

Healthy Food, Healthy People, Healthy Economy¹

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There is a growing public awareness that something is fundamentally wrong with the American food system. For decades organic food advocates have been calling attention to growing health problems associated with the widespread use of pesticides,ⁱ hormones,ⁱⁱ and endocrine disruptorsⁱⁱⁱ in the production and manufacturing of food. The maladies include various forms of cancers, heart disease, attention deficit disorder, and a variety of food allergies. More recently, foods recalled for contamination with E-Coli O157:H7, Salmonella, and various agrichemical contaminants have become almost commonplace – the most recent being a recall of more than a half-billion eggs. In spite of persistent claims by the food industry and government to the contrary, it's becoming increasingly evident that much if not most of America's food is not good for public health and much of it is simply not fit to eat.

The tipping point of public concern may well be the growing epidemic of obesity in America. Obesity is not simply a matter of personal inconvenience or embarrassment; it is closely linked to a whole host of diet related diseases, including diabetes, heart disease, hypertension, and several types of cancer. Most recent statistics classify two-thirds of American adults and nearly one-third of children and teens as obese or overweight. Since 1980, the number of obese adults has doubled. Since 1970, the number of obese children ages 6-11 has quadrupled, and the number of obese adolescents ages 12-19 has tripled.^{iv,v}

A 2010 report by the Robert Wood Johnson Foundation, *F As In Fat; How Obesity Threatens America's Future*, documents how the growing prevalence of obesity has continued unabated, in spite of a host of programs mounted by government and nonprofit organizations to combat it, President Obama's White House Task Force on Childhood Obesity being but the latest of many.^{vi} In terms of economic costs, obesity related illnesses are projected to claim about one in five dollars spent for health care in America by 2020 – erasing virtually all of the gains made in improving public health over the past several decades.^{vii} Health care in America already consumes more than 17-percent of our GDP,^{viii} nearly three times as much as the 7-percent claimed by agriculture/food – not likely a mere coincidence.^{ix} With an aging population, growing public demand for public healthcare, and a ballooning federal budget deficit, America simply cannot afford the continuing economic costs of obesity.

On March 26, 2010 Jamie Oliver, an outspoken British chef turned activist, called for a “food revolution” in America.^x The occasion was the premier of a six-episode reality show on ABC Television. The show was filmed in Huntington, West Virginia – supposedly the unhealthiest city in the unhealthiest country in the world. The premise of the show was that people's physical

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health is linked directly to the foods they eat. In the first episode, Oliver pointed out that today's children are the first generation whose members are expected to live shorter lives than their parents. It's not the kids' fault; they eat what parents and other adults choose to feed them, or at least allow them to eat. Too often, this means whatever is cheapest, quickest, and most convenient. In our pursuit of quick, convenient, cheap food we are destroying the future of our children and grandchildren. It's time for a "food revolution."

A question yet to be resolved is how we are going to fight this revolution. Are we going to allow the food industry to continue to blame diet related health problems on overweight people? Or instead, are we going to place the blame where it most likely belongs – on the food system? In addressing the issue of obesity, we are confronted with dueling hypotheses. The conventional hypothesis promoted by the food industry is that obesity is a problem of people, specifically fat people. They claim that people, in their quest for self-gratification, choose sedentary lifestyles and calorie-dense foods. An equally logical alternative hypothesis, which remains largely unexamined, is that obesity is a problem of society, particularly the pervasiveness of unhealthy, calorie-dense foods. Certainly, many Americans have unhealthy lifestyles, but most Americans have also only very limited access the nutrient-dense foods they need for good health.

Depending on which hypothesis is correct, the solutions to obesity and other diet related health problems are very different. If the conventional hypothesis is true, people need to be educated and/or trained to choose healthy lifestyles and make healthy food choices. The assumption is that nothing is basically wrong with the food system. The obesity problem then can be solved by fixing the people. If the alternative assumption is true, the people don't need to be fixed; it's the food system that needs fixing. The problem is with a food system that limits food choices. People do need to be educated, including education about how to fix the food system so it will give people ready access to a variety of healthful, nutrient-dense foods.

Even problems of unhealthy lifestyles may be linked to diets lacking in basic nutrition. In those cases where obesity is linked to specific medical problems, the problems may well be a consequence of eating food with chemical residues or additives, or eating manufactured "food-like substances" – such as high-fructose corn syrup and partially-hydrogenated vegetable oils. The scientific evidence indicates it's not the people who need fixing; it's the food system.

During the first half of the twentieth century, as people worked less, they also ate less, according to a USDA analysis of food trends between 1909 and 1999.^{xi} Americans consumed roughly 10% fewer calories per person in the late 1950s than in 1909. Calorie consumption leveled off during the 1960s. Beginning in the 1970s, total calories in the average American diet have tended persistently upward, while physical activities of all types obviously have continued to decline. The result is the well-publicized expansion of the American waistline, with alarming increases in numbers of Americans who are overweight and obese. For the first fifty-years of the last century, we worked less and ate less. For the last fifty-years, we worked less and ate more. Why did we behave logically for the first half of the century and illogically the last half? The human species hasn't changed much over the last fifty-years, but the food system certainly has.

Between 1980 and 2004, total daily calories per capita increased by 22%.^{xii} Products derived from corn and soybeans, the two crops most highly subsidized by the government, stood out as

major contributors to higher calorie diets. High-fructose corn syrup replaced cane and beet sugar as the sweetener of choice, most notably in carbonated beverages. Soybean oil replaced lard and butter as the fat of choice, finding a growth market in the deep fryers of the fast food industry. In fact a significant portion of increased calorie consumption is likely a result of increased spending for food eaten away from home. Fast food franchises seem to thrive financially by selling large portions of foods high in sweets, fats, and salt. But, it isn't just a matter of eating more sugar and fats. Per capita consumption of fats increased 24% and carbohydrates increased 20%, but consumption of proteins also increased by 15%.

Trends in fruit and vegetable consumption, important sources of vitamins and minerals, have been basically flat over the past 30 years, with intermittent blips and minor year-to-year variations. More than 40% of Americans eat no fruits or vegetables on any given day, and per capita consumption persists at levels well below those recommended for good health. Going all the way back to 1909, per capita fruit consumption has essentially doubled, but the total increase has been in canned, frozen, and other processed fruits. Over the same period, commercial vegetable production has increased by roughly one-third – vegetables other than potatoes.

However, the increase in commercial vegetable consumption has been more than offset by a decrease in vegetables from home gardens. Home gardens accounted for about one-fourth of per capita vegetable consumption in 1909, and probably still as much through the 1940s, but today account for less than 3% of all vegetables. Perhaps the resulting changes in nutritional quality of vegetables over time are more significant than changes in quantities consumed. If so, it's not likely that subsidizing fruits and vegetable production would solve the nutrition problem. We quite likely would just end up with new industrial “food-like substances” produced from fruits and vegetables, high in calories and lacking in nutrients.

The most likely source of America's diet/health problem is the industrial, corporate food system in general. The upward trend in per capita calorie consumption corresponds directly with the industrialization of American agriculture. Agriculture of the 1950s was still dominated by diversified family farms producing foods primarily for local and regional markets. Most farms still relied primarily on healthy, organic rich soils. Chemical fertilizers and pesticides, developed from World War II warfare technologies, were just coming on the scene and were seen as the key to agricultural prosperity and national food security. Change happened quickly. By the year 2000, agriculture was dominated by large specialized corn, soybean, cotton, wheat, and rice farms and large-scale confinement animal feeding operations. Farms had become factories without roofs and fields and feed lots biological assembly lines. With industrial agriculture, the health of the soil didn't matter all that much, and apparently neither did the health of people.

One prominent academic study compared nutrient levels in 43 garden crops in 1999 with levels documented in benchmark nutrient studies conducted by USDA in 1950. The scientists found declines in median concentrations of six important nutrients: protein –6%, calcium –16%, phosphorus –9%, iron –15%, riboflavin –38%, and vitamin C –2%.^{xiii} Other studies comparing conventional and organic foods have found organic foods to be similar in nutrient density to foods of the 1950s.^{xiv} Overall, the organic versus conventional studies have been inconsistent, perhaps because some organic foods are not grown on healthy soils and some conventional farms still use organic-like farming systems.

Other studies have shown that yield-enhancing technologies – fertilizers, pesticides, plant density, and irrigation – reduce the nutrient content of field crops by amounts generally consistent with the results for the 50-year nutrient declines.^{xv} These results should come as no surprise to anyone who understands that today's industrial agriculture derives profits primarily from *quantity* factors: acres farmed, head produced, yields per acre, rates of gain, and efficiency of large-scale production. *Quality* factors typically are less important to profits and are most often associated with cosmetic appearance rather than nutrition.

The food processing and distribution industry also must share the blame for obesity. The industrialization of food processing, manufacturing, and distribution has coincided with the industrialization of agriculture. The large corporations that process and market our foods are concerned about profits – not diet or health. Food industry marketers know that humans have a natural taste preference, probably a genetic predisposition, for foods that are high in fat, sugar, and salt. Preferences essential for the survival and health of our primitive ancestors now make us vulnerable to economic exploitation. It's easier to market high-calorie foods, particularly when those foods are cheaper to produce. The primary sources of those cheap calories are plants and animals from farms relying on modern yield-enhancing technologies, rather than inherent soil fertility. Soils lacking natural fertility may well be producing foods lacking nutrient density.

When animals are offered a wide variety of foodstuffs containing a variety of carbohydrates, fats, vitamins, minerals, and other nutrients, most will naturally select a healthy balanced diet. For example, wild animals naturally balance their diets, unless we humans interfere by feeding them. (Livestock bred for confinement feeding appear to have lost this ability.) However, when livestock are offered a premixed feed containing fixed quantities of various nutrients, they tend to consume more of some nutrients than they need in an apparent attempt to meet their minimum requirements of others. If we humans have this same basic tendency, whenever our food choices are limited, we might well consume more of some nutrients than we need because we are not getting enough of others. In other words, the lack of key micronutrients in our diets might leave us feeling hungry even though we are consuming far more calories than is consistent with good health. In addition, many Americans may fall into sedentary lifestyles because they are overfed and undernourished. While this is just a hypothesis, it certainly is worthy of scientific study.

Contrary to popular opinion, the industrial corporatization of the American food system was not driven by consumers in a free market economy. Food markets in the U.S. have not been economically competitive for decades. For example, the Packers Consent Decree of 1920 and the Packers and Stockyards Act of 1921 were efforts to break up a “shared monopoly” that existed in meat packing at the time. Obviously, it didn't work as the concentration of market power in meat packing today is far greater than in 1920. The same is true across the entire food industry.

In addition, every significant USDA program implemented since the 1950s, including agricultural research and education in the Land Grant University system, in one way or another has facilitated the corporate industrialization of American agriculture. Government crop subsidies are but the tip of the iceberg of government support for agricultural industrialization. Agricultural policies in the early years may have been driven by legitimate public concerns for national food security, but this has not been the case for decades. Evidence of corporate

influence on government farm and food policy is pervasive and widely available from a variety of public sources. For example, political contributions from agribusiness amounted to more than \$65 million during the 2008 federal election cycle, going to candidates of both parties. The top contributors by category were: agricultural services and products: \$9.7 million; food processing and sales: \$7.4 million; crop production and basic processing: \$6.0 million, tobacco: \$4.8 million, and forestry/forestry products: \$3.4 million.

Campaign contributions represent only the tip of the iceberg of corporate influence. Monsanto holds patents on about 80% of all genetically modified seeds and spent almost \$9 million lobbying during 2009, an off-election year for national politics. ADM, a giant grain company also involved in ethanol production, chipped in another \$1.2 million. Cargill, a multi-national grain company came up with \$1.7 million. Lobbying is everyday business for corporations, a big business for agribusiness, in Washington, DC.

The American Farm Bureau Federation reported spending \$4.5 million per year during the debates leading up to the 2001 farm bill. In addition, every major agricultural commodity – corn, soybeans, cotton, rice, beef, pork, poultry, and dairy – is represented by a lobbying organization that claims to represent its respective producers. The National Cotton Council chipped in \$300 thousand to the 2001 Farm Bill debate. The Sugar Association has upped the ante considerably by spending more than \$4.5 million during 2007 and 2008 to protect sugar subsidies. The National Corn Growers spent about a half-million in 2009, lobbying for an extension of corn ethanol subsidies. The producers of the commodities represented by these various lobbying groups are simply too diverse – politically, economically, socially – to share any common core values regarding public policy, other than the desire to benefit economically.

It is virtually impossible to come up with any meaningful estimate of the total political influence of such groups, as they all have politically active state level organizations that support their national organizations. Restraints on corporate lobbying at state and local levels are practically nonexistent. In Missouri, for example, no piece of legislation passes out of the agricultural committees and onto the assembly floor for debate unless it has first been approved by lobbyists for Missouri Farm Bureau and Mo-Ag Industries – the agribusiness lobby. In such states, urban legislators never have an opportunity to vote on legislation that might challenge the industrialization of agriculture or corporate control of the food system.

Concerns for corporate influence would be mitigated somewhat if the resulting farm and food policies had erased or even reduced hunger or diet related health problems in America. It has done neither. The percentage of “food insecure” people in American is higher than back in the 1960s, prior to the corporate takeover of agriculture. The current epidemic of obesity, diabetes, hypertension, heart problems, and food related cancers are linked both statistically and logically with growing corporate control of the American food system. Corporate farm policy has been a disaster for the American people. Consumers and taxpayers should demand a total change in farm policies. Nothing short of a consumer-taxpayer revolt can wrest control of farm and food policy from the grip of agribusiness corporations and industrial agricultural lobbyist. It's time for a food revolution. We must restore health to our food system if we are to restore nutritional health to our foods, physical health to our people, and economic health to our country.

Post Script:

The indictment of industrial agriculture in this paper has been well documented in a wide variety of sources over the years. Best-selling books, such as *Fast Food Nation*^{xvi} and *Omnivore's Dilemma*,^{xvii} awakened mainstream society to the dramatic changes that have been taking place in our food system. Video documentaries such as *Future of Food*,^{xviii} *Broken Limbs*,^{xix} *Food Inc*^{xx} and *Fresh; the Movie*^{xxi} provide gripping images of the negative ecological and social impacts of an industrial food system on nature, society, and on the future of humanity. The HBO Network has a new multi-documentary project underway linking the rise in obesity and other diet related health problems to the industrialization of agriculture. They all tell the same story of a food system that pollutes, extracts, and exploits in the process of generating profits – a food system lacking in environment, social, and economic integrity. What we have been doing obviously isn't working and isn't going to work in the future. It time for a food revolution.

End Notes

ⁱ For a list of references, see *The Issue of Pesticides, Sustainable Table, Serving up healthy food choices*, <http://www.sustainabletable.org/issues/pesticides/> .

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ⁱⁱⁱ Fred Vomsaal, Programmed for obesity: early exposure to common chemicals can permanently alter metabolic system, Research and the Arts, University of Missouri, <http://rcp.missouri.edu/articles/vomsaal-obesity.html> .

^{iv} National Center for Health Statistics. "Prevalence of Overweight, Obesity and Extreme Obesity among Adults: United States, Trends 1960-62 through 2005-2006." *NCHS E-Stats*, December 2008.

http://www.cdc.gov/nchs/data/hestat/overweight/overweight_adult.htm .

^v Ogden CL, Carroll MD, and Flegal KM. "High Body Mass Index for Age among U.S. Children and Adolescents, 2003-2006." *Journal of the American Medical Association*, 299(20): 2401-2405, 2008.

^{vi} Robert Wood Johnson Foundation, *F As In Fat; How Obesity Threatens America's Future*, http://www.pbhfoundation.org/pbh_direct_new/jul09_2010/Obesity2010Report.pdf .

^{vii} Cost Of Treatment For Obesity-Related Medical Problems Growing Dramatically, *Rand Corporation*, <http://www.Rand.Org/News/Press.04/03.09.Html> .

^{viii} Center for Medical and Health Services, *NHE Fact Sheet*, https://www.cms.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp .

^{ix} The 20th Century Transformation of U.S. Agriculture and Farm Policy, USDA, Economic Research Service, www.ers.usda.gov/publications/eib3/eib3.htm .

^x *Jamie Oliver's Food Revolution*, <<http://abc.go.com/shows/jamie-olivers-food-revolution>>

^{xi} USDA, Major Trends in U.S. Food Supply – 1909-1999, *A Century of Change in America's Eating Habits*, Economic Research Service, <http://www.ers.usda.gov/publications/foodreview/jan2000/frjan2000b.pdf>

^{xii} USDA, Data Sets, *Nutrient Availability*, Economic Research Service, <http://www.ers.usda.gov/Data/FoodConsumption/NutrientAvailIndex.htm>

^{xiii} Donald Davis, Melvin Epp, and Hugh Riordan, 2004, "Changes in USDA Food Composition Data for 43 Garden Crops, 1950 to 1999" *Journal of American College of Nutrition*, 23:669-682.

^{xiv} Bob Smith, 1993, Organic Foods vs Supermarket Foods: Element Levels, *Journal of Applied Nutrition*, 45:35-39.

^{xv} WM Jarrell and RB Beverly, 1981, "The Dilution Effect in Plant Nutrient Studies," *Advances in Agronomy*, 34:197-224.

^{xvi} Eric Schlosser, *Fast Food Nation: The Dark Side of the All-American Meal* (New York: Houghton Mifflin, 2001).

^{xvii} Michael Pollan, *The Omnivore's Dilemma: A Natural History of Four Meals* (New York: Penguin Press, 2006).

^{xviii} *The Future of Food* <http://www.thefutureoffood.com/>

^{xix} *Broken Limbs*, <http://www.brokenlimbs.org/endorsements.html>

^{xx} *Food Inc.*, <http://www.foodincmovie.com/>

^{xxi} *Fresh; the Movie* <http://www.freshthemovie.com/>