THE JOURNAL OF THE SOCIETY FOR THE INVESTIGATION OF THE UNEXPLAINED

PURSUIT®

VOL. 12 No. 2 WHOLE No. 46 SPRING 1979

THE SOCIETY FOR THE INVESTIGATION OF THE UNEXPLAINED

Research (members only) and legal address
SITU
P.O. Box 265
Little Silver, NJ 07739
Telephone (201) 842-5229

Membership/Subscription information
SITU
Membership Services
R.F.D. 5
Gales Ferry, CT. 06335

Editorial Office
SITU/PURSUIT
2008 Spencer Rd.
Newfield, NY 14867

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Our publishing schedule is four (quarterly) issues of PURSUIT, dated Winter, Spring, Summer and Fall, and numbered as annual volumes — Vol. 1 being 1968 and before; Vol. 2, 1969, and so on. Membership and our quarterly journal PURSUIT is $10 per year. Subscription to PURSUIT, without membership benefits, for libraries only, is $8 for 4 issues. Order forms for back issues will be supplied on request.

PURSUIT is listed in Ulrich's Periodicals Directory and in the Standard Guide to Periodicals. It is also available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106. The price is $4.10 per reel. An annual index appears on the back cover of the Fall and Winter issues.

'SCIENCE IS THE PURSUIT OF THE UNEXPLAINED'

VOL. 12, No. 2
SPRING, 1979

PURSUIT®

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Production
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Cover designed
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**THE JOURNAL OF THE SOCIETY
FOR THE INVESTIGATION OF THE UNEXPLAINED**

FOUNDED BY IVAN T. SANDERSON

Devoted to the Investigation of "Things" that are Customarily Discounted

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WATER MONSTERS OF THE MIDWESTERN LAKES

By Gary S. Mangiacopra

AMONG the many unpublished notes of the late Charles H. Fort was a reference to a one page article in the *Chicago Tribune* for Sunday, July 24, 1892, recounting no less than ten reports of lake monsters sighted in the states of Michigan, Wisconsin, and Minnesota.[1]

The superficial researcher and writer would have taken such newspaper accounts at face value, without any investigation or confirmation as to whether or not the incidents had actually occurred; but the hardcore Fortean, who knows the importance of careful research — especially when one is dealing with published accounts of an age of 90 years, is concerned more with the accuracy and detail of these reports. Each of those alleged lake monster accounts will be reprinted here in its entirety, and will be followed by the results of my own investigations.

I. THE LAKE MENDOTA AND LAKE MONONA MONSTER

"Though Madison's [Wisconsin] sea serpent has been seen on numerous occasions during the last few years and its existence vouched for by many respectable citizens, Billy Dunn, perhaps the most famous of Madison's fishermen, has alone been accorded the honor of having a hand to hand conflict with the monster. It happened in this wise: On a warm day in June in 1883 Dunn, accompanied by his wife, was quietly fishing in Lake Mendota near what is called Livesey's Bluff, when he noticed a black object moving threateningly towards the boat. As it came nearer, the outline of a large snake was discernible, the head of the reptile being raised for several feet in the air, the forked tongue darting fiercely backwards and forwards, and the water in the vicinity being considerably disturbed. Dunn was equal to the occasion and seizing an oar awaited the attack. The serpent, with a fierce hiss, sprang upon the boat, but only to fall back partially stunned by the well-aimed blow of the fisherman. The oar could not be withdrawn, however, before the coils of the snake had surrounded it with their firm embrace, and the reptile, recovering from the blow, had darted its long black fangs entirely through the blade. Now was Dunn's opportunity, and as the monster was struggling to disentangle its teeth from the wood, he rained blow after blow upon it with a hatchet he carried by his side, until the snake gave up the contest, uncoiled itself, and sank beneath the waters.

"Dunn still keeps the oar with some of the huge black fangs of the snake imbedded in it as a memento of his terrible experience.

"Dunn will not trust himself to guess at the length of the reptile. He says that it was of a light greenish color and covered with large white spots."[1]

INVESTIGATION RESULTS

My inquiry to the Madison Public Library resulted in my receiving two articles from the *Wisconsin State Journal;* I was informed that the Wisconsin State Historical Society had no further information on these subjects.[2]

One of the articles, dated June 28, 1883, confirms the original account as a rendering of what allegedly occurred, but added some information that was omitted in the initial article.

The precise time of the incident was reported as 11:00 a.m. the morning of June 27. Apparently, the head of the animal was raised two feet or more above the surface of the "perfectly placid" water, which was nevertheless disturbed for some distance to the rear of the creature, thus indicating the animal was of a considerable length.

The animal, we learn, was many feet long and several inches in diameter, and its color was a light shade, with white spots about three-quarters of an inch in length, while the tongue was jet black and very long.

As to the ultimate fate of the oar with the animal's huge black fangs protruding from it, it was purchased by a Chicago drummer and could be seen in one of the prominent museums of Chicago.[3]

Surprisingly, the second article I received in answer to my inquiry concerns another lake monster sighted June 11, 1897 in nearby Lake Monona:

"The Monona sea serpent has made its appearance about two months earlier than usual this season, according to several people in the vicinity of East Madison who aver that they saw the monster last evening. They say it was at least 20 feet long, and traveled east on the surface of the lake until Eugene Heath, agent of the Gaar-Scott company, fired two shots at it when it turned and came back; at this juncture either the snake or the spectators appear to have disappeared. It is probably the same animal which is credited with having devoured a dog which was swimming in the lakes a few days ago.

"Mr. Schott and others who saw the 'thing' whatever it may be, insist that it is a reality and not a joke or a creature of their combined imaginations. Its appearance is not of a serpent though none of them cared to make a close investigation. Mr. Schott says, however, that he saw it plainly in the bright moonlight, and its shape was like the bottom of a boat, but that it was about twice as long. It traveled with a portion of its back out of water, and went through the surface at a high rate of speed, especially after being shot at. Mr. Schott's two sons saw it, and were so firmly convinced that it was a dangerous animal that, when soon after two ladies desired to be rowed over to Lakeside, neither of the Schotts, who have spent a large part of their lives on the lake, would venture out."[4]

Thus we find two possible lakes which may contain species of water animals of an unknown variety. Further investigation may prove rewarding.

II. THE MUSKEGON, MICHIGAN, LAKE MICHIGAN MONSTER

"The mystery of the collusion of the three masted schooner *Cheney Ames*, with the south pier at this harbor is being cleared up. It will be remembered, as told in these dispatches, that the boat on entering the harbour suddenly became uncontrollable and was dashed against the sharp corner of the pier and received a rent which shortly afterward sent her to the bottom. When the crash came Ed Maloney, a seaman, comprehended the situation at a glance and seizing a piece of tarred canvas sprang over board, when, with superb prowess and bravery, he succeeded in placing the cloth over the opening, the pressure of the water holding it in place. This almost unexampled and strategic movement kept the Ames afloat until she went down in shallow water several hundred feet up the channel. Maloney was immediately hurled by a heavy sea aft and beneath the vessel. His companions had no fear for his safety, for the tar can swim and dive like the disputed Alaskan seal. He passed entirely beneath the vessel, coming to the surface abaft the stern on the opposite side. Contrary to all expectation, instead of striking out and swimming ashore, he acted as one stunned or paralyzed, and when he had drifted to the pier he was hauled in more dead than alive. He quaked in his dripping boots and his face was bleached with subject terror. Recovering his breath, or more particularly his wits, he told a marvelous story, yet one in corroboration of other stories and rumours current hereabout. In brief, his story was that in passing beneath the vessel he glanced through the water as a man would through open air and beheld the sight which froze his blood and dried up his fountains of speech. Lodged between the wheel and rudder of peculiarly constructed schooner, and coiled several times about the rudder was a serpent full sixty feet in length. Its jaws, in which gleamed ferocious fangs, were distended, and the gleaming bead-like eyes of the beast looked earnestly into the eye of the sailor as he passed. The lower part of the body was yellowish, pink and white, while the upper portions of the reptile were glossy black. The wheel had cut a gash in its side, from which the blood spurted and discolored the water in the wake of the vessel. Before Maloney had told his story the monster had freed itself from the trap of the rudder and wheel and plunged into the depths of the lake. As soon as the rudder was unobstructed it responded to the efforts of the nonplussed and tugging wheelsman, and the disabled schooner was thrown to the north side of the channel and in a few minutes sank.

"Referring to this sea monster, William Dixon, superintendent of the water department, said when he saw it at about 2 o'clock, or an hour before the wrecking of the vessel, it was floating in toward the harbor in spiral shape, or as a huge, inverted corkscrew. Then it changed its position to a mammoth yet graceful interrogation point. Mr. Dixon had reported sighting the serpent before it became entangled with the ill-fated *Cheney Ames*.

"The presence of this mighty reptile, followed so closely by the unusual auroral display, has caused some nervousness on the part of summer tourists at Lake Harbor, and the coast is constantly patrolled in hopes of catching a glimpse of this terror of the lake."[1]

INVESTIGATION RESULTS

This is a rare instance in which the witness is mentioned as being beyond question, and did, in fact, exist; and the *Cheney Ames* did suffer damage which caused her to sink — but the reported lake monster nevertheless seems to be lacking in actuality.

The real reason as to why the vessel became uncontrollable was due to a strong wind — almost a gale — from the north, creating treacherous seas as the ship attempted to make it to the harbor by a straight run with the wind at her side, with some towing assistance from the tug *Annie L. Smith*. Just as the vessel had reached the point opposite the end of the south pier, the wind apparently drove her against the corner of the pier, thus causing a large hole to appear in the side of the ship.

It is obvious that Edward Maloney did dive over her side and did assist in stretching a canvas over the hole, allowing the water pressure to keep the canvas in place until the ship could be towed further away before she sank, probably due to her cargo of 575,000 pounds of portage red entry building stone: but there was at the time no mention published of the alleged lake monster which had caused the accident and which must therefore be considered as a hoax!

The mention that the "presence" of the reptile was followed closely by an unusual auroral display — if that observation by the writer of the article can be confirmed from other sources, may well deserve further investigation, but in general, regarding this case it can be proven that although the crew member and the ship existed, the lake monster probably did not![5,6,7,8]

III. THE LAKE GENEVA MONSTER

"The citizens of Lake Geneva and the thousands of people around its banks are in a state of intense excitement. They are flocking to the shore in groups and stand there by the hour peering intently out into the lake. No matter if the sun does pour his hottest beams down on their devoted heads, no matter if their earnest endeavors resulted in burned faces or ruined complexions — such things are but trivial affairs at this time and are the last to be considered or given any heed. All this confusion and constant scanning of the waters of our lake may be explained by the discovery that the sea serpent which we read about in natural history as only a myth, is an actual living thing. It was seen yesterday [July 22, 1892] by a couple of boys, who were fishing with Ed Fay, over on the south shore, near the residences of Prof. Swing and J. Van Inwagen.

The boys were trolling for bass, having had good luck, and were just about to start for the city when suddenly there arose out of the water within a few rods of the boys the monstrous head of a huge serpent with large, fierce-looking eyes and wide open mouth in which they could plainly see several rows of sharp hooked teeth. The head arose about ten feet out of the water and came slowly towards the boat in which the boys were huddled, almost palsied with fear. They could plainly see the scales on the neck of the reptile or fish glisten in the evening sun. It seemed to be of a light-green color on the breast or belly, which turned darker towards the back, which was nearly black. The boys began to think they could hear Gabriel's

trumpet and that they were to pass to their reward through those gaping jaws which seemed about to close upon them.

"When the serpent got within a few feet of the boat he suddenly turned and went out towards the middle of the lake. He also seemed to throw himself out of the water so that the boys are ready to swear they saw as much as 100 feet of his body clear of the water and in the largest part it must have measured three feet in diameter.

"As soon as the boys could gather their senses they started for the city as fast as they could pull their boat and it will be many a day before they venture on the water again. When last seen the serpent was still carrying his head out of the water and slowly moving up the lake towards Keye's Park."[1]

INVESTIGATION RESULTS

My inquiry to the Lake Geneva Public Library received the following response: "We have been unable to find any information on the monster supposedly sighted in Lake Geneva in 1892. We checked our local history books and clippings files, as well as copies of the newspaper for June, July, and August of that year. There was no mention of such an event."[9]

Considering the "thousands" of persons who were along the banks awaiting a glimpse of the monster, and that such an occurrence would surely have received notice in the local newspaper, it must be concluded that this incident, too, is likely a hoax.

IV. THE PETOSKEY LAKE MICHIGAN MONSTER

"A party of tourists out in a sail boat on Lake Michigan about twelve miles from here, were having a good time the other day when one of the party on looking ahead saw what looked like a huge mass of tumbling waves. He called the attention of his companions to it and upon coming a little closer they saw a monster sea serpent sporting in the water. It would lash the water into foam for a great distance, roll and tumble about, and then for a moment lie perfectly still, when its shape and size could be easily seen. At times it would dive down and remain under for a few moments and then reappear a short distance away. Then again the monster would raise itself almost entirely out of water when its ugly looking fins were to be plainly seen. Finally the monster gave three or four terrible lashes with its immense tail and sank out of sight. Its estimated length is from sixty to seventy-five feet and fully four feet in diameter of the body. Its head could be easily seen and its vicious-looking eyes were as large as dinner plates. The monster jaws were of immense size and fairly bristled with ugly, sharp teeth. The color was a sort of dark brown, which grew lighter toward the tail. Its body was tapering like a snake's, but was not very long for its size. The water was quite calm, and there was but little wind and there can be no doubt that the people saw what they claim."[1]

INVESTIGATION RESULTS

The following response came in answer to my inquiry to the Petoskey Public Library: "I regret to inform you that our newspapers only go back as far as 1893, and we therefore cannot send the information you have requested."[10]

It is my feeling that the incident reported should be regarded as a possible lake monster sighting until further information can be located to either prove or disprove it.

V. THE LAKE MONSTERS OF THE OCONOMOWOC, WISCONSIN, REGION

"At intervals for a number of years an immense fish has been seen in Lake La Belle, Fowler, Oconomowoc and Okauchee, and especially in Fowler. Rumor has even had it that there was a sea serpent in these lakes, but however that may be, there is very good authority for the belief that they do contain some very large specimens of the buffalo fish. One day in June, 1886, Mr. C. I. Peck saw in Fowler Lake a very large object and went towards it in a boat when it disappeared, but soon after came to the surface again for a moment. It seemed to be fighting something. It was a fish and that portion exposed to view appeared to be about 4 feet long. The whole length was probably 8 feet and the weight sixty or seventy pounds. This was said to be its first appearance since ten or fifteen years before, when it was quite familiar object in that lake, a favorite camping ground between Church Point and the dam. It was then called the grandfather of all the fish in Fowler Lake. Last fall a fisherman while spearing fish in Okauchee Lake claims to have seen a buffalo fish six feet long and weighing 80 to 90 pounds and having scales as large as silver dollars. The buffalo fish is said to be very hard to capture and although there have been exceedingly big catches in each of our lakes, the chance remains for some expert fisherman to break these records by bringing [in] the grandfather. Since the lake opened this spring, and as late as a few days ago, several persons have often seen in Fowler Lake, near Church Point, a strange looking object which, from its long serpent-like tail, some have taken to be an otter. Others think it is a beaver they have seen. There used to be beavers in these lakes, and there is now an old beaver dam between Oconomowoco and Nashota Lakes."[1]

INVESTIGATION RESULTS

The Oconomowoc Public Library answered my inquiry as follows: "I have been unable to find anything definite for you regarding a lake "monster" or immense fish sighted in the lakes around here during the late 19th century. Oldsters say they have heard of this story, but nothing more definite."[11]

The reply coming from the Waukesha County Museum contained some additional information: "We have searched the *1880 History of Waukesha County, The Waukesha Daily Freeman Centennial* publication, our "lakes and localities" files as well as our historical information files without finding any references to such a fish having been sighted in any of the lakes in Waukesha County.

"A 'gag' postcard is enclosed, but this was apparently meant only as a joke, and no mention of any 'sightings' are found."[12]

The postcards, circulated about fifty years ago, were captioned: "We went out and caught a small one for breakfast — Okauchee Lake, Wis.," and showed a boat containing two fishermen, one of whom had in his hands a fishing pole with a gigantic fish at the end. The second

card, of Lake Keesus, showed two men running from the shore, being chased by two enormous fish with teeth.[13]

There is circumstantial evidence that the lake creatures cited as monsters may be a species of fish which simply grew to an enormous size.

VI. THE LAKE MINNETONKA MONSTER

"Fond mammas who allow their funloving offspring to disport themselves along the lapping waters of Lake Minnetonka have had cause for anxiety of late. A sea serpent that is more than a serpent — a huge, composite monster combining the shapes and characteristics of snake, toad, and turtle — is found to inhabit the lake. His appearances are rare, occurring only at night. The few who have been at once privileged and horrified to behold this uncanny reptile describe it as of great length, and of all the fantastic hues of Joseph's coat. It is a cyclops, its one green, blazing eye being located midway between the forehead and nose. Its length approximates thirty feet. The lower part of the body is shaped like a turtle. This portion is flat and nearly round, being some ten feet in diameter, with a row of short, stubby legs on each side, armed with sharp claws, like the turtle, alternating with other and much longer legs, which are found only among the batrachian scales. Overlapping this turtle body some five feet in front and twice that length behind writhe and twist the sinuous folds of the purely serpentine portion of this anomalous creature. It has no scales, but is completely armored in a series of wart-like bunches as large as a man's head and varying in color from white to black, with all the intermediate shades of blue, purple, yellow, and green. It wears no mane, but tufts of hair of all imaginable colors occur at frequent intervals on every side from head to tail, and below the wide jaws appears a long, bushy goatee of coarsest fiber. Its jaws are furnished with broad, pointed teeth, and in and out between these rows of glistening bone plays the red, bifurcated tongue with amazing swiftness. The monster's mode of propulsion is a curious cross between the ordinary snakelike natation and the awkward paddle of the turtle, but its speed is remarkable. When suddenly and without premonition this most horrible hybrid rises to the surface, its vocal organs emit a peculiar noise, half roar and half scream and hiss which, added to the tumultuous lashing of the water with the restless tail, produces a most startling effect upon the ear.

"Almost as strange as the monster itself is the origin to which its existence is ascribed by the superstitious. More than forty years ago Edmond Dornier, an old French settler, inhabited Crane Island, in Lake Minnetonka. Dornier had a lovely daughter of 19 who, while fishing in a canoe off the island, was thrown into the water by the upsetting of the tricky craft and would have drowned had not Mehawanta, an old Indian chief, witnessed the mishap. The brave scout swam out and brought the perishing girl to the shore. Tenderly laying her on the sward, Mehawanta began the work of resuscitation. While thus engaged Dornier, who was a hundred yards away, had not witnessed the accident and was ignorant of the true situation, lifted his rifle and shot the old chief dead. Terrible was the father's despair on discovering his awful mistake, and from that time until his death was his every waking hour tormented with the most poignant grief. The great serpent turtle of Minnetonka is supposed to be the material embodiment of old Dornier's remorse."[1]

INVESTIGATION RESULTS

The Excelsior-Lake Minnetonka Historical Society was unable to provide any further information in regard to this alleged monster, which should, in all probability, be considered a hoax.[14]

VII. THE MACKINAC ISLAND MONSTER OF MICHIGAN

"On the western end of Round Island there is a crescent-shaped bay with a shelving sandy bottom. On warm days you can see a few bathers splashing in the sun. Sometimes when it is very clear, from over here on the veranda of the Grand Hotel you can see the waters gleam.

"Today a young lady on the beach put her hand to her eyes and fainted. She had been admiring the grand view of the strait and she dropped her field glasses; she did not cry out, she only pointed toward Round Island and then bumped her head against her sister's shoulder. There were only five persons in the group, and as two of them ran to the edge of the water for a handful to help the young woman, they looked in the direction she had pointed. With the naked eye it looked like splashing corks. With the glass it looked like men hurriedly scrambling for the shore.

"It is a bare mile from Round Island to the wharves and in a half hour the bathers were back in the sail boat which bore them over. They looked very glad to get back. To the excited group which met them at the docks they told strange tales and, for these settings, certainly a new one. They did not seem to want everyone to hear.

'Long as from here to the shed!'

'No, to the gate!'

'Looked like a huge snake.'

'Black and oily.'

'Nearly got Jimmie.'

"Anyone could tell that they were frightened and that very severely. It was equally certain that nothing of cool facts could be then obtained.

"This evening at the cottage of his father John Benem Stevenson, J. Frederick Stevenson has just made a statement to this effect: A party of young men (declines to give the names of the others), principally from the Eastern bluff cottage, went bathing. They have several times gone this year, as today, in a Mackinaw boat. They left the water hurriedly in a fright caused by the appearance of some kind of a monster in the form and general appearance of a huge snake. The creature did not attack them or come toward them, as was perhaps said when they landed at the dock, but it came near enough to one of the party, who was at some distance from the land, to seem so. It was taking its own course, which seemed to be in a southeasterly direction, towards the mainland, and without apparently noticing the presence of the bathers.

"Mr. Stevenson further says that he is acquainted with sea serpent lore and has often heard them described. This creature, he affirms, whatever it is, did not possess the traditional fiery-eyed dragon head, nor had it any fins or any coloring, so far as he could see, but was black and

oily and made a singular whirring noise as it passed. It seemed to be in every way except its enormous size similar to a snake in appearance and in the manner it traveled. The most striking and startling thing was the peculiar noise it made, sounding like the ringing buzz of some machinery.

"Mr. Stevenson is very cool and deliberate — almost reticent — in his statements and seemed not at all solicitous for hearers or anxious for credence.

"Though it happened over three hours ago, scarcely any one on the island has heard of the strange event.

"The young lady who fainted has now entirely recovered, but refuses to say a word on the matter. But that she saw something that frightened her is a certain, which proves that it must be large to be seen by a field glass at a distance of a full mile. That her feminine instincts were excited when the thing came near a certain young man is also certain. Which doesn't prove anything, her young friends say, but they don't want her name published."[1]

INVESTIGATION RESULTS

From the Detroit Public Library came this reply: "No records of the nineteenth and twentieth century reports of the Great Lakes monsters of which you write in your letter was located in the files and indexes of the Burton Historical collection."[15]

This incident must also be suspected as a hoax.

VIII. THE ST. CLAIR, MICHIGAN, MONSTER

"Capt. Jenkins of the steambarge *Fenton* reports that in crossing Lake Erie he sighted what appeared to be a wreck of some kind. Approaching it, the thing was seen to be a huge serpent about thirty feet or more in length. The tail of the monster was laterally compressed, thus adapting it to the same purpose in locomotion through the water as the caudal fin in fishes. The head was nearly a foot in length, the nostrils being placed not as in ordinary serpents, at the end of the snout, but above; and the eyes, blazing like two balls of fire, were about two and a half inches in diameter. The neck was very short and thick set and the mouth, turned upward instead of forward, was of huge cavernous dimensions, when the animal opens its jaws so as to display its forked tongue. The color was black with yellow white bands on the body and white patches upon the head.

"On passing the huge reptile it was observed to rear its head and neck out of the water and fall into the wake of the boat as if in pursuit of prey. For twenty or more miles the chase continued, the serpent equaling the speed of the steamer and swimming gracefully most of the time with its head and neck only out of the water, but occasionally rearing upon its abdomen so that it seemed to stand up straight above the water for about fifteen feet, as if to take a survey of the deck and see if there was any prey there worth seizing. At intervals the animal approached the ship closely and, rearing up, as it were, on its haunches seemed disposed to dart on board and seize some of the persons on deck. At such times the experience was thrilling in the extreme. Nevertheless it gave the opportunity to observe the situation of the serpent's nostrils, the conical shaped teeth pointing backwards in the open mouth, and the reddish color of the abdomen. Finally, after about twenty miles were thus passed, the huge monster as if wearied, or deeming further pursuit hopeless, abandoned the chase and swam gracefully away."[1]

INVESTIGATION RESULTS

A reply came from the Buffalo and Erie County Public Library: "We are sorry to inform you that we cannot locate any articles concerning a lake monster in Lake Erie in 1892.

"The film for the local papers was checked for the dates given plus dates on either side.

"Also, we tried the almanacs and local history files for that year.

"There are many books on sightings of monsters but nothing we can identify with Lake Erie. Neither do the names of Captain Woods and Jenkins appear."[16]

This incident, therefore, must be considered suspect. Another possible hoax?

IX. THE DEVIL'S LAKE MONSTER

"Three years ago in the month of August the pleasure seekers that were enjoying the delightful climate and grand scenery of Devil's Lake were startled by the report that a huge sea serpent had been seen in its waters. The excited state in which the narrators returned from their adventure, together with the similarity of the accounts of each, convinced every one of the truthfulness of their tale, and for a time none but the bravest dared to venture on the lake. After these adventurers had departed the story soon came to be looked upon as being composed of stuff that dreams are made of, or was explained as resulting from a practical joke played by those [who find] that 'Satan finds some mischief for idle hands to do.'

"It seems, however, that the matter is not to be passed over so lightly. The original discoverers of the reptile were a party of young women or girls, who, of course, fled at first sight of the monster, but last evening about 8 o'clock not only one but two of their snakeships were seen by four men while out fishing. The names of these observers are: Col. B. C. Deane, a person of unquestionable veracity; L. E. Hoyt, J. B. Cundall, and F. E. Shults, and from the first named the writer gets the following account:

"The party was fishing at the southwest part of the lake, near the marsh and having good luck at that spot concluded to anchor their boats and set their lines. They had done this, and were about to partake of refreshments when a peculiar rippling of the water was noticed about 100 feet distant. Up to this time the water had remained perfectly placid, and this strange disturbance attracted their attention. Gazing in that direction they soon saw the head of an immense reptile as it appeared above the water where the disturbance was first noticed. At first the head was barely visible above the water, but gradually it rose until it stood fully six feet out of the water, and to the part of the body that was at the surface of the water two large fin-like paddles were attached. The reptile did not seem to take the least notice of the fishermen, but its large head swayed from side to side, looking in an opposite direction as if in search of something.

"It was not long before the object of its search appeared. It was nothing less than a second sea serpent of exactly

the same description. The second one made its appearance in the same manner as the first. She stood motionless for a few seconds and then the first one made a terrific plunge toward the other and the two serpents were in mortal combat. They lashed the water to such an extent that the waves came near swamping the boats and the party, pale as death, cut them loose and rowed ashore.

"Today a party of hunters was organized and started in search of the monsters."[1]

INVESTIGATION RESULTS

I was unable to locate any information about this incident, and feel it should be regarded as a possible sighting. Additional research is needed.

X. THE CHICAGO MONSTER

"Capt. McKee of the two-mile crib got up early the other morning. His rest had been disturbed by bad dreams, and he thought a little of the early morning lake breeze would do him good. Day was just breaking, the rising sun tinting the eastern horizon with a glory peculiar to this particular spot on the Western Hemisphere. He, Capt. McKee, not the sun, sat down on a guard rail and surveyed the sleeping city before him. Thin columns of smoke, genuine Chicago smoke, forerunners of many columns, both thick and thin, curled lazily skyward. The surface of the lake was calm, despite the northwest wind that had been actively at work the night before, yet little white caps marked the breaking of the water along the pier and shore.

"The Captain turned his gaze away from the homes of men and toward the ball of flame and the path of fire it cast across the bosom of the lake. Something strange caught his eye. It looked like a big wave, not whitecrest or breaking, but a solid wall of water moving slowly in the direction of the crib. On it came, and as it approached the Captain took a great deal of interest in it, when within 500 feet the wave seemed to disappear, only to reappear again in circular form. Running into the office the Captain procured a marine glass, and focusing in on the object, for he hardly believed it to be a freak of wind and water, saw that it had life and form.

"Now the Captain is a man who does not swallow every fairy tale, and during his stay has frequently laughed to scorn stories about sea serpents, but this apparition dashed his skepticism to pieces, for what the eye sees the mind believes, and there before him, lashing the water with its tail, was a serpent fully 180 feet long.

"The monster halted within 200 feet of the crib, raised its head thirty-one feet from the water, and slowly surveyed its surroundings. Its head was like that of a Gila monster, flat and broader at the gills than at the snout. In color it was yellow and black, something like designs worked by kindergarten children in beads. Its eyes, plainly visible through the glass, were pinkish and seemingly small in proportion to the immense size of the beast. Above the eyes protruded horns three feet long. They were whitish gray, like dirty ivory.

"But the most marvelous thing about the animal was its glorious crop of auburn whiskers. They were long and curly, and could Senator Peffer have seen them his soul would have been torn with feelings of chagrin and envy. As the monster shook his head the flying spray from his whiskers reached the crib and soaked Capt. McKee to the skin. With intelligence almost human the reptile turned its tail around and for four minutes combed and stroked the hairy tangles that fell from the hideous mouth.

"The animal body was scaly, but without the wings generally accredited to the sea serpent. The tail was forked and a blow from it seemed almost as powerful as those delivered by whales when the harpoon enters their blubber.

"Apparently satisfied with the scrutiny of the crib and its surroundings, the serpent cooly turned on its heel and walked away.

"So did the Captain."[1]

INVESTIGATION RESULTS

So should the reader. I was unable to locate any further information concerning this incident.

CONCLUSION

Of the ten reported incidents concerning various alleged lake monsters, only three lakes — Mendota, Monona, and Oconomowoc — seem likely prospects for harboring within their waters a species of unknown animals; and in the latter case, the "monster" is most likely a gigantic species of fish.

The Muskegon incident is in all likelihood a definite hoax, in which the shipwreck and the attempts to keep her afloat are accurate; but the mention of a lake monster is completely lacking from any of the accounts published locally.

The remaining lake incidents, due to the lack of corroborating information, must be questioned as probable hoaxes — perpetuated perhaps, if not perpetrated, by the writer of the *Chicago Tribune* article.

My article has been written for the sole purpose of bringing into the present Fortean perspective a number of historical incidents, along with any further information which I might have been able to acquire. Personally, I do not consider my findings the final word on the history of these lakes and their possible contents; my intention is simply to lay a foundation for inquiry on the part of other researchers who may be able to carry on the work of investigating other forgotten sightings published in local newspapers.

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LAKE MONSTERS

Compiled by Joseph S. Haas, Jr.

NORTH AMERICA

Alaska
- Lake Iliamna: 3,9
- Raspberry Strait off Kodiak: 3

Arkansas
- Lake Conway: 7
- White River: 6,7

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- Lafayette Lake: 7

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- St. Lucie River: 7

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- —other mtn. lakes: 9

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- Lake Memphremagog: 11

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- Devil's Lake: 1
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- Madison Four Lakes: 2,9
- Lake Mendota, in Madison: 10
- Mississippi River: 2
- Lake Monona: 9
- Lake Pewaukee: 6,9
- Red Cedar Lake: 2,9
- Red Cedar River: 2
- Rock Lake: 9
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- Lake Superior: 2
- Lake Waubeau: 2,9
- Lake Winnebago: 2
- Yellow River: 2

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- Hutton Lake: 1
- Lake La Metrie: 7,9

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- Lake Winnipegosis: 2,9, 10,11,14

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- Lake Memphremagog: 11 (see Vt.)
- Lake Pohengamok: 9

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- Skiff Lake: 1
- Lake Utopia: 3,7

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- Lake Victoria: 9,10

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- Orange River: (2), 9
- River Vaal: (2), 3

ARCTIC CIRCLE

- Bear Island's Lake: 9

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- Lake Bathurst
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- Murray River
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- Murrumbidgee River

Victoria
- Lake Burrumbert, Ballarat
- Lake Corongamile
- Eurora district

—*And*
- Lake Alexandria
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Krodern's Lake
Krovatnet's Lake
Lake Lunda
Lundevatnet's Lake
Mannesfjord
Lake Mjosa
Mosvatnet's Lake
Odegardskilen's Lake
Orekram's Lake
Ormsjoen's Lake
Oyvanna's Lake
Repstadvanet's Lake
Ringsjoen's Lake
Lake Rommen
Sandsavanet's Lake
Skodje's Lake
Lake Snasa
Sogne's Lake
Sorsasjoen's Lake
Sor Somna Lake
Storevatn's Lake
Stuvsfjordhylen's Lake
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*Caledonian canal

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The author would be interested in hearing from other members wishing to share information concerning lake monsters. Write: Joe Haas, Jr., P.O. Box 447, Lincoln, NH 03251, USA.

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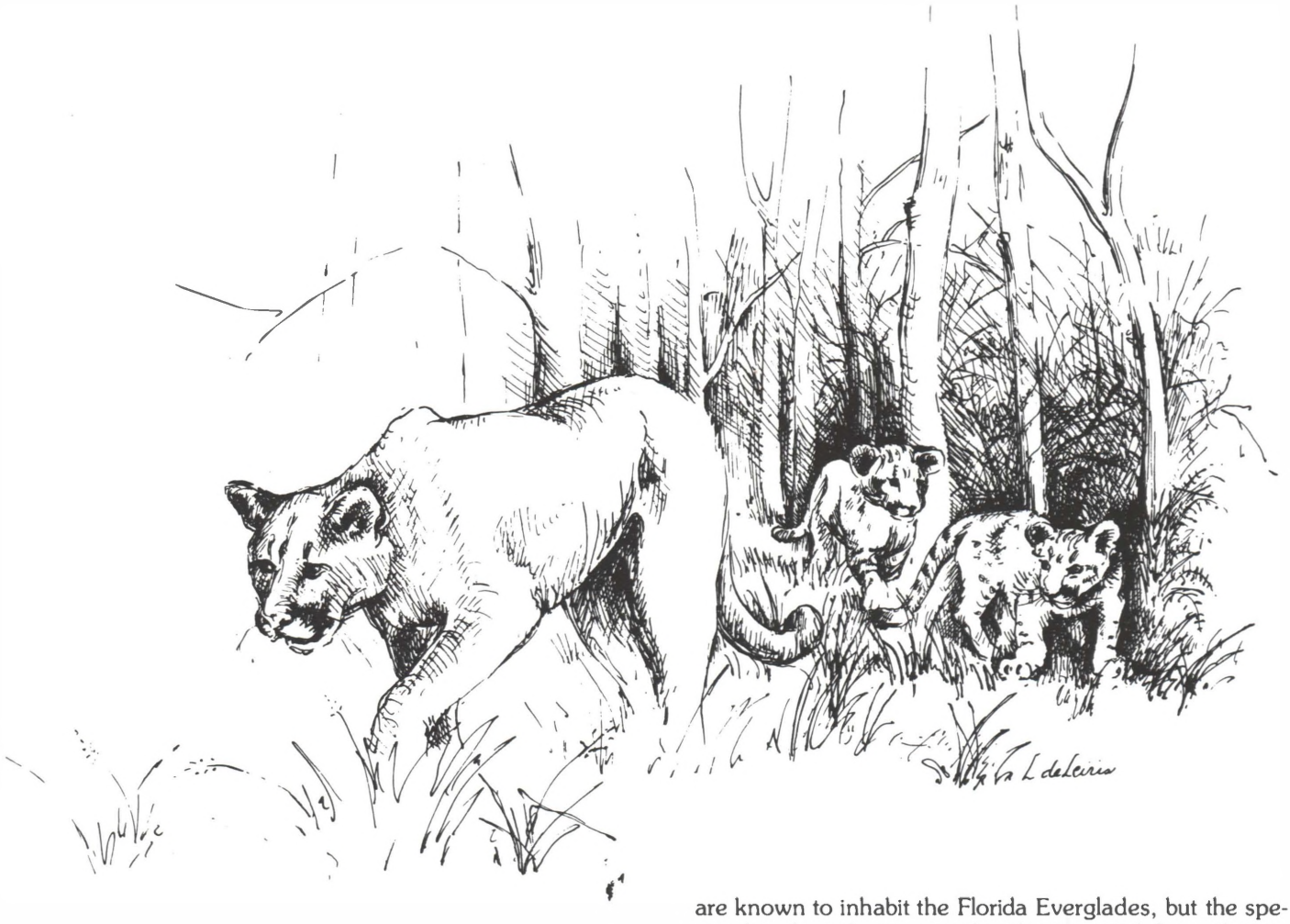
IS THE PANTHER MAKING A COMEBACK?



By Susan Power Bratton

Drawings by Lucia De Leiris

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SHE walks quietly, as if she were totally aware of her own magnificence. Two spotted kittens follow behind her, a rambunctious contrast to their cautious mother. Weaving down the mountainside, they step into a clearing. Several picknickers suddenly see something that is not supposed to be there, and everyone stares in awesome disbelief as the mountain lion family slowly crosses a road in the middle of Great Smoky Mountains National Park. Did these lucky park visitors really see a lion?

The eastern mountain lion, known in the Appalachians as the panther (often pronounced "painter"), is now nationally endangered. The species originally occurred throughout eastern North America, but extensive hunting and destruction of its wilderness habitat resulted in a severe reduction of the lion population. A few panthers are known to inhabit the Florida Everglades, but the species has long been considered extirpated from the remainder of the eastern United States. In the early 1900s both the eastern timber wolf and the mountain lion were pronounced extinct in the Southern Appalachians. Although occasional sightings of big cats continued through the thirties, forties, and fifties, most of these reports were met with skepticism and were attributed to too much corn liquor and an overeager imagination. Recent evidence indicates, however, that this fascinating animal not only may be living in the Appalachians, but could be slowly increasing in numbers.

Ben Sanders, of the U.S. Forest Service, was one of the first biologists in the area to realize that the panther might well be recovering part of its former range and that its endangered status would make proper management of the species a critical issue on federal lands. Sanders began to investigate sightings himself and urged other wildlife managers to do the same. Perhaps the incident that most spurred the effort was a widely reported sighting in 1975 in Pisgah National Forest, North Carolina, where a group of visitors saw a female with kittens cross the road in broad daylight. Most of the witnesses could describe the animals exactly, down to the dark tip on the mother's tail. The panther was later seen again near the same site by a Forest Service employee.

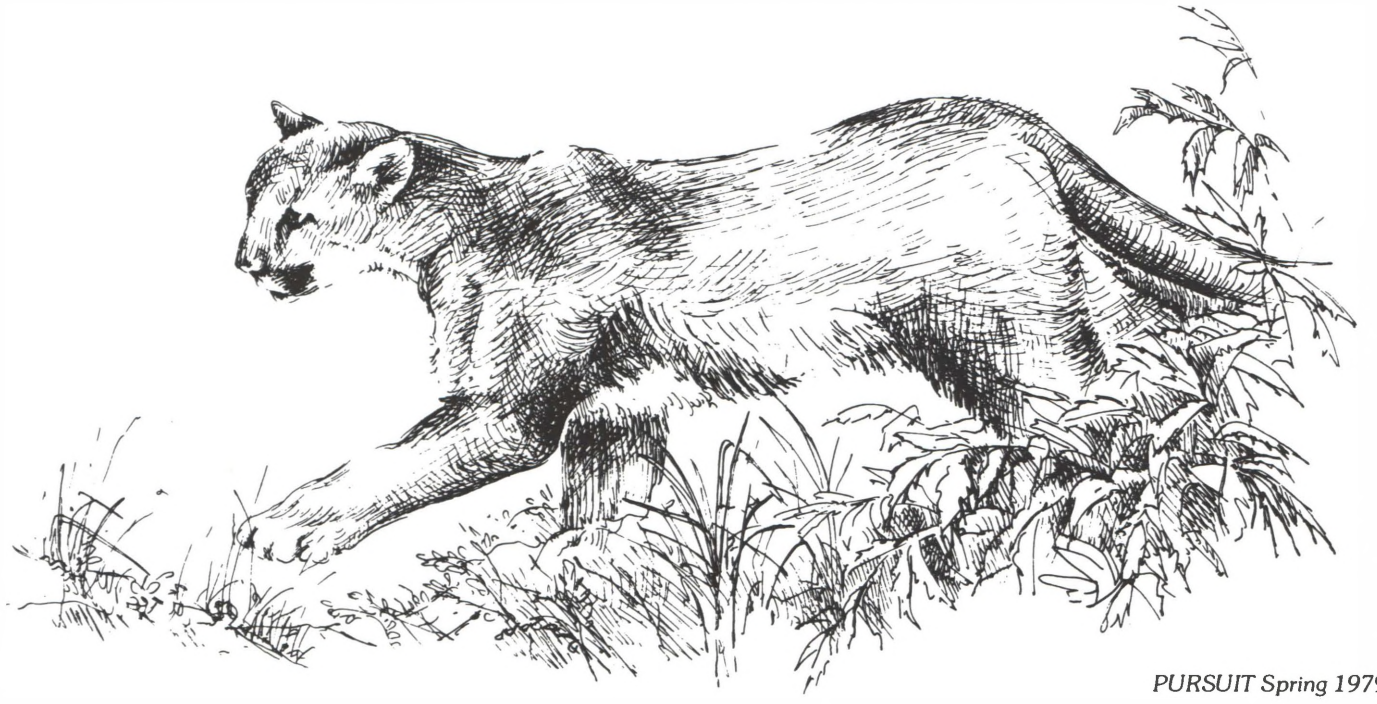
Nicole Culbertson, a college student working with Uplands Field Research Laboratory in Great Smoky Mountains National Park, interviewed dozens of people who had reported seeing panthers in or near the park. In a report finished in March 1977, she concluded that at least forty-four reliable sightings had been made since the 1930s. Nicole also discovered that the greatest number of sightings were from the areas of the highest deer density, not from areas of highest visitor density, such as the Appalachian Trail. This discovery is not surprising, inasmuch as deer are the panther's principal source of food. If people were merely imagining panthers, however, one would expect the sightings to correlate strongly with the number of people using a site. They don't.

Many of the recent sightings have been made by rangers from both the Smokies and the Blue Ridge Parkway, by trail crews, and by other people who "know the woods." A sighting by Park Service ranger Kent Higgins in June 1977 is typical. Ranger Higgins was driving along Laurel Creek Road just outside Cades Cove in Great Smoky Mountains National Park when he thought he saw a redbone hound cross in front of him. Taking a closer look, he realized that the legs of the "critter" were much too thick to be those of a dog and that he was seeing something far more exciting. He got a good look at a young panther, "red-brown in color, same as a deer in summer, and having a long tail." (Panthers range in color from tawny grey to a reddish-brown.)

Another impressive sighting from the Great Smokies occurred in 1975 near Chimneys Picnic Area on Newfound Gap Road. Among a group of visitors who saw a panther with kittens was a Mr. O'Harris, a retired animal trainer who had worked with big cats for fifty-five years. He followed the panthers down to a nearby stream and provided a very accurate description. During 1976 two other sightings of panthers with young in other areas of the park were reported.

With sightings of panthers should come other sorts of sign as well. A few cat scats (droppings) that are too large for bobcat have been found in areas where lions have been reported. Ben Sanders has photos of covered kills found in national forest areas and is attempting to obtain more of this sort of evidence. A dead buck found in the winter of 1976 in the Tremont area of Great Smokies may have been a panther kill. The marks left by the predator's teeth were too far apart to be those of a bobcat, and the claw marks made by the front and rear feet were also widely spaced. The buck was large and did not seem to have any injuries other than those caused by the predator. The only animal other than a lion large enough to be capable of the kill would be a black bear, but they should have been denned up and not eating then.

In the past two years panther tracks have been identified at several locations in the region. Frank Singer, a Park Service wildlife biologist, found a set of panther tracks near a dead deer in Cades Cove. J. R. Buchanan, an expert tracker who frequently participates in mountain rescues, was following a wild boar family along the Appalachian Trail when he noticed a set of lion prints in the snow. Apparently the lion was also tracking the hogs.



As reports of panthers become more numerous, the need for a clearly defined management program in the Southern Appalachians becomes more and more pressing. The U.S. Fish and Wildlife Service in cooperation with the Forest Service is now setting up a regional study that will attempt to determine the abundance and distribution of the eastern cougar in the Appalachian Highlands. This study, to be supervised by Dr. Robert Downing, will include investigation of sightings and tracks and an attempt to use scent posts and recorded calls to attract the predators to sites where they might be photographed. The Forest Service plans to continue other research, including the use of a professional lion hunter to verify the presence of cougars on federal lands.

The elusive panther may eventually influence a number of policies concerning land management in the Appalachians. Panther habitat could be affected by a number of proposed road-building projects, including the controversial Transmountain Road in Great Smoky Mountains National Park. For instance, the suspected panther kill found near Tremont in the Great Smokies was within a few hundred feet of the suggested route for the new road over the mountain. Forest cutting practices that favor deer should also favor panthers. This factor could be considered in Forest Service policy in the future. The presence of designated wilderness areas may also help to preserve the species; and protection from hunting, especially from poachers with dogs, may be very critical. Panthers have large home ranges and may move great distances to establish new territories. Cooperation among several state and federal agencies will probably be necessary to ensure proper management for the whole region.

Thus far, the return of the big cat has been viewed with great interest by park and forest managers. The Forest Service has been enthusiastic in its support of research on panthers, and plans to continue the effort in the future. The Superintendent of Great Smoky Mountains National Park, Boyd Evison, has a personal interest in panthers and collects sightings records himself. He believes that the big cats may be important to future park management and is very much aware that the Great Smokies is one of the few places in the eastern United States where enough wilderness habitat is available to support large mammals such as panthers and bears. The day may be coming soon when the Smokies is one of the only places in the East where the hiker can sit in camp and hear the unforgettable scream of the panther echoing over the ridges.

Panthers are large, powerful animals but are usually quite shy of man. No finer symbol of the eastern wilderness exists than this solitary lord of the mountains. Many wildlife enthusiasts hope that the proud cat may someday again become a permanent resident of the Southern Appalachians and live undisturbed—a wild and mysterious creature in a wild and protected land.

Susan Bratton is an ecologist involved in research work in southeastern national parks. She has completed a number of studies on the European wild boar and its impacts, backcountry visitor use, and plant community structure.

BLACK 'MOUNTAIN LIONS' IN CALIFORNIA?

By Loren Coleman

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A MYSTERY CAT seen in North America is, more often than not, described in news accounts and police reports as a "black panther." Generally, in zoological circles, some license is given to term the melanistic leopard of Asia and Africa *(Panthera pardus)* as the black panther. However, here in the United States of America, the usual flesh and blood answer to the phantom feline question points toward the puma or mountain lion *(Felis concolor)* as the critter behind the accounts of big black cats.

The problem remains, nevertheless, that besides being behaviorally worlds apart from the phantom cats, the mountain lion of the New World has never been shown to exhibit the black color phase. Oh yes, there is one report from 1843 of a melanistic puma supposedly having been killed in the Carandahy River Section of Brazil. But no record of what became of the body exists, and the animal may have been a melanistic jaguar. Although various scholars claim the Florida subspecies of *Felis concolor* tends to be black now and then, not one black puma has ever been photographed, captured or exhibited. Still the sightings of "black panthers" persist. In my exploration of the Everglades in 1978, I talked to a National Park Service Ranger who told of someone having seen a "black panther" two days before our discussion.

The problem of "real" mountain lions and the "unreal" phantom cats is brought into focus ever so clearly in California.

California is a state where recent estimates claim about twenty-five hundred mountain lions may roam. But within range of the California puma, we find some of the most concentrated and interesting "black panther" reports.

For several years, large black cats have been sighted near Ventura, in the Conejo Valley. A full-fledged hunt for two of these full grown black panthers was conducted in 1964, but things did not come to a peak until 1967. During the afternoon of the 12th of December of that year, Henry Madrid of Montelvo was installing a fence around the Ventura County sewer plant. Henry spotted a black panther pacing restlessly back and forth on the steep mountainside near the treatment facility. He and fellow workers Dick Simmons, Fred Salinas and Manuel Portillo kept an eye on the panther while the county sheriff deputies were notified. Taking in the situation quickly soon after they arrived, the deputies pointed their squad car in the cat's direction, and bounced off in hot pursuit toward the hillside. The obligingly flat field stretched out before them, but it proved to be merely a thin, dry crust over a bed of sludge. The chase ended with the police car plunging hood deep into a sea of sickening muck. By the time a tow truck arrived to rescue the deputies from their smelly predicament, the black panther had disappeared.

This was the first in a series of incidents that led many to believe the Ventura County black panther was an omen of a sinister nature.

Soon after the deputies' disaster, Kenneth French and his wife saw the black cat on January 9, 1968, near a mountainside while they were out driving. The couple debated whether to report it. "Finally my husband stayed to keep an eye on it while I went to get a sheriff's deputy," Mrs. French later told reporters. "Apparently the cat ran away just after I left. My husband and I aren't the type to report weird things, and it's pretty embarassing to have people think you go around seeing black panthers! Whatever kind of black cat it was, it was bad luck."

The "bad luck" of this black panther was to even trap an airman on a sheer, six hundred foot cliff on the 23rd of December, 1967. It took rescuers four hours to get him down after he went hunting for the panther. Ventura County's black panther was never caught, despite the airman's and many others' efforts.

Not to be outdone in the annals of Californian claims to phantom pantherdom, the accounts from Northern California far outweigh those from the southern portion of the state. All of the sightings from the north are centered around the San Francisco Bay Area.

In Marin County, a survey of the San Rafael newspaper, *The Independent Journal,* for the years 1957-1975, shows a total of approximately thirty separate sightings of large, mountain lion-like animals. More often than not (75% of the total), the color of the creature is not given, but in fifteen percent of the reports, the cat is said to be definitely black. A confused picture of what is being seen, "black panther" or puma, exists. Further mystery is added when such an incident as the one in June, 1963, when two women collecting watercress at a creek were chased home by a "panther," calls to mind behavior unlike *Felis concolor.* In March of 1975, a large, powerful-looking "panther" sauntered through downtown Fairfax, California, and jaywalked across the busy Sir Francis Drake Boulevard, leaving townsfolk shuddering in its wake. The Humane Society of Marin attempted to track it down and capture it, but gave up empty-handed. Robert L. Dollarhite, Director of Operations of the organization called the Fairfax sighting "extraordinary," saying it is unusual for mountain lions to approach urban areas. Mystery feline or common mountain lion? These panther accounts merge into those from Mt. Tamalpais and Mill Valley also in Marin County of a chattering, five foot tall, "earless mountain lion" and Bigfoot seen in 1963, 1975 and 1976. What are we to make of this swirling phantasmagoria of mysteries? But things get crazier way out west.

South of Marin and San Francisco, in December of 1973, a flurry of reports of a five-foot-long, 150 pound, "dark black" (how dark can black get?) panther made it into the papers. Navy Lt. Comdr. Thomas Mantei's collie, Cleo, supposedly even treed the cat in a eucalyptus in a gully behind Mantei's San Jose hillside home.

Meanwhile, east of San Francisco, in what is generally known as the East Bay area, a series of UFO reports and black panther sightings was coming to an end. It started in the East Bay in the Spring of 1972, when two men in the space of three days called Gary Bogue, Curator of the

Alexander Lindsay Jr. Museum in Walnut Creek to tell him of their sightings of black panthers. Neither knew the other, and no press coverage had stimulated the reports. One man watched the cat through binoculars when he was at home for lunch. The other witness was walking his Irish setter when his dog started barking at a large black cat up in a tree. The five foot long beast jumped out of the tree and ran off.

About twelve miles from the first reports and three weeks later, a woman and her neighbor reported they were looking out the back window, watching a black panther chase cattle. The panther also strolled over to her pool and took a drink. (We have heard this daytime pool-drinking behavior from witnesses in Southern California in 1972, and Ohio in 1977.)

Still no publicity and East Bay's cat continued to be seen. A month after the swimming pool incident, the Concord Naval Weapons Depot Commander called authorities to report a black panther on the grounds of his facility. Animal Control officers and several military personnel observed the mystery feline through binoculars. All agreed it was black, and puma-sized. They called out one of the officers with his .357 magnum rifle, and the cat vanished.

During the Fall of 1972, a rancher living at the base of Mt. Diablo noticed his ducks and geese had begun disappearing. The fowl were not being ripped apart like a dog would do, but were totally devoured. The rancher and his wife also heard what sounded like heavy gutteral purring outside their bedroom window. Then one midnight, there was a loud thump on their roof, their horses made a big fuss, and the family German shepherd scratched to be let in. Well, they sure as hell knew something was up! The rancher grabbed a flashlight, went outside, and saw a large black panther turn, look at him, and walk calmly away. Tracks about five inches across were found.

The naturalist at the Las Trampas Regional Park was the next person to see "it," beginning about three months after the rancher's encounter. The naturalist and others frequently saw the black panther in the company of a tawny-colored cat-like animal, chasing deer. This is not the first time two different colored mystery cats have kept company. We are reminded of the August 7, 1948, Turner boys' sighting from Richmond, Indiana. The patterns of the mystery felines were and are being played out in California.

The Bay Area's phantom panthers have also shown a preoccupation with automobiles. For example, on Wednesday morning, the 19th of December, 1973, Larry Rephahn told Fremont police he almost struck a black mountain lion as it dashed across Niles Canyon Road near Joyland Park.

Indeed, stepping back from the California accounts, what we see is part of that circle we can start measuring anywhere. The "black panthers" do not seem to be "black mountain lions." The Californian mystery cats reflect and repeat patterns found in the ufological sphere. Like UFO sightings, these cat sightings occur in waves ("flaps") and in specific locations ("windows"). Nineteen seventy-three appears to have been a big year around the San Francisco Bay area for sightings of large, black panther-like creatures, while at the same time, it was the "year of the humanoids," to use David Webb's phase, elsewhere in America.

As for "windows," I have long noticed an American historical acknowledgement of weird phenomena by way of place names including the word "devil" (e.g. Devil's Kitchen in S. Illinois, Devil's Den in New Hampshire, and so forth).

Interestingly, some of the more frequent flap-related sightings of the Californian black panthers have taken place in the Diablo (Spanish for "devil") Valley. One booklet on the Las Trampas Regional Park noted the black cat was referred to as "The Black Mountain Lion of Devil's Hole," because it was frequently seen on the slopes of Mt. Diablo and in the Devil's Hole area of the park. (Fortean events do become part of the geography of an area, and place names can often be a key to where fruitful research may uncover important information.)

So, in a smoke screen of actual *Felis concolor* in California, something else appears to be going on. Flaps and window areas exist where people are viewing creatures unlike mountain lions. Mountain lions are not black; our phantom friends who vanish before being caught or killed are black. Mountain lions do not usually chase people, and prowl during the day; these mystery cats do. The differences are many.

We should begin to understand these things, for as the pumas come back to the East and the picture there gets muddled and confused, so too must we come back to the basics, in an attempt to sort out the "real" from the "unreal."

Right now everyone knows there are mountain lions in California. What few people do not wish to learn is that something else is there also — something which, despite whatever form it used to take, people have had to think of in terms of "diablo" in order to catalog.

THE PHILADELPHIA EXPERIMENT

Author and SITU member Charles Berlitz has helped aspiring researcher and writer William Moore with a startling new book, *The Philadelphia Experiment: Project Invisibility* (to be published by Grosset & Dunlap, April 1979, $10.00 hardcover). Moore's book is the first concrete case for the actuality of secret Navy research on invisibility. "Overcoming official inertia, camouflage and cover up" as Berlitz says in his introduction, Professor Moore gives solid evidence that in 1943, as an outgrowth of research designed for defense, Navy scientists found a way to make matter invisible. They succeeded in making a ship vanish from the Philadelphia Navy Yard and within minutes reappear in Norfolk, Virginia before being whisked back to Philadelphia. Moore pieces together his painstaking research, based on supposedly misplaced government documents and on interviews with witnesses and "scientists whose proximity to and familiarity with this experiment has compelled them to live quietly in extremely isolated areas." *The Philadelphia Experiment: Project Invisibility* will be one of Grosset's lead hardcover titles for Spring 1979.

THE SEARCH FOR NORUMBEGA
Part II: Stars, Symbols, and Scholars

By Jon Douglas Singer

IN PART I of this article I discussed the history of Mystery Hill and some of the controversy surrounding that site: is it an odd Colonial or post-Colonial American ruin or is it the remnants of a Bronze Age temple of c. 2000-900 B.C.? If Mystery Hill were an isolated site, the latter theory would be easy to dismiss; but the same type of structure has shown up elsewhere in New England and, more recently, in southern New York State, as we shall see in a moment. Indeed, while Goodwin had found some 70 sites of a possible pre-Columbian origin, the number, types, and locations of sites has increased dramatically—to some 200 or so strange stone ruins and inscription-like markings.

The assertions of those who support the pre-Columbian origin theory were buttressed by new findings and new developments in the field of archaeological research: the discovery of a Norse settlement at L'Anse aux Meadows in Newfoundland, Canada, in 1961 by Dr. Helge Ingstad of Norway; new radiocarbon dating methods whereby scientists found it necessary to place the ages of several key megalithic European sites earlier than previously thought due to changes in the carbon-14 caused by atmospheric pollution; the development of archaeoastronomy and its popularization by such scholars as Gerald Hawkins at Stonehenge; and the findings of the Ancient Vermont Conference at Castleton College, Vermont, in 1977. These new developments, which caused a revolution that is still underway today, along with their relation to the Mystery Hill problem, will be the subject of the present article.

Scholars who supported this revolution now began to look at Mystery Hill in a more favorable light. As time went on, new techniques in archaeological research contributed to the use of interdisciplinary methods, while findings in other branches of knowledge led to the growth of new insights regarding the complexity of ancient cultures.

The first example of the revolution occurred when scholars began to notice that some archaeological sites, when dated by carbon-14, seemed to be *older* than previously thought. The ruined city of Jericho, for example, was now found to date from as early as 6000 B.C.—not 4500 B.C. as had been previously thought. In a similar vein, many of the sites in northern Europe were now dated as 500-1000 years older than previously considered.

Another problem was that some sites seemed to be too young. An example is the Great Pyramid of Cheops in Egypt, which was thought to date from 2600 B.C. until carbon-14 dating put its age at around 2200 B.C. instead. This controversy was resolved during the 1960s when, in 1967, Dr. Hans E. Seuss studied Bristlecone pine trees, some of which have been living for *5000* years, in California's White Mountains, and compared the tree rings to the dates of carbon-14 samples. Seuss found the tree ring dates differed from the C-14 dates by as much as a thousand years. Up to 1000 B.C., the C-14 dates were found to be 200 years too recent, and at 3000 B.C. they were found to be 1000 years too young.

Francis Hitching, who summarized the radiocarbon revolution in *Earth Magic*,[29] didn't give the reason for the change in age. In the September, 1975 issue of *Yankee Magazine* Andrew E. Rothovius, an historian and editor of the NEARA Journal, wrote that the differences in the dates were caused by solar radiation fluctuations which had affected organic carbon prior to 1000 B.C.[30] Thus, at Mystery Hill, the carbon-14 dates were revised far backwards, to 320 B.C., 1200 B.C., and *2025 B.C.* (the earliest one).[31] This corresponds to the height of the European megalithic age, just prior to the Indo-European invasion.

While the radiocarbon revolution was taking place in Europe, new evidence for pre-Columbian voyages turned up in America. From 1961 to 1968 Dr. Helge Ingstad, a Norwegian scholar, studied the sagas for evidence of Norse presence in America. Dr. Ingstad followed the clues (such as descriptions of the landscape as well as durations of sailing time from Greenland to Vinland) contained in those sagas, and relied also on previous research performed by early antiquarians such as A. W. Munn of Newfoundland, who suggested in 1914 that the Epaves Bay area, where L'Anse aux Meadows is located, was Vinland. Ingstad found a cluster of low, barely noticeable mounds which appeared similar to the remains of Icelandic house foundations. With support from the National Geographic Society, among others, Ingstad excavated and found at least eight houses (of turf), four boat sheds, a charcoal kiln, firepits, and similar features of a Norse farming settlement. Uncovered as well were bog iron slag, nails (of iron), part of a bronze ring pin, and soapstone artifacts. Remains of Indian and Dorset origin were also discovered at the site. Ingstad's findings served to revolutionize scientific thinking regarding the question of pre-Columbian European voyages to America.[32]

Other possible sites of Norse settlements have been found in America. The first of these discoveries, in the early 1940s, was at Sop's Arm in Newfoundland, Canada; but Arlington Mallery, who mentioned the site in his book, *Lost America*,[33] offered hardly any information about his discovery other than in the caption to a photograph.

More detailed information on what is probably a Norse site, but which has received little publicity in the United States, is one at Pamiok Island near Ungava Bay in Labrador. This site was found in 1964 by Prof. Thomas Lee of Montreal's Laval University. Since 1964, Lee has been excavating several nearby sites, including huge longhouses of Greenland Norse type, stone dams, a stone pillar shaped like the hammer symbol of the pagan god Thor, stone cairns, and even a Norse-type ax, as well as skulls which were analyzed by the Harvard anthropologist, Dr. Carleton Coon, who agreed they were of Scandinavian type.

Lee's findings have been criticized by Birgitta Wallace, the runic expert, with whom he has become engaged in a running battle over the question of whether he has found a Norse site or an early post-Columbian European fishing settlement.[35]

Another possible Norse site was excavated at Follins Pond, Cape Cod, Massachusetts, by Frederick Pohl who found there the remains of a boat shed and turf houses. Others have labeled Pohl's find a post-Colonial American landing site dating from the War of 1812, however.[36]

A last, and the most recent, site of Norse activities in America has allegedly been discovered in Amambay, Paraguay, by a French anthropologist, Jacques de Mahieu, who is currently head of the Institute for the Science of Man in Buenos Aires, Argentina.[37] Mahieu claimed he had found the remains of a fortress, a carving of Odin's six-legged horse Sleipnir, and runic inscriptions dating to the rather late period of the Fourteenth and Fifteenth centuries. (The inscriptions used Arabic numerals, by the way.) Prof. Barry Fell, however, disagreed, claiming the writing made no sense as runic but that the "runes" were misinterpreted Iberian letters from c. 500 B.C.![38] Whatever the origin of these inscriptions, they appear to be deserving of more study since they would be among the first, if not the first, bona fide inscriptions in South America—not counting the mysterious Parahyba Inscription (allegedly a Phoenician record) from Brazil, to which I will return in the last of my series on Norumbega. (The controversial Kensington Runestone, it should be noted, does not count as a site of Norse settlement because no houses have been excavated in its vicinity. A more problematical ruin is the Newport Tower, allegedly Viking, to which I will also return in Part III of this series.)

The accomplishment of Thor Heyerdahl in voyaging across the Pacific in the early 1950s and, more recently, across the Atlantic, along with the success of the English historian Timothy Severin in sailing, as recently as 1977, from Ireland via Iceland in an Irish curragh (skin boat) to show that St. Brendan and other Celtic voyagers could have reached our shores, have convinced a growing number of serious scholars that ancient mariners *could* have discovered America long before Columbus. Three landmark books on this possibility are *Land to the West,*[39] *The Quest for America,*[40] and *Man Across the Sea.*[41] These works present the opinions of orthodox scholars, many of whom are now gradually beginning to accept the idea of trans-Atlantic voyages. There are also a host of popular books, such as Charles Boland's *They All Discovered America,*[42] which mentions Mystery Hill in a favorable light and accepts the possibility of Phoenician voyages to America. A more scholarly text is *Before Columbus,* by Prof. Cyrus Gordon, then of Brandeis University and now of New York University, who proved the Parahyba Stone in Brazil was an authentic Phoenician inscription, and that a stone from Bat Creek, Tennessee, was not a Cherokee Indian inscription of the early 1800s but rather a Hebraic inscription written in Canaanite letters from the time of the Jewish rebellion of Bar Kokhba!

Having summarized the history of the revolution in scholarly thinking regarding pre-Columbian voyages to America, I shall now turn to the next series of clues which will lead us to the solution of the Mystery Hill riddle. Our line of evidence began in England, at Stonehenge, whose great monoliths rise up like giant's claws out of the mists of Salisbury Plain. From the time of William Stukeley, in 1740, until the present, scholars have debated the problem of Stonehenge's purpose: Was it tomb, temple, or observatory?

Peter Brown in his book *Megaliths, Myths, and Men,*[43] presented a history of the various theories which contributed to the solution of the mystery of Stonehenge. Stukeley thought the Phoenicians and Druids had built Stonehenge. (This led to the popular misconception that the Druids had indeed built Stonehenge — a misconception which presists to this day even though it is now understood that the Druids were merely the priests of the Celts who arrived sometime after 900 B.C.) Not until the 1960s was it known that Stonehenge had been built long before 1000 B.C. by a mysterious, pre-Celtic megalithic people.

At any rate, Stukeley calculated that the measurements of Stonehenge were based on the "Druidical Inch," a unit of measurement (equal to 20.8 English inches) used by the Druids (although there is no proof they had such a system). This inspired such men as Piazzi Smith, who then developed the Pyramid Inch; Flinders Petrie, who produced the Etruscan Foot; and Sir Alexander Thom, who found the Megalithic Yard.

1771 saw more mathematical work performed at Stonehenge by Dr. John Smith, who thought the stones used were markers for determining the rising and setting times and positions of the sun, moon, and stars, as well as for determining the length of the year. Other astronomical work was done by Flinders Petrie, the great Egyptologist who felt that Stonehenge was pre-Roman, although some of the stones were post-Roman from the time of the legendary King Ambrosius Aurelianus of the Fifth century A.D. Petrie was one of the first to calculate the date of the monument by showing that the positions of the stones indicated changes in the obliquity of the ecliptic (the apparent path of the sun across the sky), from which dates could be calculated.

Next, in the 1890s, an Englishman named Norman Lockyer was in the process of studying the Parthenon when a friend casually suggested they measure the angle of the stones. To their surprise they found the stones seemed to be aligned so as to contain matching patterns of proportions. These studies were continued with similar results at the pyramids in Egypt, and later at Stonehenge and other megalithic monuments in England and France, in Brittany.[44]

Since Lockyer was a respected astrophysicist and an editor of *Nature,* the most prestigious of British scientific journals, his work received some support. Although interest in his work faded soon after his death in 1920, and while interest in megalithic alignments in general ebbed in most quarters, some individuals such as Retired Admiral Boyle Somerville found astronomical implications in as many as 90 sites — including Drumberg Circle at Glandore, Ireland and a stone circle at Clava, near Balnuarin, in Scotland.[45]

In the 1950s and 1960s, three men brought the study of megalithic astronomy to such respectability that it is now almost an unquestioned fact. These men were Dr. Alexander Thom, C. A. Newham, and Gerald Hawkins. Thom was Emeritus Professor of Engineering at Oxford University from 1945 to 1961 and is at the time of this writing currently an Emeritus Fellow of Brasenose College at Oxford. Newham had been a retired engineer, an amateur astronomer, and a president of the Leeds University Astronomical Society. Hawkins is an American scholar.

Thom found (and is still finding) hundreds of astronomical implications in the positions of the stones at Stonehenge and at sites in Scotland such as Callanish—a stone circle. Newham found similar patterns since he became interested in the subject after a visit to Stonehenge in 1957. He tried to publish his findings first, but was rejected by Glyn Daniel, a British archaeologist and editor of *Antiquity*, the distinguished British archaeological journal.[46] Later, he brought his theories to the popular press, and only after Hawkins' book, *Stonehenge Decoded*, was published did Newham get belated credit. Hawkins received the lion's share of the publicity because of the now famous film documentary on his computer studies of Stonehenge.[47]

At any rate, all these scholars gradually tuned the American archaeological establishment to the megalithic alignment idea, and on this side of the ocean antiquarians soon began to wonder if the pre-Columbian ruins here might not contain similar alignments with star positions, winter and summer solstices, or vernal equinoxes. After years of research it was shown that such is indeed the case.

The Mayan and Toltec (and later Aztec) astronomical alignments which are now well accepted hardly need mentioning here. The proceedings of two conferences on the subject have been published: interested readers are referred to Anthony Aveni's edited version of a conference held in Mexico City, *Archaeoastronomy in Pre-Columbian America,*[48] and *Native American Astronomy.*[49] These two massive works present the conclusions of years of patient research among the Mayan jungle-hidden ruins such as the Caracol, or round observatory-like temple, in Yucatan. Articles included in the books concern the orientation of various temples to stars like Capella, and still other articles deal with the alignments to stars that were found by archaeologists studying sites such as Chaco Canyon, a vast ruined pueblo site of the Southwest from the Middle Ages. *Native American Astronomy* also contains a fascinating chapter on the mysterious Medicine Wheels — structures composed of stone cairns and round walls which were found in southwestern Canada and which were aligned to various stars. These structures were in some cases built as early as 2000 B.C., and that brings us nearly to the time of Mystery Hill. Were the Medicine Wheels influenced by the people of Mystery Hill? The structures are over a thousand miles apart, but they are contemporary....

Now that astronomical archaeology was in vogue, the Mystery Hill archaeologists of NEARA and ESRS began to look at their site with new vision, asking new questions: "If Mystery Hill could be as old as Stonehenge, and if Stonehenge contains astronomical patterns in the positions of its stones and in the relationship of its various parts to the surrounding natural features such as nearby hills, then why couldn't our site contain similar patterns? If the same group of people who built Stonehenge had also built Mystery Hill, would it have alignments?

Mark Feldman, in *The Mystery Hill Story,* is certain the answer is yes.[50] Since 1965 Robert Stone, along with his cousin Osborn Stone (an engineer, surveyor, pilot, and astronomer), have been measuring the stones and walls and comparing standing stones in an effort to check for astronomical implications. They have found that stones outside the main site of Goodwin's 30 acres or so are part of a greater site which surrounds Goodwin's area. There are now some twelve monolithic stones (some apparently fallen over), a few of which are freestanding and a few of which are imbedded in stone walls. Some are aligned with the winter sunrise position. One stone, designated as *Stone G,* had the controversial Celtic Eye of the Sun God symbol on it (I have seen a similar stone, much smaller, in Connecticut recently).[51] A chart in Feldman's book shows that the Summer Solstice sunrise and sunset positions have been marked, as well as the equinox sunrise and sunset positions. Pole Star alignments have also been detected.

The work is difficult, and the NEARA people have had to cut down trees (the hill is still heavily forested); they also have built a small platform to help make their sightings more accurate. Some individuals, like the Connecticut historian Alfred Bingham, have criticized the alignments.[52] However, a Vermont NEARA member and discoverer of several important megalithic sites, Mrs. Betty Sincerbeaux, has told me that more professional astronomers have recently looked at the Mystery Hill alignment data and have been favorably impressed by it.[53]

Still, the sceptic could say the alignments are the results of chance alone, or that the stones are no longer in their original positions because of earthquakes during the 1700s or because of the more recent disturbances by Pattee, Goodwin, and by various archaeological excavations, or even by the nearby towns which carted away many of the stones for sewer projects in the 1920s.

Perhaps. But then a young inventor and optics scientist who had become interested in astronomy and then in ancient astronomy after reading some of Thom's books, such as *Megalithic Lunar Observatories,*[54] became curious about Mystery Hill. (It is somewhat strange how those who become involved in archaeoastronomy are usually applied scientists, engineers, and astronomers rather than archaeologists!) Byron Dix, a Vermonter who had already studied Mystery Hill, wanted to test out his theories of alignments elsewhere in New England. According to historian Francis Hitching, Dix bought a motorcycle in order to swiftly reach the more remote sites, many of which were accessible only by dirt logging roads and still rugged Green Mountains, where the ghosts of Ethan Allen and his men still haunt the old battlefields.

Dix was informed of several interesting sites by an intrepid Vermont farming couple, the Sincerbeauxs. Betty Sincerbeaux had come across the strange standing stones, some upwards of eight to ten feet tall, which rose suddenly out of the forest gloom. She also had found stone chambers and ancient, rambling walls which did not resemble the Colonial-type field walls among which she had grown up. Perplexed and intrigued, the Sincerbeauxs informed Dix of the ruins, and after several years of research (which is still continuing), Dix felt he could publish some of his results.

Briefly, Dix came across two sites, at least one of which Mrs. Sincerbeaux had found, which seemed to be aligned in such a way that the walls and standing stones could have been used, thousands of years ago, to determine the position of the sun, moon, and stars at various times of the year. Both sites consist of the following features: stone walls, standing stones and recumbent stones, stone chambers, 107° angle intersection of stone walls, probable astronomical alignments between walls, monoliths, and

points on the horizon, as well as petroglyphs and possible inscriptions, or "organized markings," in a language long forgotten.[55]

Dix called the first site (after he had found the second one) Calendar Site I, because he found that the stones here were oriented to the positions of the midwinter sunrise and sunset (December 21); the equinox sunrise and sunset (March 21 and September 21); and the midsummer sunrise and sunset (June 21).[56] Although the lengths and heights of the walls are not given in his article in the *Ancient Vermont* book,[57] the sketch Dix has included shows they form an L-shaped enclosure in a deep bowl-shaped valley.

Calendar Site I also contains an inscription which Fell deciphered as being the name of the god Bel, a sun deity.[58] Bel is a Pheonician deity, but in *America B.C.* Fell explained how the Celts came to worship that god in America. Apparently the Celts in America were mixed with the Celtiberians, a tribe from northern Portugal consisting of mixed Celts from Gaul, and Iberians — those mysterious pre-Roman inhabitants of Spain who were influenced by the Carthaginian colonies in southern Spain and from whom the Basques may be descended. *Ancient Vermont* also contains photographs of a grid, called a "sun grid," which is carved on a block at Calendar Site I, and which shows the plan of the angles formed by the alignments. A similar grid glyph was found at Calendar Site II in 1975.

Calendar Site II was discovered in central Vermont a few miles from Calendar Site I. The sketch in *Ancient Vermont* shows it to be in a different situation from Site I; a modern road divides it, and it is on a flat plain rather than in a deep valley. It has a large stone chamber and several standing stones — some freestanding and some incorporated into the walls. There is also a strange stone platform, along with a smaller one to the north of it, like a miniature ziggurat. The larger structure measures 28¾ feet by 38¾ feet, while the smaller platform measures 16¾ feet by 14⅙ feet. From it the winter solstice sunrise and the equinox sunrise have been determined. It is also aligned with a standing stone and a stone pile. One of the walls at the site measures 168 feet in length and the other wall 81 feet; their heights are not given, but the first wall terminates at a small, three foot tall monolith. The stone chamber, by the way, measures 9⅝ by 19¼ feet, thus comprising one of the largest stone chambers in New England. (Others, of similar dimensions, have been found in southern New York by Salvatore Trento's Middletown Archaeological Research Center, which was founded in 1976 and whose work will be discussed in the next and concluding portion of this series.)

If there is a Calendar Site II, could there also be more? The answer seems to be yes — in Canada, at Thunder Bay in Ontario, at a site found in 1975 by Allen Tyyska, an archaeologist working for the provincial Ministry of Natural Resources.[59] Although the circumstances surrounding the find are not given in the article in the *Winnipeg Free Press*, the site appears to consist of: a stone serpent effigy (a rare find east of the Appalachians), stone staircases, stone walls, and petroglyphs. The site is at least 500 years old and is definitely pre-Columbian, although no carbon-14 dates are available. It is presumably Indian.

A fourth alignment site in Massachusetts, near the Sudbury River, consists of no less than 88 acres of stone walls and stone mounds, some with petroglyphs. The site is a fantastic one — not just for its extensiveness, but also because the walls form patterns which are apparently symbols. Barry Fell, who looked at those patterns, found the walls were really outlines depicting symbols from the Egyptian hieratic cursive script![60] There are also stones indicating the positions of such constellations as Draco, Boötes, and Ursa Major. There are three stone mounds at the site: one of them 3 feet high and 15 feet wide; another 16 feet wide and 4 feet high; and the other 7 feet high and 22 feet wide. There are also dozens of stone cairns, as well as alignments which yield the date of the summer solstice. Lastly, there are five ring-shaped stone arrangements, called calendar rings. Some of these are near the main part of the site which also contains walls aligned like a rebus forming the Egyptian sun-ship symbol. The site was discovered in 1969 by Richard Keller, a state conservationist, and was studied by him and three friends: William Crandall, John Jonasch, and a local antiquarian named James McDonough, who said the site was not Indian but resembled Irish stonework. No excavation has taken place yet.

The last area of interest we will discuss in this section is the Berkshires Stone Circle Site, discovered in May, 1971 by the Massachusetts Archaeological Society, who informed NEARA of the find. The site consists of six standing stones, many of which may have fallen over (one of these is 17½ feet long and, if it had been upright, would have represented one of the tallest known standing stones in New England). There seems to be an alignment between the site and a mountain peak to the north, possibly a Pole Star indicator.[61] On May 29, 1977 a NEARA team, including Marjorie Kling (NEARA librarian) and her family, the Sincerbeaux family, F. Newton Miller, and others surveyed the site and found several pictographs, possibly of Indian origin, which included three animals — one similar to a lizard and two four-legged beasts. On another rock, groove-type carvings were found as well as a complex symbol shaped somewhat like a tail. Another symbol indicated a cruciform design.[62]

Thus it seems that throughout New England a large number of stone structures have been found which appear to be neither Indian nor Colonial, but pre-Columbian in origin. The structures are spread over a wide area and seem to indicate a sizeable colony, for similar types of structures and petroglyphs recur over and over again. Many of the so-called Celtic structures were unknown to Goodwin, and some of these occur in the areas which old maps of New England call "Norumbega." Were these mysterious ruins of New England built by a lost civilization called Norumbega? The ruins exist; but so far nobody has found the *city* of Norumbega.

Or have they? In Naragansett Bay in Rhode Island, strange submerged ruins of towers and arches have been occasionally reported. Could Norumbega have sunk like a miniature New England Atlantis, leaving exposed only its remoter tombs and monuments like the haunted obelisks from an H. P. Lovecraft horror saga? I will attempt to bring the existing clues together in Part III of this series. Perhaps our search for Norumbega will yield some astonishing implications about the true antiquity of American history.

(To be continued)

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WHAT IS TIME?

By Harry E. Mongold

ONE beguiling but incorrect notion of time is indicated by the following quotation from Bertrand Russell: "A date is fixed with complete precision if it is known concerning every event in the world whether it wholly preceded that date, or will wholly come after it, or was in existence at that date. To this statement someone might object that if the world were to remain without change for, say, five minutes, there would be no way of fixing a date within these five minutes if the above view were adopted, for every event wholly preceding one part of the five minutes would wholly precede every other part, every event wholly subsequent to any part of the five minutes would be wholly subsequent to every other part, and any event existing at any part of the five minutes would exist throughout the whole of them. This, however, is not an objection to our statement, but only to the supposition that time could go on in an unchanging world."[1]

It is true that we would not know of any such five minutes, but no one can know of all events, and what we *mean* by "time" is, and must be, whatever moments exist, regardless of whether we at present know of them all. A "time" that is the known sequence of events is a time that expands with increasing knowledge, but a time that is basic to whatever has happened is a framework for reality. It is as a framework for our conceptualizations that both time and space must function. As will be seen, however, time is itself a concept, when the word refers to a framework for conceptualization, while geometric space is an objective reality.

Another incorrect notion is that time is a direction, like "up." The notion of space-time as a four-dimensional reality is promoted by some (but not all) writers on relativity theory. They define time as a static dimension and then write as though we were moving along a space-time chart, which is clearly a self-contradictory conceptualization. Motion requires time. A universe in which all occurrences were simultaneously in existence would not have any moving things in it. There is no way to incorporate all time as a dimension and yet have people independently using time in their own pursuits. Consequently, some writers on relativity wisely specify that they represent time as a dimension only for mathematical convenience.[2]

One's *impression* of the passage of time, i.e., "psychological time," is not to be confused with what clocks measure. It is sometimes said that the fact that one may think

he is waiting a half hour but finds it is only fifteen minutes shows that "time is relative." What one *feels* about time, whether it is slower or faster than the clocks say, has nothing to do with the case. It is only a way of measuring, and it is an unreliable way.

Another usage of the word in relativity theory is to say that "time runs slowly for someone who is moving very fast." It is said that there is no universal time but only local times. Time is said to "dilate" in moving bodies; the "local times" apply to such as a space ship leaving the earth and (since motion is relative) also the earth. This contradicts the concept of time as a fourth dimension (or analogue to it) and clearly uses the word to mean "clock." Einstein reasoned that clocks in motion run more slowly than clocks that stand still, although there is much argument as to whether this statement is meaningful. (Many writers say that moving clocks only *appear* to run more slowly.) It is the theory that there is no standard *clock;* it is not asserted that moments themselves slow down.

What is found true by experiment is that clocks moving eastward about the earth can lose time, while clocks moving westward can gain.[3] Clocks in a weak gravitational field speed up. Time itself, of course, does not "run" at all, let alone speed up or slow down. It is a concept of a vast duration which we split up in divisions that suit us. We can tell when the earth gets around the sun and we use this division of time as basic. Only a changing thing like a moving planet or watch hand or living heart can go fast or slow, and then only in relation to other movements.

Experimenters in subatomic physics use the phrase "time reversal." They are speaking of cause-effect series, very brief causal chains, where particles decay in a predictable sequence. The events may be steps in decrease or increase of force or velocity. There is no reason why the order of the events should be in one "direction" rather than the opposite, but this question concerns the feasibility of *event sequence* reversal in isolated processes. It is evidently a misapplication of the operationalist definition of "time" in terms of events. That definition refers to all events, not a short sequence in a tiny area. Certainly there should be a distinction between a few insignificant happenings somewhere in an atom and the great story that is eternity.

It is true that the *test* for the passage of time is the perception of events, such as one's own breathing, occurrence of signs of fatigue, and heart beat. The test is not the tested, however, and what we mean by "time" is the history and expectation of all possibilities of change. Change is a characteristic of geometric space (i.e., physical space with all accompanying matter). Time must be recognized as our abstraction on our experience in terms of changes. Abstractions are concepts. Thus time is but an idea that objects in space (especially those objects that are our own bodies) force upon us. Space and its contents exist now, and only the now aspect of time is an objective reality.

Before expanding on this it will help to consider an important challenge to the acceptance of the Now. E. A. Burtt writes, "To such a view it is impossible to regard the temporal movement as the absorption of the future into the actual or present, for there really is nothing actual. All is becoming. We are forced to view the movement of time as passing *from* the past *into* the future, the present being merely that moving limit between the two. Time as something *lived* we have banished from our metaphysics.... The fact that man can think in the present of a past happening seems a strange matter to modern speculators.... If we are a part of the world, then the *t* of physics must become but a partial element in real time, and a more inclusive philosophy thus rewon might again consider the evidence in favour of attributing movement to the future rather than to the present, while the idea of the past as dead and vanished might be consigned to oblivion with other curious relics of an over-mechanical age."[4]

After I have united his first two sentences into one that ends, "because all is becoming," I begin to see this passage as a struggle with the idea of continuous change. If one thinks in terms of *continuous* change he faces nothing but change itself — nothing is there to change, because if it were ever "there" it would be static at that moment. The reference to the *t* in physics is, of course, to simpler problems than may be concerned with a fourth dimension of space; it concerns formulas for the final speed of a falling object, for instance. Burtt is saying that there is more to time than the durations used in physics calculations, and this is natural considering that he has not considered *discontinuous* time, which a time made up of short durations (the time the physicist uses) obviously is.

Our conception of time is based on our experience of a succession of Nows, each one a static world. (Relativity theory's teaching that simultaneity is not universal, but relative to a state of motion or a position, seems entirely false.[5]) There is no motion "during" an instant. The question of how long an instant may last would have to be answered in terms of natural processes; it would be a fraction of some process found to be consistent in duration. Conceivably there will some day be a way to determine what is the unit of change, say a minute fraction of the time that some physical particle takes to decay. Certainly it must be extremely short compared to what we can observe in day-to-day living. There should be no objection to supposing a basic unit that is very small, for we are in a position to see vast numbers both small and large compared to our kilometers and our hours. The universe is far beyond our comprehension in any case. To say that all events in it happen in a series of tiny instants, a series of jerks, without continuous motion, stretches our imagination only a little further. The only question is, could it be true? Does it fit all that we know about events?

The paradoxes of Zeno of Elea, who apparently did not appreciate their true significance, express a number of situations in which it may be seen that continuous motion is impossible. They show that our ordinary conceptions of motion are self-contradictory. On the one hand we believe motion to be what we call "continuous," and on the other hand we are obliged to attribute to motion some characteristics that imply it is discontinuous.

In the case of a moving arrow Zeno pointed out that it is assumed to be always somewhere, and that "somewhere" implies position in a point of space, although if it is in a position it is not moving. The idea of it as in a place contradicts the idea of its continuous transit from one place to another.

One can try to get away from the idea of positions involved with motion by insisting that an object can be in one of two states relative to the observer — static (meaning in a position) or moving (meaning not in a position). Thus, when an object moves past an observer it is not

"passing through" any positions. If this verbalization has any meaning, it at least deprives our idea of space of a lot of its usefulness. Space is essentially "simultaneous positions."[6] Something declared to be not in a position would be declared outside of space. Generally, the backers of continuous motion accept that a moving object must pass through the same geometric points that it could occupy if standing still.

If the flying arrow goes through points of space (either absolute or relative) it is sure to be at a given point at some time or other, and the concept of a continuous time, that can be cut down into finer and finer fractions of an instant, only makes the case clearer. At one of those tiny moments the arrow is sure to be at any given position. The common explanation for continuous motion is that both space and time can be infinitely divided, theoretically, but this is only an evasion of the fact that either an arrow exists in space or it does not, and either it passes through locations in that space or it skips them, the latter still requiring places from which it vanishes and at which it appears. An infinite division of space does not obviate the necessity of an arrow being at each subdivision as it goes through; it only intimates that the arrow has a tremendous task visiting every point that a mathematician can visualize.

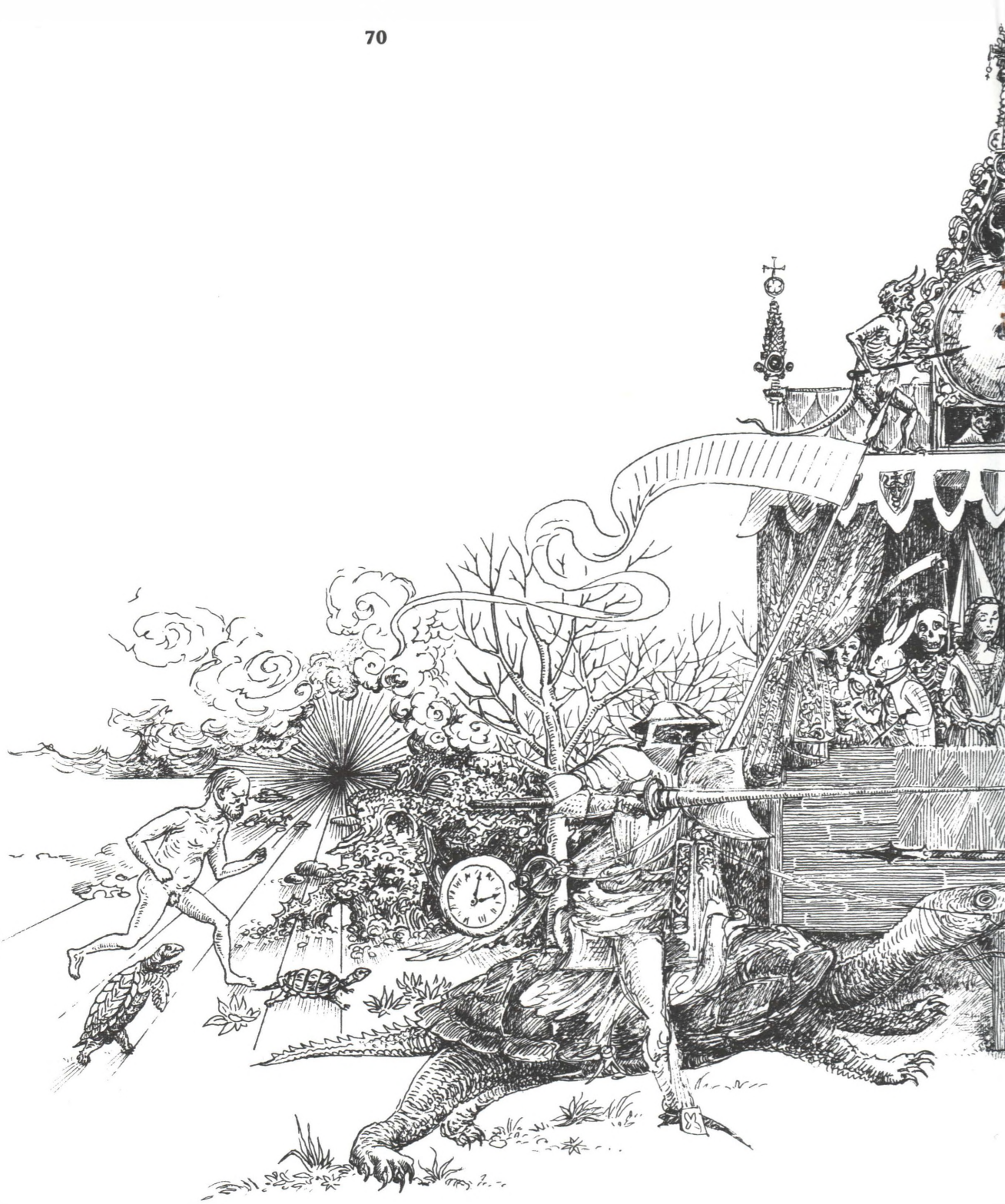
There is something in our very concept of space that implies discontinuous motion, then. In the case of time we can say that there must be a "now," and that is the basic instant, although Burtt tries to get away from that. Space is a simultaneity of positions in that "now." Movement is change from one position to another, and a moving object can be stopped in any of them. A fast mover must stay at each point very briefly (i.e., only a few of the inconceivably short "instants" of which time is made up), while a slower mover stays longer at each location. In one instant an arrow is here; in the next or a much later instant the arrow is at the next point of space. This is easier to conceive now that we have motion picture films. Presumably a fast enough camera could catch an arrow staying at one point of space while a bullet passed through several of them, although we might not be able to detect such minute changes when examining the lengthy stretch of film it would take to show them.

In the second of the more famous tales of Zeno a runner is shown to be unable to overtake another, if motion is continuous. Suppose Achilles is running three feet behind the tortoise he is following. If the tortoise moves only half an inch while Achilles moves four feet, at first thought it seems obvious that Achilles will pass it by. However, Achilles must move a distance of two feet before he can move four, and he must cover one foot before he can cover two. In fact, if he moves half the distance between him and the tortoise, the latter, in this case, moves one seventy-second as far as he does, and as Achilles moves half of the remaining distance, it moves ahead again. Every slight forward advance made by the one is matched by a slight movement by the other. Now in the concept of continuous motion it is represented as possible to cut off motion at any time and still find motion. There is supposed an infinity of fractions of distance, but for every fraction of the distance remaining to Achilles the tortoise will find a tiny fraction to move also. The tortoise will continue to extend Achilles' remainder to go, and he can never catch up.

If motion is discontinuous, however, there is no such problem. The tortoise does not continuously extend the distance for Achilles. Rather, it settles at each point for a time and then leaves it for the next, these points not being infinite in number.

There is wide disagreement on this problem. Kasner and Newman reason that motion must be discontinuous; they believe that space can be infinitely divided. Their concept is apparently that Achilles skips many of the points that the tortoise has to visit: "The statement that Achilles must occupy as many distinct positions as the tortoise is correct. So is the statement that he must travel a greater distance than the tortoise in the same time. The only incorrect statement is the inference that since he must occupy the same number of positions as the tortoise he cannot travel further while doing so....Achilles may travel much further than the tortoise without successively touching more points."[7] As for their conclusion about space and time: "Most of us would swear by the existence of motion, but we are not accustomed to think of it as something which makes an object occupy different positions at different instants of time. We are apt to think that motion endows an object with the strange property of being continually nowhere. Impeded by the limitations of our senses which prevent us from perceiving that an object in motion simply occupies one position after another and does so rather quickly, we foster an illusion about the nature of motion and weave it into a fairy tale....The story of motion is the same as the story of rest. It is the same story told at a quicker tempo. The story of rest is: 'It is here.' The story of motion is: 'It is here, it is there.' "[8]

Bertrand Russell states his view of motion, relative to traversing a race-course, as follows: "The words [reportedly used by Zeno] 'one by one' are important. (1) If *all* the points touched are concerned, then, though you pass through them continuously, you do not touch them 'one by one.' That is to say, after touching one, there is not another which you touch next: no two points are next each other, but between any two there are always an infinite number of others, which cannot be enumerated one by one. (2) If, on the other hand, only the successive middle points are concerned, obtained by always halving what remains of the course, then the points are reached one by one, and, though they are infinite in number, they are in fact all reached in a finite time."[9] This passage is applied only indirectly to the Achilles-tortoise tale; it is presented here for its clues to Russell's concept of continuous motion. Although it no doubt appeals to the imagination of one who indulges in the time-consuming process of conceiving "infinity," its meaning is doubtful. (1) He refers to "all the points touched" but says they are not touched "one by one." It is evidently not two by two either, because he says then, "after touching one, there is not another which you touch next," meaning not a *next point* that is touched. But what is touched then? His statements might leave the possibility of skipping most of the infinite points, but he says "pass...continuously," which means all of the space is used. Passing through all points but not touching them in turn implies that they are touched in groups or masses, a vague or impossible concept of linear motion. (2) He is willing to say, however, that midpoints are touched one by one. He is not, certainly, say-



APOLOGIA FOR MY ILLUSTRATION TO HARRY E. MONGOLD'S ARTICLE, "WHAT IS TIME?"

Here is a tournament on tortoise-back. The Knight of Continuous Change does battle with the Knight of Discontinuous Durations. Zeno and Tortoise hurry to see the event (trapped in the vanishing point of their paradox) already attended by the King and Queen, Death and The White Rabbit—who consults his pocket watch...

Could we have time without an unmoving point of reflection? The focal moment provided a projective shadow—the intervals—which veil experience. The time experienced around the point could just as well be described in terms of a distance traveled—as by the sun, bearing the earth in orbit around it... In this way, time always has a direction in space.

"Time is Motion," we say, as though applying to the motion a then unmoving notion—the physical stuff of time is illusive—as the change is in the matter, not in the interval...

—B.W.

ing that a runner may stand at the starting post, leap to the middle, etc., but that "all" of the infinite points are touched, with midpoints being touched one by one and the *others* presumably in groups. This is mysterious, especially the concept that "no two points are next each other." What are they next to?

A. P. Ushenko dispenses with the attempt to solve Zeno's paradoxes with numbers approaching infinitesimals as follows: "The 'mathematical' solution calls attention to the point that there are infinite convergent numerical series (of distances and intervals) which are comprised within some finite distance and some finite duration, and give a simple method for calculating the distance and the interval required for catching up with the tortoise. This solution completely misses the difficulty of Zeno: it tells when and where Achilles catches up with the tortoise *provided he does catch up,* but Zeno argued that he cannot do that. A true solution must explain not only when

and where but how one racer can overtake the other."[10]

I would say that Ushenko's own space-time diagram of the events is no better, being only a picture of what we all know happens in reality without explaining any more than the mathematical method does. No one can pretend that Achilles does not catch up, that they keep running forever with Achilles just slightly behind (as the concept of continuous motion requires). While one has the impression that, as the supposed fractions of space and time get tinier, the two runners get tinier themselves and disappear from view, we know that an ordinary calculation of overtaking and passing within minutes is correct. The question is, how can it be *if* motion is continuous? The answer seems to be that motion (and space and time) is discontinuous and has no infinity of fractions but has a finite number of points and instants.

I have said that Zeno's paradoxes are solvable when it is accepted that motion must be discontinuous. Some writers, however, declare that it is that very idea which makes the fables self-contradictory, and that therefore one must accept that motion is continuous: "This proof [of Zeno's that motion is impossible] is evidently based on the implicit assumption that a time interval and a space interval are respectively constituted of instants of time and points of space, in violation of the (tacitly) postulated relation of 'point' to 'space extension' and 'instant' to 'time extension.' " The latter phrase is in reference to a definition: "That is to say, a time interval cannot be construed as constituted of its instants because by the very postulated notion of instant it is durationless, so that any sum of them, infinite or not, will still be durationless."[11] This, I believe, is a very common mistake. Points and instants have extension, and it is incorrect to say, as most textbooks do, that a point has no extension and an instant has no duration. It should be obvious that the basic unit of anything will have characteristics that will add up to larger amounts of it. "Extension" does not imply divisibility nor does "duration." It is true that the only extension and duration with which we are acquainted personally can be divided, but we must postulate that there is a type of each that cannot be. These units are the smallest in existence anywhere or any time, and reality is necessarily conceived as so constituted that nothing can be placed half on a point and half off and that nothing can happen beginning in the middle of an instant.

Samuel Reiss, whom I am quoting, assumes that instants are durationless and that they may be found *in* time but not *making up* time. He goes on: "If temporal extension or duration cannot consist [of], in the sense of add up to, a sum of durationless instants, this means that any experience takes in a part of the future as well as the past and is not a matter of one instant to the next."[12] He cites Henri Bergson, and of course this idea is found above in the quotation from Burtt. My own conception is that one can define "past" only as "what has been a Now" and the future only as "what will be a Now." I have no idea how they can be defined so as to allow a concept of mixing the two. I think Bergson, Reiss, and Burtt simply are repelled by the idea that motion is jerky and life is a series of jumps. I think the cure for such a repulsion is to watch a lot of "movies" and to consider seriously whether it makes any difference that they are made up of stills.

The broad picture of a discontinuous world is a universe that exists only an instant in one state and then becomes very slightly different. All over the universe there are objects in slightly different positions from the immediately previous instant. An object moves from one place to another by disappearing from one location and appearing at the next, a set tiny distance farther on its route, disappearing again and reappearing either at the same position or a distance slightly farther on.

The inconceivable brevity of an instant is suggested by the fact that most of these changes in position are because of subatomic particles in their orbits and photons of electromagnetic radiation leaving their sources. It would seem that light must stop at most of the points in its route, yet it takes only one second to travel about 186,000 miles, or one one-hundred-and-eighty-six thousandth of a second to travel a mile, which must consist of an amazing number of points. If we ever find something thin enough that if we stick it in a beam of light we find it still dark, we can surmise that photons have skipped this point of space (which does not mean going through it, of course, but disappearing from one point and reappearing farther on). This is what Kasner and Newman suggest. Otherwise, light probably stops at every position. If this conception seems absurd, compare it with the conception that light consists of vibrating or spinning particles. Millions of these are said to land on a desk (which consists of millions of electrons moving about atomic nuclei) and somehow rebound and make their way to our eyes so that we can see the desk.

In light of the discontinuity of time (or, we might better say, the existence of discrete Nows rather than an objective direction), reported anomalies of motion can be somewhat better understood. A wartime airplane navigator wrote the science editor of *Argosy* magazine as follows:

> In...1955, I was a navigator on B-26s in Korea. We were returning from a training mission, heading close to due south, and I found that we had a ground speed of about 550 knots. This would have meant a wind of 265 knots. We were at 7,000 ft. Both the pilot and I laughed at this, but I rechecked it at the next two check points, and the results were close to the same. We made our home base and forgot about it.
>
> ...I admit the possibility of some error in this wind computation, but not too much....As a rule, the jet stream does not dip so low. And if it did, the velocity of 265 [Knots] would be unusual. I have no explanation....[13]

If the calculation of speed relative to the ground was 550 knots, and if this implied a wind speed of 265 knots, the plane's speed according to its instruments was 285 knots in the air immediately surrounding the craft. In comment by an expert called in on the case it was remarked that the "jet stream" known to act in the upper atmosphere does not dip lower than 20,000 feet and could not flow south, as the plane headed. It was said that if a great wind carried the plane there should have been a great turbulence with entry into it or exit from it, possibly loss of control. If the body of air that the plane flew through suddenly acted as a unit with the plane and moved like a wind through the surrounding atmosphere, the effects could be explained, the commentator thought.

This would require a mysterious affinity between the plane and its immediate body of air, with the latter slowing down at the right time for the plane to descend at its destination.

Another communicant wrote the same editor about a flight in a C-97 (cargo) plane in the same area:

> ...Kwajalein weather [report] gave me a pleasant forecast....Terminal weather at...Guam was standard, and we all looked forward to a pleasant night flight of approximately 6 to 6+30 hours....We climbed out to about 12,000 feet, leveled off, and settled down for the flight....I logged...a fix, saw that the weather briefing was about right, pointed the aircraft toward Anderson [Guam] for another hour....Second hour out, since the weather was so good, I decided to use a Celestial Fix for a position. Loran is good for the last three hours into Guam, dubious for the first three out of Kwajalein because of distance from the station. So, for my second hourly position, I shot what developed on the chart as a perfect three-star fix. It was a true pinpoint. It left no doubt as to where the aircraft had been at that point in time. I logged it....
>
> Third hour out, with a tremendous feeling of security in my own ability, and confidence in our meteorologists, I shot a second celestial fix. Weather was excellent: high, broken overcast, no turbulence, wonderful results. Another pinpoint fix. Only problem was..., this last fix was about 340 nautical miles down intended course. A C-97 at that altitude works at a true air speed of about 220 knots. With the pertinent information stuck on a computer I came up with a wind of approximately 110 knots from 070.[14]

After that hour ground speed was apparently normal again, but in that unusual hour the C-97 aircraft had made a speed of 340 knots, pretty good for a freighter in a wind reported to be around 10 knots, as the correspondent adds. Again, there could not have been a normal wind of high enough speed, unnoticed, and it seems that the cargo ship took its air with it or its instruments would have shown a greater speed than they did. An officer at the point of destination said these unexplained bursts of speed occurred 8 or 10 times a year for various craft.

Ivan Sanderson, the *Argosy* science editor, who has included the above two incidents in his interesting book, "Invisible Residents," suggests: "If ...the planes slipped into areas wherein time ran slower the planes would have comparatively longer to get farther and thus come in early. If they ran into a faster time slot they would be late on arrival."[15] At first thought it might seem that if events should follow each other more slowly than usual there would be more time to get things done, but I think what is really thought of here is the slowing down of all clocks *except* the mechanical and physiological ones concerned—the plane and its personnel. In other words, the rest of the world could slow down and let the plane travel farther, just as when they turn back the clock in a legislature they have extra hours. If we must separate the plane from the rest of the world, probably the processes in the flight area sped up, rather than outside processes slowing them down. If planes slipped into areas where events moved more slowly ("wherein time ran slower") the planes would operate more slowly relative to surrounding areas. That does not solve anything.

Apparently there was no report that the chronometers in use had gained time. The simplest idea is that the planes spent less than their quota of instants at each point of space, thus having a burst of speed. This is unexplained, but at least it is less involved than an increase in all events would be. Remembering that even when we consider fast vehicles must spend a number of instants at each point (contrasted to electromagnetic radiation, which reaches so far so soon), the explanation — as far as we can go with it at present — for unusual speeds should be a reduction of the time spent at each point, or even the occasional skipping of a point.

The apparent fact that aircraft can gain unprecedented speed by failing, in some unfathomed way, to linger at spatial points as usual, offers a field for study. If we can learn to control the basis of motion in another way than by applying forces, the possibilities should be many. We may be able to travel at very great velocities by manipulating the natural tendency to disappear and reappear in a related location. Perhaps the inhabitants of UFOs (if they are actually vehicles) do this. It would explain also the ability of a so-called flying saucer to change direction abruptly as though it had no momentum, taking off at a definite angle or reversing its direction. Momentum arises from the use of forces. Readjustment of velocity by tampering with the mechanism of motion may provide inertia-less transport.

Recognition that reality is a series of states would have made it easier for physicists to accept the Gibbs-Heisenberg idea of a "statistical universe." Discontinuity in time implies that a cause is only an "antecedent" and an effect only a "consequent," since there is no possibility of transfer of any of the cause's nature or substance between instants, and there must be an abrupt change in the motions of the objects involved. (In a chemical causation the objects involved are microscopic, and the events are numerous. Similarly, electrons and other particles are involved in electrical causation. Even a meeting of a brake lining and a brake drum should be considered a case of a myriad of microscopic events, for all the things we can see and lift are only disguises for masses of always active tiny things.) Having accepted that cause and effect are not mysteriously related by a continuous change, one can welcome the discovery that what we have considered necessary consequences among microscopic events may be accidental, and causation only a statistical result of random particle motions.

The notion of causation is rather a stumbling block to accepting a world that "jumps" from one state to another, because it is difficult to understand why there should be so close a connection between states. A cause is directional: if two particles are to separate by causation, they are determined to move in certain directions. Acausal relations, however, are random: the particles may separate in *any* directions. It seems quite possible, according to modern physics, that reality is acausal at base but consistent enough on the average that it seems causal at our level of observation (which is far indeed from the subatomic level). If so, there is not the control of one instant over the world of the next instant that there otherwise seems to be. The particles of one moment are simply very close to the particles of the preceding one. Their average

positions are significant only at the higher levels of organization.

Like most hypotheses, "replacement-time" ideas can be distorted. Thus, to the many variations on the idea of a static four-dimensional universe could be added the following: Suppose that all the instants of eternity are "flashing" (appearing, disappearing, reappearing) together. Suppose that people are really spirits moving in a super-time, moving forward in a coexistent group of moments from one "flash" of our bodies to the next. Suppose that eternity is something like a coiled rope in a pile, so that events of one century would be adjacent (in a super-space) to the events in another century. We have already suggested that the movement of aircraft can be abnormal within a relatively short series of moments. With a coexistent eternity maybe one could slip into another coil, accounting for some mysterious disappearances.

Such a suggestion is a mangling of the idea. A coexistent eternity would not allow for any shifting of the bodies involved, since they are already in all their possible positions. The aircraft would not be moving; all their existences would be in their places at each instant. The view of this paper, on the other hand, is that only the Now exists. The Nows to come may not be quite in accord with what is expected or what is usual. The future is not laid out.

The notion of a universe that is constantly replaced implies that there may be instants of other universes between our instants, in which other universes could be flashing on and off. We can imagine that a body in one universe might somehow slip up on the length of the instant it usually uses and get out of phase, so that it appeared in the wrong universe. If there should be some factor that made a body unstable when not in its own universe, something might eventually jiggle it into its proper sequence of instants (Nows) again. Here we have a possible answer to ships that disappear without trace or recognizable cause, and also men that appear from nowhere, confused and ignorant, until some day they disappear as mysteriously as they came and are never heard from again. Similarly, the unknown catlike beasts sometimes reported,[16] and even the Bigfoot, may come from such an Elsewhere.

In summary, "time" means a sequence of replacements of the world as a whole. Time is an abstraction upon experience, since in reality there is only Now. This is what most people assume until they become philosophers or physicists, and then they may be convinced that they have been mistaken. This is unfortunate. I would say that the common sense view is correct. Although one can deduce that "time is discontinuous," this particular wording is not strictly accurate, since there is no objective space-like time framework. There are only objective instants, in fact only one — this one. Memory gives us the delusion that it is continuous, or at least, that motion is. Perception gives us the valid impression of the current instant also, however, so that we hold contradictory concepts. Adquate consideration, then, should pare one of the delusions, although for practical purposes of planning and remembering one retains as useful the concept of time as a coexistent series.

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THE TIME PUMP
or
SPECULATIONS ON THE A-SPACIAL ENERGIES OF CHRONICITY

By E. Macer-Story

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ONE of the most important tasks for the investigator of unusual phenomena is the separation of the phenomenon itself from ideas about the phenomenon.

This is very difficult to do in retrospect. Methods for systematizing information are always arbitrary and therefore to a certain degree "unnatural." Familiarity with particular methods often leads to the falsely secure notion that the system itself has some natural and organic existence as a phenomenon.

We are most familiar with alternate informational systems as they occur in the variation of words from language to language. People of all sorts are able to distinguish the phenomenon of a chair itself from the word "chair" in any language.

Silently, it is possible to indicate the phenomenon "chair," without access to any spoken language whatsoever, except the mute, conventional gesture of a raised arm and pointed index finger.

Yet, thus silently un-named, it is still possible to sit down upon the object itself. If any person points, however, to an empty area of space and asks you to sit down on the "chair" in well-inflected German, French, English and/or Italian, it is impossible to follow this direction without falling on your rear end. Simply, this is because there is no actual chair in the area. The word or the gesture itself does not supply the solid object. Conversely the absence of specific words and/or apparatus of description does not negate the actual phenomenon.

Individuals with no training in engineering, chemistry or other of the technical sciences are not used to thinking of technological systems as a similarly arbitrary form of language. It is common to suppose that the technical formulae of these disciplines are somehow absolute and objectively similar.

For example: ordinarily, we would not be able to think of any way to deal with electricity other than by indicating "positive" and "negative" charge. *Plus* and *minus* are a global technical convention. It would be difficult to imagine contemporary physics or chemistry existing without the use of these symbols. Closely allied with concepts of *plus* and *minus* are the spacio-temporal concepts of "foreward" and "backward"; foreward indicating "in-front" of a reference point, and backward indicating "behind" that reference point.

Foreward equals *plus*. Backward equals *minus*. We have been conditioned to feel that these concepts are naturally obvious. It seems ridiculous to mention them so specifically.

In the case of electricity, *plus* means "actively moving" or incomplete, and *minus* means complete or "passively moving." The elementary concept of a battery involves the induced flow of incomplete-to-complete and complete-to-incomplete, until the battery materiels themselves become non-reactive, forming—for example—lead sulfate ($PbSO_4$).

Actually, of course, no one sees *plus* and *minus* figures moving around inside the battery like the letters in an alphabet soup. It is, however, known that electrodes of lead (designated Pb) and lead dioxide (designated PbO_2) generate an electrical current when dipped together into aqueous sulfuric acid (H_2SO_4), also known as $H+$ and HSO_4-. Presumably, these lead electrodes will generate this electrical current with or without the arbitrary chemical terminology which uses *plus* and *minus* attributes to describe the micro-chemical alteration in matter which we here on Earth call "electric." Suppose that on another planet, in a different galaxy, Thomas Edison had not been the first major inventor to use electricity in a repeatable, reliable fashion. Further suppose (and to do this you will have to separate the phenomenon of electricity itself from ideas now used to systematize this phenomenon) that something entitled *chronicity* was discovered co-incidentally with "electricity," which on the planet ANOTHER is called simply "the pulse energies." Remember that the discovery of a natural force does not mean mastery of every aspect of this force. There is no patent, for example, on electricity itself, only on the devices used to channel and control the natural reactions which generate electromagnetic force.

Picture ANOTHER inventor who has been trying to channel and utilize chronicity. Since the weather on this hypothetical planet is always tropical, and the days are long, there is no pressing need to heat or light the habitations of ANOTHER by using elaborate mechanical apparatus run by the pulse energies. Further, on ANOTHER, iron, magnesium and crystaline deposits are plentiful, so that any school child (there are regular elementary schools on ANOTHER) can build his or her own personal nightlight and hotplate by the use of ordinary techniques of chemical combination and circuitry.

However, the atmosphere on ANOTHER is much less dense than the atmosphere here on Earth. There are no birds, and the creatures that do fly can sustain aerial maneuvers for only a short time. Therefore, it is impossible to build practical, winged craft for rapid long distance flight. Yet ANOTHER is actually the size of Earth or larger. Civilizations have grown up all around the globe. ANOTHER's countries can communicate by the use of radio and television and transport individuals and cargo by overland train or sailing vessel, yet there is a pressing need to physically transport matter more rapidly from place to place.

Time is of the essence on ANOTHER. Inventors all over the planet speak and think of the mysterious possibilities of *chronicity*, as we discuss the practical use of atomic energy.

On ANOTHER, it is taken for granted that there are several sorts of time energies: *p*-energies, which relate to electromagnetic pulse frequency; *g*-energies, which relate to the gravitational suspension of ANOTHER within the solar nexus; and the energies of *chronicity*, which are a-spacial and therefore do not partake of the distance and density measurements common to both the *p* and *g* continua.

Since distance is no factor in utilizing the a-spacial energies of chronicity*, there are research laboratories all over ANOTHER in which people are trying to figure out a safe and sane way to translate the vibrational phenomena of the *p* and *g* continua temporarily into the a-spacial energies of chronicity, and then back again.

This would mean that an object could disappear spacially in one place and re-appear again spacially in some other location, thus circumventing the long hours spent in surface transport over land and sea.

Let us now translate this alien sort of speculation into an informational system referent to Earth. One of the most popular informational systems on Earth is the daily newspaper, augmented by the drugstore paperback book rack. This is not a technical system, but it is an informational system all the same, used primarily for obtaining popularly-accepted facts and information. Of course, yesterday's fact may become tomorrow's fiction or vice versa, but this evolution is a matter of time, and as the facts change they will again be processed through the popular informational system. Currently available on the paperback book racks are a number of paperbacks which discuss the unexplained appearance and disappearance of objects, people, radar images, and conventionally recorded time (See, for example: *The Great Lakes Triangle,* by Jay Gourley [Fawcett, 1977].)

It is a popularly accepted Earth-fact that sometimes things do appear and disappear in a way which is not the result of any known electrical and/or mechanical cause. These a-spacial events are not usual, and when they do occur they are noticed, and pass into the public informational system as anecdote, news story and/or philosophical puzzler.

It is a widely held terrestrial theory that mysterious lights and disk-shaped objects which appear and disappear in the sky in this strange a-spacial fashion may come from ANOTHER planet where technological development is "more-advanced" or "alien."

Several years ago, I read a science fiction story about some wayward children who memorized a few of the nonsense rhymes from the book *Alice in Wonderland,* and then (by following some sort of accompanying diagram) vanished forever from the room in which they had been playing, presumably into the mirror-reversed universe of Wonderland. It is interesting that Lewis Carroll, who wrote of passing through the looking glass, was by profession a mathematician.

In various areas of higher mathematics, particularly in "group theory" and calculus, the spacial metaphor of "inversion" is particularly important. The process of inversion involves taking a point, rotating it 180 degrees, and dropping it down through and beyond a horizontal plane so that the point itself ends up "behind the looking glass" in an inverted position with regard to a circular axis (*figure 1*).

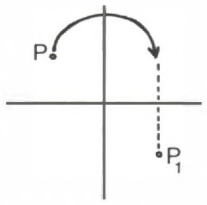

Figure 1

Of course, the very process of inversion takes time. It is a spacial operation which occurs in two stages: "rotation" and "reflection." Metaphorically, the inverted point has actually traveled through space in order to get behind the looking glass of the horizontal plane.

On ANOTHER, it is recognized that the spacial calculus used to describe operations utilizing the *p* and *g* pulse energies as they mesh to form the pseudo-crystaline structure of molecular matter is useless in describing the effects of *chronicity,* since the energies of chronicity are in essence a-spacial. Operations utilizing the energies of chronicity will of necessity employ techniques which are non-Euclidian and non-geometric, since the logical treatment of geometric forms requires spacial, sequential reasoning.

For example, on August 8, 1978, while browsing through a reference book on mathematical group theory, I came across the interesting fact that 23 is the international numerical symbol for the incomplete tetrahedral cubic point group.

This struck me with a particular urgency, as in his nonfiction book on synchronistic events connected with UFO contact, entitled *The Cosmic Trigger,* Robert Anton Wilson mentions being beset by the number 23, seeing it on address labels, in telephone numbers and on various other items. He is at a loss to understand exactly why his mind should be drawn to this particular number.

Since molecular time is often measured by the pulsing of the tetrahedral ammonia molecule, which inverts itself with regular periodicity, as we are all still wondering why the Egyptians built large, tetrahedral tomb structures and whether or not small regular tetrahedrons really *do* preserve meat and vegetables and sharpen razor blades, clearly the number 23 — standing as it does for the tetrahedral point group as an international numerical symbol— might be highly significant as an a-logical clue to the nature of chronicity. However, since the energies of chronicity are a-spacial, there can be no tetrahedrons within this time-continuum.

On ANOTHER, this is characteristic of the energies of chronicity: *no-space/no-time* is regarded as an advantage. It is desirable to transport physical items overland from location to location in the shortest time possible. The problem on ANOTHER is not acceptance of the energies of chronicity; it is the invention of safe and effective means for the utilization of these energies.

Yet here on Earth, in our present state of technical and philosophical development, the door seems to be shut to us conceptually. The "looking glass" is a hard, impassable barrier, reflecting only patterns of visible light— light behaving according to the ordinary rules of electromagnetic and gravitational time. The very idea of passing

* These are not the same as earth-inventor C. G. Jung's a-causal principles of synchronicity, since they are actual energies, not ideas.

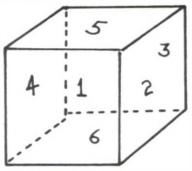

Figure 2

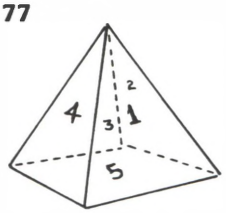

Figure 3

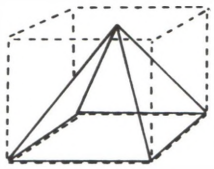

Figure 4

"through" the looking glass is a deception. There are no alternate rooms beyond the surface.

Actually, the "looking glass" fantasy itself is a spacial concept, involving as it does the pivotal reversal of physical shape (RЯ). Unfortunately, physical reversal within three dimensions does not lead to a liberation from these dimensions. This is because the physical manipulation itself is carried out entirely within three-dimensional space. It opens no interdimensional doors. What if the energies of chronicity were "quantized," much as the energy states of electrons are quantized within the atom? If this were so, it would be possible for a particle or system of particles to make a "quantum jump" into another continuum.

In this alternate continuum, the "speed of light" (that famous constant *C* in Einstein's equation $E = MC^2$) would be quantitatively different, thus generating constructions of matter with a texture quantitatively different from the electro-magnetic texture we are used to perceiving.

Conceptually, this time quantum jump is not so difficult to imagine: the molecular energies which bind atom to atom would simply change frequency. However, actually: how might this be accomplished?

Of course, it is impossible to *visualize* such a quantum jump of the molecular energies, as this particular transition would be fundamentally a-spacial.

Ordinary conceptions of space are ineluctably linked to conceptions of time. In order, for example, to get up and walk across the room anyone must expend at least an instant of time.

Habitually, most people are likely to take the distance they may traverse by foot and wrap it around the circumference of a gravity-driven, 360 degree clock. The hands of this clock are always traversing a linear, circular distance.

In considering the energies of chronicity, it is necessary to separate the phenomenon of time itself from ideas such as the 360 degree clock.

What happens to this linear pre-conception when the numbers 2:35 followed by the numbers 6:10 appear sequentially on the face of an electrical registry device which displays the time of day? I could look up and read the numbers 2:35, write the words "measured time" and then look up — as I think — one instant later and read the numbers 6:10.

If I were looking at a circular clock face, the hands of this device would have to have covered a sizeable chunk of the 360 degree circumference in less than one degree-minute. I would notice immediately that something was the matter. I might even go so far as to call this instant alteration of the physical hand position a paranormal occurrence of *telekinesis**, but I certainly would not (according to the usual preconceptions) dare to think that the change in the physical position of the hands had actually altered time. I would simply phone time-of-day service and reset my rebellious clock.

* Unusual alteration of matter at a distance from the percipient.

If I was not looking at a 360 degree clock, but simply had a timed electrical registry device which first flashed 2:35 and then one instant later 6:10, I would (according to the usual spacial preconceptions) be less likely to become concerned about a "paranormal" occurrence which had violated the "laws" of time and space. This is simply because I could not see the unusual "time jump" happening spacially.

Spacially, one of the most interesting facets of a tetrahedron (international point group number 23) is that it can be considered to represent an incomplete cube. A cube has six equal sides (*figure 2*). A regular tetrahedron has five sides, four of them equal triangles and the fifth a square with sides equal to the base of these equilateral triangles. A pyramid with a solid base, therefore, can be considered to be a regular cubic solid, minus one side (*figure 3*). Where is this side?

The number of boundaries of each dependent side has, in a tetrahedron, been reduced from four to three. The area of a solid surface cannot be contained by any number of boundaries smaller than three. Therefore, a regular tetrahedron, as well as being the simplest regular, solid geometrical representation which can be constructed from an assemblage of five two-dimensional planes, is spacially economical. Individuals who take the trouble to build their own regular tetrahedron are, in a sense, cutting the three-dimensional plane down to essentials.

Of course, as I have mentioned, on ANOTHER this trimming down of space is an essential scientific problem. Scientists would like to be able to collapse distance and—in effect—make it disappear. It has often been rumored that inside one of the larger pyramids of Egypt is a secret chamber. This chamber has never been found. Perhaps it is the missing side of the regular cubic solid which might have been erected from the base of this stone tetrahedron. Or, perhaps (almost inconceivably to the spacial imagination) this hypothetical secret chamber inside the tetrahedron is what happens when the upper three-dimensional figure is reduced by one side, collapsing into a two-dimensional arrangement of two equal-sides planar figures, joined at the edges and bounded on two sides. Of course, this "chamber" would not be a potentially solid area, as is the tetrahedron contained within a cube. It would be the imaginary line within the solid tetrahedron where the two-sided, two-dimensional planes intersect (*figure 4*). Remove, for example, the bottom side of the four upper triangular areas, and let the spokes of this open umbrella fold up together, as they would if no intervening dimensionality were holding them apart, and one line will be created. The baseless triangular solid will literally disappear from sight (*figure 5*).

Of course, by adding the missing sides one by one, and expanding this linear umbrella, the original tetrahedron can be constructed at any other location by a simple measurement of relative distances. Now, consider instead of this tetrahedron the "solid" four dimensions (three spacial

Figure 5

boundaries plus measurement in time*) by which we usually bound and restrict the everyday affairs of our life. Consider the top four triangular planes of the tetrahedron to be these spacial quantities, and the square bottom of this figure to be the fifth (slightly different geometrically) dimension of *chronicity*.

Remove this square surface of a-spacial linkage, and the four upper dimensions then will collapse together, since there is no third side of each triangle to bound and complete the area.

On ANOTHER, this geometric analogy is called the "time pump," though there is a smaller scientific faction which prefers to label this collapsible area of space the "time umbrella."

The "time umbrella" people feel that matter which vanishes from space due to the manipulation of *chronicity* is simply "furled" somewhere and does not actually cease to exist; whereas, the "time pump" majority cannot accept the concept of "furled" matter, and believe that the structurally-supportive energies of *chronicity* literally pump up and expand matter itself into dimensionality, much as the addition of a third linear boundary can transform the simple intersection of two lines into a potentially solid piece of area.

This is not the way we are accustomed to think here on earth. Though it is generally recognized that a line is the intersection of two planes, and that the intersection of three or more planes can form a solid, we do not usually think of these geometric activities as literally occurring, although they are, of course, a formalized discussion of literal reality.

An electromagnetic field is seen by technicians and theoretical analysts as being a state of matter with certain boundaries. It affects qualitatively the area within these boundaries. This electromagnetic effect is seen to occur regardless of the variety of matter which might be within the field. The boundaries of the field do not follow the shape of the material structures within the field, but have a relatively separate existence. We should separate this phenomenon itself from ideas about the phenomenon.

It would be quite possible to consider an electromagnetic field not as a qualitative abstraction, but as a bounded, invisible solid, which is co-existent with visible matter. Further, consider a tetrahedral electromagnetic solid. This is an energy-thing which can instantly disappear in one place, and reappear again in a different location, substantially unaltered — provided that somebody pulls the switch and moves the equipment. The only problem with the electromagnetic solid (as everyone has been researching on ANOTHER) is that it does not absorb matter. When the electromagnetic field-solid vanishes, it leaves the visible solids with which it has been interacting perhaps altered magnetically, but substantially as they were before.

If an electromagnetic solid is generated in the area of a table, for example, the table will not disappear when the generator is turned off, but — if it is metal — it may have become a magnet, or show magnetic alteration on the molecular level.

One of the most interesting side effects of some "ufo" sightings has been that there is a magnetic alteration in the molecular dipole of metallic material in the vicinity. This has led P. J. Klass, in his book *UFOs Explained*, to theorize that UFO phenomena might be some variation on electrical plasma, which often manifests as "ball lightning," and can carry a magnetizing charge.

The Great Lakes Triangle, the paperback I cited previously, describes objects such as airplanes and ships which seem to become disoriented as to direction, and vanish. If these objects do not actually "vanish"* in the Great Lakes area of the United States and Canada, then there does seem to be an alarming number of freak accidents within this particular geographical area.

I have personally (this is independently of Gourney's book) interviewed a bush pilot who regularly takes hunters on trips up to the Arctic and to inaccessible areas within the Great Lakes region. This pilot, who is currently flying out of a location just north of Sault Sainte Marie, Ontario, told me that he had once seen a "UFO" light in one of these backwoods areas. Independently of this sighting, which was also witnessed by several hunters, he has experienced magnetic alteration in an area approximately 150 miles northeast of the area in which the light was seen.

While flying through this "magnetic" area, the compass of his small plane will spin and lose magnetic orientation. He attributes this to the iron and copper deposits in the north central area of the American continent, a geographical area which is popularly known as the "iron range."

Of course, conditions in an "iron range" area, where there are heavy metallic deposits near the surface of the earth, would be roughly similar to environmental conditions on ANOTHER, where iron and other such minerals lie around close to the surface of the planet, and are readily available.

It is easier to build an electromagnetic field-solid on ANOTHER due to the magnetic properties of the environment.

Now, consider this electromagnetic solid to be not a *condition* of matter, but a *container*, an artificially created cavity which is able to convert the molecular "solidity" of visible matter into the a-spacial energies of chronicity and literally "pump" this transduced matter into another location, where (within another artificially created electromagnetic cavity) it will be reconverted into approximately its original shape.

Approximately.

For with this process of transduction, there will always be some difficulty in reordering the transmitted matter exactly. Accuracy of matter-transduction is the focus of intensive research on ANOTHER.

This process of transduction (the direct conversion of one type of energy into another type of energy*) can be imagined to be a lot like television transmission.

Instead of a two-dimensional image being relayed by

* It takes time to progress outward from one centimeter to another.

* See Earth's piezoelectric crystal, which converts mechanical stress directly into electrical current.

an electronic scanner which transmits images from a linear grid, a three dimensional object would be "pumped" from place to place, one electron-bit at a time, via the chrono-electronic transducing chamber. I am not referring to the transmission of a hologram image of an object via laser reproduction, but to the actual dissolution and reconstruction of matter itself.

How would this "time-pump" actually operate?

Firstly, it would have to be effective on the molecular level, transducing matter from location to location not like a tornado (which indeed can jerk up an entire location physically, piece by piece, but does not redeposit this location in an ordered way) but more like the electronic scanner used in television. This scanner moves regularly over a grid area, recording variations of color and intensity into pulse signals contained within a carrier wave. This ordered collection of pulsings can then be retranslated into the original picture by the reverse process of scanning out the irregularities, line by line, onto the matching grid of a home TV set.

Light points arrive into the TV apparatus one at a time, though the picture itself seems (by optical illusion) to be registering simultaneously, since the linear scanning process happens so quickly. The hypothetical "time-pump" would have to do something similar, pumping the transduced solid back one matter-point at a time into three-dimensional molecular solidity or (to reverse the process) *vanishing* this solid one matter-point at a time into the a-spacial chronicity continuum.

However, since there is no space, there is no sequential order. In order for the "time-pump" to work, each matter-point transduced out of the electromagnetic cavity and into the chronicity continuum would have to be imprinted (as is each cell of a living organism) with a master plan for reassembly, so that it knows, for example, to "wait" for a micro-second, until the other matter-points which should properly be flanking it arrive into the electromagnetic reception cavity.

This a-sequential assemblage would occur in a matter of milliseconds, so that the physical structure would seem to the naked eye to "appear" or "disappear" much as the linear display on a TV screen appears (except when there is "snow" or electrical interference) to be of one piece, rather than a series of light points.

When discussing the quantized energy levels of molecular structure here on Earth, it is often said that electrons are "pumped" from one energy orbital into another.

This pumping represents the addition of a certain number of volt electrons of electromagnetic energy, or the loss of this energy. The energy content of each photon (matter-point of light energy) is given on earth by the equation $E = hc/\lambda$, where h is Plank's constant of energy quantization, c is the electromagnetic "velocity of light," and λ is the wavelength in centimeters. We commonly assume this velocity of light to be an invariable constant.

Suppose that this quantity C were not an absolute constant, but a quantified variable, able to be "pumped" by a certain number of volt-chronos (the electrical unit linked to ANOTHER's chronicity system) onto a qualitatively different energy level. This would mean, in terms of the Earth equation $E = hc/\lambda$, that (given the observed invariance

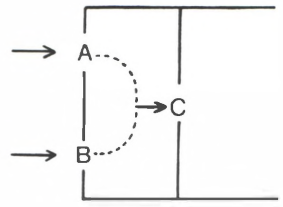

Figure 6

of centimeters and energy quantization within the Earth environment) the energy content of the photon or "matter-point of light energy" would have to change....as the volt chronos were changing.

It is a popularly known dilemma here on Earth that the photon within the electromagnetic continuum seems to be both a "wave" and a "particle," passing through two apertures at once in an electromagnetic grid and yet registering subsequently at only one place on an electron counter.

This means that the photon has been observed to exhibit a-spacial behavior within this continuum. Clearly, then, no matter which technical system you are using (Earth's or ANOTHER's) there is room within the observed phenomena for speculating on the existence of "chrono-volts" or "time energies" related somehow to what we already know about the unusual properties of the photon.

People are used to thinking of the famed wave and/or particle demonstration as involving a difference in the observed behavior of "matter" at different, successive instants of time. Yet we should separate these ideas about the phenomenon from the phenomenon itself.

Here we have three point-events at which the photon is noticed (*figure 6*). Perhaps the particle at A and B is not in the form of a "wave," but is the same single energy packet which registers at point-event C. At point-events A and B, the chronicity of time has become a-spacial, so that these discrete events (which are really separate, involving the same, single photon) somehow take place at the same electromagnetic instant. Remember that the devices which measure these point-events are electrical devices. The measurements are taken at relatively short intervals, involving fractions of a wavelength.

Is there something about the spacial arrangement of this famous and mystifying experiment with the photon which affects the chronovoltaic characteristic of this matter-point, causing a-spacial behavior to register within the electromagnetic continuum? Remember the legends about the secret energy chamber within the tetrahedron.

Energy within each mode of electromagnetic oscillation is proportional to the square of the amplitude of that oscillation. If, then, the measuring slits in the photon experiment are placed ½ wavelength apart (as is the general prescription) and a photon (nothing is perfect) hits the *edge* of one of these slits, then is skewed sideways...the amplitude of oscillation is "broken," thus changing the energy content of the mode of oscillation. Assuming that the energy transitions of the oscillated photon are discrete and occur in "quantum jumps" according to some constant, is it not possible that by jarring the electromagnetic matter-point of light energy (or "photon") out of phase, the "chronovoltaic" nature of electromagnetic time is qualitatively altered? Might not a tiny electromagnetic tetrahedron with proportions adjusted to the fraction of a wavelength

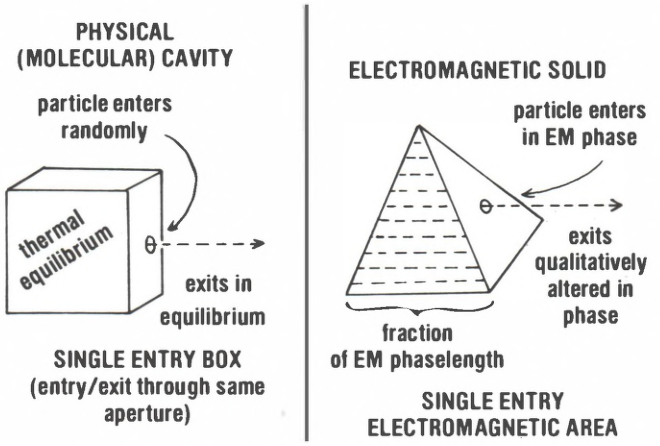

Figure 7

cause qualitative changes in the behavior of "time," since electromagnetic time is measured by pulse?

This would be similar to the selected emission effect obtained in "black box" radiation effects, during which the resonance mode of a cavity determines the frequency of the electromagnetic radiation emitted (*figure 7*).

Had ancient Egyptian philosophers and "magicians" seen diagrams of this tetrahedral "time pump," perhaps preserved from some Atlantean culture, which the famous seer Edgar Cayce has described as possessing "ray-emitting crystals" with fantastic properties relating to matter transmission and destruction?

Were the Atlantean crystals tetrahedral, or has Earth been visited by representatives from ANOTHER planet, which is magnetically different from Earth, more sophisticated as to *chronicity*, and upon which the electromagnetic field is technically considered to be a "solid" cavity?

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THE KNOWN AND THE UNKNOWN

By Steven Mayne

THROUGHOUT history man has continually maintained a conscious quest for knowledge. The dictionary defines the word *known* as: that which is apprehended or perceived by the mind or senses; that which has become a part of knowledge. And *knowledge* is defined as: the sum total of what is known.

Armed with that which he has acquired and formulated as knowledge, man then searches for the *unknown*, which is also defined by the dictionary: unfamiliar, not ascertained, incalculable, inexpressible, having no formal recognition.

This leads us immediately to a very disturbing paradox. Can the known, which exists in the mind, search for the unknown? This is not intended as a rhetorical question. If we do not know what something is, how can we find it? How can we know the unknown? In other words, if our minds apprehend and acquire new information, it is no longer unknown. Anything the mind has perceived through experience, through the senses, is known, and is therefore incorporated into our knowledge.

As Forteans, we have learned to constantly question and re-examine that which is called reality — the known. We must, therefore, ultimately question the very precepts of knowledge. Rather than to engage ourselves in a running conflict of belief versus disbelief with those sceptics who have grounded their argument in hard-core definitions of what is "known" about "reality," we should instead perhaps concentrate our efforts on pointing out to them the need for questioning the known — that which to them is often indisputable, unchangeable, and absolute.

Surely we must come to understand the known before we can develop a perspective by which to view the unknown. Unless we do so, we are doomed to fail in our efforts because what we call the known will prevent us, interfere, and continue to impose its own interpretations and structurings upon the unknown.

In searching for the unknown we use eyes which are accustomed only to seeing the known. What would happen if we could realize that what we assumed to be the known is, in fact, unknown, that the very foundation underlying knowledge is itself questionable? Without seeking an answer, let us simply examine the instability of that structure within our own psychological framework.

SYMBOLS: IMAGES OF THE KNOWN

Man lives continuously in two worlds — the world of life and consciousness, and the world of symbols. Ever since man invented reading and writing and became dependent upon those means of acquiring and transferring information, knowledge has often suffered. The words and symbols, intended originally to *convey* the actual, have instead *become* the actual.

For rational purposes, we use many varieties of symbol systems — linguistic, pictorial, mathematical, ritualistic, musical. We would, in fact, have no science, art, law, nor philosophy without such symbol systems. In a very real sense, then, symbols are indispensable. But, as history has shown, they can also be fatal. Aldous Huxley's comment is appropriate in pointing out how this happens:

> Consider, for example, the domain of science on the one hand, the domain of politics and religion on the other. Thinking in terms of, and acting in response to, one set of symbols, we have come, in some small measure, to understand and control the elementary forces of nature. Thinking in terms of,

and acting in response to, another set of symbols, we use these forces as instruments of mass murder and collective suicide. In the first case the explanatory symbols were well chosen, carefully analyzed and progressively adapted to the emergent facts of physical existence. In the second case symbols originally ill-chosen were never subjected to thorough-going analysis and never re-formulated so as to harmonize with the emergent facts of human existence. Worse still, these misleading symbols were everywhere treated with a wholly unwarranted respect, as though, in some mysterious way, they were more real than the realities to which they referred. In the contexts of religion and politics, words are not regarded as standing, rather inadequately, for things and events; on the contrary, things and events are regarded as particular illustrations of words.[1]

Symbols are not *a priori* negatives; they have, however, only been used realistically in those fields we do not consider of supreme importance. But they have also been used idolatrously and insanely in every situation involving our deeper impulses. "Abstract concepts," notes J. Chilton Pearce, "having no basis in immediate reality, can alter our interacting with real things, and so change the nature of our reality experience."[2]

The most profound philosophers, Huxley goes on to note, throughout the ages, have consistently fallen into error equating their verbal constructs with fact, and imagining that symbols are somehow more real than what they stand for.[3]

We are no better off than our philosophers. Our minds are rarely, if ever, free. We constantly fill our minds with symbols. The mind is held together by ideas, and it lives and has its being around those ideas. The mind moves only within the radius, however wide or narrow that radius may be, of its own center. It dares not wander from that center, and when it does, it is overcome with fear, fear not of the unknown, but of the loss of the known.

Ideas have become far more important to us than action. We have totally separated the idea from the action. Ideas are always creatures of the past, and action is always in the present. We are afraid of living in the present, and therefore the ideas of the past have become of ultimate importance to us.[4]

THOUGHT: WE THINK, THEREFORE WE ARE NOT

Through self-delusion we have come to believe and accept that we cannot live without thought. Yet, paradoxically, we also would separate thought from the thinker, preferring to believe the thinker is separate so that the thinker can, by means of thought, change. When we realize we are greedy, jealous, or envious, for example, we think we should not be that way; we then try to change those thoughts and therefore an effort is made to "become" something else, thus sustaining a dichotomy. Thought breeds duality in all our relationships, including our relationship with the unknown.

So the thinker separates himself from the thought. For example, he separates the known from the unknown. He never realizes that in the very act of demanding to know, he is altering his perception of the unknown.

Thought, if you observe it, is the response of memory—and memory is the repository of accumulated experience and knowledge. From our background of memory, then, we react; and this reaction constitutes thinking. We have led ourselves to believe that we must fill our minds constantly with knowledge, and this has led us to actually believe that we cannot possibly exist without a mind that thinks incessantly. We are so crippled, overwhelmed, deluged by the manifestations of those thoughts that we often lose the meaning. Since we have no idea how to exist without it, we constantly feed the thought process more information, thereby perpetuating it. We cannot conceive living without letting thought continually form our decisions, and so we continue thinking thoughts that are, in reality, detrimental to living in the here and now. Whether we want our minds occupied all the time so that we will never see ourselves as we actually are, or because what we really are prevents us from seeing ourselves, is irrelevant; I am simply attempting to show how the mind habitually operates.

The same fallacy applies to our acceptance or denial of the unknown. We are so continuously overwhelmed by a constant flow of information from all sides that we must tune out the majority of that information. Data from the unknown spectrum is immediately correlated to the known, thus altering our perception of the information. Indeed, we are much too busy accumulating and categorizing all the manifestations of *known* data, most of which we accept at face value without question because that data has already been produced through the thought processes of others; we have no time left for the unknown. For this reason, the initial reaction is often to reject the unknown, simply because it cannot be apprehended or perceived by the mind or senses — i.e., it is not known. Thus we fail to observe that information for what it may be. Thought has altered our perception, blinding us and preventing the influx of new information.

> A new fact cannot be seen by thought. It can be understood later by thought, verbally, but the understanding of a new fact is not reality to thought. Thought can never solve any psychological problem. However clever, however cunning, however erudite, whatever the structure thought creates through science, through an electronic brain, through compulsion or necessity, thought is never new....[5]

ANALYSIS

We are prevented from ever being able to analyze the incoming information.

In psychology, which is the mind studying the mind, we can see how the process works directly. The traditional approach to understanding the mind is an analytical one, yet psychologists themselves have fallen prey to systems, ideas, and theories, and these have, in fact, *become* the reality. Action means doing. Analysis prevents action in the present because in analysis there is time — a gradual peeling away of layer after layer, and an examination and analysis of the contents of each of those layers. It is a never-

ending process. By allowing the time element, the way is opened for all forms of distortion — and that has little to do with either the reality of the situation or the liberation of the self. It was Einstein who noted: "The true value of a human being is determined primarily by the measure and the sense in which he has attained liberation from the self."[6]

From the start, then, there is duality — the analyzer and the analyzed. But the analyzer is the accumulated knowledge of all the little parts he has analyzed. And with that knowledge, which is of the past, he analyzes the present. The analyzer is trying to change what is, the present, according to what he has learned, the past. Therefore there is dichotomy, contradiction, distortion, disorder, confusion, and little or no understanding.

Ultimately, the same is true of all knowledge. What we consider knowledge is simply more thought-structuring of the mind. In trying to analyze the unknown by using elements of the known, we are repeating the same mental processes. Those processes, of comparison, correlation, and analysis — including all their limitations, not only alters the perception of the unknown, it confines the unknown to the known, thus preventing any true perception or apprehension of the new data, except as an accidental byproduct of the overall process.

That process, as I have attempted to show, is often based exclusively on data which is already faulty simply because it has suffered the same fate as the new data: it has been subjected to the same thought process, a never-ending circle that can be measured starting anywhere.... The known, as precariously unreliable a tool as it may be, only serves to define the unknown as that which it is *not*.

Thus we have come to the Ultimate Paradox.

CONCLUSION

Earlier in this article I suggested we simply examine the instability of the mental structuring of knowledge, without seeking an answer. It should be obvious now why we cannot seek an answer. There is none. Any answer or conclusion we could reach would be a perpetuation of the process of logical thought, of analyzing the unknown by using the fallible data of the known — or already perceived and apprehended.

Instead, I have chosen to show that the known is itself based upon a questionable foundation. Instead of viewing only dichotomy and separating, through our mental processes, the known from the unknown, perhaps we should attempt to understand the fluid interflow between the two ends of the spectrum. Knowledge should, unless it is to become another meaningless symbol, portray the actual — that nothing is truly known or explained — and not *become* the actual definitive paradigm of that which is greater than itself. However great we may think our understanding of the knowledge of the greater reality we call the universe, we must nonetheless never cease to realize that that body of knowledge is simply one limited aspect of our true relationship with the unknown.

Bearing this in mind, we can then observe that, if the known is the unknown, cannot we comfortably integrate into the very process of thought itself the perception that the unknown, at some level beyond our current limited thought structures, can be known as something other than what it is *not*? Can we not welcome the paradigm shifts, the reintegration of symbol and meaning and all else resulting from opening ourselves to observing the unknown from a new perspective instead of closing ourselves off to that potential?

Do we have so many answers that we cannot tolerate a question?

> The mind moves from the known to the known, and it cannot reach out into the unknown. You cannot think of something you do not know; it is impossible. What you think about comes out of the known, the past.... This past is thought, shaped and conditioned by many influences.... Thought can only deny or assert, it cannot discover or search out the new....The function of thought is to communicate but not to be in the state of experiencing. When experiencing ceases, then thought takes over and terms it within the category of the known. Thought cannot penetrate into the unknown, and so it can never discover or experience reality.[7]

ACKNOWLEDGEMENTS

Any reader who is familiar with Krishnamurti will readily see that the author of this article has relied on the works and expressions of this man, who I feel has been grossly ignored by the Western world. I feel his "works" are extremely important and devastating in impact, and that they should, by all rights, be brought to the attention of serious Forteans.

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COUNT SAINT-GERMAIN: WHERE ARE YOU?

By Curt Sutherly

UNTIL the autumn of 1975, I had never heard of the legend of Count Saint-Germain — the man who lives forever. According to various reports which are probably a mixture of fact and fantasy, Saint-Germain has wandered the halls of humanity since pre-Biblical times, presumably for the expressed purpose of guiding our race through periods of turmoil. Kind of an immortal Dudley DooRight . . .

Despite my skeptical attitude, there is a surprising body of literature associated with the presence of the eternal man. For instance, a survey of 18th Century documents reveals that the good Count pops up in the memoirs of anybody who was Somebody during that period of time. Mesmer, Horace Walpole, Casanova, Count de Challon, Charles of Hesse, and many other dignitaries, musicians, adventurers and general characters-at-large refer to meeting Germain.

The Count has also been credited with initiating practically every so-called "secret society" ever founded, including the Rosicrucian Order, the Freemasons, Nights of Templars, the Illuminati, and the Knights of Light.

Many SITU members may already be familiar with the alleged movements of the Count. Nevertheless, for those who are not, allow me to repeat a short conversation documented in the Countess d'Adhemar's biography of Marie Antoinette (to whom Germain was supposedly an advisor until her death by guillotine). The conversation in question is said to have taken place between Germain and the aging Countess de Gergy:

"Fifty years ago," Countess de Gergy said, "I was ambassadress at Venice and I remember seeing you there then calling yourself the Marquis Balletti. You looked just as you do now, only somewhat riper in age perhaps, for you have grown younger since then."

"Madame," Germain replied, "I am very, very old."

"But then you must be nearly one-hundred years old," the astonished Countess declared.

To which Germain replied, "It is possible that I am much older . . ."

* * *

If, prior to the fall of '75, anyone had suggested to me that Count Saint-Germain was (is?) for real, I probably would have quietly shook my head and walked away. Looking over my shoulder, I wonder about that skepticism, especially in view of my passion for researching the paranormal. Be that as it may, one need not be too surprised to discover that I first heard of Saint-Germain while attending a UFO conference.

This particular conference was held the weekend of October 17-18, 1975 at the Trade Winds Inn, Fort Smith, Arkansas. As "flying saucer" gatherings go, it was one of the better ones.

Personalities from nearly all the major UFO study groups were present, as were scientists such as J. Allen Hynek, Leo Sprinkle, Jim Harder (University of Berkeley, Calif.), and Dr. Richard Haines (Aerospace Medical Association of Aviation Psychologists). Having attended quite a few saucer conferences in the past (as, presumably, have many SITU members), I was pleasantly surprised that the event was dignified by relatively serious-minded individuals rather than the usual drink-it-up party crowd generally manifest at such affairs.

Enroute to the conference, my driving partner, Gene Steinberg, and I stopped off to pick up UFO historian Lucius Farish, who is sometimes referred to as "the Rock of UFOlogy." Farish, for those SITUers who don't know, makes his home in Plumerville, Arkansas. He is one of the very few Forteans to make his living by researching and writing about UFO and paranormal phenomena. (He is, incidentally, also a member of SITU.)

Together, Farish, Steinberg and I breezed into Fort Smith, Gene at the wheel — and who suddenly cast his roving eye upon an attractive girl standing by the conference hotel's parking lot.

"Say, I've got to meet *that* girl," he chuckled.

"Sure, Gene, sure," Lou and I replied, certain we'd never see the lady again.

* * *

The following night, October 18, Gene cornered me in a section of the hotel lobby.

"Remember that girl we saw when we arrived — the one I wanted to meet?" he asked.

Thinking for a minute, I managed to recall the girl: "Yeah, what about her?" I replied.

"Well, I just finished talking to her, but you know, she told me this really incredible story . . ."

During the next fifteen minutes, Gene related a saga earlier told to him by his new-found friend. And as he had noted, the story was, in fact, rather incredible.

What it boils down to is this . . .

Upon introducing himself to the girl and exchanging opening pleasantries, Gene discovered his companion was from West Germany, although not a native of that country. (He mentioned her by name, but for story purposes, we'll refer to her as Sandra.)

As Gene told it, Sandra had flown to the United States for the sole purpose of attending the conference — but not so much to learn about unidentified aerial objects as to meet Dr. James Harder.

Sandra, it seems, had had several baffling experiences during her youth (today she is perhaps 22 years old), and she was hoping that Dr. Harder — who is an expert hypnotist as well as a UFO authority — might be able to jog her subconscious somewhat on the matter of these experiences. (Whether he did or not I never did learn.)

According to Gene, Sandra had lived in Canada as a child. She was an only child and perhaps no more than six or seven years old when trouble broke out in the family. Gene didn't expand on the particulars of the strife, and I didn't ask. Suffice to say that the usual difficulties often encountered between man and wife surfaced in Sandra's household, nearly resulting in a broken marriage.

Gene went on to say that, almost miraculously, a stranger arrived at Sandra's home and due to his presence the family problems were resolved. Sandra, Gene said, paid little attention to the stranger at first, probably because of her age and inattention to detail. But one thing did stand out in her mind: whenever the stranger (we'll call *him* Alex) sat Sandra on his lap, she couldn't help noticing his eyes. *He had no pupils!*

Some months after the marriage difficulties had come to an end, Alex took his leave of Sandra's home, claiming he had to return to his birthplace somewhere in the eastern world. He was never very specific when mentioning his birthright, but often alluded to being of royal blood. Alex also claimed to have seen much and traveled extensively.

* * *

Several years after Alex had departed, Sandra's parents decided to uproot and travel east. They eventually settled in West Germany, but as fate or otherwise would have it, their marital problems returned to plague them.

And, as before, Alex appeared to smooth things over.

By this time Sandra was in her mid-teens and a somewhat better observer of detail. Alex, she decided, was strikingly handsome, tall, elegant of manner and speech, and prone to talking as little as possible. Furthermore, he actually did have no noticeable eye pupils. This, Sandra told Gene, was the only immediately strange thing about the man. Otherwise, he was perfectly normal — perhaps too normal.

Sandra said she continued to watch Alex with great care and frequency. As a result, she eventually discovered that the man seemed to have a perpetual smoothness of cheek and chin. Acting on a hunch, she rummaged through his shaving kit one afternoon; and as she had begun to suspect, there was no razor, electric or otherwise.

Finally, driven by the obvious strangeness of her parents' guest, she confronted Alex, and asked him about his eyes. In reply, he only laughed at her. Then she asked him why he never needed to shave. This time he did reply, telling her that he had never had any need to shave. That, however, was as much as he would say about anything.

Sandra told Gene that, despite the man's seeming alienness, she felt no fear of him. Instead, when Alex vanished for the second and final time, she experienced a sense of loss at his going.

In the months that followed, Sandra often nearly asked her parents about Alex, but for some reason refrained from doing so. She told Gene that as odd as it may seem, her mother and father had at all times acted as if their guest had been perfectly normal.

At some point, Sandra became infatuated with the UFO mystery — perhaps, Gene said, thinking there was a connection between UFOs and the mystery man. The end result of her interest was her trip to the United States to meet Dr. Harder, whom she had heard much about. However, she stumbled into Gene (almost literally, I understand), and needing someone to talk to, blurted out her entire story.

* * *

Standing in the hotel lobby with people thronging about, it was difficult to accept Gene's recollection of Sandra's account. Still, I've known him for some years and despite a few faults, I have never found him to be a liar. Added to this was the simple fact that he was obviously as baffled by Sandra's story as was I.

So, after hearing him out and not having the slightest inkling of what to do about it, I told him that I had a couple of loose ends to tie together, but that I would meet him at the room of a mutual friend within the hour.

That friend was one Allen Greenfield, a longtime UFO researcher, (then) resident of Atlanta, Georgia, and something of a radical with regard to theorizing on UFOs and possibly related phenomena. (Al, along with Gene Steinberg, was among the vanguard of those who thought that UFOs might have an other-than-extraterrestrial explanation: in 1965, he and Gene came forward with what they called the "alternate reality" theory; i.e., that UFOs pop in from another space-time continuum or dimension. To day, Al's theorizing has gone beyond even this stage— as some SITU members may well know.)

So it was that Allen Greenfield greeted us in his hotel room, already wearing his famous Cheshire smile. Settling into a chair, I listened silently as Gene once again related the events told to him by Sandra.

When he had finished, a few seconds of silence walked by. Then Al said: "It sounds just about like the old stories of the Count Saint-Germain."

Gene and I exchanged baffled glances: the Count who?

"Count Saint-Germain. You never heard of him?"

We hadn't, but got an earful that night.

* * *

Referring again to Germain's alleged conversation with the Countess de Gergy: the Count had offered to prove his longevity by reciting various historic events which only he and the Countess could have recalled. But the Countess interrupted his proposed reverie.

In a shaken state of mind, she cried: "No! No! I am already convinced. Surely you are either a god or a devil . . ."

Perhaps Allen Greenfield was correct when he half-jokingly said, that night in his hotel room, that Saint-Germain may actually exist — someplace, some-Time. Is it possible that objects — and men — can slip through time and space, at will, covering hundreds or thousands of years in a comparative eyewink? Maybe this is the secret of Alex, the secret of Saint-Germain, in fact the secret behind scores of reported humanoid appearances that have baffled Forteans for so many years.

Consider: a time-traveler who slips back and forth through the ages, meeting, then re-meeting select individuals. To those of a bygone era, such a one would certainly have appeared to be either a god or a devil. Take your choice . . .

Still, if Germain is really out there somewhere, would someone kindly tell him to stop by for an interview?

* * *

Note: there is a postscript, of sorts, to this story. A few days after Gene and I returned to our respective homes from the conference, Gene received a letter from UFO researcher-writer John Keel. In the letter (a copy of which Gene sent to me), John raved on about the chaos of the UFO field and a number of other Fortean matters. Overall, it was a usual Keel letter — awe-inspiring to say the most(?) But the most curious thing about it was his chosen signature — the Count Saint-Germain.

TIME TRAVEL

By T. B. Pawlicki

THE Plate Flutter Experiment (described in "Mind Over Matter," *Pursuit,* Vol. 11, No. 1, Winter, 1977) shows that a universe filled with radiant energy will create moire patterns in its space. These moire patterns are fields of force, and they function like mental structures in a universal mind. Where universal vibrations come into mutual phase opposition, standing-waves are created. Standing-waves manifest the properties of material particles. As phase alignments change in the vibrations constituting a standing-wave structure, the material form behaves like a body directed by intelligence. Where a moire pattern is stabilized by phase opposition, the mental concept it represents becomes manifest in a material form; alternatively, the idea is realized by material particles (already existing) following the trajectories of the lines of force defining the moire pattern. The Plate Flutter Experiment demonstrates the mechanics of mind and matter to be inherent in the geometry of vibrations.

The rotation of a field of vibrations from the radiant phase to the standing-wave phase and back again is a continuous cycle. All patterns of energy in the universe eventually become realized in a material form, and all material structures return to the field of energy which created them. This is the cycle of life and death. This means that everything that can possibly happen will happen during a complete cycle of universal time.

Elemental vibrations exist in mutual isolation; they pass through each other without affecting each other in any way. You can observe this in the waves on the surface of water. Elementary waves produce harmonic beats by augmentation at intersections. These beats are compound waves. Compound waves are a kind of moire pattern. Compound waves and moire patterns move much slower than the elemental waves, their velocity being a function of phase coincidence, and they change direction, amplitude and wavelength according to the harmonic ratios of the elemental waves. All mental concepts and material structures are compound waves.

Where and when a particular pattern in the field of vibrations will materialize is determined by the angles at which the elemental wavefronts intersect. Because elemental waves are eternally immutable in all parameters, the patterns for all possible events (compound waves) exist in some state of development at some location in the universal field of energy right now. In other words, the past and the future exist for all time as a physical reality, determined and predetermined.

A focusing lens demonstrates that the universe is a hologram. All parts of a hologram are identical to the whole in essential structure; increasing the size of a part of a hologram serves only to increase the amount of structural detail that can be resolved. This means that all possible events are not only in existence right now, but all possible events are in material existence right here.

Each of us is a standing-wave structure manifest as a material body. Because our wave structure is determined by phase and frequency coincidence, we can exchange energy only with the radiant waves and standing-waves which are tuned to harmonic ratios of our own phase and frequencies. The universal waves to which we are tuned are experienced as our physical reality. The universal waves to which we are not tuned are experienced as "empty space." As phase relationships change by the continuous rotation of the universal field of energy, waves which were out of tune from us phase into tune, and waves which were in tune phase out of tune. This phase rotation is experienced as the continuous flow of time. In other words, it is the "empty space" of the universe which is filled with the past and the future. All movements fill space which was empty and empty space which was full; movement is what defines the flow of time. This is a greatly simplified description of highly abstract mathematics. Physicists found that the mechanics and energy balances of the present physical reality could not be accounted for unless another state of existence was hypothesized, because energy is continually being lost from one location and continually being created at other locations without traversing the intervening distances. They called the alternative state of reality, which cannot be detected by any physical means, the *Virtual State,* and quantum equations are balanced by hypothesizing energy that is continuously rotating from the Virtual State into our reality, and from our reality back into the Virtual State. By performing their calculations in the most abstract mathematics, physicists have failed to realize they are using the Virtual State to describe what everyone experiences as the flow of time.

The Virtual State of the universal field of time can be illustrated by the mechanics of television. Each broadcast studio radiates a three-dimensional pattern of intelligence into universal space. All programs from all stations are three-dimensional structures of energy existing in the same broadcast space at the same time. This universal matrix of television waves corresponds to the Virtual State of reality. A particular television receiver can perceive as reality only the single frequency to which it is tuned. The program it makes manifest, therefore, becomes its single reality. All of us are like television receivers tuned to the same frequency, so we all share the same reality. There is, of course, a considerable bandspread to accommodate lunatics on both fringes who are disturbed by harmonic interference.

The phase to which a television set is tuned is a function of its location. A receiver 12,000 miles from another receiver in the broadcast studio will make the program manifest one-fifteenth second later; this illustrates that time is a function of location. A receiver at the neighboring star will come into the same reality some four years later. At the present time, the three-dimensional structure of the television matrix is not immediately apparent because we are using the signal to generate a two-dimensional image, but when RCA puts holographic TV on the market, we shall be able to tune into our choice of three-dimensional programs by a twist of the dial. Although RCA will

soon give us holographic images in our living room, life-size in California, the broadcast signal itself will be linear and not holographic. A holographic broadcast signal requires each wave to be replicated continuously by reflection everywhere. A true holographic broadcast signal would make it possible for a given television receiver to tune into any broadcast made in the past by adding a phase tuner to the frequency tuner. This is not imaginary speculation. It is a well proven fact that commercial radio and television broadcasts are trapped by reflection and resonance in various ionized layers surrounding the earth, and from time to time someone is shaken to his roots by picking up a program that was broadcast before he was born. This phenomenon was discovered over fifty years ago, shortly after radio became a commercial enterprise.

If you have a basic understanding of mathematics and physics, you must realize that any space that can contain more than one three-dimensional structure in the same place at the same time must be a four-dimensional space. *Frequency is the fourth dimension.* And if a given frequency can contain all programs separated by phase in a time continuum, *phase must be the fifth dimension.* Einstein got it all balled up.

The commonplace example of television broadcasting proves what scientists learned long ago in the laboratory. *Reality is a creation of the observer interacting with the observed.* We look at the Virtual State of the universal field; we perceive the Real State.

These models prove that every location in time and place is defined in the universal field by a unique set of phase coordinates. If a specific scale of detail is also to be defined, a unique set of frequency coordinates must be added to the phase locations. It is evident, therefore, that travel through time is identical in its mechanics to travel through space; both are manifest by a rotation of phase coordinates. Trekking across space to get from here to there is taking the long way, and it uses up fuel; waiting for the future to arrive is the slow way, and you gotta pay rent. The short cut is to jump directly through the matrix of the Virtual State by staying where you are and spinning your phases.

Rotation of phase is what energy is all about. This is why space and time are functions of energy. Unless the equation uniting space and time with energy is broken, there is no feasible way to dematerialize in one location of space/time and rematerialize instantly in another location without burning up all the oil in Arabia to shift a few hours. Nevertheless, we know this can be done without making OPEC rich because the process is observed continually in Quantum Physics. Spontaneous mat/demat on the quantum scale happens because every structure and event in Real Space is manifest by a specific harmonic *balance* of vibrations; all that is needed to jump through the Virtual Space is to take energy from some of the constituent vibrations and add it to others to alter the *balance* of the compound wave structure. An engineered operation requires no net expenditure of energy at all, except the power to keep the circuits humming.

During the normal flow of time, certain phase alignments mesh together across a considerable span of Real Time and Space. At these times, "windows" open between widely separated points, and "crosstalk" occurs spontaneously between them. Jung refers to this phenomenon as "synchronicity." Mystics retain a faculty for tuning the phase alignments of their minds long after birth, and they are thereby able to tune in on these "windows" to experience clairvoyance, to remember past lives, and to foresee the future. Whatever phenomenon can occur naturally and spontaneously can be duplicated, however crudely, by technology once the mechanics are understood. Radio is a technological duplication of mental telepathy, television is a technological duplication of clairvoyance, robotics is a technological duplication of psychokinesis, and the Flying Saucer is the technological mastery of time travel. Time transport is achieved by waiting, like one of our moon probes, for a "harmonic window" to open through the Virtual Space; at that instant, the phase coordinates of the field generated by the saucer is altered to result in a dematerialization at its position of origin and a rematerialization in another time and place. The Flying Saucer is a quantum phenomenon amplified by harmonic integration to the human scale.

One of the critical problems of time travel is the possibility of an expedition from the future altering the past so that the future is changed. This means that the Time Trekkers are stranded in the past with no future home they can return to. The Time Loop Paradox has fascinated sci-fi imaginations for centuries, probably more than it has interested theoretical physicists. The answer is obvious, but no one dared to prove it because it demolishes all our beliefs about reality. You see, although all events are existing here and now, the sequence of events during any given experience of time is infinitely variable.

The line of travel followed by any chain of physical events in Real Space, moving from the past to the future, is determined by the harmonic structure of the events relating harmonically with the field of universal energy. At certain junctures, the balance of harmonics makes it possible for two courses to be followed through space/time, each with equal probability. In this circumstance, a given event divides itself spontaneously into two replicas, and both structures continue into different futures. We see this happen when a bacterium reproduces by cell division, and it happens again when a zygote twins. In these cases, both replicas remain tuned to what we call Real Space, so we do not notice that each twin is living a different life as alternative futures of the same parent. In other cases, however, each twin disappears into the Virtual State as perceived by the other, and this conforms to the common conception of divergent time streams. This phenomenon has never been recognized in the physics lab, of course, because the alternative development in the Virtual State is undetectable; there is no excuse, however, for failing to calculate it. Between divergent time streams there may be considerable harmonic crosstalk, and this phenomenon is manifest as the *doppelganger.* Alternative realities may run parallel, diverge, or rejoin at another harmonic junction. John Wyndham dramatized the problems of getting caught in parallel time streams in the movie, *Quest for Love,* which has recently been rerun on TV.

Whenever there is an interaction between past and future, the balance of harmonics is altered at both locations, and there is a fracturing in the stream of time. The Time Trekker is not stranded, however, because the specific phase/frequency coordinates of his origin remain unique, and he can always return there. The real handicap of the Time Traveler is what to do while waiting for the next window to open back to his home. He could get

thrown onto a time stream which won't offer a direct flight back to base for centuries, and his only alternative route is switching back and forth among distant harmonic locations until he finds a direct window, like trying to fly from Cairo to Jerusalem on a scheduled airliner during one of their wars. The Time Loop Paradox is resolved by the Time Loop Exclusion Principle of the Sidetrack.

All psychic visions of the past, the distant and the future are governed by the Exclusion Principle. This means that when Bridey Murphy recalled her past life, the memory was altered in consequence of interaction with the present. Therefore, although her story fits historical record sufficiently to be convincing, Bridey's memory of her past is not *exactly* the same as Bridey's actual life. Even your own memory of last year is colored by interaction with the intervening events. A clairvoyant vision may be truthful enough for any practical purpose, but it will not be *exactly* the same as the real occurrence. For that matter, no two eye-witnesses will describe the same real event *exactly* alike, and they are correct there. And visions of the future alter the future. This is why fortune-telling has such a poor reputation with the Better Business Bureau. As a rule of thumb, the less a prophecy is understood and believed (i.e., the more limited the interaction between the future and the present), the more likely it will be realized, and vice versa. This is the meaning of the myth of Cassandra.

Psychic experiences are manifestations of spontaneous crosstalk through the Virtual State. This means that psychic communications are harmonic distortions of what we call Reality. It is the distortion of present reality that makes psychic people look crazier than they need to be. The alternative reality is also distorted in the perception, and the greater the distortion, the more difficult it is to figure out what the experience means. At a certain level of distortion, the pattern of the alternative reality is perceived as something altogether different, even though it is eventually realized what the perception referred to. At this degree of distortion, the perceived pattern is called a "symbol." The more obscure the symbol, the less the interaction between different locations in space/time. This is why prophetic symbols have a greater chance of becoming realized than prophetic visions, but not until it is too late to do anyone any good.

Experiencing the future, and alternative space/times, is marvelous and sometimes ecstatic, but once you realize that dying and rebirth is the way the universal field unfolds, the desire to get somewhere else in a hurry loses some of its naive urgency.

Time Trekkers must disembark in space/times which harmonize physically with home base in order that they have a surface to support them and air to breathe. All people on this earth, and during most times, share this harmony. But the consciousness of a particular time and place not only determines what can be perceived as tangible, but also what will be perceived as real and meaningful. Between Time Trekkers and a local population, there is a phase/frequency dislocation between cultural fields of consciousness. This is the space/time warp. Only vibrations which harmonize with both fields can be transmitted across the warp. Depending on the extent of the dislocation, perception across the warp will range from a misunderstanding to total physical invisibility.

It is not necessary to resort to abstruse calculations, launch an interplanetary expedition to Titan or fly in a saucer to confirm the real existence of a space/time warp. Geographical coordinates are phase divisions. The differences we experience in landscape and culture from one country to another are manifestations of a phase/frequency difference. This is why certain countries and cultures are called "advanced" and others are regarded as "backward." Travel on Earth is actually travel through time on more scales than measured by the International Date Line. When you travel far enough, the twist of phase makes it impossible for you to understand what the locals are saying; after more phase rotation you will fail to perceive what they are doing. Eventually, their physical presence becomes inaudible and invisible and utterly undetectable, even though you are right among them. A common example of the loss of perception across the cultural space/time warp is the foreign accent. It is commonly believed that the foreigner cannot reproduce our native sounds because his tongue is not practiced, but the real reason the foreigner cannot reproduce a native sound is that he cannot *hear* them. The Anglophone, for example, cannot hear the liquid "i" in my Slavic name, and every Anglophone is certain he hears an "n" sound that is not there; no Slavic ear replaces the sound it cannot hear with one which is not there. In *Rhythms of Vision,* Lawrence Blair begins his second chapter with an account from Magellan's log. When Magellan first landed in Patagonia, the barefoot natives could not see his ships. To the aborigines, the sea appeared empty to the horizon, and the white men appeared on the beach out of nowhere. The voyagers literally appeared out of the Virtual State. The first persons in the tribe to notice the galleons anchored off shore were the shamans, and when they pointed out to their people that tall ships could be seen if they looked very hard, the rest of the tribe began to perceive the flotilla. Whether or not this account is true depends upon the historical confirmation, but it is obvious that our civilization is having an identical experience with the UFO phenomenon.

The future mind can see the past more readily than the primitive mind can perceive the future, even when it is right in front of the eyes. We can recognize a raft and a horse more readily than a primitive Patagonian could recognize a submarine, an aircraft or a frogman. Even when Time Trekkers are invisible to us, therefore, we remain visible to them. This is rather fortunate, because someone has to avoid collisions. In order to communicate across the time warp, either the Trekkers or the natives must tune their heads to a common phase/frequency. If future-men tuned their heads to us, they would be incapable of performing any examination meaningful to them, so they must retune the native into a space more harmonious to their own. A change of field frequency is shown by the experiments of Kamiya and Brown to produce a change of consciousness. If an alternative state of consciousness is sufficiently different from the normal state, the experience of the alternative state is not available to the normal state. The alcoholic calls this space warp phenomenon "blackout," while psychologists call it "state conditioned learning." But experiences acquired during one state of consciousness are remembered when the same state of consciousness is restored. Now look again at the stories of hapless people being contacted by a UFOnaut, and having no memory to account for the lapse of time when they are returned to their community; when

returned to the alternative state of consciousness by a hypnotist, however, the contactees relate detailed stories of being subjected to a mind bender by the UFO, after which the saucer became visible, some communication transpired, and when their minds were bent back, all evidence of alien presence had disappeared.

The consistent fact about the UFO phenomenon is that contact has such a limited effect that it may as well have never happened. If contact affects our culture in any way, our immediate future will change drastically onto another time stream. This will destroy us just as we destroyed the Amerindian cultures merely by making our presence visible.

Time travel must always be from the future to the past; it can never be the other way around. You see, as soon as a society achieves a technology of time transport, it no longer has a future. Their future becomes an extension of their present, which they can visit and return as readily as our jet-setters hop to Saint Tropez for the weekend. All future knowledge becomes available to them instantly, so the only way to go is back. The technology of time travel is the end of time as we know it. It is the ultimate in instant communication. Everything is realized here and now, simply by tuning into the universal hologram. Time travel is the technology of Nirvana, union with the universe.

The engineers of time soon tire of traveling through phases because it is merely one more step in the technology for them to *create* the past, the present and the future to suit their convenience, much as contemporary political historians are wont to do. With this achievement, they acquire the power and immortality befitting the very gods of myth.

SITU*ATIONS*

This section of our journal is dedicated to the reporting of curious and unexplained events. Members are encouraged to send in newsclippings and responsible reports they feel should be included here. Remember, local *newspapers often offer the best (or only) information concerning some events. Please be sure to include the source of reference (name of newspaper, periodical, etc.), the date the article appeared and your membership number (or name, if you prefer to be credited that way).*

ANIMALS AT LARGE

A large number of strange stories involving animal attacks on humans were sent in last year by SITU members. Since we do not have the space necessary to print them all, we include here an abridged selection of some of the more interesting events which occurred in the United States during 1978.

HAWK ATTACK IN THE MONTH OF MAY

From Newton, Pennsylvania, comes the story of a hawk seen (and felt) in the 1700-acre Tyler State Park of Bucks County. At least five separate attacks were made on joggers in the park by a hawk reported as being about sixteen inches tall with a wingspan of more than a yard.

A typical victim was Sam Petryszak, a teacher from nearby Morrisville, who claimed he was running along one of the park's trails when he heard a swoosh and a flutter behind him. The next thing he remembered was being sprawled on the ground, his head scratched, watching a hawk glide away. The hawk landed in a tree and stared at Petryszak, who later got a tetanus shot.

Another teacher was assaulted near the same spot, and three other joggers, at least one of whom also suffered a head cut, reported similar incidents.

Following the attacks, park rangers found it necessary to warn joggers and hikers using the park trails.

SOURCE: (AP) *The Patriot,* Harrisburg, PA, May 26, 1978. CREDIT: Larry E. Arnold.

SNAKE ATTACK IN JULY

Aline Tharp, who lives just outside the Outer Loop in southern Jefferson County, Kentucky, was bitten three times by a snake which refused to be captured. Although she claims to have called chemical companies, wildlife departments, zoo officials, and police officers, Mrs. Tharp has received no help. For nearly a year the snake occupied the house in which Mrs. Tharp had lived for sixteen years.

The first time she was bitten, Mrs. Tharp was lying in bed when she felt something moving in her hair, then something like a needle sticking her in the head, she reported. Not knowing what to think, she decided to see a doctor when the sore had still not healed two weeks later. The doctor diagnosed the sore as a snakebite.

The snake was later seen around the refrigerator and beneath the mattress on her bed, and although the mattress was discarded, the snake remained and succeeded in biting Mrs. Tharp twice more—once again in the head.

Mrs. Tharp decided to keep a hatchet in the kitchen, and has also acquired a cat in the hope that one or the other of them may work where other attempted solutions have failed.

SOURCE: *The Courier Journal,* KY, July 21, 1978. CREDIT: Harold Holland.

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CHIMPANZEE ATTACK IN AUGUST

Pete Schepis, the foreman of the Pittsburgh, Pennsylvania Zoo, was riding an electric cart from one section of the zoo to another Friday, August 11, when suddenly, without warning, a 150-pound chimpanzee named Joey (who had somehow escaped from his compound in the monkey house) attacked him, flinging him from the cart and causing him to run into the main zoo building for a tranquilizer gun.

Returning with the gun and the zoo's director, Schepis was again attacked by Joey. Howard Hays, the zoo director, managed to escape, but Joey went after Schepis in a frenzy. Grabbing him by the neck, the five-foot chimp hurled Schepis against a glass door, shattering it in the process (*see opposite*).

After calling the police, Hays discovered two female chimps, Josephine and Matilda, were also on the loose. Police riflemen shot and killed Joey between bear moats about forty minutes after the attack on Schepis, then cornered Josephine on a hillside overlooking the Children's Zoo. She too was cut down by rifle fire. Matilda, who fared better than the other two chimps, was cornered and forced back into her cage.

Schepis, badly shaken and suffering from cuts on his arm and back, was treated at St. Francis Hospital and released.

SOURCE: *Pittsburgh* (Pennsylvania) *Post-Gazette,* August 12, 1978. CREDIT: Olive Oltcher.

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PYTHON ATTACK IN SEPTEMBER

In Chattanooga, Tennessee, Joe Savage was ending his night club act as usual — by having two pythons curl

around his body as he disappears in a cloud of smoke — when he failed to appear for his final bows. Band members who rushed to his aid discovered Savage being slowly choked by the pythons. The performer had to be given oxygen and X-rays at a hospital, then was released.

SOURCE: (AP) St. Louis, Missouri, *Globe-Democrat*, October 7-8, 1978. CREDIT: William Zeiser.

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PYTHON ATTACK IN OCTOBER

Emmett Martin, of Florence, Kentucky, was not so fortunate in an incident which occurred September 18. Martin, who kept three reticulated pythons (as well as other snakes, alligators, small lizards and spiders) in his basement, went downstairs that night to work with the creatures. His wife, hearing a thud, found her husband dead on the basement stairs, with one of the reptiles wrapped around his neck. She unwrapped the snake and called the police.

Robert Lotshaw, general curator of the Cincinnati zoo, when informed of the incident, was surprised.

"I've never heard of such a thing happening, especially with a man who knows reptiles," he said.

SOURCE: (UPI) St. Louis, Missouri, *Post-Dispatch*, September 21, 1978. CREDIT: William Zeiser.

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TWO LION ATTACKS: OCTOBER 17

In Pleasanton, Texas, a 250-pound African lion jumped a fence and attacked a pipeline worker, biting him on the hip and lower back while it dragged him some fifteen to twenty feet. Other pipeline workers managed to chase the lion away.

About an hour later police officers spotted the lion chasing cattle in a pasture about a half mile from where the attack had occurred. They summoned Jack Rutherford, the animal's owner, who walked up to the lion and placed a rope around its neck.

That same day, in Tallassee, Alabama, a 300-pound female lion, one of two lions that had been chained outside the home of Margaret Haynie and her husband, broke its chain and killed Mrs. Haynie as she walked from an outdoor toilet to the house, jumping her from behind and biting her on the neck and head as it dragged her about 100 yards into the woods.

Mr. Haynie said he had bought the animals because they were orphaned and would have been destroyed if no one took care of them.

SOURCE: UPI; source unidentified, October 22, 1978. CREDIT: Dave Collins.

Zoo foreman Pete Schepis stands at glass door against which a 150-pound chimpanzee threw him. Photo by Albert French for the *Pittsburgh Post-Gazette*.

BOOK REVIEWS

***CATASTROPHIST GEOLOGY*, Caixa Postal 41003, Santa Teresa, Rio de Janiero, Brazil. $10 for four issues.**

This semi-annual journal, begun in 1976, is a most useful resource for people studying geological and archaeological mysteries. It is dedicated to "the study of discontinuities in Earth history," and it ferrets out surprising, even stunning information.

For example, in the December 1977 issue, a 1959 Soviet textbook on geology is quoted on the subject of "fossil cemeteries": "...we find in the annals of the Earth proofs of real catastrophes which in a short time exterminated large numbers of animals and plants. Their remains form whole strata of the earth's crust and may be called fossil cemeteries or fields of corpses..." The two-page excerpt lists some instances.

The same issue carries a technical article by a physicist showing that shifts of the planet's crust and reversal of the planet's magnetic field may be due to changes in gravity. This is almost heresy to normal science since gravity is considered to have been constant throughout Earth's history. Even more "far out," the physicist says that those gravitational changes may themselves be due to the solar system traveling through the wall-like "domain structures of galactic space" which interact with our planet.

The longest and most provocative piece in the issue is by a Soviet geologist who shows the relationship between supernovae, ice ages, and animal extinctions and mutations. Hard radiation from bursting stars, he suggests, provides a unifying explanation for the puzzling disappearance of dinosaurs, etc., as well as the sudden appearance of new species after a period of global glaciation.

If future issues continue to provide such good material, *Catastrophist Geology* will become the standard-bearer of those debating the uniformitarian "business-as-usual" school of geology. Well worth reading.

—John White

***ENCOUNTERS WITH UFOS* by Clifford Wilson, Birmingham, Alabama: The Cornerstone Ministry, 1978. Series of 3 90-minute tapes. May be had separately for $4.95 each. Distributed by Creation-Life Publishers, P. O. Box 15666, San Diego, CA 92115.**

This is an interesting series, dealing with *UFOs and Their Mission Impossible* (Part I), *Encounters with UFO Occupants* (II), and *UFOs and the Bible* (III). Dr. Wilson is a widely known Australian educator and archaeologist who has gained popularity as author of a number of books, notably *Crash Go the Chariots* in which the claims of E. von Däniken were ably debunked.

Dr. Wilson convincingly presents his case, using a logical step-by-step method. He strongly favors a paraphysical explanation of UFOs and in ths connection refers to the contention of Lynn Catoe, the compiler of an official U.S. Government bibliography on the subject.

Much of the material presented on these tapes will be known from the author's *UFOs and Their Mission Impossible* (1975) but at times goes beyond this. In my opinion, most people will find the most—to them—new information on tape 3. Here Dr. Wilson, in his capacity as a Biblical scholar, takes issue with the supposed UFO occurrences in both Old and New Testaments, showing that the claims of much popular literature in this field are built on a foundation of sand. Also, he points out parallel phenomena involved in spiritualistic seances and UFO close encounters.

One may not agree *in toto* with Dr. Wilson's theological stand but certainly he has done his homework in preparing this material (except for 2 cases related which *have* in fact been debunked). He deserves to be heard.

—Kristian Kristiansen

***RELIVING PAST LIVES: THE EVIDENCE UNDER HYPNOSIS* by Helen Wambach, Ph.D. Harper & Row, New York, 1978. 200 pages, $8.95.**

Dr. Wambach has given us an important insight here on the subjects of hypnosis and reincarnation. Her investigations based mainly upon the use of regressive hypnosis examine not only who her subjects may have been in a previous life and details of that existence but indicate that what they may have experienced then could possibly account for some of their present attitudes in this life. Particularly fascinating is the fact that a fear or phobia of a subject disappeared after the subject re-experienced, under hypnosis, their death in a previous life.

After having had a remarkable personal experience of her own in which she relived an event of another time period, Dr. Wambach was drawn by her curiosity to eventually change from a traditional therapist in psychology to doing pioneering research on the controversial subject of reincarnation.

The concept of life after death has been a part of various religions and philosophies for thousands of years. Now, Dr. Wambach, with over two thousand hypnotic regressions and ten years of experience, has presented us with new data and statistics to allow us to draw our own conclusion.

In using the specialized tool of regressive hypnosis, Dr. Wambach has also broadened the knowledge of the use and effect on the subject in a hypnotic state. It is curious that throughout this research the subjects seemed to know what questions the doctor was going to ask before she could verbalize them.

Many readers will, I'm sure, find the book difficult to put down once they begin reading. There is a wealth of ideas for further investigation that we can hope Dr. Wambach will pursue. Dr. Wambach seems to be modestly brief in places but, nevertheless, this book is absorbing throughout and well worth reading.

—Robert Warth

***CONGRATULATIONS: THE UFO REALITY* by Eugenia Macer-Story, Crescent Publications, Inc., Los Angeles, 1978. 118 pages, $4.95.**

When dealing with a controversial topic—especially one of a psychic origin—a vague thesis in the hands of a skeptical audience can do substantial harm. Eugenia Macer-Story's *Congratulations: The UFO Reality* presents a fascinating thesis, but fails to relate it in any convincing way. She maintains that there is a psychic connection between UFO sightees (her word) and the events in their lives that follow; that UFOs choose their contactees by their psychic receptiveness; and that once contacted, these people form a paranormal network who's lives are almost governed by synchronicity.

Jung makes a strong case for the existence of synchronicity. Ms. Macer-Story, however, interprets even the most insignificant of events in this more serious light and builds her ideas from the slightest, most obscure coincidents until her very thesis must be questioned.

Her oft-proclaimed love of surrealism may have influenced her strategy in presenting this work, but what may work on a subliminal level in a surrealist poem or painting does not work in a quasi-scientific doctrine. What's needed and what's missing is a coherent, expounded series of events and ideas to support a rather dramatic thesis.

Ms. Macer-Story's many articles for *Pursuit* show both an integral knowledge of her subject matter and a unique personal perspective. In *Congratulations: The UFO Reality*, we have the same personal approach, but an unfortunate obscurity in the presentation.

—Gerald Seligman

SYMPOSIUM

Comments and Opinions

LETTERS TO THE EDITOR

Perhaps these cases of clearing incarnation-influences in regressions could be of interest to you.

Lately I have used in my healing work not only bio-energy but psi-information as well, received from other dimensions—as described in the splendid book, *Many Lifetimes*. We heal now preferably at a distance, with telephone-calls as a means of control (we have many reasons for not healing with contact-methods, and very seldom with non-contact influence). The healed are often persons we do not know and have never seen. When such a call arrives, we can "see" (using our technique of awakened "pseudo-visual" effects, as I call it in my clairvoyance training group) not only the person and the illness, but also the "previous" incarnations (we know that it is really not "previous"; it is not all that simple—the incarnation-process is far deeper and more complicated) which are the source of some illness; we can "see" how it works on the person "here and now."

The process works like the psychoanalytical method, only tuned deeper into the layers of the individual-formation. The best way to try to regress the patient to his past life is to make him experience it again, for himself. We have carried out many such experiments and, in general, the methods have worked. (You can read about my method in articles I have written for the journal, *Esoterica* (No. 7, 1974), in Germany, and in another journal, *Ultra* (No. 1, 1974), from Finland.

You can, in your "recurrent dreams," receive experiences of your own death from one of your previous incarnations, and this dream will trouble you until you understand it. Then it vanishes, and you are calm again—nothing disturbs you. It is the same with other "extra-cerebral" memories. Many important conclusions can be drawn from dreams—for your further acts or attitudes (if you understand how to use this form of psi-information). Many potentials for experiencing mental and physical healings, moral changes, cleansing from negative feelings and deeds, etc., can be accomplished.

An example: a lady told me of a recurrent dream which troubled her very much and which made her nervous. In her dream, she found herself on rails with a train approaching; yet she did not stir, despite a terrible fear, a terror....Her daily attitude, when faced with difficulties, was to avoid them, and not fight them. Everybody should know that such an attitude does not help radically, and one will have the same situation in the next reincarnation, until he learns to fight it in the right way.

I got her to see this incarnation, the situation—it was a suicide....Because she thought she could not master the situation she could not fight it! Now, in this lifetime, she made the same mistake of re-entering the same battlefield, again and again! And the type of difficulty is always the same. She had to understand that suicide, as with every form of avoiding decisions, is no way out of a problem—you have to solve it. And if you do not solve such problems in this lifetime they will appear again and again, in many different forms and situations, in your present daily life—and in the next ones...until you learn to master them in the right way.

I asked her if she had a scar across her body, over the stomach. She said she had something like a scar there, but she had never had a wound on her stomach, which was the place I "saw" as being the fatal wound experienced under the wheels of the train. Her moods changed radically after this experiment—she became more cheerful and a stronger person. The dark recurrent dream did not appear again after the regression and my explications of the influences of past existences, and after she was able to draw conclusions from it that will affect her for the rest of her life.

There are many different types of cases. Another example: one of my friends did not like cats, she feared them—she would panic when she saw a cat! I had a "flash" and told her: "In one of your incarnations you were killed by a black panther." She cried out: "How do you know about my dream? I often see a terrible giant black cat, attacking me, killing and eating me! What a coincidence!"

But it was not a coincidence....It was her "far memory" which regressed to her in dreams, and which I too could "see." After our conversation and my explications, her attitude towards cats changed, and the dream did not appear again. In general, she was calmer. It often works that way, in many different forms.

We have many experiments of this type, my students (who study different psi-effects) and I. (I teach healing, clairvoyance, regression, etc.) We think it is very important to understand the facts of reincarnation, the purpose of "far-memory" flashes, to know how they influence our life; then we can change our life and our whole being for the better, with the help of this understanding, and so change the fate of mankind, and the "collective Karma," by helping to avoid the holocaust which is inevitable if we do not pay attention to the warnings that we have been getting for many years, from all sides...

Hope these facts and considerations will be of some use to you—and to others.

—Barbara Ivanova
USSR

The small article, "Pelicans in the Midwest," on page 122 of the Summer, 1978 issue of *Pursuit* (Vol. 11, No. 3), is definitely *not* a Fortean matter. White pelicans are common in fresh and brackish lakes *all over* the midwest and west. I myself have seen their endless flights in formation over Devils Lake in North Dakota and they are common in other lakes as well. The Great Salt Lake in Utah is one of their favorite haunts.

Unfortunately, the article does not specify whether those in the Omaha zoo were white or brown pelicans. Brown pelicans *would* be unusual in the midwest as they normally range only along the coast of the Gulf of Mexico.

—Martin V. Vitums

THE NOTES OF CHARLES FORT

Deciphered by Carl J. Pabst

ABBREVIATIONS

These abbreviations pertain to the Fort Notes which follow. Abbreviations used in the Notes which are not found here have been printed in the Winter Pursuit *(Vol. 12, No. 1).*

AM.J.Sci.	American Journal of Science
Bull Sc Sismol Ital	Bulletin de la Societe Sismologique de Italy [?]
D-228	The Book of the Damned, p. 223
LT	London Times
qs	Earthquakes
Rec Sci	Recreative Science
s.e.	Southeast

1803

Dec 13 / 11:30 a.m. / Massing, Bavaria / stonefall / BA '60 / (F★).

Dec. 16 / Schwartzenburg / Fireball / /BA 60.

Dec 28 / Q believed by some persons at Nantes and Antwerp. Great storm and meteor. / BA '54.

1804

/ Wheat fell in Spain — said been carried over Straits of Gibraltar from a threshing floor at Tetuan. / M.W.R., May, 1917.

Jan 6 / [LT], 3-a / 10-2-d / 12-2-d / 13-2-d / 16-3-a / 17-3-c / / 18-2-c / 19-3-b / 24-2-d / Ghst / St James Park.

Feb / Austria, Styria / I / [Light quake / BA 1911].

Feb. 24 / Great th. storm Holland to Moscow. / BA 54.

Mar 17 / (Try[?]) / Det met / BA 60.

Ap. 5 / Metite / Glasgow / (F) / Possil, near Glasgow / 3 miles from / Bib. Univ. 26/203.

Ap. 15 / 9:45 p.m. / Det met / Geneva / Bib. Brit. 25/364.

May 9 / [LT], 3-b / Planet Hercules by Olbers.

June 4 / Dessau / Fireball / BA 60.

June 7-8 / about midnight / q. / Greece / preceded by "terrible heat" / BA '54.

spring and summer / Ext rains / Med. Repos. 8-374 / 9-7, 165 / [Reverse side] Rec. Bull Soc. Sci, Montpellier 2-166.

July 4 / Eruption / Sea of Azov / First a little island rose. / BA 54.

July 7 / Japan / III / [Heavy quake / BA 1911].

July 28 / During q at Spolleto (see if so spelled) blood red moon— [Reverse side] dry fog — then entirely obscured by vapors. / C.R. 17-621.

July 28 / Spoleto, Italy / q — Vesuvius sent forth smoke / fog — moon blood-red / BA '54.

August / Frgs / D-79 / 3 leagues from Toulouse at La Conseillire / ac to Prof. Pontus of Cahors. / sky cloudless / [Reverse side] Suddenly a thick cloud and thunder and lightning and very large drops of water— rain of toads — fell on garments of travellers on the road [Front side] between Albi and Toulouse. / [Reverse side] ab volume of a cubic inch / one or 2 months old / fields filled with them / For a quarter of an hour his coach travelled on a "living pavement" of them. / [Front side] See Aug 15, 1836. / C.R. 3/54.

Aug / Fremard, near Amiens / frgs. / Rec Sci 3/332.

Aug. 3 / Inferior conjunction Venus-Sun / (A 1).

Aug 7 / (fog and q) / Grenada / Dark mist and q / D-228.

Aug-Oct / Tiflis, Georgia / and Italy / alternating q's / BA '54.

Aug 19 / Eckwarden / Fireball / BA 60.

Aug 25-26 / Spain / q's / Grenada / "At Albugnol, the heavens were obscured by a dark mist, which resolved [Reverse side] itself into a cloud, whence in 10 minutes five terrible flashes of fire (lightning?) issued and after each flash a shock took place. / BA '54.

Aug 25 / q — fog / Almeria, in Grenada, Spain / qs — heavens obscured by a dark mist [Reverse side] which condensed into a cloud, from which came "five terrible flashes of fire". A mountain was cleft and sent out a stream. / BA 54.

Aug 12, Nov. 22 / Vesuvius.

Sept / near Senlis, France / Frgs / Rec. Sci 3/332 / Aug., 1804.

Sept / Bromo. / volc / Java / [C.R.] 70-878 / N.M.

Sept 1 / Granada, Spain / I / [light quake / BA 1911] / See Aug 25.

Sept 7 / Fireball / Tunbridge Wells / size moon / s.e. to n.w. / BA 60.

Sept 10 / Weimar / Fireball / BA '60.

Sept 25 / Vesuvius / BA 54 / See date July 28.

Oct 11 Caucasia / I / [Light quake / BA 1911].

Oct. 18 / Tuscany / severe q of a series and "dull aerial noises" / BA 54.

Nov. 24 / Metite (stone) / Hacienda de Bocas, San Luis Potosi, Mexico / (F).

1805

Jan. 28 / Op. Mars / (A 1).

Feb. 1 / Fireball / Saxony / BA 60.

Feb 17 / Det met / Sigmaringen, Germany / BA 67-414.

March 21 / Innsbruck, Austria / I / [light quake / BA 1911].

March 25 / (old time) / Two stones fell at Irkutsk. / B Assoc 1860/62 / [Reverse side] C.R. 125-896.

April 1 / Volc / Tjermai, Java / C.R. 70-878.

Ap. 6 / Irkutsk, Siberia / Stone fell. / Fletcher's Intro to Study of Meteorites, p. 98.

April 27 / [LT], 3-g / q. / Birmingham / Wolverhampton / Newcastle.

June / daytime / Stonefall / Constantinople / BA 60.

July / Vesuvius.

July 3 / Candia, Greece / II [medium quake / BA 1911].

July 16 / U.S. Columbia / III [Heavy quake / BA 1911].

July 21 / Fireball / London / BA 60.

July 26 / Italy / III / [Heavy quake / BA 1911].

July 26 / (It) / Ref. for all = vol. 14 / phe / Bull Soc Sismol Ital 14/326.

July 26 / BA '11 — III [Heavy] / q / Naples / Scots Magazine 1805-717.

July 27 / [LT], 3-b / Th. storm / violent / Birmingham.

Aug 6 / Berlin / Fireball / BA 60.

Aug. 11 / Moodus explosion/ 6 occurrences recorded from 1791 to Aug. 11, 1805, [Reverse side] but had been heard for a centu[ry]. / in the Am. J. Sci 39/339 / Writer tries to show th[ey] are earthquake phe, but says that ther[e] is no good explanat[ion].

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