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THE DEMON- HAUNTED WORLD

Science as a Candle in the Dark

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BALLANTINE BOOKS • NEW YORK

and prospecting machines. In 1952 they were arrested by the FBI, and the following year found guilty of conducting a confidence game. Their exploits—chronicled by the historian Curtis Peebles—ought to have made UFO enthusiasts cautious forever about crashed saucer stories from the American Southwest around 1950. No such luck.

On October 4, 1957, *Sputnik 1*, the first Earth-orbiting artificial satellite, was launched. Of 1,178 recorded UFO sightings in America that year, 701, or 60 percent—rather than the 25 percent you'd expect—occurred between October and December. The clear implication is that Sputnik and its attendant publicity somehow generated UFO reports. Perhaps people were looking at the night sky more, and saw more natural phenomena they didn't understand. Or could it be they looked up more and saw more of the alien spacecraft that are there all the time?

The idea of flying saucers had dubious antecedents, tracing back to a conscious hoax entitled *I Remember Lemuria!*, written by Richard Shaver, and published in the March 1945 number of the pulp fiction periodical *Amazing Stories*. It was exactly the sort of stuff I devoured as a child. Lost continents were settled by space aliens 150,000 years ago, I was informed, leading to the creation of a race of demonic underground beings responsible for human tribulations and the existence of evil. The editor of the magazine, Ray Palmer—who was, like the subterranean beings he warned about, roughly four feet high—promoted the notion, well before Arnold's sighting, that the Earth is being visited by disc-shaped alien spacecraft and that the government is covering up its knowledge and complicity. Merely from the newsstand covers of such magazines, millions of Americans were exposed to the idea of flying saucers well before the term was coined.

All in all, the alleged evidence seemed thin—most often devolving into gullibility, hoax, hallucination, misunderstanding of the natural world, hopes and fears disguised as evidence, and a craving for attention, fame, and fortune. Too bad, I remember thinking.

Since then, I've been lucky enough to be involved in sending spacecraft to other planets to look for life, and in listening for possible radio signals from alien civilizations, if any, on planets of distant stars. We've had a few tantalizing moments. But if the suspected signal isn't available for every grumpy skeptic to pick over, we cannot call it evidence of extraterrestrial life—no matter how appealing we find the notion.

We'll just have to wait until, if such a time ever comes, better data are available. We've not yet found compelling evidence for life beyond the Earth. We're only at the very beginning of the search, though. New and better information might emerge, for all we know, tomorrow.

I don't think anyone could be more interested than I am in whether we're being visited. It would save me so much time and effort to be able to study extraterrestrial life directly and nearby, rather than at best indirectly and at a great distance. Even if the aliens are short, dour, and sexually obsessed—if they're here, I want to know about them.

Crop Circles ↓

How modest our expectations are about "aliens," and how shoddy the standards of evidence that many of us are willing to accept, can be found in the saga of the crop circles. Originating in Great Britain and spreading throughout the world was something surpassing strange.

Farmers or passersby would discover circles (and, in later years, much more complex pictograms) impressed upon fields of wheat, oats, barley, and rapeseed. Beginning with simple circles in the middle 1970s, the phenomenon progressed year by year, until by the late 1980s and early 1990s the countryside, especially in southern England, was graced by immense geometrical figures, some the size of football fields, imprinted on cereal grain before the harvest—circles tangent to circles, or connected by axes, parallel lines drooping off, "insectoids." Some of the patterns showed a central circle surrounded by four symmetrically-placed smaller circles—clearly, it was concluded, by four symmetrical landing pods.

A hoax? Impossible, almost everyone said. There were hundreds of cases. It was done sometimes in only an hour or two in the dead of night, and on *such* a large scale. No footprints of pranksters leading towards or away from the pictograms could be found. And besides, what possible motive could there be for a hoax?

Many less conventional conjectures were offered. People with some scientific training examined sites, spun arguments, instituted whole journals devoted to the subject. Were the figures caused by strange whirlwinds called "columnar vortices," or even stranger ones called "ring vortices"? What about ball lightning? Japanese investigators tried to simulate, in the laboratory and on a small scale, the plasma physics they thought was working its way on far-off Wiltshire.

But especially as the crop figures became more complex, meteorological or electrical explanations became more strained. Plainly, it was due to UFOs, the aliens communicating to us in a geometrical language. Or perhaps it was the devil, or the long-suffering Earth complaining about the depredations visited upon it by the hand of Man. New Age tourists came in droves. All-night vigils were undertaken by enthusiasts equipped with audio recorders and infrared vision scopes. Print and electronic media from all over the world tracked the intrepid cerealogists. Best-selling books on extraterrestrial crop distorters were purchased by a breathless and admiring public. True, no saucer was actually seen settling down on the wheat, no geometrical figure was filmed in the course of being generated. But dowzers authenticated their alien origin, and channelers made contact with the entities responsible. "Orgone energy" was detected within the circles.

Questions were asked in Parliament. The royal family called in for special consultation Lord Solly Zuckerman, former principal scientific adviser to the Ministry of Defence. Ghosts were said to be involved; also, the Knights Templar of Malta and other secret societies. Satanists were implicated. The Defence Ministry was covering the matter up. A few inept and inelegant circles were judged attempts by the military to throw the public off the track. The tabloid press had a field day. The *Daily Mirror* hired a farmer and his son to make five circles in hope of tempting a rival tabloid, the *Daily Express*, into reporting the story. The *Express* was, in this case at least, not taken in.

"Cerealogical" organizations grew and splintered. Competing groups sent each other intimidating doggerel. Accusations were made of incompetence or worse. The number of crop "circles" rose into the thousands. The phenomenon spread to the United States, Canada, Bulgaria, Hungary, Japan, the Netherlands. The pictograms—especially the more complex of them—began to be quoted increasingly in arguments for alien visitation. Strained connections were drawn to the "Face" on Mars. One scientist of my acquaintance wrote to me that extremely sophisticated mathematics was hidden in these figures; they could only be the result of a superior intelligence. In fact, one matter on which almost all of the contending cerealogists agreed is that the later crop figures were much too complex and elegant to be due to mere human intervention, much less to some ragged and irresponsible hoaxers. Extraterrestrial intelligence was apparent at a glance. . .

In 1991, Doug Bower and Dave Chorley, two blokes from Southampton, announced they had been making crop figures for 15 years. They dreamed it up over stout one evening in their regular pub, The Percy Hobbes. They had been amused by UFO reports and thought it might be fun to spoof the UFO gullibles. At first they flattened the wheat with the heavy steel bar that Bower used as a security device on the back door of his picture framing shop. Later on they used planks and ropes. Their first efforts took only a few minutes. But, being inveterate pranksters as well as serious artists, the challenge began to grow on them. Gradually, they designed and executed more and more demanding figures.

At first no one seemed to notice. There were no media reports. Their artforms were neglected by the tribe of UFOlogists. They were on the verge of abandoning crop circles to move on to some other, more emotionally rewarding hoax.

Suddenly crop circles caught on. UFOlogists fell for it hook, line, and sinker. Bower and Chorley were delighted—especially when scientists and others began to announce their considered judgment that no merely human intelligence could be responsible.

Carefully they planned each nocturnal excursion—sometimes following meticulous diagrams they had prepared in watercolors. They closely tracked their interpreters. When a local meteorologist deduced a kind of whirlwind because all of the crops were deflected downward in a clockwise circle, they confounded him by making a new figure with an exterior ring flattened counterclockwise.

Soon other crop figures appeared in southern England and elsewhere. Copycat hoaxsters had appeared. Bower and Chorley carved out a responsive message in wheat: "WEARENOTALONE." Even this some took to be a genuine extraterrestrial message (although it would have been better had it read "YOUARENOTALONE"). Doug and Dave began signing their artworks with two Ds; even this was attributed to a mysterious alien purpose. Bower's nocturnal disappearances aroused the suspicions of his wife Ilene. Only with great difficulty—Ilene accompanying Dave and Doug one night, and then joining the credulous in admiring their handiwork next day—was she convinced that his absences were, in this sense, innocent.

Eventually Bower and Chorley tired of the increasingly elaborate prank. While in excellent physical condition, they were both in their

sixties now and a little old for nocturnal commando operations in the fields of unknown and often unsympathetic farmers. They may have been annoyed at the fame and fortune accrued by those who merely photographed their art and announced aliens to be the artists. And they became worried that if they delayed much longer, no statement of theirs would be believed.

So they confessed. They demonstrated to reporters how they made even the most elaborate insectoid patterns. You might think that never again would it be argued that a sustained hoax over many years is impossible, and never again would we hear that no one could possibly be motivated to deceive the gullible into thinking that aliens exist. But the media paid brief attention. Cerealists urged them to go easy; after all, they were depriving many of the pleasure of imagining wondrous happenings.

Since then, other crop circle hoaxers have kept at it, but mostly in a more desultory and less inspired manner. As always, the confession of the hoax is greatly overshadowed by the sustained initial excitement. Many have heard of the pictograms in cereal grains and their alleged UFO connection, but draw a blank when the names of Bower and Chorley or the very idea that the whole business may be a hoax are raised. An informative exposé by the journalist Jim Schnabel (*Round in Circles*; Penguin Books, 1994)—from which much of my account is taken—is in print. Schnabel joined the cerealists early and in the end made a few successful pictograms himself. (He prefers a garden roller to a wooden plank, and found that simply stomping grain with one's feet does an acceptable job.) But Schnabel's work, which one reviewer called "the funniest book I've read in ages," had only modest success. Demons sell; hoaxers are boring and in bad taste.

The tenets of skepticism do not require an advanced degree to master, as most successful used car buyers demonstrate. The whole idea of a democratic application of skepticism is that everyone should have the essential tools to effectively and constructively evaluate claims to knowledge. All science asks is to employ the same levels of skepticism we use in buying a used car or in judging the quality of analgesics or beer from their television commercials.

But the tools of skepticism are generally unavailable to the citizens of our society. They're hardly ever mentioned in the schools, even in the presentation of science, its most ardent practitioner, although skepticism repeatedly sprouts spontaneously out of the disappointments of everyday life. Our politics, economics, advertising, and religions (New Age and Old) are awash in credulity. Those who have something to sell, those who wish to influence public opinion, those in power, a skeptic might suggest, have a vested interest in discouraging skepticism.