

The Edge of Reality: A Progress Report on Unidentified Flying Objects. By J. Allen Hynek and Jacques Vallee. Henry Regnery Co., Chicago, 1975. 301 pp. \$14.95 cloth, \$5.95 paper.

The Invisible College: What a Group of Scientists Has Discovered About UFO Influences on the Human Race. By Jacques Vallee. E. P. Dutton, New York, 1975. 223 pp. \$8.95.

Reviewed by Robert Sheaffer

It is not often that one encounters a book written by two trained scientists that promises to take one to the very "edge of reality." Such voyages of course are daily occurrences for those who dwell in the murky metaregions of the occult, but it represents a dark, uncharted path for those who have been trained in the exacting methods of the physical sciences. Thus one is not surprised to see that authors J. Allen Hynek, a Northwestern University astronomer and former Air Force UFO consultant, and Jacques Vallee, a computer scientist who also holds a degree in astrophysics, view themselves somewhat as pioneers. The book opens with a stern warning to those who find all new ideas "both frightening and a threat to their intellectual security" (this of course being the *only* possible reason anyone might disbelieve in UFOs). Their aim is to become Galileo, Einstein, and Daniel Boone rolled up into one, to "open up entirely new vistas" on an unseen universe. Indeed nothing less than a whole new universe awaits us, for it is the authors' modest intention to show how UFOs, ESP, and out-of-body travels are "signalling that there's a reality that the physical scientists . . . aren't at all conscious of, but exists!"

One might expect that physical scientists would approach such a wild, untamed region with infinite caution. If so, one will be disappointed, for the authors have gleefully swallowed a dismally high number of UFO hoaxes. Of the reported UFO abduction of two Mississippi fishermen in 1973, Hynek asserts, "*The men are not lying. I'm quite convinced of that*" [emphasis in original]. Then why did the principal witness back down, at the last possible moment, from his public promise to take a lie detector test while at a UFO conference in 1975? This promise was only reluctantly given after UFO skeptic Philip J. Klass revealed that an earlier polygraph test, which the witness had apparently passed, had in fact been a twenty-minute "quickie" job, conducted by an unlicensed, uncertified operator brought in from out of state. Never mind such details: the witness had "passed a lie detector test," and that's good enough evidence for Hynek.

The alleged UFO photos taken at McMinnville in 1950 are included in the book as apparently authentic, despite the fact that the witnesses have been shown to have falsified the time of day at which the photos were supposedly taken. The alleged "paranormal" powers of UFO contactee Uri Geller, the Israeli Cagliostro, are cited as compelling evidence for the reality of that fantasyland supposedly lying

beyond "the edge," despite the demonstrations of James Randi and others that Geller is just a clever fraud. And both authors are convinced of the authenticity of the supposed UFO landing which occurred in Kansas in 1971, even though the principal witness subsequently reported sighting, among other things, "the Wolf Girl." One is left with the feeling that were Hynek and Vallee to invest in real estate, their first purchase would likely be the Brooklyn Bridge.

The authors are anything but timid. (Even the format of the book is unconventional: most of it consists of transcripts of the authors' conversations.) They do not attempt to shy away from the obvious internal inconsistency of the UFO phenomenon, as "scientific" UFOlogists usually do. Instead they meet the absurdity head-on. Vallee concedes that the UFOs' reported behavior "is not consistent either with what you would expect from space visitors, or with what we know about physics. That's the dilemma." How to resolve it? Simple: first, we hypothesize that UFOs are coming from somewhere *outside* of space (?), and then we do away with physics.

With that dilemma nicely disposed of, Hynek enjoys telling tales about the "paranormal" feats of a Sioux Indian Medicine Man, which a friend of his has heard about while visiting an Indian village. Vallee prefers talking about elves and Elementals, and the Black and Red Meu, which can only be seen by his three-year-old daughter. Vallee confesses that he once thought the Meu, who live in haunted houses and play with ghosts, to be just childhood fantasies. But apparently the findings of his UFO research are now no less bizarre than his daughter's invisible companions. Anything goes when your working hypothesis becomes "interpenetrating universes." The authors can justifiably feel proud of their work, for they have succeeded in formulating the *ideal* scientific hypothesis: no matter what may be discovered in the future, their "parallel universe" scheme can *never* be refuted!

Vallee and Hynek likewise directly confront the tricky question of how UFOs always manage to slip away before the evidence of their existence becomes too convincing. "Close encounters" with UFOs seem to take place in isolated areas, and the supposed "physical remains" of their visits are always inconclusive. Photographs are never clear and convincing, and invariably only *one* photographer is present. *If* UFOs were in fact real objects, given the large number of reported sightings, it is inconceivable that conclusive evidence of their existence would not have been obtained by this time. Hynek has an answer for that objection: "The UFO is what has been termed a 'jealous phenomenon.'" (So termed by whom? By this reviewer. I introduced the idea to Hynek while I was a student at Northwestern.) "A Boeing 747 is not a jealous phenomenon, an eclipse isn't jealous, anyone can observe it. But a UFO is a 'jealous phenomenon' in that it seems to . . . be localized in space and time." And thus another troublesome problem has been disposed of, in the finest Medieval fashion: as soon as a name has been invented to cover some puzzling observation, the explanation has been completed. Hynek chooses to ignore the argument I presented in explaining the significance of this concept: when a phenomenon appears to be "jealous," like UFOs, ESP, and the Bigfoot monster, playing peek-a-boo with the world of objective reality, that is the strongest possible indication that it exists only in the overheated imaginations of its investigators.

The Edge of Reality is riddled with errors of fact, many of them small, but they nonetheless reveal the authors' uniquely careless scholarship. Everyone who reads the book seems to find a few more. For example, the authors state that "years go by without a single [airplane] crash." Philip J. Klass looked it up: there has been at least one fatal airline accident in the United States in every recent year, a total of 24 in the past five years. Aerospace writer James Oberg thought it curious that Mercury 9 should be launched before Mercury 8, which it must have been if the book's chronology of "astronaut UFOs" is correct. Tape recordings are said to be "in the Library of Congress" when in fact they're not. And the director of Dearborn Observatory in 1897—George Washington Hough, Hynek's own predecessor—was *not* its first director, as is stated. Is this the kind of scholarship that is expected to convince us to revise our concepts of the very nature of the universe?

Of UFOlogical skeptics Hynek says, "Heaven knows we need them to keep a proper balance." By this standard the Center for UFO Studies, of which Hynek is the founder and director, is an organization badly out of balance, for not a single UFO skeptic is to be found among its principal investigators or on its scientific board. Peas in a pod jostle each other more than does this like-minded crew. The authors' disdain for critical opinion is openly stated elsewhere in the book:

Vallee: Do we have to give a day in court to the man who believes it's all nonsense?
Hynek: Hell! One could spend all his energy confronting skeptics. . . . Why waste time on people who have not bothered to learn the basic facts? It's their problem!

To categorize *all* UFO skeptics, including such experienced investigators as the late Donald Menzel and Philip Klass, as "people who have not bothered to learn the basic facts" is nothing short of an outrageous falsehood. Hynek should publicly apologize for having so recklessly published such foolish charges. Here we see the unstated principle upon which the "scientific" UFO Center operates: *Responsible criticism does not exist*. Questions and disagreements are invariably ignored. Letters from responsible (but unwelcome) individuals remain unanswered. Results of UFO evaluations are never publicly released. (Why give out such information to just anybody?) Thus the operation of the center has come to closely resemble the astrophysicists' conception of a Black Hole; no matter how much material might fall in, nothing ever escapes. Yet the authors brazenly accuse all the other UFO groups of "actually *hiding* information instead of revealing it"! "They're publishing just enough to titillate the interest of their subscribers," charges Hynek, whose group publishes virtually nothing at all, while imploring its subscribers to become patrons at a thousand bucks a throw. "They turn into a PR organization," says Vallee of every UFO group except his own.

No meeting or conference organized by the Center for UFO Studies has ever included a single skeptic's dissenting voice. (Is the pro-UFO position utterly indefensible?) The house of cards Vallee and Hynek have built upon a foundation of hearsay evidence, careless scholarship, and neglect of scientific methodology would quickly tumble down in the turbulent air of open scientific debate. Having taken such pains to isolate themselves from all responsible criticism, it is not difficult to see why the authors now totter so precariously on the "edge of reality."

The Invisible College is best read sitting down, with seat belts firmly in place. If Jacques Vallee, in collaboration with J. Allen Hynek, can produce *The Edge of Reality*, then this book of undiluted Vallee can only be titled "Beyond the Brink."

Be prepared to meet Ummo, the inhabitants of the solar system of Wolf 424 (a red-dwarf star, believed to be incapable of supporting habitable planets), who cruise around in their Oawolea Ouewa (lenticular spacecrafts). You will also meet 7171, a UFO entity who is in frequent telepathic communication with a terrestrial medium, and Oeeu, the "Universal Association of Planets," a sort of cosmic United Nations. Vallee takes these stories seriously. Most UFO investigators take Vallee seriously. That fact alone suffices to keep the present writer from taking UFOs seriously.

Monsieur Vallee, computer scientist, astrophysicist, and member of the scientific board of Hynek's Center for UFO Studies, has a unique way of looking at the universe. It's called "metalogue." For those of us not familiar with that term, he explains that it means quite the same thing as "absurd." So should we protest that Vallee's theories are "absurd," he will correct our usage: they are merely "metalogical." That's the next level *above* common sense, just beyond the "edge of reality." UFO skeptics are wrong, Vallee would say, their theories objectively false. The UFO evidence allegedly proves that, in a manner that even Aristotle would find quite satisfactory, *Quod erat demonstrandum*. But Vallee's exquisite theories are not to be evaluated on such a vulgar level. They are metalogical—not precisely true, but certainly not false either, not in the same sense that UFO skeptics are simply *wrong*. UFOs, Vallee informs us, are "*truer than true*" (emphasis in original). Should anyone reading this actually understand what it means, it is urgent that you contact Vallee at once. There will then be two of you.

The metalogue truly represents the greatest advance in scientific philosophy since the invention of the Dialectic, which enables devout Marxists to "prove" that the Proletariat can only be liberated by being locked up in Gulag camps. One cannot get by with ordinary logic if one wishes to believe all the incredible things that Vallee does, so he rejects logic itself instead of rejecting Ummo, Oeeu, and the like. If the UFO evidence doesn't make sense, so much the worse for sense. Watching Vallee, who calls himself a scientist, so cavalierly jettison the objective, nonmystical world-view of science, one cannot help but wonder how far he might go were he to become an avowed mystic.

Spectra is the name given to the mysterious space entity which is alleged to beam down to Uri Geller the "paranormal" powers that enable him to do the things that stage magicians can do without them. Vallee has met Mr. Geller, and was most impressed by the apparent authenticity of his "paranormal" abilities. (I wonder if Vallee has ever met James Randi?) Geller's supposed revelations from the UFO-beings of Spectra of course fascinate Vallee, but he is not blind to the absurdities and contradictions in their messages; he recognizes that they are "telling obvious falsehoods and uttering sheer jargon most of the time." Does this damage Geller's credibility in Vallee's eyes? Not at all: "I think highly of Geller's talents. We cannot brush aside [his] experiences . . . with simple rejections. What we can and should do is to sort out the implications of the extremely confusing set of

events [they claim] to have observed." It appears that Geller's tales are simply *too absurd for Vallee to reject*. Hence they must be true, in some metalogical sort of way.

A policeman in Nebraska was supposedly abducted by a UFO in 1967. The UFO occupants reportedly gave the patrolman "a lot of interesting but possibly misleading information. They wanted him to believe that they came from a nearby galaxy. They had bases in the United States. Their craft was operated by reverse electromagnetism." Even Vallee finds it difficult to believe these things! Does he reach the obvious and straightforward conclusion that the witness is either hoaxing or else has hallucinated the incident? Certainly not. Vallee designates this aspect of absurdity "The Third Coverup." It represents "the built-in silencing mechanism of the phenomenon itself. . . . The phenomenon negates itself. It issues statements and demonstrates principles where some of the information conveyed is true and some is false." UFOs, he says, deliberately make themselves absurd to keep us from taking them too seriously. That line of reasoning can, of course, be utilized to justify *absolutely any absurdity at all*. One would hope that Vallee might look past the obvious immediate advantages to see the long-range problems that would arise if other scientists were to follow his lead in constructing hypotheses that can never be proven true or false.

The only thing wrong with Vallee's metareasoning is that, if adopted as a legitimate scientific paradigm, it would mean the end of experimental science. *No one could ever prove or disprove anything*. Science is a fully *consistent* body of knowledge; if metalogic is a valid methodology for analyzing UFOs, it must likewise be applicable to astronomy. Well, I say the earth is flat, and it rests on the back of a turtle. Don't say that's absurd—it is metalogical. Don't trot out evidence to show that I'm wrong, for contradiction is one of the ways in which the Great Turtle manifests the phenomenon. My flat-earth hypothesis is *truer than true*. Don't say that my theory is unscientific because it is impossible *even in principle* to prove it wrong, because Vallee's wild UFO speculations are likewise safe from the potential challenge of any critical experiment. In short, in *The Invisible College* we find nothing less than a complete and explicit rejection of the scientific method. Its rigorous standards of evidence are incompatible with the charming stories of miracles, little people, and mystical visions that Vallee wishes to weave into his UFO tapestry.

Vallee does indeed reach a conclusion about UFOs which presumably follows directly from his metaevidence. It is not immediately clear that conclusions of any kind can be drawn if one rejects "our laws of causality" (in Vallee's colorful phrase), but apparently even the Great Trailblazer was unable to make a clean enough break with his past to outgrow the childish habit of seeking conclusions from the evidence in hand. His conclusion is that UFOs form a "control system" for human consciousness: "they are the means through which man's concepts are being rearranged." How and why we are being "rearranged," and by whom, he is unable to say; whether by Affa, Ummo, Ankar, Oecu, or Spectra is left for the reader to decide.

What, by the way, is *The Invisible College*? It is a loose federation of scientists who are carrying out their own investigations into the UFO phenomenon, even

though UFO research is not ("as yet," as they say) a recognized scientific field. (Very little of the book deals with the College: miracles and metalogic predominate.) The present-day Invisible College takes its name from a seventeenth-century group of scientists that met informally, even clandestinely, at a time when the established colleges were dominated by the fossilized doctrines of antiquity. As experimental science gradually became respectable, its practitioners crawled out of hiding. Vallee-style UFOlogists like to think that they, too, are far ahead of their time, and that someday their ideas will likewise be vindicated by history.

But the original Invisible College was made up of scientists who were rebelling against the very sort of mysticism that Vallee is seeking to bring back. They were followers of Francis Bacon, the arch-experimenter, who advocated that scientists "put nature on the rack and compel her to bear witness." Bacon would have been acutely uncomfortable in the presence of a metalogic.

Bacon also left his followers a sober warning, which the latter-day invisible college might do well to heed: "In general let every student of nature take this as a rule—that whatever the mind seizes and dwells upon with peculiar satisfaction, is to be held in suspicion."

Methinks that the members of today's Invisible College might show just a trifle more *suspicion* in analyzing reports of bizarre UFO encounters.

J. Allen Hynek comments:

There are several kinds of book reviewers: those who review a book in terms of their own expertise in the subject, thus giving the reader a rewarding and intelligently critical perspective; those who lack this expertise and resort to picking out irrelevant discrepancies ("On page 178 Jones states that Jefferies visited Patagonia in 1923; it was 1924!") just to prove that they read the book (at least page 178); and those who use the review as a vehicle for airing their own opinions and strong emotional bias, with little reference to the main thrust of the author's work. Sheaffer is a good example of all but the first of these.

Sheaffer's concern seems to be that the book is not a definitive work on UFOs. He fails to recognize the primary nature of the book: a conversation between two people who have devoted far, far more time than the reviewer to the subject, and who are themselves by no means in agreement on many aspects of the problem. *The Edge of Reality* was meant to be controversial, and even deliberately "visionary"; to exhibit the many sides of the problem of dealing with the phenomenon of UFO reports, whose existence no one can deny; and indeed, to parade to public view the authors' own puzzlement about UFOs. It was not intended as "UFO truth once and for all revealed."

Sheaffer has always totally ignored the continuing flow of truly puzzling UFO reports, from all parts of the world and in many instances from remarkably competent witnesses. He will undoubtedly be surprised by the results of Dr. Sturrock's recent survey of the membership of the American Astronomical Society on the subject of UFOs (Peter Sturrock, Stanford University Institute for Plasma Research Report No. 681), which points out that 53 percent of the respondents to the questionnaire (52 percent of the questionnaires were returned) indicated a

positive attitude toward the scientific study of UFO reports, and which also contains a few interesting UFO reports made by professional astronomers!

The reader will discover that Sheaffer has learned well at the feet of his master, Philip Klass, the not-too-gentle art of using *argumenti ad homini*: "Their aim is to become Galileo, Einstein, and Daniel Boone all rolled into one" is a most uncalled-for remark. Further, his charge that we "have gleefully swallowed a dismally high number of UFO hoaxes" is certainly not demonstrable. Hoaxes by whose standards? Is Sheaffer unaware of Dr. Bruce Maccabee's work on the McMinnville photographs (see the *Proceedings of the 1976 CUFOS Conference*, Center for UFO Studies), which showed from careful photometric study that the strange object had to be at a considerable distance from the camera? Also, what about the utter lack of substantiation of Klass's claim that Socorro was a hoax contrived by the Chamber of Commerce to attract tourists? A recent visit to Socorro failed to reveal any improved roads (our rented car could not navigate the road to the site, and when a four-wheel pickup was used, the primary witness, Zamora, spent 15 minutes trying to locate the site). There were no signs or markers in the town, nor have there ever been any, to indicate that here is where the UFO landed. No concession stands capitalize on the "tourists." If this is the sort of proof of hoax that Sheaffer accepts. . . ! With respect to the Pascagoula incident, I feel that Hickson was justified in refusing to take a polygraph test in the midst of a public conference, with all the "circus atmosphere" such a forum implies. In light of such errors of fact, I must have more than this reviewer's opinion that some of the cases Vallee and I have considered seriously are hoaxes and that we have "gleefully swallowed them."

In stating that UFO skeptics are people who have not bothered to learn the basic facts, I was speaking of skeptics in general, with whom I have had ample contact in my many years of work in the area. I have found very few skeptics who are informed on the subject of UFOs. There will always be a handful who have diligently studied any subject but choose to interpret the facts to fit their emotional biases. Think of those who still feel that the Apollo mission was staged on a movie lot in Arizona! Or the people who know that one can circumnavigate the globe, yet force-fit this fact into their flat-earth theories!

It is psychologically expensive, and wasteful of time and energy, to join in battle with such skeptics. Should NASA have delayed mounting the effort to go to the moon until they had convinced the Astronomer Royal (who stated in 1955, "Space travel—utter bilge!") that it was feasible? They had more important things to do. The success of the missions automatically disposed of the Astronomer Royal and his myopic ilk without one word of needless argument from NASA!

Sheaffer would have the Center for UFO Studies use its limited staff to tilt with the skeptics. We have chosen instead to publish, in our short history, many hundreds of pages of case reports and technical papers (e.g., *The Lumberton Report: Physical Traces Associated with UFO Sightings; A Catalogue of 200 Type-1 UFO Events in Spain and Portugal*, and *1973—Year of the Humanoids*). The Center contributes to a new publication, *The International UFO Reporter*, which involves the careful investigation of every report included in each issue, and the Center also maintains a computerized file (UFOCAT) that now contains over

80,000 entries. Thus we dispose of Sheaffer's "black hole" theory; he chooses to remain "gleefully" unaware of the products of the Center.

All in all, Sheaffer's unfounded criticism, while revealing his emotional bias and its effect on his judgment, is hardly germane to the contents of the book or appropriate to a scholarly review.

Jacques Vallee comments:

I have but few comments, since the reviewer has misunderstood both the spirit and the letter of the book to the point of assuming that I believed there were such planets as *Ummo* and *Spectra*, when a great deal of my time is spent precisely in exposing the contradictions of contactee stories. The only inaccuracy I would like to correct for the record has to do with the Center for UFO Studies, with which Sheaffer believes I am still associated. In fact I resigned from the scientific board of CUFOS over a year ago and am not currently associated with any UFO groups.

To relieve the dullness of this whole subject I would like to share with you and your readers the epitaph I have composed following the death of Professor Donald Menzel, to whom we owe many definitive explanation of the UFO phenomenon. I have written it as a limerick:

There once was a dead man with a final answer
To strange things in Heaven, but as he got closer,
He did meet an angel,
Who said, "Dr. Menzel,
Why are you flying so, Sir?"

Robert Sheaffer replies:

Dr. Hynek has been kind enough to give us a reply that nicely illustrates all of my principal criticisms of his book.

Am I "unaware" of Dr. Maccabee's recent work? Even Dr. Maccabee does not make the claim that his research proves that the object "had to be at considerable distance from the camera," as Hynek would surely have known had he actually read the paper he cited.

"He fails to recognize the primary nature of the book . . . [it] was meant to be controversial." Is there not some better way to be controversial than to rush into print with reckless errors of fact, such as in the table of "Astronaut Sightings" (Chapter 3) or the badly misrepresented Walesville "UFO" incident (Chapter 5)? This sloppiness is not a necessary consequence of informality. Am I just nitpicking? Or should this gross carelessness serve to alert us that much, if not all, of the authors' UFO theorizing may be built on a house of cards?

My "black hole" criticism is entirely valid as stated: for the first few years of its operation, virtually no evaluations of UFO sightings were published by CUFOS. I will not credit a 1977 refutation of a charge that was entirely valid for the interval stated.

With regard to the Pascagoula incident, Hynek apparently conceded defeat

concerning the first polygraph fiasco, but defends Hickson's refusal to face the machine a second time. He fails to mention, however, that Hickson had agreed to the polygraph test *as a condition for being invited to the conference*, but then backed out *after* his arrival. Is this action "justified"? Concerning Socorro, I find myself being lambasted for the alleged shortcomings of *someone else's* analysis of the case, *a case not mentioned by me anywhere in my review* either directly or indirectly. (I agree that Klass's evidence for a Socorro hoax is not overpowering. But is his explanation as farfetched as the alternative?)

In light of the above, which of the two of us is guilty of the "errors of fact" that Hynek alleges?

Especially revealing is Dr. Hynek's automatic reduction of all skeptics to the level of flat-earthers and the faked-Apollo-flight nuts. (Who accuses whom of *argumenti ad homini*?) Disagree with me, says he, and you shall be dropped into the dustbin of History. If the voices of Galileo, Einstein, and Daniel Boone *were* to all be rolled up into one, would they not speak thusly? (One detects an accent of Zarathustra's voice as well.) Is Hynek "unaware" that both NICAP and APRO have told their members that Klass's investigations represent a significant contribution to UFOlogy and that his book *UFOs Explained* should be studied by everyone interested in UFOs, *even though these groups strongly disagree with Klass's ultimate conclusions*? The Center for UFO Studies makes no such concessions to the ravings of flat-earthers, UFO skeptics, and other crackpots. They have no time to "tilt" with unbelievers, as if with so many windmills. (Who is it that suffers from an "emotional bias"?) Dr. Hynek has convincingly illustrated my point that the "scientific" UFO Center operates on the principle that "responsible criticism does not exist."

Lest the reader conclude that the matter reduces to irreconcilable mutual charges of "emotional bias," consider this point: in a recent article (*Official UFO*, October 1976), I have plainly stated the type of evidence that would, if obtained, cause me to reconsider my position as a UFO skeptic. (They needn't land at the White House.) Let Hynek now point to the place where he has described the evidence that would cause him to change *his* opinions.

My chances of being laughed at along with the flat-earthers in the judgment of history are considerably smaller than the risk Dr. Hynek now runs of being accorded a place alongside the supremely credulous Sir Arthur Conan Doyle.

The Creation-Evolution Controversy: Toward a Rational Solution. By R. L. Wysong. Inquiry Press, Midland, Michigan (4925 Jefferson Ave., ZIP 48640), 1976. 455 pp. \$15.00 cloth, \$7.95 paper.

Reviewed by Norman R. King

Recent years have seen renewed attempts to popularize the theory of special creation as an alternative to evolution. Challenging evolution on the basis of religious appeals or condemnations has probably won few converts for the crea-