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Honey, I'm Gone

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Abandoned Beehives Are a Scientific Mystery and a Metaphor for Our Tenuous Times

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In "The Hitchhiker's Guide to the Galaxy," just before Earth is destroyed to make way for a hyperspatial express route, all the dolphins in the world disappear, leaving behind just the message: "So long, and thanks for all the fish."

Now, around the world, [honeybees are vanishing](#) en masse, leaving their humans engaged in a furious attempt to figure out the meaning of their exodus. Entire colonies are following the Shakespearean stage direction, "Exeunt omnes." They're flying off and not returning. Commercial beekeepers open their hives and find them empty except for a queen, a few immature bees and abundant honey and pollen. The rest of the bees are simply gone, leaving behind not even dead bodies.

A third of our food supply -- including much of the boredom-relieving stuff, from cranberries to cucumbers -- is dependent on animal pollinators like the honeybee. As a result, this mystery is rapidly joining the all-star ranks of millennial end-time run-for-your-lives threats, right up there with Y2K, mad cow disease, West Nile virus, SARS and avian flu.

Of equal note is the way the bees are setting a new standard in human emotional resonance. Absolutely no one yet knows why the bees are checking out, though not for lack of abundant effort on the part of the world's scientists. This dearth of data allows us to project our greatest anxieties onto the bees.

If what you're searching for is an entire spectrum of moral lessons regarding the evils of human behavior, this crisis is even better than global warming. If you hate globalization, then you will doubtless see its evils as patent in the disappearance of the bees. Pesticides? Genetically modified foods? Those, too, are convenient hypotheses in the absence of contradictory information. Even cellphones have been offered as an explanation. If you're driven crazy by them, then so must be the bees. Isn't it obvious?

Our fuzzy, hard-working, sweetness-producing icons have become our most powerful Rorschach test.

As go the bees, so go our hopes and fears for the future.

'Mad Bee Disease'

Jeff Pettis reports that he has become one of the most popular soccer dads in the Washington metropolitan area.

"My wife says she's tired of hearing about it," says the co-leader of the huge national research group working on "colony collapse disorder," as the phenomenon is known. An estimated quarter of the country's 2.4 million colonies of *Apis mellifera* have been lost since winter. Similar reports are pouring in from [Spain](#) to [Germany](#) to [Brazil](#) to [Taiwan](#).

Pettis is a man in the right place at the right time. He heads the Bee Research Laboratory of the Agricultural Research Service at the [Department of Agriculture](#) in [Beltsville](#). His group includes scientists from [Columbia](#), [Penn State](#), the [University of Illinois](#), [North Carolina State](#), the Florida Department of Agriculture and a host of other entities.

"Most people may not be able to tell the difference between a yellow jacket and a bumblebee," he says. But now, as the news of the honeybees captures the popular imagination, "people who never even knew what I did before come up to me on the soccer sidelines and say, 'Hey, I want to find out what's really going on. Tell me the real story.' "

"I tell them, 'We're still working on it.' "

This hardly slows the questions.

Colonies caught in the act of collapsing seem to display a raft of diseases. Is this the AIDS of bees?

"I don't like that particular analogy," Pettis says. "We actually don't have any evidence that the immune system is compromised. It's one of the ideas that we have, but the immune response genes are not turned on or off."

(Demonstrating its importance to commercial agriculture, even before the current crisis the honeybee was one of the first insects to have its entire genome sequenced.)

What do you think of the French referring to it as "mad bee disease"?

"They were using that because they thought some of their losses over the past 10 years were connected to low-level pesticides. It's one myth. But we can't make the connection to disorientation."

Where did the cellphone idea come from?

"The authors of that story were from Germany. It wasn't even a cellphone. It was an old cordless phone. They tested it in small hives and saw some very minor effects. We work with bees in a lot of areas where you can't even get a cellphone signal. The amount of energy is very, very remote. Even the authors themselves now say that was a big stretch."

What are the other theories?

"My favorite theory, which I throw out, is that the bees are out there creating their own crop circles, working very hard, physically pushing the crops down with their little legs. It fits. It explains the loss of bees and crop circles at the same time. At taxpayers' expense. I want credit for it."

Pettis pauses for effect.

"People say, 'You're kidding, right?' "

He is. But his "theory" fits the facts as well as other wild surmises. These include a secret plot by [Osama bin Laden](#) to destroy American agriculture, and "the rapture of the bees" as a harbinger of end times.

No Stinging Indictments

What about the comment attributed to Einstein that "if the bee disappears from the surface of the Earth, man would have no more than four years to live. No more bees, no more pollination . . . no more men!"

"That gets to the heart of the story," Pettis says. "I don't personally believe that the bees are the canary in the coal mine. You don't have to bring in larger human destruction of the environment. I can see things going on in the ways bees are managed that explains it."

For example, it turns out that not only does U.S. agribusiness grow more than 80 percent of the world's supply of almonds (who knew the world consumed so much marzipan?), but in February, when all

those groves need to be pollinated, fully half of the commercial beehives in the entire [United States](#) are trucked to [California's](#) Central Valley on 18-wheelers. Big-time beekeepers constantly haul their bees all over the continent to service the next crop of apples, blueberries, watermelons or whatever. Their bees are the planet's hardest-working migrants.

Scientists have a hunch that this may be stressful. They do not yet have the data to prove it. But some commercial beekeepers seem to be hit harder than others, suggesting that their management practices may be a fruitful area of inquiry.

If this hypothesis were to hold up, the implication is that some corporate bees around the world are heir to a combination of problems that may or may not be faced by honeybees kept by small-time operators, not to mention the honeybees that have escaped into the wild. All pollinators are in decline, according to a recent [National Academy of Sciences](#) study. But it is by no means clear that colony collapse disorder affects any of the 17,000 other species of bees known to exist, or the 13,000 additional species of bees estimated to exist, not to mention the 200,000 other species of animal pollinators such as beetles, butterflies, moths, hummingbirds and even bats. This also leaves aside the two-thirds of the world's food that is pollinated not by critters, but by wind and rain, such as the grasslike crops that include corn.

None of this, however, has decreased in the slightest the buzz emanating from humans seeking moral lessons in the domesticated honeybees.

Particularly disappointed by the lack of evidence are those rooting for an indictment of the cellphone.

"We now know it isn't cellphones, alas, alas," says Pamela McCorduck, the futurist and author of "Machines Who Think."

"I so longed to shut such people up with a sanctimonious 'You're killing the bees, you clod!' "

"There are bees at the pool and I haven't been able to get rid of them for 10 years," says John Brockman, the author and literary agent who works the intersection of culture and technology. "Now I go to the pool, whip out the cellphone, point it at them, and say, 'Call on Line 1!' "

"I don't think anyone really has a clue as to what's going on, but if it turns out to be cellphones, it's the greatest metaphor in the history of metaphors," says Bill McKibben, the best-selling environmentalist author of "The End of Nature."

"Starving the planet in pursuit of one more text message with your broker seems the very epitome of going out with a whimper, not a bang."

Collapse of the Machine

The disappearance of the bees nonetheless has mythic depth. It captures intuitions people have about the human condition. A hive is an organism, like a nation. It may be made up of individuals, but it produces results beyond the imagination of any one of its members. To think of one unraveling is profoundly unsettling.

The most optimistic metaphor for our interconnected world, for example, is that by wiring up all the planet's humans, we are creating a "hive mind" with startling powers. The analogy is to the bees. You can look at a single bee for as long as you like and never guess that a large number of them would turn into an amazingly productive super-organism like a hive. What sort of wonders will humans create when billions of us come together in unprecedented ways?

Already you can see primitive outlines of such a productive transformation in Internet venues [Wikipedia](#), [eBay](#), Amazon, Linux, [Facebook](#), [YouTube](#), [Second Life](#) and all the rest.

What other unexpected things will brew in this bionic hivelike supermind?

Creating a global hive mind "doesn't cure all our ills, but it works for a lot of stuff that we would never have guessed would possibly work," says [Kevin Kelly](#), a founding editor of Wired magazine who popularized the notion in his book "Out of Control: The New Biology of Machines, Social Systems and the Economic World."

What happens, then, if the beehive is unsustainable? Kelly wonders. Will the new hive mind of the Internet someday fly off while we are at lunch, leaving us suddenly dumb and alone?

What institutions are next?

Naturalist Barry Lopez wonders if the disappearance of the bees is a metaphor for the end of the federal government.

"The colony collapse is the collapse of a piece of machinery like a federal bureaucracy," says Lopez, the National Book Award-winning author of "Arctic Dreams."

"It's the rise of the local. It's the biological expression of the marginalization of the federal government. It's the silver lining in the Bush cloud. It's become crystal clear. If you want the job done -- carbon footprints, climate change, really important stuff -- don't rely on the federal government. The day of contacting your congressman is over. It's the collapse of large-scale institutions."

"Not that big a deal," Lopez feels.

"From an ecological standpoint, it is opening up the possibility for local pollinators like the mason bee to come back." Honeybees, after all, are an introduced species. They were brought here by European explorers and settlers. The Indians called them "white men's flies."

Lopez sees local people creating local food using local means in a turn to self-reliance and resiliency, away from a global system that uses water in the desert of [Arizona](#) to create cotton to ship to [China](#) to be made into T-shirts to be sold at malls in Maryland.

But maybe this is over-thinking the situation. Bill Joy thinks the collapse of the bee colonies is a harbinger of our increasingly complicated world coming apart.

"I think that we will see many more such 'era of limits' mysteries, some of which turn out to be difficult to impossible to unravel, as causal wires of which we are unaware, many of them nonlinear, are tripped," says Joy, the respected former chief scientist of [Sun Microsystems](#), who has warned of the accelerating pace of technological change leading to dire results for mankind -- up to and including the possible destruction of the human race in a generation.

Exeunt Omnes

In seeking the meaning of the bees, perhaps we can take solace in our culture's great exit lines.

Take your pick:

"So we beat on, boats against the current, borne back ceaselessly into the past," F. Scott Fitzgerald reminds us at the end of his masterpiece, "The Great Gatsby."

The movie "Shane" ends: "Pa's got things for you to do, and Mother wants you. I know she does. Shane. Shane! Come back! 'Bye, Shane."

In the 1954 film "Hondo," the final words are "Yup. The end of a way of life. Too bad. It's a good way.

Wagons forward! Yo!"

"In spite of everything, I still believe that people are really good at heart." -- "The Diary of Anne Frank."

"God help us in the future." -- "Plan 9 From Outer Space."

"Every exit is an entrance somewhere else." -- the Player in "Rosencrantz and Guildenstern Are Dead."

"Good. For a moment there, I thought we were in trouble." -- "Butch Cassidy and the Sundance Kid."

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