during Carboniferous times. Why this might have been is a fascinating question. Their long continuity in time allows more direct lab testing.

compared to the pressure of the medium vs. vacuum only. It is used in place of 'ATM' (standard atmosphere) where one unit is roughly equal to Earth's atmospheric pressure at sea level.

'Carboniferous' refers to the time period of the Paleozoic Era generally believed to span 60 million years from the end of the Devonian (358.9 million years ago) to the beginning of the Permian (298.9 million years ago). It is the time during which the horsetails (*Equisetum*) in fossil form are the most well known.

'Hyperbaric' refers to gas under a higher than normal pressure.

Some paleontologists believe that dinosaurs might also have lived under higher pressure than characteristic of the earth today; but this line of inquiry is even more controversial. Since the group is now extinct laboratory experiments cannot be directly associated with the actual living organisms. That mystery is so great it seems only time travel could solve it.

However, we can certainly directly observe *ancient though still-existing* plant types such as *Equisetum,* i.e. horsetails (see **Fig. 2**)—under different atmospheric conditions. It is an example of making a more direct connection between full laboratory experiments and life forms of the very distant past.

It was easy to attract the attention of botanists worldwide with this line of inquiry but more challenging to find new lab partners. You hardly see any laboratories taking up this challenge. Also, there are only a few publications on hyperbaric botanical research.

One of my aims is to develop a simple technology to encourage new lab initiatives. In Paleozoic times, equisetums were growing like the trees by processing massive silica amounts to fabric their tubular trunks.

A few years ago, a botanist friend told me not to expect any change in these relic plants' *genotype* (genetic constitution of an organism). I assumed that idea and was expecting only *phenotype* (characteristics of individuals resulting from genotype and environmental interactions) changes in my equisetums. However, with the discovery of *epigenetic* effects (non-genetic influences on gene expression), these Darwinistic presumptions fade away. It is possible to change the genotype of plants. See for instance the seminal research of Dr. Frank Johannes, PhD, Bioinformatics Center (GBIC) Groningen University, Netherlands; e.g., Revolution in Plant Genetics (*Science Linx News*, Feb. 6, 2014); and that of his French colleagues in collaboration, e.g., quick figures in Transgenerational Epigenetic Inheritance (Institut de biologie de l'Ecole normale supérieure IBENS | ENS; June 26, 2009).

Impeding epigenetics

What does this entire topic have to do with blind spots in the life and earth sciences? Concerning the GBIC research, Elizabeth Pennesi's article in *Science*, 'Evolution Heresy? Epigenetics Underlies Heritable Plant Traits,' describes the hindering effect on the field of epigenetics and science in general very well:

Pennesi writes,

> "For some evolutionary biologists, just hearing the term epigenetics raises hackles. … Darwinism became a theory so institutionalized that its protagonists hinder research in epigenetics."

At the end of the last ice age, the giant species of mammals or megafauna became dramatically smaller. This change happened within just a few hundred years throughout the world, even among the marsupials of Australia. Now, paleontologists are turning to epigenetics for a proper explanation. Knowledgeable scientists agree Darwinism (mutations and selections) cannot explain such rapid change. There are many other examples where institutionalized theories act as a blind spot effectively hiding certain realities of nature.

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Pennisi, Elizabeth. 2013. Evolution heresy? Epigenetics underlies heritable plant traits. *Science* 341 (6150): 1055.

GUY LEDUC is a Canadian geological engineer specializing in tectonics, geomorphology, and sequence stratigraphy. He is also a longtime researcher in paleontology, achaeostronomy, mythology and linguistics. Leduc is presently living in France.

Prior articles in *PCN*:

Catastrophic subglacial flood at the end of the last Ice Age (*PCN* #57, Jan-Feb 2019)

Challenging plate tectonics theory (*PCN* #58, March-April 2019)

The paradox of ancient seashores and landscapes (*PCN* #59, May-June 2019)

Mathematical rock art in old world India In special context to Jawaharlal Nehru University campus, Part 1: *Complex cup-mark pairs*

By Raghubir S. Thakur MA (History),
Rock art researcher and preservationist

"India, already well-known for its

historical contributions to mathematics...may have an earlier developmental history recorded in the form of sophisticated rock art."

Fig. 1. The Aravallis mountain range, Delhi region northern India, where over decades time I have documented many previously unrecorded rock art sites.

Clear and repeated mathematical ideas expressed in rock art show much more than just a 'pattern of behavior' as suggested of cup-marks or cupules in general by a leading rock art expert. As noted in my earlier articles beginning with Vivid creations by early man, an introduction, Delhi-Aravallis-System, India (*PCN* #39, Jan-Feb 2016), we tend to accept such views of our ancestors because we have been told by the mainstream for so long that earlier people were not as intelligent as us.

Here, I provide observable evidence that India, already well-known for its historical contributions to mathematics (for example 'the decimal' and 'zero' recently confirmed) may have a much earlier developmental history recorded in the form of sophisticated rock art petroglyphs including clearly-repeated cup-mark arrangements in the Delhi-Aravalli region (**Fig. 1**) of northern India and specifically within the now Jawaharlal Nehru University (JNU) complex.

'Pairs of 5'

In my second *PCN* article, Vivid creations by early man, Delhi-Aravallis-System, India, Part 2 (*PCN* #40, March-April 2016); I documented in outline the results of two brainstorming sessions with several rock art expert colleagues—Dr. Gyani L Badam (paleontologist and Quaternary geologist), Dr. ML Sharma (archaeologist), Ramesh K Pancholi (M.A.), Professor VH Sonawane (archaeologist), and Dr. Narayan Vyas (archaeologist)—where we discussed many cultural possibilities that might be represented in the cup-mark-and-related arrangements that I had discovered in the JNU region over a 3-year span (Jan 2013–Dec 2015). The many ideas brought forth included among others: Evidence of community planning, representations of constellations or other objects in the night sky, calendars, ritual practices, and even the more mundane such as game boards or simple tallies.

In this article, I focus on one testable mathematical proposal, namely, that the complex rock art in Delhi region, quite unlike the irregular examples seen elsewhere in India and throughout the world, shows completely unambiguous arrangements of *pairs of rows*, especially pairs of rows with exactly *five cup-marks each row* making a consistent total of 10 cup-marks per two-row grouping (**Figs. 2–3**).

For now, I will just call them 'Pairs of 5' for easy reference. However, the equation, 2 x 5 = 10, is just as accurate and puts the possible importance of these groupings into a whole different light.

Fig. 2. Sample rock art panel within the 1.6 sq. mi. JNU region showing complex geometric patterns. Notice especially the rows of cup-marks in parallel pairs. Each group shows pairs of 5 totaling exactly 10 cup-marks. This theme recurs throughout the JNU complex clearly indicating some unknown cultural significance. Photo: Raghubir S. Thakur.

Fig. 3. Four 'pairs of five' cup-marks in close proximity to each other on a large rock surface within the 1.6 sq. mi. JNU Complex. Unlike the jumbled disorganized nature of most cup-marks (but not all) worldwide many within the JNU show clearly-repeated arrangements. Photo: Raghubir S. Thakur.

Fig. 4. Intriguing variation: Pair-of-5 motif capped at each end by solitary cup-marks (a different variation has only one end-cap). Obviously well-thought-out pattern surely beyond utilitarian use of cup-marks. Photo: Raghubir S. Thakur.

While the Pairs of 5 are remarkable I have also recorded many variations on the theme (e.g., **Fig. 4**).

> **Cont. on page 11**

Mathematical rock art in old world India (cont.)

"The complex rock art in Delhi region… shows completely unambiguous arrangements of pairs of rows, especially pairs of rows with exactly five cup-marks each row making a consistent total of 10 cup-marks per two-row grouping."

Fig. 5. Two 'pairs-of-5' side-by-side. Notice they are arranged in angle to each other foming a "V." Emphasis on the numbers 2, 5, and 10 (repeated in JNU Complex) is doubled thus adding the numbers 15 and 20. **Top:** Detail. **Bottom:** Context within large boulder. Photo: Raghubir S. Thakur.

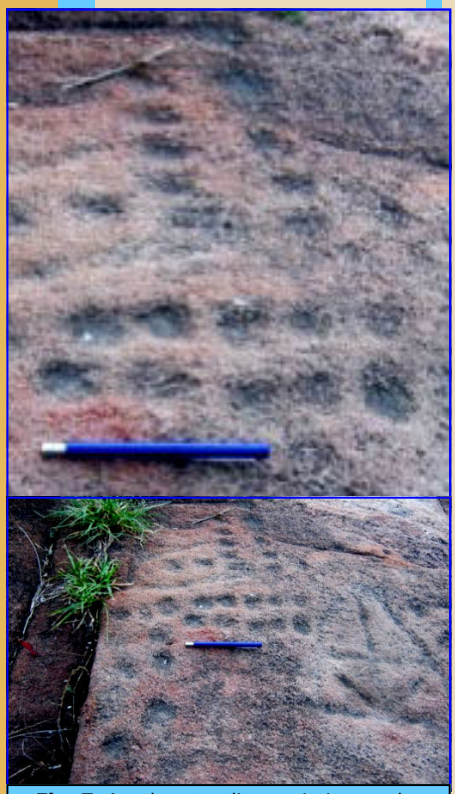

Fig. 7. Another startling variation on the 'pairs-of-5' pattern featuring two sets in a clear perpindicular relationship to each other. Like in Figs. 1–2, emphasis on the numbers 2, 5, and 10 is unmistakable. **Top:** Detail. **Bottom:** The larger context. Photo: Raghubir S. Thakur.

Two pairs of 5 intentionally associated

The complexity of the JNU cup-marks assemblage does not end with 'pairs of 5'. Another level above this is when two 'pair of 5' groups are found in unmistakable association with each other (see **Fig. 5**). Apart from an apparently deliberate dividing line between the two pairs of 5, notice that the two are angled to each other creating a "V" shape. How can we be certain the arrangement is deliberate? This is proved by the existence of an identical set including "V" shape found elsewhere at JNU site (see **Fig. 6**). Unlike the unorganized appearance of most cup-mark or cupule panels such easily recognized duplication occurs regularly in the rock art of JN University Complex strongly suggesting a *long-term* cultural context. Perhaps it was an ideal place to build a university.

Two 'pairs of 5' in perpendicular duplication

The rock art panels within the 1.6 sq. mi. JNU Complex no doubt stretch across a wide range of dates likely Paleolithic, Neolithic, and later. This suggests that the startling duplication seen in **Fig. 7** and **Fig. 8** appearing to be differently aged (Delhi region is classed as a 'hot semi-arid' climate with limited rainfall)—could have had a stable cultural significance across a wide period of time. If the panels are dated with others at JNU Complex by 'reputable' scientists whether found to be contemporaneous or vastly separated in time, either would give reason to pause. My inclination based on other Indian dates is to expect them to date to a time before Sumerian or Babylonian origins of mathematics. The implication is that the makers of these arrangements, unlike mainstream ideas, whether Paleolithic, Neolithic, etc., were not inferior to us in any way. How-

> Cont. on page 12

Fig. 6. Another example from different area of the JNU Complex showing two of the 'pairs-of-5' pattern side-by-side though angled somewhat to form a larger "V" pattern. Photo: Raghubir S. Thakur.

Fig. 8. The exact same symbolic relationship at two different locations is proof that the '2 separate pairs-of-5' in perpindicular relationship to each other is intentional. It is likely also to be of some unknown mathematical or cultural significance. Again, emphasis on the numbers 2, 5, and 10 is unmistakable. The two sets being doubled cleanly adds the numbers 15 and 20 at the very least. The perpindicular could mean many things mathematically. The few 'extraneous' solitary cup-marks in both panels are similar also suggesting significance. Photos: Raghubir S. Thakur.

Mathematical rock art in old world India (cont.)

"The examples given suggest at the very least a long-term stable culture with a knowledge of mathematics."

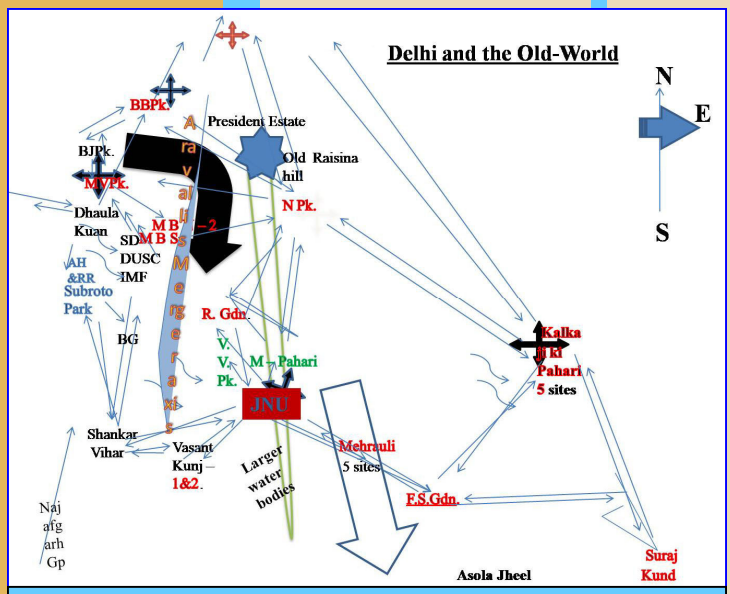

Fig. 9. Rough-sketch map showing the area of my study, the 1.6 square mile area of JNU campus, Delhi, India. Map: Raghubir S. Thakur.

Fig. 10. The same perpendicular pattern demonstrated for 'pairs-of-5' in **Figs. 7–8** extends to other numbers also. This example shows a "V"-shaped 'pair of 5' at the bottom and an 18–20 cup-mark pair above. If valid, the configuration shows an even 30 cup-marks. Photos: Raghubir S. Thakur.

ever, it is almost certain that even the mathematically complex examples given suggest at the very least a long-term stable culture that may have included algebraic math. It doesn't have anything to do with the people who made them being somehow smarter than those anywhere else. Instead, it is the natural outcome of social groups developing their cultures inside stable environments.

As noted in my earlier articles, I took this project up 'single-handedly' for three years finding it difficult to stir the interest of mainstream archaeologists or professors in these obviously deliberate and well-planned out petroglyphs. However, those I have mentioned in my articles as well as the confidence and open-mindedness of those in Pleistocene Coalition gave me the encouragement to continue trying to bring attention to this remarkable rock art site in India (**Fig. 9** shows the general vicinity of my discoveries). In the next issue, I will discuss some of the other mathematical rock art in the JNU Complex (e.g. **Fig. 10**) including cup-marks in relation with other petroglyphs.

Links to my earlier *PCN* articles aside from those on p.1:

Megaliths in Delhi-Aravallis-System, India. *Part 3* of the Delhi-Aravallis series (*PCN* #41, May-June 2016);

Animal petroglyphs, Delhi-Aravallis-System, India. *Part 4* of the Delhi-Aravallis series *(PCN* #43, Sept-Oct 2016).

Acknowledgements I am grateful to my dear friend and popular museologist Virendra Bangroo, scholar, philosopher and very good guide. He was highly supportive and motivational during my visits accompanying me to several of the discovery sites and debating on various mysterious rock art designs. I am also deeply thankful to Dr. G. L. Badam and Dr. A. R. Sankhyan for their expertise and valuable input into many aspects of the research. Initial continuation of the research would not have occurred were it not for archaeologist Dr. K. N. Dixit who, on hearing of my first discovery, took the time to visit the site and confirmed I was on the right footing. I thank my close friends Shri Satish Jain and Colonel Singh Raj Verma for their broad understanding and encouraging me to cross-check evidence from a multidisciplinary approach before finalizing any opinions on important finds. Finally, I thank all those who provided support over the years giving me the strength to hold true to the research.

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CAPT. RAGHUBIR S. THAKUR, MA (History), is an Ex-Army Officer (Gazetted) with his last role as Consult. for Sec. and Land Mgmt. for the Archae. Surv. of India under the Ministry of Culture and Tourism, Govt. of India. His responsibilities included protecting Nat. Gov.-listed Heritage properties including World Heritage monuments. The Security Cell was formulated and created by Thakur's persuasion of every Director General of the ASI for over 19 years. Over the years, Thakur has gained a broad knowledge of rock art sites in the region being first to discover and document rock art in Delhi. Thakur has participated in 10 intl. archae. and envir. conferences (1990–2012) presenting papers in India, Sweden, and Japan. He was Organizing Sec. of the *Asian Conference on Air Pollution* (1999). Thakur's most recent presentation was at the Joint Ann. Conf. of IAS, ISPQS, and IHCS (2015). Among others, Thakur is associated with the discovery of an Upper Paleolithic site near Ellora Caves (1992), megalithic menhirs Western Rajasthan (1997), cup-marks Siroli Dongari/Chhattisgarh (2007), and nearly 100 cup-mark/petroglyph sites Delhi-Aravallis mountain range (2013–15).

Direct links to all of Thakur's *PCN* articles can also be found at

http://pleistocenecoalition.com/#rock_art_in_delhi_india

Member news and other info

Quick links to main articles in *PCN* #66:

Update about Virginia's health and circumstances

As mentioned in a recent mailing to our subscribers (and many concerned friends and colleagues) that have been inquiring, in early September Virginia suffered another stroke. She had been slowly recovering from her first stroke for several years. This one was much worse and has left her unable to speak. Virginia was moved from her home into assisted living a while ago by her caregivers (her nieces and family) these past years and is now under special medical care. As of this writing, her condition and circumstances have not changed.

For those who are new subscribers, or are readers of *PCN* online, Dr. Virginia Steen-McIntyre, is one of the founding members of the Pleistocene Coalition, writer, editor, and scientific advisor. She is also the PC's primary inspiration and an inspiration to many who know her story worldwide.

Right after the mailing *PCN* received many heartfelt and supportive messages from nearly 10 countries. Anonymously, here are excerpts from only a few of the sentiments expressed for Virginia:

"Fuerza y mucho cariño para virginia desde Chile." [Strength and a lot of love for Virginia, from Chile.]

"If it is possible give Virginia my regards and say like many [we] are thinking of her… whole heartedly. ... All the best to her and everyone, keep up the good work... We are thinking of her and you all. There is not a day when she does not cross my mind, because she is one of the finest people anyone could know."

Link to *PCN* #66

Link to *PCN* #65

Link to *PCN* #64

"I am so very sad to hear your news. I can only begin to imagine how you must feel. PC has been a real gift to all of us."

"Hoping for a speedy recovery. A very inspiring Lady, and my prayers are with her."

"As a new member, I would like to say that I am heartfelt for this news about your dear leader and friend. Yes, I was not aware of her nor the guiding and wise hand that she yielded. All this is so new to me and I am deeply grateful to you all for having some of the answers that my journey has raised. ... Please let me know if a card or letter to Dr. Steen-McIntyre would help."

"Thanks for sharing what's happened with Virginia. It is very painful to know about her present status. Very shocking. At the same time it is good to know she has been moved to assisted living and her family is by her side. I do pray for her speedy recovery and for her to stay blessed. Like Virginia has been an inspiration from the beginning of PC I pray that God will be by her side and give strength to her caregivers."

"Thank you very much for this update. Virginia had become considered a family member... I knew that she was in no condition to send emails but my wife and I were very concerned for her... If Virginia is lucid enough to receive regular mail or cards or a caregiver can read them to her, please inform me when you receive an address to send it to. Again we are deeply grateful to you for this update."

"Thank you for letting me know. I've been very concerned about Virginia's health... The words fail me… I feel so frustrated that there is no way to let Virginia know how much I love her and keep thinking of her, praying for a miracle. ... Virginia is highly respected and loved by many. ... Please keep me informed."

"Please transmit to Virginia all my wishes for good health and rapid recovery."

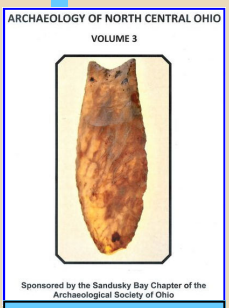

Fig. 1. *Archaeology of North Central Ohio, Volume 3*. 2020. Glenwood Boatman and Timothy Edward (Eds.). Sponsored by the Ohio Archaeological Society's Sandusky Bay Chapter. Vol. 3 is the Society's special volume focusing on Palaeo Period investigations in Ohio, Michigan, and New York.

Two *PCN* articles by archaeologist **Richard Michael Gramly, PhD**, have been reprinted in *Archaeology of North Central Ohio* (**Fig. 1**). The publication is sponsored by the Sandusky Bay Chapter of the Archaeological Society of Ohio. Volume 3 is a special edition featuring Paleolithic era investigations in Ohio, Michigan, and New York.

[The *PCN* articles reprinted involve the Cedar Fork Creek Mastodon excavations: 'Lighting, heating, and cooking during the Late Pleistocene Upper Paleolithic lamps in the Old and New Worlds' with co-author Dennis J. Vesper (*PCN* #63, Jan-Feb 2020), and 'Understanding the Clovis-age lamp preform from the Cedar Fork Creek site, north-central Ohio' (*PCN* #66, July-August 2020).]

The Sandusky Bay Chapter of the ASO, aside from being active participants in the Cedar Fork Creek Mastodon site's four years of excavations, were also responsible for bringing the site to Dr. Gramly's attention in 2016. During Dr. Nigel Brush's 2014 excavation they provided unit supervisors and 18 volunteer excavators. Their passionate involvement was crucial in understanding the Paleo-history at what is presently Ohio's only mastodon bone-tool workshop site.

Pleistocene Coalition News list with volume numbers for all 67 issues

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#11 = 21 pages	May-June	2011	running total 174		
#10 = 17 pages	March-April	2010	running total 116		
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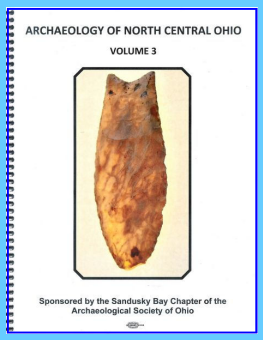
#8 = 18 pages	November-December	2010	running total 116		
#7 = 18 pages	September-October	2010	running total 98	1st Anniv.	
#6 = 18 pages	July-August	2010	running total 80		
#5 = 18 pages	May-June	2010	running total 62		
#4 = 16 pages	March-April	2010	running total 44		
#3 = 14 pages	January-February	2010	running total 28		Vol. 2 (1)
#2 = 9 pages	November-December	2009	running total 14		
#1 = 5 pages	October	2009	running total 5	Debut	Vol. 1 (1)

BOOK REVIEW

Archaeology of North Central Ohio, Volume 3, (2020)

Review by Richard Michael Gramly PhD, Anthropology;
North Andover, Massachusetts



"All 17 writings address sites and artifacts of the Palaeo-American Clovis era."

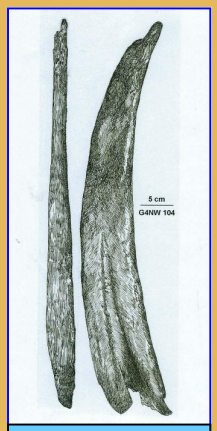


Fig. 2. Sled runner blade made from a split female mastodon tusk, an additional Clovis cultural insight artifact from the Hiscock mastodon site, N.Y.

One of the favorite topics of North American archaeology is the peopling of the New World—how?, when?, and why? From time to time compilations of essays about this topic appear, and more rarely overviews are published under single or joint authorship. New publications along these lines are landmarks in the science of archaeology, and they are always welcomed by scholars.

Therefore, it is my privilege to alert readers of *Pleistocene Coalition News* to the availability of a new compilation of contributions about the early cultures of the New World. The focus is northeastern North America—where a small community of amateur and professional archaeologists is (still) engaged in fieldwork leading to new discoveries and fresh data sets (e.g., **Figs. 1–3**).

This new reader was generated by the Sandusky Bay Chapter of the Archaeological Society of Ohio and is sold at the cost of manufacture only. It is printed upon glossy stock, which shows the many color photographs (figures) to advantage. 218 pages in length, the volume contains 17 contributions by more than 20 authors. Four of the contributions were freshly composed for this reader; the others are reprinted from previously published journals and newsletters (including *PCN*) and were used with permission.

All 17 writings address sites and artifacts of the Palaeo-American Clovis era. There is a basic dichotomy between 1.) Clovis sites with exclusively stone artifacts (N = 8 writings) and 2.) sites with artifacts made of extinct animal bone, antler, and ivory as well as stone (N = 8 writings). A relative 'de-emphasis' on stone artifacts was a deliberate act by Editors Glenwood Boatman and Timothy Edwards of the Sandusky Bay Chapter. As well, they selected a 17th essay for inclusion within the reader that was authored by James M. Adovasio. Dr. Adovasio cautions against preoccupation with lithic artifacts. In his opinion too much attention to durable (lithic) artifacts engenders a bias against organic remains with an unfortunate consequence that evidence for woman's role in ancient economies is downplayed.

Striking a balance among the different categories of artifacts—durable and more ephemeral—is critical to fuller appreciation of Ice Age cultures, and this new reader, by its very structure and content, endeavors to present just such a more holistic view of ancient America. We congratulate the Editors for their sensitivity and good taste.

To order send $35 to cover the price of a reader plus $5 postage. Checks should be made payable to Sandusky Bay Chapter ASO and sent to:

SBC/ASO
c/o Glenwood Boatman
5889 Edson Street
Vermilion, Ohio 44089

RICHARD MICHAEL GRAMLY, PhD, is an archaeologist with a BS in geology (Rensselaer Polytechnic Institute) and an AM and PhD in anthropology (Harvard University). He has conducted archaeological and geological fieldwork in six countries and 30 states. His PhD dissertation (1975) focused on Kenyan and Tanzanian prehistory. Dr. Gramly worked for six years in East Africa two years of which he was an Exhibits Planner at the National Museum of Kenya, Nairobi, under famed anthropologist Richard Leakey, being well-acquainted with the entire Leakey family.

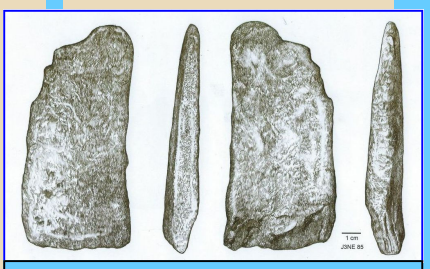


Fig. 1. Ivory adze (tool similar to a hoe) from the Hiscock site, N.Y. It is one from a cluster of four and features what appears to be the well-sculpted profile of a mammoth. It is a rare example of Ice Age art in North America found in confirmed human context with stone tools and a fluted projectile point (pp. 72 & 125 of book; crop of p. 72).

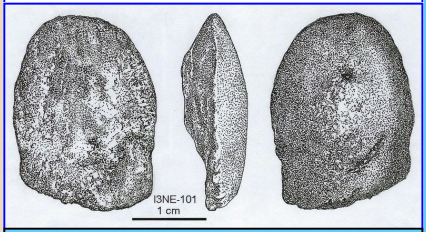


Fig. 3. European Gravettian-style pendant bead made from a flake struck off a mastodon tusk tip. The hole was unfinished. Hiscock mastodon site, N.Y. (p. 121 of book).

Accelerated extinction of the proboscideans due to hunting of young animals

By Ray Urbaniak Engineer, rock art researcher and preservationist

"With the younger ones

being easier to kill we might expect them

In the article titled, Mammoth/notation panel update, second mammoth, and interactive online 3D projection; by Ray Urbaniak and Mark Willis (*PCN* #66, July-Aug, 2020); I speculated that the rapid extinction of trunked mammals, i.e. mammoths, mastodons, and gomphotheres in the Americas may have been due primarily to human hunting of the 'young' in this group (scientific name for the group is the 'Proboscidea').

What brought me to the idea is two-fold: 1.) finding what appear to be young tusk-less mammoths in southwest U.S. rock art and 2.) realizing young animals would have been easier to kill while still providing plenty of meat for survival of the ancient Americans. **Fig. 1** shows two of the proposed 'young' mammoths which are on the southern Utah panel described in the article.

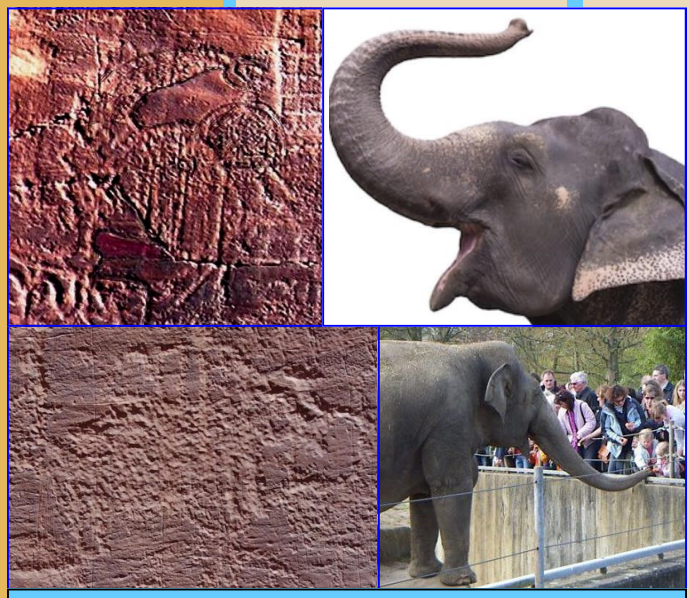


Fig. 1. Top: Lightly-outlined proposed mammoth petroglyph I discovered on the *Mammoth/notation panel* 30' up a rock face in southwest Utah (photo by Ray Urbaniak) compared with a modern Indian elephant (Wikimedia Commons); *PCN* #62. **Bottom:** Newly-discovered proposed mammoth petroglyph a few inches from the original (drone photo by archaeologist Mark Willis) showing the stance and what appears to be the domed head, long trunk (with 'fingers'), and open mouth compared with a modern elephant at the zoo (Wikimedia Commons); *PCN* #66.

This proposal doesn't mean ancient Americans didn't hunt older proboscids, e.g., those stuck in mud, or the injured, sick or old. Nor does it mean they wouldn't have killed healthy full grown proboscids either if they were hungry enough. It only means with the younger ones being easier to kill we might expect them to be the first to 'die off' as a demographic.

If the two central animals depicted in the 'Mammoth/notation panel' are indeed young mammoths, it could very well support my theory that it was primarily the young mammoths that were hunted. See The giant bear and other megafauna and oral tradition (*PCN* #53, May-June 2018). In that article I listed supporting evidence for the hunting not only of young mammoths in the Americas but the young of other megafauna as well.

Interestingly, I stumbled across an article greatly supporting the idea with evidence for the hunting of young animals documented in Europe, the Middle East, and Asia: 'Elephant and mammoth hunting during the Paleolithic: A review of the relevant archaeological, ethnographic and ethno-historical records' (A. Agam and R. Barkai. 2018. *Quaternary*, Vol. 1, Iss. 1). The authors outline the apparent preference for hunting young mammoths on continents apart from the Americas:

> "Indirect archaeological evidence of proboscidean hunting age profiles… generally indicate the preference for young individuals… Lower Paleolithic Terra Amata (France)…selective procurement of young… individuals… Acheulian site of Holon (Israel) most of the elephant bones found were of juveniles… post-Acheulian cave site of Bolomor (Spain), all the elephant bones yielded were of young or juvenile animals. ...Middle Paleolithic Spy Cave (Belgium), it seems… new-born mammoth calves brought to the site and consumed had been killed soon after birth. Svoboda *et al* suggested… the selective predation of juveniles and sub-adults can be inferred. At the Upper Paleolithic 27,000-year-old site of Krems-Hundssteig (Austria), the mammoth assemblage is dominated by juveniles and subordinate adults. Juveniles were also preferred at Pleistocene cave sites in China."

This definitely shows a clear preference for hunting young animals in the Old World. The authors go on to say that predominance of young proboscidean remains at archaeological sites suggests age actually did play a role in determining what animals were selected for hunting. 'Ease of procurement' was listed as one of the possible explanations.

Apart from the relative ease of obtaining food by going

> **Cont. on page 17**

to be the first to 'die off' as a demographic."

Accelerated extinction of the proboscideans (cont.)

"My color spectrum enhancement that seemed to bring the hidden animals to life."

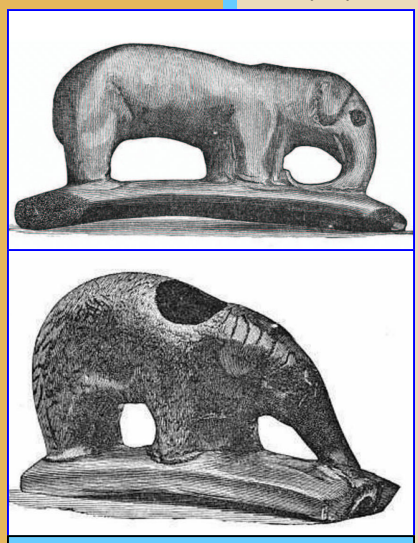


Fig. 2. Two 'elephant' pipes from Louisa County, Iowa. It seems possible to me these depictions could have been made according to descriptions passed down through oral tradition or copied from older artifacts. Source: *The Lenape Stone (illustrated): or, The Indian and the Mammoth,* Henry Chapman Mercer, 1885.

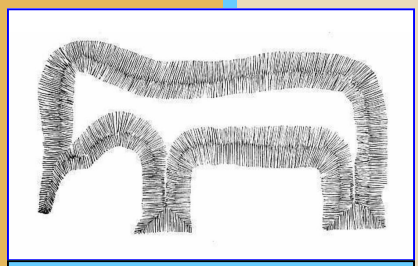


Fig. 3. American Indian famous construction called, Elephant Mound, in Grant County, Wisconsin. Source: *The Lenape Stone (illustrated): or, The Indian and the Mammoth,* Henry Chapman Mercer, 1885.

after the younger animals as a consideration the authors proposed something perhaps closer to home, 'taste,' simply suggesting young proboscideans were 'tenderer' and 'tasted better' (a perspective offered along with less likely though still possible *nutritional* considerations such as the presence of higher quality fat in certain organs). I would compare it to our modern taste for lamb (young sheep) as opposed to mutton (adult sheep).

Recently a rock art researcher in Australia, John McGovern, drew my attention to an 1885 book, *The Lenape Stone (illustrated): or, The Indian and the Mammoth*, by Henry Chapman Mercer. The book shows American Indian effigy pipes and an effigy mound that each depict proboscids without tusks (**Fig. 2** and **Fig. 3**).

All three of the above images are from Mercer's 1885 book and all three appear to show elephant-like depictions with an absence of tusks.

Fig. 4 is a cropped version of a rock art photo by Shivaya Coyote Varlet Castle, a hiker in Dinosaur National Monument. She posted the picture on Facebook several years ago with the title: 'Goat and a Circus Elephant.' Note: I used an enhanced version of this in prior articles. The enhanced version looked like it could have tusks, but that was when I assumed it *had* to have tusks. My idea was that the pictograph painter could have used the nearby inclusions in the rock to represent tusks for a true mammoth or mastodon depiction. The technique is well-known in the rock art of Europe. Here I reproduce the picture without the inclusions which are to the left of the picture. It does indeed appear to represent a mammoth without tusks with a long-horned animal to its right.

Fig. 4. Hiker, Shivaya Coyote Varlet Castle, took this picture in Dinosaur National Monument (Colorado) and posted it on Facebook with the title, "Goat and a Circus Elephant." When reproducing it in *PCN* #41, courtesy of the photographer, I presumed all mammoths or mastodons had tusks and that the painter may have intended the rock inclusions to represent them. Here, with aid of the ed's crop, the inclusions are out of the picture and the creature next to the long-horned animal appears very much to be a tusk-less mammoth.

Fig. 5 shows another apparent proboscid without tusks in a New Mexico photo by Bob Young (used with permission). The pecking appears bright which would normally indicate newness. However, on close examination the artwork appears *over-pecked* at a later date—a fairly common rock art practice. I compare it with an example of a mammoth petroglyph also without tusks recently discovered in Mongolia: "Fifteen-thousand-year-old drawings of 'woolly mammoths and rhinos'...identified in ancient rock art 'gallery' on the border of Russia and Mongolia" –msn.com

There are other photos of apparent tusk-less proboscids I will detail later. Some are more confusing due to overlapping lines perhaps representing atlatls or spears. Finally, I am not convinced my interpretations are correct, but in science, unlike the emotional anthropology prevalent today where aggressive competitors want theirs to be the final word we need to get unstuck from old-school ideas we can't break away from. It wouldn't have taken many generations to wipe out all proboscidea if the young were systematically killed for food.

Fig. 5. Apparent tusk-less proboscid in a New Mexico petroglyph (photo: Bob Young w/permission) compared with a recently-discovered 15,000-year old tusk-less 'mammoth' petroglyph in Mongolia (Institute of Archaeology and Ethnography via msn.com).

RAY URBANIAK is an engineer by training and profession; however, he is an artist and passionate amateur archeologist at heart with many years of systematic field research in Native American rock art of the Southwest and other topics. Urbaniak has written over 50 prior articles with original rock art photography for *PCN*. All of them can be found at the following link:

http://pleistocenecoalition.com/index.htm#ray_urbaniak

More observations on the controversial subject of the peopling of the Americas

By Ray Urbaniak Engineer, rock art researcher and preservationist

"I would certainly

not call this evidence of the first people in the Americas but simply evidence of the source of one particular American culture."

This article is a continuation of my original article, Some observations on the controversial subject of the peopling of the Americas, *PCN* #54, July-August 2018).

In the prior article I speculated the early American Clovis and the Solutrean people of what is now France, Spain, and Portugal may be the same springing from a population of ancient north Eurasians. I speculated they could have migrated from northern Eurasia to France then across the ice bridge to North America as per the Solutrean Hypothesis, and/or from North Eurasia across the kelp highway to North America. Therefore the connection of the Solutreans to the Clovis people's stone point designs.

Fig. 1. Flaked blade dredged up from the Chesapeake Bay along with a mastodon skull. It shows evidence of open air weathering, saltwater marsh, and ocean weathering. Since the area was submerged c. 14,000 BP the tool is likely at least that age. Image: Dennis Stanford.

Fig. 1 shows what is possibly a laurel leaf-style bifacial Solutrean point that was dredged up from Chesapeake Bay (in the region of Maryland, Virginia, and Delaware States in the U.S.). While the tool's exact point of origin is not known it was recovered in context with a mastodon skull also dredged up and securely dated at 22,000 years old. The tool by its association with the skull is presumed to date to the same time period. It is distinctive Solutrean-style points like this that are the primary evidence to support the idea Solutrean people (originally from France, etc.) somehow made it to North America living along the east coast of the Atlantic Ocean.

Recently; while reading *Introduction to Paleolithic Cave Painting in Northern Spain* by C.G. Sainz, R.C. Toca and T. Fukazawa; on p. 160, I read about stone hunting points of the Solutrean period (21,000–16,500 BP) with a 'concave base.' I did not recall Solutrean points as having a concave base such as the Clovis points of established American origin, only that the flaking techniques appeared to be the same.

Fig. 2. Top: American Clovis fluted point c. 13,500–12,800 BP (courtesy of Virginia Dept. of Historic Resources). **Bottom:** End-thinned (fluted) portion of Spanish Solutrean point c. 21,000–17,000 BP (detail of Fig. 5.10 in *Across Atlantic Ice* by Stanford and Bradley.

So, I went back to my copy of *Across Atlantic Ice*, by Dennis Stanford and Bruce Bradley and found sketches of points from northern Spain that not only had concave bases but a small flute on one side as well! In **Fig. 2**, I compare an American Clovis point with one of the fluted Solutrean point bases from Spain in Stanford and Bradley's book.

In my prior article I made the diagram seen in **Fig. 3**. It is pretty much a standard-style imagining of a group of people simply migrating to

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Fig. 3. Clovis people and Solutrean people may be the same (*PCN* #54, July-August 2018):

1.) Ancient North Eurasians migrated East and West more than 15,000 years ago.

2.). Pre-Clovis peoples could have reached the east coast of North America if they had increased genetic presence of the dopamine receptor known as D4 and crossed the kelp highway.

3.) Solutreans could be basically the same people as population 2 and/or they may have crossed the ice bridge to North America.

More observations on peopling of the Americas (cont.)

"We in the Pleistocene Coalition have published many articles about how little time it actually takes to travel from one place to the next—on foot—around the entire world."

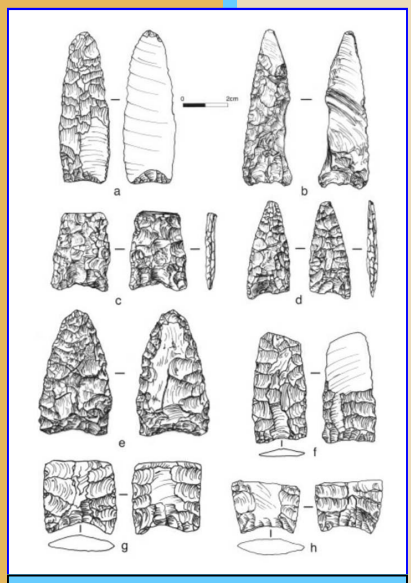

Fig. 4. Thumbnail of Stanford and Bradley's Fig. 5.10 in their book, *Across Atlantic Ice,* showing Spanish Solutrean indented base points dating c. 21,000–17,000 BP.

someplace and then...that's it! They just stop migrating.

However, I considered another perhaps more interesting possibility that might be worth throwing into the mix of the Solutrean-Clovis conundrums. That is that if this group of Solutreans in northern Spain—those who made the points in Stanford and Bradley's complete Fig. 5.10 (see thumbnail **Fig. 4**) for instance, were indeed the Ancient North Eurasians that migrated to Northern Spain in the past—what would prevent some of them from deciding to migrate *back* to where their ancestors came from? Migrating back to ones original homeland could have been for religious or any number of reasons. Or perhaps a spontaneity of a type not discussed in our hard-set manner of looking at ancient migrations. I.e. perhaps they moved simply because they became restless living a while in one spot.

In Craig Childs' recent book, *Atlas of a Lost World: Travels in Ice Age America*, he suggests something similar along these lines:

> "The increased genetic presence of the dopamine receptor known as D4 is correlated with restless behavior and what is known as 'novelty-seeking'—the kind of people who are reckless or adventurous, in need of something new."

If the Solutrean/Clovis people did do a reverse migration, when they arrived back in the Mal'ta area, where they originated, and did not find any of their ancestors, they could have then decided to continue migrating East. While there is no direct evidence there is plenty of indirect evidence that most early groups had the skills to make boats. I.e. unless we believe the mainstream story that early people weren't smart enough, there is no logical reason the Solutrean/Clovis people could not have followed the kelp highway to and from North America. See the black arrows in **Fig. 5**.

Fig. 5 There is no reason anthropology has to look at everything from so stiff a view that once an ancient group migrates to another area they then just stop. Some conundrums might be given help by adopting a more open view to perhaps going back where they came from.

This group of Solutreans could have become the people we know as the Clovis people after they reached North America and they refined the Solutrean indented base point design into what we now know as the Clovis point!

All of this, of course, is speculation but that's one way new theories worth investigating further come about. These particular ideas may help explain how the Clovis point suddenly appeared and swept across the North American continent!

Finally, it might sound like a long journey, halfway around the globe, but it really isn't. We in the Pleistocene Coalition have published *many* articles about how little time it actually takes to travel from one place to the next—on foot—around the entire world. Many individual persons have 'walked' across the U.S. multiple times not to mention many people have walked around the entire world! It is old school thinking pushing the idea it takes 'hundreds,' or worse, 'thousands' of years for groups to migrate. There is just no evidence or logical reason to believe it. Clovis culture spread across North American very rapidly with *National Geographic* emphasizing in 2007 that the entire Clovis culture only lasted 200 years! ('Clovis people not first Americans, study shows'). If we lower to outmoded mainstream beliefs, at an average of 120 miles per year it would have taken 100 years from Northern Spain to the East coast of the USA—an average of 0.4 miles per day for the 12,000 mile journey. At an average of 1,200 miles per year it would have only taken 10 years or an average of 4 miles per day.

RAY URBANIAK is an engineer by training and profession; however, he is an artist and passionate amateur archeologist at heart with many years of systematic field research in Native American rock art of the Southwest and other topics. Urbaniak has written over 50 prior articles with original rock art photography for *PCN*. All of them can be found at the following link:

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The Impact of Fossils A paper on Paleolithic fossil collecting and its possible influence on early humans, text pp. 119–120

By John Feliks

"All basic entoptic forms have abundant counterparts in the natural world of fossils."

At the Permian-age seafloor diorama, *Field Museum of Natural History*, Chicago. The author's lifelong study of fossils began c. age 8. Photo May 1962 by V. Feliks.

Click here for the Introductory article describing the paper's suppression by competitive editors and researchers countered by quotations from eminent experts in many fields (*PCN* #61, Sept-Oct 2019).

Click here for Installment 1 (*PCN* #62, Nov-Dec 2019).

Click here for Installment 2 (*PCN* #63, Jan-Feb 2020).

Click here for Installment 3 (*PCN* #64, March-April 2020).

Click here for Installment 4 (*PCN* #65, May-June 2020).

Click here for Installment 5 (*PCN* #66, July-Aug 2020).

The Impact of Fossils on the Development of Visual Representation

John Feliks. 1998. *Rock Art Research* 15: 109–134. [Submitted 1995, 1997, 1998. See *PCN* #61 (Sept-Oct 2019) for the full story of the paper, experts' responses to its suppression, and what this serialized version hopes to fulfill.]

ABSTRACT

The origins of visual representation have been debated primarily in terms of human activity and psychology. This paper proposes that manmade representation was preceded by a natural, already quite perfected representational system, the products of which were observed and collected by early humans. The author suggests the following new hypotheses:

1.) Fossils were a means by which human beings came to understand the concepts of 'imagery' and 'substitution' *prior* to the creation of manmade images.

2.) Humans evolved their own forms of iconic visual representation (especially those in the medium of rock), having first been made aware of various possibilities via fossils.

3.) Many unexplained prehistoric artworks may be structurally and proportionally accurate depictions of fossils.

Because fossils are known throughout the world, the hypotheses have cross-cultural validity. Clinical studies offer the potential of analogical testability.

KEY WORDS

- Iconic recognition
- Depiction
- Prehistoric art
- Rock art sign
- Fossil collecting

PCN *full-text 6th Installment continuing from Installment 5 (after 'Enigmatic prehistoric artworks and fossils side-by-side)...*

PART III

FOSSILS AS REFERENTS FOR AMBIGUOUS PREHISTORIC ICONOGRAPHY

The 'fossil depictions theory' [CONTINUING]

Natural images and 'entoptic' images

Lewis-Williams and Dowson (1988, 1993) and others have offered examples of Neolithic (and some Palaeolithic) artworks which they believe may have been inspired by 'entoptic phenomena' (visual sensations derived from the structure of the optic system). Lewis-Williams and Dowson focus on such patterns as they relate to 'shamanic' trance states. (See also Bednarik's non-shamanic 'phosphenes theory'—overview and references, 1995: 614.) I suggest that if the cited artworks (those associated with the geometric or 'non-iconic' of Lewis-Williams' and Dowson's Stage 1) are removed from the entoptic (or phosphene) context and are viewed instead in the context of palaeontology, it is not at all difficult to see them as iconic depictions of various fossil forms which have long been visible in the natural world. For example, many species of fossil brachiopods and pelecypods display one of the most often cited of 'entoptic' patterns—the zig-zag (including the multiple row zig-zag motif). It is readily seen in the shells of rhynchonellid brachiopods which have been collected by prehistoric people ever since the Châtelperronian, Aurignacian and Périgordian (Leroi-Gourhan 1964; Dance 1975; Oakley 1985; Taborin 1993a).

Without exception, all basic entoptic forms have abundant counterparts in the natural world of fossils. Therefore, alternative fossil images could be given for most of the geometric prehistoric motifs cited as entoptic by Lewis-Williams and Dowson, and others. However, for the purposes of this general overview, only a few examples will be given here.

Compare an engraved megalithic monument in Ireland cited as possibly inspired by entoptic phenomena (Bradley 1988; Lewis-Williams and Dowson 1993) with nummulite fossils (**Figs. 4a, b).** Nummulites are extremely large (often exceeding 10 centimeters) and abundant Eocene foraminifera. They are known in the British Isles where spiral motifs are common, and are 'widely used for ornamental purposes (Fortey 1991: 55-6, 165). That nummu-

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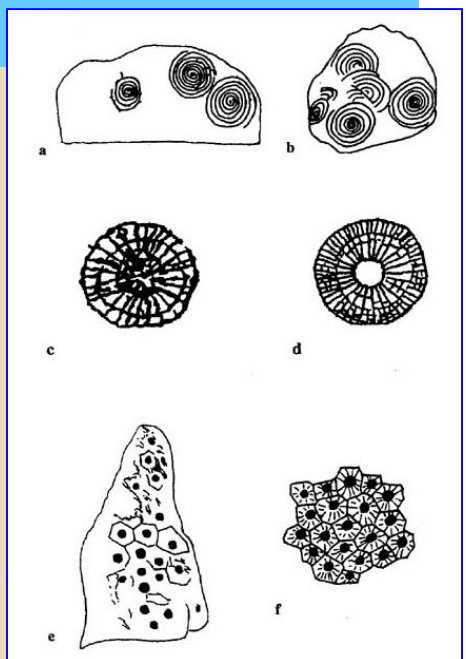

Fig. 4. 'Entoptic' motifs in prehistoric rock art compared with common fossils. (a) Carved megalithic monument, Meath Co., Ireland (after Shee Twohig 1981: Fig. 216). (b) Nummulites, fossils of giant foraminifera (after Fischer and Gayrard-Valy 1978: Pl. 32). (c) 'Complex non-figurative' petroglyph, Sturt's Meadows, New South Wales, Australia (after Clegg 1988). (d) *Eridophyllum*, fossil solitary coral (after Fenton and Fenton 1989: 129). (e) Carved stone monument, Yorkshire, England (after McMann 1980: Fig. 101). (f) *Hexagonaria*, fossil colony coral (after Fenton and Fenton 1989: 133, portion only).

The Impact of Fossils (cont.)

A note on the paper's suppression and later un-cited borrowing continuing to this day

Before anthropology was exposed for destructive academic practices (such as unjustified suppressions and plagiarisms), and started requiring declarations of *conflicts of interest*, competitive theorists acting as reviewers, often anonymously, got away with blocking the work of competitors in the name of 'science.' Editor of *RAR* was an example, denigrating the Fossils paper *as its publisher* in print, and publishing an unscholarly attack-dog reviewer, each because the paper challenged his own 'phosphene theory' being aggressively promoted as the final word on geometric rock art. *RAR*'s anti-science practices have not abated including refusing PDF to *PCN* readers requesting it, and the author prior, part of what necessitated this series.

To learn what more objective scientists thought about the paper and the fads promoted by such as *RAR* and *Current Anthropology* see the Introduction to this series, What the experts really think, including from leading neuroscientists and neurologists (*PCN* #61, Sept-Oct 2019).

"I find myself reacting…by saying, 'It's so obvious; why didn't *I* think of that!'"

–Dr. John L. Bradshaw neuropsychologist.

"Absolutely riveting."

–Dr. Oliver Sacks neurologist, author and protagonist of the film *Awakenings*. The late Dr. Sacks was a long-time subscriber to *PCN*.

lite fossils were noticed by prehistoric people is traced back to Neanderthal and Magdalenian times (Bednarik 1995; Marshack 1991*b*, 1990; Taborin 1993*a*). Nummulite fossils, along with the much-collected spiraled ammonites and gastropods, likely represent the initial referential source for the spiral motifs common in prehistoric art. The fact that a large ammonite adorns the entrance stone of a Neolithic barrow near Bath, Great Britain (Oakley 1978), further supports a 'natural world' inspiration for spiral motifs in megalithic art.

Concentric circles, and radiating lines or filigrees are also known as entoptic forms. However, these very same forms are *common* in rock as fossils, visible primarily as cross-sections of corals, archaeocyathids, and crinoid columnals. Consider the comparison of a New South Wales Aboriginal petroglyph, cited as possibly inspired by entoptic phenomena (Clegg 1988), with the radiating circular structure (septal pattern) of a common fossil coral (**Figs. 4c, d**). The two similar figures Clegg reproduces can as easily be compared with the septal patterns of other species of fossil coral. Clegg's assertion, therefore, that such artworks 'do not look like anything' is simply not true. The fact that fossil corals are abundant in New South Wales (Branagan and Packham 1967; Laseron 1969) suggests that they should be considered as a possible referential source for complex 'non-figuratives.'

Other entoptic motifs consist of grouped dots or cupules, and grouped zig-zag or hexagonal figures. (Manmade cupules are known from Acheulian times in India, and Mousterian equivalent times in Europe and Australia [Bednarik 1993, 1995; Bahn 1997] through to the present.) But these patterns too, are *abundant* on rock in the form of fossils, being most often seen in colonial corals. That such fossils were noticed by prehistoric people is traced as far back as the Acheulian (Oakley 1971, 1981). Consider the comparison of a Neolithic carved stone monument in England with the cosmopolitan colonial coral Hexagonaria (**Figs. 4e, f**).[8]

Continued in PCN *Installment 7**

References for the 1998 paper for this section only follow. This Installment 6 represents pp. 119–120 of the 1998 *RAR* publication.

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*Installment 7 in the next issue is the section called:

Complex enigmatic images and trilobites

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[8] Earlier drafts of this paper (excluding 1993–1994) explored the compatibility of the 'fossil depictions hypothesis' and Lewis-Williams' and Dowson's neuropsychological model.

The Pleistocene Coalition

Prehistory is about to change

- Learn the real story of our Palaeolithic ancestors—a story about intelligent and innovative people—a story which is unlike that promoted by mainstream science.
- Explore and regain confidence in your own ability to think for yourself regarding human ancestry as a broader range of evidence becomes available to you.
- Join a community not afraid to challenge the status quo. Question with confidence any paradigm promoted as "scientific" that depends upon withholding conflicting evidence from the public in order to appear unchallenged.

PLEISTOCENE COALITION NEWS, Vol. 12: Issue 5 (September-October)

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***Pleistocene Coalition News* is produced by the Pleistocene Coalition bi-monthly since October 2009. Back issues can be found near the bottom of the *PC* home page.**

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The Pleistocene Coalition celebrated its eleven-year anniversary September 26, and the anniversary of *Pleistocene Coalition News*, October 25. *PCN* is now in its twelfth year of challenging mainstream scientific dogma.