
Book Reviews

The UFO Verdict: Examining the Evidence. By Robert Sheaffer. Prometheus Books, Buffalo, New York, 1981. 242 pp. \$15.95.

Reviewed by George O. Abell

Robert Sheaffer describes UFOs as jealous phenomena; he is applying the less common meaning of the word: "Suspiciously watchful." Indeed, UFOs are jealous in this respect, for they are extremely careful in selecting where and to whom they will appear.

Some people seem to have all the luck. Those who (often) are *not* used to watching the sky not only see UFOs but are taken aboard, medically examined, and even made love to; moreover, they frequently have not *one* such UFO experience but several, or even many. I, an astronomer who photographed most of the sky with the world's largest Schmidt telescope, have *never* seen one! Nor have most of my colleagues.

To be sure, I have received many reports of strange objects in the sky. More often than not they turn out to be prosaic things, such as Venus or some other bright planet, or a weather balloon, although very remarkable motions and other activities are often attributed to these familiar objects. Some reports I have been given are so bizarre that I cannot offer certain explanations, but in no such case has there been evidence to suggest that there is anything in need of an explanation. Moreover, I am aware of the incredible interstellar distances and the enormous time and energy that would be required to travel between the stars.

Consequently, I am skeptical of the extraterrestrial hypothesis (ETH) for UFOs; I consider it one of the *least* likely explanations for the illusive (jealous) UFO phenomenon. It cannot be absolutely ruled out, however, and it would be enormously exciting if we found hard evidence for alien spacecraft—the first proof of life beyond earth. So in cases where I am competent to offer useful help, I am willing to investigate evidence. I have looked into several such cases, but so far have found satisfactory prosaic explanations with no need (alas!) to postulate the more exciting but less likely one. No Nobel prizes for that!

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Yet, some of my friends who are ETH proponents (or at least UFO proponents) tell me that the more I read and study about the subject, the more I will become swayed by the evidence. Actually, the opposite is the case. Over the past several years I have read a good deal and have put in more study than I really have time for, and the more I look into it, the more kooky the whole thing seems.

The UFO Verdict makes this point far better than I could have expressed it. Sheaffer is a well-known skeptic but also a very experienced UFO investigator. His twenty-two chapters assess the nature of the evidence, describe the history of UFOlogy, provide interesting insight into the people and groups involved in its study, and consider the psychology of UFOlogy and the relationship between it and science. Interwoven among these more general discussions are chapters describing specific UFO cases and probable solutions (sometimes due to Sheaffer's own investigations). The forty-five photographs and diagrams are largely related to these cases.

Incidentally, the photographs are the poorest feature of the book. I realize that it is expensive to reproduce half-tones, and for this reason it is common to group them together on glossy paper and tip them into the middle of a book. But in *The UFO Verdict* the tip-ins are on the same paper stock as the text (so far as I can tell) and of such poor quality and at such a reduced scale as often to be almost useless.

Sheaffer's story, on the other hand, is very clear: plausible prosaic explanations can be found for all of the phenomena so far described. One cannot always prove that these explanations are the correct ones, but if plausible explanations can be found why seriously entertain esoteric ones? Of course *all* UFO cases cannot possibly be taken up in a single book, and I am not expert enough to assert that some more convincing cases have not been omitted; but colleagues more expert than I (including "believers") tell me that there is no hard evidence for the ETH. Nor, I must admit, have I carefully checked every statement Sheaffer makes or all of his references. But I did check some, and found no glaring inconsistency.

I am quite aware that the true believer will not be swayed by Sheaffer's arguments. But to the uncommitted reader, I say, try to be *open-minded*—that is, resist the urge to *want* to believe what appears to be the most bizarre or entertaining. Wishing does *not* make it so, Disney notwithstanding. Study the discussion. If doubtful, check up the references to see if they are correct. Then carefully examine the evidence, apply rational logic, and attempt to arrive at a conclusion—or no conclusion if the evidence is inconclusive—as should a juror in a criminal trial. It is just possible that you might find the ETH less convincing than romantic instinct would desire. (But rest assured that the *real* scientific frontier of fundamental particles, forces of nature, and cosmology will, when you look into it, provide a full measure of mystery and excitement!)

All of this says nothing about the likelihood of intelligent life in the universe, as Sheaffer points out in Chapter 13. Perhaps we are alone among technological societies in the galaxy, but perhaps the galaxy is teeming with civilizations. If the latter is the case, we have a finite chance of learning about it with radio communication. It is even remotely possible that spacecraft from other worlds have visited earth. But as Sheaffer explains, the odds, based on what we know today, are enormously against it.

If I had to criticize Sheaffer, it would be for his slightly crusaderish stance. He reads a little like a prosecutor trying to convince the jury that the accused should be sent to the chair. My gut feelings are in agreement with Sheaffer. Yet I know that

many sincere people take UFOs very seriously, and I would have preferred a lower-key approach—one that would present the evidence and documentation and let the argument sell itself. But this is a matter of taste.

I liked the chapter on photographic evidence and how many experts have been fooled by hoaxes later exposed, and I thought the chapter on the undependability of eyewitness testimony was especially good. Sheaffer includes here the famous account of astronomer Simon Newcomb, reporting on how, in 1860, a group of army officers were confused by a routine apparition of Mars. Sheaffer also points out how even trained astronomers can be misled by wishful thinking—as by Lowell's (and others') observations of nonexistent canals on Mars. I think Sheaffer errs, however, in implying that astronomer George E. Hale had been fooled by Barnard's attempt to measure the parallax of the Andromeda nebula (such a measurement of the apparent shift of that remote galaxy due to the motion of the earth about the sun is impossible with existing techniques). Barnard, not knowing the nebula was very distant, attempted to measure its parallax, but Hale, in reporting his results, pointed out that the measured effect was within expected errors, and anyway was in the wrong direction to be real. But this is a quibbling detail. By the way, Sheaffer might also have mentioned how the highly respected Adrian van Maanen's incorrect measures of the rotations of galaxies delayed the beginning of extragalactic astronomy for several years. Eyewitnesses are far from infallible—even trained scientists.

Sheaffer documents a striking similarity between modern UFOlogy and the arguments advanced for the existence of fairies and witches in past times. Of course we do not believe in fairies and witches today (or do we?), but the eyewitness reports and photographic evidence not only were as convincing as much of that for UFOs but were remarkably parallel!

When I read the sections dealing with "mysterious men in black," such naive theories for UFOs as that they come from within the hollow earth through a hole in the North Pole (with photographic "evidence" for this one!), and predictions in the *National Enquirer*, I must admit that I found myself accusing Sheaffer of overkill. After all, what rational American takes the *National Enquirer* seriously? But then it occurred to me that not only do many millions of Americans take the *National Enquirer* seriously, but even many prominent UFO proponents give credence to the most preposterous unsupported claims. The UFO journals are unbelievably uncritical. They list as recommended reading, for example, what I regard as such superficial and exploitative pulp as Ralph and Judy Blum's *Beyond Earth*. I once met Ralph Blum at a television debate, and frankly I question whether he takes UFOs even as seriously as I do.

The UFO journals seldom discuss prosaic explanations offered for the "best cases" (Sheaffer documents this point well). The wildest stories are accepted with no more supporting evidence than, for example, the star map by Betty Hill, so crude that it can be interpreted in a multitude of ways. Subsequent to her alleged abduction, Betty Hill has seen UFOs on a more or less regular basis; still the proponents give her story credence. I am led to think that it would be hard, or even impossible, to make up a tale so wild that it would be decisively rejected by the UFO community.

I do not mean, though, that all UFO investigators are nuts. I have met some that are intelligent, careful, and certainly sincere. As Sheaffer points out, Bruce Maccabee, a prominent UFO analyst who is not generally skeptical, is nevertheless

very competent and thorough. I had occasion to read his report on the 1978 New Zealand UFOs, and I agree with Sheaffer that it is a meticulous document, displaying considerable training and professionalism. On the other hand, near the beginning of the draft I read (here I rely on memory, for I no longer have the report) Maccabee remarks about this finally being the real thing—real UFOs! Sheaffer discusses the New Zealand sightings and offers what seem to me to be plausible prosaic explanations; they may not be the correct explanations (we shall probably never know them), but Maccabee revealed a predilection toward *non*prosaic ones.

In fact, in my experience, most UFO proponents are *not* open-minded. I, at least, acknowledge the possibility—albeit slight—that extraterrestrial spacecraft could exist and am willing to look and be convinced. The UFOlogists, it seems to me, are committed in advance to the ETH.

Toward the end of *The UFO Verdict*, Sheaffer describes alternative ideas about the UFO phenomenon. There is, he says, a “new wave”—a range of theories that describe UFOs as “extradimensional,” as beyond human understanding or investigation. But if so, he explains, they are also beyond study by any scientific means; that is, they are untestable, and hence not within the realm of science. This, to me, would make UFOs not very interesting.

What, then, keeps up the interest in UFOs? Certainly the media play an important role. Sheaffer does not condemn the media for seeking news and entertainment material, but he does blame them for having a double standard on news. The bizarre reports are prominently covered but seldom the explanations—when they are, it is with little emphasis. (Incidentally, Sheaffer incorrectly gives NBC credit for producing the television series “In Search Of.” That dubious honor belongs to Landsberg Productions in Los Angeles; the programs are syndicated through NBC.)

I cannot say that *The UFO Verdict* is a highly authoritative account of the subject, for I am not enough of an expert. I can say that much of the book on which I *can* pass judgment *is* accurate. For example, Sheaffer displays a really excellent knowledge of astronomy. Also, I can confirm most of what he says about eyewitness testimony about celestial objects. I would have preferred a less debative style, but nevertheless Sheaffer is absolutely correct that UFOs (like other paranormal things) are jealous phenomena. I strongly suspect that he is batting close to a thousand throughout. *The UFO Verdict* is by far one of the best works on the subject I have seen, and I strongly recommend it to both the believers and the skeptics (that is, the open-minded).

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The Metal-Benders. By John Hasted. Routledge, London, 1981. 279 pp. £9.75.

Reviewed by Nicolas Walter

What were once called supernatural miracles and are now called paranormal phenomena tend to follow fashions. During the past couple of centuries, for example, Mesmerist performances spread from France across Europe; then mediumistic performances spread from North America across the world, later followed by the extrasensory perception performances of dice-throwers and card-guessers. During the past decade the metal-bending performance of Uri Geller, as reflected in the media from 1972, set the latest fashion. Like so many such phenomena, metal-bending may seem too tedious and trivial to bother about, but it has been taken seriously by some intelligent people, including a few scientists.

Rational examination of paranormal claims is more than 2,500 years old, going back as far as Croesus's comparative test of the Greek oracles, and modern investigation dates from the scientific tests of Mesmerism 200 years ago. Yet psychical research is still a dubious area—whether wrongly, as parapsychologists claim, or rightly, as most other scientists think—and the recent work on metal-bending has not improved the situation. One of its leading figures is John Hasted, professor of experimental physics at Birkbeck College, London, who became interested in Geller in 1974, and *The Metal-Benders* is the result of his involvement in the subject since then. Like most such books, it is both fascinating and frustrating—fascinating because it shows an intelligent person struggling with extraordinary things, frustrating because it shows him losing the struggle.

Hasted accepts that "a very few people appear to be able to deform and fracture pieces of metal, and occasionally other materials, just by stroking them between their thumb and fingers, or even without actually touching them," and he assumes that this is a genuine paranormal phenomenon that will amend existing theories of physics and should alter our view of the world. About half the book consists of descriptions of his own experiments on metal-benders, and about half consists of discussions of these and other aspects of the paranormal. The mathematical and technical details can hardly be challenged by a layman, but the more general material must be challenged.

In fact Hasted challenges himself by saying, "Believe nothing that you hear and only half of what you see," which is an odd motto for such a book. He says, "The reader must make his own assessment of my competence as an observer and experimenter," but exposes his own incompetence better than anyone else could. The opening account of his conversion to a belief in paranormal metal-bending during a brief encounter with Geller reveals him to be the ideal audience for a conjuror. He comments that "the conditions of the observation were sufficiently good for me to claim that a conjuror could not duplicate exactly what I reported," but he doesn't let a conjuror try.

The crucial issue is not how paranormal metal-bending happens but whether it happens. Hasted is well aware of the danger of error and trickery, since much of his laboratory work is directed to eliminating them; yet he prefers to work with

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"immature teenagers and younger children," partly because he is "much more confident of being able to detect fraud" with them; yet such confidence is itself a danger, especially toward the very people traditionally associated with apparently spontaneous mediumistic phenomena and poltergeists. He says that paranormal metal-bending is more likely to occur when the performer's attention is relaxed, but forgets that this may also apply to the observer.

Hasted is well aware that his work has been subjected to criticism, but he says that "these chapters are not the place to refute such attacks as have been made on me," though it is hard to imagine a better place. Instead he sometimes tries counterattacks that make his position even worse. He says of his encounter with James Randi, the American conjuror who is a leading opponent of paranormal claims, that "he attempted trickery during a visit to my office" and that "the level of the interview was so low that I have decided that a detailed discussion of it here would serve only to embarrass him." Randi's version—in *The Magic of Uri Geller* (1975)—contains a detailed account of how he tricked Hasted and concludes with the two-edged verdict that Hasted "is incapable of deception—except when practicing it upon himself." He says of the work of John Taylor, the British scientist who has also done research with metal-benders, that he at first "believed paranormal metal-bending was a real effect" but later was to announce something of a change of heart, brought about by his failure to detect the presence of electromagnetic radiation during metal-bending." Taylor's version—in *Science and the Supernatural* (1980)—is that he has decided all metal-bending that he has observed could be caused by normal forces or by fraud.

Hasted is a likable person and a readable writer, but *The Metal-Benders* gives the impression that its real subject is not paranormal metal-bending but normal mind-bending, and that the extraordinary people are not the young ones who perform the latest paranormal fads but the grown-up ones who encourage them in it. The last judgment is that no skeptic will be convinced by this book just as no believer will be convinced by this review. ●

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Bigfoot: A Personal Inquiry into a Phenomenon. By Kenneth Wylie. Viking Press, New York, 1980. 251 pp., plus bibliography, index, maps, and illustrations, \$14.95

Reviewed by John R. Cole

Bigfoot has recently been reported in almost every part of America, and its relatives have been reported on other continents (Asia's Abominable Snowman, or Yeti, is the most famous). Footprints, tufts of hair, droppings, odors, and occasional

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sightings—but no bones or carcasses or clear photos—constitute the ephemeral evidence. Like UFO sightings, Bigfootism seems to be contagious, spread by word of mouth and press reports. Wylie's book opens with a presentation of seemingly inexplicable claims, and the rest of the book documents his patient investigation of them, which resulted in prosaic explanations, verdicts of "hoax," or determinations of insufficient evidence.

Wylie's subtitle is significant. Most of the book chronicles his personal search through the forests and psychologies of Bigfoot country. He hoped to find some positive evidence, but he shows clearly how skepticism is essential to any scientific quest; his treatment of scientific method in contrast to pseudoscience is the most worthwhile part of the book. He is sympathetic with believers, but not with hoaxers. He exposes some of the latter as opportunists looking for profit in human gullibility.

He could not obtain an interview with Ivan T. Sanderson but spoke at length with René Dahinden, Barbara Wasson, and John Green, as well as with Bob Gimlin and Wayne King and with many witnesses. In the process he noted the factionalism and the egos, evasions, jealousies, and confusions that exist among Bigfoot aficionados.

There is a good overview of primate evolution, distribution, behavior, and myth, and the treatment of such things as breeding population and food resource requirements is excellent. Wylie synthesizes historical and scientific studies well and adds notes from his own quest. Besides the main text, there is a good bibliography of important and accessible sources useful to the general reader. The appendices are excellent—they should be in every college and high school library. One is a synthesis of analyses of the famous Patterson-Gimlin film of a supposed Bigfoot; studies by John Napier, Grieve, Bayanov and Bourtsev, and Donskoy, published elsewhere, are reported in detail. Appendix B is an excellent chart-form comparison of Bigfoot "data" and "bionomic factors" applicable to all animals in general, which graphically dissects internal contradictions in data and explores the possible implications.

Wylie is a sympathetic observer who closes his book by comparing the Bigfoot quest to quests for the Holy Grail, wishing romantic pursuers well but stressing a possible human need for unsolved mysteries. Some readers may object at this point, but the author's refusal to condemn people like René Dahinden for wasting their time combines with a well-articulated sense of the nature, method, and uses of science to acknowledge that for some people the lure of democratic "unscience" is a strong one. He exposes Bigfoot charlatanry, humbug, and delusion without attacking the dignity of sincere believers and hoppers. ●

Manlike Monsters on Trial: Early Records and Modern Evidence. Edited by Marjorie M. Halpin and Michael Ames. University of British Columbia Press, Vancouver, 1980. 336 pp. \$24.95 (Canadian), hardcover.

Reviewed by Stuart D. Scott, Jr.

If you believe, as some do, that Bigfoot in any of its various forms does not exist in physical reality, a quick first impression of *Manlike Monsters on Trial* might be that it is merely another book on a subject of which there is indeed no positive empirical evidence. The cynical among us will note further that lack of evidence has hardly even slowed the flow of the pen. Such a first impression, however, would be false and unfortunate. This symposium volume, with contributions by twenty-four participants in a 1978 conference on "Sasquatch and Similar Phenomena," is an admirable attempt to review the philosophical and sociological literature bearing on the issue of nonhuman hominids. Essays in Part I, "Monsters in the Forest of the Mind," comment on historical interpretations and psychological understanding of the phenomena of legendary hominid forms. In Part 2, "Manlike Monsters of the Native New World," the Sasquatch concept is examined through the artistic and mythological perceptions of selected North American societies. Part 3, "Contemporary Sasquatch Investigation," deals with analysis and description of "hard" evidence, e.g., hair, feces, footprints, and so on.

Inevitably there is some unevenness in the analytical strength and clarity of the various papers, but on the whole this is an interesting and useful volume of scholarly descriptive research concerned with perspectives that are unlikely to come out of the usual Bigfoot dialogues. Coeditor Halpin aptly remarks (p. 18) that until now Sasquatch investigators have concentrated on the object of experience rather than the experiencing subject, a problem that this book attempts to correct.

The broad-reaching treatment recommends this book especially to those whose view of Sasquatch may tend to be culture bound. In this reviewer's opinion, this important group of papers will serve to advance the discussion of the issue of these elusive creatures considerably, for believers and nonbelievers alike. ●

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Tracking Those Incredible Dinosaurs . . . and the People Who Knew Them. By John D. Morris. Creation-Life Publishers, San Diego, 1980. 238 pp.

Reviewed by Henry P. Zuidema

"Creation is not a scientific theory," Duane T. Gish, associate director of the Institute for Creation Research, told a correspondent recently; and then he added

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the creationist line, "But neither is evolution."

What the ICR is about, he said, is "defending creation on the basis of science and not on the basis of the Bible or any religious literature of any kind." That is, the ICR proposed to use the methods of science in field investigations to substantiate, for example, the historical fact of Noah's flood and an earth history encompassed in a few thousand years, and, in this, to challenge the validity of evolution.

Tracking Those Incredible Dinosaurs, with its intriguing subtitle, is a report of one such enterprise—the investigation of the famous dinosaur trackways in limestone strata of the Cretaceous age being exposed by erosion along the Paluxy River near Glen Rose, Texas. The purpose: to establish that humans and dinosaurs existed together. The author is the son of Henry M. Morris, the director of the ICR. He recently received a Ph.D. in geological engineering at the University of Oklahoma and has, the ICR news bulletin announces, accepted a faculty appointment there for the current year.

Morris summarized his Paluxy fieldwork with the statement that "if one allows the whole body of data to speak for itself, without attempting to harmonize it with preconceived ideas, the conclusion that man and dinosaur walked together at the same time and place—and that both perished in a watery cataclysm—seems inevitable."

Further, in letters recommending the use of a motion picture about the Paluxy tracks, the ICR's associate director states that "all of us on the scientific staff of the Institute believe there is little doubt that the co-existence of human footprints with dinosaur footprints has been fully documented in the Paluxy River area." The book seeks to present this "documentation."

The ICR has attempted such fieldwork before. A few years ago it organized a search for the Ark. It also was led by Morris, who at that time had a B.S. in civil engineering from Virginia Polytechnic Institute and State University, where his father, a hydrologist who has written extensively on Flood theory, earlier was chairman of the civil engineering department.

A chief purpose of the expedition, one of many that have been conducted over the years by various groups, is suggested by the requirement that the participants, financed by families and church groups, be literate and fluent in order to better relate their experiences to audiences on their return. The Ark eluded discovery.

An equally challenging task was undertaken by the institute in its investigation of the Bannock overthrust complex in contiguous corners of Wyoming, Utah, and Idaho. Geologically this is an area where rock strata were pushed up along faults and then thrust over and upon other strata, thus causing a doubling up of the rock sequence that is observed in undisturbed regions. To creationists, this was merely an idea conceived by geologists to get around admitting that the "geologic column" does not exist. Here was an opportunity, as the ICR journal suggested, to show that a fossil sequence in the rocks does not occur, and hence evolution theory loses one of its main props.

Meanwhile, major oil companies following up on U.S. Geological Survey data gathered over half a century, hit it rich in both the western (including the Bannock) and the eastern (Appalachian) overthrust belts. Impelled by current energy needs and unfamiliar, it seems, with creationist doubts about the existence of overthrusts, drillers penetrated ancient sterile strata to reach more recent petroliferous rocks, long buried beneath thrust sheets, to reach oil and gas. The geological column still stands.

In its pursuit of the dinosaur-man connection in Texas, the ICR was again

going over well-traveled ground. Few fossil localities have been explored for so long a time as the Paluxy area has. Tons of dinosaur trackways have been removed by museums. Several universities have worked the strata, including some sectarian schools, such as Baylor (Baptist), Southern Methodist, and a group of Seventh Day Adventist colleges.

That other fundamentalists should be critical of such claims as are made in the Morris book is a sensitive issue at the institute. "Baylor studies have been the most extensive," Morris writes, "But, of course, the idea of man prints is ridiculed." The Adventist schools, including California's Loma Linda, studied tracks, including some that had been described as "moccasin imprints," and felt that the case for human occupancy of the area had not been proved.

The ICR actively entered the Paluxy scene in 1975, following interest stimulated by a motion picture made by the Films for Christ Association, an Illinois operation. The filmmakers had been attracted to the area by the writings of Clifford L. Burdick, an adviser on geology for ICR, who had been pursuing evidence of "giant humans" in North America for forty years. He came into possession of "man tracks" and a large cat track, perhaps of a sabre-tooth tiger, which is mentioned by Morris as "reported found in the Glen Rose limestone."

Burdick is not a paleontologist. Specialists at the University of Texas-Austin, who have worked the Glen Rose rocks, believe he may have been hoaxed. Curio shop dealers had earlier been hoaxed when they purchased tracks, some of them fabricated "human footprints," from residents in the area in the 1930s.

While references to the site of the cat-track "discovery" are vague, Morris points out that, since cats are thought to have evolved about 50 million years ago and the Glen Rose strata are dated as at least 100 million years old by geologists, this discovery "is almost as damaging to evolution theory" as are the purported human prints. "One well-documented factual observation," the author says, quoting another creationist writer, "would rob the theory of the huge time spans regarded as the *conditio sine qua non* for evolution to have occurred."

Therein lies the rub. As of this writing, there is not one impression of a human foot, in stone, removed from the Paluxy strata under the precautions observed in such work that has been made available for scientific study. The ICR museum has impressions, but these are plaster casts. Paleontologists require original material for description and identification. There were some rubber pullings taken by the filmmakers, but these, says the ICR, have deteriorated.

Much of the Paluxy trackways locality is state park land, the institute points out, and thus the tracks could not be removed from the exposed limestone without a permit. In 1975, Morris and Edward Blick, an ICR advisory board member and also on the engineering faculty of the University of Oklahoma, were taken on a tour of the area by a Glen Rose chiropractor, Cecil Dougherty, who has been examining the river bed for tracks for many years and who showed them "manlike tracks." These, Morris said, "included perhaps the most perfect track ever found. This recently exposed track was in a most vulnerable position and within a year of its discovery had completely eroded away."

Sedimentologists will be interested in the discovery by Burdick of "incipient metamorphism" with reference to a disputed Glen Rose footprint. Metamorphism is the change in composition of a rock, as limestone into marble, by great pressure, heat, and water, as in mountain-building disturbances.

Burdick seems to believe these enormous pressures could derive from the

weight of a person. Morris quotes Burdick on the examination of a cross-section of the footprint: "The area directly under the foot was white, due to recrystallizing of limestone into white calcite, leaving coloring impurities behind. This recrystallization was apparently due to the pressure from above, that is, the weight of a man."

Drawing on Noah's flood as a factor in the formation of the Glen Rose strata, Morris comments that "catastrophism is a relatively new conceptual framework for science . . . and very few investigators with geologic knowledge have tried to interpret specific geologic data from this perspective." He thus ignores one of the great controversies of more than two centuries ago, which ended in the collapse of catastrophism as a useful concept in the interpretation of geologic events.

That this book will survive as one of the more curious documents of our era and have a place beside George Price's *New Geology*, a book that has been termed "a classic example of pseudoscience," on collectors' shelves is assured by the author's explanation of why dinosaur and human footprints ought to be found together in Texas:

The conclusion seems to be justified that the Llano Uplift was one of the last areas to be permanently inundated by the flood. Certainly during the first weeks of the flood, as torrential rains poured down, as waters rose, as the earth shifted, and as areas flooded, men and the more mobile animals would have sought the highest ground for safety, which in this region would have been this great rock mass.

Animals of various sorts, friends and former enemies alike, would have rushed about in near panic looking for permanent safety. Perhaps the men built rafts in a futile effort to save themselves.

A temporary lowering of the water level . . . would have exposed some of the recently deposited sediments. In their frantic search for safety, many animals left the uplift only to find that the waters returned, even higher than before.

A map of the numerous dinosaur-track locations in the Glen Rose limestone indicates that the dinosaurs plodded off in all directions, leaving their footprints in the fresh sediments as they went.

Morris pursues his argument further:

Since the Bible indicates that dinosaurs lived before the Flood of Noah [Morris here suggests that "the fossil remains of certain dinosaurs" fit the "behemoth" and "leviathan" of Scripture] and likewise had contact with men after the Flood, as in the case of Job, it stands to reason that some of them may have survived the watery catastrophe.

Perhaps those who were more agile in the water were able to swim through the turmoil, at least in representative numbers, but that does not solve the problem of the land dinosaurs. It may be that Noah took members of the land kinds on board the Ark . . . He did not have to take adult animals, and indeed probably would have taken younger, more virile, and therefore smaller, individuals on board, those more likely to reproduce when the Flood was over. It is also possible that he took dinosaur eggs on the Ark, eliminating the need for so much food and space.

As a facet of the socio-political ferment inherent in the evangelical resurgence of the past two decades, the ICR becomes a legitimate object of public scrutiny. Its preoccupation with public education and its campaign to have special creation taught when evolution is presented are, moreover, much in the public eye.

In view of all this, the ICR might well stick to its real mission—to save the world from "Darwinism"—and get out of field research, which is filled with booby

traps for the believer and which to date has turned up nothing for the ICR that its followers had not accepted all along.

When its staff lifts its eyes to the mountains with the intent to prove the “scientific” truth of Scripture, it would be well to avoid some pitfalls by taking along a Brunton transit, a plane table, and a good rock hammer. ●

Some Recent Books

Listing here does not preclude a more detailed review in a future issue.

- Berry, Adrian. *From Apes to Astronauts*. London: The Daily Telegraph, 1981, 182 pp., paper, £1.45. Collection of science journalist's newspaper columns includes sections on evolution and on pseudoscience.
- Burnam, Tom. *More Misinformation*. New York: Lippincott and Crowell, 1981, 243 pp., \$11.95. A new collection of fables, fallacies, and fictions. In this lively sequel to his *Dictionary of Misinformation* (1975), Burnam once again shows that the debunking of commonly accepted misconceptions of all kinds can be entertaining as well as informative.
- Houdini. *Miracle Mongers and Their Methods: A Complete Exposé*. Buffalo, N.Y.: Prometheus Books, 1981, 241 pp., \$13.95. Welcome reprint of Houdini's 1921 book on fire-eaters, sword-swallowers, stone-eaters, reptile-handlers, and other performers of skill and daring. Foreword by The Amazing Randi.
- Pasachoff, Jay M. *Contemporary Astronomy*, 2nd ed. Philadelphia: Saunders, 1981, 603 pp. New edition of popular textbook is a good example of several leading texts that openly address astronomy-related pseudosciences with concise but excellent sections on astrology and UFOs.
- Planer, Felix E. *Superstition*. Cassell Ltd., 35 Red Lion Square, London. 1980, 376 pp., £9.95. A detailed critical study of superstition in its many forms, including prognostications, the spirit world, magic (including voodoo, faith healing, and psychokinesis), and religion. The author defines superstition as “a belief affording the relief of an anxiety by means of an irrational notion.”
- Rood, Robert T., and James S. Trefil. *Are We Alone?* New York: Scribner's, 1981, 256 pp., \$14.95. For those who have wanted a more skeptical scientific approach to the subject of possible extraterrestrial intelligence, this book, by two University of Virginia scientists, is it.

The following booklet has come to our attention:

Before You Hire a “Water Witch.” National Water Well Association, 500 W. Wilson Bridge Road, Worthington, Ohio 53085, 12 pp. 50 cents. Clear nonsense answers to frequently asked questions about dowsing.

—K.F.

Articles of Note

- Broad, William J. "Creationists Limit Scope of Evolution Case." *Science* 211:1331-32, March 20, 1981. Report on the trial of the creationist suit in a California superior court. Letters commenting on the case are in 212:737-38.
- Broad, William J. "Fraud and the Structure of Science." *Science* 212:137-41, April 10, 1981. Discussion of the issues raised by several new cases of pirating of papers and falsification of data that have come to light in biomedical science recently. For later important articles on the same subject see Susan Lawrence, "Watching the Watchers," *Science News* 119:331-33, May 23, 1981, and Lewis Thomas, "Falsity and Failure," *Discover*, June 1981, pp. 38-39.
- Cowen, Robert. "Creationism in the Classroom." *Technology Review*, July 1981, pp. 8-9. More on the anti-evolution campaign.
- FitzGerald, Frances. "The Reverend Jerry Falwell." *New Yorker*, May 18, 1981, pp. 53-141. Excellent detailed examination of the fundamentalist television evangelist.
- Frazier, Kendrick. "Miracle Mongers and the Gullible." *Baltimore Sun*, April 28, 1981, p. A17. Editorial column explores how willingness to believe in psychic wonders helped the news and entertainment media to become such easy prey for the Tamara Rand hoax.
- Godfrey, Laurie R. "The Flood of Antievolutionism." *Natural History*, June 1981, pp. 4-10. Report on the distortions of the "scientific creationists," whose political propaganda "may be poor science, but . . . powerful politics."
- Gould, Stephen Jay. "Evolution as Fact and Theory." *Discover*, May 1981, pp. 34-37. Excellent essay forthrightly responding to the distortions of the creationists. Emphasizes that the recent debates among evolutionists are only about the mechanisms of evolution, not the fact that evolution occurred. "Evolution is one of the half-dozen 'great ideas' developed by science. . . . Shall we deprive millions of this knowledge and once again teach biology as a set of dull and unconnected facts, without the thread that weaves diverse material into a supple unity?"
- Gould, Stephen Jay. "Pitdown in Letters." *Natural History*, June 1981, pp. 12-30. In response to Gould's August 1980 article presenting a strong case for the active participation of Pierre Teilhard de Chardin in the famed Pitdown man hoax, three paleontologists formerly associated with the French priest/paleontologist rally to his defense. Gould then responds in detail, adding still more circumstantial evidence of Teilhard's involvement.
- Greenwell, J. Richard, and James E. King. "Attitudes of Physical Anthropologists Toward Reports of Bigfoot and Nessie." *Current Anthropology* 22(1):79-80, February 1981. See News and Comment in this issue.
- "Hard to Digest," *Discover*, July 1981, p. 9. Skeptical Eye column criticizes the article "ESP: New Scientific Evidence" in May *Reader's Digest*.
- Hyman, Ray. "Dr. Hyman protests . . ." *Parapsychology Review*, March-April 1981, pp. 25-26. Response by Ray Hyman concerning misconceptions about CSICOP, Hansel, Hyman, and the APS symposium on physics and parapsychology promulgated in an earlier essay/review by Theodore Rockwell. Followed by a response from Rockwell.
- Kelly, Ivan. "Cosmobiology and Moon Madness." *Mercury* (Astronomical Society

- of the Pacific), January-February 1981, pp. 13ff. Second and final installment of Kelly's "The Scientific Case Against Astrology" examines the astrobiology claims of the Gauquelins and the claims of lunar influences on behavior.
- Lyon, Jeff. "Skeptical Scientists Band Together to Say Pshaw to the Psychic Crowd." *Chicago Tribune*, June 2, 1981, Tempo section, pp. 1-2. Lengthy article on CSICOP, its goals, activities, and critics.
- MacDougall, Curtis D. "If You Are Dedicated to Truth You Don't Ballyhoo Superstition." *Chicago Lawyer*, December 1980. Respected journalism teacher criticizes the media attention given to year-end forecasts of "astrologers, soothsayers, fortune tellers, clairvoyants and all manner of other psychics."
- Oberg, James. "Hoaxes" (UFO Update column). *Omni*, July 1981, pp. 32 ff. Lengthy examination of the many hoaxes credulous pro-UFO investigators have fallen for.
- "A Psychic Watergate." *Discover*, June 1981, p. 8. Skeptical Eye column focuses on the Tamara Rand hoax.
- Russell, Kathlyn. "Elisabeth Kubler-Ross." Escondido, Calif., *Times-Advocate*, April 26, 1981, pp. 1, 6 and 7. Five detailed articles. One on criticisms of Kubler-Ross is headlined "'No Better Than a \$25-an-Hour Rent-a-Spook,'" a characterization by a former associate, referring to the notorious group workshops with Kubler-Ross and "psychic medium" Jay Barham.
- Seligson, Marcia. "Interview with Elisabeth Kubler-Ross." *Playboy*, May 1981, pp. 69 ff. See Psychic Vibrations, this issue.
- Stanford, Dennis. "Who's On First?" *Science* 81, June 1981, pp. 92 ff. Smithsonian anthropologist critically reviews Jeffrey Goodman's latest book of fringe science, *American Genesis*, which contends that fully modern man originated in the New World and then spread to the Old World. "I found the arguments . . . convoluted and unconvincing," concludes Stanford. "I cannot recommend it for any serious reading. . . . Publishers who do not subject such works to proper academic prepublication reviews are, in my opinion, not doing their jobs."

—K.F.

From Our Readers

The letters column is a forum for views on matters raised in previous issues. Letters are welcome and are more likely to be published if they are typed and double-spaced. Some may have to be edited.

Schmidt's PK experiments

Somewhat like reader Mortimer Cohen (Letters, *SI*, Spring 1981), I am dismayed at the deference with which Professor Hyman treats parapsychologists (see "Further Comments on Schmidt's PK Experiments," *SI*, Spring 1981). From a purely scientific standpoint, if it's true that Schmidt doesn't allow access to his raw data and doesn't allow any monitoring of experiments in progress, that should settle the matter right there; the man's work doesn't deserve further consideration while such conditions obtain.

Hyman apparently hopes that procedures can be improved and thinks that the work is worthy of consideration on other grounds: namely, the ingenuity of Schmidt's approach and the apparatus that embodies that approach. Fair enough. Getting down to specifics, so far as the automatic recording of results is concerned, Hyman would probably concede that this feature of the apparatus, while valuable, is scarcely new in parapsychological research. The real admirability must lie elsewhere. It must lie in what

Hyman calls "a new level of sophistication regarding randomization of targets." But apparently this new level of sophistication isn't sufficiently high to allay Hyman's worries about the randomness of numbers outputted. He worries about short-run biases, about the deficiencies in Schmidt's own tests for bias, and, finally, about the fact that the complexity of Schmidt's RNG only increases such difficulties. He concludes that it may take years to learn the propensities of, and to wring out the bugs in, the new apparatus.

The question arises, If an RNG is going to cause all that trouble, why use it at all? Certainly not just to get random numbers. The latter can be purchased over the counter in the form of tables that have been checked and rechecked by all known tests. They are readily transcribed onto floppy discs and served up to experimenters automatically, just as if generated on the spot.

It would seem that the RNG, per se, confers no advantages, only disadvantages. The real merit, if any, can only lie, then, in the concept of using subatomic events as the physical events to be influenced by the will of the experimental subjects. Superficially, this looks like a great idea. Why not see if the mind can't influence atomic radiation analogously to the way heat influences Brownian movement?

But one has to examine *just how it is that any such power of mind is asked*