CONTROVERSY OVER THE PHENOMENON of crop circles—typified by swirled, circular depressions in wheat and other cereal crops—has flourished since it first captured media attention in England in the late 1970s. The controversy soon spread to North America, where it continues. Two cases—one in south-western Ontario, Canada, and the other in Solano County, California—directly involved my office. The cases are instructive in illustrating how misinformation about the paranormal is created, packaged, and sold.

Background

In its early years, "circlemania" attracted a number of self-styled researchers called "cereologists" (after Ceres, the Roman goddess of grains or agriculture). Also dubbed "croppies," they have advanced a number of theories to account for the proliferating, evolving designs of crop circles, ranging from the mystical (earth spirits and occult energies) to the science-fictional (alien hieroglyphics) and the pseudoscientific (ionized wind vortices) (Nickell and Fischer 1992; Nickell 2002; Guiley 1991).

Actually, as forensic analyst John F. Fischer and I demonstrated in 1991, several factors pointed to hoaxing as the most likely explanation: crop circles were more prevalent in southern England, had proliferated in the wake of media reports, were increasing in complexity each season, and exhibited a "shyness" effect (i.e., the mechanism was never seen in operation). Just before we went to press, two retired artists, Doug Bower and Dave Chorley, admitted that they had pioneered the making of crop circles, using planks and cord. To prove their claim, they fooled cereologist Pat Delgado, who declared a pattern they had produced for a British tabloid to be genuine. Soon, others admitted that they had been infected with the circle-making bug.

The croppies, however, could not be dissuaded by such simple evidence—

especially since that would require admitting how gullible they had been. They defended their untenable position with clouds of smoke and arrays of mirrors. Indeed, as often happens with paranormal issues, the croppies attracted a tiny number of low-level, maverick scientists who lent an air of credibility to the non-sense. At least their pronouncements have been afforded much ink and airtime by the infotainment media—all at the expense of authentic scientific inquiry.

Unlike scientists who seek to solve mysteries (science is from the Latin *scientia*, "knowledge"), the self-anointed cereologists—like other paranormalists are trafficking in the "unexplained." They engage in a logical fallacy called arguing from ignorance: "We don't know what causes certain crop circle anomalies," they say, "so this crop circle must be a genuine one, possibly formed by aliens or wind vortices." They explain a minor mystery (real or perceived) by manufacturing a greater one—what the ancients called straining at a gnat and swallowing a camel.

Ontario Dumbbell

Among several crop circles that appeared in southwestern Ontario in August 2003 was a 170.5-foot dumbbell-shaped formation in a wheat field in Elgin County (figure 3). It appeared on the farm of eighty-one-year-old Lawrence Holland, located between Iona and Wallacetown. Croppies were soon on site, getting all the media attention they could.

Kevin Christopher, then public-relations director of CSI, had been in touch with a reporter for the *London (Ontario) Free Press*, Marissa Nelson, who expressed an interest in accompanying me to investigate the formation. On August 21, with *Skeptical Inquirer* managing editor Benjamin Radford, I drove to London to rendezvous with Nelson at the newspaper offices. On the way, Ben and I outlined our investigative strategy. As he took notes, I added some predictions: (1) that the lay pattern of the wheat would show which of the two circles had been made first, (2) that the wheat of the dumbbell's connector bar would be flattened in the direction of the second circle, and (3) that the second circle's depressed wheat would overlap the lay of the connector. Ben agreed that this sequence was the most likely scenario for a hoaxed dumbbell formation.

We picked up Nelson and press photographer Ken Wightman and contin-



Figure 3. View (from atop a combine) of the dumbbell-shaped crop circle formation in south-western Ontario. (Photo by Lawrence Holland)

ued to the Holland farm. When we arrived, we first examined the formation's lay pattern and found it to be exactly as predicted. We had brought a "stalk stomper"—a rope and plank device (figure 4)—and shared with Mr. Holland some of what we had learned from making crop circle formations ourselves (see Christopher 2002). An onlooking neighbor became incensed at our skepticism, and she asked rather shrilly, "How do you explain it [the formation] facing north?" Actually—as I emphasized by pulling from my pocket a lensatic (sighting) compass—the formation was not aligned with true north but rather with magnetic north (Nelson 2003b). And in fact, the alignment was only approximate, being off by about four degrees. Moreover, the first circle's axis was out of alignment with the main axis by some eleven degrees. These misalignments are clearly shown in a diagram of the formation, yet the cereologist who drew it claims that the "circles align to magnetic north" (Rock 2003). (Apparently, there is more than one type of crop circle dumbbell.) The

neighbor also wondered how the circle had been made in the dark, supposedly during a foggy night, but Mr. Holland believes that "the formation appeared on a clear night around the full moon" (Nelson 2003b).

The cereologists and other visitors to the site discovered other "mysteries" as well. For example, the flattening had supposedly occurred without breaking the plants (young wheat stalks are quite resilient), but there was indeed some breakage, probably due to the maturity of the crop. Some "twisting below the seed head" was found "in the occassional [sic] stalk" inside the formation, but this "anomaly" was also found outside, at least "near the formation" (Emery 2003a, 2003b). The mystery mongers had their day, but Mr. Holland was quick to understand our evidence that the formation had been made in three stages, quite apparently by hoaxers. Reported Marissa Nelson (2003b):

While Holland at first thought the circles were the result of a freak whirlwind, he's changed his mind.

"Thanks for coming," he says, shaking Nickell's hand after watching the brief crop circle demonstration.

"Thanks for explaining it."

Solano Circles

Another crop circle case that received considerable media attention began on June 28, 2003, when a Solano County, California, farmer named Larry Balestra discovered a large array of crop circles in his wheat field. Soon afterward, four teenagers from Fairfield confessed to creating the formation. In the wake of the hoax, the *San Francisco Chronicle* quoted me as saying that the media helped fuel the crop circle craze. The *Chronicle's* excellent coverage also featured a quote from Balestra, who stated that crop circles were the product of people "with too much time on their hands" (Davidson 2003). The teenagers confirmed both assessments, admitting that they had learned how to make crop circles from a television documentary and had been motivated in part by summer boredom (Moy 2003b).

The brouhaha started to die down but was given new life when self-styled researchers from a pro-paranormal organization called Psi Applications



Figure 4. The author demonstrates the use of a "stalk stomper" device for the making of crop circles. (Photo by Benjamin Radford)

claimed that the Solano crop circles were too sophisticated to have been done by the teen hoaxers. A CSI press release written by Kevin Christopher challenged those claims and quoted me as saying that they amounted to "blatant mystery mongering." I cited considerable corroborative evidence, including the fact that the boys had a history of mischief making and had been on probation at the time. One boy's mother confirmed that when the teens arrived home in the early-morning hours on the day the circles appeared, they had with them the proper circle-making equipment, including stalk stompers and ropes. Only after the *Vallejo Times-Herald* reported that the youths were in possession of blue tape was it confirmed that the farmer's wife, Lisa Balestra, had discovered pieces of blue tape in the circles. The teens also knew that there had been little moonlight on the night the circles were made, and they revealed other firsthand knowledge, such as the fact that wheat lies down more easily than grass. They showed a reporter "practice" circles they had made elsewhere, as well as a "wrinkled paper" bearing a diagram of the Solano formation (Moy 2003a, 2003b; Christopher 2003).

Psi Applications, according to one reporter, concentrated "on trying to debunk the hoax [the teenagers' confession] rather than explain who or what" had produced the circles (Garofoli 2003). However, even if croppies could disprove the teenagers' claim, they would still be faced with the likelihood that someone else was responsible, since we know that hoaxers do make crop circles, and no other mechanism has been scientifically confirmed. As I told Fox television's *Fox Report* (December 30, 2003), we know that teenagers make crop circles, and in fact, a 1992 crop circle competition in England was won by—teenagers!

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