

What I learned this summer

One of the benefits of being an academic is the opportunity to spend time during the summer catching up on work put off during the hectic semesters. This summer, outside of studying for a big Scrabble® tournament, performing a bunch of home maintenance jobs, and prepping a space downtown for a new community center (more on this project in an upcoming essay), I got a chance to read a couple books, watch a few films, and attend two conferences/workshops. Let me share some of the things I learned.

Early in the summer I got a chance to watch a documentary on corn — entitled, *King Korn* (put out by Mosaic Films, Inc.) — and to reread, much more closely than I did the first time, *An Omnivore's Dilemma*, by Michael Pollan. Both of these works shed substantial light on how industrial agriculture works in the 21st century. And while both confirmed my previous learnings, they expanded on them with historical background and real world examples that the writer and the auteurs (i.e., film makers) experienced while creating their educational works. Here are a few things made pretty clear by these projects:

(1) Corn and soy farmers cannot make a living without huge government subsidies. The price of either (by the bushel) is so cheap now that most are compelled to maximize the size of the farm and minimize labor costs (through the use of chemicals, monocultures, and large equipment), though both actions put farmers in greater debt and make them more reliant on multinational corporations.

(2) The bulk of the calories that we consume ultimately come from corn and soy fields, such as the ones that surround Galesburg. Whether they be meals prepared at fast food "hamburger" joints, high-fructose laden soft and "fruit" drinks, food additives, alcohol (in beer), or even a tofu burger, almost everything comes from corn and soy. Actually, it is fairly easy to find out where ones food comes from. There are scientific tests that can determine the source of the carbon isotopes. Tests of this sort on the flesh of Americans reveal that we are huge corn consumers.

(3) The age of the animals that are eaten today has gotten younger and younger. A typical steer goes from 80 pounds to 1,100 pounds in a mere 14 months. Hens get to market in a mere 7 to 9 weeks after birth! How do animals grow so fast? Well, they are stuffed full of corn (something cows are not built to eat), protein (often coming from other animals — something many people think has ended, but hasn't), and an arsenal of drugs.

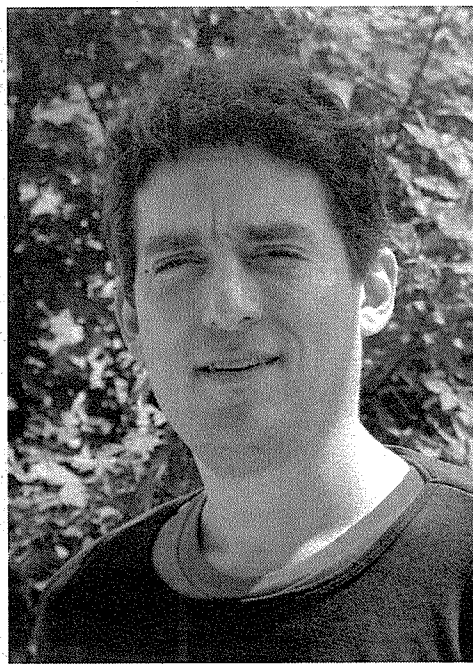
Interesting points, but so what? Well, if farmers can't make a living unless the government highly subsidizes their operations, don't you think this makes our entire agricultural system very shaky? What if the government wasn't able to provide these subsidies? What if subsidies were shifted to a more diverse and healthier assortment of crops instead? Are the high rates of suicide in farming communities a sign of economic hardship driven by the ever increasing size of "family" farms? Does the fact that we eat mostly corn and soy limit the vitamins and micronutrients found in our diets? Have we considered the implications of a highly simplified diet for our nation's people? Don't you wonder what impact all this pumping of animals with improper food which is dosed with hormones, antibiotics, and pesticides has on our bodies? These are just a few questions I am left thinking about after reading and watching these amazingly informative works. Check them out and share the questions that you have afterwards with the rest of us.

Another movie that I watched was *Who Killed the Electric Car?* Though I had heard about electric cars (which made their way on to the California highways in the late-1990s) and I was intrigued by the provocative title, I surely wasn't prepared for all that was revealed in its 92 minutes.

Legislation passed in the 1990s in California required a certain percentage of motor vehicles to be zero-emission (ZEV). Mandated to action, a few manufacturers began providing electric cars on a limited basis to consumers. Oddly enough, the cars could only be leased, not sold. And a few years later, when the leases were expiring, drivers of the ZEVs were not allowed to resign their lease or purchase the vehicles outright. General Motors took the vehicles back and, as the film shows, had them destroyed (literally crushed) even though they were fully functional.

According to many of those that leased the ZEV vehicles, the electric cars were very desirable. First, they didn't emit dangerous gases. Two, they were very quiet and comfortable. Three, they have very good pick up, nothing like is often depicted; they were faster from 0-60 mph than most cars on the road. Four, they were less demanding on a fuel budget; a Toyota RAV4 EV purportedly cost 60 cents a gallon to operate and didn't need tune ups or motor oil. And five, they required **no** gas; they could be recharged by plugging them in during the evening hours in a home garage. The primary weakness of these ZEVs were their limited range; they had to be recharged every 60-160 miles (the range depending on specific vehicle and battery used — the later built cars could travel more than 100 miles between charges. Battery experts are quoted in the movie saying that recent technological upgrades would allow this electric cars to go over 300 miles between recharges. Why is it that electronic gadgets are being revolutionized every 6-months but the combustion engine hasn't seemed to improve in 30+ years? One wonders.

After watching cars be taken from willing buyers and witnessing the demolition of perfectly good vehicles directed by automobile companies, one gets the distinct feeling that we, the consumers, are being suckered. It should be no surprise that automobile companies might go out of their way to insure that highly efficient, gasoline-independent cars do not catch on. Obviously, if they did, this would mean much smaller profits for Big Oil. What do Big Oil and automobile manufacturers have in common, you may ask? Well, two historical events provide demonstrable evidence that they have colluded before. Beginning in the 1920s, automobile magnets decided that the trolley car system (which depended on rails in cities) had to go. They worked tirelessly with the help of leaders in the oil industry to get one metropolitan city after another to disband its trolley system. (Edwin Black's recent book, *Internal Combustion: How Corporations and Governments Addicted the World to Oil and Derailed the Alternatives* — 2006; St. Martin's Press — provides a detailed look into this topic.) Also, beginning in the 1920s, heads of oil and automobile companies forced the use of the fuel additive, tetra-ethyl lead, into most motor vehicles. This unnecessary venture (which was dictated by massive profiteering) caused tens of millions of lead poisonings over the next 60 years (and is still doing so in many parts of the world that continue to use lead in their gasoline — according to The Lead Group, more than a quarter billion people are still exposed to lead that is still emitted by road vehicle use). (For more on lead, read Jamie Kitman's "The



Secret History of Lead" published in *The Nation* in 2000.) With these two events as reference points, it isn't surprising at all that these two powerful industries would currently be involved in activities that are antithetical to advancing clean and efficient energy technologies to the general public. In fact, we should be more surprised if they weren't so involved. As it is impossible to capture in words the power and force of the revelations presented in a movie of this sort, readers are strongly encouraged to watch this documentary on their own and to follow that up with action, if so moved.

Earlier this month, I had the opportunity to attend the 2nd Annual Sustainable University Symposium sponsored by Illinois Green Government Coordination Council and Lt. Governor Pat Quinn. During this one day event, speakers from the public and private sector presented on various ventures and opportunities they have been involved with to make institutions of higher education more environmentally responsible and economically sound. Though normally thought of as mutually exclusive concepts, these two goals have been demonstrated to be compatible in many recent projects. For example, St. Xavier University (in the suburbs of Chicago) recently built a LEED gold certified dorm for \$9 million; LEED is a building rating system that evaluates the environmental principles and practices of construction projects. According to the Association for the Advancement of Sustainability in Higher Education, "The 88-bed residence hall includes carpeting made of recycled plastics, a roof with 1,000 square feet of low-maintenance plants for heating and cooling retention, and dual-flush toilets. 90 percent of the building's lighting comes from natural sources; and the heating units are 90 percent more efficient and 50 percent smaller than more traditional units. In addition, 100 percent of the building's power consumption are generated from renewable energy sources." Other schools are changing the permeability of their parking lots, so when it rains, their lots and sewers don't get overburdened — the water just works its way to the soil underneath, something allowed by new paving materials. Other schools, including Knox College, are being much more thoughtful about the settings on building thermostats — not overheating/overcooling areas and paying particular attention to spaces that are uninhabited for part of the day.

There are several reasons why these projects are economically sound while still being environmentally responsible. In some cases, there are savings made because the environmentally preferred option requires less maintenance; for instance,

the safer chemicals which can be used to strip the floors in a classroom lessen the frequency of stripping (i.e., lengthening the time interval between stripping jobs). In other cases, the savings accrue because less waste is produced with the more environmental sound option; for instance, using air driers, rather than paper towels in bathroom facilities. Lastly, most projects are economically preferred because the energy savings which accrue over time. Many existing buildings on campuses where built during a period when some "experts" projected that future energy costs would be minimal. Hence, they are often very inefficient and huge energy gluttons. Hence, there is a lot of room for improvement and some schools are recognizing this. In fact, most of our homes also have lots of room for improvement in this area. The American Council for an Energy-Efficient Economy (www.aceee.com) and the Department of Energy's Energy Star Program (www.energystar.gov) have lots of tips of how each one of us can make our home more energy efficient.

During the summer, I also had a chance to read the brilliant economics book, *Small is Beautiful* by E.F. Schumacher. Published more than 30 years ago now, it still makes more sense than nearly everything one hears about economics on television. (I just hope those born after the book was published, i.e., 1973, will have the fortune to be exposed to its wisdom.) In July, I attended a one-day workshop on solar energy, sponsored by I-Renew (the Iowa Renewable Energy Association; www.irenew.org). It was very informative and I learned many things. Probably the most revealing message I took from the experience was: if one installs solar panels on their home and produces more energy than one uses, the electric company isn't obligated to pay the owner for this "extra" energy. In this regard, wind energy, where legislation exists in some states which requires energy companies to buy energy from "consumers," has a big advantage. Given how much cleaner solar energy production is than fossil fuels, doesn't it make sense that if you provide clean, usable energy for our society, you should be compensated? Another idea made clear from the event was the utter lack of education on the subject of solar energy in our country. I learned more about the topic in a six hour workshop than I learned in four years of high school and ten years of college. Might not this be one of our biggest obstacles? I left thinking that if more students were educated about the subject, and government subsidies were shifted to renewable energies, there would be a huge windfall of skilled jobs available to our citizens. Currently, most jobs related to solar are overseas.

So, there you have it. I learned quite a bit these last three months. As always, new information is always coming forward and it always seems like I am behind on my reading. What things did you learn this summer that have an environment bent? I would be excited to hear about them.

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