Message – Cincinnati Friends Meeting
December 28, 2008

(G)Awed

by Donne Hayden

American philosopher Sam Keen wrote: "A mature sense of wonder does not need the constant titillation of the sensational to keep it alive. It is most often called forth by a confrontation with the mysterious depth of meaning at the heart of the familiar and the [everyday] . . . ." My sense of wonder gets stronger as I get older. When I "confront the mysterious depth of meaning" in ordinary things, *ordinary things—or-di-nar-y things*—I am humbled and filled with awe.

For instance, ants make me humble. I've read the following passage before, in a different context, but it's worth repeating in this context. This is from Lewis Thomas' book, *The Lives of a Cell*:

A solitary ant, afield, cannot be considered to have much of anything on his mind; indeed with only a few neurons strung together by fibers, he can't be imagined to have a mind at all, much less a thought. He is more like a ganglion on legs. ***Four ants together, or ten, encircling a dead moth on a path, begin to look more like an idea.*** *They fumble and shove, gradually moving the food toward the Hill, but as though by blind chance. It is only when you watch the dense mass of thousands of ants, crowded together around the Hill, blackening the ground, that you begin to see the whole beast, and now you observe it thinking, planning, calculating.* ***It is an intelligence, a kind of live computer, with crawling bits for its wits.***
[Emphasis mine.]

At a stage in the constructions, twigs of a certain size are needed, and all the members forage obsessively for twigs of just this size. Later, when outer walls are finished, thatched, the size must change, and as though given new orders by telephone,

all the workers shift the search to the new twigs. If you disturb the arrangement of a part of the Hill, hundreds of ants will set it vibrating, shifting, until it is put right again. Distant sources of food are somehow sensed, and long lines, like tentacles, reach out over the ground, up over walls, behind boulders, to fetch it in.

I am awed by that. Not only are ants themselves amazing creatures, but individual ants have other roles. For instance, a parasite we know as the common sheep fluke finds its way to a sheep via several hosts, one of them—the next-to-last one that it has to have—is the abdominal cavity of an ant. The sheep fluke attaches itself to an unsuspecting ant and produces "a batch of tadpolelike larvae known as cercaria," which

are designed to make the final assault on a sheep, and they put themselves within striking distance of their goal by an extraordinary ploy. One of their number undergoes cellular changes, becomes very slim, and sneaks between the tissues of its host [the ant] to attach itself to the major nerve ganglion around the oesophagus.

Once established there, this "brain worm" manages to change the behavior of the ant so that it ignores all its normal colonial responsibilities and concentrates only on climbing to the top of the nearest grass stalk, where it anchors itself with its mandibles and waits.

Eventually, along comes a grazing sheep . . . [1]

Amazing, the trouble nature goes to. Are sheep flukes so important that nature goes to that kind of trouble to make sure they are perpetuated? Are ants so important? Perhaps. In a review of a book about ants in a recent issue of *The Week* magazine, I came across this astonishing statement: "There is about as much ant flesh in the world as there is human flesh. Beyond that, ants appear to be the more indispensable

[1] Lyall Watson, *Gifts of Unknown Things* (New York: Simon & Schuster, 1976), pp. 33-34.

creatures. If humans vanished [and this should give us pause], biodiversity would increase. If ants suddenly went extinct, whole habitats would die, including every rain forest on earth."[2]

Amazing. When I consider, not only how nature itself functions, but how humans have learned to use and manipulate what's in our environment, I am overwhelmed with wonder. I am, for instance, in awe of bread.

Do you ever wonder how humans figured out how to make bread? Even the simplest bread involves a complex process. Even the *ingredients* for a simple loaf of bread involve great complexity. For instance, here are the ingredients for a Middle-Eastern bread—a kind of flat bread that has been made for centuries.

2 _ cups warm water (110 degrees)
2 packages active dry yeast or 2 yeast cakes
_ teaspoon sugar (or honey)
5 _ to 6 cups unbleached flour
1 tablespoon salt
3 tablespoons olive oil

Let's start with the ingredients. What the heck is yeast? I looked it up—it's a single-celled fungi that somehow ferments carbohydrates. Now—where in nature do you *find* yeast? [Jeff Arnold and Michele Bertaux tell me that yeast is in the air. Just leave some flour mixed with water out overnight, and yeast will populate and thus ferment it. *Amazing*.]

Before we even get to the yeast, though, who first decided to gather the grains of a long grass, grind them to a powder, add water to make a paste and then discovered yeast? Who figured out the difference between *baking* something and cooking it over an open fire? *How* did she figure it out? And think of all the tools and utensils that had to

[2] "The Superorganism: The Beauty, Elegance, and Strangeness of Insect Societies." Book review, *The Week*, December 12, 2008, page 24.

be devised before a loaf of bread could be baked—something to grind the grain, something to contain the flour and water mixture, something to stir it with, something to cook it in or on. And the process is even more complicated than the ingredients. [3]

This all seems fairly simple to us, because it has become so ordinary. What about the first person to make this bread? Leaving out things like aluminum foil, *how* did someone figure out the process to begin with? How long to let the dough rise and how long to cook it—those things could come from trial and error, but what about "proofing" yeast? Who thought up the initial process? How? Why?

In fact, why—if one has grain to nourish the body—why not just eat it the way it comes off the stem? Are our taste buds so demanding? On a physical level, aren't taste buds designed to let us know whether or not we should eat certain foods, whether or not something is poisonous? Why develop an elaborate method of changing grain so dramatically—first to a powder, then to a paste, then to a dough, then to fermented dough, then a cooked piece of all these things? Why?

People less awed by bread than I am may argue that bread came about because it contributed to our physical survival, and "necessity is the mother of invention." But what about things like music? Humans could survive physically very well without music. Yet music and elaborate ways to produce it arises in every cluster of humans. And great

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[3] For the curious, here is the rest of the recipe for this Middle-Eastern bread:
Proof the yeast in _ cup warm water with the sugar. [Who figured out how to "proof" yeast and how?] Combine the flour, salt, and oil in a large bowl and add the yeast and remaining liquid. Mix thoroughly. Turn out on a floured board and knead well until smooth and no longer sticky. Place in a buttered bowl and turn to coat the surface. Cover, and allow to rise until doubled in bulk—about 2 hours. Turn out the dough, and knead again about 4 minutes. Tear off pieces of dough to make 16 balls of the same size. Roll each ball into a round about 6 inches in diameter and about 3/16 inch thick. Be as accurate as possible about the thickness—this is very important. Place each piece of dough on a 6 _-inch square of buttered aluminum foil. Let stand at room temperature 1 hour to rise. Set a rack in the lowest over position, and preheat the over to 500 degrees. Place about 4 breads (on foil) at a time on the rack and bake about 5 minutes, or until they puff and become delicately brown. Use at once or cool and store in plastic bags.
(From *James Beard's American Cookery*)

art? Evolution of other animals doesn't require them to waste valuable hunting, gathering, eating and reproducing time making something pretty. Why do we? Design and creation of machines we might perhaps attribute solely to evolution and human survival, but who really needs an IPod to survive? (Don't ask your teenager this question.)

We are accustomed to relying on science to explain away mysteries—and with mystery gone, wonder and awe disappear. But describing *how* something happens is not the same thing as explaining *why* it happens. In his book, *The Language of God*, Francis S. Collins, head of the Human Genome Project and one of the world's leading scientists, explains his own journey from unconcerned atheist to questioning agnostic to practicing believer in God. He writes:

The advances of science in the modern age have come at the cost of certain traditional reasons for belief in God. When we had no idea how the universe came into existence, it was easier to ascribe it all to an act of God, or many separate acts of God. Similarly, until Kepler, Copernicus, and Galileo upset the applecart in the sixteenth century, the placement of Earth at the center of the majestic starry heavens seemed to represent a powerful argument for the existence of God. If He put us on center stage, He must have built it all for us. When heliocentric science forced a revision of this perception, many believers were shaken up.

But a third pillar of belief continued to carry considerable weight: the complexity of earthly life, implying to any reasonable observer the handiwork of an intelligent designer. . . . The elegance behind life's complexity is indeed reason for awe,

and for belief in God—but not in the simple, straight-forward way that many found so compelling before Darwin came along.[4]

More than two hundred years ago, the great philosopher Immanuel Kant wrote: "Two things fill me with constantly increasing admiration and awe the longer and more earnestly I reflect on them: the starry heavens without, and the Moral Law within." Our human search for goodness makes me feel reverence and awe—that we have a conscience, an Inner Light, and concepts of justice, truth, equality, faith. For a while, any time I visited any church, I was moved to tears. Not by the beliefs of the people who attended that church, but that they believed *something*, that they sought something, longed for and reached for something higher than themselves, that they recognized and desired a relationship with something they called God, but we can call "the Moral Law within" or "the Light Within."

Love humbles me; I am awed by how love moves ordinary human beings to acts of self-sacrifice and kindness. "Agape, or selfless altruism," says Collins in *The Language of God*,

cannot be accounted for by the drive of individual selfish genes to perpetuate themselves. Quite the contrary: it may lead humans to make sacrifices that lead to great personal suffering, injury, or death, without any evidence of benefit. And yet, if we carefully examine that inner voice we sometimes call conscience, the motivation to practice this kind of love exists within all of us, despite our frequent efforts to ignore it.[5]

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[4] Francis S. Collins, *The Language of God*. (New York: Free Press, 2006), pp. 85-86.
[5] Collins, page 27.

A page later, Collins quotes C. S. Lewis (who by the way, began as an atheist trying to disprove the existence of God[6]):

If there was a controlling power outside the universe, [says Lewis,] *it could not show itself to us as one of the facts inside the universe—no more than the architect of a house could actually be a wall or staircase or fireplace in that house. The only way in which we could expect it to show itself would be inside ourselves as an influence or command trying to get us to behave in a certain way. And that is just what we do find inside ourselves. Surely this ought to arouse our suspicions?*[7]

Beethoven's 9th Symphony, the Mona Lisa, Apollo 11, MP3 players—all human creations. How have we, among all animals, risen to the level of creating great beauty and elaborate machines? Why, we say, our highly developed brain, of course, our peculiar intelligence and opposable thumbs. But there is music humans did not create, in rumbling thunder, in the whistle of the wind, in the song of the common blackbird; there is beauty humans did not create—a rose, a Nautilus seashell, the Aurora Borealis; and there are magnificent machines that humans did not design nor create: weather systems, evolution, ant hills, the human body. To what do we attribute **these** creations? Some say "It's just nature." "*Just* nature?" Does this make sense? *Just nature*? Who or what created Nature? We attribute our own ability to create to our intelligence, our big brains, but creation that far surpasses our own, we ascribe to accident or chance (unless we believe in something greater than humans. Personally, I suspect the universe was created by and is guided by a force more intelligent than puny humans.)

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[6] Collins, page 21.
[7] Collins, page 29.

If we accept the possibility of an intelligent force in the universe, often called "God," I'd like to suggest that we spell the word differently, that we spell it like this: open parenthesis, capital "G," close parenthesis, capital "A," "w," "e," "d."

(G)Awed.