

GNAWING DOUBTS:

Thoughts About Food As An Endangered Species

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Seattle, Washington. Twenty minutes past two on a Tuesday afternoon. Inside Studio One of KING 1090 radio. Rick from Bellevue is asking me whether bee pollen is good for him. I tell him it's great for bees (even though it isn't -- they're after nectar, not pollen). And then I go silent for as long as Radio Land will allow, wondering what I really want to tell him.

You might think that a registered dietitian with a Ph.D. in food and nutrition could buzz through a question about bee pollen. First, the biological aspects: male reproductive cells of flowers (called "pollen") get stuck on the hind legs of worker bees when they land on flowers in search of nectar. By placing a wire mesh over the entrance to the hive, a beekeeper can brush the pollen off the bees' legs when they return home. The result: a drawerful of bee pollen. As for its nutritional aspects, a dietitian could point out that bee pollen is generally high in nutrients like vitamin A, B3, and the mineral chromium. In spite of this nutrient density, however, humans would need to take several hundred capsules of bee pollen each day in order to get the Recommended Dietary Allowance (RDA) for any one nutrient.

Unfortunately, these aren't the answers I want to give Rick. He's likely to conclude that (1) bee pollen is a rip-off, (2) the RDAs are gospel, and (3) dietitians are the kind of people who poo-poo everything except fresh veggies. And he might hang up his phone not knowing about the real issue his question has raised -- an issue which has consequences not only for the future of bee pollen, but for the future of nutrition itself. That issue is the issue of food.

RESPECT AND OTHER EARNINGS

None of us can live without food. We prove it every hour of every day by losing 2,000 souls worldwide to chronic hunger. You are, we say, what you eat, and we constantly eat (and avoid eating) to be what we are (free of disease, weight stable, etc.). Over and over again, food gets credited with life-and-death possibilities, and unlike the dietitians who study it, food has no problem with its "credibility".

Nowhere has food earned more respect than in the marketplace. Total supermarket sales in the U.S. exceeded \$325 billion dollars in 1988. The average superstore (annual sales of \$12 million and up) stocked over 24,400 different items. Seventeen of the top 100 industries in the Fortune 500 were food-based, as was one fourth of American advertising and the nation's gross national product. Thirty percent of all manufacturing shipments within the U.S. were shipments involving food.

These numbers imply that food has a prominent place in American society. But the numbers make a critical assumption: that the items being shipped and shelved are items of *food*.

In 1988, the four largest "RTE" (ready-to-eat) cereal manufacturers in the U.S. (General Mills, Kellogg's, Quaker Oats, and Ralston Purina) sold over 90 different brands of dried crunch. Proctor and Gamble (Pringles), PepsiCo (Ruffles, Frito-Lay), and Borden's (Wise) helped turn nine million tons of potatoes from U.S. farms into "solidified oil slurries".

We, as the consuming public, accepted these offerings as "foods", and their makers as "food manufacturers" in a "food industry" where "food sales" reached into the billions. But on what basis did we use the word "food" to describe these happenings? When did we determine what counts (and doesn't count) as "food"?

In order to obtain one day's "food" (in their case, 300-400 pounds of herbage), elephants may walk 20 miles. Cottontail rabbits may hop across 14 acres in search of roots and grasses. Blue-green algae will scale up flowerpots to feed on sunlight. For most living creatures, what counts as food is far from arbitrary, and life gets guided in a very definite direction by virtue of food and its whereabouts. For us humans, it's different. We're free to decide what counts and doesn't count as food.

FOUND VERSUS MADE

During most of human evolution, man has looked on food as something to be found. Approximately 350,000 species of plants are known to exist on earth, and over the course of human evolution, 10,000 have served us as food. Man has found food in the most unlikely of spots -- spirulina in the nearly lifeless, alkaline saltwater of Lake Chad (in central Africa), and the Morama bean 2,000 miles south in the equally inhospitable Kalahari desert.

As something to be found, food has always struck us as part of something larger -- some greater context, some grander scheme, some overriding set of events which made it possible. Food as found has always pointed beyond itself, to the kind of soil in which it grows, the time of year in which it ripens, etc. Considerations of this type have often found their way into the food-naming process: winter melon, summer spinach, swamp potato, tree ear mushroom. When we treat food as something to be found, what matters about food is something quite specific: how it gets to be like it is when we find it.

How the 24,400 items on our supermarket shelves "get to be like they are when we find them" is an issue that few of us can (or want to) address. When we arrive at the store and walk up to the eggs, potatoes, and cheese, we don't realize that the eggs have been dunked in oil, the frozen potatoes bathed in freon, and the cheeses subjected to a cosmetic bleach-and-dye. If we knew more about their lurid past, we might find ourselves eating less of them. But even if we found ourselves eating less, most of us would be perfectly willing to keep on referring to these items as *foods*.

The concept of food as something to be made (versus found) is a relatively new part of our thinking. Although the first grinding stones used by man date back nearly 13,000 years, and the taming of oxen (for use in plowing) nearly 5,000, the grinding of grain and the sowing of seed were not viewed by our distant ancestors as part of any "food making" process. In fact,

planting and harvesting and grinding were not thought to involve a "making" of any kind, at least not in the dictionary sense of "bringing into existence" or "causing to exist".

For earlier civilizations, "bringing into existence" was a practice reserved for the gods. Men credited themselves with the capacity to cultivate food (in the sense of the Latin word *cultivatus*, the past participle of *colere*, to care for). Finding out what would grow where, at what time of year, and under what conditions -- this process of learning was viewed as critical. But making was another matter. How plants originally came to be was regarded as none of man's business.

In our own civilization, we've taken the opposite tact: humans (in the form of the the U.S. Patent Office) have given themselves permission to create anything that will pass between the jawbones. We've invented "stabilized cake icing" and made it the legal property of Merck Sharpe and Dohme Pharmaceuticals. We've sanctioned, in our current Code of Federal Regulations, over 800 "synthetic flavoring substances." We've switched from the notion of food as found to the notion of food as made. But how did this switch come about?

Leon Kass (Toward a More Natural Science, Free Press, 1985) and Morris Berman (The Reenchantment of the World, Bantam, 1984) are two scholars who have written extensively about man's relationship to nature. Both attribute fundamental changes in our way of thinking about the world to the "scientific revolution" and "enlightenment" of the sixteenth and seventeenth centuries. They see a new concept being incorporated into man's thinking during these years. That concept is *man as subject*. "Subject" for Kass and Berman, doesn't simply mean "he who acts"; it means, as Martin Heidegger, the German philosopher, has phrased it, "he, before whom everything lies". The vision of the enlightenment was a vision of man as an unlimitedly knowledgeable and perfectable being who could uncover the truth of nature and harness it for his betterment.

Man's opportunity to determine the purposes of nature was expanded, although with mixed feelings, through the work of Charles Darwin some 200 years later. In his theory of natural selection, Darwin described a nature without purposes of its own, a nature that simply did not work *by design*. As Kass quotes from Darwin in his letter of 1860 to Asa Gray:

... I cannot see plainly as others do, and as
I should wish to do, evidence of design ... I
am inclined to look at everything as ... left
to the working out of what we may call chance.

To be sure, Darwin found his own conclusion a dissatisfying one, and he wrote often of the wonders of the universe, and the blessings of belief that each man should welcome according to his ability. But the formal legacy of his work was clear: harnessing nature wasn't a matter of interfering with some pre-determined natural purpose, because nature didn't have any purpose. Only the frontiers of chance and necessity.

THE BIRTH OF GUTFILLER

The concept of food as something to be made or manufactured (in the sense of the Latin, *manu-factum*, made-by-hand) brings us to the example of the Twinkie.

Brought into existence in 1930 by the Continental Baking Company of St.Louis, Missouri, and named after the Twinkle Toe shoe, the Hostess Twinkie is a 160-calorie, 24-ingredient cream-filled "snack cake". In spite of repeated efforts, I can only think of two reasons for a Twinkie to exist: (1) to make money for Ralston Purina (which bought Continental Baking from IT&T in 1968), and (2) to be eaten. There is no other reason I can think of for bringing a Twinkie into existence.

Now compare the Twinkie and its *raison d'etre* with your common, everyday apple. The apple -- or more precisely, the tree of which it's a part -- serves a wide variety of purposes: it stabilizes the soil, regulates the flow of water, protects smaller plants, etc. Moreover, it doesn't mind bearing fruit if Ralston Purina goes bankrupt, or if humans suddenly decide to stop eating its orbs.

Compared to apples, products like Twinkies aren't really foods at all. They don't strike us as part of anything larger, any greater context or overriding set of events. They don't impose on us any obligation to consider the forces which gave rise to them. They're never named for environmental or seasonal conditions -- there are no Winter Twinkies, no Sun-Ripened Twinkies, etc. And unlike apples and their rich ancestry (Jonathan, McIntosh, Melrose, Macoun, Gravenstein, Tydeman, and Akane), Twinkies can't claim any heritage (except Ralston Purina's last report to its stockholders). In the absence of any ancestry or connections to the world outside, Twinkies ought to be considered not as food, but as *gutfiller*: an arbitrary combination of mechanically and chemically altered substances exclusively designed to do the bidding of the human gut.

Gutfiller -- by virtue of its disconnectedness from the world around it -- has cosmetic possibilities that do not exist for food. Without any natural habitat to settle into, or any genetic inheritance to tie it down, gutfiller, unlike food, is free to follow the mind (and budget) of its maker. It can "outpretty" food, "outflavor" and "outcrunch" it.

The nutritional content of gutfiller is equally up for grabs. Smurf-Berry Crunch, for example, the cartoon-based breakfast from Phillip Morris (which acquired General Foods in 1986), contains 4.5 milligrams of iron per cup -- 25% of the USRDA (United States Recommended Daily Allowance). Its primary ingredient, sugar, contains 0.2 milligrams -- only 1% of the USRDA. Even one of Smurf-Berry's healthier ingredients -- corn flour -- contains less iron per cup than the cereal of which it's a part.

In an odd sort of way, gutfiller can also outshine food in the area of trustworthiness. You and I might not find the labeled contents of Wish-Bone Thousand Island Salad Dressing all that reassuring -- polysorbate 60, algin derivative, xanthan gum, and potassium sorbate -- but at least when we throw it into the shopping cart we think we know what's in it. The same cannot be said for a plant we find in the woods. We don't know if it's naturally poisonous, if it's been watered by acid rain, if it's taken root in mineral-deficient soil, or if it's been used by the local riff-raff as an out-house.

THE UNWORLDLY WORLD OF DESIGNER EATS

The world of food is incredibly diverse. According to dietary research, the average American stomach sees 45 different foods per month. But these foods represent a mere one half of one percent of the foods available for eating.

The world of food is also incredibly untapped. According to Jack Doyle in his classic text on agrigenetics, *Altered Harvest*, there are 250 varieties of wheat readily available to U.S. farmers, and 40% of all acreage is planted with a mere six. A similar ratio holds true for other crops, including apples, corn, tomatoes and potatoes. (In fact with potatoes, a single variety -- Russet Burbank -- accounts for 40% of all plots).

In the world of gutfiller, product diversity is both untapped and unwanted. In sharp contrast to the natural world, where diversity is both desirable and magnificent, diversity in the world of manufactured eats only spells lost profit.

The diversity of food is really three different kinds of diversity: geographical, temporal, and aesthetic.

- (1) Geographical Diversity - food is tied to place. The presence of unique foods in unique places has always given rise to exploration and expedition, from Vasco da Gama's spice island ventures out of Portugal in the late 15th century, to current U.S. quests for cocoa beans and bananas in Central America. Solar radiation is unevenly distributed across the earth's surface. Climate varies with the drift of continents. Carbon production changes with latitude and ecosystem. Within these nooks and crannies, food must find its spot. Quinces do best in Turkey and Iran. Loquats, in southern China and Japan. Topi-Tambo, in the Carribean. Naranjilla, in the Andes.
- (2) Temporal diversity - the appearance of food takes time. Food is seasonal at best, and the Ecclesiastical phrase still holds: a time to plant, and to pluck up what is planted. When we plant asparagus, we know not to expect much in the first year.
- (3) Aesthetic diversity - the looks of food are unpredictable. The color, size, and texture of food varies with growing conditions and genetic input. What looks blochy or splotchy or lop-sided or pale is not "defective" or "deficient" -- it's simply adapted to its spot.

In the world of gutfiller, all kinds of diversity must go. Geographical uniqueness is a no-no. McDonald's franchises would go bankrupt if the taste of their Big Macs varied with the earth's tilt. So is seasonality. Rate of ripening must suit production schedules and fluctuations in demand. Through chemical ingenuity, natural soil cycles must be overridden. Aesthetic diversity is equally unwelcomed. Products must be dressed to sell. Designer orange skins must be decked out in the hue of Citrus Red Number Two.

When the great diversity of the natural world gets removed from our vision of food, our food starts to look less like food. But even more important, our world starts to look less like a world. Fruit trees don't necessarily bear fruit "after their kind"; herb-yielding seeds aren't necessarily "scattered upon the face of the earth"; and in the time it takes to nuke a PopTart, there goes Day Three of Creation. The fatality and originality in our earth's diversity of form gets lost. So does our sense of eternal connectedness and unity (universe as *uni-versus*, "having turned as one").

Nowhere has the earth's tune become more inaudible than in the feedlots and "confinement systems" of today's animal-food industry. The pasture we associate with Old McDonald (from the Latin *pascere*, to feed or graze, and related to *pastoral* -- simple, serene, and rustic, as well as to *pastor* -- the shepherd of souls) is gone. Grazing has come to be viewed as a waste of energy: unnecessary movement toward low-quality feed.

Like the pasture, seasons and climate are becoming nonexistent. Light-dark and heat cycles are being manipulated to force molting and initiate feeding. Sunup and sundown are being replaced by photic stimuli and photoperiodic exposures.

These changes in our approach to animal foods seem perfectly predictable. They are part-and-parcel of a perspective that pictures food as something to be made. From the standpoint of gutfiller, the cow is no longer a cow. Hens are no longer hens, and pigs no longer pigs. Cows-hens-and-pigs are simply milk-egg-and-bacon machines. Of course the pasture must go! Pastures are simply a factories without a floorplans.

BEE POLLEN REVISITED

Finally, I've arrived at the answer I want to give Rick, my caller at KING 1090 radio. Is bee pollen good for him? You bet. But not for the reasons that he might think. It's not the vitamin A or the chromium that's at stake. It's the fact that bee pollen can point him outward, toward a world with direction and integrity, a world of tulip poplars and aster, orange blossoms and alfalfa, goldenrod, clover and sage. With bee pollen he can imagine himself as part of something larger, some grander scheme, some more eloquent design: the dance on the surface of the honeycomb, the queen and her royal jelly, the exquisite adjustment of communal activities to cycles of light and temperature and moisture. The *imagery* of bee pollen offers Rick a possibility not found in the 7-11: the possibility of a teeming universe, an eternal composition, a world of wonder.