Pursuit

'Science is the Pursuit of the Unexplained'



Various objects that were apparently telekinetically influenced. See "K: A Presumed Case of Telekinesis," page 50.

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The Society For The Investigation Of The Unexplained

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THE QUARTERLY JOURNAL OF THE

Pursuit®

SOCIETY FOR THE INVESTIGATION OF THE UNEXPLAINED

'SCIENCE IS THE PURSUIT OF THE UNEXPLAINED'

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PURSUIT
a unique gift for anyone!

We had the opportunity of recently visiting with Dr. Berthold Schwarz, a member of SITU's Scientific Advisory Board, and later we spoke at length with Joey Nuzum, the subject of Dr. Schwarz's investigation as told in this lead article "K: A Presumed Case of Telekinesis."

Dr. Schwarz is the author of numerous books, articles and papers in the field of psi phenomena. He has had the courage to tread on the "shaky ground" where but a few such eminent scientists have dared to step.

We asked the opinion of other writers of parapsychology before we decided to reprint his article in *PURSUIT* and their reactions were mixed. However, Dr. Schwarz himself would readily discuss the fact that his research has brought him many critics, outright scoffers and even a few charlatans who tried to embarrass him.

As the title says this is a *presumed* case of telekinesis and, with this in mind, we hope that you will enjoy reading about it.

Dr. Schwarz's latest book, a two-volume set, is titled *"UFO-Dynamics"* published by Rainbow Press.

Correction

In the last issue of ***PURSUIT***, Vol. 18, No. 1, on page 35, note 3 should read: "Knight, Damon. *Charles Fort: Prophet of the Unexplained...*"

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K: A Presumed Case of Telekinesis

by Berthold E. Schwarz, M.D.

Abstract: A presumed case of telekinesis that took place during several months in 1984 is presented by a psychiatrist who witnessed many of the events. Description, discussions and implications of the events are given.

Introduction

The purpose of this preliminary report is to describe a series of presumed telekinetic demonstrations, some of which were recorded by color videotape equipment under magnification and full light. Separate audiotape recordings were also made when feasible. The subject is K, a 25-year-old unemployed foundry worker from a small city in western Pennsylvania. He has apparently, over the years, developed some control over telekinetic faculties. K is also highly skilled in escapes, illusions and sleight-of-hand. He has performed many times before the public, his peers, and magicians. Two well-known Pennsylvania magicians (Pryor and Bastian) commented that they had never seen anything comparable to K's presumed telekinetic feats [1]. They also reported that colleagues and themselves were unable to duplicate these phenomena under the exact conditions that prevailed during K's demonstrations. (See Figure 1)



Figure 1. K during demonstration

History

This report presents in chronological order data spontaneously observed and produced under the conditions described in my Vero Beach, Florida, office and condominium, and in Pennsylvania. It is not my purpose to dwell on historical factors. However, a brief background statement and some anecdotal material is helpful.

K is the oldest of three siblings. He has a sister four years younger and a brother seven years younger. He lives by himself and dropped out of school in the tenth grade because of difficulty in acquiring facility in reading, writing and mathematical skills [2].

There is no past history of sociopathic disturbance, and this was affirmed by interviews with his parents, brother, girlfriend, and citizens in his community. He worked for three years in a hardware store and then was employed in a foundry for four years. He has a certificate attesting to his completion of a lethal weapons training course, and he was eligible to work as a security guard, but because the officer in charge could not obtain his fingerprints ("no deltas"; more of this later), this ambition could not be fulfilled [3]. According to K and his parents, his lifelong ambition was to be involved with magic. Along the way, he became absorbed in psychical phenomena, but this was mitigated by understandable ambivalence on the part of his family and himself. As fundamentalists, they had religious reservations about psi[1].

As an example, they cited K's paternal great-uncle who had been the leading local magician until he gave up magic when presumed psychical phenomena, such as levitation, took over, and he was dissuaded by the imprecations of his preacher brother. Although K never met his magician great-uncle, he was aware of the situation. He also had knowledge of other psychic experiences in the family, and he particularly recalled vividly one astonishing presumed precognitive dream that his mother had had and which might have saved his father's life.

Although the family possessed considerable natural musical ability and played for various church and social functions, K himself did not develop these particular talents, nor did the rest of the family develop psychic abilities. Instead, K worked in solitude on a variety of presumed telekinetic and other psychic feats. He was at first reluctant to describe these things to me, preferring to let "the facts speak for themselves." Nevertheless, his parents told me how, on occasion, K would: (1) "make" a coin stand on end or levitate; (2) cause a crumpled dollar bill under glass to rise; and (3) similarly to his great-uncle, also "make" a broom stand on either end until released from his "passes" while he was presumably entranced. Early in his career, K had apparently developed an ability to bend metal objects, including tableware, nails, pokers, screwdrivers, keys, coins and other items. He said that in experiments, he could sometimes stop or start the pendulum of a clock or apparently influence electronic and mechanical timepieces. Possibly for this or related reasons, he stated that he could never wear a wristwatch.

K stated that on rare occasions, while entranced, the electric lights spontaneously diminished in their luminosity in seeming tandem with his trance. He reported that he had also on occasion telekinetically "zapped" insects that were enclosed in jars, and they quickly became lifeless. He stated further that he had developed the ability to shatter glass and, on one occasion, had a piece of bullet-proof glass approximately one-inch thick in his hand which, while he was entranced, was reduced to many tiny fragments. He stated that another time he inserted his fist into a glass fishbowl, and then the bowl shattered. However, this time a piece of flying glass allegedly lodged in the lateral sclera of his eye, and he had to be seen in the hospital emergency room for removal of the foreign body. Because of the oddness of this experiment, he did not tell the attending physician how he had been injured.

[1]Psi is an encompassing term for various apparently psychic phenomena including telepathy, clairvoyance, precognition, telekinesis, teleportation, materialization, dematerialization, and levitation.

K said that on occasion he has opened locks by: (1) merely holding his hand over them; and (2) having someone else put their finger through the curved fastening while holding the works of the lock in the other hand until, on K's command and while he was in a trance-like state, the lock would open. He recalled how he had once accepted a challenge from the audience and was handcuffed, and was unable to escape by his usual acrobatics, but at the crisis point, the lock suddenly opened automatically. He has not attempted, nor was he aware of, electronic voice phenomena nor thoughtographic[2] [4] effects with a motion picture camera.

On a few occasions, he had attempted thoughtographic Polaroid shots and he also once recalled a possible spontaneous effect when he was having his Polaroid picture taken for his driver's license. Instead of getting his picture, the first Polaroid came out blank (a "whitey") [5]. The second picture was a success. He commented on this to his friend who had accompanied him. Further anecdotal material on his alleged psi was supplied by this friend and acquaintances [5,6].

Makeup

K's psychodynamic makeup is not unlike the general formulations espoused for Stella Lansing (a woman of considerable presumed thughtographic and various psychic talents) [7] and other paragnosts[3] [8,9]. K is of a passive demeanor. He has the ability to quickly enter a trance-like state where he apparently can focus with intense concentration on his telekinetic feats. For much of the time he would otherwise appear to be absent-minded or day-dreaming.

Although on formal testing K's memory is intact, his general information, verbal, mathematical, reading and writing skills are not highly developed. He gives the overall impression of being intelligent. However, his cognitive deficiencies might have posed problems for him in seeking employment. While living with my wife and me, he was always courteous and considerate. He was warm, responsive, and had a gentle sense of humor.

K is a "night owl" [10]. He has attributed this to his work in the foundry when he was on the graveyard shift. The quiet of the night, when there are minimal distractions from extraneous noises and sounds, is also his preferred time for telekinetic experimentation. His speech is slow, literal and direct.

K showed anxiety, if not phobic concern, when handling insects necessary for a proposed experiment or in examining sectioned bovine aortic rings[4] and drugs. He was fearful of inadvertently injuring somebody.

K has a monomania for his telekinetic experiments. When describing those occasions, he has seemed to project his energy and thoughts — almost as if the telekinetic object had taken on an independent existence and individuality; e.g., "It's not me — I didn't do it — Look at what is happening." Everything in his life seems to center upon his presumed psychic interest and achievements. He is modest and frequently blushes. He is upset at any display of supposed anger or irritation on the part of others as, for example, when my wife and I exchanged words over some triviality. His speech is frequently interspersed with Biblical similes and metaphors pertaining to belief, faith, miracles and goodness; e.g., "accentuate the positive and eliminate the negative."

[2]Thoughtograph implies the mental ability to project a picture on film or a photographic plate; psychic photography.

[3]Paragnosts are people who apparently have developed sensitivities to paranormal knowledge and abilities.

[4]Attempts to link the aortic rings or bend the brass rod in an apoxy-sealed test tube were unsuccessful in Florida and in subsequent Pennsylvania-to-Florida long-distance telekinetic experiments ending April 4, 1984.



Since PURSUIT is not a medical journal, we have permission to disclose that "K" (above) is Joe A. Nuzum. He wants his feats known and is willing to submit to further *objective* testing.

K commented on episodes earlier in his life when he had been bullied and how he learned to defend himself. For example, one recollection was of grammar school and being attacked by a bully. He was so surpised at his own counter-rage that when he looked at the bully, the boy supposedly fainted at young K's feet.

Later K became adept in the martial arts. He gave many other similar, although perhaps less dramatic, examples of possible suppression and repression, muted rage, tumultuous passions, and times when he could mobilize great physical strength. For example, he recalled how he once became enraged and smashed a chunk of cement out of the basement wall with his fist. Another time, in a fit of rage, "they noted white stuff coming out of my mouth — I shook all over, and my throat was extremely tight. I couldn't talk after that. Later, I found that I could break a brick with the back of my hand" [11].

Although physical and neurological examinations and laboratory studies, including an electroencephalogram, could not be undertaken at this time, aside from two areas that bore investigation, there was no evidence from my brief physical examination of him and from his history of any physical conditions having direct bearing on his presumed psychic faculties. If anything, his history of performing dangerous escapes would indicate his highly-developed coordination, musculo-skeletal, visual-motor and cardiovascular-pulmonary faculties. He appeared to be in superb physical condition. Although right-handed, he is also skilled in the use of his left hand. By studying his history and looking at his scrapbooks, one may infer that he gets a thrill out of courting danger.

When upset, K often would not show his concern to others but communicated this privately. His anxieties were usually in the realm of interpersonal relations or, more generally, resulted from distracting noises from automobiles or young people out side the office. When this happened one evening, there was failure after failure followed by only minimal success. As a result, he became upset and depressed the following day.

Emotionally, K was often either at the pinnacle of success or in the depths of despair. Everything seemed to depend on having his self-confidence high. Perhaps, like his escapes, he seemed to gamble everything on his feats. It was important for him to have the proper setting and support system [15,16] and

a positive, helpful attitude, either from those participating in the experiments or from afar (that is, the not infrequent long-distance phone calls from his mother or girlfriend).

Preparation

According to K, almost all of his presumed telekinetic demonstrations take place while he is in a trance-like state. He must seemingly prepare himself by being rested, and then, with minimal distractions, he asks those present to be quiet, not to move and not to speak, while he focuses all his attention on the task at hand. If he instructs someone to hold a key, coin or other piece of metal which he will bend without handling, the modus operandi is the same. He is particularly concerned about people who sit next to him and can upset his trance with movements, noises, or distractions occurring in his peripheral field of vision. Any upset is disquieting and can break the trance, and he must begin all over again.

While going into his trance, he either looks far away, develops a blank stare, or closes his eyes. He holds his outstretched, extended, and often tremulous hands near the object of his attention. Oftentimes, he becomes pale and breathes deeply and rapidly. He usually repeats the exact procedures and methods that were previously successful. For example, even though he readily admits there is no rationale, he might prefer blue-headed paper matches rather than red ones if that choice was successful in the past. As another example of possible literalness or fragmentation of thought, not unlike that noticed in telepathic-psychodynamic drawing exchanges [12], K occasionally asked that a lighted candle be placed on the corner of the table as a preliminary prerequisite to the experiment. This was requested even though electric lights were shining brightly.

K's ideas for his experiments often seem to be autochthotonous[5] and come presumably from his unconscious. Although, for example, he admired Uri Geller's [13,14] feats — his metal bending and many other reputedly amazing skills — K wants to be known for what he does himself, and for that reason he showed reluctance to attempt psychic metal bending unless it was his own particular "brand."

The following serial events and comments speak for themselves. For convenience, the following material is presented from January 13, 1984, until January 21, 1984, in chronological order as Day 1, 2, 3, and so on. All the attempts at telekinesis took place while K was in a trance-like state. In many instances, parts of the relevant psychic nexus [6] are included. The apparent prerequisite conditions, influencing factors, experimental failures and other data are often described so that there may be a better understanding of how K's psi might work.

Telekinetic Experiments and Psychic Nexus

Day 1: Friday, January 13, 1984

Noon: While in the office, I had just finished dictating a letter to Uri Geller and had planned on leaving immediately for an airport in Florida to pick up K. I had hardly put down the microphone before the phone rang. It was Uri Geller in Connecticut. He said that his telephone book had just fallen off the table onto the floor and opened to page "S." He thought that meant he should call me (i.e., B.E.S.). He had no specific knowledge either of K's imminent arrival nor of the pending experiments. Since Uri phones me infrequently, this might have been what could be called a psychodynamic telepathic prologue.

[5] "Autochthotonous" refers to an idea that appears to have been thrust upon an individual that did not develop out of personal experience.

Approximately 6:30 P.M.: K came to the office, asked for some tableware and took a stainless steel, silver-plated knife with a handle 13 cm. long. He held the knife handle, causing it to bend an estimated 2° to 3°, and there was also a depression where he had positioned his thumb (see Figure 2). He did not seem to exert any pressure on the handle while he was in a trance-like state.

Day 2: Saturday, January 14, 1984

K slept late because he said he had been up the previous 24 hours. He appeared bewildered. This was the first time he had flown and this was also the first time that he was being tape-recorded. Early in the afternoon at the office, he emptied a box of wooden matches on top of a wooden table covered with a dark blue tablecloth. The matches were clumped in random order and were covered with a glass dish 9 cm. high and 18.5 cm. in diameter. K failed to move the matches in numerous telekinetic attempts. While entranced, his eyes were closed, his breathing was rapid and shallow, and his hands were either at his sides or extended around the glass dish. At the conclusion, he wondered if he was trying too hard.

We took a walk and came back to the office, and I showed him some locks. One — a brass lock — was closed, the key having been lost years before, and the other one, a combination lock (Master Lock Co., Milwaukee, Wisconsin, 162106), was also shut. The combination had been lost more than 16 years before. It had been used by my daughter for her elementary school locker. K instructed me to hold the lock with my finger through the curved latch while holding the mechanism in my other hand. He zapped it without success. He was disappointed and then said he'd try another way. K put the combination lock on the desk, asked for a clipboard, paper and pen, and then he filled the page with seeming scribble while in a trance-like state. He pressed down heavily on the page and then wrote the numbers 32-10-36 and instructed me to use this combination and open the lock, which I did (see Figure 2). In the event that this effect could have been telekinetic and had nothing to do with the numbers, I repeated the sequential figures on numerous occasions and this was the correct combination. K had never before seen this particular lock. If my daughter or others had once known and then "forgotten" the combinbation, it was totally inaccessible to them all these years. They were unaware of this experiment.

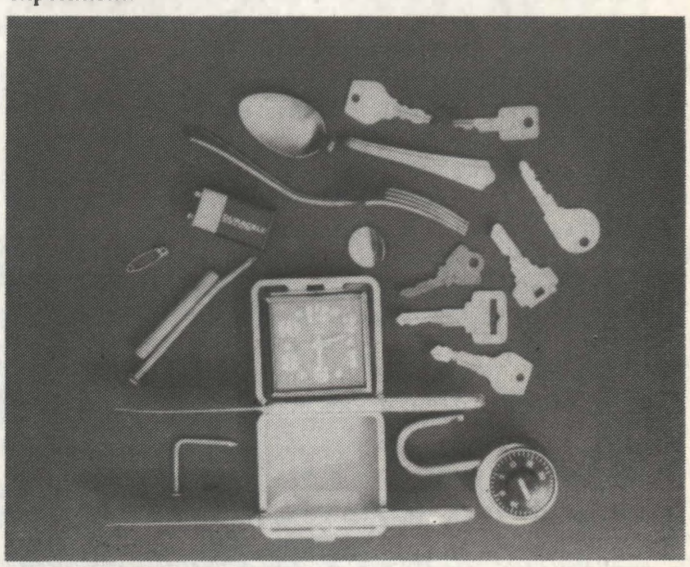


Figure 2. Various objects that K apparently telekinetically influenced.

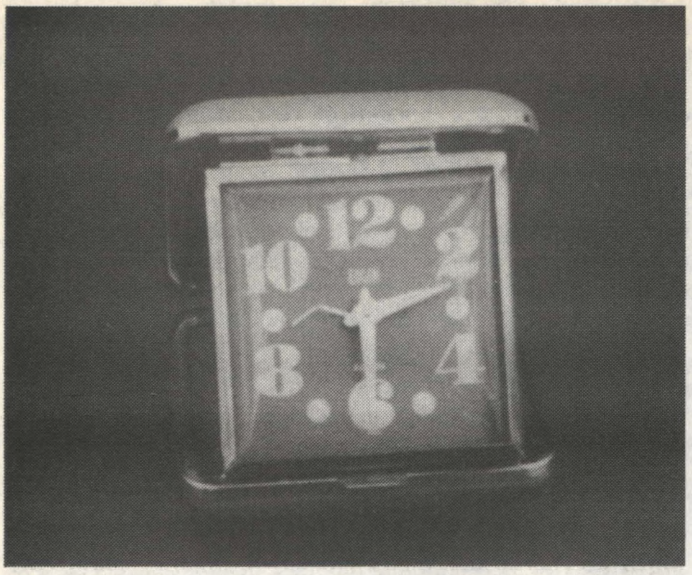


Figure 3. Travel alarm clock. Note that the small hand is bent.

Day 3: Sunday, January 15, 1984

Approximately 2:30 P.M.: My son [E] came to the office, and K made four telekinetic attempts to move paper matches under an inverted glass on my desk. These attempts failed. He attempted to bend a 50-cent piece in his [E's] hand. K did not touch it. This also failed.

3:00 P.M.: It was then noted that an ampoule of methylene blue centered under an overturned glass on the desk in front of us had apparently moved to the side of the glass. No one had touched the glass.

4:00 P.M.: K's attempt to levitate a crumpled dollar bill under an inverted glass on my desk failed. Four Polaroid pictures of K and [E], one each of K and [E] separately and then together, revealed nothing unusual.

8:00 P.M.: At [H's] house. This gentleman has presumed high paragnostic-UFO, contactee-like abilities. K instructed [H] to write the name of a dead person on a slip of paper while his wife, mother-in-law, and my wife wrote the names of living persons on separate slips. K, who had not seen what was written, took the folded papers and, while in a presumed trance-like state, held them to his forehead until he finally chose the paper which he said was the dead person. He called the initials "J.F.K." which was correct. Shortly after this [H] picked out a "word card" from a pack of forty cards that K did not handle. K then sequentially and correctly picked all the letters as [H] thought of them: O M N I P R E S E N T. K did not synthesize nor pronounce the word.

10:10 P.M.: On K's instructions, my wife suspended a key from a cold-rolled steel "pole" magnet. While she held this in the air, K "zapped" the magnet, and the key fell to the table. At no time did K touch the magnet or cause vibrations. My wife and I could not pick up the original key, paperclips or any piece of suitable metal with this "magnet." The loss of magnetism has persisted (see Figure 2).

10:30 P.M.: K, my wife and I returned to the condominium, and on K's instigation, I centered a paperclip under an inverted plastic salad bowl, 28 cm. in diameter at the base and 12 cm. in depth. The overhead lighting fixtures were on. While K was apparently entranced, he made his telekinetic "passes." The paperclip suddenly rotated approximately 30°, moved back and forth to the side of the bowl and then levitated on the vertical axis.

11:30 P.M.: K "zapped" one paperclip centered under an inverted glass tumbler. The clip rotated approximately 5°. While K was preparing to retire, it was noted that the golden hand of the travel alarm clock was bent approximately 45° (see Figure 3). The clock worked fine. My wife loaned K this particular clock because she did not want her music box Swiss clock, also in K's room, damaged. Naturally, the hands of the clock were under glass. This was an apparent spontaneous effect.

Day 4: Monday, January 16, 1984

8:00 A.M.: A key which had been placed in the corner of the dining room table at the apartment was bent. None of the other keys were affected.

Approximately 2:00 P.M.: While in my office, I was talking on the telephone to [E] in another city in Florida. K was directly in front of me and held a quarter between his extended second and third right fingers. I watched from a distance of approximately three-and-one-half feet while the quarter was extruded and bent 45° between his fingers over a period of an estimated two minutes (see Figures 2 and 4).[6]

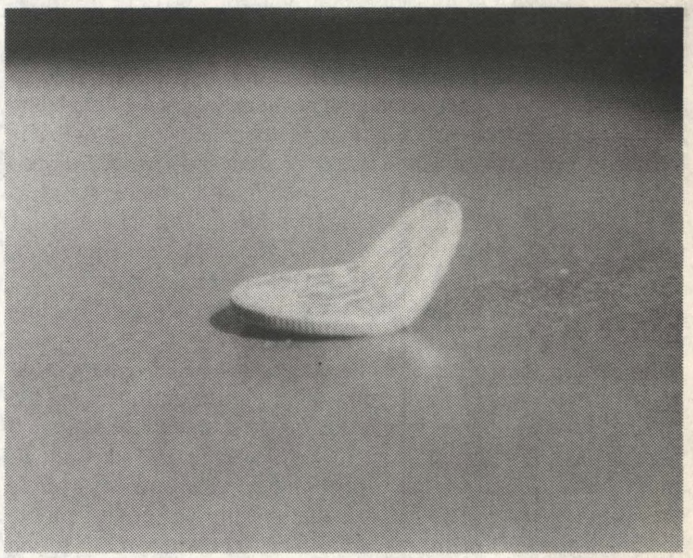


Figure 4. A coin (U.S. quarter) that K apparently bent telekinetically.

2:40 P.M.: A new 9-volt Duracell© alkaline battery (MN1604) was unpacked and checked in the "good," or green band, with a voltmeter. While in an apparent trance, K "zapped" the battery for approximately one to two minutes, and the voltmeter reading was the same for the battery after this. At 2:45 P.M. the "zapping" was repeated for three minutes, and again there was no change in the voltmeter reading.

3:24 P.M.: K "zapped" the same battery under an overturned glass in my desk. Again, the voltmeter readings were the same afterwards as before. The battery was then placed on its horizontal axis under the glass and "zapped" for two minutes with no effect on the voltmeter. K was upset about this since he had produced effects in his experiments at home and could not understand the failure. At one point during these attempts, K held the positive and negative poles of the battery against the palm of his hand and received a shock. However, measure of the battery voltage at this point revealed no discernible diminution in charge. I did not check this or other batteries again until Sunday, January 22, at approximately 2:30 P.M., when I then

[6]K had no coin crank. Under the prevailing conditons he could not have switched coins nor could he have exerted any conceivable force or leverage. There were no deforming marks, cracks or scratches on the coin.

noted that the four other "unzapped" 1.5 volt AA and one 1.5 volt D Super Heavy Duty batteries still registered in the green, or "good," voltmeter band as previously noted, but K's earlier "multi-zapped" battery now registered in the "replace" section on the voltmeter (see Figure 2). What had caused the battery to weaken in this period of time when the only variable was the presumed telekinetic influence? K had no apparent contact with this or the other batteries other than what has been described in this experiment.

3:30 P.M.: At the office, eight standard-size metal paperclips were clumped together and put under a glass tumbler on my wooden desk, and K "zapped" them for approximately a minute — the clips rotated, and two of them levitated on their vertical axes. This was done directly in front of our lines of vision and under full lighting conditions. At no time did K touch anything. He was depressed because he hadn't demonstrated spectacular feats for [E] the previous day. Attempts at filming this were difficult because the motion picture camera motor was noisy which disturbed K, and he was not used to high intensity lights. In addition, I was personally frustrated in failing to find someone who would properly videotape the sessions.

10:30 P.M.: While at the apartment, K held a key (marked DLM 25) between his right forefinger and third digit while he stroked the stem and the remainder of the key. The key gradually bent an approximate 50°. My wife then held the bowl of a stainless steel teaspoon while I held the stem and K gently rubbed the neck. Nothing happened. We then took a smaller stainless steel teaspoon and repeated the procedure. With no excessive pressure by K, the bowl broke off at the neck (see Figure 2).

10:37 P.M.: The original 9-volt Duracell battery was "zapped" by K, and the battery gave the same "good" reading afterwards as it had done previously.

10:55 P.M.: K "zapped" an ordinary house broom placed on its straw end. It stayed upright for three minutes and 45 seconds. An attempt to repeat this on the rounded wooden end of the broom failed. As a control, however, I succeeded in balancing the broom on the straw end in K's and my wife's presence. It was concluded that this broom was not a suitable specimen for telekinetic research. This feat was similar to the one that K's great-uncle had seemingly performed.

Day 5 — Tuesday, January 17, 1984

3:50 P.M.: K had returned from jogging on the beach, and I had seen some patients. An egg was placed in a wine glass with a methylene blue tablet on top. K "zapped" it without effect. K had never attempted this experiment before. It was thought safer to shatter an egg or possibly teleport a pill inside the egg or other combinations than to attempt this possibly dangerous feat on glass objects.

4:07 P.M.: K "zapped" the egg in a plastic bowl without effect.

4:26 P.M.: On K's instigation, we captured some red ants and one was placed in a stoppered glass bottle. The ant was "zapped" without apparent effect.

4:30 P.M.: The bottle was placed on a horizontal plane, and the ant was "zapped" again without effect. The same negative results occurred at 4:37 P.M.

9:40 P.M.: My wife and I returned to the apartment from a medical society dinner. K attempted in our presence to "zap" nine metal paperclips under an overturned glass atop bridge table, without effect.

9:50 P.M.: According to previous successful methods in his own home, K then placed a blue tablecloth on the bridge table, and nine paperclips were put under an overturned glass. Three attempts at "zapping" failed. He then, according to past successes, put one of our candles in his candelabrum on the corner of the table, and then lit it.

11:10 P.M.: While presumably entranced, K "zapped" the clips under the glass without effect. He then "zapped" one clip centered under an overturned plastic salad bowl as previously described, and nothing was discerned. He then "zapped" eight paper clips under the glass tumbler without effect, and finally he unsuccessfully "zapped" nine clips under the glass. He attempted to bend a key in my closed right hand without effect. Because of these failures, the experiments were discontinued, and we prepared for the next day's activities.

Day 6 — Wednesday, January 18, 1984

Approximately 10:00 A.M.: At the office, a relaxed K attempted a five-minute electronic voice phenomenon experiment with my portable, battery-driven Sony© cassette recorder. On playback of the cassette tape, nothing was noted.

10:30 A.M.: [R], a radio announcer, arrived to discuss matters with K. A Timex© watch, formerly owned by [G] and which was not wound (not a broken watch) was held by [R] while K, in a trance-like state, "zapped" it twice for two to three minutes. There were no effects on the second, minute or hour hands. However, a Seth Thomas bedside alarm clock on the desk, which had not run in six months and had been tightly wound, was spontaneously picked up by [R], and he wound it. Apparently, it had become unwound. The clock started running and has run ever since. I had prepared to take the clock to the repair shop but had saved it for the pending experiments.

Shortly afterward, twelve metal paper clips were put under an overturned tumbler, and K "zapped" them twice without effect. While [R] was still present, I pointed out how a brass key on the desk in front of K had bent approximately 15° and had developed a crack at its neck (see Figure 2).

There were five other keys on the desk in front of us, but none of them were affected. This was seen after the fact and was not noted while it was taking place. No one handled the keys. [R] left, and K and I went to the post office. When we returned, I noted that a key (marked DLHF19) on the desk was bent approximately 5° (see Figure 2). None of the seven other keys showed any effects. All the keys had been checked beforehand, and K was always under scrutiny. Fraud through substitution was considered unlikely.

8:22 P.M.: [W], the condominium manager, arrived at my office and sat on K's right facing me. While apparently entranced, K "zapped" twelve paper clips that were clumped and centered under an overturned glass. After five minutes, nothing unusual happened. One clip was them "zapped" for three minutes and still nothing happened. K complained that the light from the side hurt his eyes. [W] and K reversed their seats, and a box of wooden matches was emptied, clumped, centered on the desk and put under a tumbler and "zapped" for five minutes, but nothing happened. [W] held a 50-cent piece in his left hand, and when he "zapped" it, nothing happened. [W's] wife, an insulin-dependent diabetic, arrived. K took a butterknife in his hands, and while entranced, and with no discernible pressure other than gentle messaging, the stainless steel blade bent approximately 15°, and the thick handle showed a depression, presumably from K's thumb (see Figure 2).

9:20 P.M.: K attempted to telekinetically bend a key in [W's] right hand. This was unsuccessful. Shortly afterwards, K "zapped" a jar which had been prepared a year before and contained two unlit wooden safety matches and a Ping Pong© ball. The cap to the jar was tightly screwed on with Duco© Cement. The jar cap was also embedded with thoroughly-dried cement, human hairs and a paper label. Nothing unusual happened.

K "zapped" the jar again, and upon examination, we noticed that the head to one of the matches was half-charred, and the wooden tail of the other match, which was in juxtaposition to the head, was also charred (see Figure 5). There was no apparent effect on the Ping Pong ball.

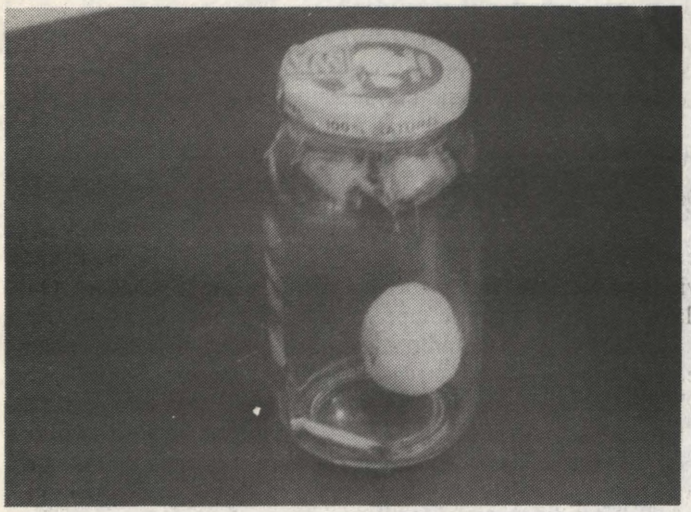


Figure 5. A jar containing two unlit, wooden safety matches and a Ping Pong ball. One of the matches was charred apparently after being telekinetically lit by K.

9:25 P.M.: K, sitting across the desk directly opposite me and having on either side the manager and his wife, attempted to influence a pendulum suspended in a glass graduate. K "zapped" this three times, and on all occasions there appeared to have been slight movement.

9:40 P.M.: K attempted to levitate a crumpled dollar bill in his right hand and this failed. This was then attempted when the spotlights overhead and the lamp by my desk were turned off. Nothing happened.

9:45 P.M.: An attempt to telekinetically influence two wooden matches with the heads and tails in opposite directions in a freshly prepared, cork-stoppered bottle was unsuccessful. K was depressed and anxious in view of the relatively poor performance the night before and the meager results of this evening.

Day 7 — Thursday, January 19, 1984

Approximately 7:10 P.M.: While in the condominium, K came to my wife and me and showed us the key to his trunk, which had allegedly bent spontaneously at an apparent 50° angle. He had not noted this previously and he stated that it had been intact earlier in the day. The key could still be used.

8:00 P.M.: [T], an executive from a television production company, arrived with his professional equipment. He was accompanied by [S] (who is a director of a talent and modeling agency) and her aide. My wife was also present. K made numerous unsuccessful attempts to move or levitate wooden and paper matches under a glass tumbler on my desk. K became depressed and was concerned about the expense of videotaping. He was also upset at [T] because he was not familiar with his accent. He also said the television experience (which was new to him) and the bright lights were bothersome.

While K was talking, it was noticed, but unfortunately not videotaped, that the inverted tumbler and matches had moved four inches from the edge of the desk to the margin of my blotter. No apparent disarray of the matches under the tumbler was noted. K sat in front of the glass while [S] and [T] were on his sides. K then unsuccessfully attempted to levitate a quarter under an overturned tumbler. On three subsequent occasions, he again failed to psychokinetically move the matches. At one point, he seemed to be entering a deeper trance, and when it was hoped by myself that there would be success, the 650 watt overhead television light behind him blew out. (Did the apparent psychokinesis affect the television light?)

K tried to get in the mood of the occasion by attempting some of his escapes and showing us his scrapbook. Apparently bewildered, he then failed to correctly identify the names of dead and living persons that the subjects had written on slips of paper. He next tried a telepathic two-digit test, and this also failed. He then suggested that everyone leave the room and I stay alone with him while the videotape was recording. Nothing unusual happened. He then worked separately with [T] and [S]. Still nothing succeeded. Finally, when he was alone with [T], K gave him a key (marked d1MZ9X26). [T] held it tightly in his right fist while K "zapped" it. [T] was surprised because when he opened his outstretched pronated hand, the key seemed to stay there and then appeared to float slowly to the floor. The long end of the key was bent approximately 50° (see Figure 2).

Shortly after this, K, in my presence, unsuccessfully attempted to levitate methylene blue tablets under a glass tumbler. No spontaneous effects were noted on any of the other nearby props, including tableware, sectioned bovine aortic rings, the ignition of wooden safety matches in a cork-stoppered bottle, or a color change of an acidified solution containing Toepfer's© reagent indicator. However, these props were not specifically "zapped." K's brief, half-hearted attempt to influence a radiometer also failed. The experiments terminated at midnight, and arrangements were made to pursue matters further the following day. When we returned to the condominium, no changes were noted on the various keys and tableware.

Day 8 — Friday, January 20, 1984

Early morning: On awakening, my wife had to telephone someone for an appointment, and she noted that the line was dead. We checked three telephone receivers and wondered if K's cordless telephone might have been inadvertently knocked off the receiver. He was presumably deeply asleep when I roused him by knocking on his door and entering his unlocked room (as is the custom in this house). The telephone which was on the receiver was also dead. My wife contacted the telephone company on an emergency phone in the apartment elevator, and the operator said they would send out a repairman. The operator also said that there were no complaints of telephone trouble in our area. It was impossible to determine the cause of the difficulty, but it appeared to be in the line and not in any of the telephones or the jacks.

Approximately an hour later, when leaving the condominium, I tried the telephone once again, and this time all was in order. When the repair service visit was cancelled, the operator again had no way of knowing what the difficulty had been. There had been no previous or subsequent telephone difficulty such as this. (Could the telephone problems have resulted from K's telekinetic attempts?)

8:45 P.M.: K, [T], and myself were present. Unfortunately, for technical reasons, a complete recording was not made when K, under full lighting conditions and at a distance of two to three feet between himself and ourselves, held an eight-penny nail (approximately 6 cm. in length) in his right hand while he gently massaged the nail with his right index finger. Gradually, over an estimated one to two minutes, the nail "softened" and bent to a 90° angle (see Figure 2). Unfortunately, only the conclusion of the bending was videotaped. The bending was closely observed and also concomitantly monitored on the television



Figure 6. A cardboard safety match centered under an overturned glass tumbler developed back-and-forth movements (pictures A-C) apparently as the result of K's telekinetic "passes."

screen. K used no strength, and my attempts to bend an eight-penny nail under controlled conditions or with all my strength were unsuccessful.

9:30 P.M.: While being videotaped, K unsuccessfully attempted to bend a steel poker. Then an attempt to telekinetically move a quarter also failed.

10:20 P.M.: K attempted to get into the proper mood by demonstrating some of his escapes from various regulation state police and federal hand-cuffs, thumb-cuffs and chains.

10:40 P.M.: K's attempt to "zap" a screwdriver failed. However, at that point it was noted that a table fork nearby on the desk had developed a grossly discernible increase in it angulation (see Figure 2).

11:00 P.M.: K failed to levitate a dime under an overturned glass. The three of us stepped outside for refreshments, but the convenience store across the street was closed.

11:20 P.M.: While videotaping under full lighting conditions and high magnification, K, using both hands while entranced and employing telekinesis, made a 4° bend in a sixteen-penny common nail approximately 10.5 cm. in length and 4 mm. in diameter (see Figure 2).

11:30 P.M.: A crumpled dollar bill was placed on top of an overturned glass, and a nearby candle was lit. K's "zapping" produced no effect. Shortly afterwards, under full lighting conditions, a cardboard safety match was centered under an overturned glass tumbler on the desk. While K made telekinetic "passes," the match developed back-and-forth movements, twice "plinked" the side of the glass and in inchworm-like movements, vertically levitated on one pole. This was videotaped, and then the same episode was successfully repeated and recorded (see Figure 6).[7] Shortly afterward, as previously described, an unsuccessful attempt was made to bend a ten-penny nail.

Day 9 — Saturday, January 21, 1984

1:20 A.M.: K failed to telekinetically bend a key in [T's] left hand.

1:30 A.M.: At the conclusion of the videotaping, K handed [T] a card with 25 different symbols on it. [T] sat in one chair while K sat several feet away with his back turned. He instructed [T] to: 1) think of a two-digit number; 2) circle one of the five symbols which were drawn on the card; and 3) think of a word and write it down.

K, while visualizing and concentrating over a period of several minutes, gave [T] complicated directions to choose one symbol to the "right or left of what he had drawn." [T] "incorrectly" encircled *two* symbols in juxtaposition instead of choosing one symbol. K drew a circle, which was partially correct for [T] had also encircled the plus sign. Then, while [T] concentrated on two digits, K, over a period of an estimated few minutes, said "1" (which was correct), "2" (which was incorrect): that is, "13." [T] then concentrated on a word, and K was unable to synthesize the syllables for the whole word, but while [T] thought of his word letter by letter, K succeeded: K slowly said "H" (yes), "E" (yes), "L" (yes), "B" (no), "P" (yes): "H E L P." The evening was concluded.

Day 10 — Sunday, January 22, 1984

7:15 A.M.: In the condominium, upon arising, my wife noticed that a safety pin on the kitchen counter by the microwave

[7]The match was torn from a match book obtained by my wife immediately before the experiments. The match head had no magnetically sensitive iron salts. Nor were there any similar salts, iron wires or bands secreted in the match stem. The match was not influenced by a magnet. The glass tumbler belonged to my mother. The conference desk has no concealed magnets or mechanical contrivances.

oven was bent (see Figure 2). She said that she had taken the pin out of K's shirt before washing it, but did not at the time notice with full certainty whether it had been bent or not. However, she did see that the microwave oven clock said 4:12, which was incorrect, and there was no flashing to indicate power failure. There was no evidence for any power failure in the apartment. When questioned, K said he had gotten up during the night for orange juice but did not touch the microwave oven or anything else. (Could he have telekinetically affected the oven?)

2:12 P.M.: When K had left and we were tidying his room, I noted that the experimental coffee jar was affected. The jar had been prepared months before by having the cap sealed with Duco cement, adherent hairs and a paper label. The sealed jar contained my daughter's calling card, stub of an ordinary lead pencil and a green crayon. The jar had been placed on a table close to K's bed two nights previously.

I discovered that the calling card had centered on it, a flat elliptical green blob with possible surface markings approximately 3x1.5 cms. and surrounded peripherally with an oily translucency. The pencil stub was fixed and saddled to the side of the jar in a blob of remaining green crayon. K had not mentioned this to us. There was an analogous control preparation containing my son's calling card which was in my office — and neither zapped nor called to K's attention — which was unaffected (see Figure 7).

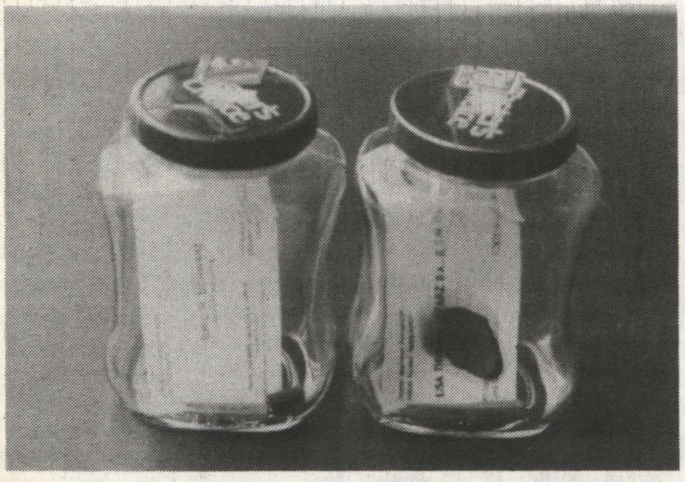


Figure 7. Two jars containing calling cards, stub of an ordinary lead pencil, and a green crayon. One jar and contents (control) was unaffected; and the other (experimental) was apparently telekinetically affected by K.

On January 23, 1984, at 3:15 P.M., overbrimming with curiosity and on a hunch, I phoned for the first time [H] who lived in a small city in western Pennsylvania. [H], who runs a typing secretarial service, was shocked because K, who visits her infrequently, had just walked into her office,and they were talking about the Florida experiments. When I asked K about the sealed jar, he said that he had "zapped" it the night when it was first placed in his room but that he didn't tell me at the time because "I thought you would not be interested. It was not done under experimental conditions where you observed it."

Aftermath — Hometown Finale

From Thursday, May 24, 1984, until Saturday, May 26, 1984, I visited K in his home in western Pennsylvania. His parents, brother, fiancee and friends were most cordial. Various preliminary experiments were undertaken *in situ* and at K's small house where he lived alone. We also made side trips to other cities in Pennsylvania.

Day 1 — Thursday, May 24, 1984

10:50 P.M.: At K's house, in the presence of [W], his wife [M] and myself, K focused on a 1-7/8" Cole© combination padlock which I had purchased earlier in the day. [M] opened the plastic sealed wrapper and handed the lock to [W] who looked at the six combination numbers on a seal attached to the back of the lock. He removed the seal and shared the numbers with us. K put his index fingers through the shackle and while in a trance-like state told us to concentrate on the numbers, which he correctly called out: 16-32-49. The lock popped open. He did not turn the combination dial, and it was not possible for us to observe if the outer dial had changed.

11:00 P.M.: K gave [W] 25 cards with different symbols on them that he had drawn previously. He instructed [W] to shuffle and cut the deck of symbol cards and then put them into three packs. Each pack was placed and wrapped in a sheet of aluminum foil. K's back was turned to [W] and us during these procedures. K then called the top cards of the three packs which were then taken out of the foil by [W]. K correctly named a cross, a circle with a cross in the middle and failed the third test by describing a circle when the card was a square with a cross. Immediately after the symbol test, [W] shuffled and cut a deck of ordinary playing cards which he had examined beforehand. While K had turned his back to us, [W] put the deck of cards behind his back, took out a card and put it on his seat. While in a trance-like state, K concentrated and then correctly called out the ace of clubs.

Day 2 — Friday, May 25, 1984

12:45 A.M.: Under overhead electric light illumination, K instructed [M] to place 20 pennies under a glass atop his card table which was covered with a dark blue terrycloth. He had also lit a candle placed in a candelabrum on the distal, right-hand corner of the table from himself. Several times he attempted to telekinetically affect the pennies and failed.

He asked [M] to remove the glass and spread the pennies on the table in front of himself and he unsuccessfully tried agin. At no time did K ever touch the pennies or the glass. After more failures, he had [M] put one penny under the glass. While this trial was being videotaped by [W], K "zapped" the penny, whereupon it levitated approximately 80° on its vertical axis for at least seven seconds.

Shortly afterward, K unsuccessfully attempted to telekinetically influence the penny. Seconds after he finished this trial, we heard loud metallic-like sounds from the table in the corner of the room, approximately two to three feet behind and lateral to K's left shoulder. It seemed that books and other objects moved on top of the table, and a brass key which had been on the surface now was on the floor. While trying to figure out what had happened and account for the loud metallic-like sounds, we were interrupted by a crash from a glass tumbler that had been on top of the television set, two to three feet behind and lateral to K's right shoulder. I spotted the glass on the floor, and then a cardboard desk calendar, also on top of the television set, suddenly fell to the floor. (Could K have telekinetically affected all of these objects?)

1:55 A.M.: We adjourned to K's small bedroom and sat on chairs facing the bureau on which was placed K's Timex quartz luminous alarm clock (marked #7607). The experiment was being videotaped, and we all concentrated while K "zapped" the clock. The second hand stopped for more than 25 seconds and only started when the trance-like state was broken and K relaxed.

At different times throughout the evening, K unsuccessfully attempted to telekinetically bend quarters and 16-penny nails. He was unable to levitate a Ping Pong ball from one chamber of the box over a hurdle into a wine glass.

Approximately 2:00 A.M.: When bidding K good night, I jokingly told him that upon my return in the morning, I would knock on the side of his house in Morse code. This was in reference to previous discussions about his spectacular out-of-body experience shared with his girlfirend, wherein he had not only appeared to her and she had "felt his presence," but while in his presumed phantom form, he threw his martial sticks from the shelf to the floor.

In any event, while in my motel, I was suddenly awakened from sleep at 2:30 A.M. with a series of 15 to 20 loud raps. They were so odd and loud and close by that I turned the lights on, jumped out of bed, examined the headboard and lampshades, and even put my ear to the wall between the two rooms. There was nothing to account for the sound. Note was taken of this event, which I believed was related to some telekinetic activity on the part of K.

Soon I was fast asleep, only to be awakened twice more during the night with the same serial rappings. In the morning, when I visited K (and woke him up!), he had no memory of these events (or any dreams). He said that after an evening of successful experimentation, he frequently has vivid dreams of what had happened, and during which he also plans new experiments.

Early afternoon: In [H's] office, K attempted some impromptu experiments. [H] went into an adjacent office and looked at a phrase in a book while K, at [H's] desk, took a piece of blue note paper and wrote down the word "Krystal." When [H] returned, K was informed that the test phrase looked at by [H] was not about "Krystal."

Since I was familiar with the book and was curious about K's choice of "Krystal," we opened the book to the place where [H] had formerly left a blue piece of paper (presumably from the same pad K had used). It was placed by the chapter heading featuring the protagonist of the story, Mrs. Krystal (pseudonym) — a woman I had known and studied [8]. K unsuccessfully attempted several card experiments and then, in a friendly challenge, agreed to think of a three-digit test with [H]. With K's back turned to her, [H] wrote "5-1-2," which K correctly called out. Several card experiments were then attempted, with poor to equivocal results.

At approximately 10:00 P.M., while interviewing K in his home, he suggested we try a letter experiment. I wrote "N" on a piece of paper which I tore out, folded and held in my hand. K concentrated for a few seconds and then, with his ballpoint pen on a card, traced out the letter "N."

Day 3 — Saturday, May 26, 1984

K was at the headquarters of a Fortean[8] phenomena association in a small town in western Pennsylvania.

At approximately 2:00 P.M., [S], founder and director of the association, observed K, who "zapped" a precision ratemeter. The effort seemed to produce two swings of 390 counts per minute (normal background counts are 100 counts per minute). Since these increases were concomitant with an augmentation in the audio effects, it is likely that the responses were from the Geiger© tube rather than a possible direct telekinetic effect on the indicator gauge. On separate testing, K could produce no effect on a radio frequency detector. In a third impromptu experiment, K was unable to obtain any information from psychometrizing two purported specimens in the possession of the Fortean association.

10:00 P.M.: In a private home [in a small town in Western Pennsylvania], K "zapped" a woman's spring-wound Timex watch. He succeeded in changing the hands from 10:10 to 8:45. Immediately afterward, he then asked the 22 persons present to look at their watches while he focused his attention on [S's] watch. Although [S's] watch was not affected, two out of the six people who participated in this experiment noted changes in their timepieces. A spring-wound Timex watch shifted to 6:00 and a spring wound Jurgensen© watch stopped. K did not touch any of the timepieces. During the evening, he unsuccessfully attempted to "zap" a television screen and levitate a quarter placed under an overturned glass bowl.

Conclusion

In a series of demonstrations and experiments, K was observed and in some instances videotaped while performing certain presumed telekinetic activities. In the nine days of observation in Florida and two-and-one-half days in Pennsylvania, he presented evidence of related psychic abilities. Anecdotal accounts from his family and friends would appear to suggest his possession of psychic aptitudes. Nevertheless, K was only successful in certain telekinetic phenomena and at certain times.

It is hoped that physicians and other scientists will investigate K's apparent unique abilities and thereby contribute to an understanding of the possible mechanisms and theoretical and practical potential applications.[9] K's apparent telekinesis could be used as an interesting paradigm for researching the possibility of psychosomatic phenomena. It is conceivable that such an individual could affect not only inanimate objects by telekinesis but could also positively affect the human body (both his own and others) in the prevention and treatment of disease.

Acknowledgements

I thank the subject K, his mother, father and brother, and the various involved individuals for graciously visiting with me in their homes or places of business for the purposes of these investigations.

Notes And References

1] Melvin Pryor (Melvin the Magician), in a telephone interview on March 24, 1984, confirmed his open letter of January 27, 1984, and kindly gave permission for its publication:

> "I recently visited young K. I knew K as a young magician and escape artist. I had not seen him perform for some time. He has been working for the past few years on ESP, telepathy, and so on. He seems to have ability along these lines.
>
> I held an ordinary bar magnet which picked up a small ball bearing. He concentrated on the magnet and suddenly the bearing fell. The magnet lost its power.
>
> I placed my own quarter on the table. This was covered with a small drinking glass. K concentrated and the quarter stood on edge. While he concentrated, objects 10 feet from him fell to the floor from a TV set. I saw no movement on his part. I have been practicing magic for 30 years. I cannot explain what I saw that evening."

[8]Fortean describes strange, unexplainable facts including paranormal events. It is derived from the name Charles Fort who spent his life collecting data on strange events in nature that have no known scientific explanation.

[9]Forthose interested scientists, details of K's personal address and availability will be given by the author. The author also has a signed, appropriately witnessed affidavit by K in which he disclaims any dishonesty, misrepresentations or use of sleight-of-hand substitution or similar acts in his presumed telekinetic demonstrations and experiments. This too can be made available.

Dwayne Bastian, a magician of Clarksville, Pennsylvania, told me in a telephone interview March 27, 1984 (and confirmed in a letter of April 6, 1984), that he has known K for thirteen years (since the fifth grade). From his experiences as a magician, he had no explanation for his observations of: (1) K shattering a piece of "hard" glass in his hand; (2) having a crumpled dollar bill rise eight inches above his hand; (3) seeing a pendulum stop and go; (4) K correctly naming a card that Bastian took out of a shuffled new deck of cards and which he had placed behind his back; (5) observing a coin stand on end under a shot glass; (6) drawing the power out of a magnet; and (7) projecting "whities" or "blackies" when concentrating on a camera lens with the cap off.

Although mail-order magic shops advertise entertaining (trick) levitations and coin-bending stunts, these inexpensive tricks should not be confused with presumed genuine telekinesis. If the magician chooses to enter the scientific arena and falsely claims that his perpetrated frauds are identical to supposed genuine data, he should be expected to demonstrate his spurious stunts in the laboratory under the exact conditions that prevailed during the experiments. In this way, dishonest persons can be exposed while honorable persons can be protected from headline-hunting charlatans.

2] It can be speculated that these cognitive deficits, among other factors, spurred K to overcompensate and use other sensory or latent talents which then became an excellent survival bridge in interpersonal communications and in keeping up with his peers. His school district sent transcripts from grades five through ten. These data revealed that K had difficulties in the Three R's. Nowhere in these school records or elsewhere in my interviews was there any suggestion for sociopathic behavior: lying, stealing, dishonesty, truancy, fire setting, criminal conduct or other forms of deviant behavior. K did not return for the 1976-1977 school term (11th grade).

3] Although the person who made this statement could not be contacted, I spoke to the identification officer of the local police department who told me that there are "two main points on fingerprints, one of which are the deltas. Sometimes they are on the edge near the nail." The officer never heard nor read of anyone not having deltas. He agreed to independently check this out with K at some future time.

4] Eisenbud, J. **The World of Tod Serioe: Thoughtographic Studies of an Extraordinary Mind.** New York: Wm. Morrow & Co., Inc., 1967.

5] Affidavit A:

"We the undersigned were all present at a demonstration performed by K on November 17, 1982, in a residence of [a small town in western Pennsylvania]." (There were approximately 35 people present at this demonstration; however, there [are] but six signatures listed below.)

The feats performed by K were as follows:
— While two women were holding a spoon (one on each end of the spoon), K lightly rubbed the spoon in the center, and after a few minutes the spoon broke in half. (The spoon was the property of the hostess.)

— K then levitated a quarter — the quarter was placed under a regular drinking glass which was put on a table upside down, and in a few minutes the quarter flipped over and hit the sides of the glass and landed upside down on the table while the glass was still covering it.

— K then took a piece of glass, an oval of approximately ½", and placed it in his hand; he then placed his hand into an oval-shaped vase-type container, and after a few minutes, the small piece of glass was shattered into sandlike particles.

— K then went into the TV room and after a few minutes, caused considerable interference on the TV set which the hostess said had never happened before.

(Signed affidavit in possession of the author.)

Affidavit B:

"I have on numerous occasions witnessed feats performed by K at my office [in a western Pennsylvania suburb]."

Listed below are but a few of these feats:

— When I first met K, a couple of years ago, he did some things with cards that were impressive; however, he bent a spoon of mine that day, and this really amazed me as I had read Uri Geller's book as well as many psychic and metaphysical books, but this was my first experience of personally witnessing such a feat. I told K that day that I would like to see him examined by a professional and have a study done on his marvelous abilities. I am glad that he is coming to see you.

— More recently, K has performed quite a few things that have made a lasting impression on me. I had a pencil laying on my desk — we were just sitting here talking and the pencil flew off the desk onto the floor.

— I have a pearl-handled steak knife (which I use as a letter opener) in my desk drawer — I had taken it out and opened a letter and then replaced it in the drawer (K had not touched it); my phone rang, and I answered it and spoke with the caller and then hung up; just then a woman that works in one of the other offices in the building came into my office to give me a check, and I opened the drawer to give her a pen — and saw that the knife had been bent — amazing since K had not touched the knife.

— Then I took a quarter out of the drawer and placed it in my hand, making a fist — and K put his hand over mine and we both concentrated on the quarter. In short time the quarter had bent — in this case he again did not handle the quarter.

— Another time while K was visiting me — I wrote a very short message on an index card and then burned it in an ashtray — while it was burning, I concentrated on what I had written on it and K was to write down what I had on the card — well he not only wrote what I had written but in the exact form! [illustration shown.] There are quite a few other feats that he has done but the above-mentioned were the most impressive — with the exception of one that he did just last week — with the ESP cards that he had brought with him. I shuffled them and placed them into separate envelopes, and he got all of them — he had a little difficulty with one — but after a little concentration got that one too.

(Signed affidavit in possession of the author.)

Affidavit C:

April 21, 1984

"Dr. Schwarz, just a short note in the form of an affidavit to update you on some additional psychic feats performed by K, which I have witnessed. These feats took place both at my office and at K's home [in a small town of western Pennsylvania]."

— The first thing that K did at his home was to correctly identify three ESP cards, out of a group of approximately 24 cards. The cards were shuffled by me and placed upside down on a table.

— K has a small container cupboard approximately 4"x12" which his brother made for him. The container is divided into sections by a divider, and on one side of the divider was a small

cocktail glass and on the other a small red ball. (The container has a sliding door on it.) While concentrating on the contents of the container, K made the ball move into the cocktail glass without touching the container at all.

— The next feat which was immensely impressive occurred when we took a regular hardback book (I do not recall the name of it) and I went into another room, turned to a page at random and concentrated on the first five words of a paragraph in the book, and K correctly told me the words in proper order: *I was purposely visiting him.*

— The next feat which K performed was the most impressive. Other than myself and K's girlfriend [S], there was another couple visiting K that evening. His friend [D] and a friend of his [B] were quite negative toward the feats that K was performing. I had placed a match (from a book of matches that I had in my purse) on my hand with a glass over it; K was going to attempt to levitate the match. Nothing was happening, so then we decided that if they [S; D; and B] would go downstairs perhaps it would work. Well, no sooner had they left the room, and K and I were alone, it worked. The match was horizontal on my left hand with the glass over it — the match stood up vertically, and I then removed the glass and ran my finger around the match which was still vertical on my palm — very interesting!

— Yesterday, K and [S] stopped by my office, and K did a feat with a deck of regular playing cards, which I had shuffled and cut. K simultaneously took one card at a time off the top of the deck. K could not see them but I could, and he called off each card correctly (out of eight he missed two — and they were both kings — which he incorrectly called queens; however, he did name the correct suit). K and I then took (I did) a quarter out of my purse and put it in my hand — we were going to try to levitate it (I had a glass over it). I had also laid a nickel on my desk. While we were concentrating on the quarter, the nickel flew off the desk onto the floor.

(Signed affidavit in possession of author.)

6] In telephone interviews of March 10 and 11, 1984, and in a written, signed report posted April 4, 1984, Mr. and Mrs. [G] told me of K's various feats which they had observed. For example, they said they witnessed: (1) K stopping the second hand of a 60-cycle AC electric clock while he was entranced; (2) K bending a 10-penny nail: "We held the nail that he gave us in front of our face(s) as he did the one he had. He told us to concentrate, and we did. After a minute or so went by, we looked at our nails. K's nail was bent at the top about 45°. My wife's was slightly bent; she was sitting straight across from K. My nail and [C's] wasn't bent;" (3) One key of several on the ring in his other hand had spontaneously bent while K unsuccessfully attempted to bend an experimental key in [G's] right hand; and (4) When K put his hands over ("never touching [C's] hand or arm") [G's] brother-in-law's watch and concentrated, the hands changed from 1:20 to 2:05.

K would not work on somebody's expensive digital watch because of his fear of success, thereby ruining the timepiece. In audiotaped interviews with me, Dunninger spoke highly on several occasions of Radiano, the presumed telekinetic medium from Italy whose act was stopping clocks. I had recently seen a young college man who many times in the past, had reputedly started and stopped the pendulum of a metronome with his "mind." Separate interviews of his mother and himself elicited additional anecdotal high quality alleged psi.

[G] said that K was compassionate and therefore reluctant to experiment on living organisms. He was afraid, for example, that he could stop a heart like the Russian Nina Kulagina reputedly had done on a frog. (See Ebon, Martin. **Psychic Warfare: Threat or Illusion?** New York: McGraw-Hill, 1983, page 66.)

Recently, when [G] and K were sparring in an Indonesian form of kung fu (Pukulan Cimande), [G] injured the top of his right hand which "swelled, became black from a ruptured blood vessel, and hurt." K asked, "Did I do that to you?" Without thinking, K put his hand over the injury and [G] said, "It felt real hot. A couple of seconds later there was no swelling, it didn't hurt, and it was no longer black." [Editor's comment: This appears to be some evidence o f psychosomatic effects by telekinesis.] He also recalled how he [G] took an ordinary deck of cards, shuffled it and, on K's instructions, pulled out a card, didn't look at it and put it in his back pocket. K said, "black, nine of clubs" and when [G] pulled the card out of his pocket that was correct. He said he did this four out of five times. When [G] concentrated on "his favorite number" he thought of "4." K said "7" which was incorrect. He tried again and got "4." K then took the piece of paper and said that [G] made a "4" like this. "4," and that is what he saw (not "4"). Furthermore, he said that [G] had changed his mind, which was correct, and that confused him. In another example of possible telepathy, [G] recalled how K had told him to concentrate on any name that came to mind. This happened on February 17, 1984. He chose [B], a girl that he had trouble with on his job. K wrote [B].

In my observations and studies of K's past school records, spelling was not his strong point. Tenhaeff has commented on the psychodynamic significance of psychological errors (Tenhaeff, W.H.C.: Proceedings of the Parapsychological Institute of the State University of Utrecht, Vol. 1, 1960, Vol. 2, 1962, and Vol. 3, 1965). On another occasion, [G], his wife and brother-in-law each wrote the names of three living people, and one of the participants wrote the name of a dead person who was close to all of them. K shuffled the folded papers and took one out and said, "[C]." This was incorrect.

However, [G] was surprised because [C], a nurse, had been involved in a severe accident a few days previously, and almost died. K tried again and said that he was still confused. He put aside one paper which, as was later learned, pertained to another woman who had almost recently died. Then, with certainty, he took the paper that he said was the dead person, and he correctly named the party [W] who was [G's] deceased grandfather and who was known and beloved by all three people. The psychic nexus[10] is a continuum without beginning or end. More could be said about the anecdotally reported experiences of [G] and other members of his family and the fascinating possible interrelated psychic dynamics.

(Signed affidavit in possession of author.)

7] Schwarz, B.E. **UFO-Dynamics, Psychiatric and Psychic Dimensions of the UFO Syndrome**. Moore Haven, Florida: Rainbow Books, 1983.

8] Schwarz, B.E. **Psychic-Dynamics**. New York: Pageant Press, 1965.

9] Schwarz, B.E. **The Jacques Romano Story**. New Hyde Park, New York: University Books, Inc., 1968.

10] Clinically, it would seem that many of K's best demonstrations occur late at night for a variety of reasons. For example, at that time there is less distraction from outside noises and, possibly not unlike other paragnosts as Jacques Romano, Joseph Dunninger, Gerard Croiset and Stella Lansing, there has been a preliminary warm-up period with the audience. It appears that when there is rapport and the audience's defenses are down, they are possibly in a more trusting, suggestible frame of mind.

There are certain psychophysiological prerequisites for psi. The critic might correctly state that this hypersuggestible altered state of consciousness also sets the stage for fraud, and that is undoubtedly a problem. That must be taken into account with these other considerations. It is stressed that in psi there are seldom simple black and white, either-or situations.

11] An illustration of a possible malignant telekinetic effect was provided on a phone call of March 1, 1984, from K and his friend [S] who witnessed the feats. Approximately one week prior to his call, K noticed a brown spider in the bathtub. While in a trance-like state,

[10]Psychic nexus is the constellation of interrelated psychodynamic, psychic, and subliminal events that often occur in clusters and comprise the continuum or background for presumed paranormal occurrences.

he "zapped" the spider, which allegedly started smoking and went up in flames. On another recent occasion, K thought he would experiment with his brown dove rather than the white doves which he preferred. He said the "brown bird was peppy and healthy." However, shortly after "zapping," the dove keeled over dead. [Editor's comment: Unlike the previous demonstration with the injured hand, in these instances K apparently employed telekinesis psychosomatically in a detrimental manner (at least as far as the animals were concerned).]

As another example. I recently interviewed a middle-aged man [B] who claimed close UFO encounters. As a young man [B] was a security guard. For a period of six to eight months, every time he came to work he noticed hoof prints in the front yard. Finally, he caught a girl riding her horse and asked her not to do that. She said she was sorry, she hadn't thought about it and she would desist. However, shortly afterward, the tracks appeared again and [B] became furious. Although he knew of books on black magic and rituals, he thought the abracadabras were a lot of baloney and preferred to make up his own ritual. Accordingly, while enraged he "cursed" the horse. However, his oaths were interrupted by a commotion on the street where, as he later learned, the horse suddenly fell dead at the comer. "The horse was always fine. They called a 'vet' who said it must have been a heart attack. The horse was just cantering along. I didn't want anything to happen to her. I could always summon up great strength when I had to: For example, when underwater diving and I had to move big rocks or once when I broke the barrel of a cannon two feet back from its muzzle."

There might be much to learn from the study of similar incidents and, in some cases, unusual people. Two excellent sources of this can be found in the work of George M. Gould, M.D., and Walter L. Pyle, M.D.: **Anomalies and Curiosities of Medicine**. New York: Julian Press, 1956; and in William R. Corliss, compiler, **Strange Minds**. Glen Arm, Maryland: Source Book Project, 1976. (A source book of unusual mental phenomena.)

12] Schwarz, B.E. **Psychic Nexus**. New York: Van Nostrand Reinhold Co., 1980, pp. 25-66.

13] Puharich, A. **Uri**. New York: Anchor Press, Doubleday & Co., 1974.

14] Geller, U. **Uri Geller, My Story**. New York: Warner Books, 1976.

15] In his psychokinesis (PK) parties, Houck (Houck, Jack. Conceptual Models of Paranormal Phenomena. **Archaeus** Vol. 1, No. 1, pp. 7-24, Winter, 1983) has demonstrated many times how the proper environment can be an apparent prerequisite for the psychic metal bending. His observations contribute to the meaning of suggestion, group contagiousness and the "first time effect" which, in another context, is entirely analogous to beginners' luck, love at first sight, first impressions and, on a deeper level, resistance to psi (Eisenbud, J. **Psi and Psychoanalysis**. New York: Grune & Stratton, 1970; Meerloo, J.A.M. Unobtrusive and Unconscious Communication. **Int. J. of Parapsychol**. 6:149-177, 1974).

It would seem that by understanding resistance and being able to undo it, the chances for success in psi and the replication of metal bending is increased. For example, when the emotional climate was proper, my wife's college classmate [V] developed for the first time in her life what proved to be excellent psychic metal-bending abilities. She did this on many subsequent occasions by herself and in the company of others. At one time, five of seven people, including my son [E], also succeeded. In subsequent attempts, when alone, [E] was unsuccessful. However, when [V] showed by daughter [L] this technique, she became skilled at mental metal-bending.

Nevertheless, she soon became "bored" (resistant) and gradually disontinued the process. She had hoped to see spontaneous metal bending or objects bending in the hands of others who exerted no pressure but were presumably under her influence. Houck's works can be read with profit, and I would hope that physicians, and particularly psychiatrists, would study these provocative questions, for they might be in a position to explore the many interesting theoretical and practical applications.

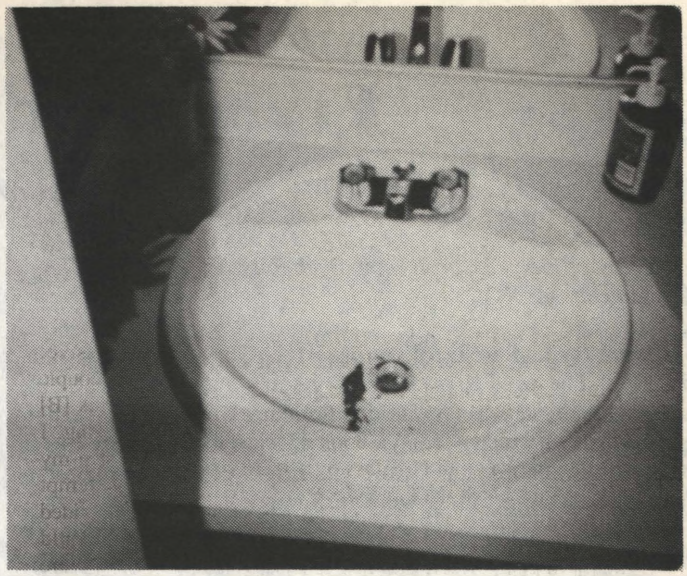


Figure 8. Numerous small pieces of enamel that inexplicably came out from the base of a sink bowl.

16] The setting or the "belief" is all-important. This gives deeper dimensions to the meaning of suggestion. For example, in the aftermath of a series of telekinetic experiments in the spring of 1982, a Sunday at noon, I was packing boxes for my planned move to Florida from New Jersey. My wife, son and daughter were in Florida. While in the kitchen, I took down an old Chinese tin tea container on top of the refrigerator that was filled with my son's safety match collection from boyhood. As I emptied it out and noticed the charring in the bottom of the container, I vividly recalled the possible fire-telekinetic experiences of long ago [12, pp. 170-172]. My associations then shifted to the recent charring of [E's] calling card in a presumably sealed box.

An important point is that a series of specific recent and remote psychic memories and experiences were spontaneously brought into sharp focus. At the height of this, my wife phoned from Miami to New Jersey. She was acutely upset because while taking our daughter's blouse out of the dryer, she heard loud crackling sounds through the partially-closed adjacent powder room door. She opened the door, turned the light on and was shocked to find numerous small pieces of enamel shooting out from the base of the sink bowl (see Fig. 8), splattering the ceiling about three feet above the basin and spraying the walls and mirrors. She had never experienced anything like this before, and she was immediately terror-stricken because of fear of eye injury. She asked if this event could be connected with the telekinetic experiments that I had been conducting in New Jersey. There was no ordinary reason that could readily explain this happening, such as changes in temperature, various physical agents put in the sink, vibrations, and blowers. Questioning plumbers, engineers and physicists also came up with no explanation. In view of our daughter's eye problems and, at one point, recent complete blindness, my wife was fearful of eye injury (for [L] or herself). My wife felt it was fortunate that she opened the door when this was happening and not [L] who was frequently at the apartment to use the dryer. Pictures were taken of the damaged sink. No satisfactory explanation was available for this effect unless one considered a psychic hypothesis. This event repeated itself on a similar (upstairs) sink and on a minor scale when I was in the condominium with my wife and also at the height of a highly specific turbulent exchange.

On a later occasion, while I was angry and frustrated over the splattering enamel sink episodes and simultaneously upset at my inability to psychically bend keys, my condominium door key apparently spontaneously bent, and would not work. Psi has its own laws, and it behooves scientists to understand them and not to prematurely pigeonhole what they observe into their own, at times, narrow and rigidly preconceived ideas.

How Chemistry Tracked the Prehistoric Amber Trail

by Professor Curt W. Beck

Professor Beck is professor of chemistry, Vassar College, Poughkeepsie, N.Y.

Chemistry and archaeology have long had a symbiotic relationship: The need to analyze very small samples of valuable artifacts gave impetus to the development of analytical techniques, while chemistry's major contribution to prehistory lies in its ability to identify the nature and origin of the raw materials from which the artifacts were fashioned.

Chemical contributions to archaeology began as early as the end of the 18th century with the analysis of ancient coins. The development of radiocarbon allowed chemists to date archaeological finds precisely. But archaeologists are just as interested in the question of the origin of the finds. Solving the problem is not easy. But modern analytical instrumentation is often up to the task. Still, with most of the experience with inorganic materials, organics have presented greater difficulties, particularly when they are insoluble materials such as amber.

This "gold of the North" has been a valuable trading item as far back as ancient Greece and prehistoric Europe. Found throughout Europe, the question for archaeological chemists is the source of these ambers. With the development of molecular spectroscopy in the 1960s the way was open to solve the problem. Because of their different botanical origins, different ambers were bound to give different spectra. Now, using a computer to analyze the data from thousands of amber spectra, the principal trade routes for amber in earliest times can be mapped; an outstanding example of the synergism of chemistry and archaeology.

Where and When

Ancient coins were analyzed by Klaproth in 1795, Roman pigments by Sir Humphrey Davy in 1817, Bronze Age alloys by Berzelius in 1836 and by Fresnius in 1845. For the next century the chemical contributions to archaeology grew in number and significance. But modern archaeological science gained its present position only with the work on radiocarbon after World War II that won the Nobel Prize in chemistry for Willard Libby in 1960.

Dating techniques continue to attract attention, but the question for archaeologists is not just "when" but "where?" Artifacts were not necessarily made in in the place where they were finally committed to the ground, usually in a grave, and where they are excavated thousands of years later. That has long been obvious to archaeologists on stylistic grounds, as with a black-figured Greek vase found in Italy or an Etruscan bronze sword recovered from a Danish bog. But artistic and technical skills are transferable by the transmission of knowledge and by the migration of artisans. The only objective proof of actual importation lies hidden in the chemical composition of a find, which, in turn, reveals the nature and origin of the raw materials from which it was fashioned.

The concentration of trace elements in pottery can often distinguish between local and imported ware. Even if the ideal of matching ceramic composition to specific clay deposits can be met only rarely, because the deposits were exhausted in antiquity, the distinction between domestic manufacture and trade goods can often be established by the statistical clustering of trace-element patterns. If the patterns of the suspected imports can be correlated with the ceramic production of another site, not only the act but also the source of importation becomes a fair certainty.

The same holds for metals, but with added complications: Even if the ore deposits used in antiquity are still available for comparison, a thorough knowledge of ancient metallurgical techniques is needed to assess the enrichment or depletion of particular trace elements as a result of the smelting process. Moreover, the value of metal in early times encourage the reuse of scrap. Even the most sophisticated statistical correlation methods will be hard put to reveal the checkered history of a daggar found in England that may have an Italian fibula, a Carpathian belt buckle and some newly added tin from Cornwall among its ancestors.

The problem of provenience analysis, or "sourcing," is easier to solve when natural materials are fashioned into tools or ornaments by purely physical means and without any attendant chemical change. Stone Age flint tools have been traced to specific quarries by elemental analysis. Obsidian, jade, turquoise, soapstone, marble, and coral are among the materials whose chemical composition has yielded valuable information about the intensive and extensive commercial, and hence cultural, exchange in very early times.

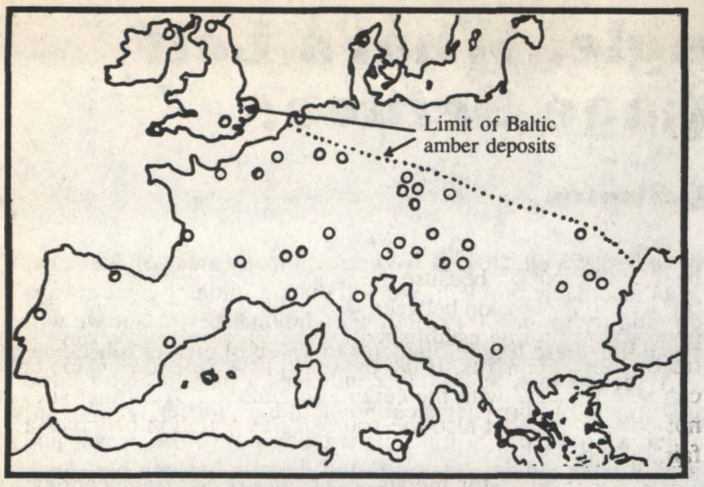
Resin Remains

Archaeological chemistry has dealt almost exclusively with inorganic materials. Not only do they constitute the overwhelming majority of archaeological finds, but their gross composition is easy to ascertain even by classical wet methods, and their trace element patterns can be determined by a variety of instrumental methods.

Organic materials present much greater difficulties, especially when they are polymeric and hence insoluble. One such material is amber, the collective term for fossil resins formed more than 25 million years ago by trees of largely uncertain botanical affinities. Because of its inherent beauty (it has been called "the gold of the North") and unusual properties (its German name "Bernstein" means "the stone that burns" and its Greek name "elektron" is the root of the word electricity, since amber acquires static charges on rubbing) it was highly prized and extensively traded in prehistoric Europe.

In ancient Rome, a small statuette cost as much as a slave and the importation of amber from the shores of the Baltic Sea is well documented by contemporary writers like Pliny. For earlier periods, only chemical analysis can establish the source of an amber artifact.

The largest deposits of amber are found in Northern Europe, where the already fossilized resin produced in a hypothetical "amber forest" was distributed, first by the glaciers of the Ice Ages and then by post-glacial rivers, over a large area reaching from England into Russia, but with a quite well-defined southern



0 indicates amber fossil finds in Europe

boundary. In addition to this "Baltic amber," which mineralogists call succinite, there are hundreds of more localized deposits all over Europe. Some have been given mineralogical identities, including simetite in Sicily, rumanite in Rumania, allingite in Switzerland, and schraufite in Austria.

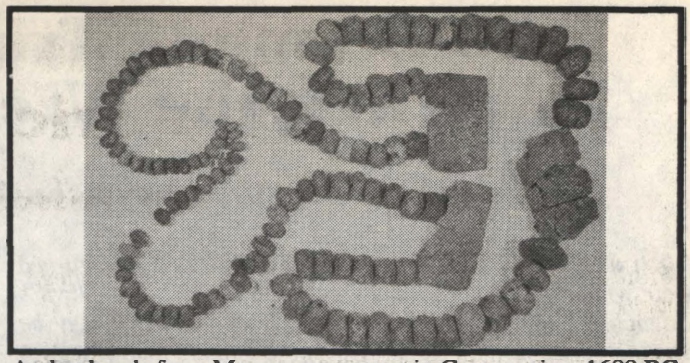
Pyrolosis Fails

The question for the German archaeologist Heinrich Schliemann, who in the 1870s excavated Greek sites dating to about 1500 BC, was whether the thousands of amber beads he discovered were imports from the distant North or whether they might not more plausibly have come from amber deposits of Italy and the Balkans. Chemistry was ill-equipped to deal with the question then, but one attempt was made by the apothecary Helm in Danzig.

Using the known fact that Baltic amber released small amounts (3 to 8%) of succinic acid on pyrolysis, Helm analyzed Schliemann's and other archaeological amber finds and pronounced them to be of Baltic succinite on the basis of their succinic acid content. But it was soon discovered by Helm and others that comparable amounts of succinic acid were contained in the amber of Sicily, mainland Italy, Rumania, France and even Portugal. That finding removed the rational basis from this earliest method of chemical sourcing, which had the added disadvantage of being highly destructive since as much as a gram of amber had to be subjected to dry distillation for a single test.

It wasn't until the 1960s that molecular spectroscopy offered a new way of attacking the problem. Infrared spectra yield polyphenic information that can be used empirically as a "fingerprint" to recognize not only identical structures of pure compounds, but structural similarities of complex mixtures. A spectrum can be run on insoluble materials, like amber, in a KBr pellet using only a milligram or two of sample.

Since geographically distinct fossil resins are likely to have different botanical origins, they are likely to differ sufficiently in chemical structure to give different spectra. These expectations were born out by a systematic study of the naturally occurring fossil resins. Some 2,000 infrared spectra showed that Baltic amber or succinite is distinguished from all other European fossil resins by a distinctive absorption pattern in the ester region: A broad, virtually horizontal shoulder between 1,250 and 1,180 cm^{-1} is followed by a single strong band at 1,160 cm^{-1}. In addition, there is a characteristic, though not unique, absorption at 885 cm^{-1} that can be assigned to an exocyclic methylene group.



Amber beads from Mycenaean graves in Greece, circa 1600 BC, were imported from northern Europe.

Oxidation weathering predictably attacks this unsaturated bond, diminishing the band at 885 cm^{-1} while at the same time causing additional absorption in the ester region. This gives the horizontal shoulder an increasingly negative slope, but the spectrum still unambiguously differentiates Baltic succinite from all the other European fossil resins. The latter have yielded a wide variety of spectral patterns, none unique, but all clearly different from the spectra on succinite.

Clear Picture

With a rapid and reliable method for the identification of Northern amber in hand, a research team of undergraduate students at Vassar College has now analyzed more than 3,500 archaeological amber finds, ranging geographically from Greece to Ireland and chronologically from the Stone Age to the Medieval Period. To make the comparison of so many spectra more convenient and more objective, spectral classification is done by computer. From this mass of data, a clearer picture of the prehistoric amber trade begins to emerge.

Baltic amber was traded as early as the Late Palaeolithic (Old Stone Age), as shown by a find at a Swiss site radiocarbon-dated to 10,000 BC. But it was not yet available in Italy at the end of the Neolithic, where local fossil resins served as raw material for amber beads. The Bronze Age developed an extensive and well-organized trade in Baltic amber.

The principal trade route to Greece led from Denmark to England, up to the Rhine and down the Rhone to the Marseille region, and then by coastal sea traffic to Italy and the Eastern Aegean. The trade goods were finished beads and other ornaments made in Northern Europe. With the beginning of the Iron Age, circa 1000 BC, a new direct route from the Eastern Baltic Sea to the head of the Adriatic was opened up. Trade was now largely in unworked amber, with workshops emerging along the way in Poland and Czechoslovakia. Raw amber was shipped to and worked in Italy, and the finished goods were re-exported to Germany and Yugoslavia.

Such details of a complex trade network are, of course, not revealed by chemical analysis alone. They require mapping of geographic distributions, comparing the shapes and types of beads in different countries and periods, and establishing their chronological context from the relative or absolute dates of associated finds. But the essential basis of this work is the chemical identification of the varieties of amber by infrared spectroscopy. Science, so often only seen as shaping the future of human society (for better or worse), also serves to elucidate its past.

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The Bermuda Triangle: What's Left When the Wreckage Settles?

by Michael D. Swords

Abstract: *Now that Lawrence Kusche and NOVA have turned their withering scientific analyses upon the dreaded Devil's Triangle, it appears to be appropriately exorcised. It may be that this modern folk legend is far more Hokum than Hoodoo. In an effort to see if there remains any reasonable residue of mystery, this paper analyzes the testimony of the alleged "survivors," and compares certain aspects of their claims with unusual experiences and phenomena related elsewhere. A possible residue of electromagnetic, and attendant psychological, anomalies seem to exist...maybe.*

The Good Ship Gaddis has floundered. The Limbo is lost. The S.S. Berlitz has bellied up. And the Winer has winged it into oblivion. Hurricane NOVA got them all, powered by a tidal swell which Kusche-d all over them. The verdict: pilot error.

The Bermuda Triangle was from the first a masterpiece of backwards thinking: a neat idea toward which isolated facts (and non-facts) gravitated; a post hoc creative sinkhole into which imagination poured more freely than scholarship or analysis. And it was the safest of subjects: no evidence ever returned.

Forteans long ago questioned the rationality of attempting to make any sort of case based upon the *disappearance* of evidence, but, since no one ever pays any attention to us anyway, it was no surprise that the Triangle became a national fad and made a few unrestrained literateurs a lot of fame and fortune.

The Fortean concern over this gush of deductive reasoning was supported by the well-known facts that planes and boats do get lost, the "triangle" is heavily travelled, and that no one had established any baselines ("odds") on what amount of "getting lost" you could reasonably expect there anyway. It took Lawrence Kusche's detailed "homework" to point out how embarrassing some of the "reporting" had become.

Now that the Windmills of Berlitz et al are properly tilted, the pendulum of irrational belief will doubtless swing to the other extreme, and the momentum of the moment will ride NOVA's wave to a safe "established" position: There's nothing to it. Well, perhaps.

Forteans spend their intellectual lives trying to avoid being hit by pendulums. Let's see if we can dodge this one, too. As admirable as Kusche's *Bermuda Triangle Mystery-Solved* is (and this author owns *three* copies for loan to students: an *ultimate* compliment, methinks), it is unlikely that Sir Lawrence feels that everything that needs saying about the Triangle is said there. He is too good and too savvy a researcher to think that. The Case of the Triangle is large and complex. As a TV show said: There are a million stories in the naked city. All of them certainly don't begin and end the same way.

Since dead men tell no tales (even disappeared ones don't), these stories seemed doomed to remain untold. But we do have "survivors"...alleged survivors, at least. What do *they* tell us? What follows is a simple table of survivor or witness cases from the Triangle literature. (See Table 1)

What do we find when we peruse this lump of information? Primarily we notice (or should notice) that there is nothing here to indicate that any of these experiences even happened. It's the old "Anecdotal Incident" problem again. The witness could have lied. The book author could have lied. (Good Grief! I could have lied!) Well, this, as we know in many areas of Forteana, is an insoluable problem. We will duck it initially as we always do, and try to look for patterns, commonalities. Later we will try to link these fragile filaments to a web of greater substance.

A second look at the table indicates a pattern and a loose assortment of idiosyncrasies. Some of the "looser" reports involve a time lapse, a big pipe sticking out of the ocean, and a pilot who couldn't see an island directly beneath her. Such individual experiences are probably best left with the individuals involved. Other "unique" reports are perhaps thus because they're really not surprising enough for others to bother retelling: not being able to see a lighttower, a dome of light (an aurora?) on the horizon, a "mysterious" radar blip. A few tales involve known, even if not well understood, phenomena which could well play roles in the Triangle cases: clear-air turbulance, water swells, high winds. One case illustrates the notorious misreporting of the "stylists:" the Raifuko Maru attacking "daggers," which message when properly restated contained no such word, and thereby no real evidence to help us.

And what do we have left? About 60% of the cases for one thing. And, they have something (possibly) in common: electrical and magnetic effects. The cases which will be included in this "pattern" are numbers, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 28, 30, 31, 40, 41, 43, 44, 46, 47, 48. The electromagnetic-ness of most of these inclusions are obvious. The "boiler failure" cases may be a separate group, but do involve electrical failures. The ball-of-light cases ("nocturnal lights" in UFO parlance) are included since electrical effects are a leading hypothesis for their cause. The two cases of possible central nervous system impairment (46 and 48) are included due to prominence of the "Persinger hypothesis" relating paranormal experiences to effects of localized electrical anomalies on the c.n.s.

When these 29 cases are mapped (see Map 1), several fall scattered about the ocean (5 cases are so vaguely located that they are designated with question marks: 12, 20, 30, 41, 43). Fifteen cases (perhaps 17, as cases 18 and 28 may fall here, too) cluster within a relatively condensed geographical area, the Bahamas Banks Region. These are numbers 4, 5, 6, 8, 9, 10, 11, 13, 17, possibly 18, 22, 25, possibly 28, 31, 40, 44 and 48.

Fifteen of the seventeen cases report compass and/or instrument failure, usually both. The two which don't are a case probably without such instruments, and one with pilot confusion such that such information was not transmitted. If there is any Triangle phenomenon, this electrical-magnetic effect should be the core of it. Other "addenda" (odd clouds, lights, glows, lightning, winds, and mental-sensory aberrations) show no pattern, though all could be coherent with the concept of an electromagnetic anomaly.

Well, let's take a backward step for a moment. What have we really got here? We surveyed some literature and made a map. Nicely, a little pattern of geographic and "symptomatic" variables appeared. But what created it? There are several possibilities. The working hypothesis is that something odd electro-magnetically really does go on intermittently in the Bahamas region. Alternative hypotheses are that compasses and

Table 1: Bermuda Triangle "witness cases."

Name/Designator	Plane/Boat	Year	Anomalistic Phenomena
1. Stern-1	p	1944	clear air turbulence
2. Stern-2	p	post-WWII	clear air turbulence
3. Wild Goose	b	1944	water sinkage/undertow
4. Good News	b	1966	electrical drainage; compass effects; odd cloud
5. Richardson	p	•••	compass effects
6. Wakeley	p	1964	electrical drainage; compass effects; glows
7. Durant-1	p	1963	water swell
8. Nightmare	b	1972	electrical drainage; compass effects; lights
9. Bean-1	b	1957	electrical drainage; compass effects; lights
10. Bean-2	b	1957	compass effects
11. Jablonsky	p	1972	electrical drainage; compass effects
12. QE2	b	1974	boiler failure; electrical outages
13. Lindbergh	p	1928	compass effects
14. Hawkes	p	1952	clear air turbulence; radio failure
15. Eastern	p	1963	ball-of-light in plane
16. Atlantic City	b	1955	ball-of-light encounter; compass effects
17. Blocker	p	1968	electrical drainage; compass effects
18. Bandora	p	1970	odd lightning; electrical drainage
19. Durant-2	p	pre-73	electrical drainage; static glows
20. Rotterdam	b	1975	boiler failure; electrical outages
21. Jones	p	1969	high winds (blown back to home base)
22. Billson	p	1945	electrical drainage; compass effects; vertigo
23. Tigrone	b	1955	insrument navigation failure (radio; compass)
24. Richard E. Byrd	b	1971	instrument navigation failure
25. Diligence	b	1975	instrument navigation failure
26. Navy P-2	p	1970	clear air turbulence
27. C-130	p	1970	high winds (early arrival)
28. Vogelgesing	b	1972	boiler failure; electrical outages
29. Hollyhock	b	1974	anomalous radar report
30. Yamacraw	b	1956	odd cloud; boiler failure
31. Gemon	p	1970	odd cloud; instrument failure; high wind
32. Clarke	b	1954	water columns; color changes
33. Shattenkirk	p	1963	water swell
34. Meacham	b	•••	localized visibility loss
35. Brown	b	1965	water trench-undertow
36. National Air	p	1970	time lapse; radar anomaly
37. DLG-27	b	1969	light hemisphere on horizon
38. Wingfields	b	1973	flaming funnel sticking from sea
39. Columbus	b	1492	fireball; lights
40. Flight 19*	p	1945	compass effects
41. St. Brendan	b	1969	extreme lightning
42. Winer	p	•••	seven waterspouts together
43. Britannia	b	1969	lights; alerted states
44. Carpenter	b	•••	lights, over and into sea
45. C-87	p	1943	turbulence; auto-pilot malfunction
46. Coscio*	p	1969	sensory impairment(?)
47. Durant-3[d]	p	pre-73	similar to #19
48. Jeffrey*[e]	p	1962	thought or sensory impairment(?)
49. Raifuku Maru*	b	1925	"dagger" attack (report apparently bogus).

*reports from radio calls of non-survivors

a. cases 1 through 12 have been commented upon by Berlitz, *The Bermuda Triangle.*
b. cases 13 through 38, plus 45, from Group, *The Evidence For The Bermuda Triangle.*
c. cases 41 through 44 from Winer, *The Devils Triangle.*
d. Robert Durant. *PURSUIT 6,* #3, pp. 55-7, 1973.
e. Jeffrey, Adi-Kent, *The Bermuda Triangle,* p. 146-7.

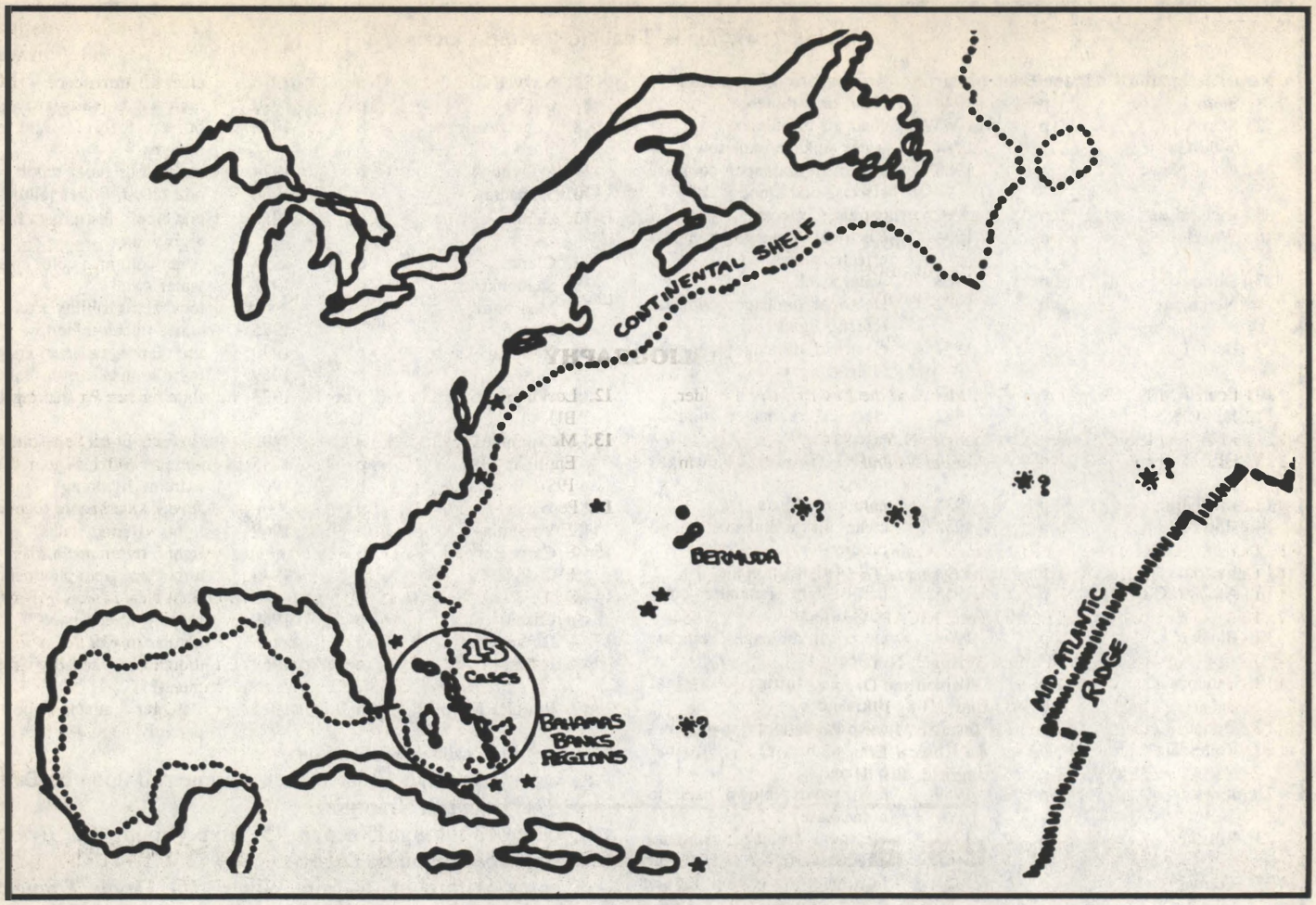
electrical systems go out "normally," and a lot of cases are reported here because of the heavier traffic (more opportunities) or the local knowledge of the legend. A second alternative is that the area attracts Bermuda Triangle researchers and enthusiasts, and they actively dig out, or worse, invent an unusual number of stories. When one recognizes that, for example, three of the cases (8, 9, 10) are dependent entirely on the reporting integrity of one man (who lectures on UFOs and the Triangle), one realizes how tenuous are the threads on which the "data" hangs.

But give a Fortean enough threads and he'll hang himself, so let's go about our yarn-spinning. The remainder of the article's web is directed toward a "feasibility" argument: that the working hypothesis is neither impossible nor outlandish given current information. The argument involves odd electrostatic phenomena from outside the Triangle, odd effects from the sister study of ufology, and the growing research upon electromagnetic effects in organisms. The conclusion will be: Mother Nature generates such effects, and they play hob with both minds and machines. Whether they do so in the Bahamas will be left for posterity to determine.

Electrostatic phenomena continually appear on a big scale all over the globe. Lightning runs in large, rapid, concentrated channels; auroras in large rapid diffuse ones; ball lightning in slow small localizations; perhaps the old St. Elmo's fire or ignis fatuus is a small slow diffuse one. And who knows the variety of the total phenomenon? Some hints of this are given by our current master Fortean, William Corliss, in several of his Sourcebook Project publications. We tend to assume that electrostatic effects won't hang around very long unless it is especially dry, but the Triangle is wet. Well, it is *our* problem, not the Triangle's, as the literature is full of cases of electrostatics before, during, and after storms, on land or sea. Some "slow-burning" blue lightning crackled about English bushes in the "heavy" air of 1912; mini-bolts flashed dully about Tucson in the wet and heavy snow of 1964; a house was wrapped in blue flame in a thunderstorm in New Zealand in 1930; an electrical "bath" washed over Yellowstone in 1949; and a forester's mustache and fingertips lit up on Pike's Peak in 1882. The examples can go on ad infinitum, of course. The point is that there are a lot of unpredictable electrostatic manifestations possible about the globe and some of them are quite intense. How intense? What are they capable of?

We may have actually had the answer to some of this mystery right under our noses, residing in another area of "anomalistic studies:" Close Encounters of the Second Kind. CEIIK's refer to those UFO experiences wherein the UFO produces tangible effects on the natural, mechanical-artificial, or physiological environment. CEIIK's breakdown into many categories, of which the "landing traces" are the best known and possibly most significant. But a second large grouping seems to involve a phenomenon of special relevance to our subject: motor vehicle interference cases.

Electromagnetic effects were recognized as an important



subset of the UFO phenomenon quite early. Now that a more disciplined and serious stage of UFO research has arrived, several authors have published analyses of the vehicle interference problem. James McCampbell and Donald Johnson in this country and The Vehicle Interference Project of BUFORA in Great Britain have produced significant pieces. The most comprehensive work to date is by Mark Rodeghier of the Center for UFO Studies (founded by J. Allen Hynek). Let's take a look at some of his more interesting conclusions. Rodeghier's study of 441 CEIIK cases involving electromagnetic effects on vehicles seemed to yield these facts:

1. Almost all the effects reported involved failure of the engine, lights, or other electrical equipment (e.g., the radio). Little permanent damage was ever reported;
2. the events happened in all kinds of weather; but usually sunny or cloudy (i.e. not raining);
3. witnesses experienced increased heat, static in the air, an odor, partial momentary paralysis in several occasions;
4. sounds mostly involved hums or whines.

(Since this article's purpose is not involved directly with UFOs, the reader may read Mark Rodeghier's monograph for UFO descriptions associated with these cases, if interested.)

The characteristics above indicate that electromagnetic interference phenomena may be taking place on a widespread scale, and perhaps we should expect some such cases in the Triangle portfolio. Engine and instrument failures coupled with certain physiological effects on the experiencers would certainly form a sufficient explanation for aerial and boating accidents and consequent disappearances. Perhaps we need look no further for a cause of these tragedies and near-misses, only to look for a better focus on the exact nature of the cause we've found. Surely something of scientific and technical importance may lie here.

And there may be a further involvement of the EM effects: central nervous altering fields. Most readers are probably aware of the so-called "Persinger hypothesis," wherein Michael Persinger postulates that earth-stress forces acting upon subterranean quartz created intense local EM fields with subsequent "lights" or static glo-ball ("UFOs") phenomena. The same fields supposedly affect the internal operations of the brain, altering perception, memory, states of consciousness, even bringing up imagery and delusions from the subconscious.

Though very far from proven, this last idea would also explain pilot and captain errors sufficient to explain Triangle incidents. There is a growing body of evidence from "establishment" science to indicate that Persinger could be onto something. For example, sensing of relatively weak electromagnetic fields has been demonstrated for several organisms (bacteria, sharks, pigeons, bees among many others; the list is growing). There is excellent preliminary evidence to suspect that the human brain can sense such fields as well. Many studies on the effects of various kinds of electromagnetic fields and radiation have been launched and completed, most aimed at alterations of the central nervous system. All of these give hints that such fields might trip changes in the c.n.s. if that brain is hovering chemically/hormonally near a behavioral or perceptual threshhold. Frankly all this should be expected. The brain runs largely on hormonal threshholds, usually quite finely tuned. The electrical properties of the neurons intimately react with and partly control these hormones. Very little change in chemistry goes a long way in "behavior." And professionals in health care, psychiatry, and crime control have been telling

us, anecdotally, about such effects for years. It is probably only the complexity and individuality of each brain that has clouded scientific tests of this very real phenomenon (behavioral-perceptual changes due to low-strength EM fields), and we should probably be confident that such changes really do occur. This is not to say that UFO Close Encounters and Triangle errors are the result of Persinger earth-stresses, but that they could be due to *some sorts* of electromagnetic anomalies.

The analysis in this article, of course, proves nothing. It wasn't meant to. Its function was to point out another dangerous Fortean situation: the complete washing-away of a set of claimed experiences (the Triangle) due to a piece of excellent investigation (Kusche's) which explains many of them. Its function was also to point to a cluster of experiences in the Triangle and UFO literature which may have a common ground of characteristics and cause. And its function was to point to a possible (partially researched) chain of agencies which could prove sufficient to deal with the experiences as reported, and to hope that the Mark Rodeghiers, James McCampbells, and Michael Persingers of the world will join with their establishment counterparts in geology, meteorology, biology, and psychology to one day unravel this intriguing and important group of mysteries.

BIBLIOGRAPHY

1. Battocletti, J.H. *Electromagnetism, Man, and the Environment.* Boulder, CO., 1976.
2. Berlitz, Charles. *The Bermuda Triangle.* N.Y., 1974.
3. Corliss, William R. *Handbook of Unusual Natural Phenomena.* Glen Arm, Md., 1977.
4. Corliss, William R. *Lightning, Auroras, Nocturnal Lights.* Glen Arm, Md., 1982
5. Durant, Robert. "The Bermuda Triangle Again," *PURSUIT 6*:55-7, 1973.
6. Group, David. *The Evidence For the Bermuda Triangle.* Wellingborough, G.B., 1984.
7. Hall, Richard (ed.) *The UFO Evidence.* NICAP, Washington, D.C., 1964 (pp. 73-6).
8. Jeffrey, Adi-Kent. *The Bermuda Triangle.* N.Y., 1973.
9. Johnson, Donald. "The Effects of Position and Distance in UFO Ignition Interference Cases," *J. UFO Studies 3*:3-8, 1981.
10. Kusche, Lawrence. *The Bermuda Triangle Mystery-Solved.* N.Y., 1975.
11. Llavrado, J.G. et al. *Biological and Clinical Effects of Low-Frequency Magnetic and Electric Fields.* Springfield, Ill., 1974.
12. Lockwood, C.F. and A.R. Pace (eds.). *Vehicle Interference Project Report.* BUFORA, New Chapel, G.B., 1979.
13. McCampbell, James. "UFO Interference with Vehicles with Self-starting Engines," *Proceedings: 14th MUFON Symposium.* MUFON, Seguin, TX, 1983.
14. Persinger, Michael and G.F. Lafreniere. *Space-Time Transients and Unusual Events.* Chicago, 1977.
15. Rodeghier, Mark. *UFO Reports Involving Vehicle Interference.* CUFOS, Evanston, Ill., 1981.
16. Schuessler, John F. *Radio-frequency Radiation Biological Effects.* Privately published by author, Houston, 1984.
17. U.S. Dept. Commerce. *Fifth Report on "Program for Control of Electromagnetic Pollution of the Environment: the Assessment of Biological Hazards of non-ionizing Electromagnetic Radiation."*
18. Winer, Richard. *The Devil's Triangle.* N.Y., 1974.

Captures and Stranding of Monsters In Loch Ness, Part II

by Ulrich Magin

Since writing this article (Part I)*, further facts have been discovered.

I have gotten the original text of the *Berliner Illustrierte Zeitung*, which gives an interesting description of the alleged monster: "The Neosaurus, which became famous under the name 'Loch Ness Monster'...is 31 metres long, 7.8 metres high, and has a weight of about 36 tons." These measurements were taken by "engineers of the Technical University of Edinburgh."

During the now famous peak period of sightings in 1933/34, two more strandings were recorded, though both from the Inverness Firth. It was generally thought then that Nessie was only a marine animal that made a short visit into the Loch, and so that any strange marine creature stranded in the sea off Inverness was considered to be a Nessie that had died on its way back to sea.

When, for example, a seal was caught off Avpch, near Inverness, sceptics claimed it was identical with the monster. A local newspaper, the *Northern Chronicle* (22.XII.1933) denied the allegation.

Then a sea serpent, 13 ft. long, silver-grey in colour, was trapped in a shallow pool left by the receding tide off Findhorn. Sir Alexander Gordon-Cumming investigated the story and was able to identify the monster as an oarfish, reported the *London Times* (22.V.1934). One week later, the *Inverness Courier* (25.V.1934) had to deny the theory that this fish was identical to the Loch Ness Monster.

The next alleged capture happened again in the loch itself, where, according to Witchell† a German party claimed, "That they had captured the 'monster,' spirited it secretly out of the country and that it was on display in Bavaria.

I have found no mention of this case anywhere else, and so it might be a 1934 *'Berliner Illustrierte Zeitung'* hoax.

I found confirmation of another item: This is the supposed claw of 'Nessie' Tim Dinsdale described. It was mentioned in several newspapers well before 1960, but the earliest account was in the *Northern Chronicle* (29.1X.1937): With the caption, 'Shed by the monster?' A photograph appeared in a newspaper stating it is 'what appears to be the foot of a reptile recently found on the shores of Loch Ness. Eighteen inches long, the skin is as hard and thick as the hide of a crocodile, the talons are 4 inches long.' Precisely, it is the foot of a crocodile — and of a stuffed one!"

The last addition to my previous article is a sad one — I have been unable to find any mention of the strange basking-shark carcass in Loch Ness, 1942, in the issues of the *Inverness Courier* of that year — so it seems, perhaps, to be an American invention.

One last word about the Loch "that never gives up its dead." This statement is absolutely mythical, as several reports of drowned bodies washed ashore (in the *Inverness Courier*, for example, 14.V1, 1939, p.5b: Body washed ashore at Lochend), would indicate.

(Thanks to Regina Magin and Jorg Schmiedekind)

*See *PURSUIT*, Whole #67 (1984).

†Witchell, The Loch Ness Story, T. A. Dalton, 1976, p.75.

THE NEWARK WORKS
Key to a Lost Technology?

by K. W. Moak

In recent years there has been a growing tendency among anomalists to interpret various ancient earth and stoneworks as devices for the manipulation of some presently unknown energy. Janet and Colin Bord have written at length on this aspect of British standing stones and barrows, John Michell and others have applied it to the problem of leys, and numerous dowsers have described existing energy flows in/around ancient stones.[1] There is an attractive economy in such theories that attempt to account for a large number of peculiar structures in terms of a unified "grid," but to date there has been little progress in elucidating specifics. One great problem (aside from the purely conceptual one of accepting a non-electromagnetic energy) is the notable absence of any recognizable analogues to conventional EM energy manipulation devices. Thus, while we may agree with the dowsers that spiral energy flows are manifest in certain standing stones[2], we can not easily explain just what purpose such phenomena would serve in a presumed energy network, nor can we find a satisfactory electromagnetic analogue to that function.

Most current hypotheses involve several related concepts — all rather vague. It is suggested that the energy corresponds to the Chinese Feng-shui, or earth current (literally, Dragon Current), a somewhat mystical concept related in turn to astrological influences. With this premise, the earthworks may be interpreted as terrestrial acupuncture points. Another possibility — not necessarily contradictory — is some energy corresponding to Reich's orgone; that is, a sort of aether. Simple geomagnetism has been considered, as well as a number of other named and unnamed forces. While any or all of the possibilities may be involved, none seem to offer any ready explanations regarding the exact function of the surviving earthworks.

To even the most open-minded physicist this is a damning problem, since all logic indicates that any recognizable form of energy must exhibit certain characteristics, and therefore be manipulated in certain comprehensible ways. For instance, any conceivable energy, electromagnetic or otherwise, must be transferable, by radiation, conduction, or induction; it must be subject to some sort of attenuation with distance; must possess a characteristic velocity in a given medium; and, if it is dynamic, it must be in some way oscillatory that is, be defined in terms of wavelength and frequency, and manipulated accordingly. It is very difficult to interpret any existing prehistoric structures as interacting with any form of energy in any of these ways.

However, there are important exceptions, the most noteworthy being the so-called Newark Works, formerly existing in what is now Newark, Ohio. This complex assemblage of walls, avenues, mounds, and trenches (they covered something on the order of four square miles!) was startlingly different from most ancient strucures, in that it presented a pattern quite similar to something in our own technology. In fact, it resembles nothing so much as a waveguide circuit, of the type used in microwave work.

A waveguide is a system of conducting and reacting elements based on geometry, rather than solid-state effects. In our technology it is used almost entirely for microwave (thirty centimeters to a few millimeters) EM manipulation, although experimental work is being done in applying it to the transmission of light. In fact, it is theoretically applicable to any wavelength, providing the dimensions are scaled correctly. Those frequencies active in a given waveguide are determined by (A) wavelength, and (B) the speed of local propagation. For microwave frequencies this requires waveguides ranging from a few inches to less than an inch in width, generally in the form of hollow rectangular or round tubing. Figure 1 illustrates some typical microwave components. Note that circuit elements such as capacitors, inductors, resistors, and resonant circuits are produced by geometric means, such as narrowing the passages, inserting irises, stubs, flaps, or vanes, and providing openings, slots, and precisely dimensioned cavities. For microwave (EM) work, the waveguide lines are fashioned of conductive material (metal) and for other types of energy this would also be the case, e.g. transparent substances for light. In the Newark Works there are analogues to many waveguide elements, and more importantly, there is a consistency of geometry that suggests an overall plan of function.

Figure 2 shows a simplified plan of the Newark Works, based on the standard Squier and David survey of 1837-47. A number of minor details have been omitted for the sake of clarity, but all the major structures are indicated, these being five circular or polygonal enclosures, three long, walled avenues, three small circular cul-de-sacs on the avenues, and three rather complex arrangements of shorter walls. These and a few other features are identified in the legend.

The accepted archaeological view of these structures is that they were the site of complex ritual activities on the part of the "Adena Culture," or Moundbuilders. The nature of such rituals is entirely problematical, although some suspicion exists that it may have been partly astronomical. To evaluate this assumption, several points must be kept in mind:

I. The size of the works. In Figure 2, the length of avenue L_1 is one mile, the area enclosed by octagon D is upwards of fifty acres, the width of the avenues is twenty feet. Such dimensions are difficult to reconcile with presumed ritual usage.

II. The essentially closed geometry of the works. Except for narrow gaps and the terminal ends of L_2 and L_3, the huge enclosures could not easily be entered by devotees. Enclosure E is portrayed as open, but it is quite possible that it was originally surrounded by a wall; likewise, L_2 and L_3 may have originally had more complex terminations. In any case, the overall impression is of a containing perimeter, broken only at select points, with nothing like a grand entry or promenade such as would be expected in a ritualistic structure.

III. The peculiar geometry of the works. It is apparent that a very precise and definite plan was followed in construction, yet it is virtually impossible to explain it in terms

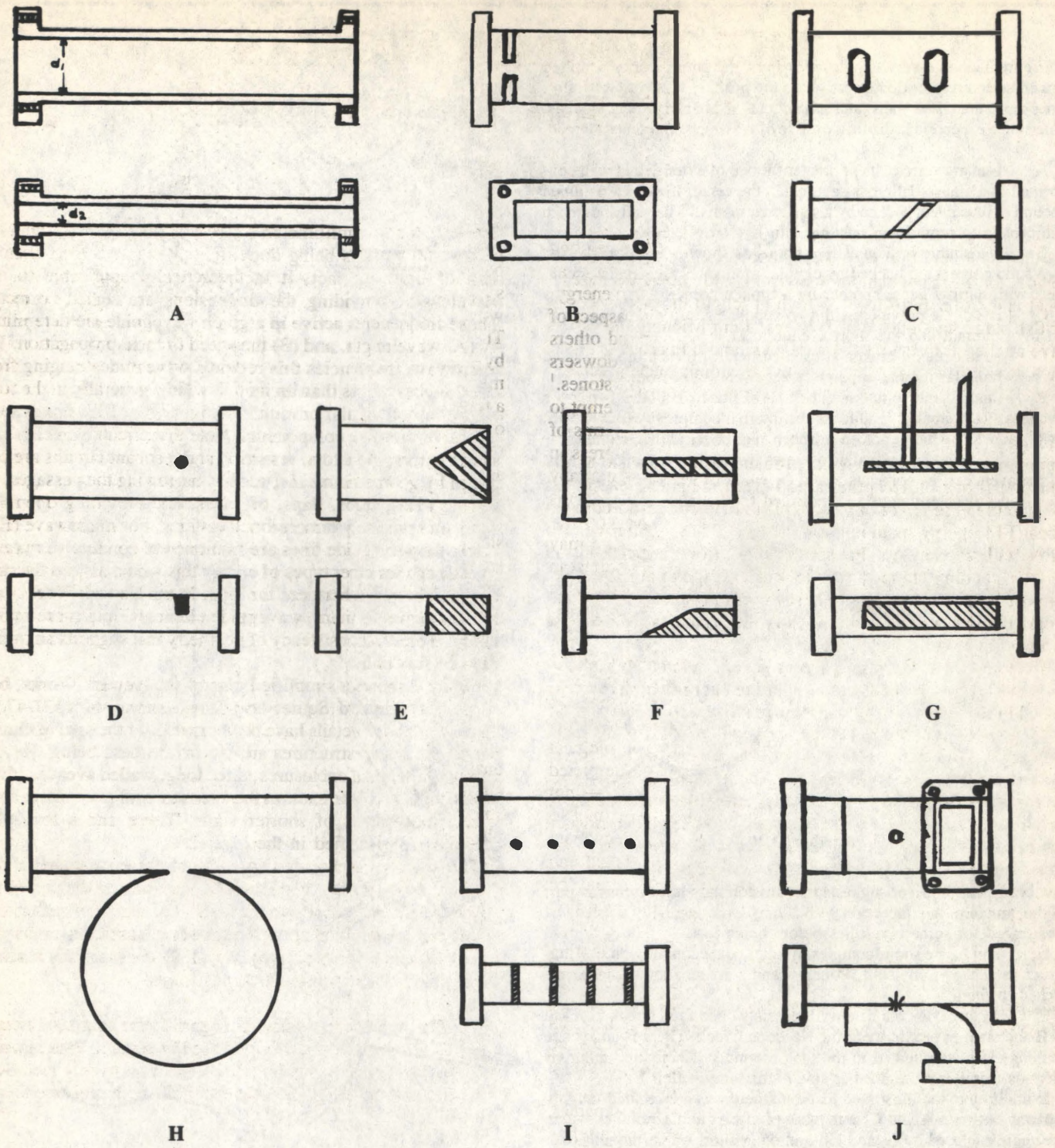


FIGURE 1: Various waveguide components

Above are shown various common microwave waveguide components. Except for A, which is a sectional view, the drawings may be considered transparencies. Crosshatching and solid circles indicate conductive insertions.

A represents a length of waveguide transmission line. In practice the dimension d_1 would be approximately equal to one-half the wavelength. Dimension d_2 would be equal to one-quarter the wavelengths.

B represents an inductive iris, used to match impedance. The lower figure is an end view.

C represents two methods of effecting radiation from a waveguide, the geometry of the slots differing for each dimension utilized.

D represents a tuning stub inserted in a line.

E and F represent different types of resistive terminations used at the end of a line.

G represents a flap attenuator, variable, in this case.

H represents a resonant cavity used as a reactive filter.

I is a somewhat abstract representation of posts used to direct the energy flow in a complex pattern, sometimes used in masers.

J represents a directional coupler used to extract a precise component of the energy flow into another line.

FIGURE 2: Simplified diagram of the works

Figure Two is a very simplified map of the entire works. Omitted are all structures not tied directly into the primary system. Generally, lines represent raised walls, and solid circles and bars represent mounds. The single exception is the inside circle of A, which represents a trench.

A is a large circle, its perimeter formed of a trench and wall conformed to a sinusoidal cross-section. In the center there is a tri-lobed mound as illustrated, backed by a semilunar mound. The wall and trench are broken to provide an opening into L_5.

B is a square broken at five points as shown. Each break, and two solid corners are backed by circular mounds. Three avenues connect with narrow gaps, another by a broken corner.

C is a circle provided with two opposite gaps; v, which is closed by a mound, and the short avenue to D.

D is an octagon broken at each corner, with each break backed by a rectangular mound apparently set twenty feet from the wall.

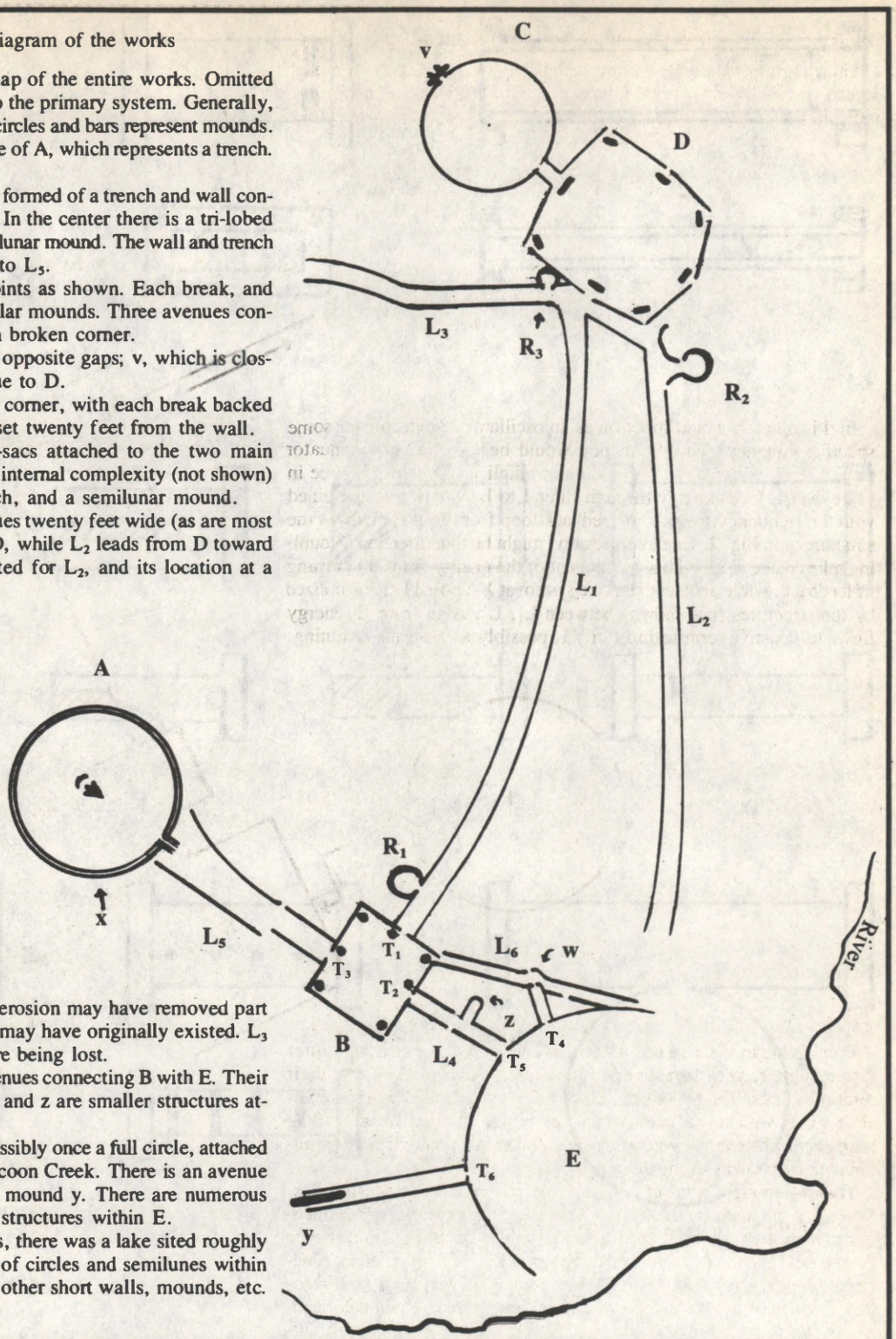
R_1 and R_2 are circular cul-de-sacs attached to the two main avenues. R_3 is smaller, and lacks the internal complexity (not shown) of R_1 and R_2, which enclose a trench, and a semilunar mound.

L_1, L_2, and L_3 are walled avenues twenty feet wide (as are most of the avenues). L_1 connects B and D, while L_2 leads from D toward E. No detailed termination is indicated for L_2, and its location at a low bluff near the river suggests that erosion may have removed part of the structure. A connection with E may have originally existed. L_3 was traced for some two miles before being lost.

L_4 and L_6 are short, complex avenues connecting B with E. Their structure is shown in detail. Points w and z are smaller structures attached to them.

E is a large, uncomplete wall, possibly once a full circle, attached to B and sited in proximity to the Raccoon Creek. There is an avenue running off it, terminated in the long mound y. There are numerous mounds, semilunes, and other small structures within E.

In addition to the illustrated features, there was a lake sited roughly halfway between A and C, a number of circles and semilunes within the angle enclosed by L_1 and L_2, and other short walls, mounds, etc. scattered around the works.



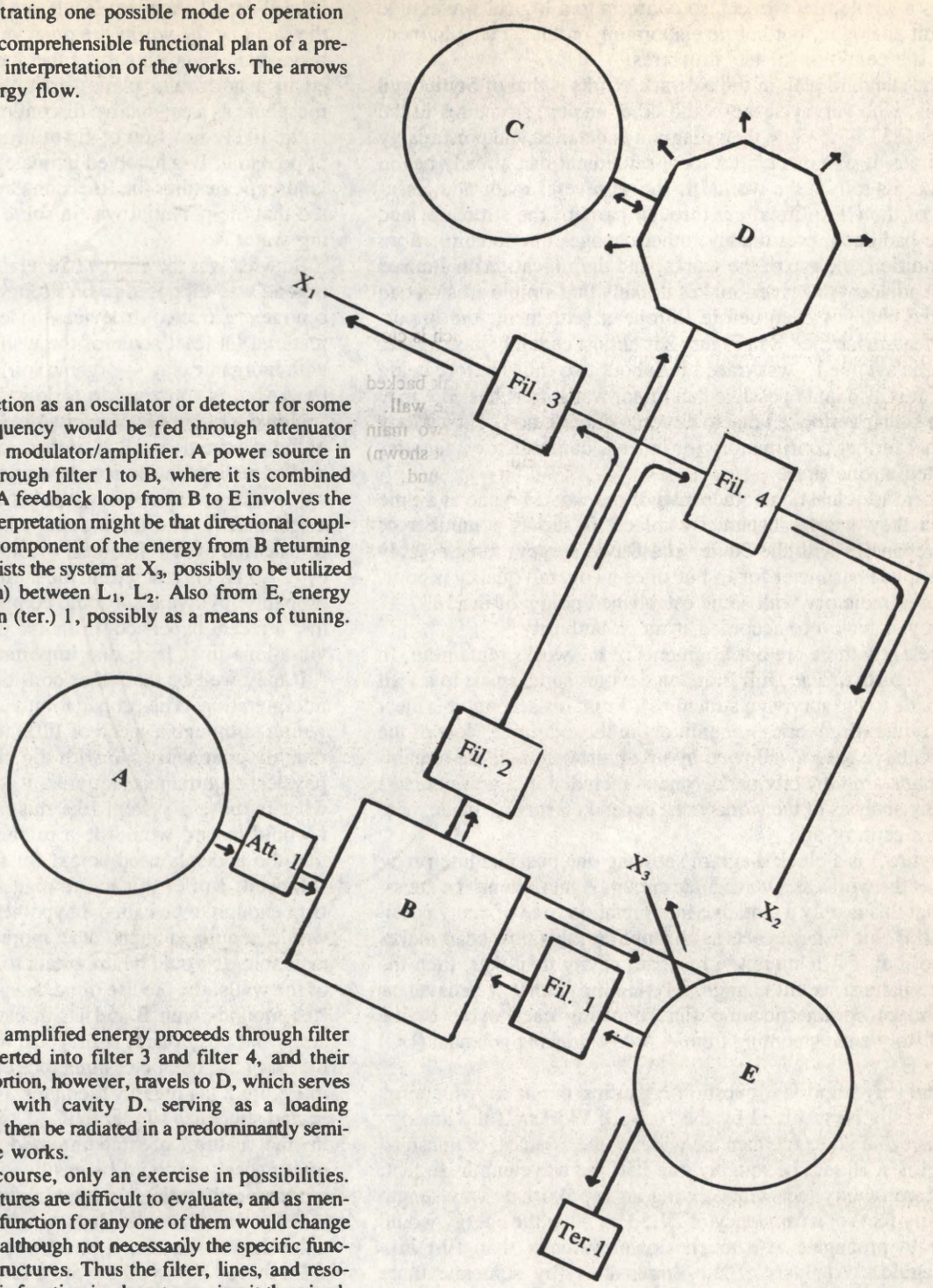
of human movements. We see avenues twenty feet wide narrowing to small gaps, presumed entrances blocked by mounds, old intersections, duplicate paths, and huge enclosures accessible only by one tiny opening. Everything is interconnected; indeed, it is not at all difficult to see a pattern of circulation in the plan.

IV. In terms of astronomical significance, the absence of points of observation. Such gaps as are let into the main enclosures, are uniformly blocked by mounds, rendering them useless in terms of viewing the (presumed) horizon alignments of sun, moon, or stars. In fact, the interior of any part of the works would be a singularly poor vantage point for any purpose.

Interestingly, however, the very points that tend to argue against a ritualistic use, argue for a function in terms of energy manipulation. Features such as the narrow terminal gaps, the appended small circular enclosures, and the mounds blocking entrances are not only explicable as electronic analogues, some of them are actually necessary, given that function.

FIGURE 3: Flowchart illustrating one possible mode of operation

This diagram represents a comprehensible functional plan of a presumed earthwork-waveguide interpretation of the works. The arrows indicate the direction of energy flow.



In this plan, A would function as an oscillator or detector for some specific frquency. This frequency would be fed through attenuator (att.) 1 to B, which acts as a modulator/amplifier. A power source in or beyond E feeds energy through filter 1 to B, where it is combined with the frequency from A. A feedback loop from B to E involves the structure w in Fig. 2. One interpretation might be that directional coupling takes place at w, with a component of the energy from B returning as feedback, while another exists the system at X_3, possibly to be utilized by the structures (not shown) between L_1, L_2. Also from E, energy flows to resistive termination (ter.) 1, possibly as a means of tuning.

From B the modulated and amplified energy proceeds through filter 2 to a splitter, with part diverted into filter 3 and filter 4, and their respective lines. The major portion, however, travels to D, which serves as a ground-plane radiator, with cavity D. serving as a loading resonance. The energy would then be radiated in a predominantly semicircular front away from the works.

This interpretation is, of course, only an exercise in possibilities. Several of the important structures are difficult to evaluate, and as mentioned in the text, a change in function for any one of them would change the overall functional plan — although not necessarily the specific functional identity of the other structures. Thus the filter, lines, and resonant cavities would retain their function in almost any circuit theorized.

The features which first caught my notice, the circular side-branches labeled R_1, R_2, and R_3, in Figure 2, are examples of readily explicable electronic analogues. In a waveguide circuit these would be instantly identifiable as resonant cavities, used either to match impedances or to filter certain frequencies in the transmitted energy. Similarly, the narrow slot terminations of various avenues (t_1, t_2, etc.) are virtually identical in form to impedance matching inductive irises used in waveguides. Furthermore, all of these structures are placed exactly where they would be in a conventional waveguide system.

Table One lists various features of Figure 2 beside their waveguide analogues. This list is, of course, very tentative. Besides the aforementioned features, other structures are more problematical. Thus the arrangement of walls labelled L_5 is explicable as either a splitter, directional coupler, attenuator, or combination of all. The very peculiar structure L_6 is likewise explicable as a directional coupler, mixer, or simply a crossover network (it is interesting to contemplate the problems that would be encountered in effecting a cross-over between two ground-plane transmission lines). The important point is that all the major elements *can* be interpreted as electronic analogues. Note also how many elements are repeated in several places. View-

ed as a whole, the works also conform to a logical waveguide circuit analogue, but before elaborating on that, I should mention the condition of the structures.

The standard plan of the Newark Works is that of Squier and Davis, who surveyed those and other ancient structures in the years 1837-47. While their diagram is detailed and presumably accurate, it was made after local settlement had already begun to take its toll on the works. It shows several roads and a section of the Ohio Canal cut through parts of the structure, and there had been, presumably, other changes due to cultivation. In addition, the age of the works, and their location on a raised plain adjacent to a river, makes it likely that simple erosion had caused changes even before European settlement; the important feature labelled E in Figure 2 is almost certainly incomplete, and the avenue L_3 was traced for about two miles before being lost. It is also quite possible that minor walls, trenches, etc. may have been overlooked due to extreme dilapidation. Thus it may be that further confirmatory (or indeed, contradictory) features existed at one time.

There is at least one other map of the works[3] made at a time when they were substantially intact. It shows a number of discrepancies with the Squier and David survey, most notably a complete perimeter for E, but since its overall quality is poor, and contradictory with some established points of the 1837-47 survey, I have not accorded it much authority.

Presently there are but fragments of the works remaining. In *The Rebirth of Pan,* Jim Brandon devotes some space to a visit he made to the surviving structures[4]. From his account it is clear that future discoveries are unlikely in the extreme. Most of the works have been swallowed by urban growth, and the remaining parts are now city parks (one is included in a golf course!) So any analysis of the works must depend on surveys made more than a century ago.

Figure 3 is a block diagram showing one possible interpretation of the works as a waveguide circuit. Again, it must be stressed that this is only a tentative interpretation, one of many possible. If B, for instance, acts as an amplifier, this flow chart makes sense, but if it is merely a resonant cavity or mixer, then the entire pattern would change. My feeling is that it behaves as a kind of parametric amplifier, boosting each cycle of the oscillatory energy coming from A, while drawing potential (DC) from E.

One very important question regarding the unknown energy may easily be resolved by the Newark Works. If the analogy to waveguide is exact, then the width of the avenues, or transmission lines, should be roughly one-half the wavelength. In fact, they are twenty feet wide, giving an approximate wavelength of forty feet, or a frequency of 27.5 Hz. Also,the energy would have to propagate at a much slower velocity than EM in a waveguide. Analysis of the dimensions (by someone more mathematically capable than I) should then, be able to specify both exact wavelength and propagation speed of the unknown energy. In addition, the various circuit elements would also be related directly to the wavelength, and so could be used as a comparison. Thus a relatively simple set of calculations based on this one site might answer a significant question about "earth current."

But determination of wavelength is only a partial solution; even more importantly, we need to define the type of energy involved, and there too, the Newark Works may be helpful. First off, we can assume from this structure that the unknown energy was not a form of electromagnetism. As mentioned, waveguide must be constructed of material that conducts the chosen energy and the material of the Newark Works (clay, soil and possibly brick[3]) are all excellent insulators for EM energy. There is also the fact that the works are open vertically, unlike conventional waveguide, indicating that either the energy was strongly polarized in a horizontal plane, or it "saw" the interface with atmosphere as a conductive discontinuity. A third suggestive point is the likely function of E (in my circuit analysis) as a source of potential. E is involved intimately with the most notable local landscape feature, the Raccoon Creek, and so it might be inferred that the potential was in some way derived from the moving water.

So what was the energy? Several possibilities appear. Reich's orgone was supposed to be strongly hydrophilic, and was concentrated/extracted in devices made of layered organic-inorganic material (at least some of the walls in the works were layered with inorganic clay — organic soil). On the other hand, Chinese Feng-shui is supposed to follow declivities and watercourses.

However, there is one possible source that conforms to most of the requirements. It is, rather surprisingly, sound. The hard-packed walls of the structures would be quite conductive to sound waves, the interface with atmosphere could act as a conductive discontinuity, and the moving water of Raccoon Creek could be a source of low-frequency vibrations. The possible frequency (27.5 Hz) is just within the audible range, although it would probably involve a subsonic component. It may be significant that a recent paper[5] confirms the presence of anomalous sonic vibrations in at least one important British site.

It may well be that other considerations militate against this interpretation. The propagation velocity, for instance, may be wrong (although a speed of 1100 feet per second seems at least roughly commensurate with the dimensions). And even if the physical requirements are met, it is difficult to comprehend just what purpose a system like this could serve. The only guess I would hazard would be a reference to the widespread hints that the ancients used sound for some esoteric purpose.

Indeed, I offer this entire matter as pure conjecture, hardly firm enough to be called a hypothesis. Any conclusive analysis would require a great deal more information than is easily available. It would be important to know the exact composition of the walls, the precise dimensions of many secondary features (the mounds with B and D, in particular, should be precisely sized and positioned, if they are waveguide components), and the exact disposition of numerous extraneous features not shown in Figure 2 (as regards the latter, there are a number of unconnected structures similar to R_{1_3}, which it seems plausible were in the nature of uncommitted circuit elements, varying resonances that could be easily connected by the construction of temporary walls). Another feature that calls for lengthy study is the tri-lobed mound designated x in Figure 2, since my tentative diagram implies it was somehow involved with oscillation.

Be that as it may, there are a few conclusions that can safely be drawn, if any of these premises are accepted. First, the size and extent of the works is no longer a problem; they were designed in accordance with frequency requirements, not human whim, and thus do not require us to postulate tens of thousands of priests and/or observers filling them. Second, the energy, whatever its nature, was useful in some way, otherwise the enormous construction effort would hardly have been worthwhile. Third and finally, the energy utilized/manipulated at the Newark Works, and by extension elsewhere in the ancient world, was in no way outside the known laws of physics. It obeyed the same relationships and rules as familiar electromagnetic energy, and is thereby accessible to us, potentially. Perhaps someday we can reconstruct our own four-square-mile amplifier circuit and actually experiment with it.

Notes

1. The Bords' *The Secret Country* is probably the best known work treating of a lost energy technology. It addresses the many legends surrounding British standing stones, barrows, etc., without venturing into the possible technology involved. John Michell's *The View Over Atlantis* is an important survey of the "pure science" aspect of the problem, dealing as it does with a possible ancient system of mathematics and symbolism. Francis Hitchings's *The Mysterious World* has several sections devoted to different aspects of the subject, as does *Phenomena* by Michell and Rickard. In addition, pertinent articles may be found in most Fortean journals.

2. Exactly what dowsers detect is very much open to argument. Various "mainstream" researchers have suggested a link with geomagnetism, while many dowsers seem to favor an earth current explanation. In any case, it seems established that dowsers can detect something in proximity to ancient earthworks. The publication *The Pyramid Guide* featured a great many reports and theories concerning this. See also the above sources, particularly Hitching.

3. A book, *The Moundbuilders,* by J.P. MacLean, 1879, includes a map of the works drawn from *"Wilson's 'Pre-Historic Man',"* "Which may be said to contain all that has been discovered." This map has some details in conflict with Squier and Davis, and generally presents a cruder picture of the works, as if it were a hasty copy. The accompanying text, however, is quite interesting. MacLean mentions the possibility that the entire works were constructed of sun-dried brick, and also details some of the finer structures.

4. Brandon finds the works significant (for different reasons than I) and comments at length on them. His remarks on their archaeology are valuable, and his account of a visit to the modern remnants is fascinating. I wouldn't attempt a synopsis of his complex hypothesis regarding these and ancient works in general, except to note that he surmises a formative role by an "earth spirit." He feels the trilobe feature X is of paramount importance, and includes a great deal of information regarding it. *The Rebirth of Pan* was a major source for this article.

5. In the April, 1985 issue of *Fate* there is an article "The Dragon Project: Stones That Talk" by Don Robins, summarizing current research on certain British stones (primarily the Rollright Stones), that has discovered indications of anomalous ultrasonic emissions, as well as peculiar ionizing radiation. While ultrasound is quite a different thing than low-frequency sound, there might be a connection, as in a broad-spectrum effect. Also, it should be noted that Reich claimed an ionizing effect for orgone, which could be detected by a geiger-tube counter.

TABLE ONE: Features of the Newark Works compared to waveguide elements

Structures present in the Newark Works (see Figure 2)	Waveguide Elements (see figure 1)
A - circular enclosure with wall and trench, complex mound in the center	A resonant cavity. The central mound implies a functional difference from other cavities.
B - square enclosure with gaps and small mounds	A mixer/modulator used for amplification. The mounds could direct energy flow, diverting measured amounts to various openings. Amplification would be parametric, i.e. each cycle would be "boosted" by additonal small increments.
C - circular enclosure	A resonant cavity used as part of the radiator. The structure v might be used for tuning. If the small cross-mound is lower than the walls,it would act as a capacitance.
D - octagonal enclosure broken at every corner, mounds placed twenty feet (?) behind gaps	A radiator or antenna. Energy would be emitted through the gaps. If the mounds are one-half wavelength behind gaps, they would act as reflectors.
E - curving wall or problematic original form	Probably an energy source connected with the Raccoon Creek. The diagram is too incomplete for detailed evaluation.
L_1, L_2, L_3, - simple walled avenues twenty feet wide	Waveguide transmission lines tuned to a frequency of approximately 27.5 Hz
R_1, R_2 - semicircular enclosures twenty feet in diameter, with internal trenches and semilunar mounds (not shown)	Resonant cavities used as reactive filters. The complex internal structure suggests fine tuning.
R_3 - simple semicircular enclosure	Resonant cavity used as filter. Untuned?
L_4 - avenue with u-shaped appendage and gaps	A line with filter, or possibly a tuning stub.
L_5 - avenue with walls at irregular width	An attenuator. The inner wall attached to B should be compard to a fixed flap attenuator.
L_6 - avenue with crossing avenue and perforations	Several possibilities, a simple crossover of two lines, a mixer, or a directional coupler, whereby measured amounts of energy could be channeled in different directions. Possibly energy from B would thus be diverted out through w, and also into E as feedback.
T_1, T_2, etc. - narrow gaps	Inductive irises. These are strikingly similar to waveguide analogues. Their placement coincides with differences in line impedance, which they serve to match.
y - avenue terminating in long mound	A resistive termination, used to absorb energy without causing reflections. Possibly connected with ground?

"Phantom Hitchhikers Haunt World's Highways and Roads"

By Harry Lebelson

Few of the average motorists traveling our highways today are aware of the strange phenomenon known as the "Phantom Hitchhiker." It was a clear, cold winter day in 1965 when Mae Doria of Tulsa, Oklahoma encountered such a being on the 43 mile drive to her sister's home in Pryor, Oklahoma to keep a dinner appointment.

"While driving on Highway 20, a few miles east of the town of Claremore, I passed a school house and saw this boy who appeared to be around 11 or 12 years old hitchhiking by the side of the road. Since I was concerned about a young boy out by himself, I stopped the car and told him that I was going to Pryor and offered him a ride. He got in the car, sat down next to me in the front seat and we chatted about things that people who don't know each other usually talk about."

As far as Mae Doria was concerned, he appeared to be an ordinary young man, "He asked me how I liked my car and I asked him what he had been doing in that area and he replied 'playing basketball at the school.' He appeared to be about 5 feet tall, 115 pounds and husky, like a boy would look if he played sports and used his muscles. Mae paused, trying to visualize the youngster, "He was Caucasian, with light brown hair and his eyes appeared to be bluish-grey. We continued chatting about everyday things for the remainder of the trip. Then, just before we got into Pryor, a small culvert appeared up ahead. As we approached the culvert, he said 'Let me out over there.' "At that point," Mae continued, "I started slowing down, but since I didn't see any houses in the area and only a few bare trees, I asked him where he lived. When almost on top of the area, he said 'over there,' and as I turned my head to the right to see where he meant, he had disappeared, the seat next to me was bare, he had vanished! Immediately I stopped the car and, jumping out, ran all around the automobile almost hysterical. I looked everywhere, up and down the highway and to the right and left, but to no avail, he was gone." It wasn't 'til later that Mae Doria realized that the boy hadn't been wearing a coat, which was highly unusual since it was the middle of winter when the incident occurred.

It wasn't until two years later that an event would take place during which, the subject of the vanishing little boy would come to light again. At that time Mae had just moved into a new home and had the gas man out to check the furnace and the lights. "We chatted amiably and while engaged in conversation, he spied some of my books on psychic phenomena which I had collected since my experience with the little boy. He asked me if I had ever had any psychic experiences, so I told him the story about the young boy. I had cut the story short and only told him that the boy got into the car and that we were riding, when all of a sudden he disappeared. I mentioned no details to him as to where I picked him up," she emphasized. "All at once, he cut me short, and said 'I can tell you where you saw him.' I said where? He answered 'just past that pump station between Claremore and Pryor.' By pump station, he meant gas station, and in the area where the school was, is a gas station. He then went on to tell me that he had heard a story of someone picking up a boy that vanished in the area of that pump station as far back as 1936. I just couldn't believe it and to this day I still can't explain what happened that day 19 years ago."

For Mae Doria and others like her, such as Terri Walsh of Bridgeport, Connecticut, these experiences will never be forgotten. Although the reason for the boy's appearance before Mae Doria remains veiled in mystery, Terri Walsh's "Phantom Hitchhiker" on the other hand, appears to have had an overt purpose in mind. Walsh, full of rage, left her father's home after a family argument over business. With rain beating hard against the car's windshield, she sped home through a maze of lonely back roads. "Another stupid disagreement, and this time I've had it," she'd thought, staring intently at the road in the storm tossed night. "Suddenly, out of nowhere, my headlights picked out the shape of a young man standing at the side of the road holding a sign reading 'Home.' " She thought, "That's odd, most hitchhikers usually write out the name of their destination." Pushing the incident aside, Terri Walsh made a stop for coffee, hoping that the rain would soon let up.

Before long, she found herself once again out on the darkened roadway. "I'd hardly left the cafe when, once again, my lights revealed the same young hitchhiker standing alone, sign in hand, with the word 'Home' clearly visible on it. Immediately, I stopped and as I rolled down the window, words filled my head. 'You must go home to your father,' the voice urged. At that moment I blinked and the young man standing before me, disappeared before my eyes." Walsh, in spite of the bad weather, raced for home, only to find her father had had a heart attack.

Later, while recovering from his ordeal in the hospital, her father commented, "Didn't think I had a ghost of a chance, until you came along." Terri Walsh silently thought, "Don't worry dad, you had more than a ghost of a chance to survive, my friend saw to that."

Although the phenomenon appears relatively new, the most well-documented incident of this type took place in England during World War 2. It all began for Miami Beach resident Charles Bordeaux, then an officer in the OSI (Office of Special Investigations in the United States Air Force), in February, 1951. While an investigator for OSI at Riseland Air Force Base outside of London, he personally interrogated an American security officer at Lakenheath Air Force Base who claimed to have spoken to and interacted with, a ghost pilot hitchhiker in England's Royal Air Force (RAF).

Sent to the base to investigate the fatal shooting of an airman, Bordeaux interviewed the United States Air Police security guard involved in the incident. "The guard told me that he saw a male figure run across the flight line between two B-36 airplanes that were on the airfield. Since the guard's job was to maintain security in that area, he shouted 'halt' three times to the fleeing intruder, and then when he refused to stop, he fired his weapon." The guard commented emphatically, "I could have sworn that I hit him, but when I got to that area of the airfield, no one was there, he had disappeared!" The bullet however, struck and killed a mechanic working on the far side of the field.

During Charles Bordeaux's investigation into the shooting, he interviewed another security policeman also working the night

(continued on page 77)

The Tzolkin: An Interpretation

by Stuart W. Greenwood

The tzolkin, or "Sacred Round," of the ancient Maya was a time interval of 260 days that formed an integral part of the Maya calendar. As described by Thompson (Ref. 1), Maya dates were recorded in terms of both the 260-day count and a count of 365 days. Moreover the 260-day count survives to the present day among some remote Maya communities. Every astronomical mechanism, just like everything else in Maya life, had to be related to the 260-day sacred count.

As emphasized by Krupp (Ref. 2), we know of no one but the Mesoamericans who used this count, and the motivation behind it is puzzling. There is no obvious astronomical cycle that takes 260 days. Several explanations have been attempted, including one-third the synodic period of Mars (780 days) and the interval between the conception and birth of a human baby. The extraordinary importance of the tzolkin to the Maya would seem to justify an extraordinary effort to account for it in contemporary scholarship. In this article, a solution is offered for consideration that was arrived at through an examination of the possibilities of ancient space flight.

In an earlier contribution (Ref. 3), the present writer suggested that the continuing concern of the Maya with the synodic period of Venus reflected past concerns with successive arrivals on Earth of spacecraft from that planet. The synodic period of Venus corresponds with the time interval between arrivals from (or launches to) Venus. The Maya, according to Thompson (Ref. 1), were certainly more interested in Venus than in any other planet. It is therefore appropriate to consider a Venus-centered perspective on the solar system as part of any search for an astronomical significance to the 260-day count.

Possible Solutions

Perhaps the simplest explanation for a 260-day period would be that it represents the time for a planet to orbit the Sun. The Earth takes 365 days to orbit the Sun (at a distance of 1 Astronomical Unit, or A.U.) and Venus orbits the Sun in 225 days (at a distance of 0.723 A.U.) so our hypothetical planetary orbit would be located in between those of the Earth and Venus at a distance of 0.797 A.U. (Figure 1). No such planet exists, so we have here a possible, though not valid, solution.

Another possible solution is presented by the possibility that 260 days represents the synodic period of a planet with respect to Earth. Such a planet would lie within the orbit of Venus, as shown in Figure 1, at a distance of 0.557 A.U. Again, no such planet exists, so again the solution is invalid. There is, moreover, no 260-day solution for a synodic period with respect to Earth for a planet lying outside the Earth's orbit. All such synodic periods exceed the Earth's orbital period.

We have now confirmed what has long been recognized — that there is no apparent astronomical significance to the tzolkin based on a conventional, Earth-based perspective. We now focus our attention on Venus, and view astronomical events from a Venus-based orientation. In addition to the possibility of a planet within the orbit of Venus having a synodic period of 260 days we also have the possibility of a planet outside the orbit of Venus with the same synodic period, as it exceeds the orbital period of Venus.

Considering first an inner planet having a synodic period relative to Venus equal to the sacred count, we find it lies at a distance of 0.478 A.U. from the Sun. No such planet exists. We next compute the distance from the Sun of an outer planet

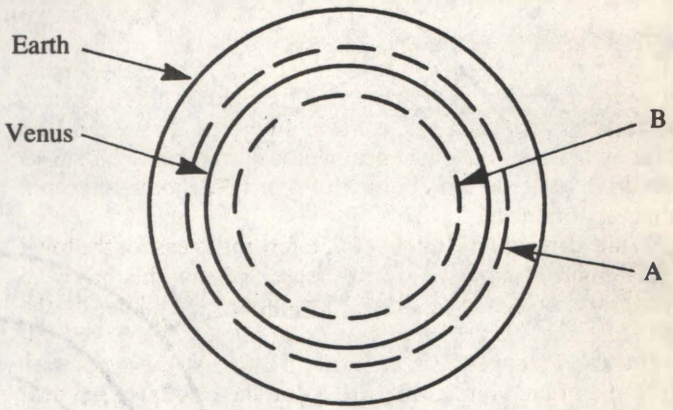


Figure 1 Some possible explanations for the tzolkin
A 260-day planetary orbit
B Orbit of planet having Synodic Period of 260 days with respect to Earth

having a synodic period of 260 days relative to Venus. It would orbit the Sun at a distance of 2.74 A.U. Again, no such planet exists. The orbits of these hypothetical planets are shown in Figure 2. We shall return to the possible significance of the outer orbit following a brief digression on the subject of Bode's Law.

Bode's Law

Three things may be said at the outset regarding Bode's Law:

1) It was not invented by Bode
2) It is not a Law
3) It works quite well

As outlined by Moore (Ref. 4), one takes the numbers 0, 3, 6, 12, 24, 48, 96 and 192, noting that each (apart from the first two) is double its predecessor. Now add 4 to each, giving 4, 7, 10, 16, 28, 52, 100 and 196. Divide each number by 10 (to correspond with an Earth distance of unity) and we find the numbers correspond quite well with the respective distances of the planets in A.U. The comparison is shown in Table 1. There is only one problem — there is no planet corresponding to the distance of 2.8 A.U. between Mars and Jupiter. However, as pointed out by Blanco and McCuskey, (Ref. 5) it was this apparent deficiency that played a very important role in the discovery of the asteroid belt.

Most of the asteroids orbit between Mars and Jupiter at mean distances from the Sun between 2.3 and 3.3 A.U. (Ref. 5), and this has led to speculation that they may have originated in the disintegration of a planet in that region. We now consider some intriguing suggestions on this matter.

Extraterrestrials and Planet X

The Umlands (Ref. 6) have developed a scenario in which extraterrestrials from outside the solar system (the Maya) set up bases on Earth and on Planet X, the planet indicated by Bode's Law as lying between Mars and Jupiter. The disintegration of Planet X cut the Earth Maya off from their primary base on that planet, leaving them stranded and awaiting rescue.

The Umlands examined the significance of the tzolkin. They recognized that a planet in our solar system having such an orbital period would lie between Earth and Venus. They then sug-

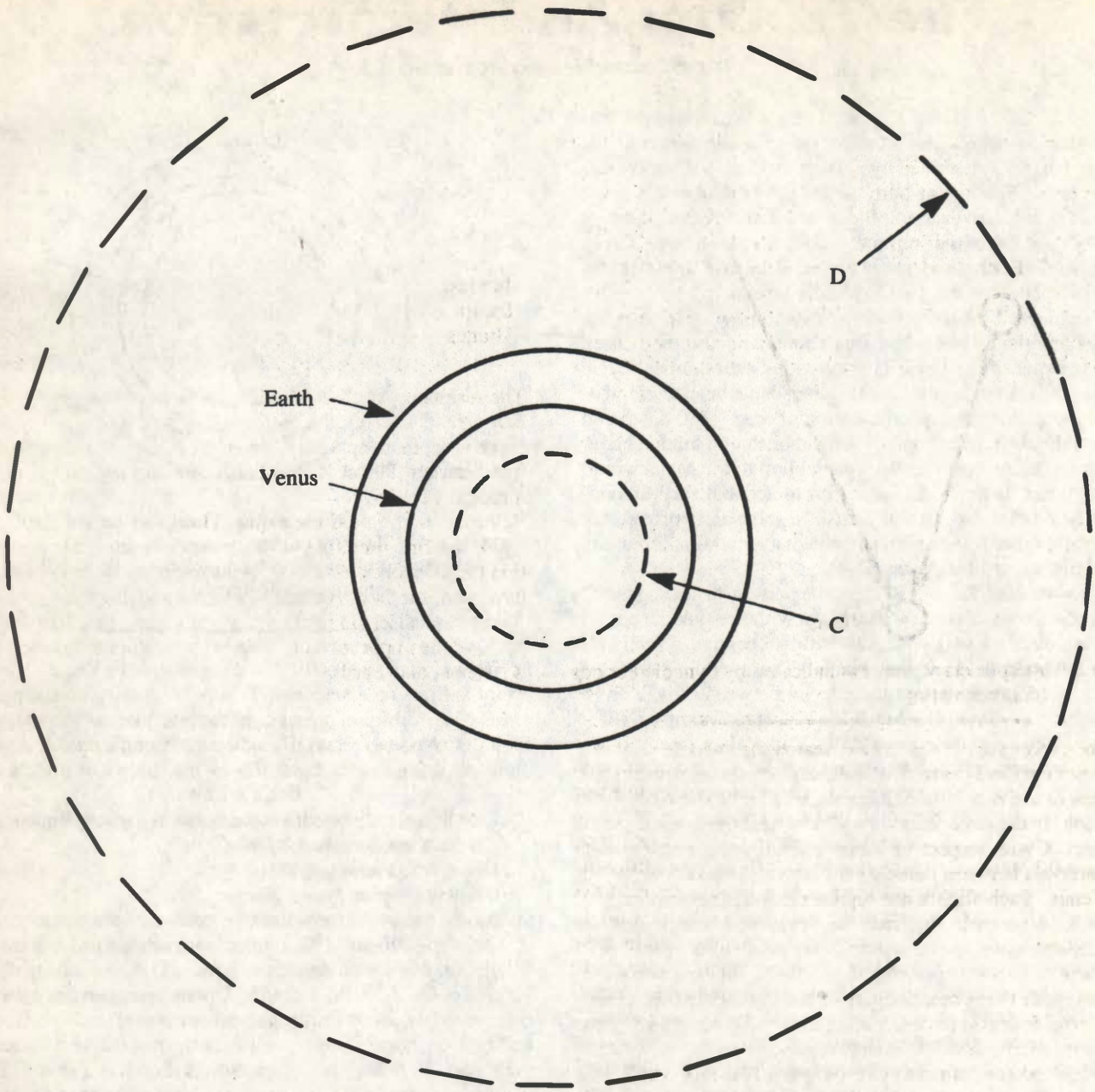


Figure 2 More possible explanations for the tzolkin
Orbits of planets having Synodic Period of 260 days with respect to Venus
C Inside orbit of Venus
D Outside orbit of Venus

gested that the Mayan home planet would orbit somewhat closer to its sun that does the Earth to ours, and that the Maya were preserving a calendar they had brought with them from elsewhere.

Ancient Space Flight

Our own investigation provides a possible solution to the tzolkin in terms of a planet lying at a distance of 2.74 A.U. from the Sun, having a synodic period of 260 days with respect to Venus. Perhaps we may be entitled to treat this possibility seriously when we consider the cumulative impact of the following:

1) The 260-day count was sacred to the Maya and formed an integral part of their calendar.
2) The Maya were more concerned with Venus than with any other planet.
3) The synodic period of Venus with respect to Earth was of great importance to the Maya.
4) The computed distance of 2.74 A.U. for a planet having a synodic period of 260 days with respect to Venus corresponds reasonably well with the predicted value of 2.8 A.U. given by Bode's Law for a planet between Mars and Jupiter.

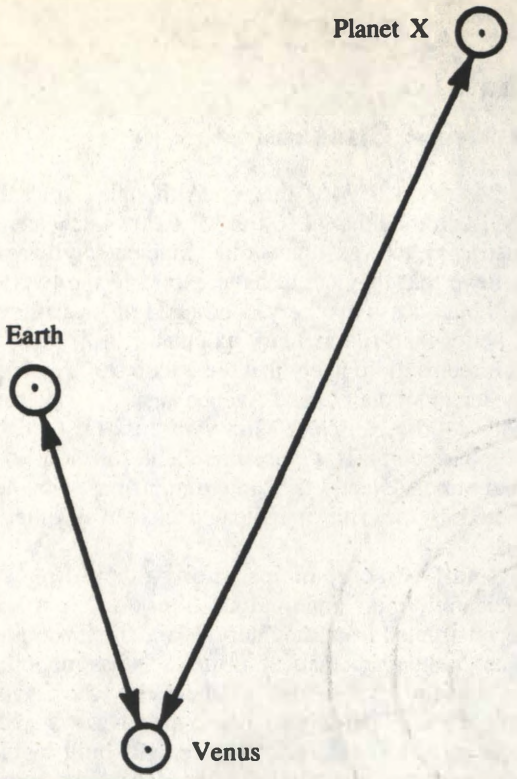


Figure 3 Interplanetary journeys indicated by Synodic Periods (diagrammatic)

In the earlier study (Ref. 3) we treated the synodic period of Venus with respect to Earth as indicative of concern with space launches or arrivals at such intervals, for flights between Venus and Earth. In the same vein we will now treat the synodic period of Planet X with respect to Venus as indicating concern with time intervals between launches (or arrivals) between Planet X and Venus. Such flights are represented diagrammatically in Figure 3. A scenario that may be developed here is that the predominant direction of such flights was from Planet X to Venus (prior to the disintegration of Planet X) and from Venus to Earth (prior to the deterioration of the atmosphere of Venus).

It is now desirable to determine the synodic period of Planet X with respect to Earth to check whether a period is obtained that might indicate direct flights between Planet X and Earth.

TABLE 1
PLANETARY DISTANCES

PLANET	DISTANCE FROM THE SUN (in Astronomical Units)	
	ACCORDING TO BODE'S LAW	ACTUAL
Mercury	0.4	0.39
Venus	0.7	0.72
Earth	1.0	1.00
Mars	1.6	1.52
	2.8	
Jupiter	5.2	5.20
Saturn	10.0	9.54
Uranus	19.6	19.18

The resultant period is 469 days, a figure that does not appear to have had any significance to the Maya. Based on the approach taken here, there appears to be no indication of a direct connection between Planet X and Earth, the connection being made through Venus.

Concluding Thoughts

For the first time, we have a possible astronomical explanation for the tzolkin that is more than playing with numbers. We have also, for the first time, a basis for locating the hypothetical Planet X precisely in relation to Bode's Law. Last, but not least, we have the implications for ancient space flights between Planet X, Venus and Earth.

REFERENCES

1) J.E.S. Thompson, "Maya Astronomy," in "The place of astronomy in the ancient world," *Phil. Trans. R. Soc. Lond. A.* 276, 1974, pp. 83-98.
2) E.C. Krupp, "*Echoes of the Ancient Skies: The Astronomy of Lost Civilizations*," Harper and Row, 1983.
3) Stuart W. Greenwood, "The Maya and the Synodic Period of Venus," *Pursuit*, Fourth Quarter, 1984, pp.
4) Patrick Moore, "*Astronomy*," Oldbourne, 1961.
5) V.M. Blanco and S.W. McCuskey, "*Basic Physics of the Solar System*," Addison-Wesley, 1961.
6) Eric and Craig Umland, "*Mystery of the Ancients: Early Spacemen and the Mayas*," Walker and Company, 1974.

Phantom Hitchhikers

(continued from page 74)

of the incident. That officer revealed to Bordeaux a story even more bizarre than the killing itself. The second officer told, how that particular night, as he was riding around that same flight line, he had seen an RAF (Royal Air Force) pilot in uniform, trying to hitch a ride. "I stopped my vehicle and gave the guy a lift," he commented to Bordeaux matter-of-factly. "Then," according to the guard, "after we had rode a bit, he asked me 'Yank, could you spare me one of your Camel cigarettes?' " With this, the airman reached into his pocket and gave the man a cigarette. Immediately, a request was made for a lighter, and again the policeman obliged. "At that point I stopped my truck at one of the runway junctions to get clearance before proceeding across the area. Suddenly, I saw the lighter flick out of the corner of my eye. I turned my head toward the source, only to find that my rider had disappeared, the lighter, laying on the empty seat beside me." Quickly putting the truck into reverse, he backed down the flight line searching for his passenger. He found nothing.

After careful investigation of the incident, Bordeaux terminated his inquiry. Some of those airmen Bordeaux talked to had also seen strange phenomena on the base, with some reporting encounters of a similar nature to those of the military policemen. Inquiries revealed that records found in the control tower at Lakenheath documented the death of a British airman who crash-landed his bomber after being hit by enemy fire. It was believed that the airman's ghost, wishing to remain close to his comrades, was responsible for the incidents which took place at Lakenheath Air Force Base in 1951.

So the next time you're out driving, think twice about picking up that guy at the side of the road. His destination may be a place that's further than any living human has ever gone.

Our Mexican Ancestors

by Maurice Chatelain

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In a book published some years ago,* I disclosed my discovery of the Nineveh Constant of 2268 million days. This is now understood to be a constant of the universe and an exact multiple of any astronomical cycle thus far known.

At the time of my discovery I believed that the 2268 number was familiar only to, and used only by, Sumerian and Egyptian astronomers. That was a mistake, as an American scientist named Hugh Harleston made abundantly clear when his mathematical analysis of the ruins of Teotihuacan showed that the Grand Avenue in the once-dominant metropolis near Mexico City had a length of 2400 meters or 2268 ancient Mexican yards.

Since the dimensions in yards of all the city's buildings, and all the intervals between buildings, were exact fractions of 2268 yards, it became apparent that this number was as familiar to the ancient Mexicans who used it to measure length as it was to the Egyptians who used it to measure volume and to the Sumerians who used it to measure time. Awareness that the number 2268 had been an important measure of space and time gave encouragement to a search for the true origin of the number.

According to popular supposition, Teotihuacan was built by the Aztecs; actually, it could be much older. Until recently it was almost impossible to measure exact dimensions of the city itself or any of the ruined structures that lay within it. Investigations had been attempted without the prerequisite removal of encrusting soil and vegetation as strong as steel cable. Subsequent restorations had proceeded without anyone bothering to respect the original dimensions. Adding to the confusion were those American books that identified the structures correctly but gave only approximate dimensions in feet rounded to the nearest foot — enough of a difference to frustrate the efforts of those who sought to prove a precise relationship between the dimensions of the monuments and the spaces between them.

The research situation was somewhat improved when Swiss scientist Henri Stierlin published a remarkable study of the ruins in which the dimensions were indicated in meters and centimeters on scaled drawings of the monuments. Thus it became possible to obtain useful averages between the American dimensions in feet and the Swiss dimensions in meters. Further contributing to improved investigations of Mexican pyramids was a beautiful book published ten years ago by Peter Tompkins; it included a mathematical analysis of the dimensions by Hugh Harleston.

As might be expected in such a case, the dimensions given by Harleston were not exactly the same as those published by Stierlin. Both men found these ruins very difficult to measure, and each one did the work in a slightly different way. Even now the monuments are not completely free of dirt and debris. The only sure way to obtain exact intervals and dimensions would be to use electronic distance-measuring equipment, targeting reflectors placed at the tops and corners of the monuments; and that is exactly what I am planning to do as soon as possible.

Some of the discrepancies may also have percolated from Harleson's enthusiasm for crediting the architects of Teotihuacan with a knowledge of mathematics they simply did not have. Harleson assumed that all the monuments in the city had been built with a special yard representing the twelfth root of two meters, or 1.059463 meters. Although I am willing to accept the likelihood that ancestral Mexicans knew as much about the metric system as many other ancient civilizations, I cannot believe that they could have extracted the twelfth root of two without access to a very good table of logarithms or the use of a better-than-rudimentary calculator.

It seems more likely that the builders of Teotihuacan designed the length of their Grand Avenue in such a way that it represented both 2400 meters and 2268 yards, thus establishing a yard of 1.0582 meters. If we use this value for the Mexican yard, we find almost exactly the same dimensions, whether indicated in meters by Stierlin or indicated in feet by other scientists.

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Small discrepancies notwithstanding, Harleston's measurements and calculations are extraordinary. He reconstructed from the intervals and dimensions of these ruins, most of the mathematical formulas and astronomical cycles used by ancient civilizations — the Celts, the Egyptians and the Sumerians in particular. These discoveries make it difficult to believe that Teotihuacan was actually built by the Aztecs. Yet Harleston did not take into account a fundamental difference between our modern measuring system and the disparate method developed by the ancient Mexicans and various other peoples of antiquity, for the measurement of length, area and volume.

Our system of measurement is based on the equivalence of the English yard and the French meter.* Both are standards of linear measurement, and both are convertible to standards of area or surface measurement simply by "squaring." Our standard of volume measurement, the cube, is likewise a derivative of the linear standard; a cubic yard is a linear yard^3 and a cubic meter is a linear meter^3. But many ancient people based their volume measurements on standards which were not merely three-dimensional extensions of their linear standards but were more spontaneously derived from a countable quantity of things or the size of a familiar container.

For example, the Egyptians were using, to measure length, a cubit of 0.525 meter; its cube was 0.144,703 cubic meter, and thus not very practical. In the construction of the Great Pyramid, however, they used a cubit of 0.524,148 meter; its cube was 0.144,000 meter^3, representing 144 kilograms of water or 16,000 kedets of 9 grams each — which shows that these ancients knew about the metric system or something that was very similar to it. This cubit corresponded to a yard of 1.048,296 meters and to a cubic yard of 1.152 cubic meters.†

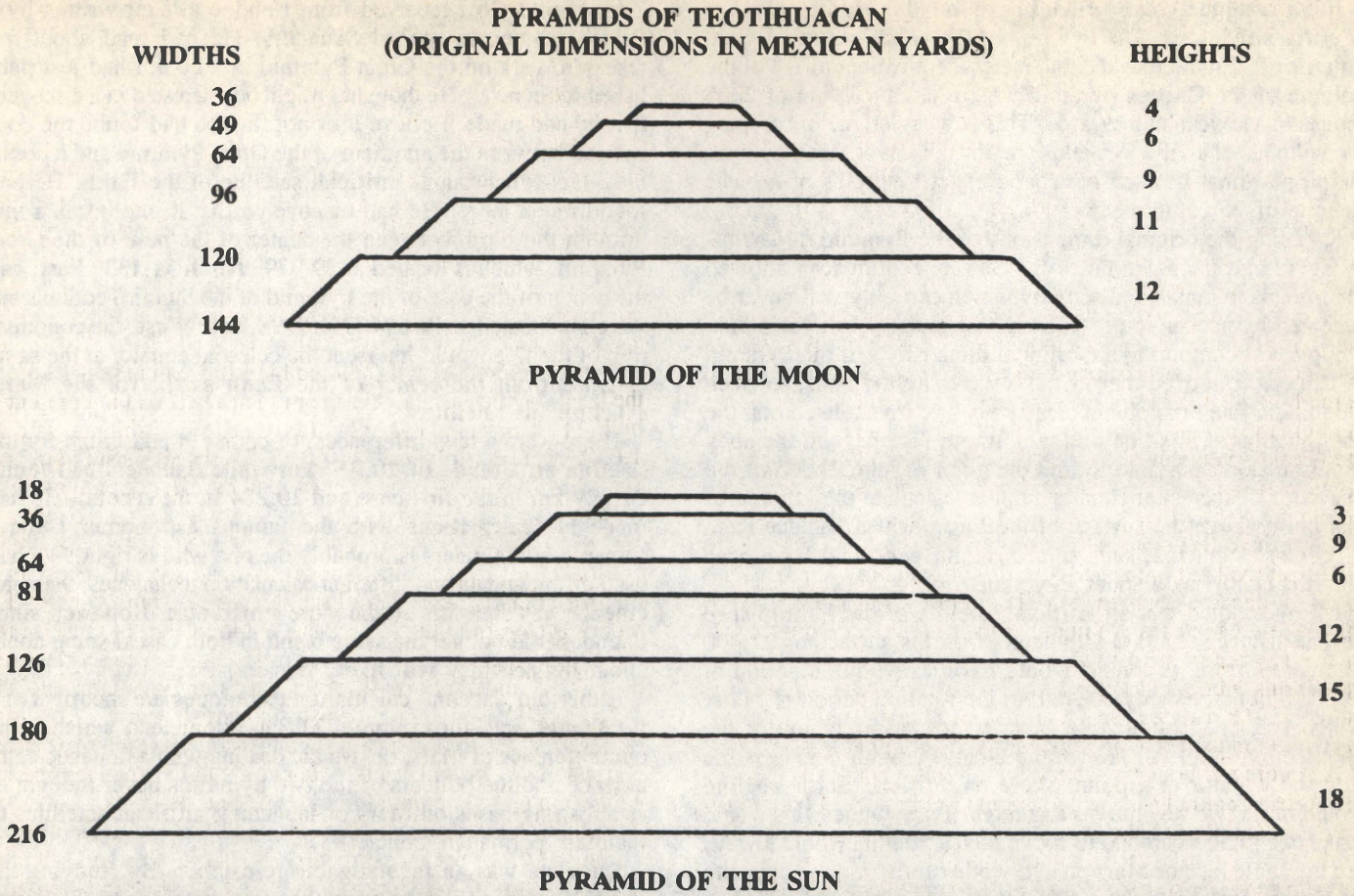
In the same manner, the Mexicans used, to measure length, a yard of 1.0582 meters whose cube was an impractical 1.184,962 m^3, so they preferred to measure volume with a yard of 1.045,516 meters whose cube was 1.142,857 m^3, exactly 8/7 of a cubic meter. In other words, the two volume-measuring

*"The standard yard, under William IV, was declared to be fixed by dividing a pendulum which vibrates seconds in a vacuum, at the level of the sea, at 62° F., in the latitude of London, into 391,393 equal parts, and taking 360,000 of these parts for the yard." A meter is "the basic unit of length in the metric system, equal to 39.37 inches; it was meant to be, and virtually is, one ten-millionth part of the distance along a meridian from the equator to the pole."

—Webster's New Twentieth Century Dictionary, Second Edition

Our Ancestors Came from Outer Space, Doubleday 1978; Dell 1979.

†A comprehensive table showing similar equivalence among 45 ancient measuring systems was appended to Chatelain's previous article, in *Pursuit* No. 67, Third Quarter 1984, p. 109.



units of the Egyptians and Mexicans, which were both exact fractions of a cubic meter, were also proportional to each other, the Egyptian cubit representing 126 thousandths of a Mexican cubic yard. This was an important discovery!

The number 126 is both a sacred Hebraic number which can be found everywhere in the Cabala, and a magic nuclear number, the last one of the series, 2, 8, 20, 50, 82, 126 representing the numbers of neutrons and protons that are necessary for the stability of the nucleus. The number 126 can thus be considered as the symbol of nuclear stability and the homologue of 280, which is the highest known quantic number. It is also the symbol of energy in the equivalence between mass and energy.

Of course, one may wonder what could have been the nuclear knowledge of the ancient pyramid builders, but without going that far afield, we cannot help noticing that if we multiply by 126 the volume of the Great Pyramid (18 million cubic cubits), we obtain 2268 million cubic cubits. Moreover, if we measure the volume of that pyramid in Mexican cubic yards, it comes to a total of 2268 million cubic yards. The numbers 126 and 2268 have played a very important part in the mathematical calculations of our ancestors all over the world; moreover, such evidence acknowledges the common origin of various ancient civilizations whose vestiges have been discovered on both sides of the Atlantic Ocean — the probable place of common origin, namely Atlantis, having disappeared into that ocean twelve thousand years ago.

Such research led me to discover that the volumes of all known pyramids are proportional to each other; also, that they are exact fractions of the volume of the Earth (which our ancestors seem to have estimated in billions of billions) at 945 cubic yards of Cheops or 1088.640 cubic meters. If we divide with thirteen zeros the volume of the Earth by the numbers 35, 42, 48, 105 and 288, for example, we successively obtain the volume of the pyramids of Cholula in Mexico, Cheops and Chephren in Egypt, Teotihuacan in Mexico, and Poverty Point in Louisiana. It then becomes obvious that all of these numbers and therefore all of these volumes, are proportional to each other and to the volume of the Earth; and they are also related to the Constant of Nineveh of 2268 million days.

Recently I also found that the base areas of many pyramids were exact multiples of 36, 49, 64, 81 or 121 square meters and therefore were exact fractions of the surface of the Earth as it might have been estimated by our ancestors: 510,984,936 square kilometers, or about 197,292,400 square miles. This would explain why pyramids had base sides of 231, 216, 189, 108 or 84 meters, for example.

Ever since I discovered the Nineveh Constant ten years ago, I have felt sure that this unit of time must have its equivalent in space, in the form of a unit of length, surface, volume, perhaps also energy; for we have known since Einstein that energy is a function of both time and space. For *energy*, I have found in the nuclear series the numbers 18 and 126, whose product is equal to 2268, and the number 36,288, which is 16 times 2268. For *length*, the granite coffer in the King's Chamber of the Great Pyramid had a length of 2268 mm, and the Grand Avenue in Teotihuacan had a length of 2268 Mexican yards. For *surface*, I have found that both the base of the Mayan pyramid of Copan and the first platform of the Sumerian ziggurat of Ur had areas of 2268 square meters, which, of course, belies coincidence.

It is among the *volumes* that I have found the largest number of correspondences. The Pyramid of Chephren had an original volume of 2268 thousand cubic meters, equivalent to 7/8 of the volume of the Cheops pyramid which had a volume of 2268 thousand Mexican cubic yards. This is what led me to compute the volumes of all the pyramids and thus discover that they were all proportional to each other and exact multiples of a basic volume of 96 cubic meters.

Knowing the original dimensions of the Pyramid of Cheops in Egypt and the Pyramid of the Sun in Teotihuacan allowed me to make a fantastic discovery which certainly will never be accepted by academic or "official" scientists. Ten years ago, while I was computing the original dimensions of the Pyramid of Cheops, I noticed that its faces were slightly concave, with the middle line or apothem clearly visible. I postulated that the continuation of this line on the northern face beyond the apex should make it possible to find the point of intersection of the line with the celestial equator, and to calculate the altitude of that point above the surface of the Earth or the distance from its center. I felt that such figures might very well have been significant for the ancient Egyptians, too!

I further noted that an artificial satellite of the Earth placed at that distance (21,000 kilometers from its surface or 27,400 kilometers from its center) would have a revolution period of 12.3115 hours, exactly one half of the rotation period of Mars, which is 24.6230 hours. In other words, a projection of the apothem on the north face of the Great Pyramid intersects the celestial equator at a point where an artificial Earth satellite would make two revolutions around the Earth while Mars would make one rotation around its axis. Such a satellite would always see the same face of Mars on every other turn, and the opposite face on intermediate turns. Two stations on Mars would thus be sufficient to maintain contact with the satellite every twelve hours, and four stations on the Earth would be enough to keep a permanent contact between the satellite and the Earth.

We shall probably never know if those who built the Great Pyramids, whether they were gods or men, had the means to install bases on Mars or knew enough to position Earth satellites to maintain permanent contact with the bases. But I was nonetheless proud of myself for having envisioned such a fantastic possibility. How wrong I was! What I had missed turned out to be even more extraordinary than what I had sensed.

In April 1976 I received from London a letter written by a British gentleman named Saunders. He had read about my research work on the Great Pyramid in a book I had just published in French.* He thought I might be interested in a discovery that he had made. Believe it or not, he too had found the connection between the apothem of the Great Pyramid and a possible Mars-synchronous artificial satellite of the Earth. He had found much more. He had discovered that if one traces a line through the Earth between the center of the base of the Great Pyramid, which is located at 29.979° North 31.133° East, and the center of the base of the Pyramid of the Sun in Teotihuacan, which is located at 19.694° North 98.844° West, the continuation of the line would intersect the celestial equator at the same distance from the center of the Earth as that of the Mars-synchronous satellite.

There were a few differences, of course. I had found for the satellite an altitude of 20,777 km while Saunders had found 21,229 km in the first case and 20,884 in the second. He had made his calculations with the famous astronomer Duncan Lunan, and Saunders is probably the one who is right. We had used different data and different calculation techniques; the coincidence was therefore all the more remarkable. However, since Saunders did not get the same result in both cases, some doubt about his accuracy will likely remain.

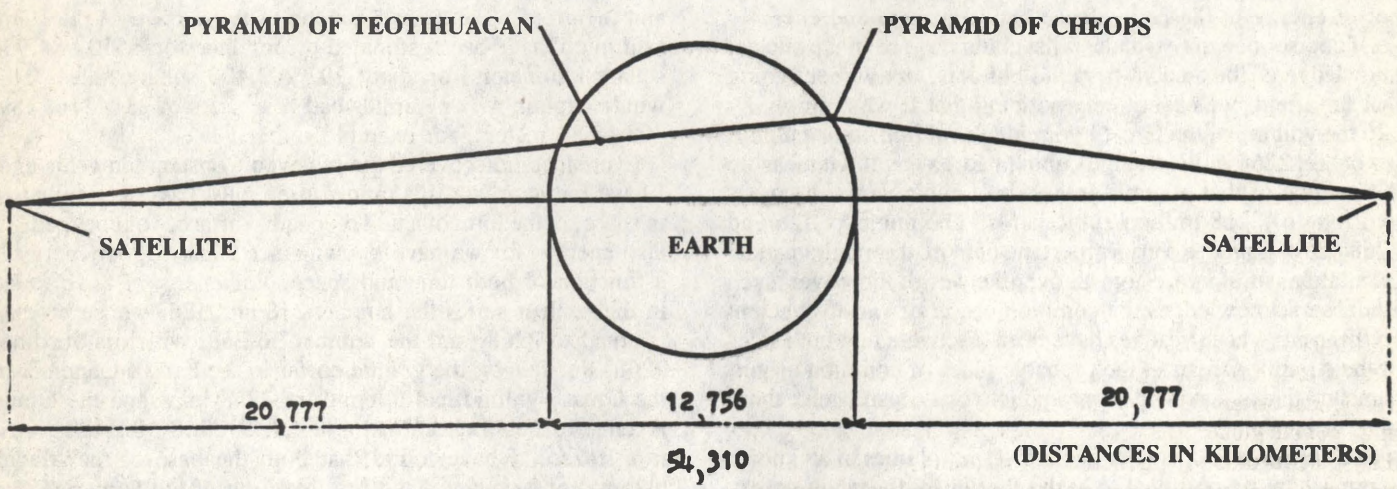
Either our data and calculation techniques are incorrect and we should find, for example, 21,330 kilometers, which is the circumference of Mars; or, we are dealing with a fantastic coincidence and the builders of the two pyramids never thought of establishing bases on Mars or launching artificial satellites to maintain permanent contact.

Saunders was an indefatigable researcher. By studying the possible relationships between the two pyramids and the Earth, and Mars and its two satellites, Phobos and Deimos, he discovered twelve distinct "coincidences" which are difficult to believe, even for one who, like myself, has already encountered many strange situations for which coincidence is the only reasonable explanation.

Saunders first found that the mass of the Great Pyramid, which is about six million tons when multiplied by a million of billions, is equal to the mass of the Earth of six thousand billions of

Nos Ancetres Venus du Cosmos, Robert Laffont, Paris, 1975.

MARS AND THE TWO PYRAMIDS



MARS SYNCHRONOUS EARTH SATELLITES — REVOLUTION PERIOD OF 12.31 HOURS

billions of tons. Then, the distance from Mars to the Sun of 228 million kilometers represents about a billion times the base side of that pyramid of 230 meters. The eccentricity of the orbit of Mars is about equal to that of the axis of the King's Chamber of that pyramid, and the apothem of the north face intersects the celestial equator at an altitude about equal to the circumference of Mars of 21,330 kilometers.

Some of the entries on Saunders' list merely note the obvious: for example, the largest volcano on Earth, in Hawaii, is located at a latitude of about 19 degrees; the largest volcano on Mars, called Nix Olympica, and the Pyramid of the Sun in Mexico area also located at latitudes of about 19 degrees. Other relationships, though less apparent, may be more significant, to wit: The number of revolutions of Deimos during a rotation of the Earth is equal to 11/14, which is the ratio between the half-base and the height of the Great Pyramid. The number of revolutions of Phobos during a rotation of the Earth is equal to 22/7, which is the ancient *pi* factor and the ratio between the half-perimeter and the height of the pyramid. These relationships suggest that the locations of the satellites may have been artifically predetermined.

If we juxtapose the Moon and the Earth, the triangle formed by lines drawn from the center of the Moon and to the two opposite ends of the diameter of the Earth, is similar to a cross-section of the Great Pyramid in Egypt. If we were to build a "Great Pyramid" on the Moon at the same latitude as on the Earth, the continuation of the pyramid's apothem would intersect the equatorial plane of the Moon at the same altitude as that of Phobos above the surface of Mars.

The height of Deimos above Mars is equal to 22/7 of the radius of the Earth. If we trace from Deimos a line passing through a latitude of 19 degrees on Mars, that line emerges on the other side at a latitude of 25¼ degrees, and if we build a "Great Pyramid" at that point, the continuation of its apothem will intersect the celestial equator of Mars at the altitude of Phobos...So far, this is the last of Saunders' twelve coincidences. They could be nothing more, or a lot more, than an extraordinary array of coincidences without correlation.

I digress here, to encourage anyone who is sufficiently interested, to re-work the calculations and decide for himself or herself what cosmic program, if any, could have been deliberately planned by our ancestors, and for what purpose. Meanwhile, I shall leave to friend Saunders the credit and the responsibility for his discoveries, for I am convinced he has found a gold mine of cosmic information.

In general, I do not believe in miracles. I do not expect professional astronomers to take these discoveries seriously, but maybe one of them will someday have the curiosity to check them out and find the courage to publish the results of his calculations. Perhaps that still would not prove that our ancestors were visited by astronauts from Mars several thousand years ago; but at least, it would give us some very good reasons to believe that we are not alone in the universe. Meanwhile, we should try to learn everything we can about ancient Mexican astronomy and the astronomical computer of Teotihuacan in particular.

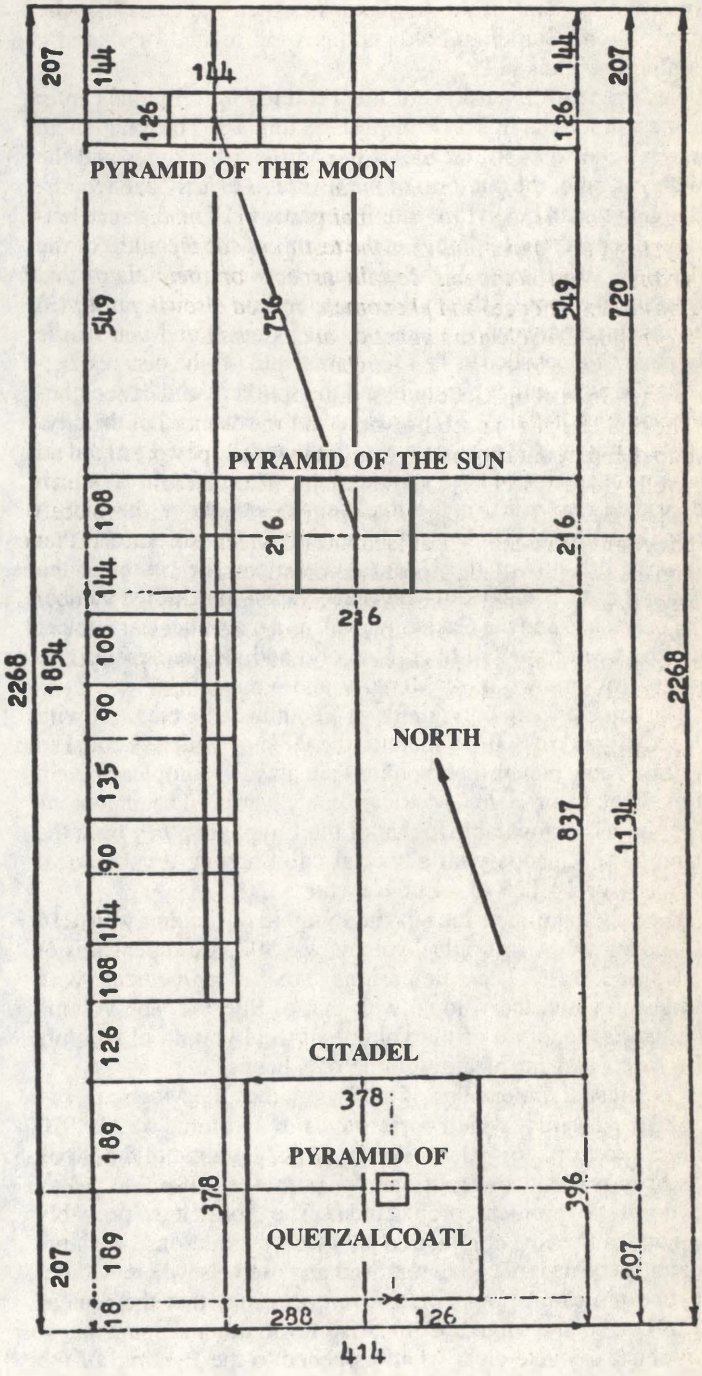
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The archeological complex of Teotihuacan was an important center of religious observance, but it was also a remarkable astronomical observatory and a fantastic cosmic computer. Recent discoveries show that every dimension of the sacred city had an astronomical or mathematical meaning; and several of these dimensions were so interrelated as to replicate some of the constants of nuclear physics used by contemporary scientists.

It now seems almost certain that the architects of Teotihuacan

RUINS OF TEOTIHUACAN

(DIMENSIONS IN MEXICAN YARDS OF 1.0582 METERS)



were using, as a unit of length, a yard of 1.0582 meters, which was an exact fraction of that modern unit derived from the circumference of the Earth. They had a mile of 1600 meters or 1512 yards, a stadium of 200 meters or 189 yards, and smaller units of 54, 27, 18, and 9 yards whose names have been lost. All of these numbers are exact fractions of the sacred number 2268, a number which has been found in the ruins of several ancient civilizations and seems to have been a basic unit of time and space around the world several thousand years ago.

Thus the measuring system of the Mexicans was based on the number 9, while that of the Egyptians was based on 10, that of the Chaldeans on 12, that of the Mayas on 20, and that of the Sumerians on 60. Obviously Teotihuacan was not built by the Mayas; moreover, the number 2268 is also found in the Nineveh Constant of the Sumerians, which indicates that the Mexican and Sumerian civilizations were related or shared a common origin.

The original dimensions of the Teotihuacan religious center are best described in Mexican yards as follows: The total length between the southern facade of the northern buildings and the southern end of the platform of the Citadel is exactly 2268 yards. That length can be divided into four parts: (1) The distance between the northern buildings and the axis of the Pyramid of the Moon — 207 yards; (2) the distance between the axis of that pyramid and that of the Pyramid of the Sun — 720 yards; (3) the distance between the axis of that pyramid and that of the Pyramid of Quetzalcoatl — 1134 yards; and (4) the distance between the axis of that pyramid and the southern end of the platform of the Citadel — 207 yards, as at the other end of the city.

The oblique distance between the center of the Pyramid of the Moon and that of the Pyramid of the Sun is 756 yards, which represents one third of the total length and twice the Saturn synodic cycle of 378 days. Another interesting distance is that between the axis of the Grand Avenue and the center of the Pyramid of Quetzalcoatl, which is 288 yards — the sacred number of Tiahuanaco and the Cabala, as well as a magic nuclear number that has been found all over the world and also represents two cycles of conjunction of Mercury and Venus.

The three principal pyramids of Teotihuacan were built with a special yard of 1.0455 meters, the cube of which is equal to 8/7 of a cubic meter; their volumes are always multiples of eight cubic meters or seven Mexican cubic yards. The ingenious technique is comparable to that of the Egyptians; they built the Pyramid of Cheops with a special cubit having a cube equal to 0.144 or 18/125 of a cubic meter.

The original dimensions of the Pyramid of the Sun were 216 x 216 x 63 yards. Its original volume was 907,200 cubic yards, or 1,036,800 m^3. The dimensions are in agreement with Harleston's and the volume with that of Stierlin. The volume is equal to one third of the volume of the Pyramid of Cholula and to 40 percent of the volume of Cheops.

The present dimensions of the Pyramid of the Moon are 144 x 128 x 42 yards, which corresponds to a volume of 241,920 cubic yards, or 276,490 m^3. However, the Pyramid of the Moon has been restored several times for purposes of foreign policy or domestic political propaganda. The politicians probably demanded speedy completion of these restorations, so large quantities of material were removed and used elsewhere without anyone protesting, or perhaps even noticing, that the dimensions had been changed. Comparison with other monuments at Teotihuacan make clear what happened to the Pyramid of the Moon. Only the latter is rectangular; and the width of 128 yards is the one and only dimension in the whole complex which is not divisible by 9.

It therefore seems likely that the Pyramid of the Moon was originally square and that its dimensions were 144 x 144 x 42 yards, with an original volume of 268,800 cubic yards, or 307,200 cubic meters, which would have been 3.375 times smaller than the volume of the Pyramid of the Sun. Since the volume of a cubic foot is also 3.375 times smaller than a cubic cubit, the volume of the Pyramid of the Moon in cubic feet would have been the same as that of the Pyramid of the Sun in cubic cubits. The equivalence gives support to my assumption.

The original dimensions of the Pyramid of Quetzalcoatl were 63 x 63 x 21 yards, corresponding to a volume of 22,680 cubic yards, or 25,920 cubic meters. This volume is very interesting; 2268 is related to the Nineveh Constant, while 2592 is related to the Pyramid of Cheops and to the precession of the equinoxes — which seems to indicate a common origin for the Mexican, Egyptian and Sumerian civilizations, or at least, frequent cultural connections across the oceans. The volume also represents 270 unit volumes of 96 cubic meters, which is the volume of the Pyramid of the Sun divided by 40, or that of the Earth divided by 42 with 15 zeros. It also represents one hundredth the volume of the Great Pyramid.

Before the investigations of Stierlin and Harleston, the first serious research work at the ruins of Teotihuacan was done by a young American scientist of French origin named René Millon. He arrived in Mexico City in 1950 after he had completed his anthropology courses at Columbia University in New York. Following a few years of field work, he obtained for Columbia a grant from the National Science Foundation in 1962 to fund the production of an exact map of the ruins by means of aerial photography. A constant altitude of 1200 meters would be maintained and grids established to limits of 500 meters on each side of the center line of the Grand Avenue.

The camera work aloft consumed the least amount of time alloted to the project. Assembling the photographs and taking ground measurements of everything recorded on the films required five years of hard work. When the finished map was placed on public view in 1967 it revealed with startling clarity the Teotihuacan of more than two thousand years ago: a true metropolis, adequate for a population of 200,000. Wide avenues, many pyramids of different sizes, and more than 2600 residential buildings covered an area of twenty-five square kilometers, or more than 6,000 acres. Morever, it had to have been built according to a rectangular plan prepared in advance of construction.

The oldest part of the city, where the three principal pyramids are located in an area of about six square kilometers or 1500 acres, is more than four thousand years old; some archeologists believe that it may antedate the eruption of the Xitli volcano about eight thousand years ago. Teotihuacan could very well be the oldest city in North America, just as Tiahuanaco could be the oldest city in South America. Even between the two names there is a curious possible linkage. Both names could have sprung from common roots: "theos," the Greek word for divinity, and "huaco," which means death or grave in various local dialects. Both names allow only one translation: "city of the dead gods."

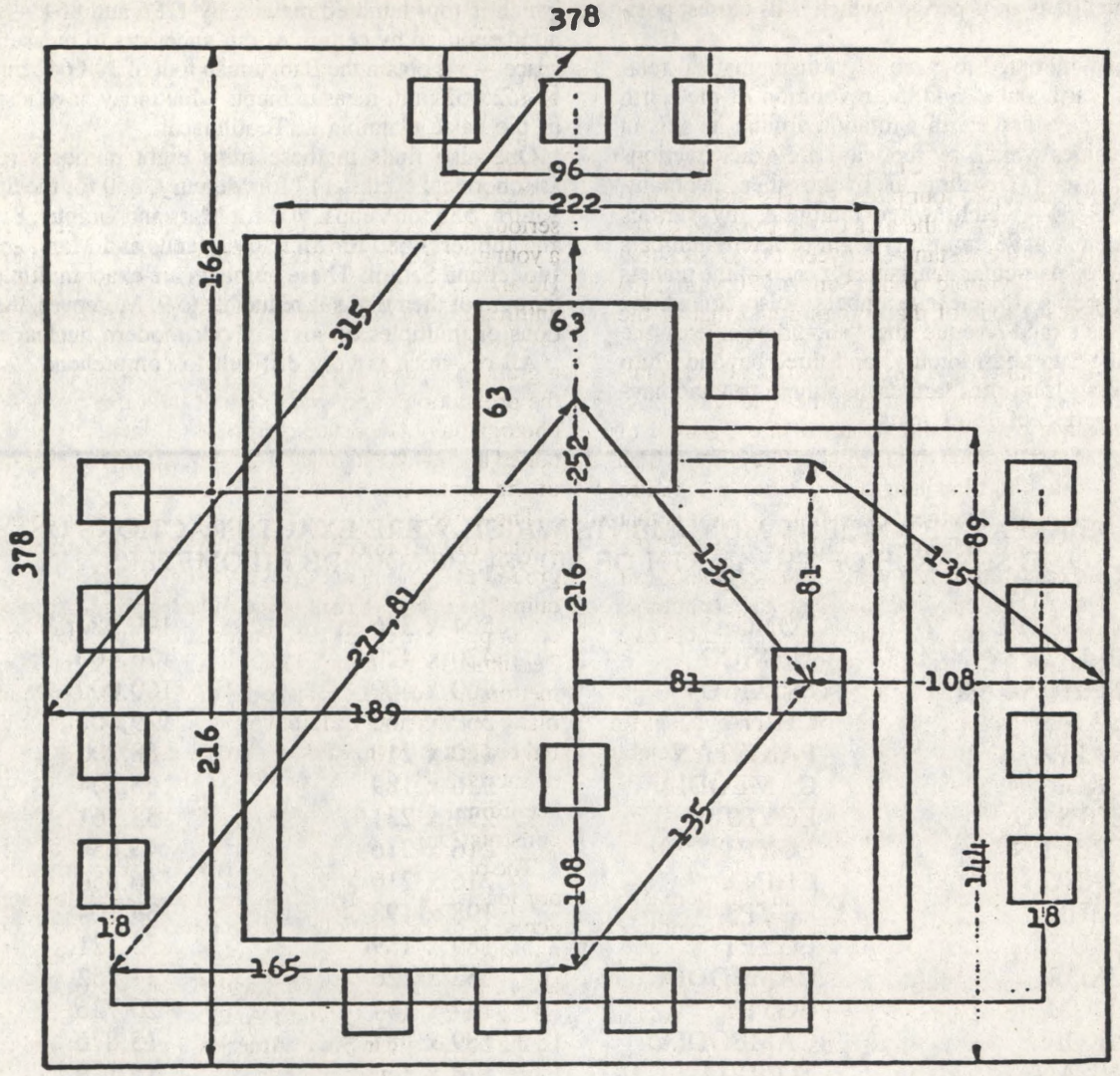
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René Millon seems to have been the first to think that Teotihuacan — like Stonehenge, the Great Pyramid, and the Tower of Babel — could have been designed and used primarily or adjunctively as astronomical observatories to explore the mysterious relationships of mankind, space and time. He was also the first to notice that the dimensions of most monuments and intervals at Teotihuacan were always fractions or multiples of a standard length of 57 meters, and that seven times that length represented exactly four hundred meters.

We now know that Millon was right. Four hundred meters represent 378 yards, and 57.143 meters represent 54 yards or six times nine yards. There is no doubt, then, that our evaluation of the Mexican yard is correct, and that it takes 37.8 million yards to measure the circumference of the Earth or 360 million yards to measure the distance to the Moon.

Harleston does not quite agree with that value, but I still have

MATHEMATICAL RATIOS (DIMENSIONS IN MEXICAN YARDS OF 1.0582 METERS)



a great admiration for him; he was the first to discover that the sacred number 2268, which had been used by the Sumerians to measure time, had also been used by the Mexicans to measure space. This is a significant archeological discovery, for it shows that these civilizations had a common origin and that they had begun to probe the wondrous relationships between time and space thousands of years ago.

The Pyramids of the Sun was built in such a way that, on the lower part of the fourth step, only the north and west sides were in the shade at noon on March 21 and September 21, the respective days of the spring and autumn equinoxes. This phenomenon, which lasted only sixty seconds, allowed the ancient Mexican astronomers to determine the exact time on those dates when the Sun crossed the celestial equator, thus setting the start and the midpoint of their astronomical year. In no way could this be any kind of coincidence; complicated calculations, very accurate measurements and perfect site-orientation are necessary to obtain the "shade effect" at the precise times of the equinoxes.

Another number of importance to the ancient Mexican calendar-makers was 52, found several times between the small temples located on the outer edge of the Citadel; the apparent reference was to 52 years or 65 heliacal risings of Venus. And around the court of the Citadel, measurements of 365 yards are found three times, and 366 yards once — which probably represented a year of 365¼ days, very close to the length of our tropical year.

Harleston made a fantastic discovery which might be the major achievement of his research in Teotihuacan. One day, when he had started from the east-west axis of the Citadel and was going north on the Grand Avenue, he discovered some stone markers at distances of 36, 72, 96, 144, 288, 520 and 945 yards. He found the distances proportional to the distances from the Sun of the first seven planets, including Ceres, which seems to be a remnant of Phaeton, the planet that orbited between Jupiter and Saturn until a few million years ago when it exploded. Harleston reasoned that the Grand Avenue had been designed as a reproduction of our solar system.

Another interesting discovery was made by Alfred Schlemmer, one of Harleston's colleagues who had been studying earthquakes. He established that the periodicity of earthquakes corresponds to changes in gravitational attraction of the Sun, Moon and planets on the external crust of the Earth; he showed that the attraction of the Moon, for example, increases by six percent when our satellite is at its perigee which is its closest position to the Earth.

Schlemmer also attempted to establish a mathematical relationship between earthquakes and the revolution of the Earth around the Sun in days and Earth's rotation around its axis in minutes — two values which, by the way, are exact fractions of the Nineveh Constant. Dividing one by the other, he obtained a value of 0.25364 which, when multiplied by various planetary coefficients, gave him thirty-eight different numbers which appeared to be particular constants for each of the planets considered. According to these numbers, also found by Harleston along the Grand Avenue, there should be at least one planet between the Sun and Mercury, and three beyond Pluto — the last one being 150 times farther than the Earth and having a revolution period of 1800 years.

As in the ancient monuments all over the world, one finds in the dimensions of Teotihuacan such mathematical factors as the *pi* factor of 22/7, the *phi* factor of 89/55 and its square root of 14/11, as well as the fraction 11/12, which is the cosine of 23½° angle of inclination of the axis of the Earth. Another interesting point is that when we divide the length of the Citadel, which is four hundred meters, by 1296 and 864 — two sacred numbers used by certain of our ancestors to measure time and space — we obtain the Babylonian foot of 308.642 mm and cubit of 462.963 mm, measurements which may have inspired some of the basic planning at Teotihuacan.

One also finds in these ruins eight numbers representing astronomical cycles: 117 for Mercury, 360 for the Sun, 378 for Saturn, 585 for Venus, 702 for Mars and Uranus, 819 for Mars and Jupiter, 4680 for Mercury, Venus and Mars, and 7254 for Jupiter and Saturn. These numbers are exact multiples of 9 and the sum of their digits is reducible to 9. Moreover, they are fractions or multiples of some of our modern nuclear numbers...

All of which is very difficult to comprehend.



BASE AREAS OF ANCIENT MONUMENTS WHICH WERE EXACT FRACTIONS OF THE SURFACE OF THE EARTH OF 510,984,936 SQUARE KILOMETERS

TONGATAPU	TONGA	504 x 396 m	199,584m²
CHOLULA	MEXICO	420 x 420	176,400
TEOTIHUACAN	MEXICO	400 x 400	160,000
HOUANG	CHINA	360 x 360	129,600
HARAPPA	PAKISTAN	420 x 210	88,200
ANGKOR	CAMBODIA	336 x 189	63,504
CHEOPS	EGYPT	231 x 231	53,361
CHEPHREN	EGYPT	216 x 216	46,656
HOUANG	CHINA	216 x 216	46,656
DASHUR	EGYPT	198 x 198	39,204
DASHUR	EGYPT	189 x 189	35,721
ANGKOR	CAMBODIA	252 x 126	31,752
MEIDUM	EGYPT	144 x 144	20,736
ANGKOR	CAMBODIA	189 x 84	15,876
TIAHUANACO	BOLIVIA	126 x 120	15,120
SEKEMKET	EGYPT	120 x 120	14,400
DJOSER	EGYPT	126 x 110	13,860
MYKERINOS	EGYPT	108 x 108	11,664
DASHUR	EGYPT	99 x 99	9,801
OAHU	HAWAII	165 x 54	8,910
BABEL	IRAQ	90 x 90	8,100
ANGKOR	CAMBODIA	126 x 63	7,938
LOTHAL	PAKISTAN	126 x 63	7,938
TAHITI	POLYNESIA	88 x 81	7,128
PEPI	EGYPT	80 x 80	6,400
NUKUHIVA	POLYNESIA	165 x 27	4,455
AITUTAKI	COOK	81 x 44	3,564
SAVAII	SAMOA	63 x 55	3,465
MOLOKAI	HAWAII	88 x 27	2,376
TAHITI	POLYNESIA	84 x 28	2,352

ONE SQUARE KILOMETER EQUALS 0.386102 SQUARE MILE

Porphyria — Can it Explain Vampires and Werewolves?

by Eric S. Held

Are vampires and werewolves real? Can their existence be explained in a rational manner? These are just two of the many questions that face those organizations devoted to the research and the distribution of information to its members. To date, attempts to justify their being have always fallen a bit short.

On Friday, May 31, 1985, newspapers across the country made this attempt as it related to a presentation made by Dr. David Dolphin at the annual meeting of the American Association for the Advancement of Science. Dr. Dolphin, a chemistry professor at the University of British Columbia, reported that it was quite possible that "vampire" and "werewolf" findings, dating from the Middle Ages, could be explained and attributed to the disease porphyria.

Dr. Jerry Gardner of the National Institutes of Health explains that scientists have previously suggested the possible link between werewolves of folklore and the victims of a rare form of porphyria. Now, the attempt has been made to expand this theory to vampires.

Porphyria

Porphyria is a genetic blood disorder caused by a malfunctioning of the body's ability to create heme (iron containing pigment that gives blood its red color). The problem occurs in the trapping of oxygen for its delivery to the tissues. This process begins in the liver and is completed in the bone marrow. Between these two points are other "assembly stations," and at each one an enzyme must be present before the molecule can move on to the next station. If an enzyme is missing, the process is interrupted.

Overall, it is a rare disease in which one out of 200,000 may develop. There are eight distinct types, each resulting from different enzyme defects, each yielding the same end result. Usually, its onset occurs during puberty, although the most common type (Porphyria Cutanea Tarda) occurs in mid-life. In this instance, there is a liver problem which causes cell damage. Often, a history of alcohol abuse is responsible.

Symptoms

The victim of porphyria suffers from an extreme sensitivity to sunlight. Reactions to light will cause sores to develop along with a coloration or discoloration of the skin. In its mildest form, blisters will appear on the skin when exposed to sunlight. Another light producing problem is that of hair growth. The victim may become very hairy, as hair develops all over the body. Hair growth on the hands give the appearance of a hairy creature with paws. This, plus the need to avoid sunlight at all costs, has historically been used to explain the werewolf.

Other symptoms are prevalent. Skin lesions can be so severe that the nose and fingers may be destroyed or disfigured. The lips and gums become taut so that teeth become more prominent, although the teeth get no larger. Understandably, porphyria causes a great deal of pain.

Treatment

Simply put, the victim of porphyria has a need for the red pigment necessary in blood. Treatment today consists of injections of heme. Since this was an impossibility during the Middle Ages, the victim, according to Dr. Dolphin, needed something else — blood.

Contention

Dr. Dolphin's contention is that vampires were victims of porphyria attempting to alleviate the symptoms of the disease. In other words, the myth was sparked out of reaction to the people with the disease living during the Middle Ages. The folklore is consistent with the victim's photosensitivity.

> "Imagine (how) individuals in the Middle Ages would have been received if they went out only at night, and when they were seen, they would have an animal look about them, being hairy, large of tooth and badly disfigured. It has been suggested that such people might well have been considered werewolves."

As an example, a modern chemical analysis of the bones of a suspected werewolf, killed with a wooden stake in Brazil in the 1700's, showed the person had porphyria. Once this has been established, Dr. Dolphin attempts to relate vampires to the disease.

> "I suspect in the Middle Ages, since they couldn't get injections of heme, the best thing to do was to drink blood."

Animal blood would prove just as effective as human blood. Due to the genetic nature of the disease, victims became "vampires." It is quite possible, that inbreeding during the Middle Ages could have increased their occurance in such areas as Transylvania, considered the home of many a vampire.

> "The likelihood then of one porphyria victim biting another, and initiating the disease, could have been high."

Another point to consider is that any strain in the system — drugs, alcohol, sudden loss of blood — can trigger the onset of the disease to those genetically predisposed. The possibility remains of siblings sharing the same defective gene, where one member of the family shows symptoms while another may not.

Obviously, when the sun came out, the victim retreated to the inside. This could easily explain the nocturnal habits of the vampire, according to Dr. Dolphin.

Not so obvious though is the vampire's reaction to garlic when used as a talisman for warding off the creature. Dr. Dolphin relates that garlic contains a chemical (Dialkyl Disulfide) that might increase the severity of an attack of porphyria. It destroys a heme protein (Cytochrome P450), which presents a reason to avoid garlic.

This then, explains Dr. Dolphin's linkage between the disease, porphyria and its possible relationship to the vampire of folklore. Unfortunately, as stated in the beginning of this article, it too falls a bit short. For one, the points professed are not agreeable to others in the field of science and medicine. For two, there are other points which need careful consideration.

Henry Roenigk, Chairman of Dermatology at Northwestern University feels that there is no research to show whether the disease was prevalent in the Middle Ages. As it is, the disease is quite rare today, and most forms of it are not associated with werewolf-like features. This is really "stretching it," according to Dr. Nathan Bass of the University of California, San Francisco. It is highly doubtful that people with porphyria would

(continued on page 89)

Meet E.T. in St. Louis

The 1985 MUFON UFO Symposium

by Michael D. Swords

Most of the nation's leading "alien watchers" convened at the end of June, 1985 to see what they had seen. Some of them had searched for alien bodies, some for secret documents, some for landing marks, and some for medical evidence. They all agreed that UFOs are real and probably extraterrestrial. It was the national MUFON (Mutual UFO Network) convention in St. Louis.

In the city where most unidentified flying objects wear Cardinal uniforms and most atmospheric spheroids are baseballs, the ufologists put on an interesting show. It did start with a bit of a foul ball, though, with a Friday evening abstract talk understood by few and mystifying to many, but the reception was jovial, congenial and filled with close encounters with the "stars."

Saturday's full agenda began with a lost TV crew, which gave two conventioneers unexpected opportunities to tell tales. The stories were instructive. Dan Wright, the bright young director of the Michigan section of MUFON, told of sightings of UFOs 500 feet long with lights on the sides, a spotlight on top, and electromagnetic interference with an automobile, all apparently "caused" mistakenly by a Soviet rocket booster re-entry! Since it seems unlikely that such phenomena (especially the auto stoppage) *could* be caused by a burn-up of rocket parts, the reports seem to owe much to human imagination. Dan personifies the new serious ufologist, aware of the alternatives and disciplined in research.

The second tale was a bit different. Told by an official of the host St. Louis group, it recounted the visit to a motel of four very odd and short "people," all wearing what seemed like vinyl wigs and looking like UFO humanoids. They had difficulty with language, certain concepts, money matters, food (they liked to suck it in), and had an altercation with the local TV set. When asked where they were from they responded (naturally) "Hammond, Indiana." As always, when we "normal" terrestrials decided to investigate, they were magically gone.

The two stories illustrate (to this author) the good new disciplined and analytical ufology on the one hand and the poor old credulous and unscientific ufology on the other. Whether we were visited by dwarfs from Hammond, Indiana or Epsilon Indi will never be known, especially if we stick merely to the old attitudes of "gee whiz" and "wow." But never fear folks, the times are achangin' and the experiences remain astounding.

Once the wayward TV crew arrived (apparently not mugged after all), the official proceedings began. The initial speaker, Marge Christensen, MUFON Public Relations Director, gave a talk of importance to UFO researchers but somewhat abstract as far as the general public was concerned (so we'll be brief here). Suffice it to say that it involved "shifting the burden of proof" from the ufological community onto the federal government. Nice idea, but with the Reagan Administration busily shifting the burden of everything else on the general populace, it seems to have as much chance as driftwood against the current. Marge also mentioned a "National UFO Information Week" (mid-August 1985) as possibly an annual affair, and the establishment of regional resource centers with slides, videotapes, manuals, and experts to solve the needs of both researchers and community groups or individuals.

The second speaker was veteran UFO researcher and author, George Fawcett. He took the audience on an overview slide show to familiarize us with the vast and amazing complex of experiences that is the UFO phenomenon. The show was surprisingly devoid of critical analysis but did mention many astonishing claims. Some examples:

a) Out of 80 motion films allegedly taken of UFOs, 10 still remain in the "unexplained" category;
b) common physiological effects from close UFO exposure include headaches, chills, muscular soreness, and weight loss;
c) sounds are uncommon but may include UHF ear-hurting ones; smells are usually described as sulfurous, ammonia or ozone-like;
d) the soil at the famous Delphos, Kansas "landing site" was enhanced in calcium content ten-fold;

The average "folk off the street" might readily buy into stuff like that, but some of the rest of the material needed a bit more "documentation."

e) at the Hampton Lake and Socorro "landing" cases the sand got so hot that it turned *not* to glass but to raw silicon *metal*;
f) the so-called "angel hair" that rarely falls from the sky in association with a UFO is composed of the elements in borosilicate glass, yet decomposes on touch (conveniently eliminating the evidence) and leaving the toucher with salty, green radioactive fingertips (a rather odd way for borosilicate glass to behave); the fact that other research has shown samples to be spider webs wasn't mentioned;
g) the Pascagoula fishermen "abduction" case (which seems to get more bizarre and shaky as time goes on) was mentioned without critique, as were (incredibly) the notorious hoaxes of George Adamski; the famous zapping of a Florida scoutmaster by a landed UFO was recounted with the enigmatic comment that despite the fact that the scoutmaster was renown for telling whoppers while in the armed services, that this time there was no doubt of his veracity;
h) and how about the woman meeting a UFO on the road, but not wanting to stop for extraterrestrial hitchhikers just drove by, only to find herself with a 20 point IQ jump, a photographic memory, and ESP to show for the experience? She has since decided to make a living in the areas of the occult doing psychic readings. Write Mr. Fawcett rather than this office or author if you're interested in this sort of service.

With all due respect, ufology does not need any more naive and/or undocumented storytelling than it is already inflicted with. Mr. Fawcett began his talk with a bit of wisdom as to this: "it is sometimes difficult to strike a balance between foolish faith on one side and blind doubt on the other." (Especially if no evidence and documentation is presented, or even felt necessary to present.)

This led naturally into the talk by Leonard Stringfield, a long-

time laborer in the vineyards of crashed saucers and government secrecy. Mr. Stringfield has held UFO audiences agape with his tales of government-held occupants and crafts for many years. Most of these stories are based upon anonymous sources within the military and refer to cases in the 1950's. This year's case was partially different. It still rested on unnamed sources but allegedly took place in 1978 at Ft. Dix-McGuire Air Force Base. The story, extracted painstakingly from the witness through a phone-and-letter-saga so filled with paranoia that it itself might form a case study at an American Psychiatric Association meeting, involved a humanoid body lying dead on an abandoned airstrip not far from a weapons storage facility. It was four-foot tall, grayish-brown, hairless, big-headed and otherwise frail. Its skin was shiny and snake-like. A strong ammonia smell pervaded the area. A mysterious formation of 12 UFOs bluish-green in color flew above and changed patterns as geese do when they fly in their "Vees." A previously unknown military team of "Blue Berets" arrived, sprayed the corpse with something, wrapped it in cloth, crated it, put it into an outer-metallic receptable and left. Later the relevant base personnel were flown to Wright-Patterson AFB (the focus of all the earlier tales as well) for questioning and debriefing by a team of two military men and a civilian who looked like (but was not) the famous UFO expert, J. Allen Hynek.

Well...interesting, fascinating, intriguing, a good yarn. Did it happen? Who knows?

The fourth presenter was Peter Gersten, a New York lawyer and a leading advocate of abolition of UFO secrecy in government documents. Gersten compared UFO evidence to trial evidence, stating that evidence for the reality of UFOs exists "beyond reasonable doubt." He created an analogy between the acceptability of witness testimony in criminal cases and in UFO cases, noting that often one credible witness is sufficient to convict a criminal whereas thousands of UFO witnesses are available to "convict" the UFOs. This line of reasoning lacked "conviction" to this author, however, as criminal cases require "motive" and "opportunity" to be obvious in such open and shut witness testimony cases, and neither is obvious in the UFO situation. "Opportunity," especially here, would refer to whether extraterrestrials and their spacecraft exist in our air space at all, and without solid determination that premise, the witness testimony fails...particularly if there is "motive" and/or "opportunity" for the witness to fool or be fooled.

Several other points of interest were made:

a) An important Air Intelligence Report on analysis of flying objects in the U.S. has been obtained through the Freedom of Information Act. Its job was to "examine the pattern and tactics of flying saucers;" its conclusions included that "the origin of the devices is not ascertainable" and that "it must be accepted that some type of flying objects have been observed." The report was reprinted in the July 1985 issue of the *MUFON Journal*;

b) Gersten knows that some government documents have been "leaked" *after* they have been falsified by adding bogus information, which does wonders for the search for truth;

c) he reminded us that evidence received via hypnosis and lie detectors is *not* admissable in a court of law; and that evidence by "anonymous" informants is merely hearsay;

d) so far as is known there is *no* government documentation on abduction cases, and that crashed-saucer cases have essentially nothing supporting them admissable in a court of law. Or to put it another way "Habeus corpus we ain't."

John Schuessler, an aerospace engineering manager working on most of the famous NASA projects became interested in UFOs naturally as to their technology and their mode of propulsion. He has been led into an investigation of close encounters which resulted in physiological and medical effects as an oblique approach to what the forces involved may be. Mr. Schuessler is another case of the advanced, disciplined, and analytical researcher needed in ufology. Very serious and precise in his approach and never catering to the emotionalism or fantasy some speakers feel their audiences need, he laid out the best medical cases from his experience in ufology and commented upon their significance. In general, the symptoms seem the products of radiation, often mutating or "ionizing" radiation, occasionally even nuclear or particulate (so-called "hard" or penetrating) radiation. Sometimes we are dealing with generalized burns, sometimes patchy or shaped burns or marks, sometimes more thorough effects such as hair loss or erratic growth. Many times the common signs of dizziness, headache, nausea, disorientation, et al are present. In the now-famous "Cash-Landrum" case* where two older women and a grandchild were exposed to a roughly diamond-shaped vehicle belching a powerful exhaust (and accompanied by U.S. military-type helicopters) more spectacular and dangerous effects (inc. rapid deterioration and lesions of the skin) were present. This last case is important to understanding the UFO phenomenon as the U.S. government has now stated (since Peter Gersten is suing it for damages to Mrs. Cash and Mrs. Landrum on grounds that this was a secret-project vehicle gone awry) that although it agrees that a device of some sort was present in the incident, that it was *not* a U.S. technical craft of any sort. So...have they (the government) spun a weird sort of intermediate lie, or was it really a non-U.S. production? And if not "us," who?

Next was another honorable laborer of long standing, Ted Phillips, the leading authority on landing traces. He has boiled his extensive portfolio of three thousand cases to 200 of extremely "high strangeness," a core of experiences demanding serious examination and without a ready commonplace solution. Phillips' work is especially fascinating to a scientist, because there seem to be repetitive patterns in it. The two of obvious significance are his "Type 1" and "Type 2" landing patterns:

a) Type 1, if the observed "object" is an 8 to 12 foot diameter "bright glow" object, it will hover above the ground without actual touching and leave a dehydrated circle mark;

b) Type 2, if the observed "object" is a 30 to 35 foot diameter "saucer/disk" object, it will land on 3 or 4 protrusions and leave indentations at the "pods" with possible heat or radiation effects, often at the center. Using penetrometers, Mr. Phillips has measured pressures of about 2 ton weights at the pod marks.

Other patterns have been extracted which may not be worthy of consideration, or in any sense useful: Peaks for sightings occur between 9 and 10 pm with a secondary peak at 1 to 2 am; October is the heaviest month; mid-week is the heaviest day; Missouri, Iowa and Ohio are the most popular states.

The major current problem in landing trace study is the analysis of the soil samples for elemental concentrations, organic molecules, and simple microorganisms (since soil poisoning and biological contamination are potential alternatives for forming the rings). Such analyses are serious obstacles even in "established" sciences. Labs notoriously screw up such tests and rarely match one anothers' results. When the samples are "UFO-related," there is even a further possible reason for doing a half-baked job. Sometimes the job seems to be proper and solve a problem (e.g., the brilliant red-lighted UFO which landed and left a white residue composed of strontium oxide — the main

*see ***PURSUIT*** No. 69, 1st Quarter 1985, p. 18

component residue of distress flares). Sometimes the job is criminally undone (e.g., the case of the Saskatchewan farmer who witnessed several hemispheric UFOs lift off his rather remote field leaving marks behind. The soil samples were accepted, filed, and never reported upon nor returned). This part of ufology is crying out for technical help; if the readership can help solve the problem, please contact MUFON, Ted, or the author.

It was ironic that the most scientific of the field researchers became accosted after the lecture by one of those individuals inhabiting the fringes of UFO meetings who claims experiences of, shall we say, dubious content. This gentlemen had been blessed with multiple close encounters, the initial of which occurred (in his words) "right there while I was on the throne." It seems that ufonauts have no feeling for propriety whatever. Many more contacts and communications have followed, and sometimes he just feels an exhilarating light flow right through him even when no UFO or being is in sight. Sadly no one else has witnessed any of these occurrences, and true evidence has once again evaded us. With Mr. Phillips searching for a polite and productive means of terminating this "close encounter," the conversation shifted to other questionable reports infecting the literature, including a spacetrip resulting in the importation of a Venusian cat to the U.S. (undoubtedly breaking all sorts of customs regulations). The multiple-encountered gentleman was certain that all these events had happened and that convincing evidence was available for all to see. "That cat from Venus," he smiled assuringly, "had hollow hair."

Mercifully we moved on to the finest investigative reporter in UFO research, Bill Moore, co-author of *The Roswell Incident*, an expert on the subject of crashed saucers. His presentation had three major points of interest for those of us intrigued with anomalies. The first involved the famous "Hangar 18" incident, which became a movie of the same name. It was a hoax of massive proportions, and in no way lightweight fun and games. Serious money and fraud took place as professional conmen plucked naive investors throughout the western U.S. The con was oil-locating technology. The device was the "doodlebug." The central figure was Silas Newton. And the ufological author spreading the misinformation was Frank Scully in *Behind the Flying Saucers*.

This story is fascinating, but long and involved. Without even trying to do it any justice, a few rudiments will be mentioned. Newton and an associate had "invented" a flashing lights- and batteries-device which allegedly would locate almost anything the investor had his heart set on. The fraud promoters, incredibly, were making some "sales" with this simple scheme (aided by Newton's millionaire reputation and strategic "plants" of findables for demonstrating the doodlebug's efficiency), but they felt that something more flashy was lacking. Hollywood was in the process of making a movie about a crashed saucer, and that was exactly the believable touch needed. The doodlebug became the product of alien technology secretly extracted from the military after a crashed-saucer incident. Frank Scully served (innocently or not) to promulgate the story, and "inside" details passed from mouth-to-mouth across the country. The partially underground story grew convincing enough for an FBI memo to be issued to J. Edgar Hoover. It read in part:

> "An Investigator for the Air Forces stated that three so-called flying saucers had been recovered in New Mexico. They were described as being circular in shape with raised centers, approximately 50 feet in diameter. Each one was occupied by three bodies of human shape but only 3 feet tall, dressed in metallic cloth of a very fine texture. March 22, 1950."

Who can blame people for being interested in the possibility of UFO visitations, when the FBI and military had such secret memos in circulation?

Bill Moore told the story above as a warning to investigators as to the complexity potentially lurking behind UFO tales. He then went on to describe his work on the Roswell crashed saucer, and contrasted his research methods, witnesses, and results with the bogus Hangar 18 case. The Roswell case has some superficial similarities to the other tales but differs in the intensity and first-handedness of the investigation. It cannot be told here. Buy and read the book. Bill will appreciate it and you will,too. It may be the only chance that there really was a crashed saucer incident.

A final note on Bill Moore: he co-authored the currently famous *Philadelphia Experiment* book (about the Navy making a ship invisible) with Charles Berlitz. With further investigation he is now certain that no such experiment took place. It was a myth rising garbled from Navy tests in WWII to make U.S. ships undetectible by German submarines (perhaps "invisible" to their radar or sonar, in one sense of that word). Whether Charles Berlitz has backed off these tall tales at this point is not known, but seekers of the Truth, Beware!

Next Stanton Friedman (nuclear engineer turned ufologist) gave his usual high-energy, amusing presentation blasting the "noisy negativists" for their ignorances and deliberate obscurantism. The rogues' gallery of debunkers (Donald Menzel, James Oberg, Phillip Klass, Robert Schaeffer) got their expected bloody noses, but so did well-known ufologists Jacques Vallee, Allan Hendry, J. Allen Hynek, and (without exactly mentioning names) those researchers such as Len Stringfield who never name informants. Special invective was reserved for Carl Sagan who made, according to Stanton, "billions and billions" of mistakes particularly on his analysis of the most famous close encounter in all ufology, the Betty and Barney Hill abduction case (which included a post-hypnotically drawn star-map of the nearby space). This roasting of Sagan was followed by a tour through the UFO evidence and through recent U.S. technological projects which demonstrate that interstellar travel is in fact possible even with what we know today. Everyone always enjoys these semi-technical tours, but there was one exception this time. The introductory host fell asleep on stage during both Moore and Friedman's talks.

The last two speakers were David Webb and Budd Hopkins, both experts on the phenomenon of UFO abductions. Webb reported on the statistical and categorical aspects of these fascinating but frightening close encounters. He first listed the alternative explanations for the reports: a) hoax or lie; b) delusion or hallucination; c) psychosis; d) a real experience with a little distortion due to altered states of consciousness; and e) a real UFO sighting with an imagined abduction due to the suggestibility power of hypnosis. Although hoaxes have occurred, they appear to account for few of the cases. The other four are the serious alternatives. The main thrust of Webb's report was to examine the role of hypnosis.

He took 129 cases of relatively high reliability (especially as regards the depth of investigation) and found the following:

a) hypnosis did *not* have to be used at all in one third of the cases; it was the *entire* means of learning about the abduction in 52%;
b) in 68% of the cases the abductee was alone, but in almost one-third of the cases there were multiple abductees;
c) 55% of the abductees were male; 45% female;
d) "the reported appearance, behavior, and number of entities and the duration of the abductions appear to be in-

dependent of the use of hypnosis;" "Basic imagery seems remarkably similar;"

e) certain common elements exist; i.e., a curved enclosed room, an examination room with panels and chairs, occasionally a trip;

f) certain elements are much commoner in cases requiring hypnosis; it is more likely that there will be a physical examination (often "genetic," i.e. interested in reproductive organs and cells) (also often involving a tissue sample from the skin leaving a small scar); telepathy is the mode of communication; an "implant" of some kind may be inserted; the experience tends to return in dreams and flashbacks;

g) in abductions not requiring hypnosis it is much more likely that a journey was taken and the communication takes place verbally.

Budd Hopkins, author of the currently famous *Missing Time* study of abductees, gave us a treat: a tape recording of part of a hypnotic session with a very emotionally upset abductee...rather chilling and very illustrative of the majority of cases where "hoax" or "lie" is simply not a viable explanation. Mr. Hopkins has counselled with ten professionals in psychiatry and psychology on his cases and none can arrive at any explanation. The phenomenon is astonishingly widespread. His notebook contains hundreds of cases which he cannot get to. He suspects that "this is a thing involving hundreds of thousands of people." The entities reported and drawn by his subjects are almost entirely ("close to 90%") of the bulbous-headed, big-eyed, fetal-like aliens of movie fame (e.g., *Close Encounters of the Third Kind*). Paranoia begins to creep in when he reports cases of serial abductions (same person, years apart) and technological implants inserted in ears and noses. Two abductees have decided to undergo CAT scans to locate these. One individual reports hearing short chopped phrases coming from an insertion. Some examples of the words: "learn this;" "not physical;" "hear the unspoken;" "be my touch sight;" "through you;" "examine-explore-touch;" "I want feel;" "to me help;" "choose right;" "difficult to say;" "learn you;" "we mix;" "always defend;" "very old;" "forget you no;" "question all."

These revelations are a bit distressing. If real, they speak of mind control; if not real, they contain psychological dynamite not only for an affected paranoid individual, but also for many borderline-paranoic readers of a future slick book which some unprincipled author may write. Thank goodness that Budd Hopkins is such a measured and disciplined researcher, but someone else is certain to misrepresent and misuse his findings. Add to the above the cases claiming impregnation, fetal implants, or fetal "theft," and you realize that the nightmare has no limitations.

Prior to the convention Budd and two of his subjects consented to appear on a nationally-syndicated television show ("Sally Jessy Raphael") and explain and discuss the abduction phenomenon. This experience demonstrated the other very distressing aspect of the subject. The "host," apparently threatened in some irrational way by the topic, was so rude and derisive as to make the guests and at least half the audience uncomfortable. In this behavior she personified the emotion-laden prejudice of the non-thinking skeptic, and worse, showed no sympathy for the parties involved. If the subjects were not lying (as the host agreed), then the experience was either real or the product of a potentially serious mental aberration. Either way derision is not only inappropriate but ignorant and inhumane. The subject *is* a serious one; *whatever* the cause. Maybe we should take a cue from the mysterious voice from the abduction implant: "learn this...choose right...question all."

NOTE: Anyone interested in contacting the Mutual UFO Network or any of the parties involved might write: MUFON, 103 Oldtowne Rd., Seguin, Texas 78155-4099.

The next convention is scheduled for late June, 1986 in Lansing, Michigan.

Vampires and Werewolves

(continued from page 85)

have craved blood and he is aware of no cases of victims who have been harmed by garlic.

The folklore of the vampire and werewolf is a rich one that experts have attempted to justify in a variety of ways. It is truly impossible to sum up the complicated origins of the vampire or werewolf with one concise explanation. Consideration must be given to both external and internal factors, although neither is enough of an explanation.

A few of the external factors that have been probed relate to premature burial, delayed decomposition of corpses and internally, abnormally sadistic behavior. There are cases on record of individuals, once buried, who have cried out for release from their graves. Also available are cases of those who have reopened graves years later only to find that the body looked as it did the day it was buried. Sadistic behavior varies by degree. Many cases have included overt lycanthropic (werewolf) and vampiristic practices. This may include the sucking of blood, devouring of human flesh and even necrophilia. Many serial killers have been described as "vampires." Once analyzed, quite a few of these individuals have stated a need for blood in an effort to remain powerful.

Internally, aside from disease, there are a number of mental processes which can give rise to abnormal behaviors, such as expressed above. According to psychoanalysts, many of these behaviors date back to problems experienced during childhood.

The point is simple. Dr. Dolphin's theory may "fit" certain individuals, but certainly not all. There are just too many pieces to this puzzle, and it is unlikely that all the pieces will ever fit to complete the picture of the vampire.

BIBLIOGRAPHY

"Blood Disease Put the Bite on Vampires," *National Journal-Courier*. May 31, 1985, page 6.

"Do Vampires Have a Blood Disorder?," *USA Today*. May 31, 1985, page 11.

"In Defense of Dracula and His Ilk," *The Record*. May 31, 1985, page A 9.

"Werewolves, Vampires May Be More Real Than You Think," *The Atlanta Journal*. May 31, 1985, page 3-A.

Vampire Information Exchange Newsletter, "On Porphyria." Number 15, March, 1983.

Note: Anyone interested in contacting Vampire Information Exchange, please write: Eric W. Held, PO Box 328, Brooklyn, NY 11229

See related material in two SITUation articles about "Zombies" on page 90.

Related SITUations

Swiss Say They Know How Voodoo Produces Zombies

Swiss druggists say they have traced the chemical that makes Haitian zombies obey medicine men — not because the zombies are bewitched, but because they are suffering from neuromuscular paralysis.

But in the Haitain capital of Port-au-Prince, "hukors," or medicine men, scoffed at the scientific findings, saying the Swiss "would have a long way to go" before they figured out how to transform ordinary people into zombies.

According to a voodoo belief, a zombie is a corpse that supposedly is brought through supernatural means to a state of trancelike animation. Voodoo is a religion with African roots practiced in the Caribbean and Brazil.

The March edition of the Swiss industry newsletter Pharmo-Info says the hukors extract from globefish a neurotoxin known as tetrodotoxin, administer it to would-be zombies, then bury them for several hours.

When victims are "resurrected," they are given a hallucinogen called datura stramonium, the newsletter says.

"At that point they are, in fact, genuine zombies and totally subservient to the medicine man," it says.

In fact, the zombies are suffering neuromuscular paralysis. The only way of preventing the condition is a large dose of salt, which has a blocking effect on tetrodotoxin, the newsletter says.

Globefish are eaten as a delicacy in some parts of the world, particularly in Japan. The newsletter "urgently recommended that they should be eaten only in specially licensed restaurants."

SOURCE: UPI in the *St. Louis Post-Dispatch* 3/6/85

CREDIT: Ray Nelke

Intrepid Botanist Solves the Riddle of Haiti's Zombies

Wade Davis, a Harvard University botany student, was asked by his adviser three years ago to fly to Haiti and investigate whether there was any truth to the voodoo myth of zombies.

After a series of expeditions over 2½ years, he returned to Cambridge with malaria, hepatitis, the material for a nonfiction book said to read like a spy novel — and the secret formula for creating zombies.

"I left knowing nothing about the country and arrived with only my wits," Davis said. "I was lucky, extremely lucky. I opened a Pandora's box that consumed three years of my life."

The blond, blue-eyed Canadian is in seclusion on a Virginia farm recovering from his illnesses, working on the book, to be published in the fall by Simon and Schuster, called "The Serpent and the Rainbow," and finishing his doctoral thesis.

The first thing he discovered was that voodoo and zombies are very different from the way they have been portrayed in the movies. Voodoo is a sophisticated religion with African roots. It is practiced by the majority of Haitians and people on other Caribbean Islands and in Brazil.

"It has a system of medicine, a system of education and a system of law and order. It appears that this zombie thing may be linked to the whole system of social sanctions," said Davis, whose Virginia log cabin is filled with books, voodoo masks, head bands and skulls.

Zombies are not people who have risen from the dead. Instead, they are people who have been given a drug that mimics death, paralyzing them and reducing their heart and breathing rates to almost nothing. Yet they remain conscious.

Davis, 31, was sent to Haiti by the Harvard Botanical Museum, the world's foremost institution for the study of psychoactive drugs, most of which are made from the plants. As a graduate student at the museum, he was an expert on plant-derived pharmaceuticals.

If there was any basis to the myth, experts reasoned, it probably had something to do with a drug made from plants.

In addition, David had worked in the past with natives of the Amazon jungle and the Indians of northern Canada, his native land, while working as a lumberjack.

As it turned out, the active ingredient in the secret formula for creating zombies was a poison, called tetrodotoxin, which is taken from puffer fish and is 500 times more powerful than cyanide.

"It's the most powerful nonprotein poison in the world," Davis said. "A drop that can rest on the head of a pin is enough to kill."

He keeps a 2-inch vial of the formula with him. It looks like dry black dirt. The formula also contains parts of toads, sea worms, lizards, tarantulas and human bones. "It's basically a potpourri of weird things," Davis said.

The formula is thought to be ground into the skin of intended victims. They begin to feel nauseous and have difficulty breathing. Then they begin to get a pins-and-needles feeling in their limbs, which progresses to their whole body. They become paralyzed and their blood pressure drops very low. Their lips turn blue for lack of oxygen. The process takes about six hours.

The first medically documented case of a zombie was a victim named Clervius Narcisse, who was pronounced dead in 1962 by an American doctor living in Haiti. Narcisse was buried, but in 1982 he returned to his hometown alive.

His fingerprints were checked by Scotland Yard and matched those of the "dead" man, Davis said. Narcisse told Haitian psychiatrist Dr. Lamarque Douyon facts about this family that only the dead man could have known.

The victim said he remembers being pronounced dead, remembers hearing his sister crying at his funeral and remembers being buried.

That night, a voodoo priest dug him up from his grave and put him on a plantation. He said he escaped, but did not return to his hometown for 20 years because he feared his brother, who he said had him made into a zombie in the first place.

Traditionally, after being dug up, the victim would be given another formula, which was thought to be an antidote. But Davis realized that if the victim survived the initial crisis, no antidote would be needed. Instead, the second drug may have been one that induces amnesia and psychosis, making the victim dependent on the people who drugged him.

For Haitians, who place high value on their independence and free will, becoming a zombie can be a fate worse than death.

Davis said people are not made into zombies for just any reason. Usually they are accused of breaking strict voodoo codes. Secret societies, similar to groups in Western Africa, hold tribunals to determine a person's guilt or innocence. If the person is found guilty, the court orders that the formula be rubbed on his body.

"The biggest challenge was separating spiritual beliefs from pharmacological realities," Davis said.

Once the case of Clervius Narcisse was documented, researchers contacted Richard Evans Schultes, director of the botanical museum.

Schultes in turn assigned Davis to the case.

"He asked me if I was doing anything important during the next month or so. And I said, 'No.' So he told me to get on the next plane to Haiti," Davis said. "My assignment was to go down there and get hold of the drug and see if in fact it had anything interesting in it. In a series of expeditions, that is what I did," Davis said.

Davis published his findings in the *Journal of Ethnopharmacology*, a Swiss science journal concerned with the study of ancient drugs.

When news of the report appeared recently in Haitian newapapers, voodoo priests scoffed. They said they did not believe outsiders could have gotten hold of the well-guarded secret.

"They have a long way to go," a voodoo priest said.

Davis said he posed as a representative of the Mafia to obtain the formula.

Tetrodotoxin is a well-known poison, found in the puffer fish commonly eaten by the Chinese and Japanese. In Japan, special chefs are licensed to prepare the fish. They remove enough poison to make it nonlethal, but enough remains to make diners high.

"They feel euphoria and tingling up and down their spines and in their limbs," Davis said. "But because of it still 100 people die each year."

Davis hopes his book and the publicity from his discovery will do more than simply generate an interest in voodoo.

"It will force people to look at themselves carefully before judging something they don't understand," he said. "I'm interested in promoting the wonder of cultural and biological diversity. This is a wonderful way of doing it. It shows that many things make sense within a particular culture."

SOURCE: UPI in *The Chicago Tribune* 4/7/85

CREDIT; Steve Guadagnoli

SITUations

In this section, mostly contemporary curious and unexplained events are reported. Members are urged to send in newsclippings and reports they deem responsible. Please be sure to include the source of reference (name of newspaper or periodical), city of publication, date of issue in which article appeared, and your first initial and last name (or membership number only, if you prefer to be credited in that way).

Officials Believe Lightning May Have Killed Youth

A healthy 17-year-old who died while talking to his girlfriend on the telephone might have been killed by a lethal charge of electricity caused by lightning striking phone wires, officials say.

Jason F. Findley, who was accepted to the U.S. Military Academy at West Point five days before his death at his grandmother's house in Scotch Plains, NJ was found unconscious, still holding the phone, and was later pronounced dead.

Marius Lombardi, special forensic investigator with the New Jersey Medical Examiner's Office, said that about six people have died in the United States under similar circumstances.

All of the victims were talking on the phone at the time of their deaths, Lombardi said. He added that a New Jersey woman contacted his office, saying she was knocked unconscious for two hours last year from a high voltage shock that came through her telephone.

"There's no question that these kinds of (lethal) electrical currents can travel through the phone," Lombardi said.

But New Jersey Bell contends there is no evidence its equipment malfunctioned or acted as a conduit for a lightning bolt.

"We went out and examined our facilities and we found that they were properly grounded and functioning normally," said company spokesman Ted Spencer.

"Furthermore, there was no indication of any extraordinary charge of electricity," Spencer said. "If there had been a large electrical charge, the phone would have been damaged and the lines would have been burned — and there is no evidence of that having happened."

Lombardi said while investigators have found no evidence of singed wires or any other indications of electrocution, it was possible the electric current from lightning traveled along the wires without leaving visible damage.

Authorities said Findley was talking on the telephone with his girlfriend when she heard an odd noise on the other end of the line.

"It sounded like a click, but it didn't sound like a familiar noise," she said. The click was followed by a gasp and the sound of the television in the background, said the youth's mother, Wilma Findley.

Findley lived in Piscataway with his mother, sister and brother. His father died in 1978. The teen-ager worked at Muhlenberg hospital in Plainfield and had gone to his grandparents' home to wait for his mother to pick him up.

Detective Sgt. Ronald Donnelly, who investigated the death, said Findley was found when he failed to answer his grandmother's calls to come to dinner.

Findley was ranked No. 6 in the senior class at St. Benedict's Preparatory School, where he played center field on the school's baseball team, said the school's principal, the Rev. Edwin Leahy.

Findley had passed a stringent all-day physical examination for acceptance into the U.s. Military Academy at West Point, N.Y. only five days before his death.

SOURCE: AP in the *Asbury Park Press*, NJ 6/3/85

CREDIT: Nancy Warth

Shroud of Turin Man Believed to be Jewish

A Duke University professor said he has discovered new evidence that the man whose image appears on the Shroud of Turin was Jewish.

Dr. Alan D. Whanger, who has researched the shroud for eight years, also said the facial image on the shroud may have been used for hundreds of artistic depictions of Jesus.

Whanger, of Duke University Medical School, said on one early portrait, the face of Jesus has 152 points of congruence with the image on the shroud.

The origin of the shroud has been debated for centuries, with some claiming that it was the burial cloth of Jesus and others contending it was a 14th century art fraud.

Whanger said he and his wife, Mary Whanger, used a polarized image overlay technique to discover the existence of a phylactery on the left arm of the figure on the shroud. A phylactery is a small leather pouch worn by orthodox Jewish men during prayer and to hold small parchments on which scriptures are written.

Whanger said the discovery of the phylactery imprint on the left arm, coupled with his earlier discovery of a phylactery on the head proves that the person was Jewish. He said the fact that both phylacteries appear to have been torn open also indicated that the crucifixion of the person was very unusual.

"It is on upside down and the top has been damaged in some way, apparently by the box containing the scripture parchment being torn off," Whanger told a news conference at an Atlanta exhibit dealing with the shroud. "This is perfectly consistent with the desecration of the phylactery on the head.

"We believe this indicates both were put on prior to the crucifixion and were worn during the crucifixion as a mark of mocking the crucified man as a Jew," he said.

The shroud has been preserved in the Cathedral of St. John the Baptist in Turin, Italy, since 1578. It has been displayed publicly only three times this century, the most recent in 1978 when a team of 50 scientists was allowed to perform extensive tests on the linen.

SOURCE: AP in the *Asbury Park Press*, NJ 4/4/85

CREDIT: Member #432

Scientist Sniffs Out Diet of Ancient Utah Indians

A scientist at the Illinois Institute of Technology has achieved one of his greatest research feats by nosing out the dietary patterns of ancient Indians from Utah.

The scientist, Boguslaw Krotoszynski, used the equipment of the institute to reconstitute 6,400-year-old dung from the Indians and then to break its vapors down into various components. From that, Krotoszynski identified the smells to determine the foods that the ancient Indians ate.

The school is known for its pioneering work in odor research and has many sophisticated instruments for analyzing various smells. But none of its equipment is as sensitive as Krotoszynski's educated nose.

"Detecting the quality of odorants is an art," says the scientist. He says he can differentiate the aromas of five varieties of peas, 10 types of apples and more than 20 breads.

Krotoszynski attributes his skill to "imagaination, hard work and a good memory."

In the case of the ancient stools, Krotoszynski was able to determine that the Indians along the Utah-Nevada border 6,400 years ago ate the leaves of wild plants, including a licorice-scented herb. He also detected the licorice scent in the stools of Indians from the same area 4,800 years later, but in combination with the remains of corn and meat.

The stools were collected from caves by Dr. John Moore, a gastroenterologist at the Veterans Administration Hospital in Salt Lake City. Dr. Moore and other medical authorities are interested in what ancient man ate because they believe that information might help them correct some of the imbalances in the modern diet.

By soaking the dried stools in salt water for three days, Krotoszynski was able to return them to something resembling their original state. He then placed them in a gas chromatograph, which broke down their vapor into a succession of odorous chemical compounds.

The identification of the complex series of aromas was then up to Krotoszynski and his sensitive nose.

Krotoszynski regards such feats as just a sideline, though. He believes that olfactory research can contribute more directly to health by becoming a tool for medical diagnosis.

By placing people in a huge glass tube and bathing them for 45 minutes in purified air, Krotoszynski says he and his associates at the institute can analyze body odors and obtain "chemical signatures" as individual as fingerprints.

Besides serving as identification, he says, these signatures can be used to detect the presence of diseases, including diabetes, tuberculosis and lung cancer.

SOURCE: *St. Louis Post-Dispatch* 4/8/85

CREDIT; Ray Nelke

'Drowned' City off Indian Coast Believed Found

Archaeologists believe they may have discovered remains of a 3,500-year-old city mentioned in Hindu epic tales that was drowned by the rising Arabian Sea over the centuries, newspapers here report.

Seals, earthenware and other artifacts that can be attributed to Dwarka, the mythical capital of a Hindu god, Lord Krishna, have been found off the coast of India's western Gujarat state, the news reports said.

Archaeologists believe ancient Dwarka, described in the Hindu holy epic of Mahabharata, was established about 1500 B.C., but was submerged in the Arabian Sea by geological shifts over the centuries, the newspapers said.

A team of divers and scientists from the National Institute of Oceanography recently completed a search for the ruins of Dwarka near the modern coastal city of the same name.

The reports said the discovery corroborates descriptions of Dwarka given in ancient epics and is expected to bridge an important gap in Indian history between the Harappan civilization of 2500-1500 B.C. and the pre-Buddhist era that began about 500 B.C.

Dr. S.R. Rao, leader of the exploration team, was quoted as saying that discovery of the city seal, depicting a bull, a unicorn and a goat, also established a link between the Dwarka civilization and the ancient Middle East.

Using underwater cameras, cranes and other equipment, the divers photographed the submerged remains of what they have called Dwarka township, estimated to be a half-mile long and 132 feet wide, the *Indian Express* newspaper quoted Dr. Rao as saying.

The Arabian Sea was about 16 feet lower when the ancient township was built, the report quoted Dr. Rao as saying. Other scientific sources suggest that the sea level rose gradually between 1500 B.C. and 1300 B.C., he was quoted as saying.

The search for Lord Krishna's sunken city began in 1979 when scientists objected to a government building in modern Dwarka that blocked a view of a famous temple.

The building was demolished and below its foundations were discovered remains of a temple built in the Twelfth Century. Archaeologists dug deeper and found remains of three more temples. Then the search was extended into the seabed.

The earliest of the three temples was dated to about 900 B.C. and was dedicated to the Hindu god, Lord Vishnu. The last temple was built about 100 B.C.

The dating was done on the basis of ceramic ware and coins discovered from the site.

"Below the earliest temple lay the biggest surprise. There was unassailable evidence of two townships submerged by the sea," the *Statesman* newspaper quoted Dr. Rao as saying.

The earlier township yielded ceramic pottery, called "lustrous red ware," which has been dated to the era of 1500-1400 B.C., the news reports said. The pottery had been worn by waves, and Dr. Rao was quoted as saying it became apparent that the "settlement could well be the ancient capital of Lord Krishna."

SOURCE: AP in *The Sun*, Baltimore, MD 4/21/85

CREDIT: H. Hollander

Boatmen: We saw the Monster

Its neck was much larger than a 40-gallon drum, its red eyes were as big as 100-watt bulbs and its head looked like a cow's.

Was it the mysterious monster of Lawas as told in legends?

Several boatmen gave this description of a creature they claimed to have seen in the Lawas River.

A Malay boatman on the river said he saw the water stirring in an unusual manner.

It turned milky and rubbish floated up from the river bed.

He slowed his motorboat to investigate and moments later, a "black monstrous head" emerged from the water.

"Its head looked like that of a cow and its neck was much larger than a 40-gallon oil drum," he said.

"Its two white eyes were as big as 100-watt bulbs."

The animal's body did not emerge from the water, he said.

Another Malay boatman said he saw a monster with two red eyes bigger than betel nuts. It had two short front legs.

Two other boatmen — a Chinese and a Murut — also claimed to have had similar experiences.

The Chinese said he saw a black form in the river. Thinking it was a floating log, he paid no attention to it.

But when his boat swept past, he saw the object move.

"I couldn't believe my eyes," he said. "My hands could not move and I just couldn't control the course of my boat."

The Murut, ferrying girl students across the river, told a similar tale.

"The girls screamed and I could not move," he said.

"All of us would have died if we had hit the monster."

According to legends, the monster is a water spirit which can change itself into as many as 44 forms, ranging from a bird, a king lobster to a huge snake.

The Malays call it tumbuh akar or galap.

Another galap is said to be in the Merapok River.

The galap in the Lawas River is said to frequent a deep spot in the river bed under a thick bamboo overgrowth.

A fig tree near the bamboo adds eeriness to the place for it is believed to be ghostly.

Several drownings have occurred near the spot over the past years.

SOURCE: *The Borneo Bulletin*, Malaysia 2/9/85

CREDIT: David Billington

Are There Cougars in Upper Midwest?

What Mike Zuidema saw along the roadside ahead clearly was not a coyote, not a bobcat.

He didn't know what it was until, "it took a big jump toward the woods, I mean a big jump, and here's this long tail behind it. It definitely was an animal I never saw before in my life. It was definitely not a canine, it was a cat — no doubt about it. I knew at the time that I had seen a mountain lion."

Zuidema is a forester with the Michigan Department of Natural Resources, and since that encounter four years ago, he has interviewed about 100 people who think that they, too, have seen mountain lions in Michigan's Upper Peninsula during the past 15 years.

Across the border, Minnesota DNR biologist Bill Berg has been doing much the same thing, tracking down people who have had the same experience he did six years ago when he and his family saw a mountain lion cross a northern Minnesota road right in front of their car.

Despite abundant disagreement from others in the field, Zuidema and Berg are convinced that resident populations of the most adaptable big cat in the world, an animal whose range stretches from Alaska to the tip of South America, from the Arizona desert to the swamps of south Florida, also are living in the upper Midwest.

Variously called mountain lion, cougar, puma, panther, painter and catamount, Felis concolor has disappeared from most of the eastern United States. But throughout its former eastern range, reports of its presence persist. Although wildlife biologists generally discount the notion of self-sustaining populations of mountain lions in most states east of the Mississippi, there is something compelling to scientist and citizen alike about the possibility that this quick, clever and seldom-seen predator could be hanging on in the face of civilization.

"There's no doubt there are a very few up here," Zuidema says. "But I don't know what a very few is. There's more than one because people have reported a gray color phase and a brown one. And there were two sightings of a female with three kittens last June."

Berg says: "They've probably been here (in Minnesota) historically since way before the turn of the century. There might have been years since then when there weren't any roaming the state, but since the 1950s, there have been continuing observations, a lot of them by people like conservation officers, pretty reputable people.

"There also probably has been an interchange of animals from Manitoba, the Dakotas, Alberta, Wisconsin and Michigan."

In the Western states, where they are most plentiful, radio-collared lions have been tracked as far as 100 miles, especially young animals scouting for territory unoccupied by other lions. Berg theorizes that lions in the upper Midwest might travel even farther seeking other lions for breeding, particulary if unobstructed by the territories of competing animals.

The last formal evidence of a mountain lion in Michigan was a kill in 1906. But in the last year, Zuidema says, he was provided a fresh bone fragment from a lion his contacts say was shot in Michigan.

That fragment was sent for examination to the Colorado Division of Wildlife, and biologist Bill Adrain, who has developed a blood test that can distinguish among feline species, affirmed that the blood on the fragment was from a mountain lion.

Despite that sort of evidence, though, Rainer Brocke, a biologist recently commissioned by the U.S. Fish and Wildlife Service to assess lion populations in the eastern United States, has concluded: "I don't believe there are any existing populations of cougar in the east, north of Florida."

Brocke, a mountain lion specialist at the State University of New York in Syracuse, doesn't question that there might be lions in Michigan and Minnesota. "There probably is a valid record (of a lion) in northern Michigan recently, and Bill Berg's records are valid, too," he says. But he doesn't think they are part of natural, breeding populations.

"Cougars escape from zoos a couple times a month all over," as well as from confinement as pets, Brocke says. "There are over 100 (privately owned) cougars registered in Florida alone." When such animals escape, their owners are hesitant to report them missing, often for fear of liability when the lions turn to domestic stock or pets for food."

SOURCE: *Asbury Park Press*, NJ 3/31/85

CREDIT: Nancy Warth

Which is the Endangered Species?

Tigers in the forests of West Bengal have killed 22 people in the past three months, despite the use of electrified human dummies to deter attacks, officials say.

"The problem is growing," said Priyothosh Roy, a forest ranger, in an interview with the United News of India. "It's insoluble. All efforts to prevent the killings have proved futile."

He says tigers killed 56 people in the Sunderbans Reserve Forest, along the Bangladesh border, last year, and 22 people in the past three months.

According to the West Bengal government, 659 people were killed by tigers in the Sunderbans in the past 15 years.

India's famed Bengal tigers, once on the verge of extinction, now number about 40,000 nationwide. They have bounced back under Project Tiger, a program launched 11 years ago to protect the animals in 15 government reserves.

The government spends about $432 a year on each of the 265 tigers in the Sunderbans, the biggest reserve.

But villagers say the tigers are thriving at the expense of the fishermen, woodcutters and honey collectors who make their living in the park.

"Tell me, why should the government protect these animals which kill human beings?" asked Binala Mondal, whose husband was the latest to be mauled to death in Sunderbans, southeast of Calcutta.

One novel tactic that failed: life-like human dummies that give off an electric shock. Forest rangers had hoped the tigers would be discouraged from attacking men after taking the unsavory bait.

Two weeks ago, forest officials positioned a decoy near a pond. But tigers ignored the dummy and killed a woman washing clothes in the same pond.

"Tigers are too clever," one villager was quoted as saying. "They know the dummies for what they are."

The danger is not confined to the Sunderbans. David Hunt, a British bird watcher, was killed by a tiger on Feb. 22 in the Corbett National Park in Uttar Pradesh state.

Park officials say Hunt wandered into a prohibited area to track an owl and stumbled onto a tigress with a new litter of cubs.

SOURCE: AP in *The Asbury Park Press*, NJ 3/31/85

CREDIT: Member #432

Pig Packs Uprooting Posh Country

Marauding packs of wild pigs that eat "anything that can't get out of their way" threaten the natural beauty — not to mention the mellow ambiance — of Marin County.

Naturalists are bristling about its virtual invasion into the scenic coastal countryside north of San Francisco.

"They have arrived here in force," said Sikp Schwartz, naturalist at the 1,000-acre Audubon Canyon Ranch bird sanctuary adjacent to the Bolinas Lagoon. "Anything that can't get out of their way often gets eaten."

Since late last year, signs of the pigs — which reproduce rapidly — have been detected around the ranch and other somewhat secluded parts of Marin County popular for recreation.

Trails have been wrecked by pigs rooting for insects and bulbs. Snorting bands have charged hikers and have been seen splashing in springs. Other animals' carcasses have been found in their wake.

Some areas struck by the ferocious pigs have been described by Golden Gate Recreational Area ranger Richard Danielson as looking "like someone plowed with a tractor."

A motorist on Calif. 1 near Bolinas recently ran into a 300-pound wild pig. The driver wasn't hurt; the pig had to be killed.

No one seems to know how the beast got its foothold in the county. Rangers for Marin Municipal Water District have been trapping and hunting boars since July 1982, because they threaten to pollute the water supply with their foraging habits.

The Department of Fish and Game reports wild pigs in at least half of California's counties, from Mendocino in the north to San Luis Obispo in the south.

The creature came to the state in the 1920s when William Randolph Hearst and others brought exotic European boars to breed on estates and the beast mixed with wild pigs, said Jack White, Fish and Game information officer.

He said that once the pigs moved in, they are almost impossible to move out.

One problem, said Reginal Barrett, a wildlife specialist at the University of California at Berkeley, is that the animal can double its population every four months. A female can have a litter every three months, starting when she is 6 months old.

That's not such bad news to people like Gernot Leitzinger, who said customers at his Old Europe Restaurant in Pacific Grove are pigging out on $15.95 servings of medallions of boar in cream sauce, or cubed boar in onions, mushrooms and red wine.

"It's between pork and a little beefy," he said of the taste.

SOURCE: *The Cleveland Plain Dealer*, OH 5/22/85

CREDIT: Wayne Cermak

A Horde of Chickens

A flock of 150 wild chickens has been pecking at Carol Patterson's tomatoes, digging out her tulip bulbs and coating her yard and front porch with droppings.

"If somebody wants to make chicken dinners out of them, more power to them" she said. But Ms. Patterson "wouldn't even think" about eating the chickens because they have not been innoculated against avian flu, a recurring poultry disease in the region of Franklin TWP, N.J.

Ronald Dixon, the township's animal warden, theorizes that the chickens were abandoned by a previous owner and wandered into the woods behind the house. He said no other neighbors have complained.

Ms. Patterson said she didn't notice any chickens when she purchased the house 11 years go. But after she renovated the place and planted a lawn and garden,the invasion started.

Ms. Patterson tried to bring her neighbor, self-professed bird lover Valentine Koch, to court to stop him from feeding the birds. She accused him of destruction of property.

Municipal Judge David A. Kyeko threw the case out of court because there is no law against wild chickens. Dixon said only pigs and dogs are currently prohibited from running loose.

Ms. Patterson said the chickens attack "anything they can scratch." She said the annual spring attack is becoming increasingly severe and has forced her to give up gardening.

Despite it all, Ms. Patterson said she still likes chickens. but she added that she now cringes when she sees the birds approach.

SOURCE: AP in *The Asbury Park Press*, NJ 4/3/85

CREDIT: Member #432

The Notes of Charles Fort

Deciphered by Carl J. Pabst

ABBREVIATIONS

*	[For some obscure reason, Fort cut a notch on the right side of the note.]
**	[For some obscure reason, Fort cut a point on the left side of the note.]
ab.	about
Acad	Academy
ac by	accompanied by
ac. to	according to
A. J. Sci	*American Journal of Science*
(A 1)	[? Almanac ?]
Ala	Alabama
Alph. Orionis	Alpha Orionis
Am. J. Sci	*American Journal of Science*
Amer Phil Soc	American Philosophical Society
An. Register	*Annual Register*
Auro.	Aurora
BA	*Report of the British Association for the Advancement of Science*
BCF	*The Books of Charles Fort*
bet	between
Bib. Univ., N.S.	*Bibliographic Universelle*, new series
Bull Acad de Belique	[?]
Cast. and Pol.	Castor and Pollux
Cent. Amer.	Central America
(Ch)	*Chaos* [Fort's working title for *New Lands*]
Chat-R	Chateau-Renault
Conj	Conjunction
cor	correspondent
C.R.	*Competes Rendus*
(Cut)	illustrated
D-48	*The Book of the Damned*, page 48
depart	department
(det)	detonation
d. fog	dry fog
"Dizaine"	French, "half a score" (ten)
E	East
Ec. Mag	*Eclectic Magazine*
Edin N P. J	*Edinburgh New Philosophical Journal*
E Mec	*English Mechanic*
Eng	England
ext.	extraordinary
(F)	*Fletcher's List*
Finley's Rept.	Finley's *Reports on the Characters of 600 Tornadoes*
(Fr)	France
frgs	frogs
Gelat	Gelatin
Hun	Hungary
Inf Conjunction	Inferior Conjunction
(It)	Italy
Jour Amer Museum Nat. Hist	*Journal of the American Museum of Natural History*
Jour. des Debats	*Journal des Debats*
(L)	*[?]*
La Sci Pour Tous	*La Science Pour Tous*
Lat	Latitude
lbs	pounds
Loc mets	Locus[?] of meteors
Long	Longitude
L.T.	London *Times*
Mag of Nat Hist	*Magazine of Natural History*
Mechanics Mag	*Mechanics' Magazine*
Met. det.	Meteor and detonation
Metites	Meteorites
Mets	Meteors
Mt	Mount
Niles Nat Reg	*Niles' National Register*
N.J.	New Jersey
N.M.	No More
NQ	*Notes and Queries*
N. S. Wales	New South Wales
N.W.	Northwest
NY	New York
Ob.	Observatory
Op Mars	Opposition of Mars
p.	page
Pa.	Pennsylvania
(Pax)	[?]
phe	phenomena
Phil	Philadelphia
Phil Jour(?)	[?]
Proc. Amer. Phil Soc	*Proceedings of the American Philosophical Society*
Proc Roy. Irish Acad	*Proceedings of the Royal Irish Academy*
q	earthquake
q-phe	earthquake and phenomena
R	Reference
/// [Reverse side]	probably not related
S	South
S.E.	Southeast
(sic)	Latin, "so"
Stat	Stationary
St. th.	[?]
substance x x but	substance [Fort's ellipsis?] but
Sub volc	Submarine Volcano
S.W.	Southwest
Switz.	Switzerland
Symon's	*Symons' Meteorological Magazine*
Th. pebbles	Thunder pebbles
Th. stone	Thunderstone
th. storms	thunderstorms
T. Y. Book	*Timb's Year Book*
(ver)	[?]
vol.	volume
volc	volcano
(X)	[?]
Y.B.	*Timb's Year Book*

(continued from PURSUIT Vol. 18. *First Quarter 1985, page 48)*

[Reverse side] somewhat the appearance of coal, with marks of ore on the fractured surface, smells strongly of sulphur, and when entire was nearly the size of a man's head." Said that the track it had burned through leaves of trees was distinctly traceable.

1841 July 25 / Sir George Duncan Gibb, not far from a canal in Montreal, saw a multitude of small frogs.

[Reverse side] It was his impression they had fallen in a recent shower, and though he had crossed a body of water it was "a considerable distance away." But in his book "Odd Showers," written under his pseudonym "Carribber," he supposes

[Front side] that he had fallen into the "popular error" of thinking they had so fallen.

1841 July 26 / 2 large clusters of sunspots reach center of sun on 26th. / Derby Mercury, 14th.

1841 July 28, 29 / Many mets at Parma / BA 47-15.

1841 July 30 / Strong shock at Comrie, etc., 2 p.m. During week before had been 30 shocks. / LT, Aug 11-3-c.

1841 July 30 / q in Perthshire / Comrie q's so slight, or were sounds, that [Reverse side] this and Oct. 23, '39, the only ones listed by Milne in Catalogue of Destructive Earthquakes.

1841 Aug. 7 / 10:30 p.m. / shocks / Spain, Seville, Cadiz, etc. / L.T. 19-7-c.

1841 Aug. 9-10 / Many mets / B.A. 47-15.

1841 Aug. 10 / Th. pebbles / L.T., Oct 27-3-d / At Iwan, Hungary, in a rainstorm. Millions of little stones, size of millet seed to hazelnut, friable substance fell in a rainstorm. No wind but fell at considerable angle. Blackish outside — inside part[l]y gray-brown, [Reverse side] partly blackish blue, mixed with a yellow substance and a reddish substance, and shiny, metallic substances. They were cold and temperature of the air lowered with them.

1841 Aug. 10 / BA '60 / said not meteoric — "simply pea-iron ore."

1841 Aug. 11 - 12 / Nothing of ext. mets. in Parma / C.R. 13-1035.

1841 Aug. 11 / [LT], 3-c / q / Scotland.

1841 Aug. 14 / [LT], 5-f / Singular Lightning at Sheffield.

1841 Aug. 18 / Paris and Rheims / large met / BA 60.

1841 Aug. 18 / At Bonsall, no wind — hay suddenly whirled upwar[d] — same

phé this day at Tausley / Sheffield Patriot, Aug. 24.

1841 Aug. 20 / Corfu / fireball / BA 60.

1841 Aug. 31 / Perm and other places in Russia / Bet 1 and 2 a.m., sounds and concussions. At daybreak,

[Reverse side] sky covered with vivid red lights, but later came intense darkness. / BA 54.

1841 Sept. / Great aurora.

1841 Sept. 1 / d. fog and q / On eastern slope of the Oural, and other places in Russia / Russian time? /

[Reverse side] At dawn sky reddish and sparkling — turning to an orange-yellow color — this after — sounds like distant thunder; said been subterranean — then the q bet 1 and 2 a.m. — then at dawn the sky.

1841 Sept. 1 / (It?) / phe and q / See 1805.

1841 Sept. 2 / Cent. Amer. / great q. / [BA] '11.

1841 before Sept. 16 / St. th. / Chiswick, Eng / (D-168).

[BCF, pp. 175-176:

London *Times*, Sept. 16, 1841:

That, in the home of Mrs. Charton, at Sutton Courthouse, Sutton Lane, Chiswick, windows had been broken "by some unseen agent." Every attempt to detect the perpetrator failed. The mansion was detached and surrounded by high walls. No other building was near it.

The police were called. Two constables, assisted by members of the household, guarded the house, but the windows continued to be broken "both in front and behind the house."]

1841 Sept. 6 / Stat / Vendée. / See Nov. 5. / (See June 12.) / In 1880, M. Daubrée, in C.R., 91-30, tells of a stone that fell

[Reverse side] at St. Christophe-la-Chartreuse, Commune de Roche-Servières, Vendée. / BA '80-52, Dr. Walter Flight says that this fall had never before been recorded.

1841 Sept. 6 / (France) / right date / ? / Vendée / Stone / BA 80-52 / See Nov. 5.

1841 Sept. 8 / Met and train / C.R. 3/637.

1841 Sept. 9 / Fireball / BA 60.

1841 Sept. 10 / Monmouthshire / q., "followed by a loud explosion / Roper, p. 35.

1841 Sept. 10 / at Calcutta / Ab. 2 a.m. — for 10 or 12 minutes, at Calcutta, myriads of meteors.

[Reverse side] Light from them so intense smallest print could have been read. / BA 50-121.

1841 Sept. 10 / Nothing in Friend of India (Calcutta).

1841 Sept. 12 / See Comrie, Jan. 8, 1840.

1841 Sept. 20 / Geneva, etc. / bright fireball / BA 60.

1841 Sept. 21 / [LT], 6-b / q / Comrie.

1841 Sept. 28 / Paris / W to E / fireball / BA 60.

1841 Sept. 29 / Bayonne / Fireball / BA 60.

1841 Oct. 7 / (D-176) / "On Thursday (7th) forenoon during a heavy thunder shower, a considerable number of small fishes fell from the clouds at Town-hill, about

[Reverse side] a mile north-east from Dunfermline. They were in general from 2 to 3½ inches in length, and although they must have fallen from a considerable height manyof them were alive after they fell, and jumping among the grass. / L.T., Oct. 12.

[BCF, pp. 183-184 / See June 30, 1841.]

1841 Oct. 8 / Met almost size moon / BA 60 / slow.

1841 Oct. 9 / 40 mets in one hour, moving S.W. / Huntingdon, Florida / BA 47-15.

1841 Oct. 9 / at Parma / a very slight shock of earthquake / *24th*, BA '54-313.

1841 Oct. 15 / Sanguinetto (Verona), Italy / Shocks and dull explosions and a "kind of hissing noise which seemed to pass rapidly through the

[Reverse side] air" — numerous streaks like trains of meteors — other flashes like lightning. / q at 2:30 a.m., 2:45, 3:30 / severest of all at 4 a.m. / B Assoc 54-312.

1841 Oct. 15 / Loc mets / bet 2:30 and 4 a.m. / 4 shocks at Verona, ac to M. Quetelet.

[Reverse side] Each ac by subterranean sound, and whistling sound in air, and by long trains of fire in sky like those of meteors. / C.R. 17-623.

1841 Oct. 15 and 16 / It / (It) / Verona / Luminous streamers in air and flashes and qs detonations / See 1805.

1841 Oct. 23 / Hun / See Aug. 10. / q / Comorn, Hungary / BA '11.

1841 Oct. 24 / Hot wind / 2:08 p.m. / Violent q / had been a "hot wind" all morning / BA 54/312.

1841 Oct. 25 - 29 / at Parma / Magnetic Pertu[r]batio[ns] and meteors; and on Oct. 27 and 29, substance like that of Feb. 17 - 19. / Bull Acad de Belique 2-371.

1841 Oct. 27 / Rain mud / No more in C.R.

1841 Oct. 29 / Sanguinetto / More shocks and wind and rain / See Oct. 15. / BA 54.

1841 Nov. 5 / Bourbon-Vendee, France / metite / ac to BA 60-78 / See Sept. 6.

1841 Nov. 8 / Parma / Fireball / E to W / BA 60.

1841 Nov. 9 / Hereford / Large fireball / BA '60.

1841 Nov. 10 / North America / Large met, seen many places / BA '60.

1841 Nov. 12 / 10 p.m. / in Aosta / extraordinary meteor / Bib. Univ., N.S., 36-196.

1841 Nov. 12 - 13 / from 1:30 a.m. till daybreak, one observer in South Herefordshire saw 13 mets. / BA 52-186.

1841 Nov. 12 - 13 / Many mets, some large, at Asturias / BA 47-15.

1841 Nov. 12 - 13 / No ext. mets / Paris / C.R. 13-1035.

1841 Nov. 12 - 13 / Aurora and falling stars / CR 13/1035.

1841 Nov. 12 - 13 / No remarkable mets in France and Belgium / C.R. 15-930.

1841 Nov. 14 / Volc / Goentoes, Java / N.M. / C.R., 70-878.

1841 Nov. 15 / Langensalz / great det. / BA '60.

1841 Nov. 18 - 19 / q at height of "a terrible storm" S.W. coast of France / BA 54.

1841 Nov. 18 / A periodic aurora / Geneva / C.R. 13/1035.

1841 Nov. 20 / q at Dôle, Jura, where q's of Dec. 2 / BA 54.

1841 Dec. 1 / Magnificent aurora at Seyssel, one of the places affected next day's q. / BA 54.

1841 Dec. 2 / At Lyons, the q during a storm / BA 54.

1841 Dec. 2 / Refs — Moniteur, Dec. 7, 8, 11. / J. des Debats, Dec. 7 and 8.

1841 Dec. 2 / Storms throughout France / BA 54.

1841 Dec. 2 / Geneva / rained all day and air charged with electricity / BA 54.

1841 Dec. 2 / ab 8 p.m. / Severe shocks / Rhone, Ain, Isère, Jura, and

[Reverse side] Saone et Loire; in Savoy and Switz. Preceded by remarkable hot weather. / Nov. 30 and Dec. 1, storm of very hot wind at Balley.

1841 Dec. 3 / to ab 8 p.m. / The shocks continue. / BA 54.

1841 Dec. 5 / Goldberg, Silesia / det. met. / B.A., '60.

1841 Dec. 9 / Savoy / shocks / 10 — Belley / 14 — Savoy / BA 54.

1841 Dec. 16 / Oels / slow fireball / BA '60.

1841 Dec. 21 / Met twice apparent size of moon / BA 50/90 / Scotland.

1841 Dec. 29 / St. Maixent, France / large fireball / BA '60.

1842

1842 / Brilliant light at Comrie, one morning before daylight / E Mec 21/52.

1842 Jan. 1 / Magnetic perturbati[ons] at Brussels, and on 2nd at Parma. / / 1839, Jan. 2 - 3 — Milan / at Parma, Milan and Prag[ue] / / 1841, Jan 2 — Prague / 3, at Brussels / / /

[Reverse side] Bull de l'Acad. de Belgique 1843-1-9.

1842 Jan. 2 / Caucasia / great q. / [BA] '11.

1842 Jan. 4 / Mayfield, Ohio / Afternoon / Tornado / Finley's Rept.

1842 Jan. to April / Volcs / Java / active / N.M. / C.R. 70-878.

1842 Jan. 14 - 19 / Wurtemburg / qs and several with sounds like thunder / BA 54.

1842 Jan. 26 / Conj Saturn and Jupiter / Observatory 24/158.

1842 Jan. 29 / Eutin / Large Met / BA 69-282.

1842 Feb. 5 / Sub volc? / 5 a.m. / Vessel at 0°57'S and 20°47'W, rumbling sound and severe concussion.

[Reverse side] Another vessel, at 0°30'S and 21°55'W., had similar experience. / C.R. 15-447 /

[Front side] There is given account by a captain of a third vessel, at the same time, off the Cape Verde Islands — sound and

[Reverse side] his vessel violently shaken — again 50 minutes later, and then 4 hours later, and a final at noon, when position was 0°44'S and 20°16'E. / These are W of Greenwich, not Paris. / This is by M. Daussy, who refers to. / See May 19, 1806.

1842 Feb. 7 / Aargau / large fireball / BA '60.

1842 Feb. 9 / 7:45 p.m. / at Agen / meteor / C.R. 14-282.

1842 Feb. 9 / Paris, Toulouse, Agen / Fireball / BA '60.

1842 Feb. 17 / q — sound / at Falmouth / q. / The sound attracted attention and few persons felt vibrations. / Timb's Y.B. 1843/262 / /

[Reverse side] 8:30 a.m. / LT 22-5-6.

1842 Feb. 19 / N.W. India / great q / [BA] '11.

1842 Feb. 24 - 25 / night / Red rain / R — May 16, '46 / 1841?

1842 Feb. 25 / Band of light = to moon's diam[eter] shone from moon. Seen in Derby and South Lambert. / Nature 28/54.

1842 March 4 / 6 a.m. / Tuscaloosa, Ala / Tornado / Finley's Rept.

1842 March 13, 24 / Nothing in Sydney Herald.

1842 March 13 / Q's and dust / Colored rain fell in Greece ab one hour. Same night were earthquakes. / CR 15-583 / See March 27.

1842 March 18 / Parma / Fireball / BA '60.

1842 March 24 - 25 / night / Reddish powder fell at Amphissa, Greece, / C.R. 14/617 / (Verified) / / Throughout Greece / C.R. 15-580.

1842 March 24 - 25 / Red rain / Amphissa, Greece / C.R. 14/617 / 15-580 — brick-red.

1842 March 30 / 1:30 a.m. / Canton du Vaud, Switz. / q and loud sound / BA 54.

1842 Ap. 11 / Charka, India / Met train in Scorpio, ab. 4 a.m. /

[Reverse side] 10 or 20 degrees long / BA 50-122.

1842 Ap. 11 / morning / Meteoric cloud, 10 or 12 degrees long — visible 20 minutes / Charla, India / B Assoc 1852-238 /

[Reverse side] In Scorpio.

1842 Ap. 21 - 22 / (Rain one place) / 21st — ab 10:30 p.m., M. Bodson, at Noisfontaine, drops of water falling with force. He learned that

[Reverse side] they had been falling for several hours from a cloudless sky. / On 22nd — he there again and the water still falling. / CR 14-664.

[BCF, pp. 556-557:

Over the town of Noirfontaine, France, one day in April, 1842, there was a cloudless sky, but drops of water were falling. See back to data upon repetitions. The water was falling, as if from a fixed appearing-point, somewhere above the ground, to a definite area beneath. The next day water was still falling upon this one small area, as mysteriously as if a ghost aloft were holding the nozzle of an invisible hose.

I take this account from the journal of the French Academy of Sciences (*Comptes Rendus*), vol. 14, p. 664.

What do I mean by that?

I don't mean anything by that. At the same time, I do mean something by the meaningless of that. I mean that we are in the helpless state of a standardless existence, and that the appeal to authority is as much of a wobble as any other of our insecurities.

Nevertheless, though I know of no standards by which to judge anything, I conceive — or accept the idea — of something that is The Standard, if I can think of our existence as an Organism. If human thought is a growth, like all other growths, its logic is without foundation of its own, and is only the adjusting constructiveness of all other growing things. A tree cannot find out, as it were, how to blossom, until comes blossom-time. A social growth cannot find out the use of steam engines, until comes steam-engine-time. For whatever is supposed to be meant by progress, there is no need in human minds for standards of their own: this is in the sense that no part of a growing plant needs guidance of its own devising, nor special knowledge of its own as to how to become a leaf or a root. It needs no base of its own, because the relative wholeness of the plant is relative baseness to its parts. At the same time, in the midst of this theory of submergence, I do not accept that human minds are absolute nonentities, just as I do not accpet that a leaf, or a root, of a plant, though so dependent upon a main body, and so clearly only a part, is absolutely without something of an individualizing touch of its own.

It is the problem of continuity-discontinuity, which perhaps I shall have to take up sometime.]

1842 Ap. 26 / (Hun) / Milena, Warasdin, Crotia, Hungary / Metite / F.

1842 Ap. 26 / (Hun) / near Agram / 3 p.m / stone / L.T., June 23-10-e.

1842 May 7 / q. / 5:20 p.m. / L.T., July 2-6-c / For two weeks had been a "particularly lurid tinge of the sky before night. /

[Reverse side] Hayti / Then on 7th, the q. — town of Cape Haytien destroyed. / [Front side] 23-8-f — 5 minutes later, sea rose 5 or 6 feet. To the S.E., sky intensely black. "Clouds of smoke rolled overhead." / had been an unusual drought.

1842 May 7 / Destructive q. / Hayti / BA 1911-54.

1842 May 7 / q. / St. Domingo / preceded by great heat and heavy clouds / [Reverse side] Niles Nat Reg, June 4, 1842.

1842 May 8 / q-phe / 5:15 p.m. / L.T., July 1-6-a / West Indies, near St. Nicholas Mole — ship felt sharp shock — Capt. saw clouds of dust arising from the land.

[Reverse side] At 6:30 p.m. — a dense cloud of black smoke rising from the sea in the horizon as if from a volcano.

1842 May 11 / Stat — Water / (Geneva) / C.R., 15/290 / ac Dr. Wartmann. / At 10:30 a.m. — not a cloud in the sky — no wind — for ab. 6 minutes fell [Reverse side] vertically large drops of warm water. / At 3 p.m., underthe same conditions, again [f]ell warm water in [lar]ge drops ab 3/4 minute — [s]topped ½ minute — fell [a]bundantlyone min — [sto]pped few seconds — again 2 mts. [BCF, pp. 409-410 / See Aug. 9, 1837.]

[1842 May 11] / (Ch) / whirl / (+) / May 11, 1842 / in Liverpool / "not a breath of air" / Clotheslines upon a common — They were [Reverse side] seized upward. Smoke from chimneys indicated that above the surface there was a southward wind — the clothes were carried northward [Front side] and "have never since been heard of, at least by the owner. / Annals of Electricity 6/499 / This within 50 days of each other.

[BCF, pp. 568-570:

Annals of Electricity, 6-499 — Liverpool, May 11, 1842 — "not a breath of air." Suddenly clothes on lines on a common shot upward. They moved away slowly. Smoke from chimneys indicated that above ground there was a southward wind, but the clothes moved away northward.

There was another instance, a few weeks later. London *Times*, July 5, 1842 — a bright, clear day, at Cupar, Scotland, June 30th — women hanging out clothes on a common. There was a sharp detonation and clothes on line shot upward. Some fell to the ground, but others went on and vanished. There was a seeming of selection, which, because of possible bearing upon various observations of ours interests me. Though this was a powerful force, nothing but the clothes it seized was affected. I wonder about the detonation, largely because it is in agreement with a detail of still another story.

The closeness in time of these two occurrences attracts my attention. They were a few weeks apart, and I have no other such record, until seventy-seven years later. A sensible suggestion is that somebody, in Cupar, having read the Liverpool story, had faked a similar story from his town. A suggestion that is not so sensible is that, in this year 1842, somebody had learned the secrets of teleportation, and to avoid attracting much attention in any one place was experimenting in places far apart. It seems likely enough to me that, if there be teleportation, human beings may have come upon knowledge of it, and may have used it.

"Likely enough?" a spiritualist would say. "Has he never heard of *apports*?"

But whether it's narrowness and bigotry, upon my part, or not, I do not go to seances for data. I have collected notes upon "mysterious robberies," wondering whether a teleportative power has ever been used criminally. As to *apports*, if a medium could transport sea shells from the sea to his cabinet, he could abstract funds from a bank to his pocket. If he could, but would not, how account for his being a medium? Looking through newspapers, I have had a searching eye for something like an account of a medium, who had become mysteriously rich, in a town where there had been shortages of funds: clerks accused of embezzlement, and convicted, but upon evidence that was not altogether satisfactory. Although usually I can find data to "prove" anything that I want to "prove," I have come upon no such account, and I am skeptical as to *apports*, and think that mediums are like most of the rest of us, who are not criminals, having no exceptional abilities. However, there may be criminal adepts who are not known mediums.

There was, in June 1919, at Islip, Northampton, England, an occurrence like the occurrences at Liverpool and Cupar. London *Daily Express*, June 12, 1919 — a loud detonation — basketful of clothes shooting into the air. Then the clothes came down. There may be ineffective teleportative seizures.]

1842 May 11 / Liverpool / whirl and clotheslines /Annals of Electricity 6/499/ [Reverse side] See May 11, 1848(?).

1842 May 11 / Cupar / Levitation / See Ap. 25 or 18 — 1869.

1842 [May 11] / Cupar / whirl and explosion / See Ap., 1918.

1842 May 11 / Cupar / See May 11, 1847.

1842 May 17 and 18 / Odorous dry fog at Paris / C.R. 14-840 / N.M.

1842 ab. June 1 / Sweet stuff in hailstones / France / D-63 / (Nimes) / / / [Reverse side] Royal.

★★

[BCF, p. 65:

Something that tasted like orange water, in hailstones, about the first of June, 1842, near Nîmes, France; identified as nitric acid (*Jour. de Pharmacie*, 1845-273].

1842 June 3 / Detonation / Montpelier and Toulouse / fireball size of sun / N.E. to S.W. / BA '60.

1842 June 3 / Detonating meteor, 9 p.m., at Mende (Lozère) / CR 14-918 / [Reverse side] Seemed greater than the sun. With it a sudden violent gust of wind.

1842 June 3 / Fr / Montpelier and Toulouse / 9:15 p.m. / met size of sun / detonation / BA 60-80.

1842 June 4 / Fr / (F) / Aumières (de la Lozère) / Metite / BA '60.

1842 June 3 and 4 / Shocks / Berne / 3 — meteor, Parma and S of France / 4th, magnetic perturbations [Reverse side] at Brussells / on 4th and 5th, at Munich and Prague / BA 54.

1842 June 12 / (F[r]) / Met. det. / Toulon / BA '60.

1842 June 17 / [LT], 6-f / Singular discovery.

1842 June 21 / q and sky / q at Cartmel, Eng / dark red clouds in sky — "rumbling sound underground." / bet 10 and 11 p.m. / LT, June 29-5-d.

1842 June 30 / See June 12, 1919.

1842 June 30 / Cupar / [typescript] / London *Times*, July 5, 1842. [Reverse side]

London *Times*, July 5, 1842;

June 30, 1842 — the town of Cupar — the common: a public place, upon which women were hanging their wash out on lines — conspicuousness — parallel white lines against a green background. It is said that the day was very clear; that there was not a cloud in the sky. A loud and sharp report was heard overhead. Whether something exploded up there or not, whether something like an enormous vacuum-cleaner was suddenly opened or not, it is said that this report was so loud that cattle in the fields ran about and for some time cowered in terror. Something pounced and snatched clothes from clotheslines. Some fell to the ground, but others went on up and disappeared. The "preposterous" circumstance that at first evaded us became more and more definite, giving us more and more of the appearance of positiveness; that is seizure that had so little radius of disturbance that it seems unthinkable as a wind of any kind. It is said that a woman, holding a blanket, felt the blanket shooting upward; that so powerful was the force that, in fear of being carried [Here the page is cut.]

[BCF, pp. 568-570 / See May 11, 1842.]

1842 July / Decomposed half devoured body found in woods — no one missing in the neighborhood. / *Times*, July 6, 1842/9/d.

1842 July 4[?] / Logrono, Spain / 7 lb stone fell. / Phil Mag 4/8/460.

1842 or 1843 July / Frgs / Lyston Hall, Suffolk / In Symon's 21/123, cor writes of shower of [Reverse side] frgs in enormous numbers — gardeners swept up and carried away in wheelbarrows.

1842 July 8 / Eclipse of sun / Bib. Univ., N.S., 35-160.

1842 July 8 / Marseilles / lights on moon during eclipse of sun / Loomis, Treatise on Astro., p. 174.

1842 July 10 / ab noon / Dunblane, 18 miles from Comrie / q / LT, July 13-10-a.

1842 July 11 / 9:10 p.m. / Fireball / Paris / BA '60.

1842 July 12 / 4:20 p.m. / Calamalla and Sparta, Greece / q "preceded by a loud aerial noise." / BA '54-323.

1842 July 21 / Birkenhead, opposi[te] Liverpool / Whirl / An. Register 2/126 / [Reverse side] LT, July 26.

1842 or 43 July / Frogs / Lyston Hall, Suffolk / Sym Met Mag (L) 21/123.

1842 July 29 / Essex, Eng / Whirl rather like Cupar.

1842 July 31 / Fireball / Hamburg BA 60.

1842 Aug. 5 / See Sept. 5 / Harrogat[e] / Yorkshire / Stonefall recorded as "very doubtfu[l]. / B Assoc 1860/80.

1842 Aug. 5 / Fireball / Silesia / 8:20 p.m. / N.W. to S.E. / BA 60.

1842 Aug. 9 - 10 / Perseids / Parma — myriads / great numbers, Germany and Belgium / [Reverse side] In several parts of France, not remarkable; in other parts, many. / BA 47-15.

1842 Aug. 10 / Armagh / Met. / Proc Roy. Irish Acad 2/332.

(to be continued)

The Society For The Investigation of The Unexplained

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ORIGINS OF SITU/PURSUIT

Zoologist, biologist, botanist and geologist Ivan T. Sanderson, F.L.S., F.R.G.S., F.Z.S., in association with a number of other distinguished authors, established in 1965 a "foundation" for the exposition and research of the paranormal – those "disquieting mysteries of the natural world" to which they had devoted much of their investigative lifetimes.

As a means of persuading other professionals, and non-professionals having interests similar to their own, to enlist in an uncommon cause, the steering group decided to publish a newsletter. The first issue came out in May 1967. The response, though not overwhelming, was sufficient to reassure the founding fathers that public interest in the what, why and where of their work would indeed survive them.

Newsletter No. 2, dated March 1968, announced new plans for the Sanderson foundation: a structure larger than its architects had first envisioned was to be built upon it, the whole to be called the Society for the Investigation of The Unexplained, as set forth in documents filed with the New Jersey Secretary of State. The choice of name was prophetic, for Dr. Sanderson titled one of the last of his two-dozen books "Investigating the Unexplained," published in 1972 and dedicated to the Society.

Another publication was issued in June 1968, but "newsletter" was now a subtitle; above it the name ***PURSUIT*** was displayed for the first time. Vol. 1, No. 4 in September 1968 ("incorporating the fourth Society newsletter") noted that "the abbreviation SITU has now been formally adopted as the designation of our Society." Issue number 4 moreover introduced the Scientific Advisory Board, listing the names and affiliations of the advisors. Administrative matters no longer dominated the contents; these were relegated to the last four of the twenty pages. Most of the issue was given over to investigative reporting on phenomena such as "a great armadillo (6 feet long, 3 feet high) said to have been captured in Argentina" – the instant transportation of solid objects "from one place to another and even through solids" – the attack on the famed University of Colorado UFO Project headed by Dr. Edward U. Condon – and some updated information about "ringing rocks" and "stone spheres."

Thus SITU was born, and thus ***PURSUIT*** began to chronicle our Investigation of The Unexplained.

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