



PURSUIT[®]

"SCIENCE IS THE PURSUIT OF THE UNEXPLAINED"

VOL. 8 NO. 3

JULY, 1975

SOCIETY FOR THE INVESTIGATION OF THE UNEXPLAINED

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Our publishing schedule is four quarterly issues of PURSUIT, dated January, April, July, and October, and numbered as annual volumes — Vol. 1 being 1968 and before; Vol. 2, 1969, and so on. These are mailed at the end of the month. (Subscription to PURSUIT, without membership benefits, for libraries only, is \$8 for 4 issues.) Order forms for back issues will be supplied on request.

PURSUIT is listed in Ulrich's International Periodicals Directory and in the Standard Guide to Periodicals; and is abstracted in Abstracts of Folklore Studies. It is also available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106. The price is \$4.10 per reel. An annual index appears in the October issue.

Vol. 8, No. 3

July, 1975

PURSUIT®

THE JOURNAL OF THE SOCIETY FOR THE
INVESTIGATION OF THE UNEXPLAINED

FOUNDED BY IVAN T. SANDERSON

DEVOTED TO THE INVESTIGATION OF "THINGS"
THAT ARE CUSTOMARILY DISCOUNTED

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UFOLOGY

Twenty-eight years have elapsed since Kenneth Arnold made headlines with his description of a group of unidentified flying objects near Mount Ranier. For over two decades the U.S. Air Force was engaged in the thankless task of trying to "explain" the phenomenon, and the sheer volume of printed material on the flying saucer mystery is almost a phenomenon in itself. Flying saucers have consistently been near the top of the list of subjects recognized by the public in opinion polls. That is, since the initial furor in the late forties more Americans have been able to recognize the subject of flying saucers than, say, the name of the current president. The most recent Gallup survey on saucers shows that a clear majority of Americans believe them to be real objects, and a breakdown of those polled according to educational level shows that acceptance of the reality of saucers is directly proportional to educational level.

That all this should be so is remarkable in view of the fact that we have yet to find a single piece of tangible, incontrovertible evidence for the existence of saucers. The great mass of eyewitness reports is there, and so are the photographs, motion pictures, EM effects, and so forth. Detailed reports of landings and close encounters now number over a thousand. Statistical analyses of all this data are said to show correlations that rule out any haphazard phenomenon as the source of the reports. Put another way, these statisticians are saying that we should give the benefit of the doubt to the saucers. Nevertheless, the evidence in favor of the saucer is entirely circumstantial. Direct physical evidence is still missing.

The January 1974 issue of Pursuit included a paper written by Miss Marjorie Fish describing her validation of the Betty Hill map. It is Miss Fish's contention, at least, that she has demonstrated "beyond reasonable doubt" that the map drawn by Mrs. Hill is a view from a point in outer space well removed from our sun, and that no one on this planet could have faked it. The Society presented Miss Fish's research and conclusions in these pages because they seemed to be a clear breakthrough in the attempt to find a satisfactory level of evidence of the saucers. We also hoped to generate further discussion on the problem of the star map, which had been totally ignored in orthodox scientific circles and, oddly enough, treated very gingerly by the ufological publications.

To date we have not heard from the debunkers on this one. Nor have we met with any success in obtaining a research grant or other form of support for Miss Fish. Nor have we been able to elicit any interest whatever in this astonishing case from orthodox scientific sources. NICAP (The National Investigations Committee on Aerial Phenomena) apparently wants little or nothing to do with this case, and Major Keyhoe has written the whole thing

off as a mental aberration suffered by Mrs. Hill and her late husband. Perhaps the problem here is simply that the stakes are so very high in this particular case. The validation of the Hill map, and therefore of the entire Hill kidnap story, is still not equivalent to having a saucer, or a substantial part of one, or a crewmember — or a substantial part of a crewmember! But the Hill map validation comes so close to that level of evidence that both sides in the saucer debate have, it seems, gotten a severe case of the shakes. The believers are afraid that the case will prove to be a hoax, after all. The skeptics fear that they have been presented with virtually incontrovertible evidence in favor of the reality of the saucer phenomenon. Viewed in these terms the silence of the "believers" and the "debunkers" alike is quite understandable, though it must seem to the rest of us a deplorable state of affairs. Even the National Enquirer UFO Panel has maintained an official diffidence toward Miss Fish and the Hill map, though we understand that the panel has given it considerably more attention than it has devoted to any other case.

Unfortunately, Marjorie Fish has never made a nickel from her research. It seems nothing less than outrageous to us that she has had to end her research because of a lack of funds. This extraordinarily gifted young woman devoted several years of her life to the extremely complex task of validating the Hill map, an accomplishment that may very well rival the translation of the Rosetta Stone. This analogy will appear strained and extreme only to those who fail to appreciate that the star map validation and everything that follows from it is the evidential missing link in the case for the flying saucer.

One ufological organization that has championed Miss Fish is the Aerial Phenomena Research Organization (APRO), 3910 East Kelindale Road, Tucson, Arizona 85712. APRO invited Miss Fish to present a paper at their UFO Symposium in Pottstown, Pa. in June of 1974, and APRO's Consultant in Astronomy, Mr. Walter N. Webb, made a detailed study of Miss Fish's work which was published in the September-October and November-December issues of the APRO Bulletin. We are pleased to note that the impetus for Mr. Webb's inquiry was the article which appeared in the January 1974 Pursuit. We are reprinting Mr. Webb's study with the kind permission of APRO. Readers who are interested in obtaining the APRO Symposium papers and the back issues of the APRO Bulletin should write directly to APRO at the above address.

We wish once again to recommend the December 1974 issue of Astronomy Magazine, 757 North Broadway, Milwaukee, WI 53202. This issue contains a lavishly illustrated article on the star map, apparently based on the Pursuit article, and is available post-paid for \$1.50.

AN ANALYSIS OF THE FISH MODEL

by Walter N. Webb, Consultant, APRO

INTRODUCTION

The Betty and Barney Hill experience has become one of the classic cases of its type in UFO annals. The Portsmouth, New Hampshire, couple claimed they suffered a puzzling memory loss immediately following a close-range UFO observation on the night of September 19-20, 1961. About a week and a half to two weeks later Mrs. Hill said she had a series of vivid dreams in which she and her husband were abducted by humanoid beings and subjected to a physical examination aboard the UFO. These dreams so impressed Betty Hill that in November, 1961, she wrote a five-page account of her dream episodes describing, among other things, a star map that allegedly showed her abductors' home star and routes of trade and exploration between the star and others nearby. But it was not until 1964 that Mrs. Hill, under post-hypnotic suggestion, reproduced the map in a drawing. (Both Mr. and Mrs. Hill were hypnotized by a Boston psychiatrist and, while in a trance state, independently told similar stories of being captured and examined aboard a UFO.)

Since the star pattern represented, in a sense, something tangible from the Hill experience, the existence or nonexistence of this pattern might be tested. If the map were a genuine portrayal, several assumptions would be obvious at the outset; (1) the home star must be one of two large circles connected by many lines; (2) the map was made from a vantage point near the origin star; (3) our sun was present somewhere on the map with a line to it, and therefore (4) the map depicted our local stellar neighborhood.

Nevertheless, the task of isolating and identifying a unique pattern of a dozen stars from thousands in the sun's vicinity presented a formidable challenge. Only a few interested amateurs made any serious attempt to uncover the pattern. In 1968 one gentleman with some knowledge of the heavens wrote to me, discussing his approach to the problem, and then closed his lengthy letter with the following: "I would like to add that this is one amateur's attempt to solve a riddle that, I believe, deserves professional help." Of course, he was right, but unfortunately few professional astronomers would have dared tackle such a project because, in the first place, the UFO subject, in general, is frowned upon by the scientific community and, secondly, the Hill case simply is too sensational a report to warrant the expenditure of even a modicum of energy when there are "more important" problems awaiting solution. That, I sadly report, still is the prevailing attitude toward UFOs among the vast majority of scientists.

THE FISH MODELS

In 1966 Majorie E. Fish, a 34-year-old elementary schoolteacher in the little town of Oak Harbor, Ohio, decided to search for the star pattern by constructing a three-dimensional model of the volume of space surrounding the sun. Ms. Fish, though self-taught in astronomy, is an extraordinarily gifted and dedicated person. She has a B.S. degree in sociology (with a minor in science), is a MENSA member, and includes among her many interests anthropology, biology, photography, art, and sculpture. Her persistent quest for the precise pattern shown on the Hill map makes a fascinating story which can only be summarized here.

After completing her first small model of all known stars out to five parsecs (16 light years), Marjorie realized she would have to cover a larger volume at increasing radius from the sun if she expected any hope of success. Subsequent models consisted of up to 259 beads suspended on string, each bead representing a star colored and sized according to spectral class and positioned at its correctly scaled distance and direction from the sun.

Ms. Fish anticipated discovering many patterns that would resemble the Hill map. But this was not to be the case, and eventually only one remarkable set of stars emerged. It was a search that required six years, more than 20 models of the solar neighborhood out to 20 parsecs (65 light years), the checking of thousands of stars in a dozen catalogs, and thousands of hours of photography and visual inspection of the models from different angles. Because she experienced difficulty in obtaining the star catalogs she needed, it took Marjorie two years to locate what she believed were the first five stars in the pattern. Another seven or eight months revealed the next four stars. Finally, more than three additional years of intensive work were necessary to find the last three stars in the pattern.

A visit to Betty Hill's home proved especially helpful in 1969. For the first time, apparently, Mrs. Hill disclosed that the star map she allegedly viewed seemed three-dimensional (like a reflective hologram), appeared about three feet wide and two feet high, and contained tinted stars that glowed.

The star Zeta Tucanae, though not a visible part of the Hill drawing, led directly to the discovery of the final stars in the pattern in the early autumn of 1972. For some time Zeta Tucanae had been a prime candidate as the tenth pattern star but stubbornly refused to fit into the network. Finally, Marjorie realized the star might be occulted by Zeta¹ or Zeta²

Reticuli from Betty's viewing position (the latter two stars were described as being larger than the others—the size of nickels—and could have hidden another star). For Zeta Tucanae to be obscured, Marjorie found she had to view it from below the model at a 45-degree angle. When this was tried, the full pattern appeared at once. The difficult angle plus blockage by the base and frame in various models had prevented earlier discovery of the complete pattern.

CONDITIONS FOR LIFE

Before we can understand the significance of Marjorie Fish's results, we must know something about the evolution and types of stars in our galaxy. Stars form when the heat of a contracting dust and gas cloud causes hydrogen fusion to occur in the core. After an unstable period of some millions of years, the star attains a state of equilibrium and begins to shine evenly, arriving on the so-called main sequence where it spends most of its life. When the core has exhausted a large fraction of its supply of hydrogen, the star leaves the main sequence, swelling into a red giant (or exploding) and then shrinking into a white dwarf or tiny neutron star.

Depending upon its original mass (the total quantity of matter in the star), the star normally falls into one of seven primary spectral classes—O, B, A, F, G, K, and M—arranged in order of decreasing surface temperature. O stars are large, blue, and hot; G types (our sun) are yellow and of medium size and temperature; M stars are small, red, and cool. Each class is further divided into ten subgroups from 0 to 9, again with decreasing temperature.

If planetary life is to arise and evolve into complex intelligent organisms, a star must satisfy several criteria: (1) it must reside on the main sequence for at least three to four billion years to allow complex life forms time to evolve. This implies a fairly constant, nonvariable heat and light output over this long interval. The more massive a star, the faster it burns and the shorter its lifetime. Hot O, B, and A stars have stable lifetimes of less than three billion years. Stars F through M meet the age requirements for life with residence times ranging from about four to 100 billion years.

(2) The planet must orbit in a habitable thermal zone around the star called the ecosphere. Although O to early F stars have wide ecospheres, their short lifetimes most likely rule out the possibility of life. Late K and M types have long lifetimes but also small ecospheres and sometimes life-destroying stellar flares. The most suitable main-sequence stars for the evolution of life, according to exobiologists, range from about F2 (Sagan, Dole) or F5 (Oliver, Huang) to K1 (Dole) or K5 (Oliver, Sagan). G types probably offer optimum life zone conditions.

(3) Single stars are more likely than multiple stars to have habitable planets. Binary stars, for example, could perturb planets into unstable orbits although

such effects would depend upon how closely separated the stars were in the system. The problem is a complicated one, but at present it seems best to favor single stars over multiple systems as better prospects for life.

(4) Massive O to early F stars tend to have high rotational speeds (100-230 km/sec) with an abrupt slowdown occurring between F2 and F5, decreasing to only a few km/sec in G stars like our sun. Such slow rotations may indicate planets are absorbing the angular momentum of the star from early F through M. If this is true, it is interesting that the emergence of planetary systems coincides with the estimated cutoff for spectral types suitable for life.

Ms. Fish restricted her selection of stars even further, confining her search ultimately to only single, nonfluctuating, main-sequence stars between F8 and K1—her "Group 1" stars, those with the best chance for producing terrestrial planets with intelligent life. (According to Sagan, F8 is the point where intelligence may emerge.) She reasoned that if the Hill story were true and extraterrestrials visited our solar system and the earth, other stars similar to our sun should be of interest to them. In fact, by reversing the argument, it also was likely their origin star was similar to our sun. Marjorie discovered that about 200 stars within 22 parsecs (72 light years) of the sun lie in the F8-K1 spectral range.

RESULTS OF THE FISH STUDY

Marjorie Fish's six-year search yielded only one unique three-dimensional duplicate of Betty Hill's star map, and a continuing inspection since then has not uncovered any pattern remotely resembling the original discovery. The matchup includes not only the 12-star network connected by lines but also three background (actually foreground) stars that formed a prominent triangle in Mrs. Hill's drawing.

The stars that make up the pattern in the Fish model fulfill the above exobiological criteria. For example, the lines in the map connect stars that are exclusively the type defined as suited for life. All 12 stars are single, nonfluctuating, slowly rotating dwarfs residing on the main sequence for lifetimes of from about seven to 30 or 40 billion years, ample time for the evolution of life to take place. Tau Ceti seems to be a special borderline case. It has been listed either as lying between the main-sequence dwarfs and subdwarfs or as a subdwarf. Sagan believes full-fledged subdwarfs would not likely possess terrestrial planets although they might have Jovian-type gas giants orbiting them.

The pattern stars range from F6 to K1. All 12 are "Group 1" stars (having terrestrial planets with intelligent life) except Tau¹ Eridani, which is F6. This latter star is a member of Ms. Fish's "Group O", stars possibly possessing terrestrial planets with nonintelligent life. Marjorie feels such bodies would be suitable for colonization or the establishment of bases. One of the most striking features is that

eight of the 12 stars are G types, probably the optimum range for intelligent life. The so-called "base stars", Zeta¹ & ² Reticuli, are included in this category; they are G2 and G1, respectively. It should be emphasized the two stars are not components of a binary system (they share a common motion through space) and therefore fulfill the single-star requirement for life. Both bodies are quite similar to our sun (G2) in mass, temperature, luminosity, and residence time on the main sequence. Marjorie, it will be recalled, assumed from the beginning that the home star of the Hills' abductors probably would resemble our sun and that they would seek out stars similar to theirs.

Especially noteworthy is the fact that the pattern happens to contain a phenomenally high percentage of all the known stars suitable for life in the solar neighborhood. Employing her own critical standards, Ms. Fish found only 12 (5%) of 259 known stars within her 10-parsec model that were suitable for life; five of the 12 (42%) occupy positions in the Hill pattern (Six, if we include the occulted Zeta Tucanae)! Interestingly enough, when multiple stars, probable variable stars, and stars later than K1 are removed from Sagan's list of 20 nearest stars (and Dole's list of 14 stars) most likely to have habitable planets within 6.7 parsecs (22 light years), only two stars meet Marjorie's stringent requirements—Tau Ceti and 82 Eridani—and both are in the Hill pattern! (The former object has been the target of at least four radio-telescope searches for artificial signals.)

The star pattern fills a volume of space determined by Marjorie to be 48 light years (14.7 parsecs) wide by 48 light years deep by 32 light years (9.8 parsecs) high ($\pm 1\frac{1}{2}$ light years per side) —a two-thirds cube. This volume actually contains over 100 stars and yet all the stars within the volume compatible with life are included in Betty Hill's drawing. This would hardly seem coincidental.

The solid and broken lines allegedly representing trade routes and expeditions do indeed depict a logical travel sequence from star to star. The routes link Zeta¹ Reticuli with only the nearest stars having spectral classes that favor the emergence and evolution of life—especially intelligence. For the reasons cited previously, all other stellar types appear to be avoided: fast-rotating stars earlier than F2, stars later than K1, multiples, and variables.

Concerning discrepancies between the drawing and the model, Ms. Fish feels, and I tend to agree, that these differences are relatively inconsequential and can be justified in a reasonable manner. The drawing, as mentioned earlier, was created under post-hypnotic suggestions, and a comparison with the model demonstrates what would appear to be astonishing accuracy in recalling forgotten details. During a moment of conscious control, Betty erased the Zeta¹ Reticuli-Gliese 86 line twice before settling on the wrong position. The longest erasure appears to be the correct angle for the Zeta¹ Reticuli-Gliese 86 line while the short erasure is the correct length. Im-

proving the angle would also correct the angle of the line to Alpha Mensae on the opposite side of Zeta¹.

Both Zeta¹ & ² Reticuli are large and widely separated in the drawing probably, according to Ms. Fish, because (1) the two stars were located very near the map's front surface and (2) they may have been deliberately dramatized by using a larger scale (on the original map).

Mrs. Hill's representation of the background triangle (stars Gliese 86.1, 95, and Kappa Fornacis) is larger than the one in the model. Marjorie believes it was drawn larger because it is near the front surface of the map and would have been quite prominent. Moreover, the shape would have been relatively easy to recall in contrast to most of the other background stars. Indeed, the other objects were included by Betty simply to show there was a backdrop of other stars.

Marjorie is satisfied any residual differences between the drawing and model can be explained plausibly as due to (1) Betty Hill's recall and sketching ability and (2) to the possibility of somewhat incorrect star positions in the model owing to still inexactly known parallaxes (by which the distance to each star is calculated).

An important piece of evidence uncovered by Ms. Fish, strongly suggesting the map is not a hoax, is the fact that the background triangle could not have been drawn prior to the publication of the 1969 edition of Gliese's "Catalog of Nearby Stars." Not only was the star Gliese 86.1 not listed, so far as is known, in any (earthly) star catalog in 1964 when Betty drew her map, but also Gliese 95 and Kappa Fornacis, their parallaxes imperfectly known in 1964, would not have created the triangle Betty drew on the map. I checked this out myself in several of the catalogs Marjorie used and confirmed the accuracy of her discovery.

In addition, it is improbable Mrs. Hill could have devised a pattern of 12 stars, all of which would turn out to be candidates for life; it is improbable she could have had access to the proper star catalogs; and even if she had located the catalogs, it is improbable she knew how to interpret them. As the initial investigator of the Hill affair, I happen to know Betty's knowledge of astronomy is severely limited.

The 12 stars connected by lines have the following ranges as a group: spectral classes F6 V to K1 V (sun G2 V), surface temperatures about 4800 to 6500° Kelvin (sun 5800°), masses about 0.7 to 1.2 solar masses (sun 1.0), luminosity about 0.3 to 2.1+ (sun 1.0), radii about 0.7 to 1.2 solar radii (sun 1.0), absolute visual magnitudes +3.7 to +5.9 (sun +4.8), apparent visual magnitudes +3.5 to +7.0 (sun -26.7), distances from earth 11.8 to 52.6 light years, and main-sequence residence times about 7 to 30 or 40 billion years (sun about 13 billion).

All but one (Alpha Mensae) of the 12 pattern stars can be seen from parts of the United States in the winter evening sky or late summer morning sky. Zeta¹

Reticuli, the probable origin star, is a faint fifth-magnitude star located in the tiny, undistinguished, southern-hemisphere constellation known as Reticulum the Net and is visible in the United States only from the southern tip of Florida and Brownsville, Texas. Under favorable conditions nine, and possibly 11, of the 12 stars are detectable with the naked eye. The remainder require binoculars.

A SCENARIO OF EXPLORATION FROM ZETA¹ RETICULI

Based upon data from the Fish model, the star map, and Betty and Barney Hill's testimony of their UFO encounter, I believe it is feasible to construct a speculative but rational scenario of interstellar exploration from the alleged origin star, Zeta¹ Reticuli. It was felt Ms. Fish's careful research supplied enough usable scientific data to justify such an exercise in subjective probability.

We have already seen how similar Zeta¹ Reticuli is to our own sun in its spectral characteristics although we have no way of knowing at present exactly how long the former body has been on the main sequence. From both the star's spectrum and the Hills' description of their captors, it may be assumed the home planet of the hypothetical "Zeta Reticulans" possesses a mass, gravity, and environment at least somewhat like our own. Bieri (1964) argued extraterrestrial intelligence probably will resemble Homo sapiens because evolutionary pathways are strictly limited and air-breathing, land-roaming humanoids offer the optimum adaptive solution to terrestrial environments. He postulated life-supporting planets will evolve bilaterally symmetrical animals with an anterior brain and closely associated sense organs, paired appendages, and hands for tool-making. Varia-

tions in atmospheric density and composition, stellar distance, and radiation output and intensity from the star would account for the reported appearance of the Hill entities: large slanted eyes, wide nostrils, mouth-slit, gray skin, and thick chests.

Although it is impossible to tell how long this race may have been conducting interstellar spaceflight, it is obvious from the Hill map that it has been a spacefaring society for a very long time. Participants at the 1971 Byurakan conference on communication with extraterrestrial intelligence (CETI) estimated the life times of such civilizations which do not destroy themselves as ranging from perhaps 10,000 to one billion years (Sagan's value was 10 million years).

Since interstellar exploration would doubtless be an expensive venture, it is entirely conceivable the Reticulans are members of a linked community of intelligent species possibly composed not only of various cultures contacted in planetary systems represented on the Hill map but also embracing other societies as well. Participation in such a "galactic federation" would bestow definite advantages: a galactic heritage of knowledge about innumerable planets, their histories, and the life forms that evolved on them; a detailed astronomical record of the origin, history, and probable fate of the universe, some of the data perhaps originally acquired by long dead civilizations; the development of sciences not easily contrived by one civilization alone but achievable through combined efforts; and the transfer of information that would help extend the life expectancy of participating societies.

When the Reticulans mastered the principles of relativistic spaceflight, their first expedition must have been a rather easy hop to neighboring Zeta², a yellow dwarf star much like their own. Ms. Fish

PROBABLE STARS IDENTIFIED BY FISH IN THE HILL MAP

NAME	SAO CATALOG NUMBER	GLIESE CATALOG NUMBER	CONSTEL- LATION	SPECTRAL CLASS	DISTANCE FROM EARTH (L.Y.)
Zeta Tucanae	248163	17	Tucana	G2 V	23.3
54 Piscium	074175	27	Pisces	K0 V	34.3
—	167134	59	Cetus	G8 V	52.6
—	037434	67	Andromeda	G2 V	37.5
107 Piscium	074883	68	Pisces	K1 V	24.3
Tau Ceti	147986	71	Cetus	G8 Vp(or VI)	11.8
—	232658	86	Eridanus	K0 V	36.6
—	167613	86.1	Fornax	K2 V	42.3
—	167697	95	Fornax	G5 V	44.7
Kappa Fornacis	167736	97	Fornax	G1 V	42.3
Tau ¹ Eridani	148584	111	Eridanus	F6 V	46.6
Zeta ¹ Reticuli	248770	136	Reticulum	G2 V	36.6
Zeta ² Reticuli	248774	138	Reticulum	G1 V	36.6
82 (e) Eridani	216263	139	Eridanus	G5 V	20.2
Alpha Mensae	256274	231	Mensa	G5 V	28.3
Sun	—	—	—	G2 V	—

assigned limits of about 1/20th to 1½ light years separation between the two stars—about 470 billion to 14 trillion kilometers. (This distance may be compared to that of the sun's nearest stellar neighbor, the Alpha Centauri triple system—4.3 light years or about 41 trillion kilometers from earth.) From the many lines running between the two stars on the Hill map, it seems likely contact was established with another intelligent race on a planet (or planets) orbiting Zeta² and the consequence was what appears to be a heavy commerce between the two solar systems. We might further speculate that the unusually close proximity of another star to the origin star could have provided the impetus for additional deep-space explorations. (The average distance between stars in the solar neighborhood is about eight light years.)

Undoubtedly, other nearby stellar candidates were monitored for the likelihood of intelligent life and were eventually visited, ultimately leading to voyages along five or six branches of stars—those in the Hill map. The next logical planetary system to receive a visit from the Reticulans probably was Zeta Tucanae, another G2 dwarf like Zeta¹. (While this star was occulted from Betty Hill's vantage point, it would be surprising if it were not part of the Reticulan network.) Although the distance from the origin star to Gliese 86 is estimated by Marjorie to be only 9.8 (±2) light years, the latter is a K0 type star. Zeta Tucanae was several light years further but a more promising candidate for the emergence of intelligence.

Alpha Mensae, a G5 dwarf 14 (±2) light years distant, probably became the next target followed by 82 Eridani, another G5 sun 19 (±2) light years from the home star. The sequence of travel after the latter star grows more problematical and depends upon many unknown factors including whether single or simultaneous expeditions to various stars were launched from Zeta¹ Reticuli. In any case, we might conjecture that solid lines to Alpha Mensae, 82 Eridani, our sun, Gliese 86, and quite possibly Zeta Tucanae indicate repeat trips to planets of extraordinary interest orbiting those stars. (Communication with, or observation of, intelligent cultures on the worlds visited could be an important reason for return trips but certainly not the only aim.)

Ms. Fish has proposed a very logical explanation for the existence of two dashed lines between 82 Eridani and Tau Ceti (G8 type): the first expedition to arrive at the latter star used it as a jump-off point to our own sun, the next G2 dwarf beyond Zeta Tucanae and of the same spectral type as the home star itself. From Tau Ceti the choice was either the sun or 107 Piscium, a lesser K1 prospect five light years more distant than our star. After the sun and earth were visited, the dashed line from Tau Ceti to the sun was eliminated in favor of a direct link between the home star and the sun, the longest single traverse to another star from Zeta¹ Reticuli (36.6 light years, one way).

Employing the time-dilation paradox, a one-way

trip from Zeta to the sun might take about 11 years at a constant one-gravity (normal earth weight) acceleration and deceleration near the velocity of light. However, this interval could be cut in half at two- or three-g accelerations and reduced even further if higher forces could be tolerated. Obviously, whatever the propulsion mode, the earth and its inhabitants appear to be a priority objective, not only of the Reticulans but also apparently of other humanoid races in spite of the sun's relative isolation on the edge of a 30-light-year-diameter gulf nearly devoid of stars, one of the many facts disclosed by the Fish model.

Eventually, another expedition, according to Ms. Fish's supposition, proceeded from 82 Eridani to Tau Ceti, accounting for the second dashed line between the two stars, and then probably continued to 107 Piscium.

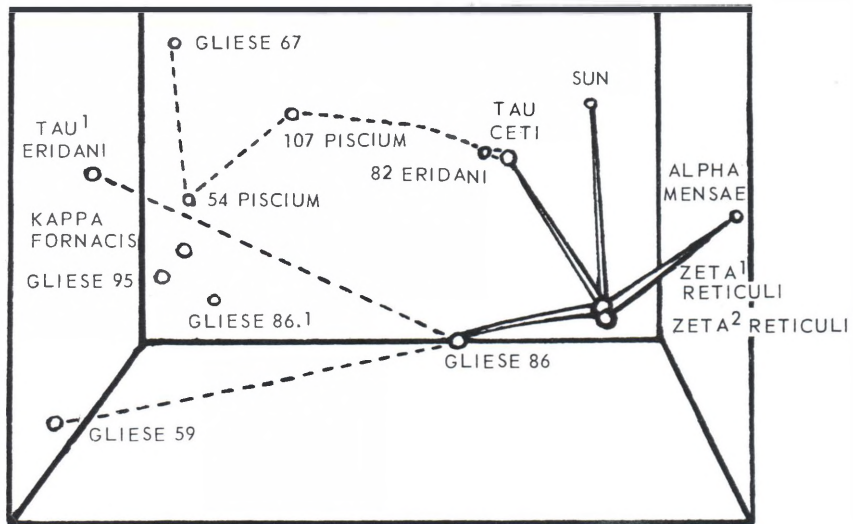
If we continue our hypothetical exercise, it is apparent other branches of interstellar exploration were established. Gliese 86 (a K0 star) became the jump-off point to Gliese 59 (G8) and to Tau¹ Eridani (F6). It is not clear to Marjorie why Gliese 86.1, 95, and Kappa Fornacis—all G or early K dwarfs—were bypassed, but she points out 86.1 is a K2 star and therefore not a "Group 1" candidate for intelligent life, while the other two might have peculiarities not yet detected by earth astronomers, such as variability; or they might be recent arrivals on the main sequence; or perhaps both deficiencies are present.

The Gliese 67 branch, connecting a total of six stars, represents what appears to be the deepest penetration of space by the Reticulans from their home star. The route spans 78 (±2) light years or 24 parsecs! Of course, it is possible, as Ms. Fish suspects, that the volume depicted in the star map is only one of several volumes of space explored by the Reticulans!

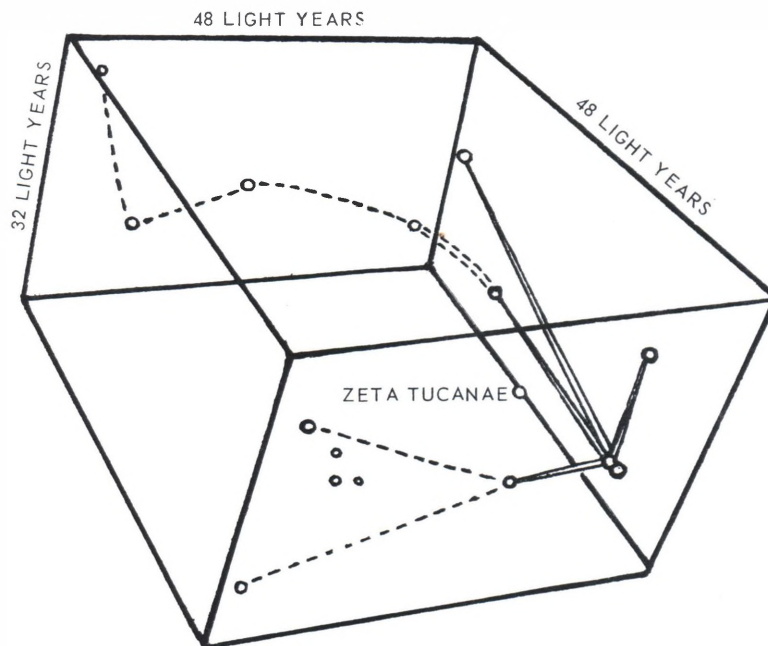
SUMMARY AND CONCLUSIONS

Much credit for escalating my interest in Marjorie Fish's work goes to Robert J. Durant, Assistant Editor of Pursuit, quarterly journal of the Society for the Investigation of the Unexplained (SITU). Durant "ghosted" an excellent article for SITU regarding Marjorie's research. In November of 1973 he paid me a visit and later forwarded copies of his Pursuit story (Jan., 1974, issue) and a provocative Saga article by Friedman and Slate (July, 1973, issue). Finally, on July 18, 1974, I spent six hours with Ms. Fish discussing her work and viewing her models. Returning with copies of some of her voluminous notes and photographs, I checked her data in six star catalogs and found no errors. I am satisfied her investigations have been carried out in a completely thorough, scientific manner.

Although initially Marjorie believed the models would reveal many star patterns similar to the one in Betty's map, only one select group turned up after years of painstaking study. She feels the pattern in



Front view of Fish model. Compare with Betty Hill's map. From photo by M. E. Fish with lines from Hill map added.



Oblique view of Fish model. From photo by M. E. Fish.

her model and in the map are one and the same, and moreover she is satisfied her work has ruled out a hoax and coincidence. I must agree the reasons she cites are compelling. From my own personal inspection of the model, I can attest the star pattern in the model does indeed match amazingly well the one in the map. The presence of the prominent background triangle lends strong additional support.

The few discrepancies between the map and the model are rather minor and, in my view, are logically accounted for by Ms. Fish. Even Betty's two erasures, which match the correct angle and length for the Gliese 86 line, help to build a case for the pattern's reality.

Most impressive is the fact the 12 network stars fulfill all required exobiological criteria—that is, all are single, nonvariable, slowly rotating, late F-to-early K main-sequence dwarfs with stable lifetimes of at least three to four billion years. The lines in the map connect stars that are solely candidates for life. Furthermore, all but one of the stars are possible sources for intelligent life (8 of the 12 are optimum G stars including the suspected origin star itself which is the same spectral type as our sun); the pattern is composed of an abnormally high number of all the known life-supporting candidates in the solar neighborhood; all the life-supporting stars found within the Hill volume are included in Betty's map; and the lines in the map represent a logical travel sequence from star to star.

It is extremely significant that the background triangle was not known to exist when Betty Hill drew her map in 1964. One of the stars was not even listed in catalogs at that time. In addition, based upon Mrs. Hill's nonscientific experience and limited knowledge of the heavens, it appears highly improbable she had the capability to devise a unique pattern of a dozen life-supporting stars.

For all of these reasons, Marjorie believes and I tend to agree, that the evidence appears to eliminate both fabrication and coincidence. It is just possible that Ms. Fish has achieved a stunning breakthrough with enormous implications for UFO research, exobiology, and astronomy—not to mention the cultural impact. If the Hill map was drawn as the result of contact with extraterrestrial beings, a whole series of exceedingly important facts are immediately evident: (1) the reported abduction of Betty and the late Barney Hill represents reality not fantasy; (2) the map is evidence of interstellar visitation and indicates the origin of at least some UFOs; (3) the map, together with the Hills' testimony, provides valuable clues about the abductors, their probable home star, their planetary environment, their sequence of space travel between stars, and something about the actual abundance of life-bearing stars in the sun's vicinity.

If this is correct, we may conjecture that we are "dealing" with a very old and incredibly experienced galactic culture which has crisscrossed the vast spatial seas for probably thousands, perhaps millions

of years in starships that, to us, are "indistinguishable from magic" (A.C. Clarke). Such an advanced race—apparently capable of manipulating mental, electrical, and other forces in a manner we are powerless to comprehend—would so far surpass our own technology it might very well have little interest in communicating with us and nothing to gain by it.

Even ignoring the stupendous UFO implications of Ms. Fish's accomplishments, her models stand on their own merit as detailed representations of the solar neighborhood. Conceivably, the models may reveal new data regarding local stellar distribution. For example, Marjorie has observed that hot, bright A stars in the sun's vicinity form a plane. Other types cluster in separate groups—G and early K's in one group; late K and early M's in another; late M's, white dwarfs, and some subdwarfs in still another cluster; and double stars in a curved band. The sun's somewhat isolated position in space has already been mentioned.

Astronomers and exobiologists everywhere owe a debt to Ms. Fish, a former elementary schoolteacher who accepted a challenge to science that was not met by professionals—in my judgment, a tragic indictment of the science community. Although she received some help on non-UFO aspects of her research from several astronomers—most notably, Walter Mitchell of Ohio State University—most scientists are either totally unaware of her considerable achievement or choose to disregard it altogether. So far the only professional recognition of Marjorie's work has come from Ohio State's Department of Astronomy, where her 10-parsec model has been used for student study for five years. Northwestern astronomer and director of the Center for UFO Studies, J. Allen Hynek, also has a few of the Fish models but has not yet offered a formal evaluation statement. Finally, David R. Saunders, former member of the Colorado UFO Project, reproduced the Hill star map on a computer, using the Fish data.

Though thus far unappreciated by the scientific community, Marjorie's prodigious research will continue. Last summer she delivered papers at the Fifth APRO UFO Symposium, Pottstown, Pennsylvania, and at the Fifth Annual MUFON UFO Symposium, Akron, Ohio. She now is preparing to construct an even more precise, larger scale model of the nearby stars.

Someday confirmation of Ms. Fish's discoveries could be forthcoming. CETI itself has gained a new respectability. A just completed radio-telescope search by Zuckerman and Palmer examined some 500 stars for artificially generated signals at 21 centimeters (the results have not yet been published). Even though it is possible most space communications occur via direct spaceflight and not by radio transmission, an effort should be made to scan Zeta¹ Reticuli and other stars in the Hill pattern for intelligent signals. While the fixed 1000-foot antenna at Arecibo, Puerto Rico, can acquire only a few of

the Hill stars, the Australian radio telescopes are at the right latitude to examine them all.

In conclusion, I wish to point out the bulk of this report is a presentation and interpretation of Marjorie Fish's own results. My contributions were limited to

supplementing her findings with additional astronomical data, to writing what I hope was a credible "interstellar scenario" based upon her results, and to offering my evaluation of those results.

BIOLOGY

PRELIMINARY DESCRIPTION OF THE EXTERNAL MORPHOLOGY OF WHAT APPEARED TO BE THE FRESH CORPSE OF A HITHERTO UNKNOWN FORM OF LIVING HOMINID

by Ivan T. Sanderson

(continued from last issue)

Trichology Hair

There is little that can be said about the true dimensions, conformation or even coloring of the hairs at the present stage of investigation, except to note that the body is generally very fully haired. The caretaker told us that when they were shaving down the ice, samples of hair were taken and sent to "the greatest experts". When asked who these were, he could not "remember" but stated that they had gone to "Somebody somewhere in New Jersey". When asked if there were any reports made on these samples, Mr. Hansen told us that there had been, but that they were "In our California office", adding that he would get us copies. These have not been received.

No overall description of the pelage of this specimen is possible on two counts. First, only about a third of it can be seen clearly, though fortunately these portions do represent most of the front, or ventral side of the creature. Second, the hair-tracks are very elaborate. The latter problem has, however, been fully overcome by combining the sketches of both authors and rendering the agreed-upon composite on the accompanying drawing. — Fig. 1.

A number of points of great interest to mammalogists are herein brought out. Starting at the hands, we find first that their backs are covered with sparse but long, curved hairs that drape over the whole hand. These emerge right down to the top of the ultimate joints of all digits. The hair on the under or inner side of the wrist is visible; but this on the left wrist alone, which is held above the head, palm upwards. This narrow band of hair stands straight up but curves one way towards the hand at one side, and backwards up the inner side of the arm on the other. All the hair visible on the upper arm flows evenly to the elbow, as it does in the chimpanzee particularly. That on the upper arm, however, flows downwards from the shoulder to that point, so that the two flows form a "drip-tip" on the outside of the elbow. The

arrangement of the hair in the armpits must be examined in the accompanying drawing. The amazing thing to us is that the axilla is filled with the same type of hair as the surrounding areas. There is no sign of true axillary hair such as that of humans. Further, neither of us could find any evidence of pubic hair either, though there is undoubtedly fairly thick, fine hair all over the pubic region. This absence of these types of hair is typically pongid; even simioid.

Apart from the sparse bristles on the brow ridges mentioned above and the curious stubbly line up the front of the septum between the nares, the face is naked. However, there appears to be hair above the brow, and flowing backwards on the side of the head. (No ears are visible as the head is thrown back into opaque ice.) Under the chin there is a dense forward-pointing mass of short hairs filling in the inch to two-inch "neck" between the immense arched clavicular torso top and the wide chin.

The most striking features of the trichology of the torso are twofold. First, there is a sort of fringe of what is obviously a long-haired cape covering the dorsum which just emerges around the sides of the torso and forms a sort of continuous incurved eaves (as on a house). The rest of the chest is almost naked but for widely scattered long, lank, straight hairs. These are concentrated as shown in the drawing down the midline of the sternum, being slightly parted in the median line and then flowing on downwards into the sparse pelage of the belly region. The contrast between the "eaves" of the back cape and this sparsely-haired chest and front is very striking and is, it should be noted, completely in accord with pongid trichological arrangement rather than with that of hominids. Human beings with developed hypertrichosis invariably manifest excessive growth first on the chest and front of the belly, and this hair is almost invariably oval in section and thus curly or even kinky.

The pelage in the inguinal region is not visible. The legs from the uppermost point visible on the thighs to the bottom of the shanks, where they disappear below opaque ice, are well-haired. These hairs are perfectly straight, on an average over two inches long, widely separated — their follicles being well over an eighth of an inch apart — and all flow straight downward.

Finally, the tops of the feet are very heavily haired, and right down to the ends of the terminal joints of the digits. These hairs look wiry, are fairly widely spaced, and curve gently over the feet in all directions.

The Hairs.

It is, of course, impossible to supply or even suggest any concrete facts about these apart from mere visual observation. From this, nonetheless, and as seen through the clearest ice covering, it would appear that they are extremely coarse or thick, average about two to three inches in length more or less all over the body, and are mostly quite straight. Those that curve have been mentioned above. An interesting fact is the very wide separation of their follicles. We tried to measure these distances but the distortion caused by the ice made it almost impossible; but we would estimate that it is on an average nearly as much as a quarter of an inch — say three to four millimeters. On the chest and upper belly they are even more widely spaced, and despite the extremely "hairy" appearance of the arm, we have reason to believe that the follicles are no closer together there, the effect being due simply to the much longer length of the individual hairs.

The "cape", as far as it can be seen, is definitely darker and denser and appears to be jet black. The rest of the pelage is dark brown, but one most important point stands out. Would that we could give absolute proof of this observation but, without having examined so much as one hair we cannot; yet, all the long, straight hairs would seem to this observer to be definitely but dully banded in what is known to mammalogists as the typical "agouti" manner. This is to say, each hair has lighter bands, starting wide at the base and decreasing in width towards the tip. If this be a valid observation, we have here a most unique item in that no hominid or pongid hair is known with this type of coloration. Not until we come to the so-called "monkeys" — Cynopithecoids, Coloboids, Cercopithecoids, etc. — do we encounter this condition.

Conclusion

This paper describes, in somewhat general terms, the results of a preliminary inspection of the corpse of what appeared to be some form of large primate of hominid form. The notion that it is a "composite", manufactured from parts of human corpses and/or other animals, must, of course, still be considered, since the body has not yet actually been examined; should it be, the "artist" who put it together, inserting several million hairs in a skin before it rotted or was preserved, would have to have had some concept to work from, and there is no such extant. This for the following reason. This body is not that of any known hominid or pongid and, what is much more significant, it does not conform to any reconstruction or artist's conception of any fossil man or ape or other anthropoid. Its general features and particular characters as detailed above display an extraordinary mixture of what have until now been assigned either to men or apes, but it also shows others that have never been assigned or attributed to any of either.

However, two separate companies specializing in model-making for waxwork museums, exhibits, and film companies in Hollywood, California, have been traced, and individual model-makers working for both have stated that they made copies with wax or latex and using hair from bears. Mr. Hansen, the caretaker, informed us in January of this year that such a model had been made in April of 1967 because the owner of the original was worried about its safety. An object such as this could possibly be constructed, starting with the skin of a large male, pale-skinned chimpanzee, using a human skull, glovemakers wood racks for the hands, and so forth. The original could have been of this nature, and then a copy, or copies, made of it.

Just in case this might not be the origin of the specimen, we should consider the alternative; namely, that it is a genuine corpse of a comparatively recently killed specimen — not "fossilized" in any way — of some form of parahominid. This is the considered opinion of Heuvelmans and is based on as thorough an examination as he was able to make considering that the specimen is encased in ice that is more than half opaque, and sunk about two feet below the glass cover of its container. And, if this is the correct interpretation, we would opine that it would more probably be on the hominid rather than the pongid stem of anthropoid evolution. Just where it should be placed on that stem can not, of course, be said until it has been properly examined out of its ice envelopment. Further, and much more important, will be any analysis of its blood, plasma and other body fluids, if they are still sufficiently preserved for typing. Even then, we may well be confounded because this specimen displays such a combination of characters attributed to the two presently thought quite widely separated families of anthropoid primates. And this constrains us to add a note of added caution.

In view of the fact that pongids and hominids have now been shown to fall into several groups, together — vide the Caucasoid and Congoid hominids with the gorillas and chimpanzees on the one hand; and the Mias, Siamangs, and Gibbons among the pongids with the Mongoloid hominids on the other, is it not possible that not only the hominids but the pongids have a grid-like genetic origin. If this be the case, could the concept not be further extended to include all the anthropoids so that there may have been — and, in this case may still be truly "manlike apes" and "apelike men"? This specimen is by several criteria a hominid, noticeably by its feet, but it has many pongid characters. Are the diagnostic features we are currently employing to separate the apes from men valid? If not, are both our "families" invalid, and could both groups form but one complex? If so, we will have to add the "Hairy Man" to Desmond Morris' "Naked Ape". Anything of this nature will absolutely demand an overall revision of our ideas of both physical and social anthropology, and will present a somewhat alarming problem to scientists and religionists alike.

This author's personal opinion as to the precise identity of this specimen is at the moment not formulated. As a trained zoologist and one who spent many years collecting mammalian and particularly primate specimens for examination, dissection and preservation in the field and while fresh, we would not presume to make any definite pronouncement upon anything other than a purely generalised, overall description of its external appearance. The corpus must be freed from its ice encasement and properly examined first. However, some speculation as to the taxonomic status of this creature, if it finally proves to be real, is perhaps permissible, since we do have detailed measurements and photographs to back it up.

It is Heuvelmans' opinion, which he states categorically in his paper (op. cit.), that this body represents the fresh remains of a neanderthaloid human. Such hominids are currently classed as a sub-species of Homo sapiens, yet Heuvelmans has named this item Homo pongoides, and thus of full specific rank. Though we suggested that appellation (pongoides) in the first place, we envisaged it either as a subspecific to H. Sapiens — since we have no idea as to the external morphology of the fossil neanderthaloids — or merely as a possible specific for some other genus of anthropoid. However, this suggestion was purely tentative in that, despite the existence of this specimen, we have no more idea of its anatomy, histology, or physiology than we do of the external morphology of the neanderthalers. I am therefore officially disassociating my name from that given in Heuvelmans' paper.

We are constrained to do this not only because we are personally averse to naming any specimen before it has been physically obtained and properly examined, but also more precisely because we are not convinced that this specimen is neanderthaloid or even a member of the genus Homo as presently constituted. Further still, it might not even be an Anthropoid, but rather a survivor of a line divergent from, and possibly lying between, the hominid and the pongid branches, but derived from a common ancestor to all three. In the absence of the corpus itself, as of the time of writing, and in view of our total lack of knowledge of the external morphology of any anthropoids other than the living hominids and pongids, we consider it to be most incautious to attempt to identify this specimen as of now, and more especially to confine it within a subspecific title. And anent this; one essential feature of this specimen seems to have been overlooked.

What can be seen of the conformation of the face, meaning the front of the head, in no way conforms to any known fossil hominid — apart from the juvenile australopithecoids — and particularly to that of any neanderthaler of comparable size. There is no prognathicism; virtually no brow-ridges; the forehead does not slope acutely; the two teeth that can be seen are infantile. In fact, from what can be assessed of the anatomical structure of the fore part of the skull, this creature is almost as far removed from the stand-

ard neanderthaloid construction as is possible. In these same respects, it shows no more affinity with Homo erectus, H. habilis (what is known of same), or more especially such "lower" types as were once called pithecanthropines, australopithecines, or such-like. In fact, if it does prove to be a hominid, by whatever criteria may be decided upon to define that family when and if it is examined, it might well be called Homo pongoides; but it most certainly should not be assigned to the neanderthal race or complex.

Our final conclusion, therefore, is that the specimen we inspected was that of a genuine corpse — as opposed to a composite or a construction — and that it is some form of primate. We would categorize it, as of now, as an anthropoid, but whether it is a hominid, a pongid, or a representative of some other previously unsuspected branch of that super-family we are not prepared either to say or even to speculate. There are certain firm indications that the specimen examined by Heuvelmans and this writer — though it has been removed from the place where we saw it, and hidden, while a substitute model has been installed — has not been destroyed and may therefore eventually become available for proper scientific examination. Until such time as this is achieved we advise that it serve only as a pointer to the possible continued existence of at least one kind of fully-haired, ultra-primitive, anthropoid-like primate, and be used only as a lever to pry open the hitherto hidebound notion that any such thing is impossible.

TECHNICAL NOTES ON THE ILLUSTRATIONS

The illustrations accompanying this paper fall clearly into two distinct categories of origin. Each of these requires some technical explanation since each in its own way is of very considerable importance to a proper appreciation of the subject matter in the text. The first two plates — Figs. 1 and 2 — are rescaled reproductions of the author's original technical drawings made from measurements taken, and sketches made, in Minnesota, directly from the specimen, in its container. The next five — Figs. 3 through 7 — were taken by our Society's photographer and Executive Assistant, Miss Marion Fawcett.

The method by which Figs. 1 and 2 were made was described above in the section entitled "measurements". These pictures are herewith submitted since they hold a much greater degree of linear accuracy than the photographs taken at the site because of the vile conditions for photography pertaining there. The specimen is under both glass and ice, and is housed in a low-ceiling trailer-truck so that it was impossible to elevate the cameras sufficiently to obtain even an overall "shot" of the whole, let alone any without distortive parallax.

Figs. 3 to 7 are straightforward shots, but it should be emphasized that those of the hands and feet were taken from a fixed camera position above, so that absolute comparison is possible.

Subsidiary Note

On the 8th of May, 1969, the Smithsonian Institution issued the following release regarding the specimen described in this paper.

"The Smithsonian Institution has withdrawn its interest in the so-called Minnesota Iceman as it is satisfied that the creature is simply a carnival exhibit made of latex rubber and hair. Information has been received from a reliable source, that the Smithsonian is not at liberty to disclose, concerning the ownership of the model as well as the manner, date, and place of its fabrication. This information, combined with some recent suggestions received from Ivan T. Sanderson, the science writer and original "discoverer" of the Iceman, as to the manner in which the creature could have been artificially made, has convinced us beyond reasonable doubt that the "original" model and the present so-called "substitute" are one and the same.

Dr. John Napier, the Director of the Primate Biology Program at the Smithsonian, points out that the Smithsonian's attitude has been one of skepticism combined with open-mindedness throughout, and that their only interest in the affair has been to discover the truth which they are reasonably certain is as stated above.

This procedure was in part initiated by the author, and for three reasons. First, we learned that, just as Mr. Hansen had himself informed the Smithsonian in writing, the specimen that Heuvelmans and the present author had inspected had been permanently withdrawn from public display and a fabricated copy made. Second, we traced a professional model-maker, working for a reputable firm in California who stated that he had made just such a copy. Third, this writer was asked whether he — having spent twenty years collecting and preserving mammals for the British Museum of Natural History — could make anything like the original.

Two of my previous assistants in that work happened to be available and, after consultation, we were able to submit a memorandum describing, in outline, how we would proceed. Simultaneously, the Smithsonian traced another man, also in California, who stated that he had made a latex model, using bear hair, in April of 1967. As a result of these facts, it was deemed advisable to defray any further expenditure of time and effort in the hope of obtaining the original specimen for proper examination.

This new model went on public exhibit in May of this year. It was photographed with the permission of the caretaker, and the photographs clearly demonstrate that it is not the original specimen examined by us — and in a number of readily discernible details. It is, in fact, a very fair reproduction of Mr. John Schoenherr's "artist's conception" that illustrated a popular article by this author in *Argosy Magazine* and which had appeared a month previously. These details were not visible in Heuvelmans' photographs but they were quite legitimate embellishments by this

fine artist for the purposes of a purely popular article.

Mr. Hansen has throughout adhered to his initial explanation of the discovery of the original specimen, as having been found in Hong Kong, and he has always stated that he never did know what it really was, while the owner refused to disclose the results of alleged hair and blood analysis. Mr. Hansen is a showman, and only employed to exhibit this specimen by its owners. He has told us frankly that what is now on exhibit is a copy and man-made. Comparison of the photographs of what he now has on view with those of the original corpse taken by Dr. Bernard Heuvelmans prove this beyond any doubt.

9th August 1969

The Editorial Secretary

GENUS

Comitato Italiano per lo Studio
dei Problemi della Popolazione
Via Ombrone, 8
Roma

Dear Sir.

A considerable amount more has continued to eventuate regarding the specimen preserved in ice which Dr. Bernard Heuvelmans and I inspected last December. As I told you in my last letter there appeared at that time to be some doubt as to its authenticity. However, in view of written statements by the owners to the Smithsonian Institution, of which I have copies, one can only assume that that which was stated therein is the truth — to wit, that the original specimen was removed and secreted at the end of March last and that a model or copy was then made for exhibit this year.

This copy has been so exhibited and we have three sets of photographs of it. These show quite clearly that it is not the same specimen that Heuvelmans and I inspected.

Only last week the exhibitor rang us from the international border between Canada and the United States where he had been held up pending a probe of what he had. This he refused to permit but nevertheless he was ultimately released to proceed back to the United States.

Thus, when all things are considered, I feel that the paper I prepared for you stands, and that Dr. Heuvelmans' original findings — apart from his taxonomic exercises, with which I do not agree, as I have told you — also stand.

Yours very sincerely,

Ivan T. Sanderson

ITS:mlf

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EPILOGUE ON BOZO

In late 1973 Mr. Frank Hansen exhibited the "iceman" at a shopping center in New Jersey, and this writer and Robert Warth took advantage of the opportunity to inspect the specimen and to interview Mr. Hansen. At that time, Mr. Hansen made some rather unequivocal (for him) statements concerning the alleged creature which may be summarized as follows. First, the original body encased in ice which had been studied by Sanderson and Heuvelmans was a genuine animal of unknown species. Second, the original and genuine body had been replaced by a model immediately after the inspection by Heuvelmans and Sanderson. Third, the original carcass was still in existence and the "true owner" was seriously considering releasing it for full scientific study.

Hansen went on to say that the true owner of the creature feared legal complications, and that this was the reason for the secrecy which had surrounded the matter. Apparently this fear was based on a combination of factors, including the means by which the animal was killed, and possible customs

and public health law violations. The increasing acceptance of these and/or similar creatures, such as the Bigfoot, and in particular the advent of the Roger Patterson film, had persuaded the "true owner" that perhaps the time was ripe for unveiling the real Bozo. In any event, the final decision on this would rest, as always, with the "true owner", and not with Hansen, who has very consistently described himself as nothing more or less than a poor harrassed employee and agent of the mysterious "true owner" of the iceman.

Hansen indicated that the 1973 tour was to be the last for Bozo, and that he had nearly completed his next project, an amazingly lifelike tableau of the Last Supper. It took some effort, but we resisted the temptation to ask if Jesus would be encased in ice.

By way of background on Mr. Hansen, we have learned only that he served in the U.S. Air Force, retiring with the rank of captain, and then embarked on a career in carnival showmanship. The iceman exhibit was not the only occasion on which Hansen attracted notoriety. The Saint Paul, Minnesota Sunday Pioneer Press of August 22, 1971 devoted a good deal of space to a display arranged by Hansen at the Minnesota State Fair. It seems that he put a new twist on the traditional carnival "fat man" shows. Here a gentleman weighing in at something like 1000 pounds was advertised as a victim of drug abuse. Visitors to the exhibit were handed a card reading as follows: "Drugs are Dangerous. How would they affect YOU? I took a trip...and another...and another ...and came back like this...If you haven't...Don't... If you have...Stop!" Hansen was forced to stop the farce when outraged drug education officials protested.

The Bozo affair was an agonizing experience for Heuvelmans and Sanderson. Both men had devoted an enormous amount of their time to the study of so-called unknown animals, and in the process had committed their professional reputations in a manner that is both rare and dangerous in the scientific world. It may be that the Psychological result of this commitment was a predisposition to believe in the reality of what some have called an obvious hoax. On the other hand, both men were really extraordinarily well qualified professionally to examine and judge such a specimen, and even the most severe critics of the authenticity of Bozo have been careful to note the technical competence of these two observers.

The most detailed and well-examined criticism can be found in Dr. John Napier's book entitled Bigfoot (Berkeley Medallion paperback). Shortly after Sanderson had seen the specimen in Minnesota he telephoned his friend Napier, who was at that time curator of the primate collections at the Smithsonian Institution. Napier immediately became immersed in the controversy, but came away fairly well convinced that Hansen was perpetrating a hoax. Here is Napier's reaction to Sanderson's description of Bozo's anatomy: "The characteristics of the Iceman seemed to me then —as now— to combine the worst

features of apes and man and none of the best features which make these two groups extremely successful primates in their respective environments. As described, the Iceman's foot was specifically adapted neither for climbing, as in a chimpanzee for example, nor for a two-footed walking gait on the flat as in man. The hands were typical of neither apes nor of humans but were a ridiculous compromise between the two."

Napier sums up the Bozo problem as follows: "Perhaps the real puzzle that arises... is how two experienced zoologists like Ivan T. Sanderson and Bernard Heuvelmans could have been misled. I have already indicated a possible explanation in terms of the psychological pressures that they experienced at the time. But is this enough? I fear it is the weakest link in my reconstruction. Both these scientists will undoubtedly refute both my analysis of the events and the imputation that they were the victims of brainwashing, and insist that, what they saw was the real thing. They have already provided the reasons for their beliefs. I repeat my reconstruction is purely speculative, inasmuch as I can offer no kind of proof for my suggestions, which are simply the result of intuitive reasoning."

Unfortunately, we must end this sorry tale where it began, in the Minnesota woods where Frank Hansen stores his carnival exhibits. He had a multitude of opportunities to reveal the hoax, if indeed it was a hoax. This could have been done directly to Heuvelmans or Sanderson, or it could have been communicated directly to the Smithsonian, or to any number of others in the scientific and academic world. Mr. Hansen could have done this with complete confidence that his carnival trade would not have suffered one bit in the revelation of his secret, and that the truth about Bozo would be shared only by a handful of experts. It would have been equally simple for Mr. Hansen to have afforded these experts unequivocal proof that Bozo was a genuine specimen. The very enormity of the scientific value of the specimen would provide ample protection against any harrassments Hansen might fear. But instead of dealing in a straightforward manner with this problem, Mr. Hansen chose to indulge in a protracted exercise in nose-thumbing. In view of the scientific stakes involved, and in view of the immense amount of time and aggravation expended by a number of dedicated scientific minds, Mr. Hansen's actions would seem to us thoroughly reprehensible. — R.J.D.

AN INTERVIEW WITH TIM DINSDALE

by Marty Wolf

Tim Dinsdale, an old friend and honorary Life Member of SITU, and probably the greatest admirer and adversary of the Loch Ness and various assorted monsters (these are dealt with in his books, The Story of the Loch Ness Monster — published for young

people by Target Books in England, and Monster Hunt, published by Acropolis Books, Washington, D.C.) came through New York not too long ago, and fortunately we were able to speak with him by telephone. We wanted to know the latest from Loch Ness.

"I made two private expeditions last summer, and returned to Loch Ness again in the fall. While there, I recorded a number of new sightings. One, related to me by two young men who had been in a lobster boat described a couple of very big humps; they reckon the humps were three to four feet out of the water. This was down at the western end of the Loch. I found it an interesting account, and I taped it, as I do all of these accounts.

"The most recent sighting that I am acquainted with is one made by two lads; they had seen, at quite close range, what was manifestly the head and neck of an adult specimen, at about one hundred fifty yards offshore. They described the neck as sticking about six feet out of the water and about as thick as a telephone pole. Three of us in my boat WATERHORSE saw a neck like this in 1971 in Urquhart Bay visible at half a mile.

"There were a number of other sightings during the summer from visitors ashore. These, you know, are usually reported in the local press with a certain amount of good humor.

"I try to get to see these important new witnesses who bring the subject up to date. But we did, I guess, get a typical bunch of sightings last summer."

Although Tim spent a great deal of time on the water, he didn't connect with a sighting himself, which is not surprising; and even though the odds will remain very much against it, he will stick with it. He told us also about one of the problems he had run into.

"The Academy of Applied Sciences (of which I am a member) was represented by Robert Rines, the President and a great scientist and enthusiast, who came in with some new and highly sophisticated sonar-triggered underwater flash photo equipment. All this was supposed to be set up on a concrete base on the bottom of Urquhart Bay. This was to remain unattended for about sixty days, but there was to be a readout ashore so that we would be able to go and look at the chart for the day and see if our friend had gone by and triggered the equipment underwater.

"Unfortunately there was a disaster when the gear was being lowered into the bay. Bob Rines had rented a barge and had two divers to help with the project, but suddenly in the middle of it one of the divers quit. He was a local man, and said he knew about the monster and that it was real, and that he was honest enough to admit it. He couldn't take it. It was too scary, and he quit on the job. This led to great difficulties. The equipment was heavy and the single diver that was left could hardly cope with it. It fell overboard onto the bottom and was damaged, putting the station out of action.

"However, we did do some other very interesting

sonar mapping with a new deep ocean-mapping device, a Chart Recorder developed by Raytheon. What we found will be published shortly in my book, Project WaterHorse, published by Routledge and Kegan Paul, Ltd. 68 Carter Lane, London EC4. The book is about the bizarre experiments, and the experiences with the people — the human side to what has come to be known as 'The Great Monster Hunt'. I had fun in writing it. We made, by chance, a really extraordinary geological discovery too, and this is covered in the book."

Tim went on to explain (with his delightful British accent) how he had narrowly missed sighting the monster himself in 1974.

"In September of last year I met a Scotsman, an interesting man, a scientist and a diver. A member of his family owns a twelve ton boat, which we boarded and took up by sea to Fort William. We ran into a storm — gale force ten — very exciting, and we holed up in a little cove for thirty-six hours. After five days we finally got into Loch Ness; the following day we met a retired Royal Naval Commander who in 1972, with his family, witnessed a good two-hump monster surfacing. He also happened to be a sonar expert. We inducted him aboard the vessel and went on up to Urquhart Bay where the Americans had flown in to do some more tests with the sonar. While there, we heard of a new sighting which we had missed, for God's sake, by only two hours! Some retired English people-friends of mine, had had a sighting at a range of a half a mile. They watched the thing for about twenty-five minutes through ten-power binoculars, and described it as about fifty feet long. It seemed to be just sort of lolling about, but it then submerged. On occasion it rushes off like a rocket (I think it's chasing fish, actually); it was obviously one of the very big ones."

We asked Tim when he plans to continue the hunt.

"I will resume operations in about a month. Believe it or not, Peter Byrne of Bigfoot hunting fame is coming over; I'm going up with him for a few days, and then he'll be returning to his research headquarters at Dalles in the Pacific Northwest. This will be the thirtieth expedition for me, and one of these days, by golly, I hope to achieve my objective — absolutely clear movie film of the monster taken at close range."

And SITU wishes you luck, Tim...

BIGFOOT IN NEW JERSEY?

by Robert E. Jones

In February of this year a story appeared in a local newspaper describing the report made by a Sussex County, New Jersey resident to the effect that he had on two separate occasions seen a large hairy biped crossing the road in front of his car in an area known as Bear Swamp. This story was followed by the testimony of still another local resident who claimed to have seen a similar animal during the

same time period. The thought of a Bigfoot in Northwest New Jersey, only 60 miles from New York City, seemed a bit incredible, but it definitely warranted careful investigation.

Fortunately, I live in Sussex County, and the area in which these reports originated is only a short drive from my home. In late February I contacted the witnesses and began investigating the matter. As of this writing, some three months later, the effort has produced some interesting results. To date I have interviewed 18 witnesses who have seen something that, assuming this is not a huge hoax, can't be anything other than our old elusive friend, Bigfoot!

Nor does this appear to be a new phenomenon in Sussex County. A little diligence in following up clues has led to the discovery of a report of a sighting here approximately 60 years ago, and other sightings have been uncovered from every decade since the late nineteen-forties. Other older sightings have been brought to my attention, but because I have not yet been able to interview the witnesses or document these in any other way, I am not including them in this discussion. In any event, ten of the accounts have described an animal crossing a road. In the remainder of the sightings the animal has been seen in a variety of circumstances, for example, by hunters in the woods, by a game warden on patrol, by rangers at a campsite, and by boys playing in the woods. Most of the sightings have occurred at night or at dawn or dusk. However, five witnesses, in three separate cases, have reported sighting the animal during day time.

One outstanding aspect of the accounts so far has been the consistency of the descriptions of the animal. It is by all accounts the typical Bigfoot, and the descriptions of size, shape, face, color of eyes, and so forth are virtually alike. One remarkable aspect of these descriptions is the color of the animal's hair or fur. About one third of the witnesses spoke of the "greyish" hue of the fur. As one witness put it, this was "sort of grey and brown fur mixed together." This is not unique in the North American Bigfoot reports, but it is rather rare.

Two of the Bear Swamp sightings are of particular interest. One involved a contractor who, about five years ago, was driving his truck up a mountain road to do some work on a house. It was around 11 a.m. on a clear and sunny day. While he was rounding a curve on the road the animal stepped out onto the road directly in front of his truck. The driver immediately jammed on his brakes to avoid striking the animal, which was only about six feet in front of the truck. The creature was apparently just as startled as the driver, and it turned and stared at the truck, gave an extremely loud scream, then ran off into the woods "faster than any animal I have ever seen." This sighting was especially valuable because of the detailed description the witness was able to give. At the time of this incident he had never heard of Bigfoot and knew of no unusual animals living in the area.

Quite naturally, this witness was perplexed by his

experience. When he related the incident to his family and friends and saw their incredulous reaction, he decided to record the incident but refused to report it to the authorities because of fear of ridicule. It was only by a stroke of good luck that I learned of this story, and it was, I am happy to say, because of SITU's very favorable reputation that he finally agreed to give me the details.

Another story worth recounting here involved a game warden who, while taking a friend along on his rounds, heard "a loud ruckus" in a swampy area near the place he was patrolling. Climbing a nearby knoll overlooking the swamp in order to see the cause of the noise, he came upon a startling sight. Below him, at a distance of about 50 yards, was "a huge, hairy, ape-like yet man-like creature standing in about three feet of water. The animal was apparently occupied in a serious dispute with a large snarling mongrel dog. The two witnesses observed this confrontation for about half an hour. It appeared that both creatures were fighting over something. The dog would feint an attack, but never let himself get too close to the creature: The "Bigfoot" would roar and bellow, and flail its arms about, and on several occasions pounded on a tree stump loudly with his fists. This incredible scene went on for some time, during which the attitude of the witnesses changed from the initial amazement to one of concern and fear. The witnesses then decided to go to the State Trooper office located some six miles distant to get aid.

When they returned they spotted the dog running away, but there was no sign of the creature. The troopers, heavily armed, continued to survey the vicinity after the witnesses left, and found what they reported to be a freshly killed deer. The cause of death was readily apparent, since the deer's chest had been ripped open. The conclusion of the State Troopers was that the game warden and his companion had witnessed a fight between a wild dog and the deer. This is, of course, utterly preposterous. The game warden is obviously qualified to discern the difference between a huge hairy ape-like yet man-like animal and a deer, and his companion, one may safely assume, could also perform this rather basic act of identification, given the short distance to the scene and the long duration of the incident.

My opinion is that one of the animals, either the Bigfoot or the wild dog, had killed the deer, and that these animals were contesting the question of ownership of this delicacy. Presumably the battle was defaulted by both parties when the witnesses and the troopers arrived on the scene. Even the "mythical" Bigfoot has learned to fear man!

Is the Bigfoot living in Northern New Jersey? I have yet to see one, and the evidence in favor of its existence here is nearly all in the form of personal accounts by eye witnesses. Nevertheless, most of these witnesses seem to be competent and reliable people, with nothing to gain and perhaps much to lose (their reputations) by telling of their encounters with the creature. The area in which these many reports

originate is really quite wild, dotted with lakes, mountainous, heavily forested and thinly populated. There is abundant wild life, and it is conceivable that a small group of Bigfoot-type animals could survive there undetected. Undetected, that is, in the wider sense of the term. In my three month investigation I have uncovered a wealth of fascinating evidence, and few if any "natives" of the area in question have any conception of the extent to which the animal has been seen there. This fact underscores the need for painstaking, long range study of this and similar phenomena. Naturally, my investigation has been carried out in a very quiet, publicity-shy manner. Names and locations have been kept in the strictest confidence. Only when witnesses know that they can tell their stories without incurring ridicule at the hands of newspaper writers or neighbors will they come forward with the vital details.

At the moment we are organizing a large scale investigation effort to explore the Bear Swamp area and the Bigfoot reports that have emerged from it. Any active SITU members who wish to take part in this task may write to me in care of SITU headquarters.



This is a composite diagram of the creature as described by four witnesses who saw it crossing a road near Bear Swamp in February 1975. We are reproducing the drawing with the kind permission of Mr. Tony Marchesin, photographer/artist for the New Jersey Herald.

AN INTERVIEW WITH BOB MORGAN

by Marty Wolf

We spoke with Bigfoot Investigator and Researcher Bob Morgan in Miami, Florida in January and again (this time by telephone) in April to find out what was happening in Florida, where they call the creature the "Skunk Ape." Morgan is a serious researcher who has worked previously, and continues to work, in the Pacific Northwest. In June of this year, he sent two separate scouting teams to northern California, Washington, and Oregon, and he will follow with the full expedition later in the summer after he hears from the teams as to their findings.

Morgan is a dynamic person, full of that serious kind of humor that develops from having to cope continually with a narrow minded conceptual view of the world. Above all else he is an aware and sincere individual who wants the creature he is after to be accepted into the world of science without death.

In addition to making a film about Bigfoot, which he hopes to have out soon, and sending out search teams to scout for his full-scale expedition later in the summer, and his investigations of Bigfoot reports in and around southern Florida, Morgan also finds time to speak at schools and universities:

"When I go and lecture to colleges and particularly to schools, I always preface everything with 'I didn't come here to convince you of anything; I merely came here to advise you of what we are doing with regard to a new type of research.' I don't try to convince them of anything, but I find it intriguing that the young kids are so fascinated by something that is in their realm. These kids get interested in these things because they are overwhelmed by the books that are thrown at them, by the amount of knowledge that has already been accumulated. They sit there and they look around and they say, 'This is overwhelming to me. I can't go to the moon. I'm Johnny Nobody. What am I going to do?' And here I'm saying to them this: There are things that are outside the textbooks. Be aware of what's around you."

We also discussed Bigfoot and the hunters and investigators who go after it, and the problems that are involved. Morgan feels that "as long as the profit motive is there, it's a cancer." A lot of the Bigfoot hunters, and a lot of the people who would financially back such a venture, are working on the profit-motive concept.

"What I want to do is donate all scientific data to all nations throughout the world regardless of political affiliation. I feel that this is knowledge for Mankind; that includes all colors, races, creeds and political affiliation. Otherwise, let's stop the nonsense.

"I want this thing (Bigfoot) accepted into the world of science without death. This has never been done. Well, hell, that doesn't mean it can't be done, it

means only that it hasn't been done.

"I have found that there are very few serious investigators in the field. There are a lot of Bigfoot hunters, but very few researchers. I've found that for me it has been the opposite for some reason."

Part of the reason why Morgan is so successful as a researcher is that he has the backing of some of the finest scientists in the field. His scientific advisory board consists of seventeen men and women, most of them having doctorates in a variety of complementary sciences.

Morgan works with a formula in Bigfoot research:

"I've found that there is a formula in Bigfoot research: 40% of the people who come to see me are either alone and need some pats on the butt, or they need to have someone hold their hand, or they are crying out, 'Please, someone, recognize me.' Either that or they are doing it deliberately as a joke. Another 40% are actually mistaken. The remaining 20% consists of facts."

We asked him for some of the facts that he has uncovered. What reliable witness reports have come out of Florida recently? In his own words, here are the reports:

"On February 2, 1975, at two o'clock in the morning, a young man by the name of Richard Davis, of Cape Coral, Florida, responded to his dog acting up and what he thought was a recurrent visitation from an unseen prowler that had been upsetting his household for a period of about three weeks. He went outside by way of the garage and turned loose his German Shepherd, a young aggressive female; she ran out of the house and around the corner into the spotlights, and in a few moments turned around and ran back. Her eyes were wide and her mouth was open. She was not barking, but she ran past Mr. Davis and into the garage and under the car. It is my understanding that there has been an altering of the dog's character and demeanor since that time.

"Mr. Davis, who had a .22 caliber pistol in his hand, walked outside and saw a creature move. He said it was very tall, perhaps nine feet tall, had grayish to brown hair, a flat profiled face with no distinguishable chinline, and did not have a snout-like nose. He said it looked like something that had been hit in the face with a frying pan.

"It was about fifteen feet from Mr. Davis. As it took a step toward him, Davis fired one shot into the chest and he saw the bullet hit just above the paunch. The creature grunted, turned and ran away.

"Now, for your information, something rather intriguing came out in the interview; Davis said that after firing the first shot, his intention was to fire the entire cylinder of the revolver. He could not fire the second shot. And he does not know why..."

At this point we interrupted Morgan to clarify what he was saying. We asked him if the gun had jammed or if it was for some other reason that Mr. Davis could not pull the trigger.

"He could not mentally pull the trigger again, and he finds this almost unexplainable. He does not

understand why he was not able to shoot a second time.

"Now this gentleman lives on an outskirts of the town of Cape Coral. There are canals on two sides of the house which is in a rather isolated area. There are trees within a mile or so of the area and there are also truck farms. It is an area that would be easily accessible for a creature that can move quickly at night. Also, within five to eight miles of that area, to the north of it, is a very wild area in which there are bears.

"Mr. Davis, after firing the shot, went back into the house and called his father and then called the police. He then went back outside, where he could hear the creature thrashing around in the weeds quite some distance away, and then he heard a distant splash. The police came but were extremely skeptical and were very, shall we say, slow to respond. There was hair retrieved from the eaves of that house and it is under analysis in Portland, Oregon, and we do have a drawing of the creature made by Mr. Davis.

"Now within a half mile of Mr. Davis' house was the home of John and Betty Michalowski. Mr. and Mrs. Michalowski, in my interview with them, indicated to me that they had had, over a three week period of time — and the same three week period, a problem of very odd or terrible smells near their home. This would only occur between nine and eleven at night, and it would come from one side of the house only. And about fifteen minutes later it would go away.

"Now going back for a minute to Mr. Davis. There were smudgemarks of a large footprint on his air conditioning unit, which is an exterior central air conditioning type unit. Mr. and Mrs. Michalowski had whorl-type white fingerprints on the top of their air conditioning unit, and that unit is on the same side of the house where they had smelled the strange odors, which leads us to wonder what the attraction was to these air conditioners.

"There are truck farms nearby, and I spoke with a gentleman who told me that it is rather common for them to have the edges of their truck farms torn up. They assume it is done by animals.

"Another report that came in is this one: on the sixth of March, 1975, in Martin County, Florida, near Lake Okeechobee, a man by the name of Steve Humphreys and his wife were traveling in their car. At about 11:20 p.m., as they approached a small bridge, a large hairy creature that they could not identify came out from beside the stream next to the bridge; they swerved into the other lane of the road to avoid it, but the creature was traveling rather fast, and they collided.

"The aerial of the car was torn off, the front fender damaged, and the door on the passenger's side was dented to the extent that it could not be opened. Mr. Humphreys came to a stop and backed up, thinking that he had hit a cow or horse. There was nothing in the highway. The one unusual part of the story is that he did find, when he opened the car door, that his two dogs would not leave the car and they acted

very, very oddly. Hair was obtained from the front fender, and again, was sent off for analysis. I went up to the area and spent some time there, studying the point of impact, etc. I did find fresh hominid feces, although not of a very large size, and there were human footprints in the area; I don't really know what happened there, but we should know more when we get the analysis of the hair. The incident was reported to the Fort Pierce station of the Highway Patrol.

"Here's another report; a sighting was made near Saga Bay in south Florida down below Homestead. I do not have all the details on that yet but I understand that it was written up in the newspaper, but I've been out of town recently. In addition to that, in talking with some of the Miccosukee Indians out along the Trail, I learned that a Miccosukee Indian in the company of two of the Rangers of the Everglades National Park saw something that did not appear to be a bear but was large and hairy and was moving about in the area. That's another report received recently. We haven't been able to check it out yet, but it follows other reports in recent years in that same Miccosukee village area.

"Then again we had another report, and I examined a cast that appeared to be authentic, taken by teachers at the Redland Elementary School in Homestead and Rangers of the Everglades National Park, of tracks of a barefooted, large hominid creature that had come out into a truck farming area, tracked around, and torn up plants. They did make casts of these tracks, and the tracks do appear to be Bigfoot. The tracks came out of the Everglades National Park and went back into it.

"These are the reports of what's been happening down here in only two months. In addition to these reports, there have been others here in Florida. Since November of last year there have been reports from Arcadia, LaBelle, Stuart, and Palm Beach. So you can see that we have had quite a bit of activity."

Finally, Morgan expressed his feelings concerning the massive amount of evidence that seems to have accumulated in favor of Bigfoot, and one of the biggest problems that stand in the way of people's acceptance of it — the human ego.

"I think the supporting evidence is very much swinging in behalf of Bigfoot. What we're dealing with is not an animal at all. I think this creature is Gigantopithecus, perhaps. Perhaps. He certainly fits the physical structure. The thousand or so Gigantopithecus teeth that have been found may offer a clue indicating that the Bigfoot is this creature. I had made an earlier speculation (which was endorsed by Dr. Carleton S. Coons) that these creatures may also be an earlier or previously unclassified form of Homo Erectus. Something very interesting on Homo Erectus; supposedly Homo Erectus died about five hundred thousand years ago, and yet we've discovered (and this was published three years ago in Nature Magazine) in Australia, that Homo Erectus had been alive and well, walking around in the swamps of

Australia, as little as ten thousand years ago. This tells me that there are big holes in our knowledge of anthropology. Now when some kid can pick up a textbook and read there that Homo Erectus lived 'X' amount of years ago to five hundred thousand years ago, he's going to take it as fact, and dammit, this is a dynamic science, it's a science that's learning, that's moving! I think all of these statements must be prefaced with 'to-the-best-of-our-knowledge'.

"My hypothesis is very simple: if Homo Erectus.

lived as little as ten thousand years ago, why not Gigantopithecus? There is no reason why not. Except that we don't know it! And our damned egos keep getting in the way. And I swear, the more I learn about science the more I learn about the layman in general. I don't care what their color or what their creed is, they get up in the morning with the same essential prayer: God, Buddha, Allah — Whoever, please let me get through this new day without a single new thought!"

ANTHROPOLOGY

SOME REFLECTIONS ON PYRAMID SLOPE ANGLES

by Stuart W. Greenwood

The large stone pyramids of Egypt have long held a fascination for anthropologists, and for mankind as a whole. It is recognized that they functioned as impressive memorials for Egyptian kings, but why were they built the way they were?

The main pyramids are listed in Table 1. The base alignments lie close to the N-S, W-E directions, the alignments being within a few minutes of arc in the case of the Great Pyramid. These alignments are clearly astronomical in character, and have led to the suggestion that changes in the base directions of the Great Pyramid since it was constructed may provide data on geologic changes such as continental drift (Ref. 2). Such studies have not yet proved fruitful.

The question of the choice of pyramid slope angles has long intrigued anthropologists. Fakhry (Ref. 1) considers that the choice of angle was probably made on structural grounds. Mendelssohn (Ref. 3) has recently presented a persuasive argument that the pyramid at Meydum collapsed before it was completed, and led to a decision to alter the slope of the Southern pyramid at Dashur then under construction. The problem remains, however, of why particular angles were selected over any other.

We can relate the angle of slope to suitable linear dimensions by simple geometry (Fig. 1). The ratio of the height, h , to one-half of the base dimension, i.e. L , gives the tangent of the slope, θ . In fact Lauer (Ref. 4) suggests that the pyramids were constructed on the principle of a given rise in height for a given distance in from the base, in other words on the basis of a suitable value of h/L . The last column of Table 1 shows the values given by Lauer that agree within 3 minutes (or one-twentieth of a degree) with the measured slopes. The value of $3/\pi$ for the Northern Pyramid at Dashur was computed by the present writer to complete the table. The original slope of Mycerinus is not accurately known due to its present state of disrepair.

Mendelssohn quotes a suggestion of Connolly that horizontal distances may have been laid out with a rolling drum. This could be the explanation for the supposed knowledge of the magnitude of π , the ratio

of the circumference of a circle to its diameter, by the early Egyptians.

The present writer has been examining the possible astronomical significance of the various slopes, using the mathematical concept that a surface is locally defined by the direction of its normal, i.e., a line drawn perpendicular to it. With reference to Fig. 2, it is seen that if we take a typical slope value of 52° for one of the Giza pyramids at a latitude close to 30° N, a line drawn perpendicular to the Southern face of the pyramid would point in a direction roughly parallel to the Ecliptic (the plane of the motion of the Earth around the Sun) at a time each day when the pyramid was most distant from the Ecliptic. This situation arises because the pyramid slope angle is roughly equal to the sum of two angles, the latitude of Giza and the angle between the Equatorial plane and the Ecliptic. The latter angle is called the Obliquity of the Ecliptic, and is currently about $23\frac{1}{2}^\circ$.

The three pyramids at Giza lie roughly on a line running from NE to SW. As viewed by an observer in the Ecliptic, e.g. on one of the other planets in our Solar system, all of which orbit in planes close to the Ecliptic, it would be possible to observe all these pyramids from different aspects as they rotated with the Earth. Observation would be possible because of the reflected sunlight that is the basis of

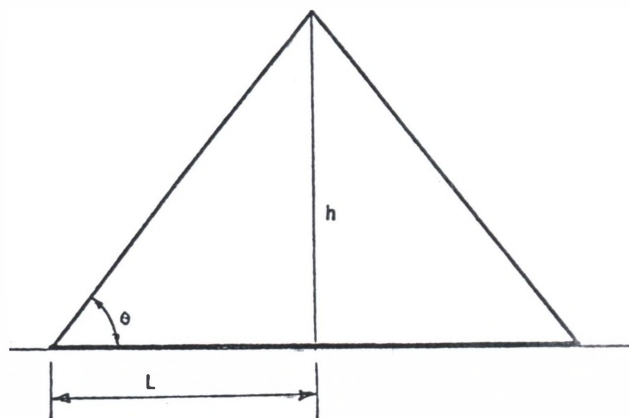


Fig. 1: Notation for Height-Perimeter Relationship

Pyramid Group	Latitude ϕ_N	Pyramid	Measured Slope (Ref. 1)	Comparison h/L (Ref. 4)
-----	$29^{\circ} 23'$	Meydum	$51^{\circ} 53'$	$4/\pi$ or $14/11$
Dashur	$29^{\circ} 41'$	Southern ("Bent")	$43^{\circ} 21'$ $54^{\circ} 31'$	$17/18$ $7/5$
		Northern	$43^{\circ} 40'$	$(3/\pi)$
Giza	$29^{\circ} 59'$	Cheops (Great Pyramid)	$51^{\circ} 50'$	$4/\pi$ or $14/11$
		Chephren	$53^{\circ} 10'$	$4/3$
		Mycerinus	51°	-

Table 1. Pyramid Slopes.

Pyramid	Slope θ	Latitude ϕ	$(\theta - \phi)$	Approx. Construction Date If $\epsilon = (\theta - \phi)$
Meydum	$51^{\circ} 53'$	$29^{\circ} 23'$	$22^{\circ} 30'$	22,000 BC
Cheops	$51^{\circ} 50'$	$29^{\circ} 59'$	$21^{\circ} 51'$	-
Chephren	$53^{\circ} 10'$	$29^{\circ} 59'$	$23^{\circ} 11'$	16,000BC

Table 2: Tentative Estimate of Construction Dates if $\epsilon = (\theta - \phi)$.

Pyramid	Slope θ	Latitude ϕ	γ		Approximate Construction Date if $\epsilon = \gamma$
			$(\theta - \phi) + \alpha$	$(\theta - \phi) - \beta$	
"Bent"	$43^{\circ} 21'$	$29^{\circ} 41'$	$22^{\circ} 28'$		23,000 BC
	$54^{\circ} 31'$			$23^{\circ} 24'$	16,000 BC
Northern	$43^{\circ} 30'$	$29^{\circ} 41'$	$22^{\circ} 47'$		18,000 BC

Table 3. Tentative Estimate of Construction Dates of Dashur Pyramids if $\epsilon = \gamma$.

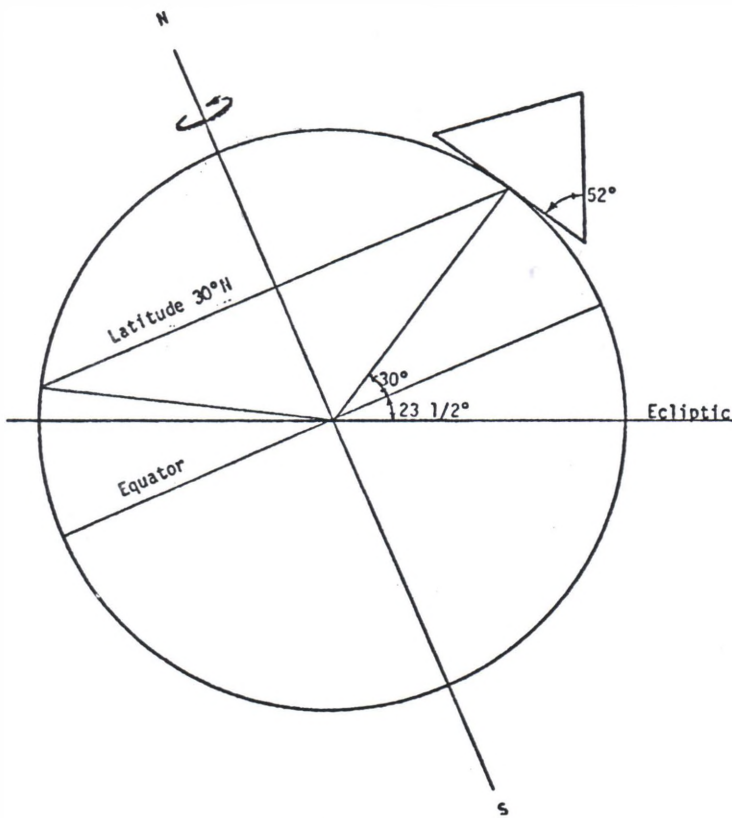


Fig. 2: Location of Pyramid Faces at Most Distant Position from Ecliptic Plane

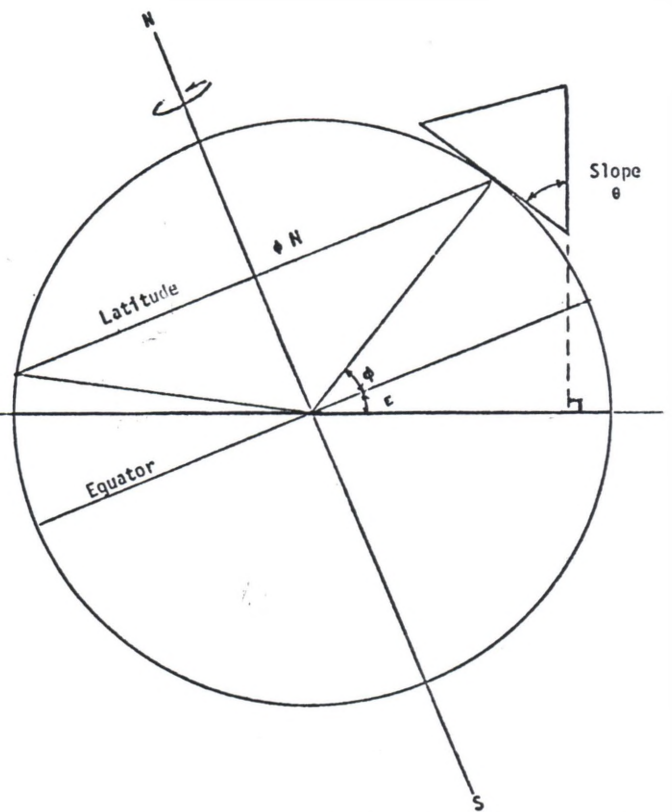


Fig. 3: Condition $\theta = (\epsilon + \phi)$ for Southern Face of Pyramid to be Normal to Ecliptic when Pyramid most distant from Ecliptic

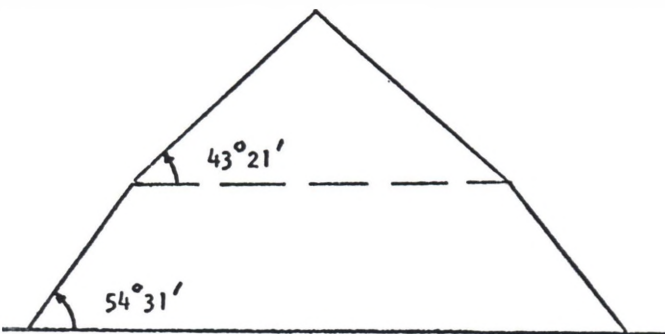


Fig. 4: "Bent" Pyramid at Dashur

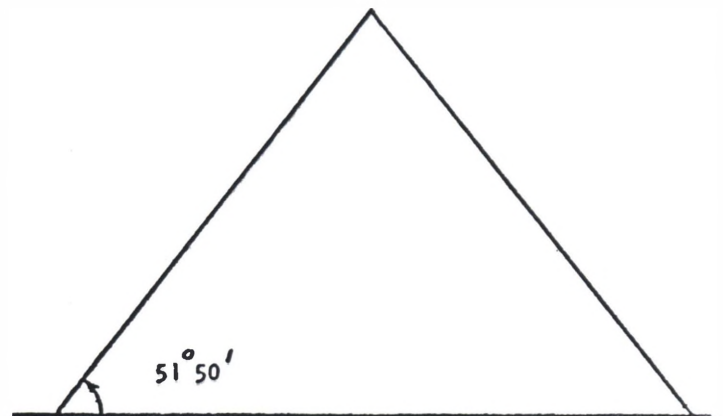


Fig. 5: The Great Pyramid at Giza

observational astronomy, and would be facilitated by the polished limestone facings that once covered the Giza pyramids and that, regrettably, has been almost completely removed by irresponsible builders in more recent times. We here pose the question: Were the Giza pyramids intended as signalling devices, using reflected sunlight, to other planets in the Solar System to indicate the presence of artificial structures on Earth, and hence the presence of a corresponding level of technology?

The condition for the Southern face of one of the pyramids to be perpendicular to the Ecliptic when the pyramid is most distant from the Ecliptic is shown in Fig. 3. The condition is shown in its most general form, but only the pyramid at Meydum and the Giza pyramids show any chance of qualifying. If we postulate that the slopes were selected with the requirement shown in Fig. 3 in mind, we are led to seek an explanation for the fact that today the requirements are only approximately satisfied.

In the process we propose to disregard (at our peril, as we shall see) the oft-repeated injunction of Gerald S. Hawkins to the effect that constructional dates should not be determined from astronomical alignments. We will investigate the possibility that changes in the Obliquity of the Ecliptic are responsible for the presently observed discrepancies. It is known that the Obliquity of the Ecliptic is currently decreasing from its present value of about $23\frac{1}{2}^\circ$, and some data on the variation going back well before the dawn of known history is given in Ref. 5.

The author deplores the preoccupation shown by many writers with the Great Pyramid, and wishes at this point to reassure the reader that the others are being passed over. For example, the so-called "Bent" Pyramid at Dashur (Fig. 4), which was built before the Great Pyramid (Fig. 5), will come in for its share of attention in due course. For the moment we return to the pyramids having slopes of around 52° .

Results from Ref. 5 for the recent geologic past are reproduced in adapted form in Fig. 6. It is seen that, as we go back in time, the Obliquity of the Ecliptic first increases, then reaches a maximum and then decreases. A full presentation of the data would show something like the familiar "sine" curve of trigonometry, with a total range of angle lying between about $22\frac{1}{2}^\circ$ and $24\frac{1}{2}^\circ$. If we now attempt to satisfy the conditions shown in Fig. 3, we find ourselves in a quandary. The discrepancy considered above becomes worse rather than better as we go back to about 2,500 BC when the pyramids are believed by anthropologists to have been constructed. We have to go back further in time to a period when the Obliquity of the Ecliptic was less than it is now to force the data to fit. The construction dates indicated by such a manoeuvre are given in Table 2.

The results look quite disturbing. About the only comfortable aspect of the dates is that we still have the pyramid at Meydum constructed prior to that of Chephren at Giza, which squares with conventional anthropology. However, the dates precede the accepted dates by a considerable amount. This will hardly

appeal to the establishment anthropologist who has such confidence in Egyptian chronology that he (she) uses it as a basis for other dating purposes.

Moreover, and here we will certainly part company with an army of pyramidologists, The Great Pyramid doesn't come into the picture at all. Of course, the data in Ref. 5 may need some further adjustment (it was derived on a non-catastrophic basis).

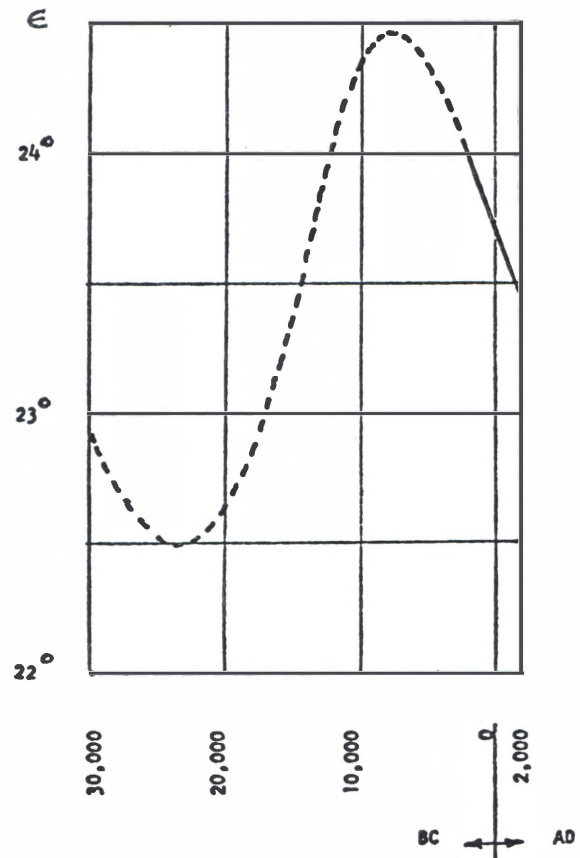


Fig. 6: Estimated Variation in the Obliquity of the Ecliptic in the recent Geological Past (Adapted from Ref. 5).

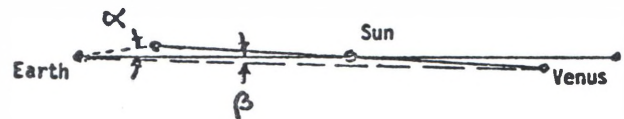


Fig. 7: Earth-Venus Lines With Venus most Distant from Ecliptic and the Sun and the Two Planets in a Plane perpendicular to the Ecliptic.

With a sense of relief we now turn our attention to the pyramids of Dashur. There does not appear to be any connection here with solar alignments as far as the slopes are concerned, but we have succumbed to the temptation to explore possible relationships to the motion of the planet Venus.

For the conditions shown in Fig. 7, the lines of sight from Earth to Venus make angles $\alpha = 8^{\circ}48'$ and $\beta = 1^{\circ}26'$ respectively with the Ecliptic. The construction dates for these lines of sight to correspond with the normals to the faces of the pyramids at Dashur, taking into account the curve given in Fig. 6, are shown in Table 3. The dates again give pause, for they lie well before the accepted dates. For the student of techniques of pyramid construction we also notice an interesting result: The upper portion of the "Bent" pyramid is indicated as having been constructed several thousand years prior to the lower portion.

It would seem that the problem of the choice of pyramid slope angles has still to be resolved.

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CHAOS AND CONFUSION

VILE VORTICES, OR A DISQUISITION ON CERTAIN MADNESS MARITIME

by R. J. Durant

What follows is only one man's opinion. It is, however, an opinion that will be considered quite outrageous by a number of individuals who read this journal. Not only that, but there are doubtless some who will accuse me of hypocrisy, ingratitude, and much worse for so expressing myself in print. So be it.

The subject at hand is the Bermuda Triangle, which by now has gone the route from something known only to a small band of enthusiasts to a prime subject of national attention. A subdivision of this discussion is the "Vile Vortices", an alleged set of twelve rather large deographic areas symmetrically spaced about the globe, and within which mysterious disappearances are said to occur with unusually high frequency. The vortices business is still in the avant garde stage, but it promises to filter into the public consciousness as authors rush into print on the Triangle. The Bermuda Triangle is, of course, merely one of the vortices, though quite the vilest of the lot.

As a regular contributor to Pursuit, and as one who worked closely with Ivan Sanderson in several areas of fortean research, I have become closely identified with the Bermuda Triangle controversy and particularly with the Vile Vortices. It was Sanderson who first proposed the existence of the vortices in several magazine articles and most notably in his book Invisible Residents. I assumed that the existence of these areas of anomalous activity were firmly established from statistical and other studies, and pursued the matter from that assumption. It now appears that this act of faith may have been a serious mistake.

The problem boils down to this: is it a fact that

truly inexplicable disappearances occur with unusually high frequency in these areas? This question has been addressed directly by Lawrence Kusche, a research librarian at the University of Arizona, and his conclusions have been published in a book entitled The Bermuda Triangle Mystery - Solved. In addition to reading this book with some care, I have had the pleasure of discussing the Bermuda Triangle with Mr. Kusche for something like three and a half hours on radio interview programs. In sum, it is my opinion that Mr. Kusche has written a rather extraordinary book that does live up to its rather bold title. The book is a remarkable exception to debunking literature in general in that it is calm, honest, and deals with all of the facts in a meticulous manner. The bulk of the book is devoted to a series of analyses of the best known Bermuda Triangle cases. Kusche summarizes these cases as they are presented in the popular literature, i.e. Gaddis, Sanderson, Winer, Berlitz, etc., and then reconstructs what really happened in each instance from newspaper accounts, weather bureau reports, official accident investigation reports, and so forth.

The Bermuda Triangle cases are shown, on the whole, to be not so mysterious after all. Many of the ships alleged to have disappeared in "perfectly good weather" in fact were last heard from while sailing into areas of the most severe weather. Other ships said to have disappeared in the Triangle were actually lost several thousand miles from the Triangle. To be sure, there remain a number of cases where no satisfactory explanation can be found, but in the majority of these the facts again prove to be quite different from the versions printed in the Triangle literature. Kusche is very reserved in his comments on the level of scholarship exhibited in the Triangle books. He seems content to state the facts as they are, or as any fairly conscientious researcher could confirm

them to be, and does not comment on those writers who have rather obviously taken the greatest liberties with the known facts in order to concoct a "mystery" from a quite ordinary marine disaster. It quickly becomes apparent that the classic Bermuda Triangle cases have been elaborated and embellished by one writer after another, each basing his account on the previously published one.

My first experience with the Bermuda Triangle Mystery should have put me on guard. In 1971 I decided that it was time somebody took a good look at the Navy's report on the Grand-daddy of the Triangle incidents, the loss of the six Navy aircraft on one afternoon in 1945. I visited the Bureau of Naval Personnel in Washington, asked to see the records, and to my surprise was given not only the bulging file but a private office in which to study the material. (As a result of the courtesy and concern shown by the Navy, my visit was followed by that of another SITU member who succeeded in getting the Navy to release the entire report to the public on microfilm.) I had determined to find the transcription of the radio messages sent by the lost flight, in particular the message that had been quoted in the several books then in existence on the Triangle Mystery. The quotation in these books goes like this: "We don't know which way is west. Everything is wrong...strange...We can't be sure of any direction. Even the ocean doesn't look as it should." Neither this radio transmission, nor anything remotely like it, appear in the Navy report. Nor do they appear in

any report or other source contemporary with the incident. Suffice it to say that the standard Triangle book version is not based on fact.

Subsequent research has disclosed that these spurious quotations originated in an article printed in the April 1962 issue of the American Legion Magazine by a Mr. Allan W. Eckert. This article was presented as a factual account, but it is obviously something else again. Incorporated in the same article is a tale that was previously published as fiction, and which has since then been published several times, always clearly labeled as fiction, but a tale which Mr. Eckert also characterizes as a true mystery of the air. Eckert's exercise was taken as gospel by the usually careful Vincent Gaddis, and the rest is history. I might add that a number of people, including this writer, have attempted to get Mr. Eckert to give his version of all this, but without success.

Pursuit will continue to publish accounts of strange occurrences in the Triangle, in the vortices, or wherever they may occur, and we already have on hand several new items in this line. The "file" is still open, and there may very well be a counterblast or two in response to these comments. I can hardly have endeared myself to our member of long-standing, Charles Berlitz, for example. Nevertheless, I urge the utmost caution not only to those who would travel through the vortices by ship or plane, but also to those arm chair travellers who must rely on writers of books for their knowledge of these places. Caveat emptor.

MISCELLANEOUS

NOTES FROM A MEMBER

by Ron Marsh

What is a Bigfoot when it brings a friend?

Are there two Bigfeet standing there? Or does a group of Bigfoots walk across your lawn?

In question is that least consequential aspect of science, but the one where tempers wear thinnest: nomenclature. Bigfoot News (Dec., 1974, p.3) tells about "three Bigfeet." Well, I prefer "Bigfoots," emphasizing that it is creatures and not a variety of foot I describe. English puts -s at the end of a noun to show plural, except for irregular words. Foot is such a case; Bigfoot is not. If a hyphen separated Big and foot, only then, it seems to me, could the word be pluralized by changing foot to feet.

Anyway, why isn't it called "a Bigfeet" instead of "a Bigfoot?" Both feet are big, right? For, tho we know it has two feet and always did, we still use this singular of the twin body parts noticed, which is consistent: waxwing, redwing, pronghorn, bluegill.

The word is a unit, plainly enuf: not a big nor a foot, but a BIGFOOT. Two Bigfoots. Twelve Bigfoots. I never have discussed more than one Sabertooth at a time, but Saberteeth sounds more of dentistry than animal science.

The indigenous names were here first, and I favor them, in particular, the pneumatic "Oh-Mah," with a sound like a drawn breath. I suggest that the first Bigfoot that is examined by science should be called Omar (Oh-Mah), respecting the Indians, to whom he was not a beast, but another man.

With the Continuous Roll Problem all wrapped up—and its describer happy enuf to have it buried—I still marvel at the confusion of that sandwich-on-a-spool and beg your forgiveness for some fuel to the fire:

Sitting around in a spare moment, years ago, I discovered an item of design quite similar to the typewriter roll. The item, and here is the terrible part, is found everywhere, and it must bring sleepless nights and interrupted functions to countless numbers of persons.

It seems that the two-ply toilet roll hanging in anybody's bathroom can be sabotaged by peeling only the outside ply one complete turn around, so it lies now on the inside and duplicates perfectly the condition of the mysterious typing roll (Pursuit, Apr. 74). The perforations no longer line up, and you have just served yourself two inconvenient lengths of unattached half-thickness toilet paper. This is what happened when, innocent as a babe, I needed it most.

There was no choice but postpone the business at

hand and find out what could be wrong. Doing so took several aggravating minutes and a very large quantity of unrolled tissue, now heaped on the floor. This I somewhat carefully rewound onto the roll (you can never get it tight again, ever), leaving a baggy, half-rolled and mis-wound mess for the next guy. If he were the same as the last, he deserved it.

In theory I support Pursuit's Anonymity by Number System, or whatever you call it that makes me 1748 instead of Ronald Marsh. In my case, however, there is utterly no professional reputation to be guarded. I do not fear being mugged in the night or spat upon in public by virtue of my association with SITU. It is, rather, a privilege. So, if I should ever be noticed in Pursuit. I really prefer you do so by my name, and not 1748, which takes longer to say anyway. I've so many numbers now I can never remember all of them.

I have one for the IRS, two for the bank, one with three hyphens for Selective Service, and one you could not imagine how long for the drivers license bureau. My employer knows me by another number and I must use four completely different ones—and

print them plainly—when I pay the gas and electric. The mailman returns my letters if I forget other persons' numbers. Even a charitable fund I give money to assigns me a special number, only they don't threaten me if I forget it.

I don't hate numbers, I regret them. For I need them. My only identity to the telephone authorities, for example, is a number, and I don't wish to be deprived of it. That is nearly what happened when I put extra holes in the computer card that goes in with the phone bill. My due reprimand issued from a human entity, and not a machine at all, and it leads me to postulate that any computer with so shabby a sense of self-defense cannot be a threat now or ever. But they are bound to teach them that too, and people like me will be handled swiftly and sternly, squashed like a worm, automatically, by punched card.

Getting back to numbers, please make mine, if I must have one, an interesting one. 1776 would be splendid. In 1748, nothing at all occurred anywhere in the world. I would accept 1492, or 1812 or anything as good. 1984 I definitely don't want, nor 1974, for the same reasons. On the other hand, may I drop out and join up again for 2001?

DEPARTMENT OF LOOSE ENDS

SUBSCRIPTIONS ABOLISHED

The Society's Governing Board has eliminated the privilege of subscribing to Pursuit as an alternative to full membership. We recognize that this will cause financial hardship to some subscribers. However, the recent increases in printing and mailing costs have resulted in a situation in which the Society has been providing the subscription service at a loss. Libraries and educational institutions will be charged \$8.00 per year for subscriptions.

RADIO "TALK" SHOWS

Several members of the SITU Board are available for appearances on radio discussion programs, and in particular those programs in which the interview can be accomplished via long distance telephone. The Society is eager to participate in such programs as a public service and to publicize SITU. Readers of Pursuit are urged to contact radio stations to inform them of the availability of this service.

In re Jacko: One of our members had come up with a probable solution to the puzzle of the initials C.B.E. He points out that this was very likely a typographical error for B.C.E.—British Columbia Express, roughly the equivalent of "the chap who kept a small store".

KRONOS

The Velikovsky controversy has long since grown to such proportions that we have not wanted to devote space to it in Pursuit on the theory that other specialized publications were doing a very complete job. Foremost among these publications was Pensee, but it now appears that Pensee has ceased publication. In its place we have a new journal called Kronos, published by several individuals who were editors of Pensee and, incidentally, SITU members. From the appearance of the first two issues, it promises to provide a splendid forum for discussion of the Velikovsky matter, with emphasis on the non-mathematical sciences. The subscription price is \$7.00 for four quarterly issues. Write to Prof. Warner Sizemore, Glassboro State College, Glassboro, N.J. 08028.

RON WILLIS

It is with deep regret that we must report the death of Ron Willis, co-founder of INFO (the International Fortean Organization). Ron was a central figure in modern fortean research. Together with his brother Paul, Ron founded INFO in 1968, published the lively INFO Journal, and organized the annual Fortfests which have served as a forum for public discussion of forteana. This year's Fortfest will be held in Chicago in August. For details write to INFO, P. O. Box 367, Arlington, VA 22210.

Member #1888 would like anyone interested in the Hollow-Earth Theory, Time-Travel, and Faster-Than-Light Travel to get in touch with him. Inquiries sent to SITU will be forwarded.

FAKE MEMBERS AND SELF-APPOINTED REPRESENTATIVES

We have obviously 'arrived'; there are, we have been told, those who claim to be members of SITU, but who are totally unknown to us. This is flattering in that membership is apparently considered to enhance one's image (or whatever), but if you meet someone who doesn't have a card, feel free to check with us concerning his status. Also, we do not have "official representatives". Anyone acting specifically on behalf of the Society carries a letter of introduction or a special membership card with the Society's corporate seal embossed on it. Anyone else should be "viewed with suspicion".

Fort's Errors

We don't believe there is anyone so fanatically pro Charles Fort that he is not aware that Fort did make mistakes occasionally—we have published at least one bad one in Pursuit. However, a systematic search for such errors is being made by M. X and R.J.M. Rickard and either or both will be grateful to hear from any of our readers who know of specific examples. American readers should write to M. X c/o SITU (we will forward these).

The Society needs a person to live at Headquarters as caretaker of our two (small) buildings and eight acres of land. Rent is free, but no other compensation will be provided. If any of our members are interested or know anyone who would be, please get in touch with us as soon as possible.

NOTE TO AUTHORS

We have been very pleased to note that SITU has received favorable mention in a number of recently published books and magazine articles. Unfortunately, readers who might wish to contact us have seldom been provided with our mailing address. Writing to us in care of the publisher is not really a very reliable means of communication, to put it mildly. In view of our dependence on memberships and a steady flow of new information, this is a most vexing problem. However, it is usually possible to include our mailing address in the body of the text, or in an appendix or elsewhere. We feel that this is especially appropriate in those cases where material has been abstracted from Pursuit or the SITU files.

Member #432 is interested in hearing from other members concerning buying, selling, or trading UFO books. Anyone interested write member #432, c/o SITU, and we will see that the information is forwarded.

THE BULGARIAN 'CYCLOPS'

Through the kindness of one of our members who has relatives in Bulgaria we now have the final word on the alleged 'cyclops' reported in our January 1974 issue. We quote his letter, in part:

"The whole matter was unfortunately only a piece of irresponsible reporting. They actually found the skeleton and 'one-eyed' skull, but the skull was shattered. The first field reconstruction of the skull gave the impression of one eye socket, and this story was given to the press by labourers. Subsequent digging brought up more fragments of the skull and it was established without doubt that the man had two eyes in the proper places."

By request we have not identified his informant, but the latter is clearly an unimpeachable source of information on this subject. He was there.

DEPARTMENT OF LOOSE, LOOSE ENDS

Science has provided a definitive answer to a question that has been debated with the greatest intensity for years: "How long does it take an average man to produce feces in the amount of his own body weight?" Answer: Two years. For those who insist on efficiency in all matters, the researchers added this extra information — if our average man were to eat 16 grams (about half a cup) of bran per day, he would double his daily stool weight and, thus, excrete feces equal to his body weight in just one year.

BOOK REVIEW

Max H. Flindt and Otto O. Binder. Mankind—Child of the Stars. Greenwich, Connecticut: Fawcett Publications. 1974. \$1.25.

This is an exasperating book which could have been a very important one if the authors had done their work more carefully. There is nothing wrong with their theory, and it is perfectly true that anthropologists are at a loss to explain the extraordinary evolution of Man. The book is addressed primarily to the anthropologists, but not one of them is likely to read beyond page 74 on which there appears an error so gross that one wonders how even the copy editor let them get away with it. There are some questionable statements in the preceding pages, though they can largely be described as "arguable". But when they state that what the anthropologists "are all looking for is some common ancestor of both apes and men,...[and] For this purpose, proconsul [capital P, please] was invented as a purely theoretical creature without any fossil pieces of him being known", all their credibility goes down the drain. No less than three species of Proconsul are recognized on the basis of skulls, limb bones, and other bits and pieces. Our files contain photographs of some of these.

The basic premise of Messrs. Flindt and Binder is not new and has been suggested by a number of persons, but they are, so far as we know, the first to devote an entire book to the subject. This is simply that Extraterrestrials 'manipulated' Man's evolution either directly or indirectly. Both interbreeding and genetic 'surgery' could have been used to transform primitive hominids into modern Man, and this would indeed provide a neat solution to many of the puzzles that plague physical anthropologists. Even here, however, the authors have sometimes been inaccurate in their statements concerning differences between Man and other animals, though many of these items are open to debate. More disturbing are their so-called explanations, all of which are based on pure speculation concerning the "Starmen" (as they call them). In many cases their "explanations" could easily be paraphrased "God did it", which is not helpful.

The book is worth reading, but for heaven's sake read it with extreme caution. There are many errors, but the basic theory certainly deserves consideration—not necessarily for the reasons given.

There is a foreword by none other than Erich von Daniken, notes for each chapter (one of their problems is that they have used Time-Life Books as a major source of information!), and an index.

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