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Table of Contents

	Page
Chapter 1: Food and Human Population	1
Feast and Famine: The Global Food Crisis	2
Conserving Diversity at the Dinner table: Plants, Food Security, and Gene Banks	25
Population Bomb? The Debate over Indian Population	47
The Politics of International Adoption	69
Food for Thought: Diet in History (Podcast)	80
Spaghetti in the Age of Mechanical Reproduction	81
Blind Aid: Lessons (Not Learned) from the Ethiopian Famine	85
Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen	89
Famine: A Short History	93
A Revolution in Taste: The Rise of French Cuisine, 1650-1800	96
School Lunch Politics: The Surprising History of America's Favorite Welfare Program	99
 Chapter 2: Health, Disease, and Medicine	 102
Influenza Pandemics Now, Then, and Again	103
Top Ten Origins: Vaccination	123
People Were Skeptical about Veterans' Hospitals, Too: The Affordable Care Act and Health Policy Precedents	130
The Contentious ACA (Podcast)	150
Should Age Matter? How 65 Came to Be Old and Old Came to Be Ill	151
From Commonplace to Controversial: The Different Histories of Abortion in Europe and the United States	170
The Politics of Abortion in Europe and America (Podcast)	192
The Illegalization of Marijuana: A Brief History	193
The Acid Tests	214
Albert Hofmann Discovers LSD	218
Vaccine Nation: America's Changing Relationship with Immunization	221
Mother of Invention: How the Government Created "Free Market Health Care"	225
A Cruel Wind: Pandemic Flu in America, 1918-1920	229
 Chapter 3: Science and Technology	 232
Aerial Torpedoes, Buzz Bombs, and Predators: The Long Cultural History of Drones	233
Charles Darwin's American Adventure: A Melodrama in Three Acts	256
A "God Particle" for Isaac Newton's Birthday	271
Soviets Launch Sputnik, 1957	274
Measure of the Earth: The Enlightenment Expedition That Reshaped Our World	278
The Discovery of Mankind: Atlantic Encounters in the Ages of Columbus	281
In the Beginning: Fundamentalism, The Scopes Trial, and the Making of the Antievolution Movement	284
 About Origins	 287

Chapter 1

Food and Human Population

Kenyans collecting USAID food aid after a drought. (Source: Wikimedia Commons)

Feast and Famine: The Global Food Crisis

EDITOR'S NOTE:

It is one of the most striking paradoxes of our time. Today, more people around the world go hungry than ever before in human history. At the same time, even more people are now classified as obese—part of what observers are calling an overweight 'epidemic' and health crisis. This month, historian Chris Otter explores the history of how we have chosen to produce, distribute, consume, and think about food to explain how we have arrived at these extremes of feast and famine.

Published March 2010.

By **CHRIS OTTER**

In June 2009, the United Nations' Food and Agriculture Organization (FAO) reported that, worldwide, the number of hungry people had reached one billion. Today, more people are hungry than at any point in human history. They are concentrated in the developing world, and their hunger has been exacerbated by the global financial crisis.

In 2008, world wheat prices reached a nineteen-year high, and over thirty countries experienced food riots. "Hunger seasons" have become the norm in many parts of the global south, and women bear the brunt of this food shortage.

According to ActionAid International, women produce up to seventy percent of food in developing countries. However, women also make up seventy percent of the world's hungry, and they own only one percent of the world's land. They might prepare most of the world's food, but they do not eat their fair share of it.

In the west, however, what strikes us is not hunger, but its opposite: obesity. According to a recent World Health Organization (WHO) study, more than 1.6 billion people globally are overweight or obese—that is 60% more than go hungry. As early as 1987, the American media began murmuring about an "obesity epidemic," and in 2001 the WHO began to speak of "globesity."



A McDonald's Restaurant in Riyadh in Saudi Arabia, reflecting the spread of Western foods and dietary practices. (Source: Haitham Alfalah)

This epidemic is not limited to America and Western Europe: it is visible in East Asia, Central and South America, and even in Africa. In South Africa, 30.5% of black women are obese. In China, the prevalence of childhood obesity rose from 1.5% in 1989 to 12.6% in 1997.

Escalating global hunger and obesity levels might seem like a gigantic paradox. It is not. It is part of a single global food crisis, with economic, geopolitical, and environmental dimensions. It is perhaps the starkest, most basic way in which global inequality is manifest.

It has many tangled causes, one being simple competition for basic cereals. The growth of nonwestern economies like China almost invariably generates a shift to a more "western" style diet, which involves rising meat consumption, which in turn necessitates diverting vast quantities of cereals from humans to cattle. This is a high-status but inefficient way to consume protein and calories.

This competition has recently been magnified by the expansion of the biofuel industry, which diverts cereals from humans to cars. Southern Africa, for example, has been promoted as the new "Middle East of biofuels," to grow crops not to feed Africans, but to power automobiles.

Spiraling grain prices, increasing meat consumption, and the question of biofuels are merely three facets of a multidimensional global phenomenon that is affecting how we produce, distribute, and consume food.

Other aspects include climate change, which is making tropical seasons hotter and drier; speculation and collusion on commodity markets; dwindling grain reserves; and export restrictions imposed by panicking nations keen to protect domestic consumers.

More "medium-term" causes of the contemporary global food crisis include market distortions produced by large-scale government subsidies to European and American farming and

World Bank programs of structural adjustment, which have systematically dismantled national systems of subsidized farming elsewhere in the world.

In other words, the world food crisis is a particularly instructive, if unsettling, event that can illustrate certain aspects of "globalization." It demonstrates how the basic act of eating a piece of bread or meat binds consumers seamlessly with distant farmers, large corporations, energy systems, economic forces, and international politics.

A History of Food Systems



"The Corn Harvest" by Pieter Bruegel the Elder, 1565.
(Source: Wikimedia Commons)

The historical origins of today's global linkages between food, capital, energy, environment, and technology lie well before the mid-twentieth century.

For most of history, humans hunted or grew food for their own consumption, and food travelled only short distances from source to stomach. Yet, orchestrated, long-distance exchanges of food go back millennia: the spice trade dates back to ancient times, for example. Islamic farmers brought sugar to the Mediterranean around 600AD, and the Spanish, along with other European powers, brought it to the new world, and established the huge plantation complexes that formed a recognizably long-distance food system.

From the early modern period, European historians can identify a series of relatively distinctive "food systems" or food regimes, which can help us locate the origins of today's global food crisis in deeper historical time.

The period 1500-1750 saw a "mercantile" food system. Most basic foodstuffs (grains, milk, and meat) were produced within Europe, but "exotics" were drawn from the colonies, with protective tariffs ensuring that such colonies could only trade with their mother nations.

During the nineteenth century, this nakedly extractive system was largely dismantled and replaced with a "settler-colonial regime" (c.1850-1930). White settler colonies (America, Canada,

Argentina, Australasia) increasingly supplied Europe with luxury and basic foodstuffs (particularly meat and wheat), the profits from which were used to purchase European manufactured goods.

After 1945, following the compound shocks of two World Wars and the 1930s financial crisis, a new "productivist" food regime emerged. This new food system was typified by the re-emergence of European and American agricultural protectionism, and the growing power of the food industries (such as Kellogg's and Del Monte).

There were important institutional dimensions to this post-World War II shift. With the foundation of the UN and the FAO (1945), the idea that the entire world could collectively suffer a "food crisis" (of maldistribution, hunger, and famine) can be said to have been born, as can the idea that a world free from hunger was both feasible and politically expedient.

In 1951, the Rockefeller Center's Mexican Agricultural Program produced a paper on the "World Food Problem," which explicitly conceived the issue of global food scarcity in terms of geopolitical security: hunger, caused by overpopulation, was viewed as a primary cause of political instability. The result was the "[Green Revolution](#)": with the aid of high-yielding crop varieties, fertilizers, and pesticides, agricultural underproduction in the developing world might be overcome.



Organic cultivation of mixed vegetables in California, a new trend in agricultural production. (Source: Wikipedia)

This "productivist" regime, however, did not survive the early 1970s, when a convergence of economic and climatic events produced perhaps the first recognizable "world food crisis". This crisis, again, was caused by a confluence of interrelated factors: the El Niño weather pattern, the oil crisis, the collapse of [Bretton Woods](#), and tensions surrounding globalization.

Rising meat consumption also played its role. A Soviet Union determined to outpace American levels of meat-eating had to import enormous quantities of grain to support that measure, which drove up world prices, leading to shortages. Famine

spread across the southern hemisphere, from West Africa to Bangladesh.

Following these years of turbulence, another food regime developed after 1980. We might term this a "neoliberal" food regime, typified by growing multinational corporate and institutional power. This new system promotes a "global diet" (high in sugars and fats) increasingly at odds with older national or cultural culinary traditions. Countries as diverse as Japan, Iran and the Democratic Republic of Congo consume vastly more wheat products than they did in 1945, for example.

This food regime has also witnessed controversies over biotechnology and an "organic backlash" in the wealthier parts of the western world. At present, we might be witnessing the unraveling, reconfiguration, or intensification of this regime.

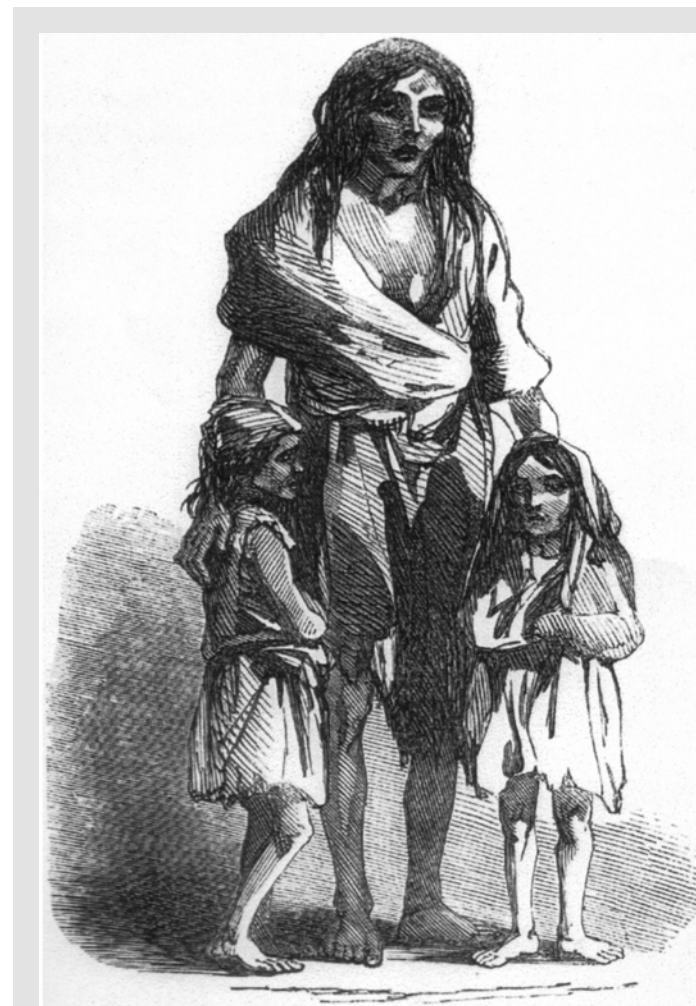
Agro-Food Systems 1850-1900

From a historical perspective, the second half of the nineteenth century is particularly interesting: this is when a novel form of world food system came into being, which was centered on Europe, and Britain in particular.

In the mid-nineteenth century, Britain pursued an aggressive policy of trade liberalization, dismantling protective tariffs on most foodstuffs, most famously grain in 1846. The rest of Europe

followed, but quite rapidly reverted to protection when the economic climate changed after 1870.

This made Britain the most important single global market for food in the second half of the nineteenth century: in 1860, 49% of the total food exports of *all* of Africa, Asia and Latin America went to Britain. This food system allowed speculation: the Liverpool corn exchange authorized futures trading in 1883.



A sketch of Bridget O'Donnel, who suffered significant illness along with her children during the Irish Potato Famine in 1849. (Source: Wikipedia)

This food system also displaced onto much of the rest of the world the burden of feeding the exploding populations of industrializing Europe, who generally ate better than ever before. The later nineteenth century saw up to fifty million famine deaths in India, China, Korea, Brazil, Russia, Ethiopia and Sudan. The global causes of these famines—which connect the economic,

the political and the climatic—disturbingly prefigure today's food crisis.

To illustrate the development of this food system, let's look at two key foodstuffs: wheat and meat. European wheat consumption rose dramatically in the nineteenth century, but much of this rise was composed of imports. Britain produced 80% of her wheat in 1841; by 1900, this figure was 25%. With the advent of the railway and steamship, it became cheaper to grow wheat in Montana or the Canadian prairies and ship it to Liverpool than to grow it in, say, Lincolnshire.

With functional telegraphy conveying price signals, this produced the world's first truly integrated market. The international grain trade became increasingly controlled by a small group of companies (Cargill, Bunge, Dreyfus, Continental, André). By the early twentieth century, a one-cent price fluctuation might produce a 50,000 acre annual difference in land planted in Argentina.

Such reliance on imports raised grave questions of food security, as W.J. Gordon noted in *How London Lives* (1897): "if this country were to lose the command of the seas the people would starve." Britain relied on her navy rather than her farmers for food.

When Fritz Haber synthesized nitrate fertilizer in 1908, he thought this would allow Germany to achieve "food independence": domestic production would rise sufficiently for dependence on



A John Deere tractor at harvest. (Source: Wikimedia Commons)

imports to cease. Such geopolitical concerns were borne out by World War One, which was, in historian Avner Offer's words, a "war of bread and potatoes" as well as one of steel and gold.

The interwar period saw European nations struggle to resurrect some form of nutritional self-sufficiency: Italy, for example, launched its Battle for Grain in 1925. Even the British began the retreat from a century of *laissez-faire* policies with the 1932 Wheat Act, which reintroduced protectionism.

Wheat production already demonstrated the kind of truly transnational links, and capacity for destabilization and volatility, that it does today.

Rising meat consumption, meanwhile, is perhaps the most important phenomenon in modern western dietary history. Average annual per capita meat consumption in Germany, for example was below 20 kilograms before 1820, but by 1900, it was almost 50 kilograms. Meat-eating was symbolically and viscerally linked to every kind of power: masculine, racial, imperial, and national (vegetarianism, reactively, was born in its modern guise in the nineteenth century).

Yet, ironically, this avalanche of meat could not be produced domestically: by 1914, Britain imported 42% of its meat. World trade in meat rose seventeen-fold between 1854 and 1913.

Importing meat, of course, required more than territory, railways and steamships. Because of the distances involved, it also needed refrigeration: hence the production of a cold chain linking abattoirs in Argentina and Australia with European cold stores.

By 1891, artificial refrigeration apparatus had replaced natural ice on the steamships bringing frozen meat from America to Britain. Such controlled environments, which arrested organic decay, temporarily cheated time and generated the modern western experience of being able to eat practically anything, year-round.

From the perspective of today's food crisis, two points are particularly germane here. First, this particular food system, in which production was concentrated in particular parts of the world, and in which fossil-fuel inputs (for transportation,

refrigeration, and fertilizer) escalated, was more *globally connected*, and more *energy-intensive*, than anything previously seen.

Today, around seventeen percent of American energy consumption goes towards food distribution. Well before the 1970s oil crisis and the current biofuel controversy, food and energy systems have been inseparable.

Second, this system, like those following it, created and sustained a calorific rift dividing western Europe and North America from much of the rest of the world.

This combination of technologically-embedded and energy-intensive agriculture and distribution, and globalized asymmetry of consumption patterns made food crises on a truly global scale possible.

The Western Surplus: Obesity

In 1800, a diet of 2,000 calories per day was normal in many European countries. From around this point onwards, a steady calorific rise is discernible, with most European nations breaking the 3,000 calorie threshold by the early twentieth century.

Great nutritional disparities existed within the West—as social investigators demonstrated and hungry slum-dwellers protested—yet a significant calorific chasm had emerged between the west and much of the rest of the world.



A Fred Meyer in Portland, Oregon illustrating the usual food choices in a supermarket in the United States. (Source: Lyza on Flickr)

Hunger persisted, and indeed rose. Yet, production—buoyed by synthetic fertilizers, pesticides, and developments in plant genetics—easily kept pace with world population growth.

The FAO *Second World Food Survey* (1952) noted that 59.5% of the world's population lived in countries where daily food supplies were below 2,200 calories, a figure falling to ten percent by the mid-1980s. West German and British gross food output, moreover, doubled from 1950 to the 1970s, as agricultural self-sufficiency returned to post-industrial Europe.

The western dietary complex—sugar, wheat, beef (and increasingly chicken), dairy products, plus caffeinated and

alcoholic beverages—has increasingly become a diet to which developing nations aspire even as health-conscious westerners try desperately to emulate the unprocessed diets of pre-modern peasants.

Obesity, however, is neither a wholly modern phenomenon nor a wholly modern concern. Aristotle thought too much fat harmful, for example. Writing on obesity flourished in the late seventeenth and early eighteenth centuries, when it was generally seen through the lens of "the humors" which shaped much medical thinking at the time.

Being overweight, however, was usually the preserve of the wealthy, and it remained a sign of fashion, status, or even virtue well into the nineteenth century. An 1865 article in the English periodical *Blackwood's Magazine* noted that the corpulent were incapable of deceit or violence: "stout people are not revengeful; nor, as a general rule, are they agitated by gusts of passion. Few murderers weigh more than ten stone [140 pounds]."

The "war" on the waist-line, however, was beginning. In an interesting reversal of today, nineteenth-century American observers were sometimes struck by the level of obesity they saw on English streets. The British surgeon William Wadd noted in 1829 that it was becoming increasingly difficult for the corpulent to secure space on stagecoaches, while other British doctors began noting the effect that sedentary lifestyles and dietary abundance were having on middle-class girths.

By 1900, fat was ceasing to be either fashionable or a status symbol: it displayed a failure to control one's appetite and, writ large, a failure to control one's self.

A pivotal figure in this shift was a plump English undertaker, William Banting, the designer of the Duke of Wellington's coffin. In his best-selling "Letter on Corpulence" (1863), Banting recounted his long struggle against being overweight.

He tried numerous remedies, he noted, including exercise, sea air, riding, and Turkish baths, "yet the evil still increased, and, like the parasite of barnacles on a ship, if it did not destroy the structure, it obstructed its fair, comfortable progress in the path of life." He eventually found success with a diet low in sugar, starch, and fat, which left him thirty-five pounds lighter.

Banting's text was among the first to view the remedy for obesity not in terms of the volume but of the type of food consumed. Although it was not explicitly couched in terms of "low carbohydrate," the idea of monitoring food groups was beginning to take shape, as was that of weighing oneself regularly.

Banting recommended frequent weighing, something made feasible by the proliferation of public and private scales. These, along with the later emergence of standard clothes sizes and more regular medical examination, made it increasingly difficult for any westerner to escape knowledge of how much they weighed, and whether or not this weight was normal.

By the early twentieth century, commentators were connecting Banting's recommendations about the individual to more collective concerns about the effect of modern life on health and the body. In 1901, the economist J.A. Hobson suggested that British "command over commodities," particularly "carboniferous foods" was producing excess consumption.

F.A. Hornibrook, in *The Culture of the Abdomen* (1924), depicted obesity as the paradigmatic disease of civilization, and recommended a series of ergonomic exercises (abdominal retraction, deep breathing) for those wishing to escape its starchy clutches. Other innovators flooded the market with a variety of remedies for flab, from abdominal lipectomy to massage machines.

Modern technology, for some critics, was as culpable as overabundant food. From automobiles and washing machines, to, later, remote controls and online shopping, technology was subtly reducing the amount of calories unconsciously burned over the course of a day.

In *The Road to Wigan Pier* (1937), George Orwell grumbled how technological advance was threatening to produce "a paradise of little fat men." The focus on men is important here, since obesity was often equated with diminished male virility. This was particularly the case for those already suffering from potential emasculation, like clerks (whose tedious, sedentary lifestyles

prevented the sorts of physical feats of strength and courage that defined masculinity at the time).

Others placed obesity in an anthropological context: the further one travelled (geographically, culturally, chronologically) from western cities, with their surfeit of cars, office machinery, and sugars, the thinner people appeared to get. Conversely, as the western dietary and technological complex encroached, the more obesity, along with heart disease, diabetes, constipation, food poisoning, and bowel cancer, replaced hunger and famine as the primary food-related threats human beings faced.

For all the angst about overweight male clerks, however, the stigma of obesity was increasingly felt by women. In *The Art of Feminine Beauty* (1930), Helena Rubenstein sternly warned that "an abundance of fat is something repulsive and not in accord with the principles that rule our conception of the beautiful."

Fifty-six years earlier, around the time that Banting was formulating his rather cordial version of carbophobia, William Gull (a royal doctor) coined the term *anorexia nervosa* to refer to a condition he and other Anglo-American doctors were seeing with greater frequency. Middle-class girls were refusing to eat, without any sign of being insane or otherwise ill.

Anorexia nervosa, as many studies have shown, appeared in the late nineteenth and early twentieth centuries for numerous reasons: changing female bodily norms, the rise of feminism,

shifting fashions, alterations in bourgeois family dynamics, and the medicalization of everyday life. But it also appeared at precisely the time when the west began to plug itself into a seemingly inexhaustible stream of food drawn from around the world.

The World Food Crisis



An 18 month girl, weighing 14 pounds, is treated by a US Army medical team in Paktya province, Afghanistan. December 2007 (Source: US Army)

In 2008, Eva Clayton, the former special adviser to the Director-General of the FAO, spoke before the U.S. House of Representatives. "The situation is dire," she stated. "Our

response must be decisive and forward thinking. The failure to strengthen our global food system would ultimately lead to political and economic upheaval all over the world."

The food crisis is indeed dire. It is also systemic and global: it unites the world, but its pathologies are geographically distinct. On the "developed" side of the calorific rift, fat is accumulating at a startling rate. On the "developing" side, huge populations are increasingly vulnerable to hunger and famine.

The bifurcation of the world into fat and hungry zones is the most visceral way in which global inequality is lived, felt, and seen. Although this process has accelerated in recent years, the origins of such corporeal polarity and stratification lie deep in historical time.

As Europeans colonized the world and built food systems that underpinned their industrialization and development, they embedded dietary inequality within these systems. The global food crisis is a product of these past practices.

One of the greatest challenges of the twenty-first century, then, is to find a way of overcoming this history and producing a more equitable global food system, one in which the obese will lose some of their weight while the starving will gain some. ♦

Suggested Reading

Peter Atkins and Ian Bowler, *Food in Society: Economy, Culture, Geography* (London: Arnold, 2001)

Joan Jacobs Brumberg, *Fasting Girls: The History of Anorexia Nervosa* (New York: Vintage, 2000)

Mike Davis, *Late Victorian Holocausts: El Niño Famines and the Making of the Third World* (New York: Verso, 2001)

Christopher E. Forth and Ana Carden-Coyne (eds.) *Cultures of the Abdomen: Diet, Digestion, and Fat in the Modern World* (New York: Palgrave MacMillan, 2005)

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David Grigg, *The World Food Problem*, 2nd ed. (Oxford: Blackwell, 1993)

Dan Morgan, *Merchants of Grain* (New York: Penguin, 1980)

Raj Patel, *Stuffed and Starved: The Hidden Battle for the World Food System* (Brooklyn, NY: Melville House, 2007)

John H. Perkins, *Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War* (Oxford: Oxford University Press, 1997)

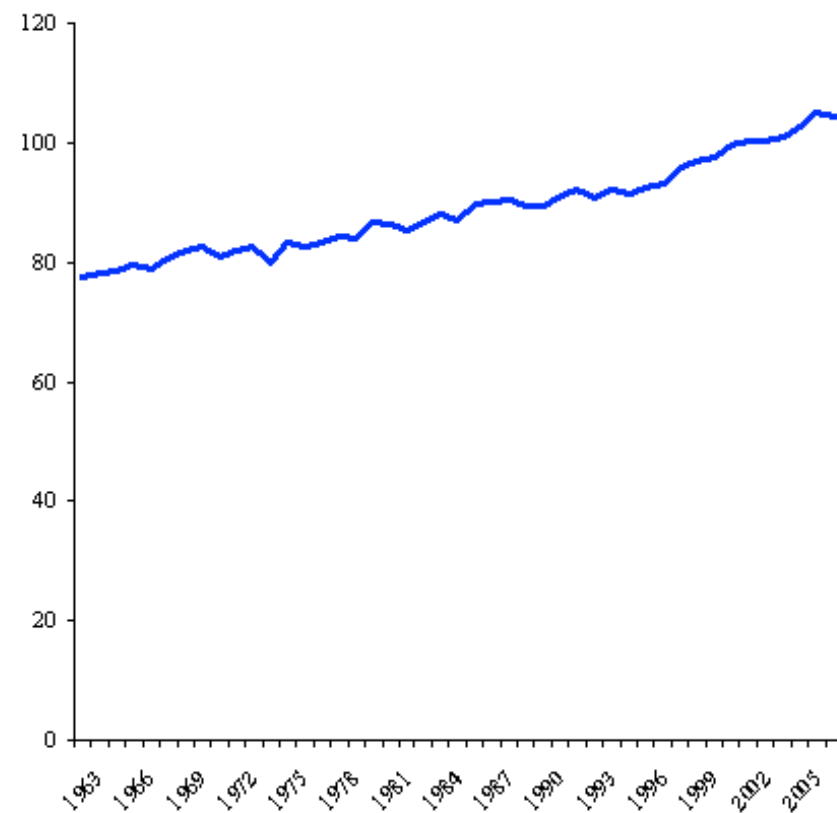
Peter Stearns, *Fat History: Bodies and Beauty in the Modern West*
(New York: NYU Press, 1997)

James Vernon, *Hunger: A Modern History* (Cambridge, Mass:
Belknap, 2007)

Maps and Charts

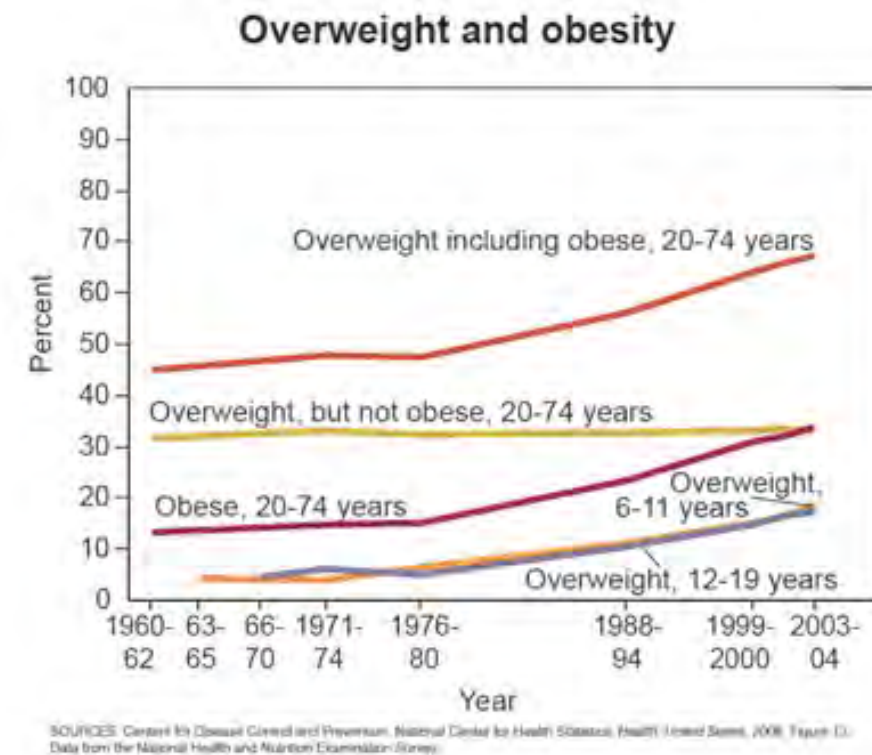
Chart showing the changes in average global food production per capita, 1999-2001=100%

Food production per capita index 1961-2005



(Source: Public Domain)

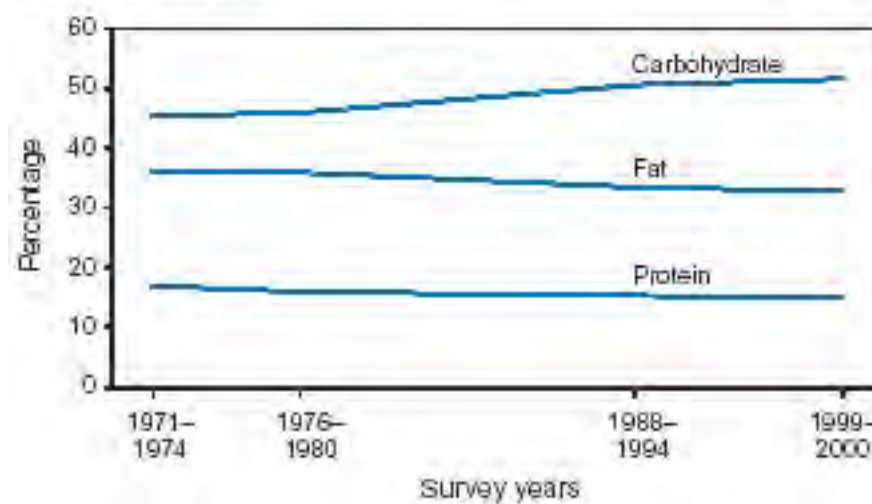
Graph showing the rate of obesity in adults and overweight in both children and adults in the United States from 1960-2004



(Source: Center of Disease Control)

Chart showing the changes in the types of food consumption in U.S. females

FIGURE 2. Percentage of kilocalories from macronutrient intake among women aged 20–74 years*, by survey years — National Health and Nutrition Examination Surveys (NHANES), United States, 1971–2000

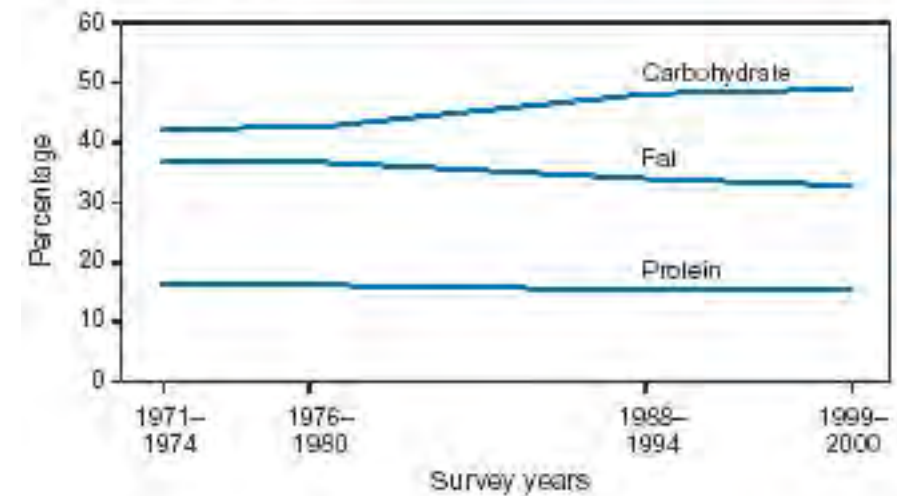


*Age adjusted by direct standardization to the 2000 U.S. Census population by using age groups 20–39, 40–59, and 60–74 years.

(Source: U.S. Department of Health and Human Services)

Chart showing the changes in the types of food consumption in U.S. males

FIGURE 1. Percentage of kilocalories from macronutrient intake among men aged 20–74 years*, by survey years — National Health and Nutrition Examination Surveys (NHANES), United States, 1971–2000

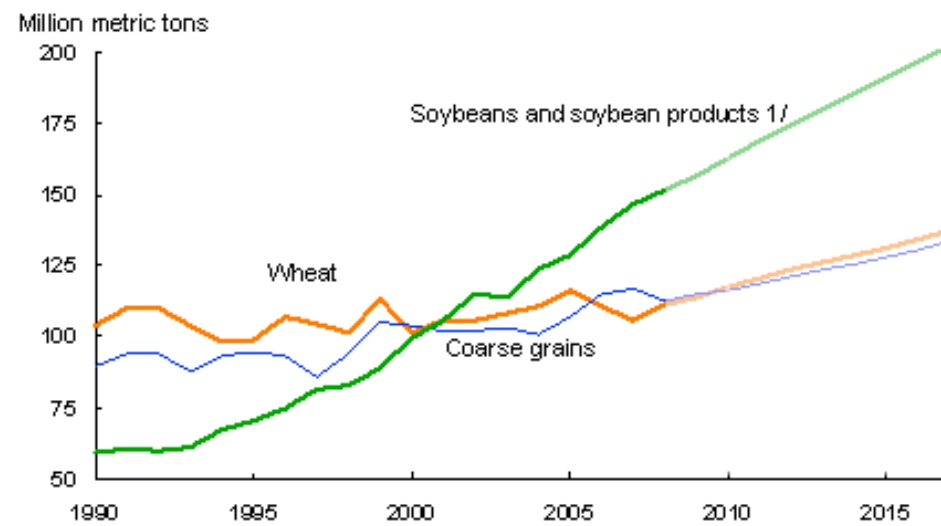


*Age adjusted by direct standardization to the 2000 U.S. Census population by using age groups 20–39, 40–59, and 60–74 years.

(Source: U.S. Department of Health and Human Services)

Chart showing the global trade in wheat and soybean products from 1977 to 2007

Global trade: Wheat, coarse grains, and soybeans and soybean products

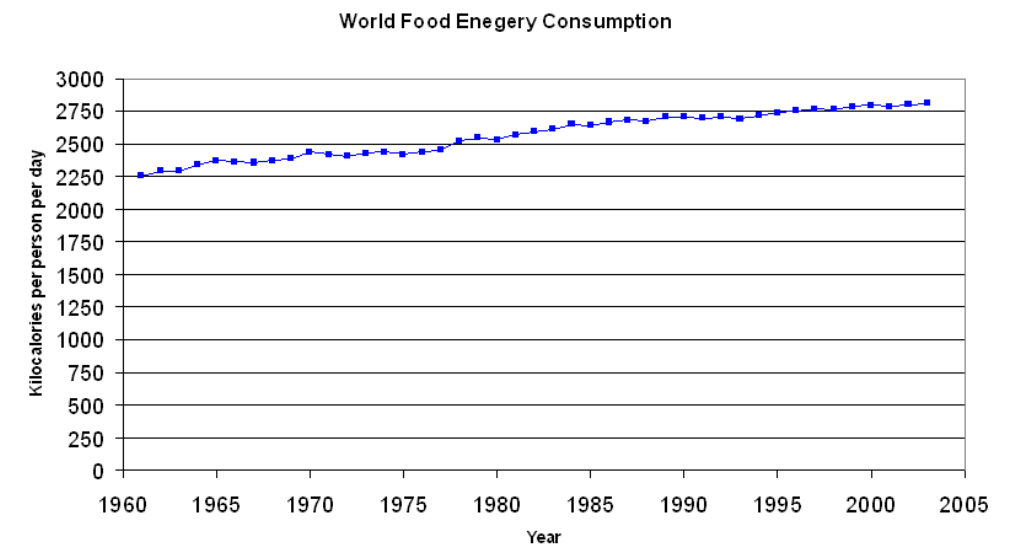


1/ Soybeans and soybean meal in soybean-equivalent units.

Source: *USDA Agricultural Projections to 2017*, February 2008.
USDA, Economic Research Service.

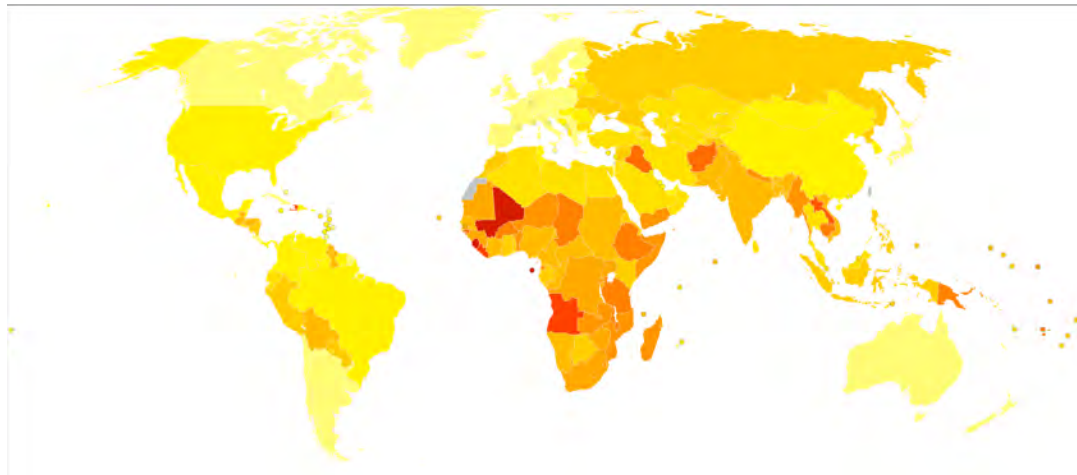
(Source: Public Domain-USDA)

Chart showing the growth of world food energy consumption from 1961



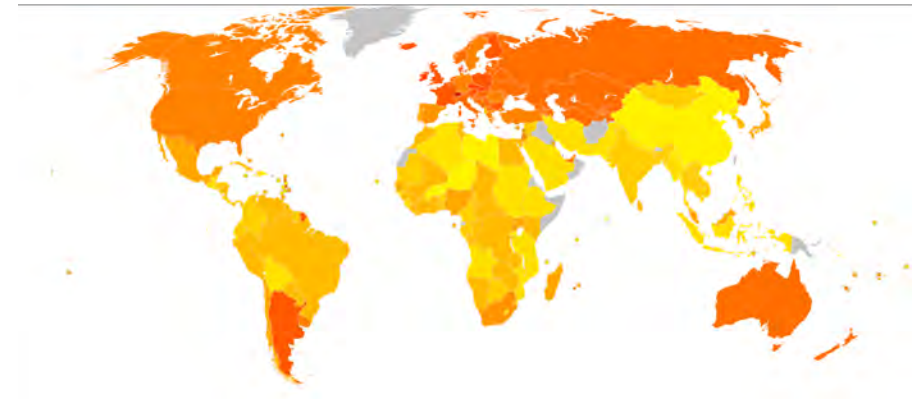
(Source: Creative Commons (Jmh649))

Age standardized disability-adjusted life year (DALY) per country, a measure of health that incorporates mortality and morbidity.



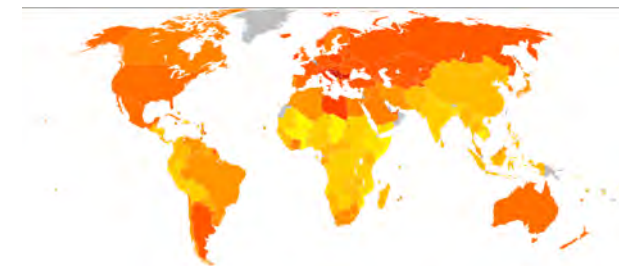
Age standardized disability-adjusted life year (DALY) per country, a measure of health that incorporates mortality and morbidity. Ranging from Light Yellow (less than 150 years of life lost) to Dark Red (over 1750 years of life lost) per 100,000 inhabitants by World Health Organization. (Source: GNU License (Lokal Profil))

World Map of energy consumption (kcal/person/day) in 1961, from under 1500 (light yellow) to over 3500 (dark red) and a global average of 2,253.9



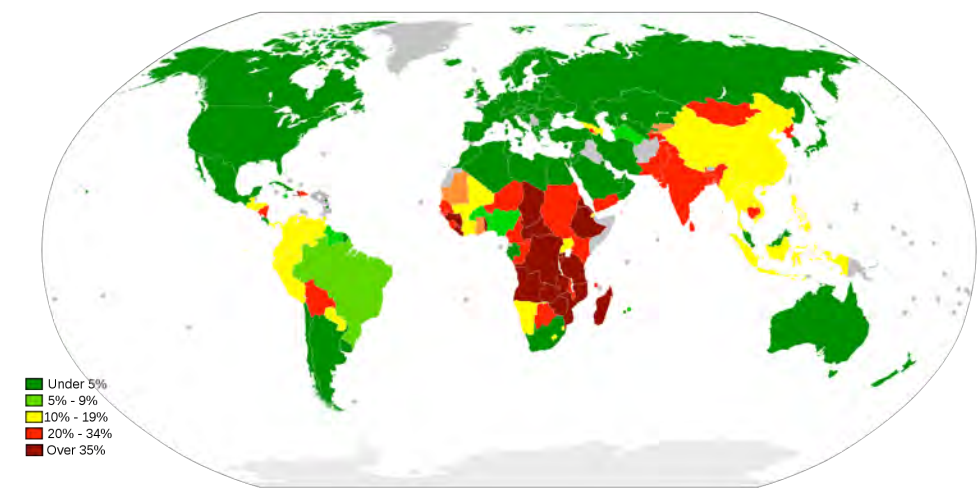
(Source: Creative Commons License (Lokal Profil))

World Map of energy consumption (kcal/person/day) in 1961, from under 1500 (light yellow) to over 3500 (dark red) and a global average of 2,253.9



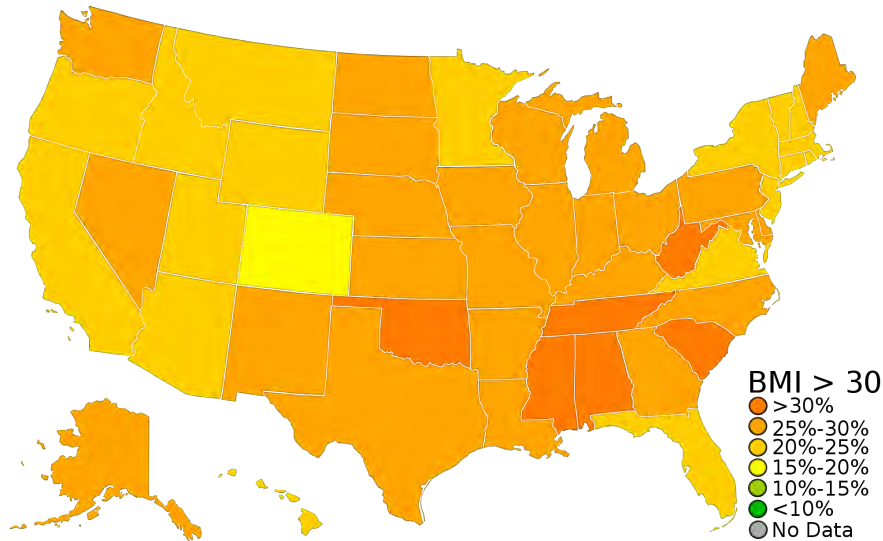
World Map of energy consumption (kcal/person/day) in 1981, from under 1500 (light yellow) to over 3500 (dark red) and a global average of 2,550. (Source: Creative Commons License (Lokal Profil))

Countries by percentage of population suffering from undernourishment, 2006



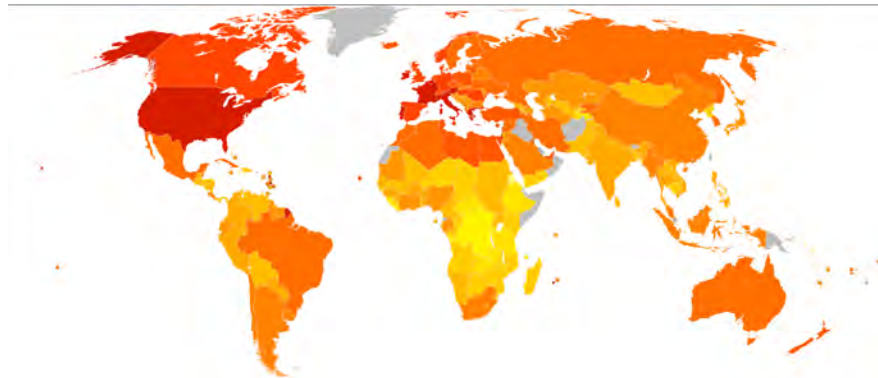
(Source: GNU License (user Lobizon))

Map showing obesity rates in the United States, 2009



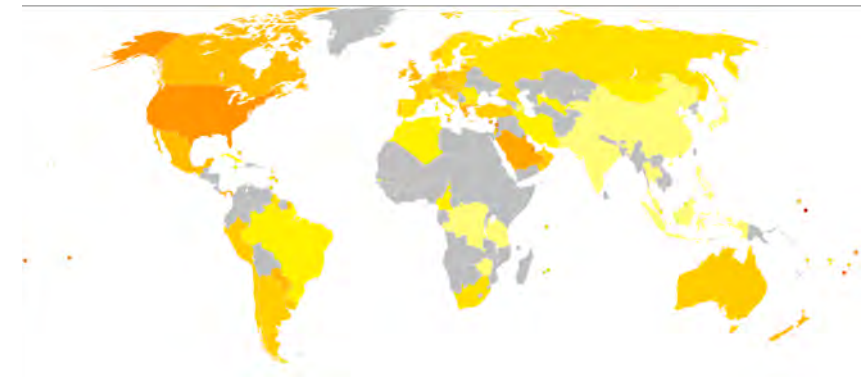
(Source: Center of Disease Control)

World Map of energy consumption (kcal/person/day) in 2001, from under 1600 (light yellow) to over 3600 (dark red) and a global average of 2,800



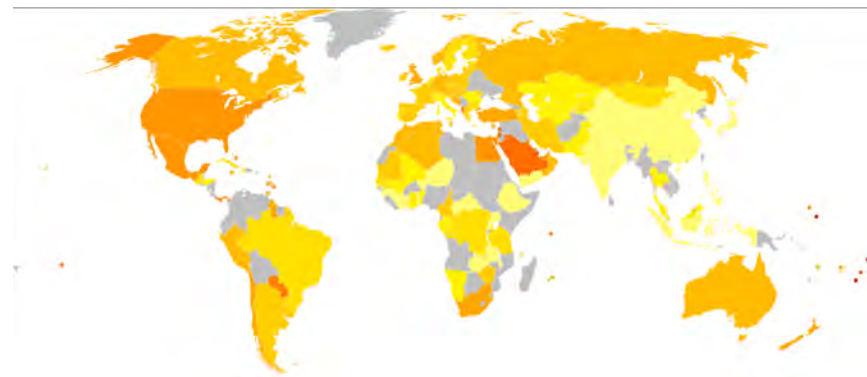
(Source: GNU License (Lokal Profil), from FAO World Report Data)

World Map of obesity in adult males (as % of population with a Body Mass Index over 30) per country, 2008, from under 5% (light yellow) to 35% (dark orange)



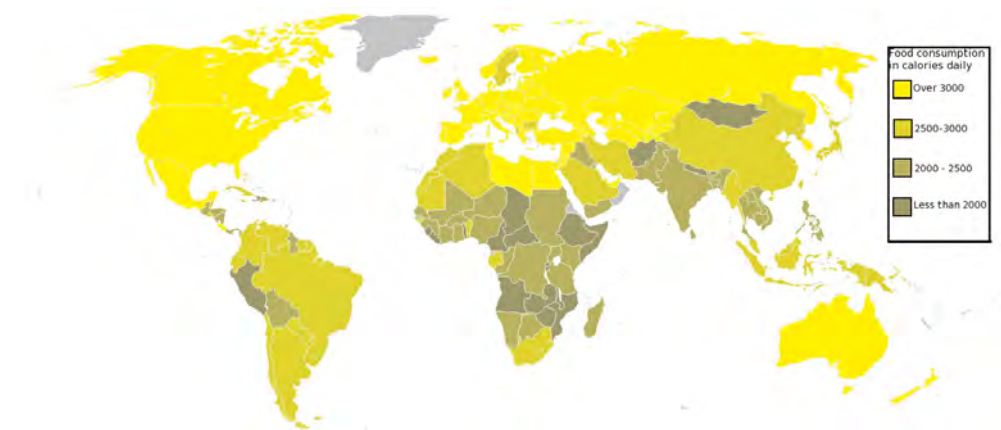
(Source: Creative Commons License (Lokal Profil))

World Map of obesity in adult females (as % of population with a Body Mass Index over 30) per country, 2008, from under 5% (light yellow) to 40% (red)



(Source: Creative Commons License (Lokal Profil))

World Map showing the average daily calorie consumption by country



(Source: Creative Commons (Interchange 88))

Chart showing the Global Hunger Index, a measurement of changes in hunger for a number of countries from year to year

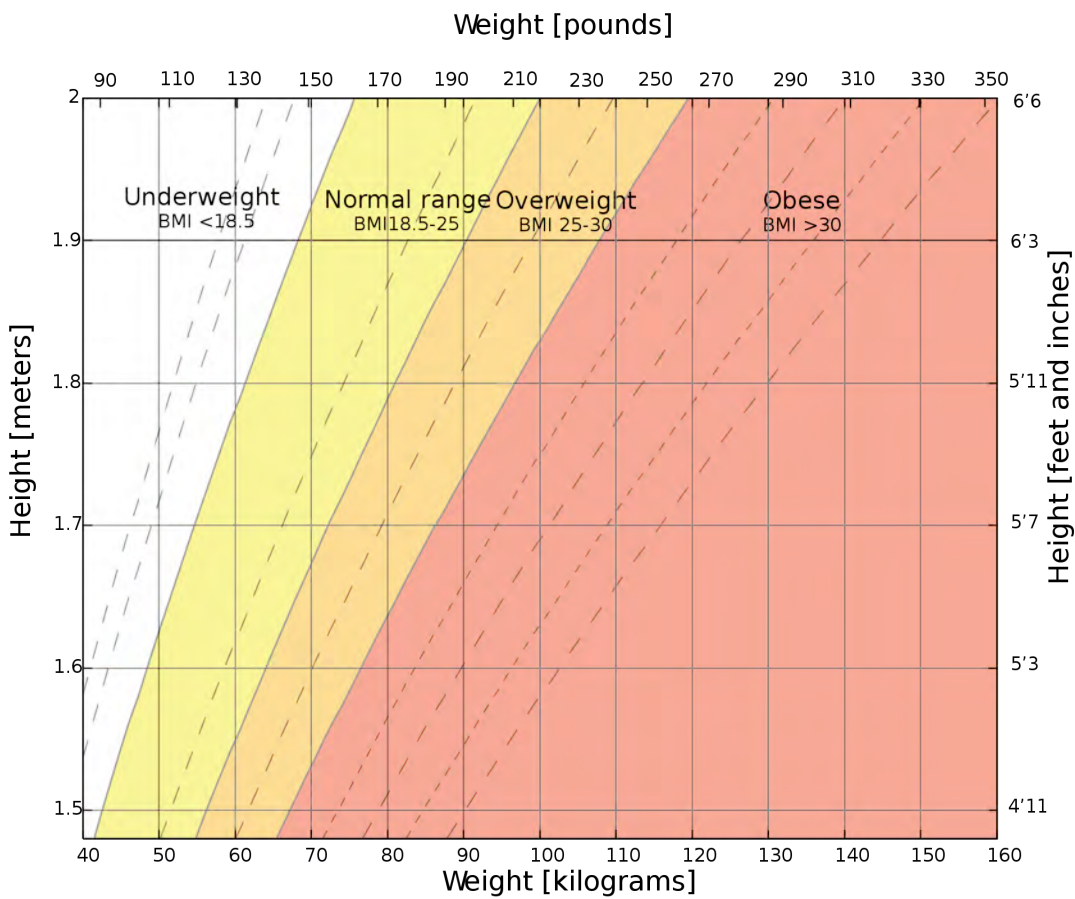
THE GLOBAL HUNGER INDEX BY COUNTRY, 1990 GHI AND 2009 GHI							
Rank	Country	1990	2009	Rank	Country	1990	2009
1	Syrian Arab Republic	7.4	5.2	56	Kenya	20.0	20.2
2	Trinidad and Tobago	7.1	5.4	57	Burkina Faso	21.8	20.4
3	Paraguay	7.6	5.6	58	Pakistan	24.7	21.0
3	Suriname	9.6	5.6	58	Zimbabwe	19.2	21.0
5	China	11.6	5.7	60	Tanzania	22.9	21.1
5	Colombia	9.1	5.7	61	Cambodia	31.7	21.2
7	Morocco	7.3	5.8	62	Djibouti	32.6	22.9
8	Georgia	-	6.1	63	Guinea-Bissau	21.6	23.1
8	Venezuela, RB	6.6	6.1	63	Togo	27.8	23.1
10	El Salvador	8.7	6.2	65	India	31.7	23.9
11	Turkmenistan	-	6.3	66	Liberia	23.0	24.6
12	Mauritius	7.4	6.7	67	Bangladesh	35.9	24.7
13	Gabon	7.7	6.9	68	Angola	41.5	25.3
14	South Africa	7.2	7.0	68	Mozambique	35.9	25.3
15	Guyana	14.4	7.3	70	Rwanda	29.6	25.4
15	Peru	14.9	7.3	70	Timor-Leste	-	25.4
17	Uzbekistan	-	7.5	72	Zambia	25.3	25.7
18	Honduras	13.5	7.7	73	Comoros	22.7	26.9
19	Ecuador	13.1	7.8	74	Yemen, Rep.	30.7	27.0
20	Azerbaijan	-	7.9	75	Central African Republic	30.0	28.1
20	Panama	10.1	7.9	76	Haiti	33.6	28.2
22	Thailand	16.4	8.2	77	Madagascar	28.1	28.3
23	Armenia	-	9.2	78	Niger	36.5	28.8
24	Dominican Republic	14.0	9.3	79	Ethiopia	43.5	30.8
25	Nicaragua	23.4	10.5	80	Chad	37.7	31.3
26	Swaziland	10.9	11.1	81	Sierra Leone	33.1	33.8
27	Bolivia	15.4	11.3	82	Eritrea	-	36.5
28	Ghana	23.5	11.5	83	Burundi	32.2	38.7
29	Vietnam	24.8	11.9	84	Congo, Dem. Rep.	25.5	39.1
30	Lesotho	13.0	12.0				
31	Botswana	14.5	12.1				
32	Guatemala	15.3	12.5				
33	Mongolia	16.9	12.9				
34	Philippines	19.0	13.2				
35	Sri Lanka	21.1	13.7				
36	Namibia	19.7	14.4				
37	Côte d'Ivoire	16.0	14.5				
38	Indonesia	19.7	14.8				
38	Uganda	18.7	14.8				
40	Mauritania	22.1	15.0				
41	Congo, Rep.	21.0	15.4				
42	Benin	23.9	17.2				
43	Senegal	20.8	17.3				
44	Cameroon	22.0	17.9				
45	Guinea	22.6	18.2				
46	Nigeria	24.4	18.4				
46	North Korea*	17.8	18.4				
48	Malawi	30.1	18.5				
48	Tajikistan	-	18.5				
50	The Gambia	18.3	18.9				
51	Lao PDR	29.2	19.0				
52	Mali	24.2	19.5				
53	Myanmar*	29.8	19.6				
53	Sudan*	26.3	19.6				
55	Nepal	27.6	19.8				

Country	1990	2009	Country	1990	2009
Albania	8.7	<5	Kyrgyz Republic	-	<5
Algeria	6.3	<5	Latvia	-	<5
Argentina	<5	<5	Lebanon	<5	<5
Belarus*	-	<5	Libya*	<5	<5
Bosnia & Herz.	-	<5	Lithuania	-	<5
Brazil	7.3	<5	Macedonia, FYR	-	<5
Bulgaria	<5	<5	Malaysia	8.8	<5
Chile	<5	<5	Mexico	8.0	<5
Costa Rica	<5	<5	Moldova	-	<5
Croatia	-	<5	Romania	<5	<5
Cuba	<5	<5	Russian Federation	-	<5
Egypt, Arab Rep.	7.1	<5	Saudi Arabia	6.3	<5
Estonia	-	<5	Serbia & Mont.*	-	<5
Fiji	6.0	<5	Slovak Republic	-	<5
Iran, Islamic Rep.*	8.8	<5	Tunisia	5.1	<5
Jamaica	6.5	<5	Turkey	6.0	<5
Jordan	<5	<5	Ukraine	-	<5
Kazakhstan	-	<5	Uruguay	<5	<5
Kuwait	9.5	<5			

Note: Countries with a 2009 GHI of less than five are not included in the ranking. Differences in the group of countries with a GHI less than five are minimal. Countries that have identical GHI scores are given the same ranking. (For example, Paraguay and Suriname are both ranked at 13).
*Serbia and Montenegro are two independent states since 2006, but have been grouped in the GHI, due to the available data. * indicates that the underlying data are unreliable.

(Source: GNU License (Welthungerhilfe))

Body Mass Index Graph showing divisions of underweight, normal weight, and overweight



(Source: Public Domain)

Additional Images

A Bangladeshi man working a rice field



(Source: USAID/Federal Government)

A collection of meat-stuffs for human consumption



(Source: Public Domain)

A front and side view of an obese male teenager (5'10", 322 pounds)



(Source: Public Domain)



(Source: Creative Commons)

A propaganda poster from the "Great Leap Forward" in China, designed to make grain production look like shooting rockets



Source: Public Domain

Bus running on soybean biodiesel, one of the alternative ways that agricultural products are diverted from food uses



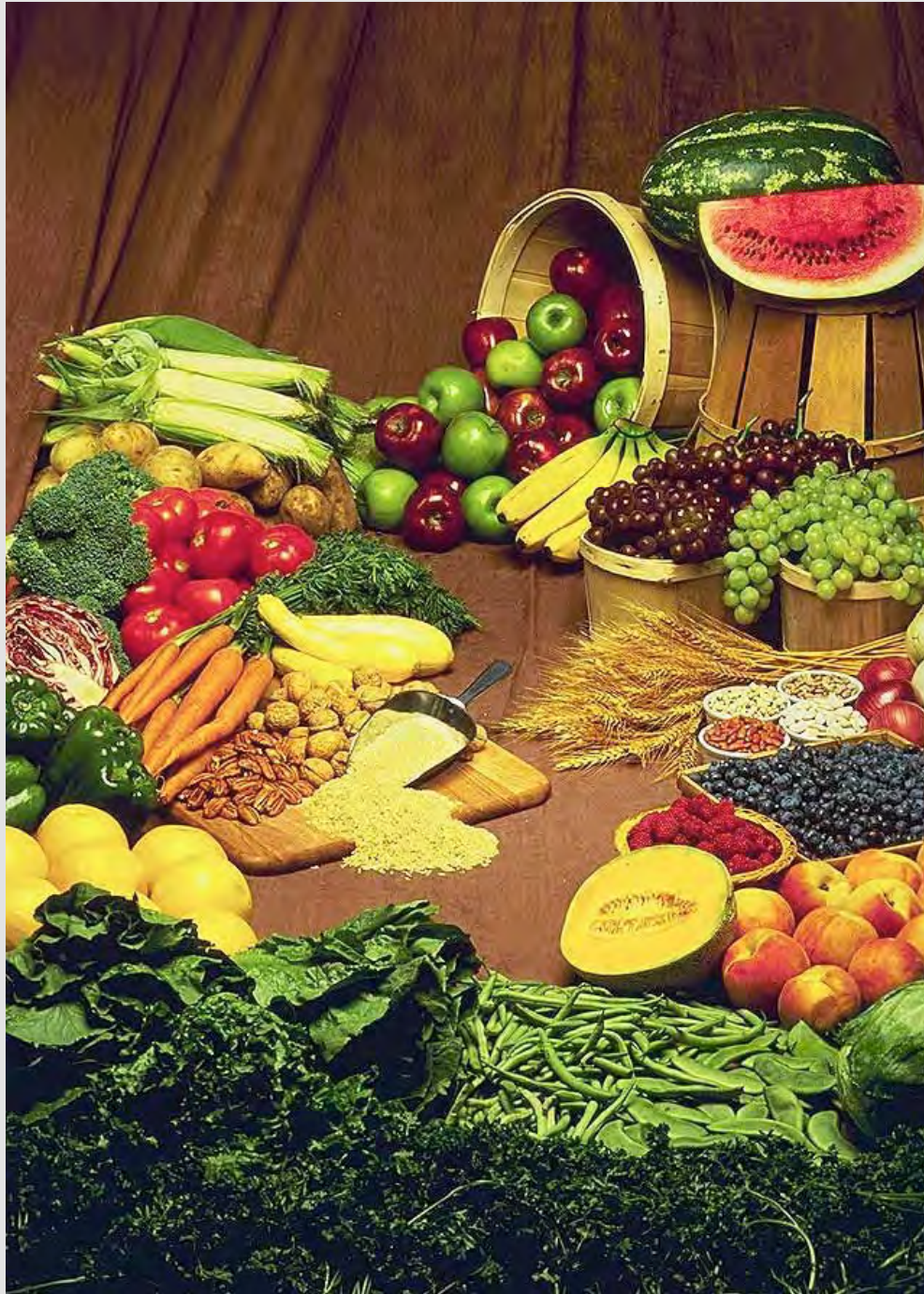
(Source: U.S. Department of Energy)

Engraving, "Giving Out Corn to the People, During a Season of Scarcity." Chinese officials distributing famine relief during the early 19th century



(Source: Public Domain)

Commonly grown food around the world, rich in naturally complex and simple carbohydrates



(Source: US Department of Agriculture)

Italian 2 euro commemorative coin showing the World Food Programme, 2004



(Source: Public Domain)

Tractor plowing an alfalfa field in 1921



(Source: Public Domain)

Water Buffalo plowing rice fields near Salatiga, Central Java, Indonesia



(Source: GNU License by Merbabu)

Conserving Diversity at the Dinner table: Plants, Food Security, and Gene Banks

EDITOR'S NOTE:

With the ongoing East African drought crisis, the persisting threat of global climate change, and the world population now estimated at 7 billion, global concerns about food insecurity are again in the news. Little mentioned, however, is the continuing loss of genetic diversity of the foods we eat today—a trend that has rapidly accelerated since the twentieth century and that raises troubling questions about the vulnerability of the world's food supply. One attempt to maintain plant biodiversity has been the establishment of gene banks—giant vaults to store seeds collected from around the globe. But there are serious questions over whether the collection of seeds from ancient Mesopotamian wheat, South American potatoes, or tropical plants in an isolated arctic catacomb can undo a recent history of agriculture that has emphasized bigger yields through modern, standardized varieties of crops.

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By **NURCAN ATALAN-HELICKE**

Historians still [squabble](#) over whether there really was a "first" American Thanksgiving. But a handful of documents give us a hint at what might have been served: likely roasted venison and fowl—probably turkey and a number of other wild birds—dried Indian corn, wheat, barley, and fish. The local diet also included lobster, eel, nuts, squash, beans, and berries.

Today's Thanksgiving feast similarly celebrates the bounty of nature, though many of the varieties of corn, squash, and other fruits and vegetables Native Americans and European settlers farmed no longer exist.

Four centuries later, we have come to depend increasingly on only a handful of commercial plant varieties for our food supply. And we see signs everywhere of what some observers call the [sinking ark](#) of agricultural biodiversity (agrobiodiversity).

As we sit at the table to give thanks, most of us eat the same commercial variety of turkey—the Broad-breasted White ([BBW](#))—fed with genetically modified corn and soy meal in giant turkey mills. Our stuffing is made from a handful of wheat, corn, and soy varieties cultivated with tractors and fertilizers and bred to resist pests, plagues, and drought. And when you pass the potatoes, you're probably

passing one of the three kinds that, since the 1970s, have made up three-quarters of the U.S. potato crop.

In the United States, of 7,000 apple varieties that were grown by the 1800s, fewer than a hundred are cultivated today. More than nine out of ten of the varieties in the official U.S. Department of Agriculture seed list of 1903 were no longer available by the 1980s.

This genetic erosion is common throughout the planet as a result of changing agricultural practices. Wherever we look, we see the rise in uniformity of agricultural plant varieties and a loss of genetic diversity, with many traditional varieties and wild relatives of today's crops simply disappearing.

Over the millennia that humans have engaged with agriculture, about 7,000 plant species have been cultivated or collected for food. But today, according to the United Nations' Food and Agriculture Organization ([FAO](#)), fewer than 150 species are under commercial cultivation and only 30 species provide 95 percent of



human food energy needs. In fact, just four of them—rice, wheat, maize and potatoes—provide more than 60 percent of human dietary energy supply.

The narrowing of crop diversity has accelerated to frightening proportions in recent decades as a result of three processes: the introduction of commercial, scientifically hybridized plant varieties (mainly since the mid-twentieth century); the expanded use of certain high-yielding varieties as part of the Green Revolution in agricultural production of the 1960s and 1970s; and the expansion of industrial agriculture.

Growing genetic uniformity poses a variety of possible threats to the human food supply. As awareness of the problem has grown over the past three decades, governments, international organizations, and businesses across the world have begun to store available genetic material in gene banks—vaults where scientists conserve seeds away from their original habitats in specially designed buildings at temperatures below freezing.

But are these seed arks enough to stave off a potential food catastrophe? And what other ways are there to ensure human food security? In the long term, keeping farmers on the farm cultivating a wide diversity of locally adapted crops may be the best solution.

The Perils of Declining Food Crop Diversity

A number of risks accompany the loss of genetic diversity in agriculture, including crop disease, pests, climate change, and the rising human population.



The Great Famine, or Irish Potato Famine, is one historical example of the dangers of monoculture. (Source: Wikipedia)

Cultivating large areas with one or two high-yielding crop varieties can be disastrous when that crop falls victim to disease. To take one recent example: In Brazil, the world's largest producer and exporter of oranges and orange juice, the genetic uniformity of the country's sweet orange trees has left the citrus industry susceptible (since 1987) to a bacterial disease that causes economic losses that were as high as \$250 million U.S. dollars in 2000.

The most famous case of the disastrous outcomes of monoculture is probably the Irish potato famine. European colonizers introduced the potato to European cuisine, and it became the main staple crop in the cold, rainy climate of Ireland. Irish farmers planted primarily one potato variety, the Lumper potato, which was exposed to a deadly fungus in 1845.

Because of genetic uniformity, the fungus contaminated and wiped out much of the potato crop. In the following decade, the famine killed approximately one million people and resulted in the emigration of another million from Ireland.

These days, a major new risk is at the door. A virulent cereal stem rust (Ug99) now attacks previously resistant genes worldwide. The fast mutating fungus, first identified in Uganda in 1999, has now spread across Sub-Saharan Africa, North Africa, and the Middle East. Scientists predict that Ug99 will infect other areas, including North America, in less than ten years.



A wheat harvest in Idaho. (US Department of Agriculture)

Because of the spread of monocultures and the narrowing of wheat's genetic basis, almost 90 percent of the world's wheat is defenseless against Ug99. Not only local farmers but also commercial breeders and scientists have to find and develop adaptive traits, which is only possible when we have agrobiodiversity.

Agrobiodiversity conserves multiple food species, ensures genetic variability within species, and preserves diverse farming techniques and knowledge. It allows farmers to switch quickly from one crop variety to another when a certain strain no longer produces good results in the local environment.

In the Peruvian Andes (in contrast to Ireland), where potatoes were first domesticated about 13,000 years ago, Incas cultivated several potato varieties as insurance against crop failures. Today, Andean farmers still cultivate multiple potato types in different shapes, colors, and flavors for reasons of culture, diet, and food security.

Heterogeneous genetic characteristics provide several benefits such as agronomic qualities like resistance to pests, diseases and drought, and adaptations to abiotic stresses such as salinity tolerance.



Ug99 stem rust on a wheat stalk. Ug99 is currently one of the most dangerous threats to global wheat production. (Source: USDA)



Varieties of potato, a staple food in the U.S. and elsewhere. (Source: Scott Bauer)

A Turkish wheat [landrace](#) collected in 1948 was found to carry genes for resistance and tolerance to various disease causing fungi. Plant breeders in the United States have used these genes to

breed wheat varieties that are resistant to a range of diseases. These genes became a parent of many of the wheat cultivars now grown in the northwestern United States.

A dwarf wheat landrace from Japan was introduced to the United States in 1946. It was used as a donor of dwarfing genes, which increased production by improving nitrogen uptake. Similarly, Zerazera sorghums from Ethiopia have provided resistance to downy mildew for many inbred lines in the U.S. and Mexico.

Agrobiodiversity also provides a foundation for food security, livelihoods, and insurance by sustaining agriculture in the face of global environmental threats such as climate change. Climate change could, for example, make it impossible to grow a certain crop over a large area where it is now cultivated. Meanwhile other plant varieties that might have flourished under the changed conditions have been lost to monoculture itself. The absence of

crop diversity certainly renders humanity less adaptable to changes in climate.

Of course, the rapidly growing human population makes food security an ever more acute problem. With the world's population recently passing seven billion—and with a larger portion of those humans now demanding a diet rich in meat—a restriction in the global food supply would mean a human catastrophe.

Rising [Malthusian](#) fears that agriculture cannot keep up with a rapidly expanding population have worsened with the threat of climate change and new diseases. Policymakers have been slow to address the threats posed by the genetic erosion of agriculture,



An agricultural image dated around 1200 BCE. (Source: York Project)



Potato Harvest in Malheur County, Oregon. (Source: Wikimedia Commons)

often demanding more evidence and questioning its implications for food security.

The issue before us is how to use, conserve, and sustain agrobiodiversity, while we depend increasingly on a limited number of commercial varieties for our food supply.

A Brief History of Seeds and Hybrids

First as gatherers, then as farmers, humans have long relied on plants for food security and self-sufficiency.

Agriculture represents a critical interaction of people and nature. For millennia, farmers have carefully selected and bred new crop varieties from semi-wild relatives of crops in order to optimize their yields in local conditions.

Food security in many parts of the world still depends on the availability of such locally adapted crops. Farmers in isolated areas of Turkey, for example, still cultivate the semi-wild relatives of wheat cultivated 8,000 years ago. Corn (maize) biodiversity in Mexico still endures despite pressures on farmers for modernization.

At the same time, humans have long moved genetic resources (in the form of seeds) from one place to another through migration and trade.

Agricultural crop seeds were exchanged on the Silk Road. In the so-called Columbian Exchange that followed in the wake of Columbus's "discovery" of the Americas, European colonizers transformed agriculture both in the colonies and in Europe by bringing seeds, animals, germs, and other goods from one continent to the other.

Yet, for all humanity's long history with agriculture, the twentieth century witnessed the rapid creation of hybrid seed varieties and modified crops, which quickly spread across the globe. Seed manipulators are no longer farmers experimenting with different strains and species on their farms, but scientists employed by

agribusiness to produce new genetic varieties in their laboratories.

With the development of Mendelian genetics in the nineteenth century and the rise of a seed industry as part of modern agriculture, seed breeding has become both a scientific and commercial activity.

In the United States, hybrid corn (maize) was produced as early as 1909. By the mid-1920s, public agricultural research institutions and land-grant colleges were training farmers to produce their own hybrid seeds. The development of hybrids enabled an increase in farm output, but also allowed breeders to assert control over the seed supply.

The U.S. Plant Patent Act of 1930 enabled patents of new plant varieties, increasing the commercial impetus for companies to gain control over seeds and to tackle pressing agricultural dilemmas.

For example, one of the oldest adversaries of wheat and barley is stem rust, caused by a fungus that affected crop cultivations for centuries. It contributed to major crop losses in the United States in the 1930s and 1950s.

In the 1950s, a number of stem rust-resistant genes were described, cataloged, and collected from several wheat varieties from Europe and the Middle East to create new resistant wheat varieties in the United States. These were then cultivated widely,

from Africa to Europe, and from China to the United States. The incidence of stem rust was reduced almost to insignificance by the mid-1990s.

Between 1940 and the 1950s, as seed companies stepped into the crop hybridization process—and produced new, high-yield, resistant varieties—their profits tripled.

Technology transformed agricultural research and development. Seeds became not an outcome of farmers' ingenuity but a private commodity. New varieties of seeds could no longer be saved or traded, but had to be purchased by farmers.



Irrigation of a cotton field. (US Department of Agriculture)

Protection of the scientific knowledge of modern seed production promoted further innovation in seed science, but mainly protected the rights of private companies—sidestepping farmers in the seed development process.

Thus, "progress" in agriculture has often been premised on a distinction between "modern" crop varieties, including high-yielding, certified, and now genetically engineered crops, and farmer-saved or semi-wild relatives of crops also known as traditional varieties.

These modern crop varieties reflect the mentality of recent agriculture that lionizes a technological-fix approach. It relies on a simple assumption: If we increase food supply through increased yields, we will address hunger and food security.

This narrow focus on "progress" through modern varieties has facilitated the further loss of diversity on the farm and at the dinner table.

The Green Revolution

With the belief that these new, modern, commercially protected varieties and techniques were the way of the future, it only made sense for the businesses that produced them that they should export their products to the rest of the world.

In the postwar period, new hybrid varieties were introduced in population-dense countries, such as India and Pakistan, leading



Banaue rice terraces in the Philippines, where traditional landraces have been grown for thousands of years. (Source: Wikipedia)

to the doubling of wheat yields and food production and probably saving a billion people from hunger. This international effort, now called the Green Revolution, helped expand modern industrialized agriculture into the developing world.

The Green Revolution was comprised of a particular package of land-saving technologies and practices that required high-yielding grain varieties (especially wheat and rice bred at international research centers), more chemical fertilizers, and extensive irrigation. This package was in turn supported with state subsidies, credit, and price controls.

The Green Revolution reflected prevailing Western ideas about the modernization of agriculture. Its proponents applied scientific principles to agricultural processes to improve yields in developing countries in an attempt to escape perceived Malthusian limits on food supply.

High-yielding varieties were seen as the future of agriculture, whereas traditional varieties were considered remnants of past eras of prolonged scarcity.

Foreign experts collaborated with local farmers to teach new agricultural techniques. Officials from the U.S. Agency for International Development (USAID) and experts from other international organizations carried out thousands of meetings in villages across the so-called developing world to teach modern agriculture to farmers.



Norman Borlaug, the "father of the Green Revolution." (Source: US Department of Agriculture)

State officials throughout the globe embraced modern plant varieties and agricultural modernization policies as progress. In the process, they frequently excluded traditional varieties (often well adapted to local conditions) from national agricultural policies.

But increased agricultural yields came with a cost. The new varieties required increased chemical and water use. In developing nations, often only the richer farmers could afford to pay for the seeds, agricultural chemicals, and irrigation required to sustain high yields. Many smaller farmers were driven out of business.



Physicist and environmentalist Vandana Shiva. (Source: Elke Wetzig)

Globally, farmers relinquished seeds that had been cultivated over generations. In Turkey, a center of agricultural domestication and diversity of wheat, the Green Revolution led to the replacement of hundreds of local wheat varieties with high-yielding dwarf wheat varieties introduced from Mexico. In the 1970s, Turkey also imported and started to cultivate high-yielding varieties improved from American and Russian wheat cultivars.

Rice farmers in the Philippines, similarly, gave up the Taiwanese variety they had long planted. They first sowed one hybrid rice variety, but it was attacked by disease. Another hybrid variety proved resistant to disease, but susceptible to strong winds. When the farmers wanted to return to their original Taiwanese variety, they found out there were no more farmers in their communities or in Taiwan who cultivated it.

The Green Revolution's legacy is fraught with disagreement.

[Norman Borlaug](#), the father of the Revolution, asserts that the movement set out to alleviate hunger and succeeded: The world was able to produce an additional 1.9 billion tons of grains, an over 170 percent increase, from the 1950s through the 1990s on the same amount of land. Mass hunger would have ensued without these changes.

However, not everyone has been so sanguine about the results. Vandana Shiva, a physicist and environmental activist, argues that the Green Revolution prolonged poverty and brought dependence on Western technology to the developing world. She argues the main beneficiaries were the agrochemical industry, large petrochemical companies, and manufacturers of agricultural machinery in the West.

Whether the Green Revolution made life better or worse for the growing populations of the developing world, it certainly encouraged seed sales, which mostly benefitted companies from wealthier, developed countries. Many farmers must now buy seeds that are patented and protected under laws and agreements protecting breeders' rights. Some are derived from the very seeds they once gave and received for free.

International agreements, such as the 1961 International Convention for the Protection of New Varieties of Plants, protected private companies by giving breeders exclusive control



To increase the genetic diversity of U.S. corn, the Germplasm Enhancement for Maize (GEM) project seeks to combine exotic germplasm, such as this unusually colored and shaped maize from Latin America, with domestic corn lines. (Source: USDA)

over new varieties. Last revised in 1991, the Convention accommodates capital intensive, large-scale commercial agricultural systems.

The World Trade Organization and its Trade Related Intellectual Property Rights (1994) agreement have further established a uniform legal and policy infrastructure for intellectual property rights in each member country. Although countries can implement their own system of plant protection under these regulations, there is a narrow focus across the globe on more

commercialization and privatization of plant genetic material used for agriculture and food.

For their part, many developing countries have also introduced new seed regulations that limit farmers' right to exchange, save, and store seeds from their farms on a national scale.

Technologies such as satellite images and plant fingerprinting have enhanced the ability to monitor intellectual property right infringements, greatly reducing farmers' access to seed resources.

Seed Banks as the Great Human Insurance Policy?

One response to rapidly dwindling agrobiodiversity has been to gather and safely store seeds of crop varieties in controlled environments. Gene banks or seed banks are located away from farms where the seeds are cultivated and serve as safety deposit boxes.

Other similar off-site conservation mechanisms include botanical gardens, DNA libraries, greenhouses, and other endeavors by agricultural research institutions.

The Soviet Union was the first to establish gene banks for crops. However, Russian botanist Nikolay Vavilov's effort to collect



Entrance to the Svalbard Global Seed Vault. (Source: Mari Tefre)

seeds worldwide in the 1920s and 1930s was aimed at research alone, not the protection of seed diversity.

The United States started germplasm collection in the late 1940s and established its first gene bank in 1959. Unlike in the Soviet Union, these resources were used for agricultural production.

At the international level, the idea of a network of gene banks gained traction following the 1970 outbreak of the corn leaf blight in United States. New global partnerships, such as the Consultative Group on Agricultural Research (CGIAR), began to



Storage shelves in the Svalbard Global Seed Vault. (Source: Mari Tefre)

establish international agricultural research centers beginning in the 1970s.

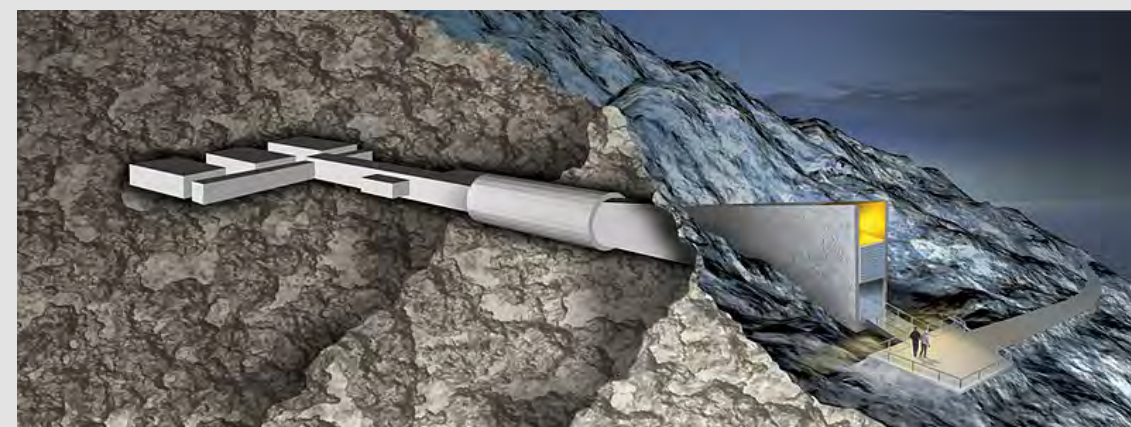
Working in collaboration with hundreds of governments, civil society

organizations, and private businesses around the world, CGIAR today supports 15 international centers for agricultural research and about 1,750 gene banks. Together, these gene banks contain a total of 6 million accessions of all crops and represent 95 percent of all cereal landraces worldwide. These are public or non-profit entities whose goal is to sustain "food for people."

The CGIAR gene banks are located primarily in the global South but their funding and guidance comes primarily from Northern donors. CGIAR ensures that seeds and plant germplasm are stored in duplicate and kept below freezing so that they can remain viable for decades. They are cultivated under sterile conditions with fertilizers.

CGIAR centers are open access institutions: The accessions cannot be patented, and they are distributed free upon request to

all their member states. Countries submit their genetic resources on a voluntary basis. Yet, 45 percent of global gene bank collections are held in just seven countries, a concentration of resources that raises questions about the need for facilitated global access.



Rendering of the layout of the Svalbard Global Seed Vault. (Source: Global Crop Diversity Trust)

Many countries continue to depend on CGIAR's gene banks to improve their agriculture, taking advantage of the CGIAR's open access to resources for research, breeding, conservation, and training. Between 1974 and 2001, Kenya and Uganda received a total of 12,000 unique accessions from all CGIAR gene banks that were collected from other countries. In the same period, about 4,000 accessions collected from Kenya and Uganda were distributed to the world.



Seeds in storage at the Svalbard Global Seed Vault. (Source: Global Crop Diversity Trust)

Seeds and Climate Change

There is now an increased interest in global seed collection and storage because of the threat of climate change.

The most ambitious is the [Svalbard Global Seed Vault](#), established in 2008 and nicknamed "the doomsday vault," which sits inside the permafrost of a sandstone mountain on a Norwegian island just a few hundred miles from the North Pole. It professes to be a backup for global collections already stored in CGIAR centers. It is located in a permanently chilled, earthquake free zone, some 400 feet above sea level to ensure that the seeds will be viable when climate change shifts landscapes and agricultural zones.

Since 2000, the Millennium Seed Bank Project of the Kew Royal Botanical Gardens in the United Kingdom has also collected and banked over a billion seeds worldwide from 24,000 different plant species. The goal of the project is to collect and save 25 percent of the world's dryland wild plants by 2020.

A similar recent endeavor is Project Baseline in the United States. Supported by the National Science Foundation, the project will enable the collection of 12 million seeds in the next four years and will act like a "time capsule" for evolutionary biologists against climate change threat.

Seed Banks and their Discontents

Crop scientists and human ecologists often suggest that gene banks alone cannot conserve seeds because the genetic diversity of crops develops differently on the farm than when conserved off-site in gene banks.

Indeed, international agreements, including the international Convention on Biological Diversity—a global agreement for the conservation of biological diversity signed at the Rio Earth Summit (1992)—stress not only the importance of agrobiodiversity and the conservation of seeds but the conservation of seeds on farms and by farmers in order to guarantee long-term food security.

Agrobiodiversity is a result of the interaction between the crop and local human population, and freezing genetic material in gene banks may stop the clock: Crops cannot continue to transform genetically in response to human decisions and environmental changes.

Gene banks or seed banks may also be susceptible to equipment failure, attacks, or—perhaps most importantly—financial problems, since they are costly to run.

There is also a question of access. Whereas many of the CGIAR centers are open access resources, the newer ones are not. Both the Svalbard and the Millennium Seed Bank are more restrictive, with access limited to those with permission from countries that make deposits.

A further concern is that gene banks conserve only seeds or genetic material, but not necessarily the traditional knowledge associated with those seeds. Information about the location where the seed was collected provides only limited knowledge about why and how farmers have bred and continue to cultivate that particular variety.

Moreover, collections by seed or gene banks are selective and cannot represent all of the seed varieties that have been cultivated by farmers worldwide. When a new high-yielding variety becomes available—such as through the Green Revolution, genetic modification technology, or other means—



A memorial to the Irish Great Famine in Dublin. (Source: Wikimedia Commons)

pressure for the extinction of the existing traditional varieties grows—as happened to rice farmers in the Philippines.

Seeds, Farmers, and Traditional Knowledge

In the long run, the most efficient way to conserve agrobiodiversity is to maintain farmers' cultivation of traditional varieties. On-the-farm conservation by farmers incorporates indigenous knowledge, crop-pest co-evolution, and security through redundancy and decentralization.

A wheat farmer may grow different wheat varieties to be used as animal feed, for markets, or for household consumption. The farmer may consider ecological niches: The wheat variety suitable for hillside may not be appropriate for land at the valley bottom. The farmer may choose different varieties for particular strengths, such as resistance to pests, or simply to enjoy the taste for bread.

Farmers rely on diversity on the farm and in their communities. When one crop fails or seeds no longer provide enough yield, farmers can plant other varieties since they have access to other seeds. Farmers also renew seeds, if the seeds no longer meet their expectations of yield, taste, or sales at the market.

On-the-farm conservation serves as a continuous source of genetic material for gene bank-based conservation and gives countries with traditional crop varieties the option of promoting conservation with wider human participation. It also recognizes the role and contribution of farmers to agriculture, and food security for the whole world. Of course, maintaining seeds on the farm also helps maintain farmers' present and future livelihoods.

Today, food security in many parts of the world—especially in impoverished countries—depends on crop genetic diversity especially in the form of agrobiodiversity cultivated by farmers in their fields. But the Green Revolution and the spread of industrial agriculture more broadly has led to the genetic uniformity of crops worldwide.



Women work on an Indonesian rice plantation.

We now have the same wheat varieties from Mexico to Turkey and from Kenya to India, with the same genetic material, that produce maximum yields but also leave us susceptible to agricultural collapse from disease, pests, changing climate, and rising population.

History warns us of the dangers of putting all our wheat—hybrid or otherwise—in one basket. ♦

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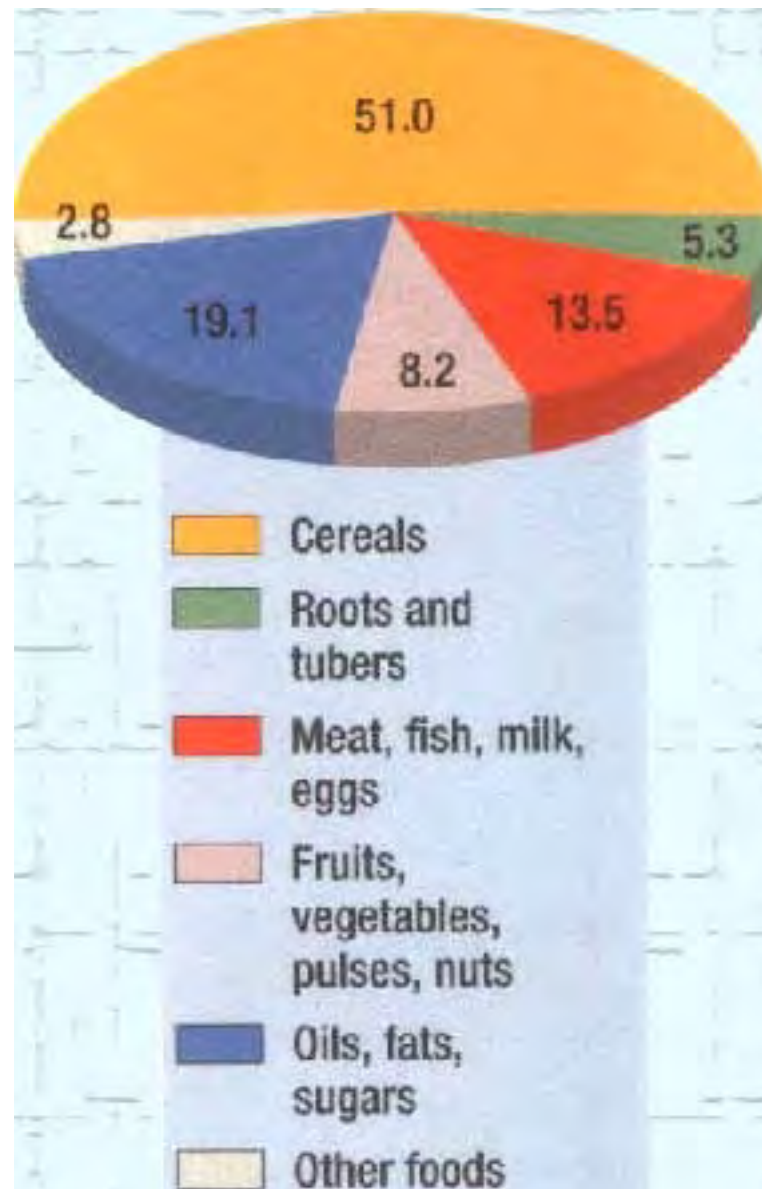
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Maps and Charts

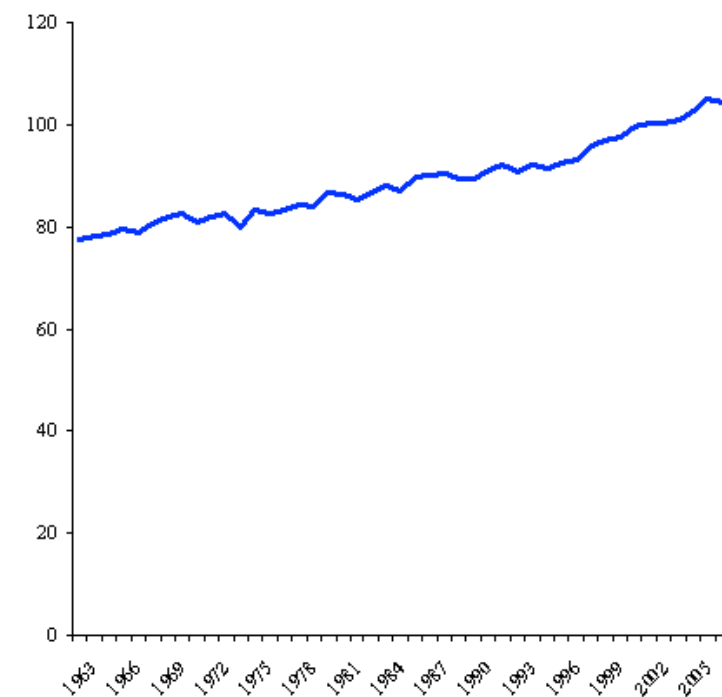
Food types in the world average diet, 1988-1990



(Source: Food and Agriculture Organization of the United Nations)

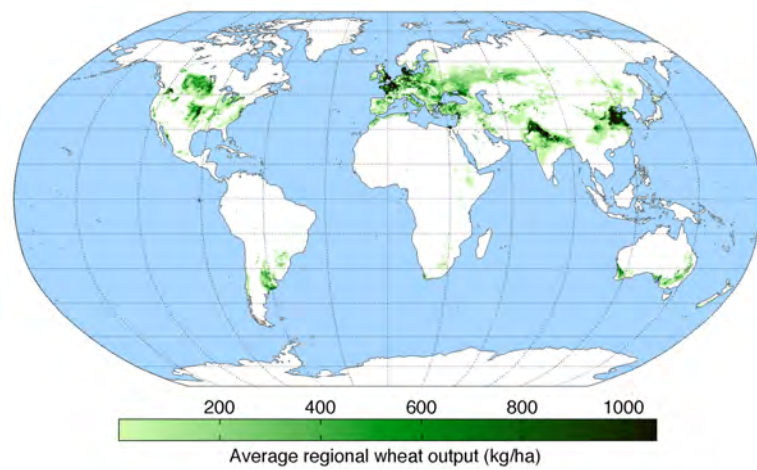
Per capita food production worldwide, 1961-2005

Food production per capita index 1961-2005



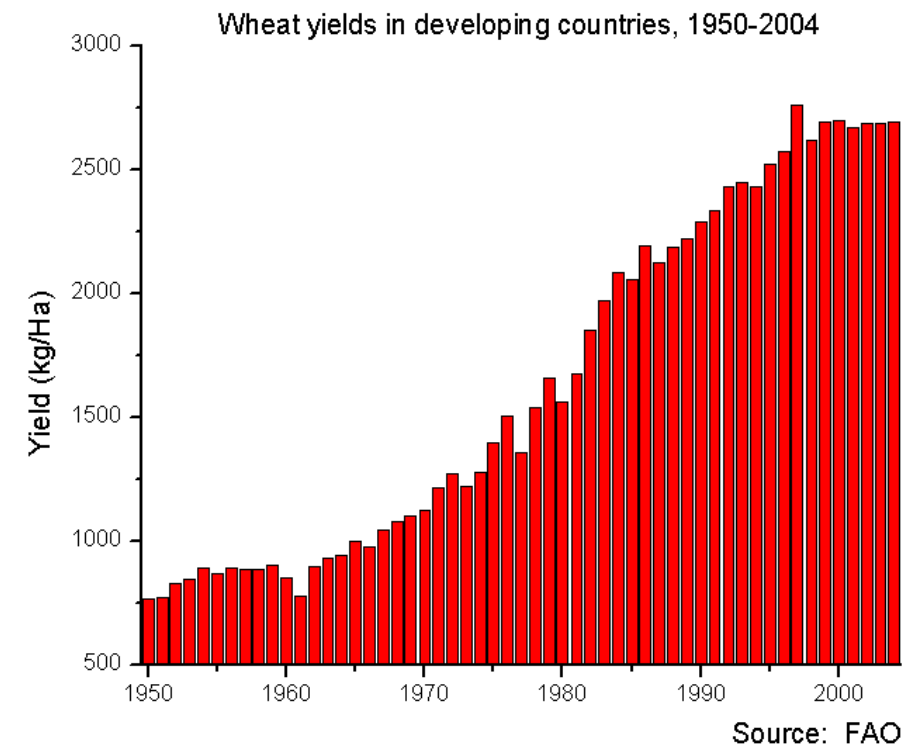
(Source: Food and Agriculture Organization of the United Nations)

Worldwide wheat production in 2000



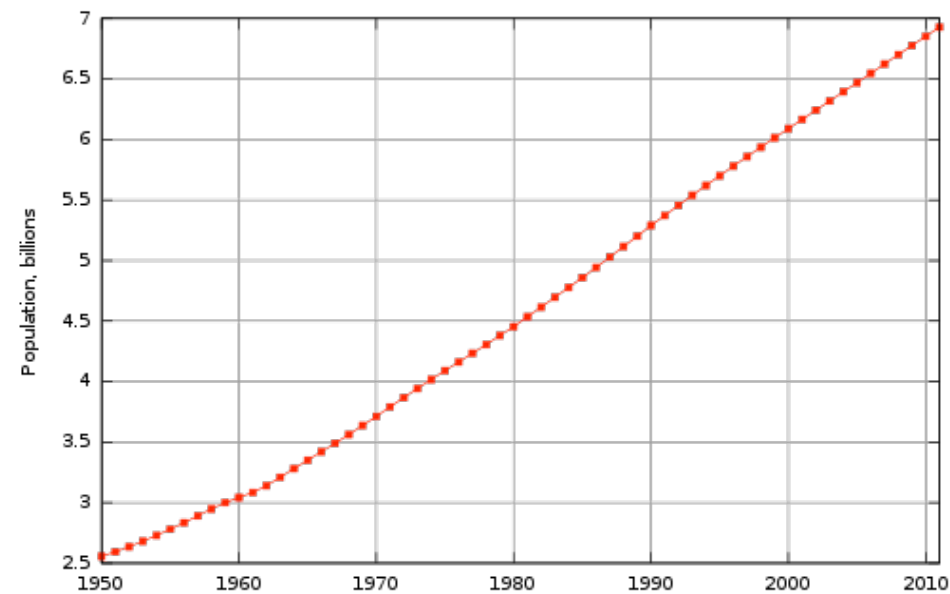
(Source: Compiled by the University of Minnesota Institute on the Environment with data from: Monfreda, C., N. Ramankutty, and J.A. Foley.)

Wheat yields in developing countries from 1950 to 2004, showing the dramatic impact of the Green Revolution



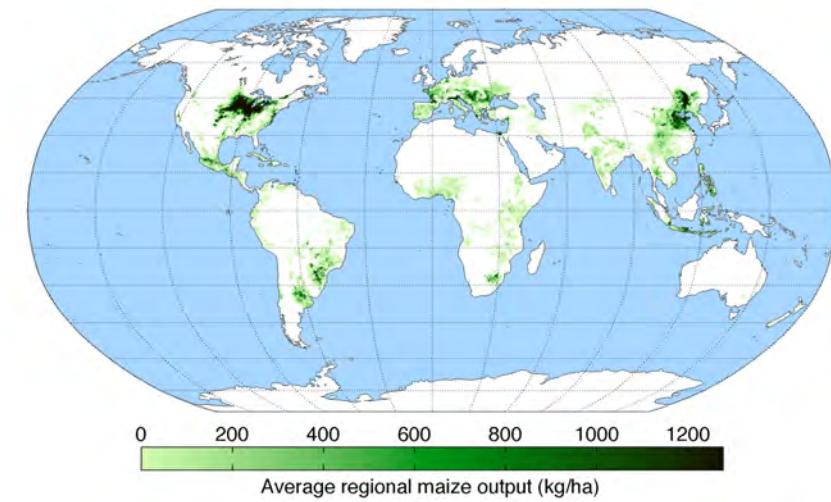
(Source: Food and Agriculture Organization of the United Nations)

Worldwide population since 1950



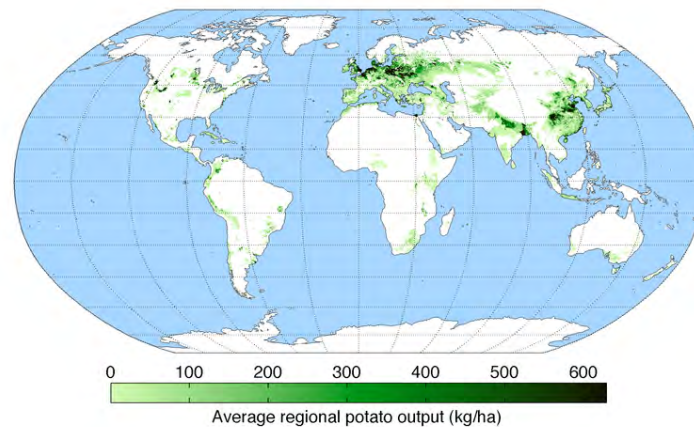
(Source: U.S. Census Bureau)

Worldwide maize production in 2000



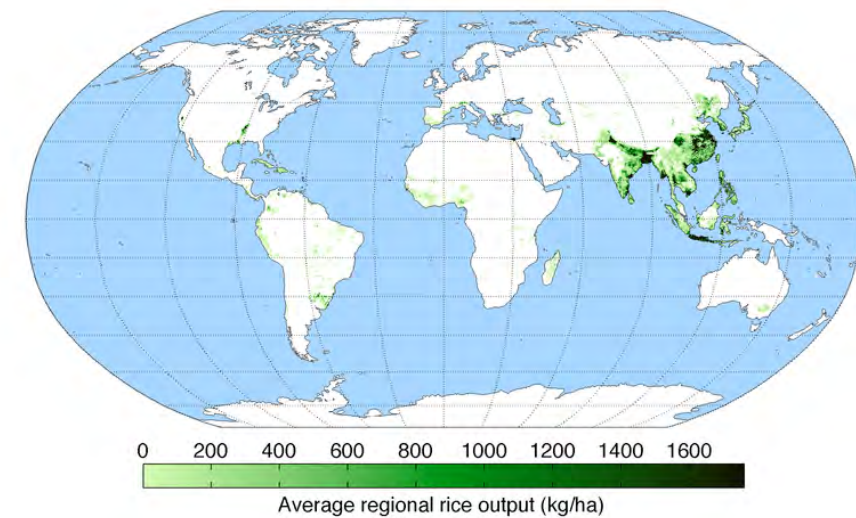
(Source: Compiled by the University of Minnesota Institute on the Environment with data from: Monfreda, C., N. Ramankutty, and J.A. Foley.)

Worldwide potato production in 2000



(Source: Compiled by the University of Minnesota Institute on the Environment with data from: Monfreda, C., N. Ramankutty, and J.A. Foley.)

Worldwide rice production in 2000



(Source: Compiled by the University of Minnesota Institute on the Environment with data from: Monfreda, C., N. Ramankutty, and J.A. Foley.)

Additional Images

A crop duster spraying pesticide in California



(Source: USDA by Charles O'Rear)

Women work on an Indonesian rice plantation



(Source: Gunawan Kartapranata)

Full-grown maize plants



(Source: photo by Christian Fischer)

Maize kernels



(Source: Andrew Butko)

Wheat in the Hulah Valley, an agricultural region in Northern Israel



(Source: Carol Spears)

Wheat is processed into a variety of familiar foods



(Source: USDA by Keith Weller)

Population Bomb? The Debate over Indian Population

EDITOR'S NOTE:

As the population of the globe surges past 6 billion, India is on the verge of surpassing China as the world's most populous nation. For at least two centuries India has struck many Westerners as a place that is over-populated, famine-prone, and, as a result, a threat to global stability. In fact, as historian Mytheli Sreenivas details, the question of 'over-population' is a relative one: is India producing too many people or too few resources? Does a growing population represent an opportunity or a danger? These questions take on a new urgency and relevance as India emerges as a major economic power and consumer society, and as the world confronts an ongoing food crisis. This month, Sreenivas puts these pressing concerns about population in historical perspective.

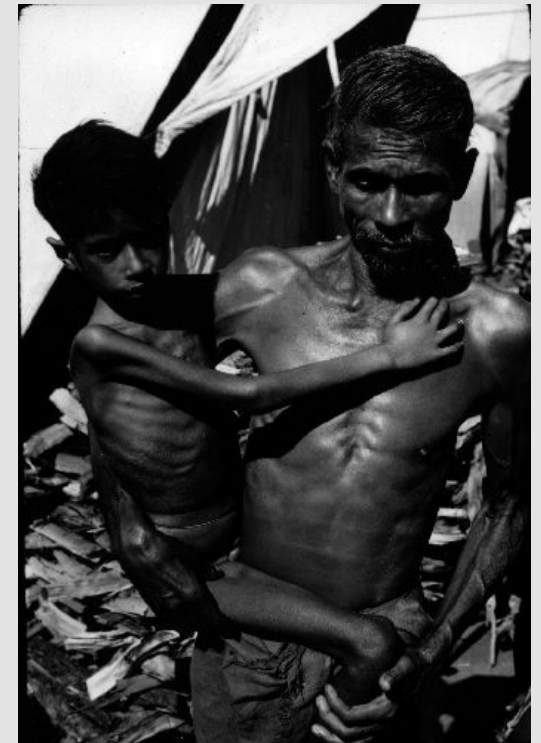
Published November 2009.

By **MYTHELI SREENIVAS**

In the weeks and months prior to the current financial crisis, much of the world media was reporting on a global crisis in food. A seemingly inexorable rise in the price of basic food supplies in 2007-2008 threatened poor populations around the world, and government leaders scrambled to contain the social unrest that followed.

To explain this food crisis to an audience in St. Louis in May 2008, then-President George W. Bush pointed to the size of the Indian population. Claiming that India's "middle class is larger than our entire population," Bush argued that the demand for "better nutrition and better food" among this massive group had caused food price increases worldwide.

Bush's remarks provoked an uproar among Indians, who refused to accept blame for the global food crisis. Many Indian journalists and government officials instead



A starving man and child in India, 1972. (Source: Wikipedia)

linked the spike in food prices to American policies that favored using grains for ethanol fuel and subsidized U.S. farmers.

Others, like analyst Pradeep Mehta, argued that if Americans would just reduce their weights to the Indian middle class average, "many hungry people in sub-Saharan Africa would find food on their plates."

This heated exchange marked another episode in a longstanding debate about whether India is an "overpopulated" place. Since the early nineteenth century, some observers—Indians and others—have remarked that India's population is too large for the country's resources to sustain.

In more recent years, some in the United States and Europe have argued that this large population poses a global threat, as Indians consume an ever-increasing portion of the world's resources in a bid to satisfy an ever-growing population.

Population numbers seem to support these concerns. The population of India has grown rapidly over the last sixty years, from about 350 million in 1947 to approximately 1.16 billion today. Although the rate of growth has now slowed, India's population size is still increasing, and demographers expect it to reach 1.65 billion people by 2050, making India the most populous country on earth.

The numbers alone cannot tell us the full story, however. The debates about Indian population size have also focused on the



The Mullikghat flower market in Kolkata, 2007. (Source: Creative Commons, by Arnabchat)

related question of under-production—that is, the problem is not so much too many people as too little food. For more than two centuries, the question — is India really "overpopulated" at all? — has been hotly contested and bound up with broader tensions about political power, economic development, and access to global resources.

Population and Prosperity in the Nineteenth Century

In early modern India, a large population was typically taken to be a sign of prosperity and progress. A densely populated area signified fertile land, the availability of labor, good governance, and peaceful conditions. Small populations, by contrast, were seen as a sign of decline.

A [Maratha](#) official touring the war-torn [Mughal](#) territories near Delhi and Agra in 1784 remarked with concern that "there were



Main Bathing Ghat in Haridwar on the Ganges River, 1880s. (Source: Wikipedia)

no ripening fields to be seen anywhere... The local administration was already oppressive—on top of that came the failure of the rains and the peasants died *en masse*, so that entire villages were left uninhabited."

In the early nineteenth century, when the [British East India Company](#) controlled an increasing swath of territory across the subcontinent, Company officials pronounced that large and expanding populations demonstrated the superiority of British governance. In the words of one company publicist in 1815, "It is pleasing to view the cheerful bustle and crowded population ... evincing a sense of security, and appearance of happiness, seen in no part of India beyond the Company's territories."

This longstanding equation of large populations with prosperity and good government began to change by the mid-nineteenth century, when British officials confronted a series of famines across the subcontinent. These famines, which occurred with



English Philosopher Thomas Malthus
(Source: Wikipedia)

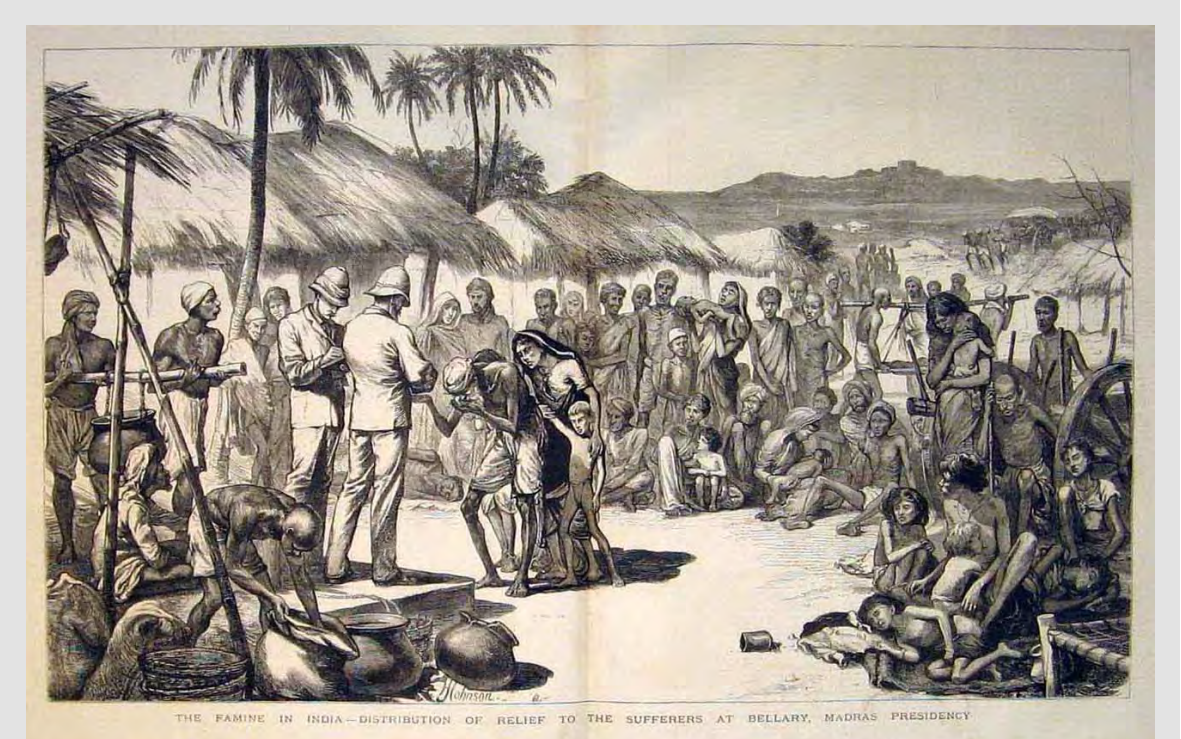
shocking regularity from the 1860s onwards, led some administrators to question whether India was a land depleted of resources straining to support an excessively large population.

Previous Indian rulers had also confronted famines, and the subcontinent was vulnerable to such crises because of its dependence upon monsoon rains. However, the British were the first to develop an official policy that mandated specific responses to famine conditions.

To frame this policy, some administrators turned to Thomas Robert Malthus's *Essay on the Principle of Population*. First published in 1798, Malthus's *Essay* argued that population growth, if unchecked, would always exceed capacities of food production.

According to Malthus, population growth could be limited either by preventive checks, which lowered the birth rate, or positive checks, which raised the death rate. Preventive checks included such measures as postponement of marriage, celibacy, or contraception, whereas positive checks involved war, disease, or starvation.

The *Essay* proved enormously influential, and nowhere more so than in India. For some British administrators, Malthus's "positive checks" seemed to explain recurrent famines. They suggested that British rule had created the conditions for rapid population growth across India by ending civil strife and curbing disease.



Drawing depicting the distribution of food aid during the Madras Famine in 1877, from the *Illustrated London News*, 1877. (Source: Wikipedia)

Under the benign conditions of *Pax Britannica*, the population grew beyond the capacity of agricultural production. In true Malthusian fashion, famines ensued, resulting in a "positive check" on population growth. From this perspective, famines occurred in India because the British had "freed a tropical population from the tropical checks on its increase, without yet teaching it to submit to prudential restraints."

Even with this rosy view of the success of British rule, the question of how the government ought to respond to famine remained. Followers of Malthusian ideas suggested that famine relief be minimal. While this might lead to starvation deaths in the short run, the fatalities would be from the poorest class of

laborers and beggars, a "class of men—so low in intellect, morality, and possessions" that their continued survival and reproduction would only worsen the situation of India.

Official famine policy put some of these principles into practice. Famine relief was held to the bare minimum, and to receive aid, all but the most enfeebled were required to labor for wages below market rates. The goal, from a Malthusian perspective, was simple: to discourage famine victims from seeking any relief, with the long term consequence of reducing their rates of reproduction and holding off the threat of overpopulation.

In the nineteenth century, British fears of Indian overpopulation were not prompted by an *increase* in population size, but by a crisis—famine—that threatened to *reduce* population numbers. When the recurrence of famine threatened to undermine British claims that their rule brought prosperity to the Indian colony, the British government responded by blaming Indians themselves for failing to control population growth.

The Viceroy, Lord Dufferin, took this approach when he noted that in 1888, Indian agricultural productivity was low, and famines loomed, because of the "overflow of the population of large districts and territories whose inhabitants are yearly multiplying beyond the number which the soil is capable of sustaining."

Yet despite this dire pronouncement, there is no evidence to suggest that India was undergoing any rapid increase of

population in comparison with the rest of the world. Between 1871 and 1941, the average increase in India's population was approximately 0.60% per year, slightly lower than the worldwide average (from 1850-1940) of 0.69%.

Consequently, by blaming "population" rather than colonial exploitation or mismanagement of production, the British colonial rulers essentially dodged any questions about the effects of their rule on Indian society.

Overpopulation or Underproduction?

Beginning in the late nineteenth century, several Indian nationalist intellectuals began to develop a critique of colonial rule that rejected the premises of British thought about the Indian political economy, including its assumptions of overpopulation. They argued that the problem in India was not "overpopulation" but "underproduction."

British rule had destroyed Indian manufacturing, but had failed to replace these sources of production with new modes of industry. This led to a situation in which, according to P.C. Joshi, "production falls off while population is advancing at its normal rate," leading to "the evil of underproduction."

As a corollary to this thesis, Indian nationalists advanced the notion that famines were preventable through better governance. In the short term, they demanded that the British government

offer more generous aid to famine-threatened areas, and in the long term, encourage industrial development.

For further proof of their argument, the nationalists looked to Europe itself. In England and France, the population grew significantly during the nineteenth century, but the national income multiplied by even greater amounts. Perhaps most importantly, even when these countries suffered from drought, they "invariably escape from the terrible grip" of famine.

Consequently, the "increase of numbers is per se not necessarily or always an evil," Joshi argued, and in any case, Indian numbers were not increasing very greatly. Colonial mismanagement—or worse—indifference to its colonized subjects was the problem, not overpopulation.

Independent India and a Growing Population

The first two decades of the twentieth century witnessed a relatively slow rate of population growth. As a result, the census of 1931 came as a shock to demographers and the public at large; it revealed a much more rapid growth rate, of one percent annually, between 1921 and 1931. More worrisome to some, the rate of growth continued to accelerate, and after 1951, reached approximately two percent per year.

In the midst of this population increase, colonial India gained its independence from the British Empire in 1947, and was

partitioned into the separate states of India and Pakistan. Both nations expressed concerns about population size, but the Indian government took up the issue with greater urgency.

Under Prime Minister [Jawaharlal Nehru](#), India developed a bureaucratic infrastructure to monitor, and potentially reduce, rates of population growth. During the 1950s, these efforts were joined enthusiastically by private sources of funding, most notably from American philanthropic organizations such as the Ford Foundation.

Yet even while agreeing that Indian population growth be moderated, Nehru remained steeped in the ideas of earlier Indian nationalists, and focused more on increasing production than on decreasing population.

Speaking to the United Nations Economic Commission for Asia and the Far East in 1948, for example, Nehru noted that he was "all in favor of the population being checked, but I think there is a great misapprehension when so much stress is laid on this aspect... We are overpopulated, if you like, because our productive capacity is low. If we increase our production, agricultural and other, [and] if this population is put to work for production, then we are not overpopulated."

In other words, for Nehru, "No country can be overpopulated, if there is work for everyone."

Economic development, more than population control, became the new *mantra* of Nehru's regime, and with the aim of rapidly increasing agricultural and industrial production, the government launched the first of a series of Five Year Plans in 1951. The plans resulted in some notable successes. For instance, in 1966 Indian farmers produced 1.7 times the amount of grain as they had in 1951.

Skeptics, however, warned that any such increase was rapidly eroded by India's growing population, which increased by a factor of nearly 1.5 between 1950 and 1969. Thus, throughout the Nehru era, from 1947 until the Prime Minister's death in 1964, India attempted to balance "underproduction" and "overpopulation."

1960s: When the Rains Failed

In 1965 the monsoon rains never came. India's food production plunged, and reports emerged that in the worst-affected areas, people were living on the edge of starvation.

Faced with a worsening crisis, the new Prime Minister, [Indira Gandhi](#), appealed to the United States for food aid. The Americans had food to give, but President Lyndon B. Johnson kept a tight rein on shipments to India. As he noted to an aide, "I'm not going to piss away foreign aid in nations where they refuse to deal with their own population problems."

When the American president met with Mrs. Gandhi, he was reportedly satisfied by her assurances on population control. Soon after this meeting, Johnson sent a memorandum to Congress requesting approval of food aid to India, noting that "The Indian government believes there can be no effective solution of the Indian food problem that does not include population control. The choice is now between a comprehensive and humane program for limiting births and the brutal curb that is imposed by famine."

With US aid, India managed to avoid this "brutal curb," and improved climate conditions in the late 1960s supported important changes in Indian agriculture known as the "Green Revolution." Working with new high-yield varieties of wheat and rice, and supported by intensive capital investments in fertilizer and irrigation, some Indian farmers succeeded in rapidly increasing food grain production, which reached almost 100 million tons in 1969.

India and the "Population Bomb"

By the early 1970s, India appeared to be well on its way to solving the problem of rising population through increased food production. If, following Nehru and earlier nationalists, the true Indian problem was "underproduction" rather than "overpopulation," then at least in agriculture, production was potentially meeting the needs of the people.

One might expect, then, that concerns about Indian overpopulation would diminish, but the late 1960s and early 1970s witnessed renewed debate about population growth.

The lag-time on the benefits of the "Green Revolution" and the memory of the near-famine of 1965 help explain this renewed concern. Perhaps more importantly, however, anxieties about overpopulation developed in response to the changing balance of power in the post-colonial world.

In 1969, Paul Ehrlich brought these concerns to the fore in his best-selling book *The Population Bomb*, which opens with this memorable passage describing a "stinking hot night in Delhi."

"The streets," he wrote, "seemed alive with people. People eating, people washing, people sleeping. People visiting, arguing,

and screaming. People thrusting their hands through the taxi window, begging... People, people, people, people. As we moved slowly through the mob... the dust, noise, heat, and cooking fires gave the scene a hellish aspect."

Ehrlich wrote the book for the Sierra Club, and for a

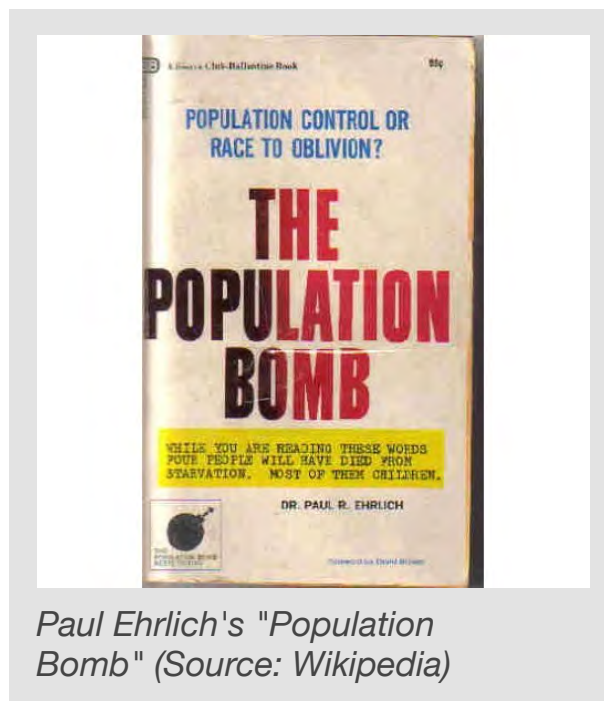
generation of environmental activists India thus became a metaphor for the global population explosion.

Many of Ehrlich's claims may have sounded familiar to nineteenth century British administrators grappling with Indian famines. However, *The Population Bomb*—alongside other texts of the Cold War era—introduced something new as well.

Ehrlich insisted that the "bomb" of overpopulation not only posed a risk to the overcrowded countries, but also threatened the entire planet. In the globalizing world of the mid-twentieth century, Indians could not be expected to "starve silently" on their overcrowded land, but to venture outward in search of more—with untold consequences for the "American way of life."

Ehrlich thus linked Indian "overpopulation" to American security and consumption standards to argue that "advanced nations" take responsibility for encouraging population control among the "overpopulated countries."

Ehrlich's message was well-received in the United States, and by 1974, the book had sold over four million copies and gone through twenty-two printings. *The Population Bomb*—coming as it did in the context of Cold War tensions (especially fears that India would follow China to communism), decolonization in Asia and Africa, and broader social unrest both in the US and the "third world"—convinced Americans that India's growing



Paul Ehrlich's "Population Bomb" (Source: Wikipedia)

population, with its demand for a greater share of world resources, represented a threat to U.S. global influence.

While American leaders and ordinary citizens worried about the ever-growing number of Indians inhabiting the planet, the Indian government took its own unprecedented steps towards curbing population growth.

The government of Indira Gandhi was already under substantial American and international pressure to engage in programs of population control. Mrs. Gandhi herself had a deep personal interest in the issue, and just one day after her election as Prime Minister, she signaled her commitment by changing the name of the "Ministry of Health" to the "Ministry of Health and Family Planning."

Beyond Mrs. Gandhi's personal interest, the broader socio-economic conditions of the 1970s help explain the government's redoubled interest in controlling population. A quarter-century after independence, not all Indians had yet seen tangible gains from decolonization.

Although the Green Revolution had brought prosperity to some farmers, other rural areas still languished—passed over by the new technologies and infrastructure that supported agricultural production in the core bread-basket regions. Unemployment, including among high school and college-educated individuals,



1952 Family Planning Conference in India. Avabai Wadia (Reading message), Dr. Sarvepalli Radhakrishnan, Lady Rama Rau, and Margaret Sanger. (Source: Wikipedia)

continued to be a concern, and the economy was not creating enough new jobs to meet the people's needs.

Faced with these problems, Mrs. Gandhi adopted the slogan, "Garibi Hatao!" (Eradicate Poverty!) as part of her populist agenda. However, her administration's economic reforms did not meet the rising expectations of ordinary Indian citizens who sought higher living standards and better opportunities in the wake of decolonization.

The longstanding nationalist thesis—that underproduction was the core problem for India—may have sounded increasingly hollow to those who had waited decades for more to be produced—more jobs, more food, more consumer goods.

Turning from underproduction to overpopulation, Mrs. Gandhi looked to population control as a way to bring the promises of economic development to India.

The government's support for "family planning" programs escalated dramatically in 1975, when Mrs. Gandhi declared a state of "Emergency" and suspended the Indian Constitution. In April 1976, the government adopted an "integrated" approach to family planning that used incentives to encourage contraception and sterilization.

In response to the new program, state health officials offered cash payments to men and women who accepted forms of long-term contraception (primarily IUD insertion) or surgical sterilization. Although officials insisted that such payments were non-coercive, in conditions of poverty, the offer of cash or food in exchange for participation certainly took on coercive aspects. Indeed, poor and lower caste groups were disproportionately targeted for "family planning."

Despite media censorship, reports began to trickle out of terrible abuses—of young men being dragged forcefully to vasectomy "camps," and of police violence against those who protested the

new family planning regime. All government employees—from teachers to train conductors—were given "quotas" of people they were required to "motivate" for long-term contraception or sterilization. A sterilization certificate became a requirement for all kinds of resources—ration cards, land allotments, new housing for slum dwellers, and even electricity connections, in some cases.

In 1977, with the end of the Emergency, Indira Gandhi and her Congress Party lost the Parliamentary elections. These elections also signaled the defeat of her family planning programs. As the newly uncensored media reported story after story about the abuses of the Emergency years, increasing numbers of Indians rejected the very idea of government-sponsored "family planning."

Claims that India was "overpopulated" came in for new questioning as well. During the 1980s and 1990s, the Indian government was forced to moderate its aggressive policies of population control, and fewer leaders and bureaucrats focused on "overpopulation" as a critical problem for India.

Population: Asset or Liability?

With the liberalization of the Indian economy in the 1990s, attention shifted again to the problem of "underproduction." India began to provide "backroom" operations for multinational corporations, and its information technology (IT) sector boomed.



The Mumbai Skyline (Source: Creative Commons, by Deepak Gupta)

In this environment, business leaders touted India's large number of college-educated speakers of English as an asset. In the words of Azim Premji, the chairman of Wipro Technologies in 2003, "India will be the powerhouse of the most important resource—the productive human spirit."

Economists and demographers have tended to agree with this point of view, noting that India's age structure—in which a high percentage of the population is in the productive age group of 15-59—could give India a competitive advantage over the aging populations of Europe, the United States, and China. According to economist C.P. Chandrasekhar, "The window of opportunity offered by a population bulge has clearly opened for India."

From this perspective, the task now is not to control population size—which is expected to continue rising in India until 2050—but

to provide adequate resources to make this growing population productive.

Once again, these new, more optimistic, assessments of Indian population size are not just about numbers. Although rates of population growth have slowed in some parts of the country, what fuels the current optimism among business leaders and economists is the broader context of globalization and liberalization of the Indian economy.



Dharavi Slum in Mumbai, India, 2008. (Source: GNU, by Kounosu)

This celebration of globalization has not been without its critics in India, who point to environmental degradation and rising levels of income inequality.

Yet even while debate about the costs and benefits of India's globalizing economy continues, one consensus does seem to have emerged. Neither supporters nor critics of India's globalization suggest that overpopulation is a significant problem for the country. They look instead towards increasing production, and perhaps redistributing resources, to address problems of poverty and unemployment.



A wind farm near a railway station in India, an example of how India is attempting to expand its power infrastructure. (Source: Creative Commons)

In the United States, by contrast, the specter of overpopulation still hovers over any discussion of India. As President Bush's St. Louis speech reminds us, the sheer numbers continue to inspire concern. Talk of a new "Asian century," fueled by the production of millions of Indians and Chinese, provokes questions about

American consumption standards, and the place of the U.S. in the global economy.

As in the past, American leaders and commentators have again suggested that perhaps the problem lies with India's over-large population, and its ever-growing claims to the world's resources.

In the midst of these concerns, we would do well to remember that the history of India's population has never been solely about numbers, but about the meaning these numbers acquire in specific political and economic contexts. How we answer the question—of whether India really is overpopulated—depends a lot upon how we understand contemporary global politics, and the place of India within it. ♦

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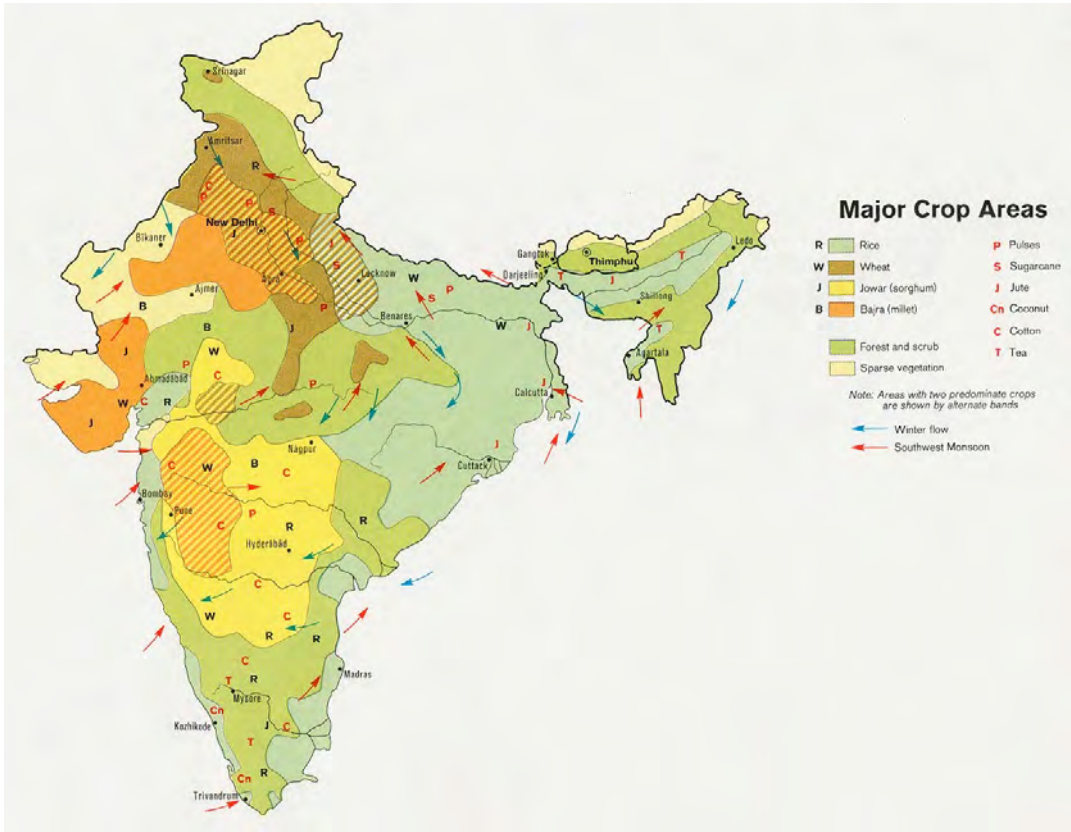
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Maps and Charts

Agricultural Map showing crop type by region in India, 1973



(Source: Perry Castenada Map Library at the University of Texas)

The India Subcontinent in 1760, from a British map created in 1905



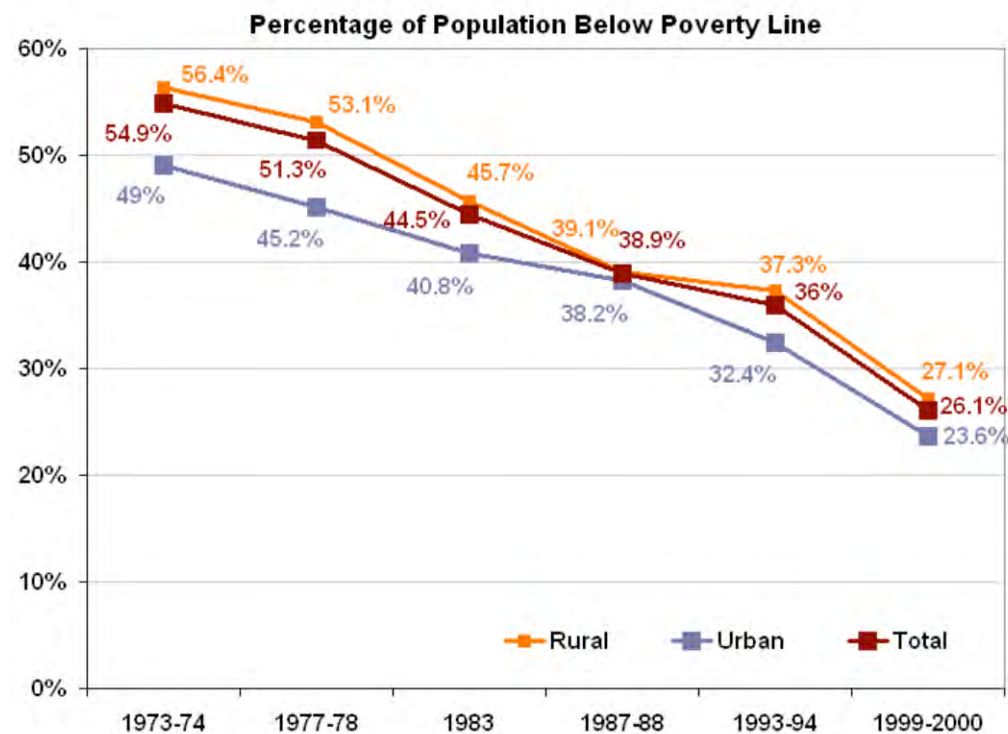
(Source: Public Domain)

Chart Listing Populations around the World

Global Population Totals, 1750-1950									
Areas	Population (millions)					Annual Rate of Increase (percent)			
	1750	1800	1850	1900	1950	1750-1800	1800-1850	1850-1900	1900-1950
World Total	791	978	1262	1650	2515	0.4	0.5	0.5	0.8
Asia (excl. USSR)	498	630	801	925	1381	0.5	0.5	0.3	0.8
China (mainland)	200	323	430	436	560	1	0.6	0	0.5
India and Pakistan	190	195	233	285	434	0.1	0.3	0.4	0.8
Japan	30	30	31	44	83	0	0.1	0.7	1.3
Indonesia	12	13	23	42	77	0.2	1.2	1.2	1.2
Rest of Asia	67	69	87	118	277	0.1	0.5	0.7	1.3
Africa	106	107	111	133	222	0	0.1	0.4	1
North Africa	10	11	15	27	53	0.2	0.5	1.2	1.4
Rest of Africa	96	96	96	106	169	0	0	0.2	0.9
Europe (excl. USSR)	125	152	208	296	392	0.4	0.6	0.7	0.6
USSR	42	56	76	134	180	0.6	0.6	1.1	0.6
America	18	31	64	156	328	1.1	1.5	1.8	1.5
Northern America	2	7	26	82	166	2.2	2.7	2.3	1.4
Middle and South America	16	24	38	74	162	0.8	0.9	1.3	1.6

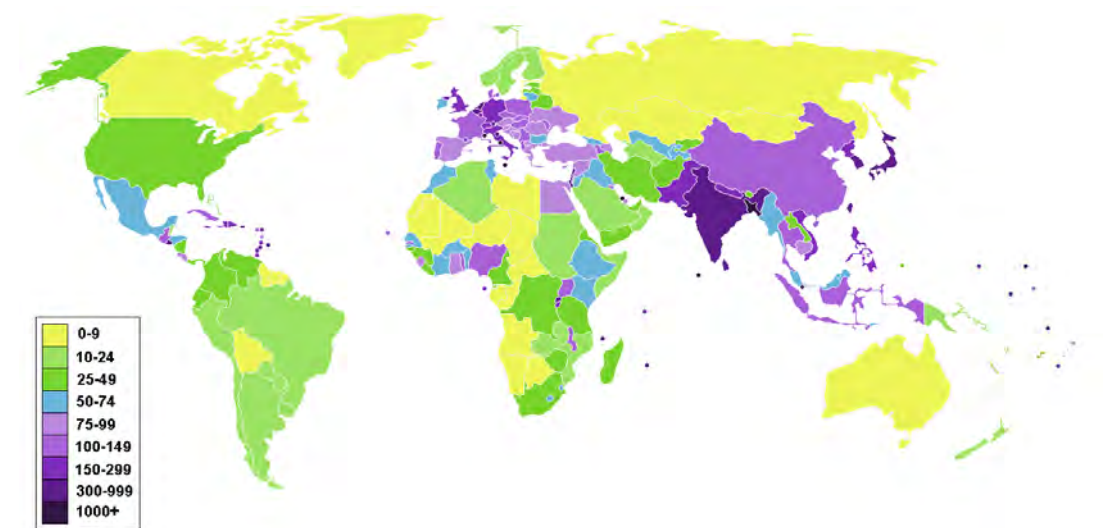
(Source: "The Modern Expansion of a World Population," 1967)

Chart showing the percentage of Indians who live below the poverty line



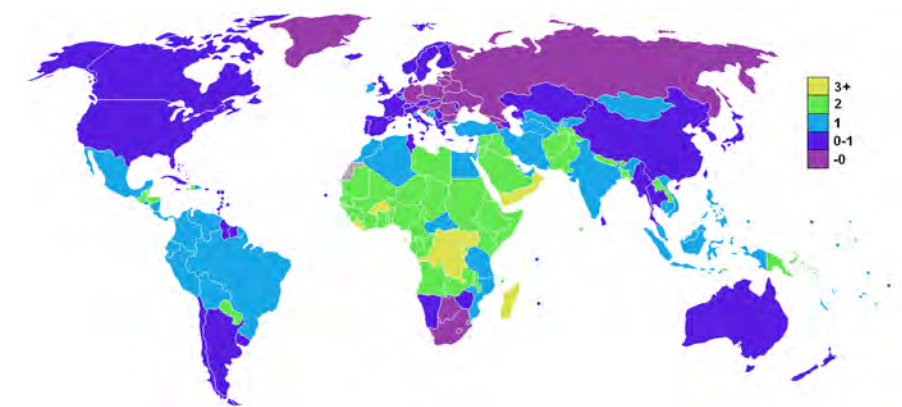
(Source: Data Source: Ministry of Statistics and Program Implementation, Government of India. Central Statistical Organization)

Global Map showing population density by country. Figures are people per square kilometer



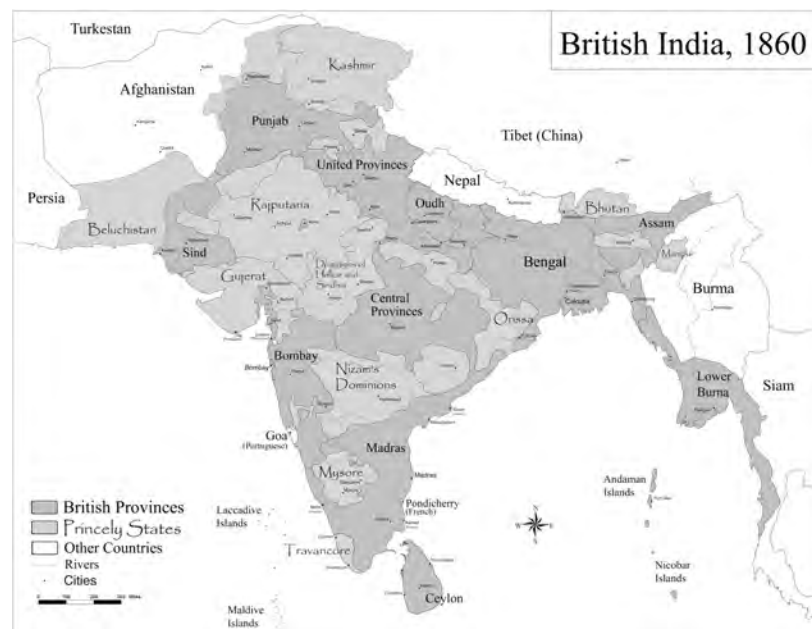
(Source: GNU license (wikipedia.org))

Global Map showing population growth rate by country. Figures are by percent growth



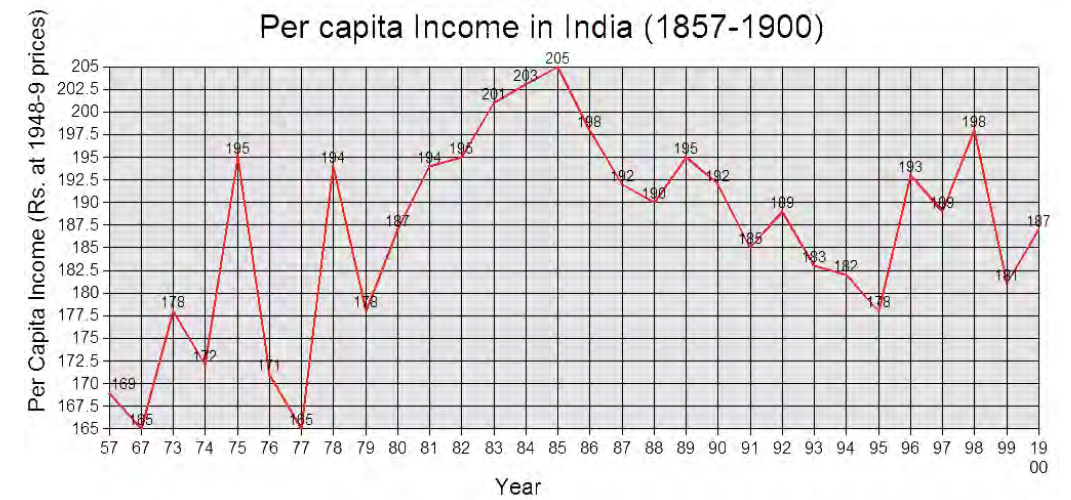
(Source: GNU license (wikipedia.org) Data from CIA Worldbook)

Map of India in 1860, around when the British Crown took control from the British East India Trading Co.



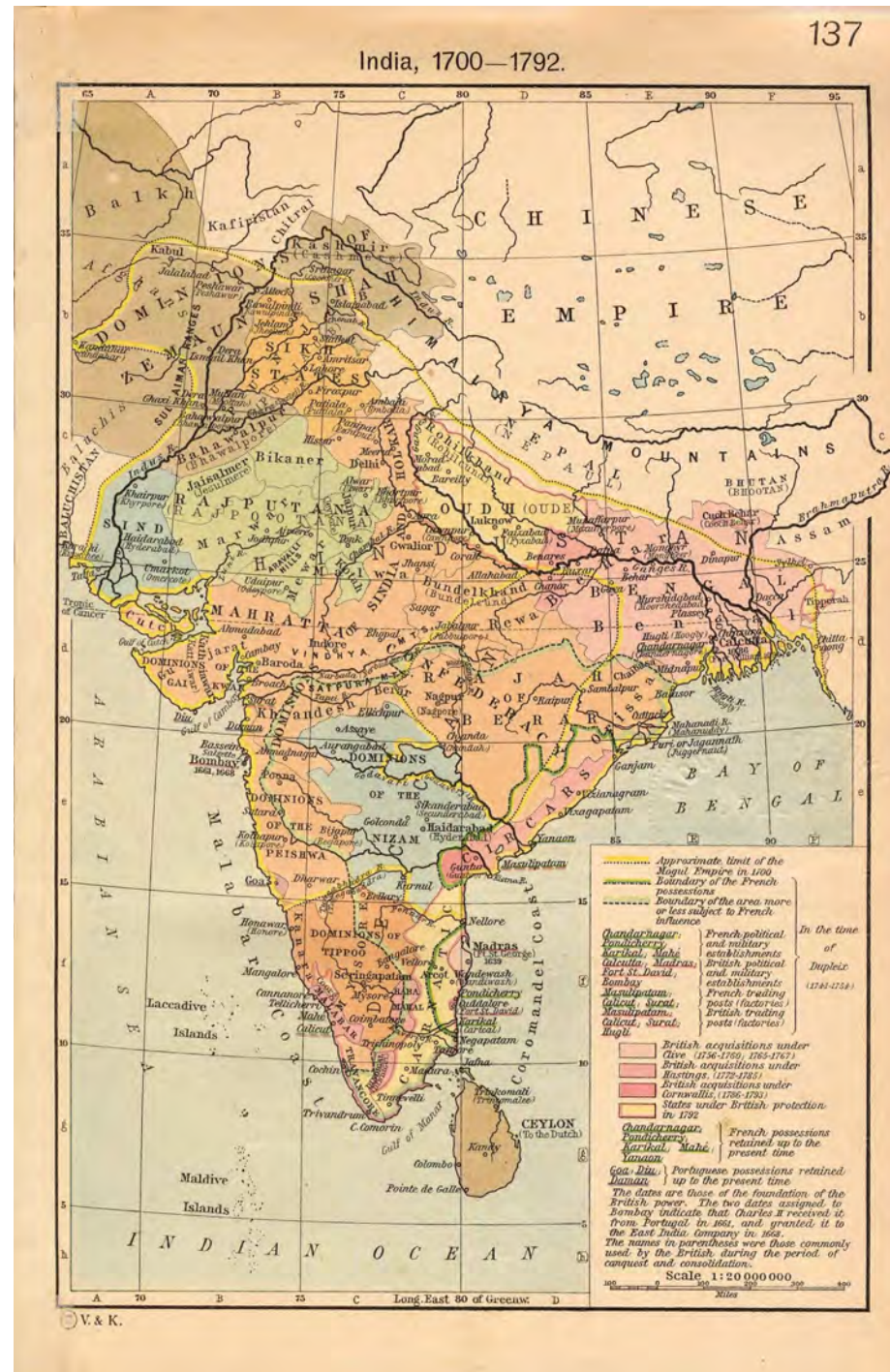
(Source: Wikipedia)

Map of India in the 18th century



(Source: Wikipedia)

Map of India in the 18th century



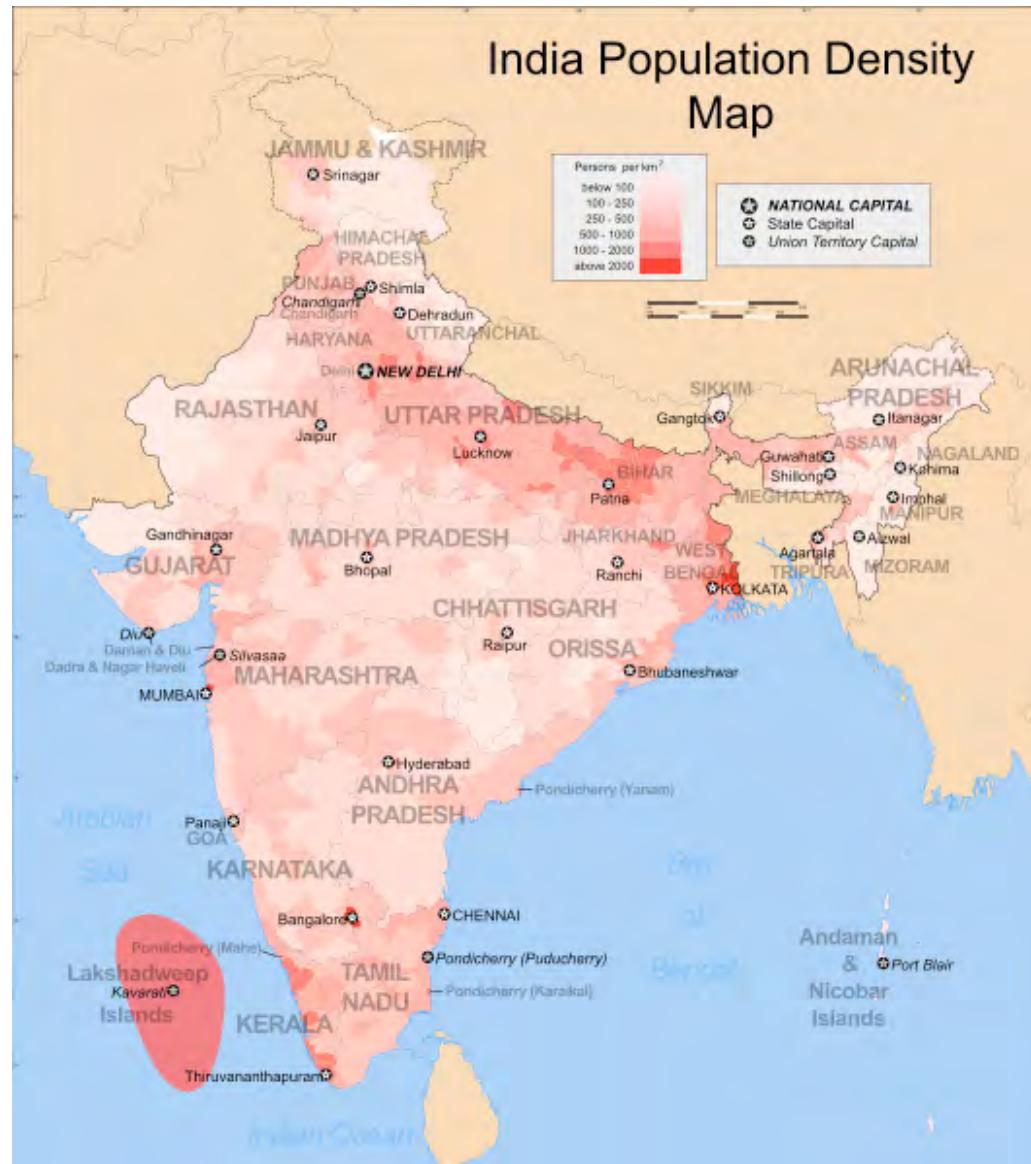
(Source: Perry Castenada Map Library at the University of Texas)

Political Map of India, 2001



(Source: Perry Castenada Map Library at the University of Texas)

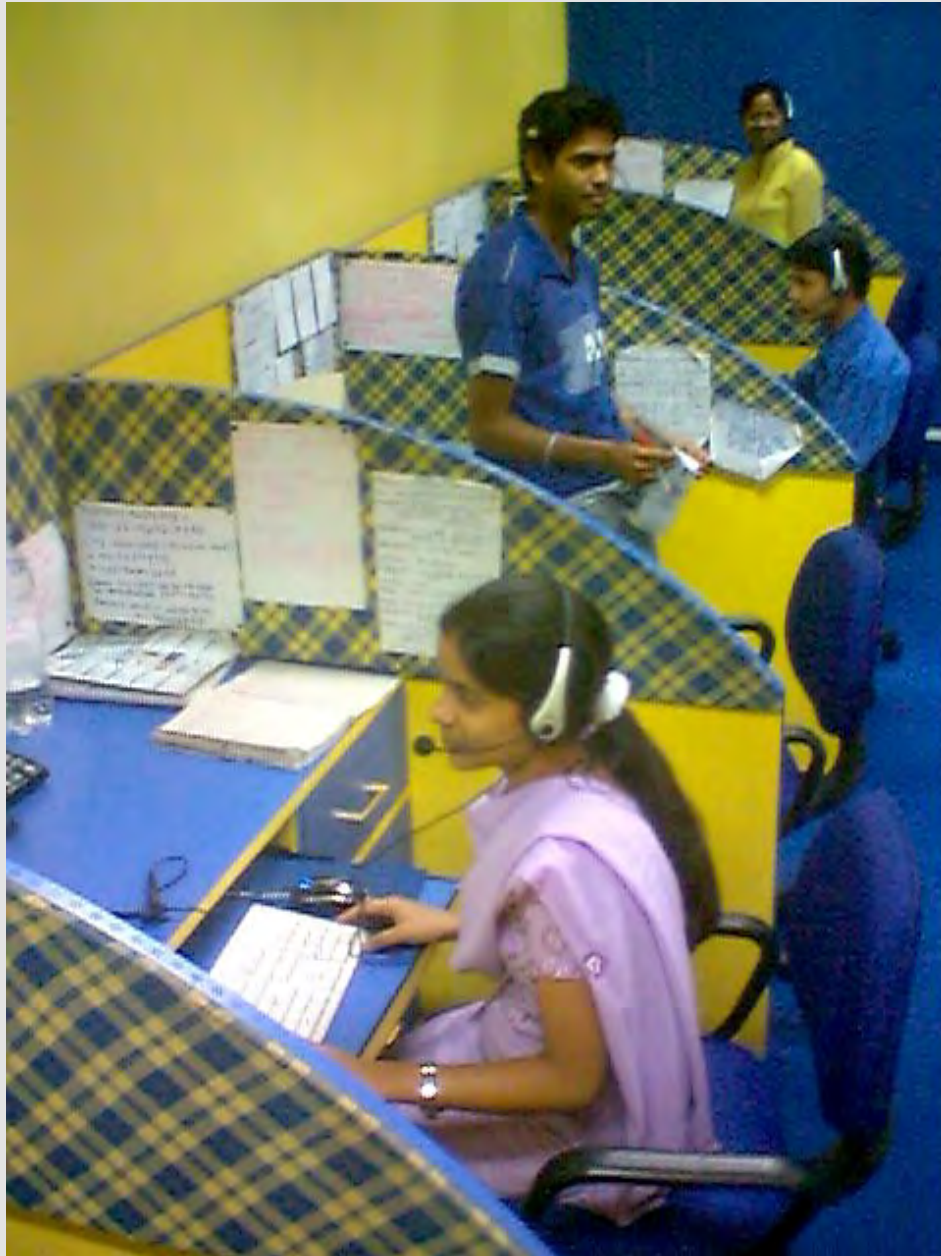
Population Density in India, around 2000



(Source: Wikipedia)

Additional Images

An Indian Call Center, 2006. The power of a large educated population



Source: Wikipedia

Barakhamba Road, Dehli



(Source: Creative Commons by Enthusiast10)

Dharavi Slum in Mumbai, India, 2008



(Source: GNU License by Kounosu)

Farmers in India working on a rice field in Andhra Pradesh



(Source: Creative Commons)

Indira Gandhi, Prime Minister of India from 1966-1977 and 1980-1984.



(Source: Public Domain)

Jawaharlal Nehru, First Prime Minister of India, 1947-1964



(Source: Public Domain)

The Flag of India



(Source: Wikipedia)

Niranjana River Bed in Bihar India during drought, 2005



(Source: Creative Commons by Hyougushi)

The Politics of International Adoption

EDITOR'S NOTE:

The Census Bureau has described in great statistical detail how the shape of the American family has changed dramatically over the last fifty years. Put bluntly: American families no longer look like the Cleavers. The practice of international adoption has contributed to this change, bringing into families children who are not biologically related to parents and who are often of other races. While international adoption has grown, it has not been without controversy. This month Peter Conn, Professor of English at the University of Pennsylvania, and the former Chair of the Board of Pearl S. Buck International, puts international adoption in context.

Published January 2008.

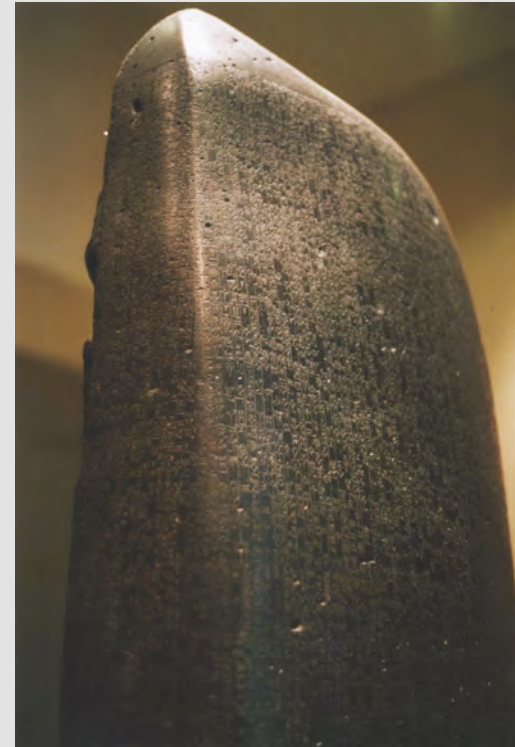
By **PETER CONN**

I will rely on a fair amount of data to discuss what I see as the significance of international adoption. However, I want to begin with a single number that will put the rest of this essay in context: the World Health Organization reports that more than ten million children under five years old – most of them in developing countries – die each year from violence, malnutrition or disease.

Ten million is hard to comprehend. Nor is it any easier if we break it down: thirty thousand children each day; more than one thousand every hour. Every day, the toll of children's lives equals ten times the number who died in the World Trade Towers, and each week matches the total of fatalities in the 2004 Asian tsunami. Deaths equaling fifty tsunamis each year – a number that has not budged much in a decade, by the way – but sadly, to quote an op-ed piece published years ago by A. M. Rosenthal of the *Times*, it is not news.

In the long run, all international humanitarian intervention – medical assistance, constitution-making, adoption and in-country development – is propelled by that number ten million, by the desire to help some of those children find the stability and the health and the homes that will enable them to survive, and perhaps even to flourish. The fact that many of those efforts fail does not subtract from the need to remain engaged.

Adoption is among the oldest and most widespread of human social practices. The Code of Hammurabi, promulgated in the 18th century BCE, includes a definition of adoption. Scores of other literary and historical texts document that, in one form or another, for a variety of motives, and with an equally diverse set of outcomes, orphaned and abandoned children have circulated among families throughout human history.



The Code of Hammurabi
(Source: Wikipedia)

Children have been adopted, legally and extra-legally, formally and informally, to constitute or re-constitute families, to provide homes when birth parents could not or would not do so, to serve as slaves, on the one hand, or to replace disinherited or deceased heirs on the other.

In his path breaking book, *The Kindness of Strangers*, John Boswell uncovered a previously hidden history, tracking the lives of children abandoned in Europe from the late classical through the early modern periods. Boswell concluded that children were

abandoned in large numbers, but rarely with the intention of infanticide. Instead, many societies developed protocols – rarely written down but universally understood – for the orderly circulation of children: from families who, for whatever reason, chose or needed to give up a child to families who, again for all the reasons mentioned above, wanted to add a child. Boswell's data (incomplete, to be sure) suggest that mortality rates for abandoned children were probably about the same as for children who remained in intact families.

The European story continued in the New World. While adoption in Colonial America can be traced back to the early years of white settlement, the practice was long governed informally and on an ad hoc basis. Relatives, sometimes neighbors without legal authorization, took in abandoned children or those who lost their parents. In the 18th and 19th centuries, less fortunate children could find themselves marooned in "poor houses" or orphanages, often until their 16th birthdays. In 1851, Massachusetts enacted the first modern adoption law, which recognized adoption as a social and legal matter requiring state supervision.

If 1851 was late in the history of adoption, it was actually early in the history of adoption law. The United Kingdom, for example, did not enact legislation regulating adoption until 1926. Some historians of adoption have argued that the practice may have seemed more compatible with American cultural assumptions than with those of other countries. Families created by choice

rather than biology, that is to say, enact a process that perhaps rhymes with our democratic professions.

The total number of annual adoptions finalized in the U.S. rose through the first seven decades of the twentieth century, reaching a high point of 175,000 in 1970. Since then, the number of adoptions has declined, to about 120,000 each year, and so too has the ratio of what are called "stranger" adoptions, i.e., adoptions between unrelated persons, a category that includes inter-country adoptions. Reflecting changes in marriage, cohabitation, and divorce rates, the majority of domestic adoptions now involve persons with some previous relation; in particular the adoption of stepchildren is now much more common.

The category of adopted children and stepchildren was included for the first time in the 2000 census. The census determined the total children of householders to be 84 million, of whom two million – just over two percent – were adopted.

Aside from its precedence, the 1851 Massachusetts law represented an important development because it grounded the legitimacy of adoption on the welfare of the child. Judges insisted that prospective parents should be "fit and proper." For a century-and-a-half, that view of adoption has guided state, federal and indeed international law. The prevailing legal norm is called "the

best interest of the child" doctrine, and it provides the standard that must be satisfied in every adoption, whether domestic or international. Article 1A of the 1995 Hague Convention, which governs inter-country adoption, states that the Convention's primary object is to "establish safeguards to ensure that inter-country adoptions take place in the best interests of the child...."

Needless to say, the interpretation of that dictum has led to wide variations in judgment, in the cases of both domestic and international adoptions. How to measure the "best interests" of a child, and who would do the measuring? For many years, and until quite recently, a blinkered notion of "matching" guided private and public agencies in the management of adoption.

Resisting precisely the difference on which adoptive families are based, social workers insisted on placing children with families whom they most closely resembled: not merely in physical appearance – blue eyes with blue eyes, if possible, certainly white with white – but also in such invisible markers as religion. Certain countries still adhere to versions of these strictures: Colombia, for example, grants preference to prospective parents of Colombian descent; the Philippines requires prospective parents to demonstrate membership in some religious organization.

The implications for inter-ethnic and international adoption are obvious: since such adoptions frequently made matching impossible, they were discouraged, and in some quarters still are – a topic to which I shall return.

Social workers also created a category for children they did not hesitate to call "unadoptable": children of color and foreign children, handicapped and older children, children in sibling groups. It took a generation of leadership, usually exhibited by people outside the professional social work community, among them the novelist-activist Pearl S. Buck, to reform those pernicious notions.

While domestic adoptions have declined, international adoptions have increased, though the numbers remain small. In the year 2000, 18,000 immigrant visas for adoption were issued, up from 7,000 in 1990. According once again to the 2000 census, the total population of children adopted internationally is 260,000, somewhat fewer than one out of every three hundred children.

Despite the relatively small scale of international adoption, both within the U.S. and within other receiving (mostly European) countries, it clearly represents the most notable shift in adoption practices of the past fifty or so years. International and interracial adoptive families, as one source puts it, have "literally made adoption more visible than it was in the past."

World War II marked the effective beginnings of international adoption, at least in the United States. From 1935 to 1948, an average of only 14 children a year, "under 16 years of age, unaccompanied by parent," entered the country. In short, international adoption has emerged at the intersection of twentieth-century crises, especially warfare, changing notions of

humanitarian intervention, and technologies that have enabled the movement of abandoned children across national boundaries.

The increase in inter-country adoption has led to several pieces of federal legislation, most recently the Child Citizenship Act (2000), which automatically confers U.S. citizenship on foreign adoptees at the time of adoption.

Adopted children have come to the U.S. from scores of countries, but two nations have sent more than others: 57,000 or about 22% of all foreign-born adopted children have come from South Korea, and 28% of those under six have come from China

More girls than boys are adopted, in large part because the majority of children available are girls. The availability of girls has some of its sources in Asia's ferocious discrimination against girls and women, and China's one-child policy has of course been a particularly important driver of the imbalance. China's own 2000 census found 117 boys for every 100 girls under five years old, a shocking number that has apparently caught the nervous attention of the Chinese leadership.

Gender discrimination has led to the demographic catastrophe that social scientists have called "Asia's missing women." The World Health Organization has estimated that as many as 100 million women are "missing" from the continent's population because of a combination of selective abortion, differential child-rearing practices, and even female infanticide. These are the

constituent parts of the "culture" that some opponents of international adoption overlook when they subordinate the welfare of individual children to the abstract requirements of ideology.

Adoption has always posed a challenge to conventional assumptions about legitimacy, family integrity, inheritance and identity. International adoption raises those challenges with particular urgency. Such adoptions are emblematically connected to some of the most recurrent themes of twentieth and twenty-first-century experience across the globe: abandonment, displacement, homelessness, and exile. To the traditional stigma associated with adoption is added the further complication of national and ethnic mixing.

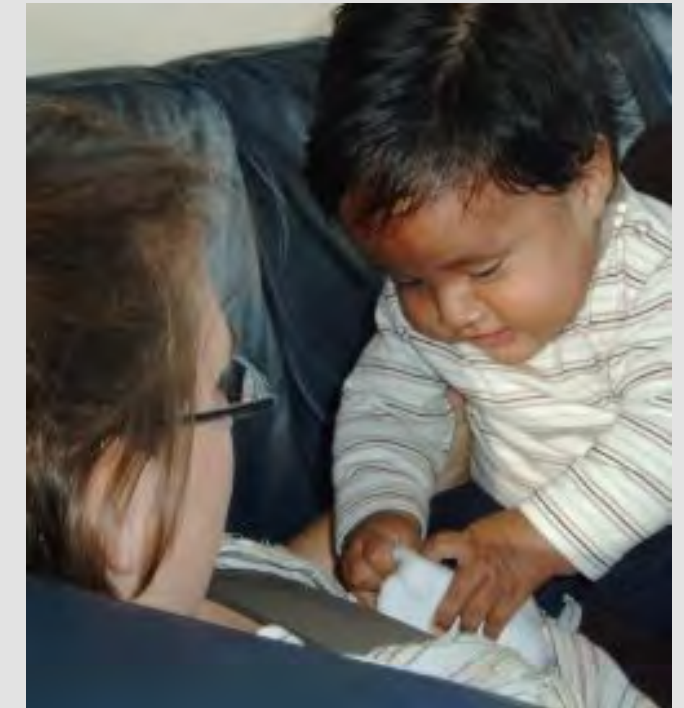
That symbolic valence explains why, in spite of the small numbers of individuals actually involved, international adoption generates such lively debate, a debate that is often heated and occasionally even illuminating. Some of the opposition to international adoption, by an unintended irony, re-traces the discredited preoccupation with "matching" that wrote children into and out of adoptability throughout much of the twentieth century.

Obviously, the so-called traditional or nuclear family – two parents of the same race, one of each sex, married and living together with one or more birth children – does not describe the American reality. Nonetheless, adoptive families, and especially mixed-race families, can still provoke confusion. In an odd alliance, some cultural conservatives, with their reverence for conventional

norms, and some, mostly academic, theorists and others who fetishize ethnic identity, find mixed-race adoptive families subversive.

To take one flagrant example, in the spring of 1972, the National Association of Black Social Workers condemned the placement of African-American children with white parents, whether for foster care or adoption. A formal resolution opposing such placements called transracial adoptions "a growing threat to the preservation of the black family," and even went so far as to characterize the adoption of black children by whites as "racial and cultural genocide."

All adoptions, whether intra- or inter-country, intra- or interracial, entail disruption, loss, and mourning. At the same time, a long list of empirical studies has demonstrated that adoption offers a substantially better outcome for abandoned children than the two alternatives that tend to predominate in the countries in question: orphanages, and the street. I have visited orphanages in several



Interacial Adoption. (Source: Wikipedia)

Asian countries; no child should be denied the opportunity to escape such institutions.

Ignoring those facts on the ground, one critic of international adoption has asked: "Could it be argued that, rather than transferring the children of the poor to the economically better-off people in other countries, there should be a transfer of wealth from rich countries to poor ones?" A statement like this is mere talk, with no connection to the politics of the real world in which poor children live. Worse, such an attitude holds children hostage to a posturing ideology. Given the scale of the crisis for children, and the efficacy of adoption as a strategy of intervention when – and I repeat only when – family preservation is impossible or unsafe for children, social policies should encourage an increase in the numbers.

The debates that roil scholarly journals also take place on the street. Here, narrated from personal experience, is a typical exchange between a well-meaning stranger and an interracial family. Stranger to parents: "What an attractive little girl. And how many of your own children do you have?" Or the variant: "how many natural children...?" Note the unintended sub-text: the adopted child is not one's own; the adopted child is not natural. Animated by amiable curiosity, such questions rehearse the deep-seated conviction that adoptive families are not quite first-class, not quite right. And inter-country adoptive families are even more suspect.

I would propose that we reverse that understanding. Beyond its instrumental utility as a humanitarian intervention, international adoption exemplifies the possibility of re-orienting the definition of families away from either/or, monolithic ethnic and biological models. Families really do come in all shapes and flavors. In addition, multi-ethnic adoptive families are sites of constant ethnographic instruction: they offer routine access to cultural knowledge and experiences that lie outside the usual domestic interactions.

Let me give, again from personal experience, just one example, with which I shall conclude. Our daughter, Jennifer, arrived more than thirty years ago, from Korea. Just over two years old and weighing only nineteen pounds when she joined us, Jennifer quickly gained both pounds and facility in English. One night at dinner, when she was three years old, Jennifer suddenly announced: "Koreans don't eat broccoli." I also learned from my daughter that Koreans don't eat asparagus, or Brussels sprouts, either, though they do eat hot dogs and chocolate ice cream.

Who knew? ♦

Suggested Reading

Christine Adamec and William L. Pierce, *The Encyclopedia of Adoption* (New York: Facts on File, 1991).

B. Richards, "Whose Identity Problem? The Dynamics of Projection in Transracial Adoption," in *The Dynamics of Adoption* (London: Jessica Kingsley Publishers, 2000).

Amartya Sen, "More Than 100,000,000 Women are Missing," *New York Review of Books* (December 20, 1990).

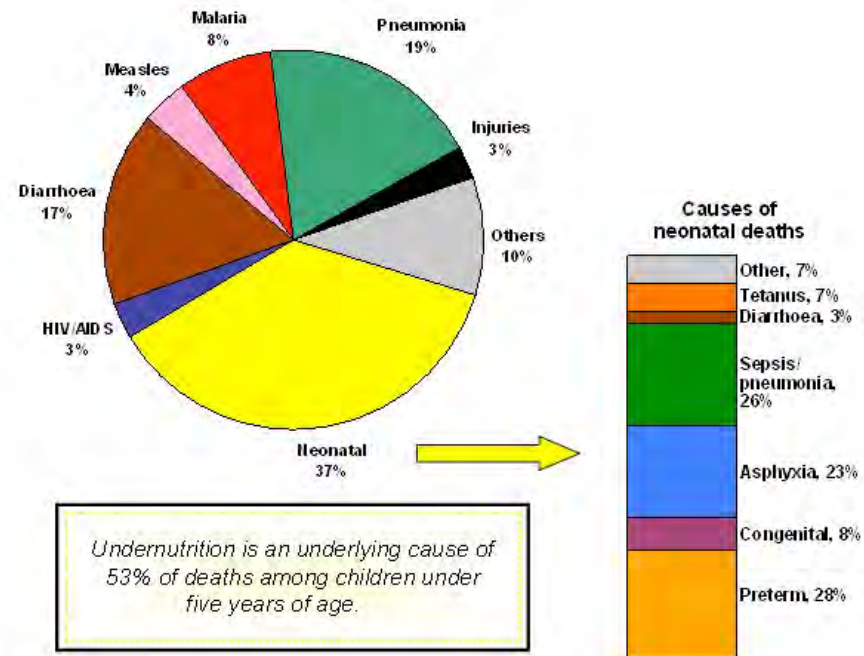
A. R. Silverman, "Outcomes of Transracial Adoption," in *The Future of Children*, 3(1), pp. 104-118.

R. J. Simon and H. Altstein, "The Case for Transracial Adoption," in *Children and Youth Services Review* 18, nos. 1-2 (1996): pp. 5-22.

Maps and Charts

Major Causes of Death

Major causes of death among children under 5 years of age and neonates in the world, 2000-2003



Among children under 5 years of age and neonates in the world, 2000-2003. (Source: World Health Organization)

Adoption Timeline

Adoption Timeline Compiled by Prof. Ellen Herman, University of Oregon.
Find more work by Prof. Herman and the Adoption History Project at <http://uoregon.edu/~adoption/index.html>

Year	Event
1854	Massachusetts passed the first modern adoption law, recognizing adoption as a social and legal operation based on child welfare rather than adult interests. Historians consider the 1854 <i>Adoption of Children Act</i> an important turning point because it directed judges to ensure that adoption decisions were "in the proper" view of the government and to be made with the child's best interests in mind.
1854	New York Children's Aid Society, under the direction of reformer Charles Loring Brink, launched the orphan train.
1868	Massachusetts Board of State Charities began paying for children to be raised in private family homes. In 1868, an agent was appointed to visit children in their homes. This was the beginning of placing out, a movement to care for children in families rather than institutions.
1872	New York State Charities Aid Association was organized. It was one of the first organizations in the country to establish a specialized child placement program. In 1898, by 1922, homes for more than 3300 children had been found. The first major <i>Orphan Train</i> study, <i>New York's Orphan Train</i> (1924), was based on the work of this agency.
1891	Michigan was the first state to require that "the [child judge] shall be satisfied as to the good moral character, and the ability to support and educate such child, and of the suitability of the home, or the person or persons adopting such child."
1898	The Catholic Home Bureau was organized in New York by the St. Vincent de Paul Society. It was the first Catholic agency to place children in homes rather than orphanages, a model soon followed in other states.
1904	The first <i>Orphan Train</i> study, <i>The New York School of Applied Philanthropy</i> , opened its doors.
1909	First White House Conference on the Care of Dependent Children declared that poverty alone should not be grounds for removing children from families. When children required placement for other reasons, however, they were to be placed in family homes, "the highest and best product of civilization." (National Periodic published "Family Reunions.")
1910-1930	The first <i>Orphan Train</i> studies were published, including the <i>Spencer Adams Society</i> , the <i>Free Inquiries Child Adoption Committee</i> , the <i>Alma Chapman Bureau</i> (in New York), and the <i>Circle in Extension</i> , Illinois.
1911	Dr. Arnold Lewis founded the <i>Juvenile Psycho Clinic</i> (later the <i>Clinic of Child Development</i>) at Yale.
1912	Congress created the U.S. Children's Bureau, within the Department of Labor, to investigate and report on all matters pertaining to the welfare of children and child life among all classes of our people. Julia Lathrop was appointed as its first chief, the first woman to head a federal agency.
1912-1921	<i>Baby Farming</i> , commercial maternity homes, and adoption ad investigations took place in Boston, New York, Baltimore, Chicago, and other cities.
1915	Bureau for Exchange of Information Among Child-Welfare Organizations founded (renamed <i>Child Welfare League of America</i> in 1921). (Adoption Periodic) declared good work "hardly, alpha" for professional status.
1916	Lewis Terman's revision of the first scale popularized the intelligence quotient, or I.Q. worries about the "feeble-minded" mentality of children available for adoption, and trends toward measuring their mental potential as one part of the adoption process, usually with mental tests, grew out of the <i>eugenics</i> movement in the early part of the century.
1917	Minnesota passed first law mandating social investigation of all adoptions (including home visits) and providing for the confidentiality of adoption records.
1919	The Russell Sage Foundation published the first professional child placing manual, U.S. Children's Bureau set <i>minimum standards</i> for child placing. <i>Julius T. Giff</i> authored an early manual for therapeutic adoption, <i>Selection of Personality Study for Child Placing</i> .
1919-1929	The first <i>Orphan Train</i> studies of adoption gathered basic information about how many adoptions were taking place, of whom, and by whom.
1921	<i>Child Welfare League of America</i> formally renamed and organized. The League adopted a <i>Constitution</i> that defined standards setting as one of the organization's core purposes. American Association of Social Workers founded.
1924	First major <i>Orphan Train</i> study, <i>New York's Orphan Train</i> (1924), published.
1934	The state of Iowa began administering mental tests to all children placed for adoption in hopes of preventing the unwitting adoption of retarded children (called "feeble-minded" at the time). This policy inspired <i>Orphan Train</i> studies at the Iowa Child Welfare Station that eventually served to challenge humanitarian assumptions and promote policies of early family placement.
1935	Social Security Act included provision for aid to dependent children, crippled children's programs, and child welfare, which eventually led to a dramatic expansion of foster care. American Youth Congress issued "The Declaration of the Rights of American Youth". <i>Julius W. Fisher</i> was appointed as head of the Domestic Relations Court of Manhattan. She became an important early critic of <i>maternity</i> in adoption.
1937-1938	First <i>Child Welfare League of America</i> initiative that distinguished <i>voluntary</i> (permanent) (adoptive) and temporary (foster) placement.
1939	Valentine P. Weiss published <i>The Orphan Study</i> , a landmark in the literature on taking children about their adopted status.
1941	In <i>Prince v. Massachusetts</i> , a case involving Jehovah's Witnesses, the U.S. Supreme Court upheld the state's power as parent <i>parens</i> to restrict parental control in order to guard "the general interest in youth's well being."
1948	The first recorded <i>transracial</i> adoption of an African-American child by white parents took place in Minnesota.
1949	New York was the first state to pass a law against black market adoptions, which proved unenforceable in practice.
1953	Uniform Adoption Act first proposed. Few states ever adopted it, even though housed orphanage, the first <i>adoptive</i> (social) support network.
1953-1954	Child Welfare League of America conducted nationwide survey of adoption agency practices.
1953-1958	The first nationally coordinated effort to locate adoptive homes for African American children, the National Urban League Foster Care and Adoption Project.
1954	Heaven Dorland published <i>The Family History</i> (1954). Jean Paton published <i>The Orphan Study</i> , the first book to offer a variety of first-person <i>adoptive</i> narratives and provide the notion that adoption had a distinctive identity.
1955	Child Welfare League of America national conference on adoption in Chicago announced that the era of <i>social</i> adoption had arrived. Congressional inquiry into interstate and black market adoptions, chaired by Senator Estes Ladd (D-TN), suggested that poor adoption practices created systemic delinquency. Proposed federal law on black market adoptions introduced by Senator Ladd (D-TN) and Edward Brooke (R-MR), but it never passed Congress. National Association of Social Workers founded, consolidating a number of other child-welfare organizations, <i>social</i> and <i>transracial</i> adoption rights known <i>Welfare</i> (prophets) after a special act of Congress allowed them to do so. <i>Paul C. Ross</i> accused social workers and religious institutions of sustaining the black market and preventing the adoption of children in order to preserve their jobs. <i>Adoption-Child</i> founded by the National Urban League and fourteen New York agencies to promote <i>transracial</i> adoptions.
1957	International Conference on Intercountry Adoptions issued report on problems of <i>intercountry</i> adoptions. U.S. adoption agencies sponsored legislation to prohibit or control <i>orphan</i> adoptions.
1958	Child Welfare League of America published <i>Standards of Adoption Service</i> (revised in 1969, 1973, 1978, 1980, 2000). <i>Orphan</i> adoption project began.
1959	Life Assembly adopted Declaration of the Rights of the Child, endorsed in 1980 by Golden Anniversary White House Conference on Children and Youth.
1961	The Immigration and Nationality Act incorporated, for the first time, provisions for the <i>intercountry</i> adoption of foreign-born children by U.S. citizens.
1966	Psychiatrist <i>Frederick Schaefer</i> published a study claiming that adopted children were 100 times more likely than their non-adopted counterparts to show up in alcohol populations. This sparked a vigorous debate about whether adoptive kinship was itself a risk factor for mental disturbance and illness and inspired a new round of studies into the <i>psychopathology</i> of adoption.
1962-1965	Special conference on child abuse, led by Katherine Gottenger, chief of the Children's Bureau, generated proposals for new laws requiring doctors to notify law enforcement and state courts about such legislation.
1962	National Institute of Child Health and Human Development established as part of the National Institutes of Health. U.S. Children's Bureau moved from Social Security Administration to Welfare Administration.
1964	H. David Kirk published <i>Claim/Reck: A History of Adoption and Mental Health</i> , the first book to make adoption a serious issue in the sociological literature on family life and mental health.
1965	The Los Angeles County Bureau of Adoptions launched the first organized program of <i>single parent</i> adoptions in order to locate homes for hard-to-place children with special needs.
1966	The National Adoption Resource Exchange, later renamed the Adoption Resource Exchange of North America (ANRE), was established as an outgrowth of the <i>transracial</i> adoption project.
1969	President Nixon created the Office of Child Development in HEW to coordinate and administer Head Start and U.S. Children's Bureau functions.
1970	Adoptions reached their century-long <i>historical</i> peak of approximately 175,000 per year. Almost 80 percent of the total were arranged by agencies.
1971	Florence Fisher founded the Adoptees Liberty Movement Association "to abolish the existing practice of <i>closed records</i> " and advocate for "opening of records to any adopted person over eighteen who wants, for any reason, to see them."
1972	National Association of Public Child Welfare Agencies opposed <i>transracial</i> adoptions. <i>Heaven C. Brown</i> substantially increased the rights of unwed fathers in adoption by requiring informed consent and proof of parental unfitness prior to termination of parental rights.
1973	Roe v. Wade legalized abortion, <i>Reverend the Rev. Timothy of the Child</i> articulated the influential concept of "psychological parent," which prioritized continuity of nurture and security and permanent decisions in legal proceedings related to child placement and adoption.
1976	Commonwealth United Independent founded.
1978	Indian Child Welfare Act passed by Congress; American Adoption Congress founded.
1980	Adoption <i>standards</i> and Child Welfare Act offered significant funding to states that supported subsidy programs for special needs adoptions and devoted resources to family preservation, reunification, and the prevention of abuse, neglect, and child removal.
1986	UN Convention on the Rights of the Child.
1993	League of Nations on the Protection of Children and Cooperation in respect to Intercountry Adoption.
1994	Multiracial Statement Act was the first federal law to concern itself with race in adoption. It prohibited agencies receiving federal funds from denying <i>transracial</i> adoptions on the sole basis of race, but permitted the use of race as one factor, among others, in foster and adoptive placements. A 1996 revision to this law, the <i>Inter-Adoption Statement</i> , made it impossible to employ race at all.
1995	Adoption <i>history</i> founded. Its mission statement presented "the full history and civil rights of adult adoptees," including access to <i>closed records</i> .
1997	Adoption and Safe Families Act stressed permanency planning for children and represented a policy shift away from family reunification and toward adoption.
1998	Oregon voters passed <i>Adult Records</i> (1998), allowing adult adoptees access to original birth certificates. This legal blow to <i>confidentiality</i> and <i>closed records</i> was stalled by legal challenges to this measure's constitutionality, which eventually failed. The measure had been in effect in Oregon since June 2005.
2000	The Child Citizenship Act of 2001 allowed foreign-born adoptees to become automatic American citizens when they entered the United States, eliminating the legal burden of naturalization for <i>intercountry</i> adoptions. Census 2000 included "adopted child/grandchild" as a kinship category for the first time in U.S. history.

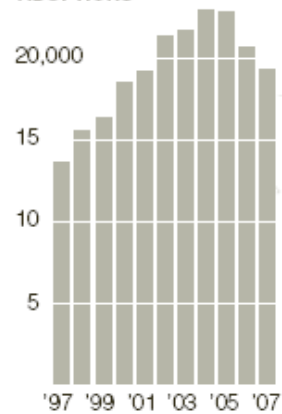
(Source: University of Oregon Adoption History Project)

International Adoptions

International Adoptions

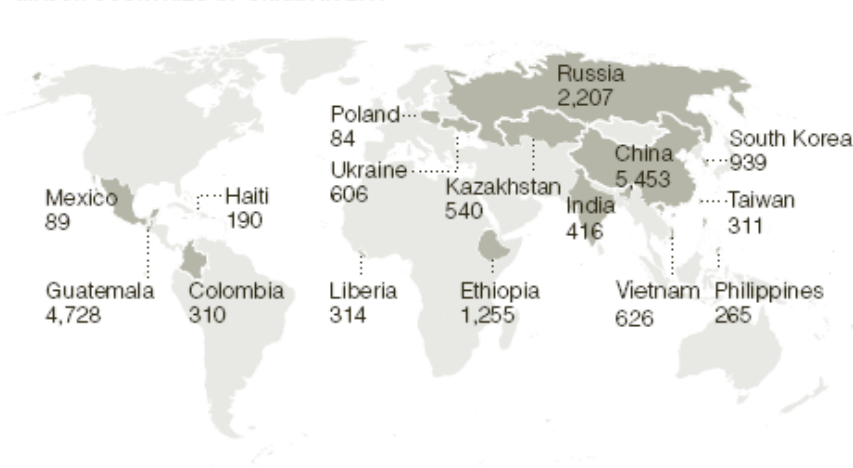
International adoptions in the United States have decreased over the last three years, partly because of tougher requirements in China and temporary suspensions in Russia. While China and Guatemala are the most popular countries from which Americans adopt, Ethiopian and Vietnamese adoptions are increasing.

INTERNATIONAL ADOPTIONS



Source: U.S. Department of State

MAJOR COUNTRIES OF ORIGIN IN 2007



Major Countries of Origin in 2007. (Source: U.S. Department of State)

Orphan Immigrant Visas

IMMIGRANT VISAS TO ORPHANS COMING TO THE U.S.-Top 20 Countries by Year									
From The U.S. State Department- travel.state.gov									
2006		2004		2002		2000		1998	
China	6493	China	7044	China	6119	China	5053	Russia	4491
Guatemala	4135	Russia	5865	Russia	4939	Russia	4269	China	4201
Russia	3706	Guatemala	3264	Guatemala	2419	S. Korea	1794	S. Korea	1829
S. Korea	1376	S. Korea	1716	S. Korea	1779	Guatemala	1518	Guatemala	969
Ethiopia	732	Kazakhstan	826	Ukraine	1106	Romania	1119	Vietnam	603
Kazakhstan	587	Ukraine	723	Kazakhstan	819	Vietnam	724	India	478
Ukraine	460	India	406	Vietnam	766	Ukraine	659	Romania	406
Liberia	353	Haiti	356	India	464	India	503	Cambodia	249
Colombia	344	Ethiopia	289	Colombia	334	Cambodia	402	Colombia	236
India	320	Colombia	287	Bulgaria	260	Kazakhstan	398	Philippines	200
Haiti	309	Belarus	202	Cambodia	285	Colombia	246	Ukraine	180
Philippines	245	Philippines	196	Philippines	221	Bulgaria	214	Mexico	168
Taiwan	187	Bulgaria	110	Haiti	187	Philippines	173	Bulgaria	151
Vietnam	163	Poland	102	Belarus	169	Haiti	131	Haiti	121
Mexico	70	Mexico	89	Romania	168	Mexico	106	Ethiopia	96
Poland	67	Liberia	86	Ethiopia	105	Ethiopia	95	Ethiopia	90
Brazil	66	Nepal	73	Poland	101	Thailand	88	Thailand	84
Nepal	66	Nigeria	71	Thailand	67	Poland	83	Poland	77
Nigeria	62	Thailand	69	Georgia	56	Moldova	79	Latvia	76
Thailand	56	Brazil	69	Mexico	61	Bolivia	60	Bolivia	73
TOTAL	19797	TOTAL	21843	TOTAL	20425	TOTAL	17714	TOTAL	14778

1996		1994		1992		1990	
China	3333	S. Korea	1795	S. Korea	1840	S. Korea	2620
Russia	2454	Russia	1530	Guatemala	418	Colombia	631
S. Korea	1516	China	787	Colombia	404	Peru	440
Romania	555	Paraguay	483	Philippines	357	Philippines	421
Guatemala	427	Guatemala	436	India	352	India	348
India	380	India	412	Russia	324	Chile	302
Vietnam	354	Colombia	351	Peru	309	Paraguay	282
Paraguay	258	Philippines	314	Honduras	249	Guatemala	257
Colombia	255	Vietnam	220	Paraguay	212	Brazil	228
Philippines	229	Romania	199	China	206	Honduras	197
Bulgaria	163	Ukraine	164	Chile	179	Romania	121
Brazil	103	Brazil	149	Brazil	138	Mexico	112
Latvia	82	Bulgaria	97	Romania	121	Costa Rica	105
Lithuania	78	Lithuania	95	El Salvador	117	El Salvador	103
Georgia	77	Poland	94	Poland	109	Thailand	100
Mexico	76	Mexico	85	Bulgaria	91	Poland	66
Haiti	68	Chile	79	Mexico	91	Taiwan	66
Poland	64	Honduras	77	Thailand	86	Haiti	64
Chile	63	Haiti	61	Bolivia	73	Ecuador	59
Thailand	55	Ethiopia	54	Japan	68	Dom Rep	58
TOTAL	10590	TOTAL	7482	TOTAL	5744	TOTAL	6580

Note: Top 20 Country Total does not match global totals mentioned in text.

Top 20 Countries by Year. (Source: U.S. Department of State)

U.S. Census Adopted Children and Stepchildren Table 1

Census 2000 PHC-T-21. Adopted Children and Stepchildren: 2000									
Table 1. Selected Characteristics of Children of the Householder by Type of Relationship and Sex of Child for the United States: 2000									
Internet release date: August 22, 2003									
[Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/poc/sf3.pdf]									
Characteristic of child	Adopted child			Stepchild			Biological child		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total children of the householder.....	2,058,915	999,881	1,059,034	4,384,581	2,256,922	2,127,659	77,270,611	40,636,719	36,633,892
AGE									
Under 18.....	1,586,004	750,528	835,476	3,292,301	1,654,766	1,637,535	59,773,654	30,740,753	29,032,901
Under 1.....	41,795	19,447	22,348	12,384	6,345	6,039	3,148,542	1,617,368	1,531,174
1 year.....	55,857	25,310	30,547	21,266	10,903	10,363	3,173,342	1,628,187	1,545,155
2 years.....	63,250	28,549	34,701	36,000	18,179	17,821	3,167,328	1,624,648	1,542,680
3 years.....	71,211	32,071	39,140	57,986	29,152	28,834	3,227,496	1,656,621	1,570,875
4 years.....	74,717	33,832	40,885	86,298	43,319	42,979	3,316,803	1,705,905	1,610,898
5 years.....	82,466	38,334	44,132	114,444	57,944	56,500	3,368,921	1,734,680	1,634,241
6 years.....	85,298	40,123	45,175	142,935	72,735	70,200	3,400,350	1,746,453	1,653,897
7 years.....	92,634	44,325	48,309	174,308	88,620	85,688	3,464,985	1,777,536	1,687,449
8 years.....	100,144	47,771	52,373	205,419	103,502	101,917	3,506,676	1,796,739	1,709,937
9 years.....	106,403	50,491	55,912	231,797	117,489	114,308	3,581,011	1,842,840	1,738,171
10 years.....	106,626	51,320	55,306	254,456	128,274	126,182	3,555,349	1,829,177	1,726,172
11 years.....	107,221	51,908	55,313	262,207	130,665	131,522	3,426,166	1,752,824	1,673,342
12 years.....	106,116	51,161	54,955	272,989	138,432	134,557	3,374,253	1,735,147	1,639,106
13 years.....	105,336	50,856	54,480	281,502	140,111	141,391	3,321,218	1,709,523	1,611,695
14 years.....	105,184	49,662	55,522	292,639	146,624	146,015	3,341,000	1,722,068	1,618,932
15 years.....	98,249	46,715	51,534	289,992	144,965	145,027	3,218,126	1,655,653	1,562,473
16 years.....	93,859	45,319	48,540	281,016	139,357	141,659	3,118,713	1,608,455	1,510,258
17 years.....	89,638	43,334	46,304	274,663	138,130	136,533	3,063,375	1,586,929	1,476,446
18 to 24 years.....	273,957	140,739	133,218	778,441	421,658	356,783	10,133,536	5,603,694	4,529,842
25 years and over.....	198,954	108,614	90,340	313,839	160,498	133,341	7,363,421	4,292,272	3,071,149
RACE AND HISPANIC OR LATINO									
Total children of the householder.....	2,058,915	999,881	1,059,034	4,384,581	2,256,922	2,127,659	77,270,611	40,636,719	36,633,892
White alone.....	1,344,712	667,567	677,145	3,280,894	1,693,761	1,587,133	54,225,474	28,676,034	25,549,440
Black or African American alone.....	327,648	159,628	168,020	558,254	282,824	275,430	10,634,910	5,577,636	5,057,274
American Indian and Alaska Native alone.....	33,479	16,703	16,776	51,343	26,572	24,771	777,719	406,612	371,107
Asian alone.....	142,971	54,265	88,686	61,345	31,095	30,250	2,882,821	1,534,904	1,347,917
Native Hawaiian and Other Pacific Islander alone.....	5,415	2,665	2,750	5,820	2,951	2,869	116,398	60,284	56,114
Some other race alone.....	111,886	53,633	58,253	274,564	142,491	132,073	5,548,693	2,886,174	2,662,519
Two or more races.....	92,804	45,400	47,404	152,361	77,228	75,133	2,884,596	1,495,075	1,389,521
Hispanic or Latino (of any race).....	273,241	132,591	140,650	640,478	333,331	307,147	12,367,067	6,454,826	5,912,241
White alone, not Hispanic or Latino.....	1,215,546	604,069	611,477	2,984,133	1,538,116	1,446,017	48,564,562	25,706,452	22,858,110
NATIVITY AND LANGUAGE SPOKEN AT HOME									
Total children of the householder.....	2,058,915	999,881	1,059,034	4,384,581	2,256,922	2,127,659	77,270,611	40,636,719	36,633,892
Foreign born.....	257,792	111,409	146,383	230,636	121,286	109,350	4,182,732	2,244,344	1,938,388
5 years and over.....	205,729	93,044	112,685	225,672	118,939	106,733	3,946,508	2,122,554	1,823,954
Speaks non-English language at home.....	78,961	37,611	41,350	190,348	100,840	89,508	3,476,472	1,874,088	1,602,384
Speaks English "very well".....	43,062	19,679	23,383	101,051	52,441	48,610	1,917,096	1,015,987	901,109
Native.....	1,801,123	888,472	912,651	4,153,945	2,135,636	2,018,309	73,087,879	38,392,375	34,695,504
DISABILITY STATUS									
Total children of the householder.....	2,058,915	999,881	1,059,034	4,384,581	2,256,922	2,127,659	77,270,611	40,636,719	36,633,892
5 years and over.....	1,752,085	860,672	891,413	4,170,647	2,149,024	2,021,623	61,237,100	32,403,990	28,833,110
Children with at least one disability.....	216,668	127,722	88,946	320,598	202,671	117,927	3,945,050	2,482,303	1,462,747
Sensory disability.....	30,741	16,548	14,193	57,402	31,828	25,574	759,379	441,639	317,740
Physical disability.....	45,753	24,041	21,712	74,480	41,702	32,778	1,222,222	703,153	519,069
Mental disability/1.....	179,836	108,986	70,850	246,531	162,828	83,703	2,745,589	1,803,677	941,912
Self-care disability.....	31,580	17,096	14,484	41,299	23,741	17,558	697,953	404,245	293,708
Multiple disabilities/2.....	47,397	26,302	21,095	68,152	39,906	28,246	1,021,815	609,659	412,156
BELOW POVERTY LEVEL.....	217,571	103,070	114,501	393,458	200,807	192,651	10,981,992	5,629,541	5,352,451
/1 The question asks if the person has difficulty learning, remembering, or concentrating.									
/2 This includes children with any combination of two or more of the disabilities listed above.									
Source: U.S. Census Bureau, Census 2000 special tabulation.									

Selected Characteristics by Type of Relationship and Sex of Child (U.S.)
2000. (Source: U.S. Census Bureau)

U.S. Census Adopted Children and Stepchildren Table 2

Census 2000 PHC-T-21. Adopted Children and Stepchildren: 2000									
Table 2. Percent Distribution of Selected Characteristics of Children of the Householder, by Type of Relationship and Sex of Child for the United States: 2000									
Internet release date: August 22, 2003									
[Data based on sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/prod/cen2000/doc/sf3.pdf]									
Characteristic of child	Adopted child			Stepchild			Biological child		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total children of the householder.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AGE									
Under 18.....	77.0	75.1	78.9	75.1	73.3	77.0	77.4	75.6	79.3
Under 1.....	2.0	1.9	2.1	0.3	0.3	0.3	4.1	4.0	4.2
1 year.....	2.7	2.5	2.9	0.5	0.5	0.5	4.1	4.0	4.2
2 years.....	3.1	2.9	3.3	0.8	0.8	0.8	4.1	4.0	4.2
3 years.....	3.5	3.2	3.7	1.3	1.3	1.4	4.2	4.1	4.3
4 years.....	3.6	3.4	3.9	2.0	1.9	2.0	4.3	4.2	4.4
5 years.....	4.0	3.8	4.2	2.6	2.6	2.7	4.4	4.3	4.5
6 years.....	4.1	4.0	4.3	3.3	3.2	3.3	4.4	4.3	4.5
7 years.....	4.5	4.4	4.6	4.0	3.9	4.0	4.5	4.4	4.6
8 years.....	4.9	4.8	4.9	4.7	4.6	4.8	4.5	4.4	4.7
9 years.....	5.2	5.0	5.3	5.3	5.2	5.4	4.6	4.5	4.7
10 years.....	5.2	5.1	5.2	5.8	5.7	5.9	4.6	4.5	4.7
11 years.....	5.2	5.2	5.2	6.0	5.8	6.2	4.4	4.3	4.5
12 years.....	5.2	5.1	5.2	6.2	6.1	6.3	4.4	4.3	4.5
13 years.....	5.1	5.1	5.1	6.4	6.2	6.6	4.3	4.2	4.4
14 years.....	5.1	5.0	5.2	6.7	6.5	6.9	4.3	4.2	4.4
15 years.....	4.8	4.7	4.9	6.6	6.4	6.8	4.2	4.1	4.3
16 years.....	4.6	4.5	4.6	6.4	6.2	6.7	4.0	4.0	4.1
17 years.....	4.4	4.3	4.4	6.3	6.1	6.4	4.0	3.9	4.0
18 to 24 years.....	13.3	14.1	12.6	17.8	18.7	16.8	13.1	13.8	12.4
25 years and over.....	9.7	10.9	8.5	7.2	8.0	6.3	9.5	10.6	8.4
RACE AND HISPANIC OR LATINO									
Total children of the householder.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
White alone.....	65.3	66.8	63.9	74.8	75.0	74.6	70.2	70.6	69.7
Black or African American alone.....	15.9	16.0	15.9	12.7	12.5	12.9	14.0	13.7	14.4
American Indian and Alaska Native alone.....	1.6	1.7	1.6	1.2	1.2	1.2	1.0	1.0	1.0
Asian alone.....	6.9	5.4	8.4	1.4	1.4	1.4	3.7	3.8	3.7
Native Hawaiian and Other Pacific Islander alone.....	0.3	0.3	0.3	0.1	0.1	0.1	0.2	0.1	0.2
Some other race alone.....	5.4	5.4	5.5	6.3	6.3	6.2	7.2	7.1	7.3
Two or more races.....	4.5	4.5	4.5	3.5	3.4	3.5	3.7	3.7	3.8
Hispanic or Latino (of any race).....	13.3	13.3	13.3	14.6	14.8	14.4	16.0	15.9	16.1
White alone, not Hispanic or Latino.....	59.0	60.4	57.7	68.1	68.2	68.0	62.8	63.3	62.4
NATIVITY AND LANGUAGE SPOKEN AT HOME									
Total children of the householder.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Foreign born.....	12.5	11.1	13.8	5.3	5.4	5.1	5.4	5.5	5.3
5 years and over.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Speaks non-English language at home.....	38.4	40.4	36.7	84.3	84.8	83.9	88.1	88.3	87.9
Speaks English "very well".....	20.9	21.2	20.8	44.8	44.1	45.5	48.6	47.9	49.4
Native.....	87.5	88.9	86.2	94.7	94.6	94.9	94.6	94.5	94.7
DISABILITY STATUS									
5 years and over.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Children of the householder with at least one disability.....	12.4	14.8	10.0	7.7	9.4	5.8	6.4	7.7	5.1
Sensory disability.....	1.8	1.9	1.6	1.4	1.5	1.3	1.2	1.4	1.1
Physical disability.....	2.6	2.8	2.4	1.8	1.9	1.6	2.0	2.2	1.8
Mental disability/1.....	10.3	12.7	7.9	5.9	7.6	4.1	4.5	5.6	3.3
Self-care disability.....	1.8	2.0	1.6	1.0	1.1	0.9	1.1	1.2	1.0
Multiple disabilities/2.....	2.7	3.1	2.4	1.6	1.9	1.4	1.7	1.9	1.4
BELOW POVERTY LEVEL.....	12.4	12.0	12.8	9.4	9.3	9.5	17.9	17.4	18.6
/1 The question asks if the person has difficulty learning, remembering, or concentrating.									
/2 This includes children with any combination of two or more of the disabilities listed above.									
Source: U.S. Census Bureau, Census 2000 special tabulation.									

U.S. Census Adopted Children and Stepchildren

Table 3

Census 2000 PHC-T-21R. Adopted Children and Stepchildren: 2000							
Table 3. Percent of Adopted Children of the Householder Who Are Foreign Born, by Age, for the United States, Regions, States, and for Puerto Rico: 2000							
Internet release date: October 9, 2003							
Area	Total adopted children of householder	Under 18 years			18 years and over		
		Total	Foreign born		Total	Foreign born	
			Number	Percent		Number	Percent
United States.....	2,058,915	1,586,004	199,136	12.6	472,911	58,656	12.4
Region							
Northeast.....	378,651	284,242	53,107	18.7	94,409	15,365	16.3
Midwest.....	492,399	389,096	49,291	12.7	103,303	8,143	7.9
South.....	719,173	548,297	49,335	9.0	170,876	15,090	8.8
West.....	468,692	364,369	47,403	13.0	104,323	20,058	19.2
State							
Alabama.....	33,432	24,944	1,413	5.7	8,488	186	2.2
Alaska.....	8,384	6,910	776	11.2	1,474	142	9.6
Arizona.....	37,378	28,966	2,920	10.1	8,412	1,015	12.1
Arkansas.....	20,366	15,973	654	4.1	4,393	158	3.6
California.....	221,706	167,190	22,382	13.4	54,516	13,655	25.0
Colorado.....	35,824	29,438	4,324	14.7	6,386	695	10.9
Connecticut.....	24,228	19,239	4,534	23.6	4,989	661	13.2
Delaware.....	4,728	3,452	521	15.1	1,276	113	8.9
District of Columbia.....	3,754	2,649	498	18.8	1,105	149	13.5
Florida.....	109,231	82,179	8,390	10.2	27,052	4,229	15.6
Georgia.....	63,333	49,194	3,491	7.1	14,139	1,157	8.2
Hawaii.....	9,858	6,941	1,177	17.0	2,917	687	23.6
Idaho.....	11,508	9,562	722	7.6	1,946	212	10.9
Illinois.....	95,457	73,638	8,933	12.1	21,819	2,215	10.2
Indiana.....	47,198	37,004	2,654	7.2	10,194	464	4.6
Iowa.....	22,552	18,569	2,601	14.0	3,983	391	9.8
Kansas.....	24,019	19,733	1,356	6.9	4,286	274	6.4
Kentucky.....	26,728	20,661	1,389	6.7	6,067	243	4.0
Louisiana.....	31,086	22,827	734	3.2	8,259	199	2.4
Maine.....	8,923	7,137	1,173	16.4	1,786	77	4.3
Maryland.....	41,878	32,269	6,368	19.7	9,609	1,405	14.6
Massachusetts.....	47,172	35,647	7,302	20.5	11,525	1,628	14.1
Michigan.....	78,397	61,232	8,840	14.4	17,165	1,269	7.4
Minnesota.....	38,559	31,378	9,169	29.2	7,181	1,442	20.1
Mississippi.....	22,102	16,300	605	3.7	5,802	65	1.1
Missouri.....	41,958	33,156	3,100	9.3	8,802	469	5.3
Montana.....	8,189	6,803	664	9.8	1,386	33	2.4
Nebraska.....	14,510	11,812	1,356	11.5	2,698	266	9.9
Nevada.....	13,814	10,588	940	8.9	3,226	455	14.1
New Hampshire.....	8,566	6,864	1,215	17.7	1,702	165	9.7
New Jersey.....	58,934	42,614	9,429	22.1	16,320	3,434	21.0
New Mexico.....	14,771	11,764	1,003	8.5	3,007	288	9.6
New York.....	136,313	100,736	18,816	18.7	35,577	7,650	21.5
North Carolina.....	54,299	42,911	3,633	8.5	11,388	551	4.8
North Dakota.....	4,600	3,647	329	9.0	953	32	3.4
Ohio.....	80,333	62,653	5,420	8.7	17,680	748	4.2
Oklahoma.....	29,981	23,518	1,219	5.2	6,463	322	5.0
Oregon.....	30,114	23,901	3,773	15.8	6,213	937	15.1
Pennsylvania.....	82,151	62,328	8,887	14.3	19,823	1,506	7.6
Rhode Island.....	7,263	5,496	920	16.7	1,767	191	10.8
South Carolina.....	29,511	22,027	1,089	4.9	7,484	228	3.0
South Dakota.....	6,846	5,691	649	11.4	1,155	70	6.1
Tennessee.....	40,771	30,980	2,459	7.9	9,791	375	3.8
Texas.....	144,918	110,275	9,934	9.0	34,643	4,339	12.5
Utah.....	24,076	19,430	1,737	8.9	4,646	487	10.5
Vermont.....	5,101	4,181	831	19.9	920	53	5.8
Virginia.....	50,138	38,289	6,325	16.5	11,849	1,286	10.9
Washington.....	48,370	38,879	6,659	17.1	9,491	1,434	15.1
West Virginia.....	12,917	9,849	613	6.2	3,068	85	2.8
Wisconsin.....	37,970	30,583	4,884	16.0	7,387	503	6.8
Wyoming.....	4,700	3,997	326	8.2	703	18	2.6
Puerto Rico.....	15,777	10,696	230	2.2	5,081	148	2.9

Source: U.S. Census Bureau, Census 2000 special tabulation.

Percent Foreign Born by Age (U.S.) 2000. (Source: U.S. Census Bureau)

Section 5

Food for Thought: Diet in History (*Podcast*)

How and what we eat defines who we are. Food is both everywhere and nowhere, so normal that we rarely consider how radically the production and consumption of food have shaped not only human culture but the environment as well (and how radically the production of food has changed over time). Sample a little food history with historians [Chris Otter](#), [Helen Veit](#), and [Sam White](#), who reveal that what we shove into our mouths has shaped our cultures, our bodies, and our planet.

Published December 2015.

(Listen to this podcast on the web at <http://origins.osu.edu/historytalk/food-thought-diet-history>.) ♦



Pork packing in Cincinnati in 1873. (Source: Wikimedia Commons and the United States Library of Congress)

Section 6

Spaghetti in the Age of Mechanical Reproduction

By AARON GEORGE

Published May 2015.

Have you ever met someone who has skinned their own SpaghettiO?



SpaghettiOs (Source: Wikimedia Commons)



This 1967 coupon entices consumers to try the new "spoonable" and "nourishing" macaroni and cheese. (Source: Flickr, by Greg Koenig)

On May 12th, 1965 fifty years ago, Donald Goerke invented SpaghettiOs, the round, canned cousins of spaghetti.

The SpaghettiO is now a strangely timeless icon. Looking for a way to make canned pasta more exciting, Goerke experimented with all sorts of shapes—cowboys being the most notable—before he settled on the simple and now-iconic O shape.

After drafting the singer Jimmie Rogers, who transformed one of his romantic ballads into the far more memorable (“It’s the neat

little spaghetti that can fit on your spoon/Uh Oh, SpaghettiOs”) every piece was in place for this circular pasta to become a staple of the American diet.

By 2010, over 150 million cans of SpaghettiOs were sold each year; put another way, on average, 720 million Os are consumed every day. One can of SpaghettiOs is identical to the next: the size and shape of the can, the volume of the contents inside, and the taste of the pasta and sauce. In this sense, it is a food source that completely disconnects “food” and “source.”

During the 19th century, Americans believed that only the most ignorant consumers would buy their food without knowing where

it came from. Americans knew their local butcher, and were taught to inspect every cut of meat to make sure of its quality. Shopping for food involved knowing where it came from, the reputation of the farmer, whether the seller was trustworthy.

For Italian-American [immigrants](#), who began arriving in the United States in large numbers between 1880 and 1920, pasta was a cohesive part of ethnic identity. These Italian immigrants stressed the importance of homemade meals shared between an extended family. And even as second generation sons and daughters left their ethnic enclaves and assimilated into mainstream American culture, many of them remembered most of all that they shared meals with their families.

Just as [mass immigration](#) from Italy slowed after [World War I](#), spaghetti and meatballs (a uniquely Italian-American dish without analogue in the old country) had started to become part of the mainstream American palette.

At the same time, America’s [relationship with food](#) was changing.

Refrigerated train cars, used after the 1880s, allowed meatpackers to send meat long distances, making it impossible to know quite where your food came from.

By the early 1920s, chain stores, like Piggly Wiggly, began gradually replacing community grocers. Inviting shoppers to pick food from the shelves rather than rely on expert grocers, consumers learned to read labels on cans rather than inspect the



Grocery stores, like Piggly Wiggly, began to stock canned foods as community grocers became less common. (Source; Flickr, by Florida Memory)

NEW KIND of CAN OPENER Hangs On The Wall

HIT! New and needed everywhere! At last comes a real Can Opening *Machine* for the home! This amazing little patented discovery hangs on the wall. Holds the can for you. Opens it automatically at a mere twist of your wrist. it has already banished

**AGENTS
30 DAYS'
FREE TRIAL**

Big money! No experience needed to make \$4 and \$5 in an hour. Start spare-time or full-time. Sales guaranteed. Full territory protection. We supply most novel demonstrating outfit you ever saw. 30-Day introductory **FREE TEST**

Can openers were often touted as miraculous time-savers, as evidenced in this 1932 advertisement. (Source: Flickr, by Todd Ehlers)



Warhol's "32 Soup Cans" is on display at the National Gallery of Art. The repeating printed cans provide commentary on American consumption. (Source: Flickr, by paurian)

qualities of the goods they bought.

Home Economics, then a burgeoning academic field, tried to educate wives not to snub canned foods, but to value them as a futuristic and scientific way to revolutionize the kitchen.

Martha Bruire, a home economist, saw home gardens as time-consuming compared to the convenience of canned goods. In 1913 she explained to the readers of *Good Housekeeping* that, “might we not have been producing noble works of literature instead of rigging up canvas to protect the carrots from the sun?”

Food was “for strengthening [peoples'] bodies” one expert claimed, “not for the gratification of their palates.”

After [World War II](#), canned foods became more and more common, along with a smorgasbord of other pre-prepared, processed foods: Jellos, TV dinners, frozen peas, dehydrated juices, and eventually Tangs.

Television chefs extolled the virtues of these new products. A popular TV cook, Poppy Cannon, explained to her viewers that, “At one time a badge of shame, hallmark of the lazy lady and the careless wife, today the can-opener is fast becoming a magic wand.”

Many of these products owed their existence to wartime experiments in keeping food fresh over great distances and for long periods of time. When the war ended, companies unloaded new foodstuffs as consumer items. Like canned food, it was impossible to know what was in Jello, harder still to know where it came from.

[Andy Warhol](#) commented on this phenomenon in 1962, with [his famous painting of thirty-two types of Campbell's soup](#), as uniform as they are bland. As an icon of American pop art, the painting says many things, but one of the most striking is how modern alienation and canned food so easily go hand in hand.

Likewise, consider SpaghettiOs. Once an emblem of cultural distinctiveness, then an ambassador of Italian culture to a mass

American culture, spaghetti's modern incarnation is that of an infinitely replicable suburban snack. Only in a world in which we no longer know our food could SpaghettiOs be successful. In an age of mechanical reproduction, food, like art, is no longer situated in any context.

In recent years, new diets seem to be everywhere: vegans are now joined by raw foodists, locavores, slow foodies, and gluten free-ers. In equal numbers, Americans seem to mock and avow such diets. No matter your personal opinion on gluten, we can recognize that all these diets have one thing in common: they all strive to recreate a lost connection between consumer and consumed, food and eater.

Modern foodways have left many Americans alienated and longing for a way to better know their food. New diets are in part an attempt to regain a lost way to see food as more than a commodity, but part of a larger system. To be a locavore is to think about food in a way that our great grandparents did.

Do these new movements mean that the SpaghettiOs days are numbered? Unlikely. Still, how will our children's children see food? Will SpaghettiOs still reign supreme, or will they stress that food is more than daily calories? It isn't easy to predict.

My bet, however, is that we haven't seen the last of SpaghettiOs.

◆

Blind Aid: Lessons (Not Learned) from the Ethiopian Famine

By [ANDREW SKABELUND](#)

Published March 2014.

In the fall of 1984, Dr. Brigitte Vasset stood in the midst of Ethiopian refugees suffering from a [devastating famine](#) and a vicious civil war. She [expressed her frustration](#) with the futility of using medicine to treat starving patients and then called for increased international food aid for the Ethiopians. “I am not a politician,” she declared. “I don’t care at all about what’s going on. . . . [All] I know is if nothing is done, there will be thousands, hundreds [of] thousands of people who will die.”

Vasset’s comments encapsulated the international response to the Ethiopian famine: massive amounts of food aid but little concern for the local and global politics fueling the crisis. Most international aid workers failed to realize that the governmental policies of the [Ethiopian Derg](#), the communist and military committee that ruled Ethiopia, were playing a significant role in creating and exacerbating the suffering caused by drought.

International observers also overlooked the impact of the Derg’s fight with separatists in the northern portions of Ethiopia. The



A map of Ethiopia and surrounding countries. (Source: Wikipedia)

Ethiopian government's military strategies **actually played the largest role in creating the famine**. As international aid entered the country, the Derg was allowed to continue its destructive war tactics.

The result was devastating, and much of the relief aid actually exacerbated the Ethiopian Civil War. Thirty years removed from the start of the Ethiopian Famine (1983-1985), lessons from the international relief effort's failure continue to be ignored. Sadly, many **humanitarian aid efforts** continue to have the opposite of their intended effect.

International Response

At the beginning of the famine, the international community paid little attention to the macabre scenes unfolding throughout Ethiopia. This indifference would continue until BBC reporter Michael Buerk's 1984 report.

Even thirty years later, Buerk's **footage** is powerful. His report catapulted Ethiopian suffering onto the international stage, searing the global conscience with his images of emaciated bodies, dying children, and throngs of desperate refugees hoping for relief.

In response to the moving scenes, a widespread international movement coalesced to face the challenge of feeding the millions of starving Ethiopians. One of the most prominent efforts was led

by singer-songwriter Bob Geldof, who organized a collection of prominent musicians and artists who came together to record hit single, "**Do They Know It's Christmas?**"

The song helped raise awareness of the situation in Ethiopia, and the proceeds were set aside for the relief effort. Because of this song and other public awareness projects, millions of dollars worth of aid and supplies flowed into Ethiopia.



Bob Geldof (Source: Wikimedia)

Impact of International Aid

As money began to pour in, international leadership and humanitarian coordinators blithely overlooked the political realities on the ground. While the millions of dollars' worth of aid to Ethiopia saved some lives from starvation, the manner in which the relief efforts were administered actually cost the lives of many other Ethiopians.

In a fatal miscalculation, international organizations decided to funnel the majority of food aid through the Ethiopian government in the south instead of trying to reach the famine ravaged populations in the north directly. The Ethiopian Derg used the food aid as a military tool to take greater control over strategic areas in the north and to extend its influence into other areas, which would have been impossible without its tight grip on food supplies.

Even if the Ethiopian government had not had these ulterior motives, it had little ability to reach the populations in the north or to distribute the aid in an orderly and effective manner. As a result, the international community's relief efforts prolonged the Ethiopian Civil War, propping up a government whose number one goal was to stay in power, not to distribute desperately needed food to a starving population.

Lessons to be Learned

Recently, the ONE organization posted an [article](#) on the Ethiopian Famine's 25th anniversary. While it pays lip service to the complicated situation that gave rise to the famine, the language of the piece shows that the international community has learned little from the consequences of its response to Ethiopia. The article highlights the millions of dollars raised and the thousands of lives saved, but it makes no mention of the problems the aid aggravated and created.



The flag of Ethiopia under the rule of the Derg, 1975-1987. (Source: Wikipedia)

[International crises](#) have continued to garner worldwide attention, often becoming pet projects of celebrities eager to prove that they care for more than glitz and glamour. In a spirit of global citizenship and solidarity, well-intentioned individuals rush to donate in the wake of disaster and devastation, but their gifts do not always bear positive results.

Two recent examples from [Haiti](#) and [Somalia](#) show the challenges of providing help amidst humanitarian crisis. Following the [2010 earthquake in Haiti](#), the country was flooded with tons of rice to feed millions of people affected by the disaster. But the massive

influx of rice caused local rice prices to fall precipitously, undermining the livelihood of Haiti's many rice farmers.

In 2011, investigators [in Somalia](#) noted that large quantities of food aid were being stolen from refugee camps and then resold in the very same camps. This investigation prompted fears that the aid was doing little to alleviate starvation and that aid efforts were simply fortifying [Somali](#) rebels.

To be fair, international relief organizations would have a hard time raising money by portraying the complicated nature of what caused the problem in the first place. It is much more effective to tug at the heartstrings of viewers by showing starving victims in need of a helping hand.

But overly simplistic approaches can also lead to cynicism, donor fatigue, and unintended consequences when aid actually makes the situation worse. By not trying to get people to grapple with the complicated issues of humanitarian crises, viewers may donate, but they never ask the question of how and why the crisis happened in the first place. ♦

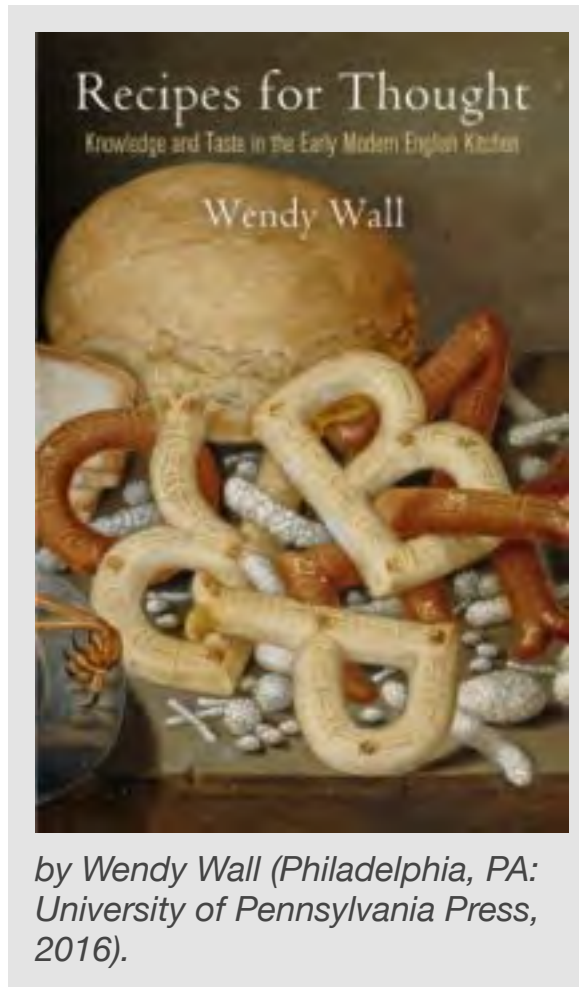
Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen

Book Review By
CLINT RODGERS

Published December 2015.

Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen by **Wendy Wall** (Philadelphia, PA: University of Pennsylvania Press, 2016).

We constantly try to cook in the past. Whether it is a recipe for lemon meringue from your grandmother or a fish pie from the Early Modern era, we search for tried and true methods of creating pleasurable tastes. Wendy Wall—a professor of English at Northwestern University—unlatches a door to the historical tradition of recipe writing in Early Modern



England, recognizing its importance as a mechanism for creating knowledge of all kinds.

In *Recipes for Thought*, Wall demonstrates that between the sixteenth and eighteenth centuries, recipe books became a popular form of print which should not be underestimated as a genre: “reading and writing recipes...offered practitioners the occasion for undertaking and scrutinizing nothing less than world making” (3). The recipe archive, she argues, offers a historian entrance into a valued domestic workplace, produced by a literary tradition.

Wall reveals a vast culture of recipe writing that went beyond producing basic dishes for the table. Instead, published recipe books offered ways of creating pleasure, remembering ancestors, establishing one’s legacy and identity, verifying truth, and even forging community. Recipes were not only for the creation of tasty dishes, but also for the practice of medicine, keeping house, and entertainment.

Recipes were not new to England in the 1500s, but printing transformed them into a mass product that could be published,

sold, and possessed. Amid the birth of new marketplaces, the recipe book became an object of importance, establishing status for its owner. The secrets contained within these books were well-guarded and placed in the private sphere of the household, at first addressed only to the nobility and the gentry. Wall notes that by the 1660s, recipe books trickled down to the kitchen and became a professional tome for practical knowledge. With increasing rates of literacy, recipes became less often the prized possession of noble families and instead engaged servants and housewives in sensible conversations.

The recipe archive reveals that pleasure was created not only through eating, but also through making. The kitchen was a laboratory in which people, frequently women, could experiment. Rather than simply creating delicious dishes, many books suggested elaborate strategies of presentation to entertain guests. For instance, Gervase Markham's *The English Housewife* advised to arrange boiled vegetables into a variety of shapes including knots, escutcheons, birds, and wild animals (95). The presentation of a dish opened up a category of artistry that provided women with a way to engage in comedy and performance at the table.

The production of a recipe book itself involved women in a practice of writing that goes in the face of traditional notions of domestic illiteracy. Not only did women draft recipes, but they also practiced an expressive world of penmanship and letter-



This painting by Jean-Baptiste de Saive (1562) portrays the environment of the kitchen as a place of making. As Wall argues, the kitchen was one of the main spaces for women to create and experiment. (Source: Wikipedia)

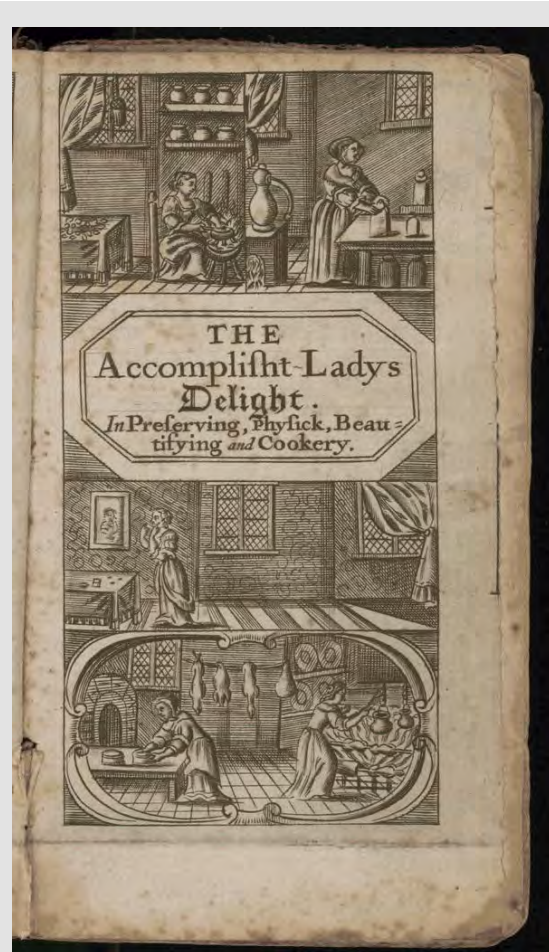
writing within the recipe genre. By analyzing personal recipe books, fashioned through individual hands—rather than the printing press—Wall explores a world where women literally dotted their ‘i’s and crossed their ‘t’s. Through writing, women like Lettice Pudsey formed a legacy and identity by owning and personally crafting recipe volumes (125).

Like today, early modern recipe books were linked to the past. They served a dual purpose: memorializing both the recipe’s author and food. Recipes survived their writers, preserving their

thoughts and instructions in an encoded text long after their death. At the same time, a recipe retained instructions for food already cooked and long ago eaten, allowing for its continued reproduction. A practical form of necromancy, recipes allowed for the creation of food from the past and thus a relationship with the dead. Yet, they also could become memorials to lost members of the family, as in the case of Ann Glyd, who recorded the births and deaths of all of her children within her recipe book (204-5).

This medium also offered women the opportunity to verify and improve knowledge.

Wall draws many connections between circulating recipe culture and “the rise of experimental science” (211). The knowledge presented by these books testifies to lived experience, such as the work of herbalist Elizabeth Okeover whose recipe book reflected trial and error to find cures for a variety of maladies



*One such recipe collection was Hannah Woolley's *The Accomplisht Lady's Delight* (1675). This cover demonstrates several ways recipes could be used that did not involve cooking, like medicine and beauty. (Source: Library of Congress)*

(215-6). Authors of these texts wrote down their observations, willing to question the wisdom of their own approaches if a recipe provided insufficient results. Such a domestic world employed a serious method of inquiry to establish and legitimize knowledge.

As such, *Recipes for Thought* is not a history of food itself. If the reader seeks knowledge about early modern cuisine, look elsewhere. Food is not the primary element of Wall's story. Instead, she examines the people making food and the place of food in a discourse of scientific investigation. The creative world behind cooking interests her, not necessarily the product.

One challenge she faces is the notion of lived experience. Wall sets out to use a group of texts in order to understand the domestic and everyday life of the average person. Yet, even from the outset this provides a tension: early published works represent an elite culture of cooking, while later texts give her a window into the everyday. And we must face the reality—not all recipe books are equal. There is only so much that a text can tell us about actual experience in the past; and there will always be that which we will never know.

Yet, Wall's book is still an important contribution for understanding how domestic communities functioned during the early modern period. She traces conversations between domestic households, illustrating the communal nature of these texts. Rather than being the original creation of a single author, most recipes borrowed ideas from other writers, neighbors, friends,

and family members. Through the voices of the recipe archive, Wall portrays an erudite community of women and men who tested, verified, and produced knowledge.

With the publication of *Recipes for Thought*, Wendy Wall exposes the creative worlds of the kitchen. She begs us to consider how recipes help us fashion community and identity through exotic and familiar cuisines. She reminds us that the kitchen is a crucible, where everyday experience allows us to verify the past and create the future. And she prompts us to consider that the domestic world of early modern England was not as stifling as it appears, but could be a space of invention and joy. ♦

Famine: A Short History

Review By [ROBERT DENNING](#)

Published October 2009.

Famine: A Short History by
Cormac O Grada (Princeton
University Press, 2009)

For hundreds of years, would-be prophets have warned of that the human population would grow beyond our capacity to feed ourselves. Thomas Malthus, writing at the turn of the nineteenth century, predicted that regular famines would result as human populations exceeded the supply of food. In 1968, Paul Ehrlich predicted that hundreds of millions of people would die in a global famine in the 1970s unless the rise in human population was somehow reversed.

In *Famine: A Short History*, Cormac Ó Gráda, a professor of economics at University College Dublin and the author of *Black*



'47 and Beyond: The Great Irish Famine in History, Economy, and Memory (Princeton, 1999) and dozens of articles and papers on the links between markets and famines in Ireland and around the world, demonstrates why the apocalyptic visions of Malthus, Ehrlich, and other doomsayers have not come to pass.

Drawing on a rich variety of government documents from numerous countries, reports from non-governmental organizations, anthropological and archaeological studies, medical histories, philosophical writings, oral histories, and even some folklore, Ó Gráda argues that most famines in human history result more from human action – or inaction – than from the failure of natural resources to keep pace with humanity.

Ó Gráda demonstrates that famine often travels in war's wake, either as an instrument of war or as a result of a wartime reallocation of resources. Conversely, he points out, the most dramatic famines of the modern era also result from peacetime policies that favor rapid industrialization over agricultural production, with deadly results.

Famine deaths are caused by malnutrition and, until the twentieth century, infectious diseases that develop and spread in famine-stricken areas. As Ó Gráda notes, it is difficult to determine the number of deaths due to any particular famine because of incomplete records and because death tolls are often politically controversial.

We can arrive at some general conclusions about famine mortality from the sketchy existing sources, however. Famines usually hit the poorest members of a group the hardest, through malnutrition and disease, though wealthier folks often suffer from the same diseases. Men suffer more than women; the very young and the very old suffer disproportionately because of their inability to care for themselves and because of deliberate human decisions that favored "fitter" groups.

Beyond the excess mortality from malnutrition and disease, famines have broader effects on a society, including increased prostitution, infanticide and child abandonment, increased criminal activity during the early stages of famine (until victims become too weak to commit crimes), widespread attempts among desperate people to sell themselves or family members into slavery just when slaveowners are trying to get rid of hungry slaves, and possibly cannibalism.

In response to famine, human beings have devised a number of coping mechanisms. Many people took advantage of extended family networks, crop diversification, and overproduction in good

years, but during bad years, as the normal crops failed, they had to rely on "famine foods": edible but unappetizing fruits, vegetables, seeds, leaves, pods, and shoots. When food was available but expensive, people often purchased food on credit, which provided a short-term defense against hunger but also led to debt problems after the famine had passed. Migration was the most effective coping mechanism and functioned as a safety valve, reducing pressure on resources in critical areas.

Attempts to relieve famine have come from a variety of public and private sources. Elites have historically felt a moral obligation to help the less fortunate during crises through philanthropy, though this has often been driven by fear of uprising from below or fear of infectious diseases. Governments have provided relief through public granaries, price controls, the equivalent of soup kitchens, institutionalization of the poor in workhouses, and subsidized migration. Religious institutions often engaged in triage, distinguishing between the deserving poor and the undeserving poor, and focusing on the neediest people.

The nineteenth and twentieth centuries saw the development of non-governmental relief organizations that started out targeting specific trouble spots but grew into full-time bureaucracies. Finally, in the twentieth century, the United States led the way in providing state aid to other countries for famine relief, including Venezuela in 1912, the Soviet Union in 1921, and Western Europe

after World War II, though this aid often came with strings attached.

Although the book deals with a grim subject, Ó Gráda's history of famine is surprisingly optimistic. The number of famines fell dramatically during the twentieth century because of falling transportation costs, faster communication technologies, better understanding of nutrition and medicine, the growing number of international famine relief organizations, falling food storage costs, the proliferation of cheap, storable, transportable, nutrient-dense foods, and the expansion of democracy around the world, which holds governments accountable for policy failures. Ó Gráda believes that this trend will continue into the future. Global food production has increased by one-third since the early 1960s and is outpacing human population growth, and the portion of the labor force that is dependent on agriculture or subsistence farming has fallen dramatically since the 1950s.

We have not seen an end to famine, however. Famines continue to occur, albeit with less intensity than in the past, in economically backward and war-torn regions. Totalitarian regimes, that often favor economic or industrial development at the expense of food production, still exist. Climate change will introduce the most unpredictable variable in global food production, as some areas will become more arid but others will see increased rainfall and soil fertility. These will be among the most pressing challenges in the twenty-first century and beyond.

Famine: A Short History is organized thematically and analytically, which makes sense given the large number of famines that have occurred across the globe. Ó Gráda uses famines ranging from the third millennium BC to the present in Egypt, Mesopotamia, India, Korea, Russia, Ireland, Western Europe, Ethiopia, South Africa, and the New World, among countless others, to support his analytical points. In his quest to manage the size of the book, however, Ó Gráda forgoes narrative explanations for those crises, which reduces each famine to a cold statistic. The author provides historical context to only three famines: Bengal (1943-44), the Soviet Union (1921-22, 1932-33, 1941-43), and China (1959-61). These three examples support the author's argument that famines in the modern era are the result more of human action than nature, but historians will look in vain for analyses of specific famines in earlier eras.

On the other hand, the lack of narration allows Ó Gráda to analyze a very broad array of topics, and the book can serve as a valuable starting point for further reading. His ample bibliography points readers to books or articles on specific famines. Most importantly, like all good syntheses, *Famine: A Short History* provides a skeleton or framework for studying famine in general, and it leaves plenty of room for further research on individual famines. ♦

A Revolution in Taste: The Rise of French Cuisine, 1650-1800

Book Review By
SARAH KERNAN

Published January 2009.

A Revolution in Taste: The Rise of French Cuisine, 1650-1800 by Susan Pinkard (Cambridge University Press, Cambridge 2009)

In an age of the Food Network, *Gourmet* magazine, and *Bon Appétit* podcasts, it is likely that you have heard someone discussing the importance of fresh and local ingredients. Many cookbooks published in past ten years promise simple and efficient ways to cook healthy meals. This all seems like a recent fad, but in fact concerns



about local ingredients and simple cooking methods began centuries ago.

Susan Pinkard's *A Revolution in Taste: The Rise of French Cuisine, 1650-1800* is a description of the shift from French medieval to modern cuisine. In France, ideas about the quality of ingredients, healthy diets, and simple cooking methods changed dramatically from 1650-1800. Pinkard's story, however, is as much about society, culture, philosophy, and science as it is about cuisine. The changes occurring in French food were intimately connected with the radical shifts in French thought during the same time period. A historian at Georgetown University, Pinkard describes a revolution in the way food was conceived and produced over the course of seven chapters divided into three sections and a lengthy appendix of recipes.

Pinkard begins with two chapters about Ancient, medieval, and Renaissance cooking and dietary practices. These chapters are not Pinkard's main research focus; she merely mentions some of the primary sources available for studying the history of food in this period. Pinkard's summary of early French cuisine is lucid and engaging. She has also provided helpful charts simplifying

Hippocratic medical theory and dietetics, which plays a major role in early culinary practices.

The next two sections of the book get us to the main courset: the radical shift from medieval and Renaissance cooking to modern cuisine (*cuisine bourgeoise* and *nouvelle cuisine*). Pinkard describes many changes which take place from the seventeenth century to the late eighteenth century, but two major themes are prominent throughout her work. First, a trend toward simplicity initiated in the early seventeenth century. Natural and simply prepared foods (*le goût naturel*) became more popular as French philosophies embracing naturalness propagated by Denis Diderot, Chevalier Louis de Jaucourt, and Jean-Jacques Rousseau also grew in popularity. The idea of a natural and moderate diet also became acceptable through the work of physicians such as George Cheyne. As a result, locally-grown, in-season vegetables gradually became fashionable at upper-class dining tables. As a result, fewer spices were used in the seventeenth and eighteenth centuries than in the Middle Ages and Renaissance, leaving pepper as one of the only spices frequently used in French cooking.

Second, French cuisine also became more artistic, delicate, and systematic. The rise of these characteristics ultimately meant that French cuisine was accessible to more people. Artistic and refined foods may have begun in upper-class households, but became more attainable for a rising middle class as restaurants

developed in the eighteenth century and cookbooks became less expensive and readily available. Systematic cooking methods were carefully described in cookbooks of the period, allowing more people, including bourgeois household cooks, to create masterful dishes and sauces.

Pinkard draws her evidence of these changes from seventeenth and eighteenth century French cookbooks and the works of French philosophers and scientists from the same period. She utilizes four cookbooks throughout much of her monograph: François Pierre la Varenne's *Le Cuisinier françois* (1651), Nicolas de Bonnefons's *Les Délices de la campagne* (1654), François Massialot's *Le Cuisinier roïal et bourgeois* (c. 1690), and François Menon's *La Cuisinière bourgeoise* (1746). Pinkard's descriptions of these cookbooks interwoven throughout each chapter are riveting. Each cookbook and author had a distinct personality, and these books can be found at the center of philosophical debates about food in the Enlightenment. These books combine descriptions of food and ingredients with innovative organizational and indexing systems, such as grouping recipes by main ingredient. These books were important not only for providing recipes for delicious foods, but their adaptability to the middle-class kitchen, suggesting substitute ingredients and methods easier for a lone cook in the kitchen to master.

Pinkard's final chapter is devoted to changes in beverages from the Middle Ages to 1800. Like the first two chapters, it is based

upon secondary literature. The chapter is an interesting counterpoint to the rest of the book; many of the same changes were occurring in beverages as in cuisine. Wine especially underwent a major transformation, due in part to changes in bottling methods, aging, and a desire for wines with regional distinctions, and the introduction of strong colonial drinks such as brandy, coffee, and chocolate into the French diet. As wines changed, so too did rules about integrating wines into meals and pairing with food.

Despite being such an interesting account of food up to 1789, *A Revolution in Taste* remains somewhat unsatisfying in one regard. Pinkard does not actually address culinary changes during the French Revolution itself. Instead, Pinkard tiptoes into the 1770s in Chapter Six and later describes changes in cuisine in the nineteenth century in the Epilogue. I was left wanting a second helping (or at least a chapter devoted to food in the 1780s and 1790s). My desire for more was only partly fulfilled by Pinkard's mouthwatering modern adaptations of thirty-five early modern French recipes. The inclusion of these recipes instantly makes this otherwise strictly academic monograph into a must-read for anyone interested in cooking French food.

That said, Susan Pinkard has crafted an engaging narrative of change and revolution in France, not only in food, but also in social, cultural, philosophical, and scientific matters, and her

description of early modern French cuisine reminds us that our modern ideas about food are not so new after all. ♦

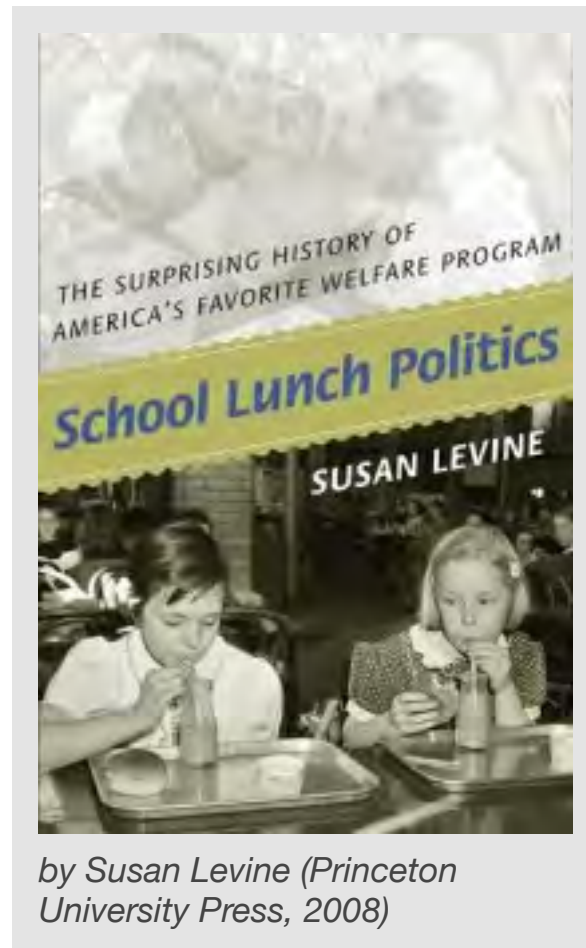
School Lunch Politics: The Surprising History of America's Favorite Welfare Program

Book Review By
JENNIFER HUFF

Published May 2008.

School Lunch Politics: The Surprising History of America's Favorite Welfare Program by **Susan Levine**
(Princeton University Press, 2008)

On April 16, 2008, NBC Nightly News aired a story called "Sticker Shock at the Supermarket." Reporter Erin Burnett ominously described "the skyrocketing price of food" and its effect on Americans' budgets. According to the report, the pain of rising food costs extends beyond the nuclear family to the nation's school cafeterias. Eric Goldstein, who manages school lunches for 860,000 public school students



in New York City, told Burnett that he can no longer afford fresh vegetables, seafood, and other nutritious items. "We used to have fresh spinach; we used to have corn on the cob," Goldstein explained. "Now we're having to look at lower priced alternatives." Spinach (every child's favorite) is disappearing from the lunch room, only to be replaced by chicken nuggets. The result, according to Goldstein: "I think the healthy diet is in jeopardy."

In this context, historian Susan Levine's book, *School Lunch Politics: The Surprising History of America's Favorite Welfare Program*, is timely. Levine chronologically traces the development of school lunches from their origin in the early twentieth century to the present, highlighting the complex interaction of politics, economics, nutrition, and welfare. As *McCall's Magazine* put it, "They're playing politics with our children's health." (p. 94). At the same time, Levine shows how school lunch programs have been weighted down by assumptions about race and gender. By pulling all these strings together, Levine reveal what turns out to be the complexity of the school lunch program, and she weaves these diverse strands

together in a clear, smoothly flowing—albeit, sometimes repetitive—narrative.

Discussions of welfare usually revolve around programs like Aid to Families with Dependent Children or Medicaid. Levine shifts the lens to school lunches, which she describes as "one of the nation's most popular social welfare programs." (p. 2). Indeed, the National School Lunch Program has been loved and hated by people on both sides of the political spectrum. Unlike many welfare programs, policymakers designed school lunches to benefit rich and poor alike—part of the reason for the program's sustained popularity.

When school lunches first appeared during the early twentieth century, they were designed to feed hungry children while also improving the diets of middle- and upper-class children. Part of Progressive Era reform, school lunch programs were organized primarily by women interested in modern science and rationalization. The charity-based programs were premised on the idea that malnutrition could affect children of all socioeconomic backgrounds. Home economists, social reformers, and nutrition scientists, Levine explains, worked to build "a culture of nutrition" (p. 37) that they believed would not only improve individual health but would also strengthen American democracy.

When the American economy collapsed in the 1930s, a new concern—the rising surplus of farm commodities—entered the discourse of school lunches. As Levine describes, policymakers

saw an opportunity to solve two problems at once. By sending agricultural surpluses to school cafeterias, hungry children could be fed while also providing relief to American farmers. Operating under the auspices of the United States Department of Agriculture (USDA), school lunch programs became much more concerned with economics than with nutrition. Moreover, as the USDA took over lunch policies, Progressive women reformers' influence decreased, since the USDA was largely staffed by men interested more in business than in child welfare.

As the United States mobilized for World War II, Levine argues that nutrition was viewed as "a matter of national defense."

National security during the war and postwar eras depended on a healthy citizenry. In 1946, Congress established the National School Lunch Program, which is still in existence today.

The marriage of school lunches and the USDA in the 1930s continued after World War II. Southern Democrats were crucial to the enactment of the National School Lunch Program. They supported the federal lunch initiative primarily because of the economic assistance it offered to agriculture. They utterly refused, however, to cede control of the program to the federal government. Like most welfare programs, the National School Lunch Program was administered locally. Consequently, racial discrimination prevailed, and very few of the poor children who needed free meals actually received them.

In the 1960s, Americans "rediscovered" poverty, and the civil rights movement revealed economic inequities in American society. Levine traces how grassroots anti-poverty and anti-hunger campaigns, led especially by liberal women, transformed the National School Lunch Program into a poverty program. Though middle-class students still had access to school lunches, the program focused primarily on the poor in the 1970s and 1980s.

Still, a central problem that had plagued school lunch programs since the early twentieth century continued to limit the effectiveness of the program. Levine argues that the National School Lunch Program was grossly underfunded. Inflation in the 1970s strained school food budgets even more, and in the 1980s, the Reagan administration dramatically cut federal funding for school lunches, though Reagan himself in a press conference denied that this was happening. Out of economic necessity, schools turned to private food companies, including fast food chains, to cut costs and operate their cafeterias more efficiently. They also found ways to meet federal nutrition standards with lower quality foods. Most famously, the Reagan administration suggested that ketchup could be counted as a vegetable. "What emerged in many school districts by the end of the 1970s," Levine writes, "was a public/private partnership shaped fundamentally by business concerns such as profitability and efficiency. Nutrition, health, and education all became subsumed into a model of consumer choice and market share." (p. 152).

At this juncture, Levine's story sounds very much like the report on NBC Nightly News. The federal government and public schools remain committed to school lunch programs, but food prices are rising quickly. Cafeteria budgets are insufficient to keep up with the growing costs. As such, nutrition is taking a back seat to economic expedience. We might note, however, that while malnutrition was widespread in the 1930s and '40s, obesity has become near-epidemic with America's children today. In both cases, school lunches have been seen as crucial to solving a national health crisis.

In laying out the long trajectory of school lunch policies, Levine provides an important historical perspective for the current economic crisis. Moreover, she offers an accessible narrative for anyone interested in the history of welfare, education, and federal policymaking in the twentieth century. And she reminds us that whatever winds up on those segmented food trays sits at the intersection of many competing political concerns. ♦

Health, Disease, and Medicine

(Image: Hunger strike for health care protest at Northwestern Memorial Hospital by Steve Rhodes, Flickr.com (CC BY-NC-ND 2.0))

Influenza Pandemics Now, Then, and Again

EDITOR'S NOTE:

Most years and for most people flu season is an annoyance. In 2009-10, however, with the pandemic of the H1N1 influenza strain the world was reminded that this seasonal occurrence can become widespread and potentially much more dangerous. As flu season in the northern hemisphere winds down, historian Anne Sealey looks at influenza pandemics past and present to explore how our responses to flu have changed over time. Which lessons we draw from the past, Sealey reminds us, will condition how we respond to the next great flu pandemic

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By [ANNE SEALEY](#)

In the spring of 2003 I collapsed at a college debating tournament dinner and soon found myself in quarantine in Guelph, Ontario. Collapsing with a cough and fever is worrisome at any time. It was particularly troubling to me and to the intake nurse who whisked me into an isolated room because at the time I was living in Toronto, which was then one of several cities internationally caught in the grip of a frightening new respiratory disease. SARS, Severe Acute Respiratory Syndrome, was a viral lung infection that caused atypical pneumonia and was frequently fatal.

In my case, the ER doctor determined that I had a less serious virus and mild exhaustion, and released me from my HEPA-filter prison. Other patients weren't so lucky. Worldwide, SARS killed an estimated 774 of the 8,096 people infected, a



In 2005, Dr. Terrence Tumpey, a Center for Disease Control Microbiologist, examines recreated 1918 Pandemic Influenza Virus to help understand its particularly deadly effects. By studying past pandemics, and the successes and failures of social and medical responses to end them, policy-makers and scientists hope to ameliorate the ill effects of the next flu pandemic before it begins. (Source: Center for Disease Control)

fatality rate of 9.6%. The world, all things considered, was fortunate. While those deaths were tragic, they were a fraction of what was feared.

The signs in 2003 had been ominous for those familiar with medical history. SARS produced pneumonia in otherwise healthy adults, turning them blue before leaving them to drown in their own lung fluids. The threat of a pandemic felt very real.

Although SARS is a different type of virus, such frightening symptoms brought to mind one of the greatest public health



Camp Funston flu ward during the 1918 pandemic, Camp Funston, Kansas. (Source: US Army)

nightmares of the twentieth century: the influenza pandemic of 1918-1919, the most widespread and fatal in recorded history. That pandemic of the influenza A virus killed anywhere from 50 to 100 million people worldwide, many of whom were young and healthy before being stricken. It caused widespread social and economic upheaval, and SARS looked poised to potentially do the same.

In the end, SARS was not contagious enough to cause such widespread devastation. Yet, since the SARS outbreak, the world has remained on high alert, watching nervously for a new pandemic, whether flu or some other respiratory disease.

Beginning in 2004, Asian "Bird Flu," H5N1, a deadly form of influenza, attracted much anxious attention. But, as we soon learned, the concern was misdirected. The next pandemic came not from birds but from swine and, for Americans, from much closer to home.

In spring of 2009, reports of a particularly deadly form of influenza A—H1N1—began appearing in Mexico and the American



President Barack Obama receives an H1N1 vaccine during the 2009 H1N1 Pandemic, December 2009. (Source: whitehouse.gov)

southwest. By June, the World Health Organization announced that the disease had spread widely enough to be considered pandemic. The virus spread globally, peaking, it seems, in the later months of 2009 and causing over 14,000 deaths worldwide. What the world dodged in 2003 with SARS it could not in 2009. Pandemic influenza, a frequent visitor in the past, was back again.

As the threat of the H1N1 virus began to fade (for this year at least), the world breathed a sigh of relief that we had avoided a repeat of 1918. Yet, people around the globe continue to worry and wonder how best to prepare for, perhaps even prevent, the next pandemic.

The viruses that affect humans come in many types, and their impact on human communities varies considerably according to the qualities of a particular virus—how contagious and how virulent or fatal—and the ways that human societies act or structure themselves that facilitate (or block) a virus's spread.



*A sneeze in progress, showing the potential spread of influenza and other diseases.
(Source: Center for Disease Control)*

SARS and influenza hold a special place in pandemic planning because, like any airborne virus, they can be caught from casual contact: from a sneeze on a bus, a dirty door handle, or a shared water fountain.

Although viruses such as Ebola—which causes bleeding from the eyes, mouth, and organs—are deadlier, they require more direct contact to be transmitted and, with proper local quarantines, usually burn themselves out before they can spread.

Likewise, HIV, the virus that causes AIDS, has been pandemic for decades. HIV, however, is more difficult to transmit than airborne influenza or SARS, and requires different community-based initiatives for its treatment and prevention. The stigma that has long been associated with HIV has also allowed many to ignore the disease (at their peril) as one that happens to other people.

While diseases such as HIV and Ebola brought viruses back into the consciousness of the Western public, long accustomed to the safety afforded by antibiotics and vaccines, they represent a different public health danger than influenza and SARS.

Influenza is one of humanity's most persistent and constant foes—many will get sick each year with some form of flu, some of them will die—but only every so often does a pandemic occur. While it is impossible to prevent influenza, today we are working to reduce the chance of a pandemic and we are learning how to

respond more efficiently to pandemics when they hit to avoid mass fatalities.

Influenza, unlike some epidemic diseases, has no magic bullet. As a virus, it is impervious to antibiotics. Anti-virals can help, but they do not cure. So influenza, like many viral illnesses, requires an array of strategies to deal with infection and containment. And it requires no small amount of luck. A century of advancing medical science has given humanity a variety of new weapons to fight the spread of influenza. But each has its limitations.

Going forward, to minimize or avoid the next pandemic, humans need to understand fully the patterns of human and viral behavior, and to look not only to cataclysmic pandemics like 1918 for lessons but also to the less spectacular flu pandemics that have dotted the landscape of the twentieth century.

A Very Brief History of Pandemic Influenza

Influenza is a perpetual scourge. Even though its fatality rate is relatively low (typically 0.1% deaths per infected individual), in an average year, influenza kills 250,000 to 500,000 globally according to a 2003 World Health Organization (WHO) estimate. In America, 98,000 can expect to be hospitalized, and there are, on average, 36,000 deaths, of which 82 are children. By contrast, cancer kills 500,000 Americans annually and car crashes kill 42,000.

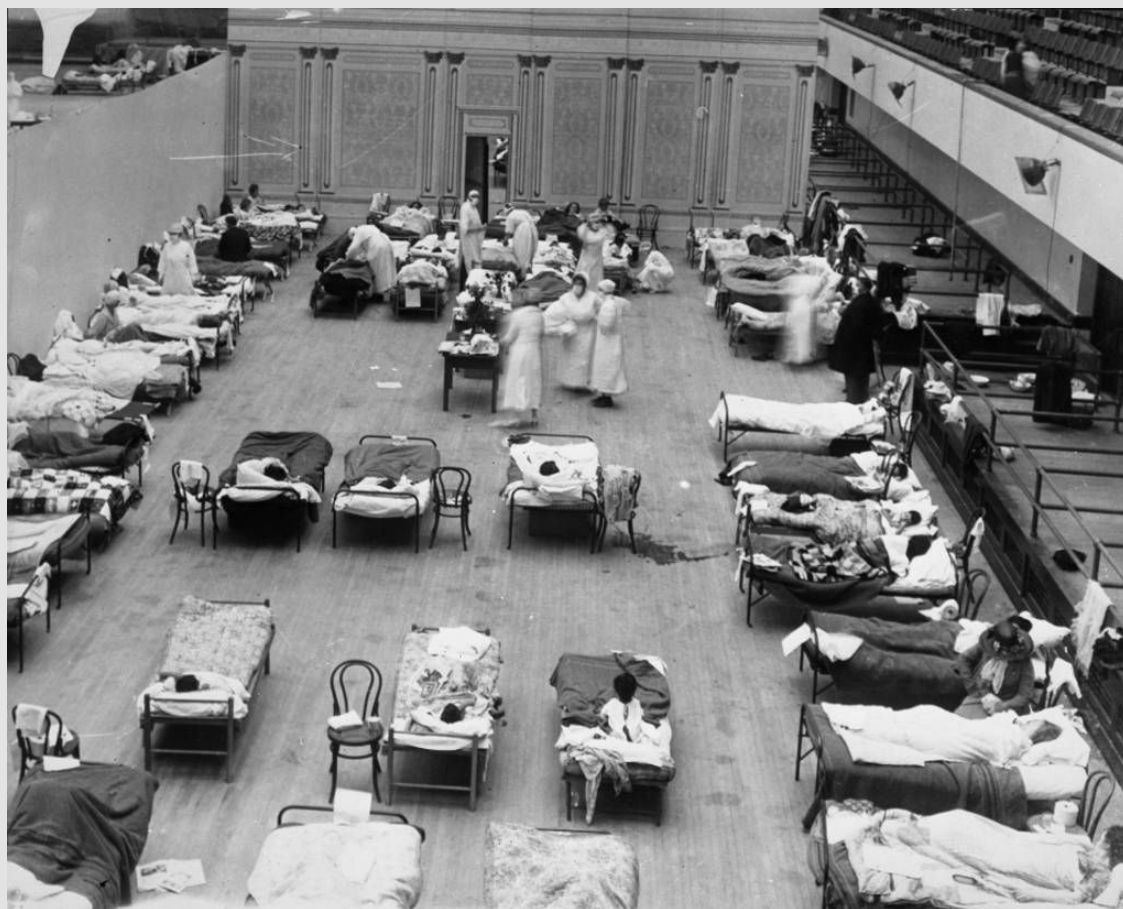


Pandemic influenza is far deadlier. Pandemics, according to the current WHO definition, are new viruses that spread quickly, human to human, over a broad geographic area, taking advantage of a lack of prior immunity. In the popular understanding, pandemics are also considered especially sickening or deadly. (Until recently, this was approximately the way the WHO classified them as well.) In 1918, approximately 675,000 Americans lost their lives to influenza. In 2009, approximately, 8,000-16,000 Americans have died, and perhaps 60 million Americans have been sickened.

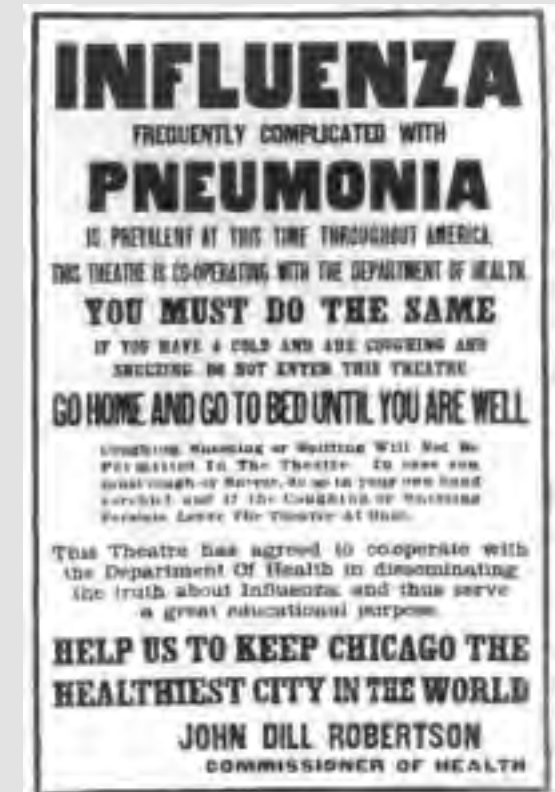
Pandemic influenza has a long history. In the 1600s, "Sweating sickness" panicked Europe, spreading in towns and royal courts across the continent. Later, similar diseases earned the name *influenza*—from the Italian word for influence—because they travelled so quickly that people reasoned the only way so many could become so ill so fast was if poor weather conditions or astrological forces were the cause.

The first "modern" pandemic occurred in 1890 and was called the Russian flu, because it was believed to have originated in Siberia. With new technologies like the steamship and the railway, diseases like influenza had easier ways to spread over long distances. A journey for disease that would have taken months from Moscow to London when people traveled by foot, boat, or cart, now took mere weeks, giving populations less time to prepare and less opportunity to quarantine. Luckily, the "Russian flu" was fairly mild. While many became ill, relatively few died.

"The mother of all" influenza pandemics took place in 1918, and the memory of it continues to strike the most fear into the heart of medical professionals and historians alike. In the midst of the chaos, hardship, and human displacement of World War I, an unusually deadly strain of influenza began to emerge in the spring. By the fall, after a brief lull in the outbreak, the full force of



The Oakland Municipal Auditorium in use as a temporary hospital during the 1918 flu epidemic. Here, volunteer nurses from the American Red Cross are tending the sick. (Source: Center for Disease Control)



Chicago Public Health Poster outlining flu regulations during the 1918-1919 pandemic. (Source: flu.gov and Office of the Public Health Service Historian)

the virus began to hit. An estimated one third of the world's population were infected and showed symptoms of the illness.

"Black Octobers" and "Black Novembers" greeted many countries, when the second wave's death toll was highest. At its worst, the pandemic brought cities to their knees. Patients who were healthy one day were "gripped" by fever the next, experiencing difficulty breathing and muscle weakness. By the end of the pandemic, between 50 and 100 million people worldwide had turned blue and died (a rate of approximately

2.5% case-fatality). Gymnasiums were turned into morgues when too many died to fit into hospitals or cemeteries.

No one is quite sure why the 1918 pandemic turned out so badly. With World War I still raging, people in Europe were hungry and stretched to the breaking point, making them more susceptible to infection. Peace-time social services were no longer operating and many people lived in crowded and unsanitary conditions. Troops, migrant laborers, and refugees spread the virus rapidly across vast distances.

Even the end of the war had its dangers. When the Armistice was signed in November, 1918 many communities saw an uptick in flu cases as happy and relieved citizens celebrated together, sharing good wishes and influenza at parades and parties. A third, less deadly wave appeared in the spring before the epidemic died down in mid-1919.

After 1918, the world had a chance to catch its breath. In fact, the severity of 1918 seemed to provide some immunity against later infections, for a little while at least. In 1957-1958 and 1968-1969, however, there were two "minor" pandemics—minor at least when compared to 1918.

The 1957 pandemic began in Guizhou, China, then spread to Singapore, Hong Kong and moved into the United States by the fall, where it killed an estimated 70,000 people. Total deaths globally were between 1.5 to 2 million people.



Walter Reed Military Hospital, Washington D.C., where patients received care during the Spanish Flu, 1918-1919. (Source: Wikipedia)

Many people in 1957 still remembered the 1918 pandemic and were on edge. In an effort to avoid panic, the publication of a book commemorating the fortieth anniversary of the 1918 pandemic, called "Invasion by Virus: Can it Happen Again?" was delayed when the answer had clearly become "yes."

In 1968, another virus began, we think, in Asia. The "Hong Kong flu" was marked by high morbidity but relatively low fatality—that is, many got sick but few died. Only 34,000 Americans were killed and an estimated one million worldwide. Many older people were unaffected, probably because they had caught and survived the similar 1918 influenza.

Despite the low death rates, such frequent flu pandemics have made the world anxious. In 1976, when swine flu was detected at Fort Dix Army Base in New Jersey, health officials sounded the alarm. The 1918 pandemic had been a swine flu as well, and they worried that after the "near misses" of 1957 and 1968 that the world was due for another nightmarish pandemic. That pandemic didn't materialize, but it did generate a large-scale American vaccine program, which has shaped many of our modern anti-influenza measures.

Modern Responses

Death tolls for the present pandemic are mercifully lower than for 1918. It seems, perhaps, that the virus is less lethal. There is no world war that has weakened the population and basic sanitary

Grippe A(H1N1)

Comment vous protéger, vous et les autres



Couvrez-vous le nez et la bouche avec un mouchoir jetable quand vous toussiez ou éternuez



Jetez les mouchoirs usagés à la poubelle immédiatement après usage



Lavez-vous les mains régulièrement à l'eau et au savon



En cas de symptômes de type grippal, consultez un médecin dès que possible



Si vous avez des symptômes de type grippal, gardez une distance d'au moins un mètre avec vos interlocuteurs



En cas de symptômes de type grippal, restez chez vous, n'allez ni au bureau ni à l'école et évitez les endroits très fréquentés



Évitez les accolades, embrassades et poignées de main pour saluer les gens



Évitez de vous toucher les yeux, le nez ou la bouche si vous ne vous êtes pas lavé les mains

Pour plus d'information :
<http://www.emro.who.int/csr/h1n1/index.htm>
<http://www.who.int>



World Health Organization Poster from France describing basic hygiene techniques during the 2009 flu scare. (Source: World Health Organization)

109

situations have improved in many parts of the world. Thanks to a century of medical research, we have better respirators, anti-virals and vaccines that treat or prevent influenza directly. We also have antibiotics that, with luck, help to counteract the bacterial "purulent bronchitis"—a form of pneumonia that develops in the fluid in the lungs of an influenza sufferer—that carried away many of 1918's victims.

There is some hope that a massive pandemic like 1918 might be avoided in the future with well-conceived counter-measures, prevention, and some good fortune.

In the most recent pandemic, three levels of prevention were used: first, an international surveillance system at the global level; second, a system of pre-emptive vaccination; and finally, an emphasis on personal prevention. But each of these tools has benefits and drawbacks, which are exacerbated by human error or misunderstandings. In 2009, humans around the planet made mistakes in judgment that are eerily familiar to problems in past anti-influenza campaigns and helped to spread the virus.

Global Influenza Monitoring

The worldwide system for determining and monitoring pandemics is a relatively recent invention. In 1918 there was no planet-wide health organization like the WHO, and, while there were radios and telegraphs to spread information, there was no CNN to report its findings to a waiting world or obviously no internet. The only international system for coordinating disease, the Paris-based International Public Health Office, was all but shut down as a result of World War I.

To make matters worse, the war slowed down the spread of crucial information about the disease in other ways. Anxious to avoid giving away potential military advantage, states involved in World War I refused to release flu data. This is why the 1918 pandemic was referred to as the Spanish Flu. Spain didn't participate in World War I, so it published its disease statistics internationally while other nations did not.



The Centers for Disease Control and Prevention Headquarters in DeKalb County, GA. (Source: Wikipedia)

In the 1950s, the WHO adopted the pandemic influenza warning system that had been developed informally in the 1940s amongst doctors who had lived through the 1918 pandemic. The WHO early warning system effectively picked up on the 1957 and 1968 pandemics before they spread, which helped to prevent a devastating flu pandemic.

Today, the WHO and national epidemiological intelligence centers such as the Centers for Disease Control and Prevention (CDC) in Atlanta, as well as a network including more than 100 laboratories worldwide, coordinate the epidemiological data that makes declaring a pandemic possible.

They also centrally determine what strands of vaccine should be prepared, manufactured, and shipped around the world in a complicated web of international, national, not-for-profit, and commercial organizations. Although the WHO determines the strains that should be included in the vaccine, production and approval is left to the appropriate national or regional drug-approval body.

This early warning system has become vital to influenza control efforts even if it has sometimes led to false-positives, such as in 1976 and the recent attention to H5N1 Avian flu. The overlap between national and international bodies, however, has complicated a number of key steps in anti-influenza campaigns, most notably vaccine production.

Vaccines

Vaccines have become another standard first line of defense against seasonal flu.

In 1933, a ferret in a British medical lab sneezed on a researcher infecting him with flu. While the scientist was likely not pleased to be infected, it was a great moment in medicine because it established that viruses were responsible for human influenza.

Until then, the world had assumed that flu was caused by a bacterium discovered by German scientist Richard Friedrich Johannes Pfeiffer at the end of the 1890 pandemic. Flu vaccines targeted this bacterium in the early twentieth century. However, faith in Pfeiffer's bacillus did not survive the 1918 pandemic. His vaccines simply did not stop the disease.

After 1918, many scientists came to believe that the flu was caused by a so-called "filter passing virus." Their belief was backed up by the fact that when examined, the secretions of influenza patients did not contain a common organism that seemed to be causing the disease. Thus, they reasoned, the disease must be caused by something smaller that they could not catch. An influenza virus was identified in pigs in 1931, but not in humans until that fateful, snotty-nosed-ferret day in 1933.

With the virus found, a vaccine was in reach. Soldiers in World War II were among the first to receive the new vaccine, as military




Individuals considered "high-risk" for H1N1 complications line up at a closed KMart for the first vaccinations publicly available in Boise, Idaho, 2009. (Source: Creative Commons, by Kencf0618)

planners feared that the Second World War might bring with it an influenza pandemic like the previous world war. In fact, the egg technology used today to produce influenza vaccines dates to the 1950s.


In the 1957 and 1968 pandemics, public vaccine programs were in their infancy. Just 15-20 million doses of vaccine were made annually in the United States. Only 8-12 million American civilians were annually vaccinated, which meant that there was no capacity to easily and quickly vaccinate large numbers of people,

Stop the spread of germs that make you and others sick!

Cover your Cough




Cover your mouth and nose with a tissue when you cough or sneeze or




cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.




Clean your Hands


after coughing or sneezing.



Wash hands with soap and warm water for 20 seconds or



clean with alcohol-based hand cleaner.



CDC Poster recommending basic hygiene to stop the spread of the flu, 2009. (Source: Center for Disease Control)



Center for Disease Control poster asking people to get vaccinated and protect themselves from the flu, April 2010. (Source: Center for Disease Control)

either in the United States or around the world.

With the early warning provided by the WHO in 1957, however, the American government decided to gear up to vaccinate more widely. Negotiations

with vaccine producers immediately proved difficult. They were hesitant to produce an expensive product when there was no proof the pandemic would reach the U.S. When they at last agreed to make the vaccines—because evidence could no longer be ignored that the pandemic had indeed grown—it was essentially too late.

Although the U.S. managed to vaccinate a larger percentage of the population than ever before, it was only after a period of panic that there would not be enough available. With vaccine production starting late in the game, the American vaccination program also came at the cost of many unused vials of vaccine that came off the production lines after the pandemic had

essentially passed. Not much was learned from these experiences and a similar pattern of events occurred in 1968.

Then came the 1976 swine flu scare. With the makings of another swine flu pandemic, the American government authorized the National Influenza Inoculation Program. The program seemed cursed from the beginning. The country lacked the ability to produce the vaccine in the requisite quantities, and what it did produce appeared to cause serious neurological problems in a small number of patients. Panic ensued.

Today, it is unclear whether there was in fact any link between the symptoms and vaccine, but the incident prompted tremendous concern at the time. Only 30% of the population was vaccinated despite hopes that upwards of 90% would be. Even after more than a quarter century of safe vaccine, mass vaccination rates still hover at about where they were in 1976, at around 30% of the population.

This year, a similar series of events unfolded. The strain of influenza that turned pandemic was not mixed into the seasonal flu vaccine because it was not seen as a threat at the time vaccines were being produced. Few people had been sickened by H1N1 when the decision was made over what would go into the seasonal flu vaccine cocktail, and experts still focused their attention on the Avian strains. Once it became clear that the 2009 H1N1 virus was likely to spread, there was a scramble for vaccine. Alarm broke out in many regions as the vaccine

remained scarce, and calls of queue jumping were common when hockey players, Wall Street moguls, and politicians seemed to get the limited vaccine before the rest of us.

By early 2010, there was excess vaccine in many places where there had been a shortage earlier. France and Canada are looking to sell theirs to a world that may no longer need it, repeating the mistakes of the past. The current version will offer limited protection next year, given that many have already had the disease and other flu viruses will evolve for the next season, making the single strain vaccine developed on the fly this year too little, too late.

Local Measures

Despite the advances (and institutional difficulties) of monitoring systems and vaccines, one of the best preventive steps against the spread of flu was and still is to change human's weave was actually too loose to trap the virus. Modern paper and cloth masks are much more effective. A study reported on in the *Annals of Internal Medicine* found that family members of influenza patients drastically cut their risk of infection if they wore masks and washed their hands regularly.

Finally, public education campaigns have focused on having people change their day-to-day habits to limit the spread of the disease. Health campaigns to have people stop shaking hands or hugging when greeting met with limited success. Yet, many more

people responded to suggestions to sneeze or cough into a sleeve rather than the hand, to prevent transferring viruses to other people.

Lessons Learned and Future Pandemics?

The twentieth century was largely one of triumph for medical science. Antibiotics were discovered, and innumerable life-saving therapies developed. In the west, we have the privilege to think that we are, for the most part, immune from contagious diseases.

The influenza outbreak challenges this hard-won privilege. The flu virus remains, despite the best efforts of medical and public health professionals, a difficult foe. At the beginning of the twenty-first century, we are almost as susceptible to it as we were 90 years ago, thanks to the convergence of biology, politics, technology, and individual action.

In late March, the CDC held its first press conference on swine flu in months. A recent outbreak in Georgia had left 40 people hospitalized and the CDC believed it was a result of vaccination problems. Unlike in the past, however, in this instance, vaccine was readily available. Many of those hospitalized, along with the majority of American adults, had simply chosen not to take the vaccine offered, despite the fact the CDC estimated that there were 140 million excess doses available by early 2010.

It is too early to say why many adults have not received the vaccine. Was it poor publicity of the availability of the vaccine following the early shortages? Were the vaccines not covered by insurance plans or otherwise unaffordable? Did they have underlying health problems that made taking the vaccine ill-advised? Or were they part of a growing movement of vaccine refusal?

In the European Union, some accused the WHO of declaring a pandemic to line the pockets of vaccine manufacturers. Others maintained, despite all evidence to the contrary, that the vaccine was unsafe, tapping into older anti-vaccine feelings. In the United States, a growing number of adults are regularly refusing vaccines, resulting in an estimated extra 50,000 deaths annually from pneumonia, influenza and other diseases.

As with influenza vaccines, there are few controls or mechanisms for vaccinating adults. Most successful vaccination campaigns—such as the MMR vaccine or polio in years gone by—are conducted on infants or school children. How to distribute vaccine is a complicated technological, administrative, political, medical, and social problem.

This latest influenza outbreak highlights the unpredictability of flu epidemics, and the complexity of the problem to be solved. While medicine and science traditionally look forward, the messy social and political problems inherent in defending ourselves against epidemics suggest that looking back to appreciate that epidemics

are not just medical but administrative problems would help us plan better.

Because one thing is certain: there will always be another flu season. ♦

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Maps and Charts

3D Model of an Influenza Virus. The Hemagglutinin (HA) and Neuraminidase (NA) proteins are shown on the surface, and are used to describe different types of Influenza viruses

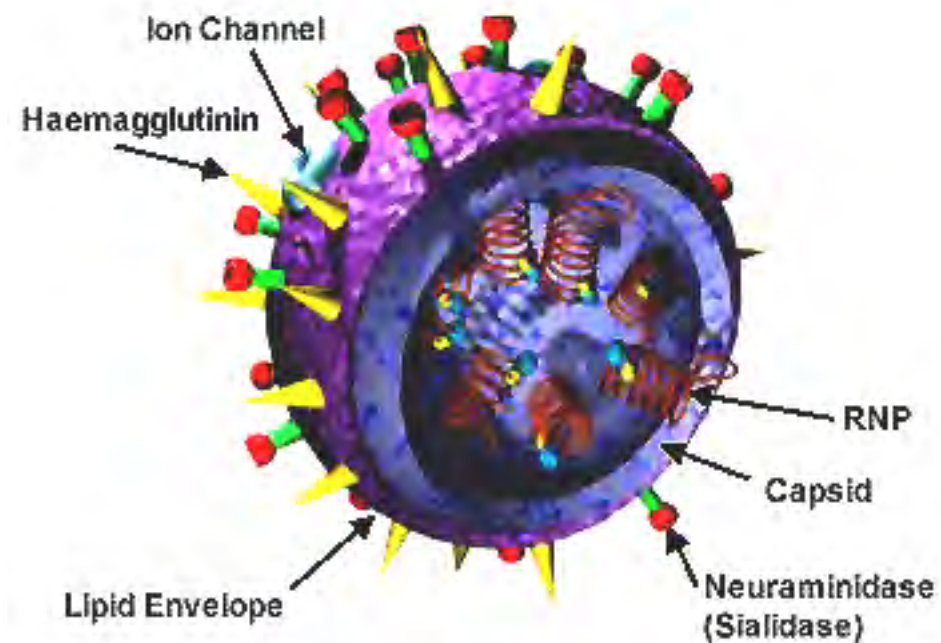


Chart showing the three pandemic waves in 1918-1919 through weekly combined influenza and pneumonia mortality, United Kingdom

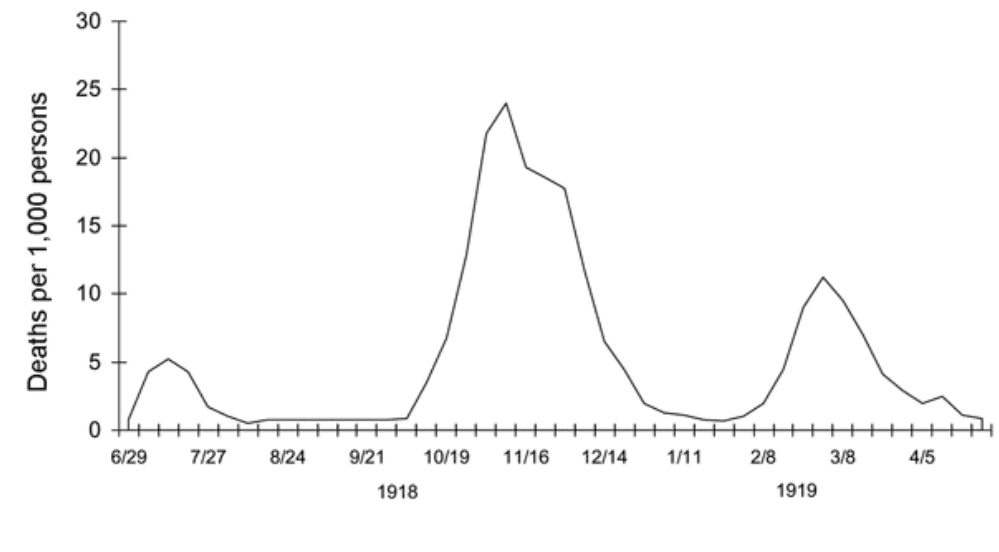
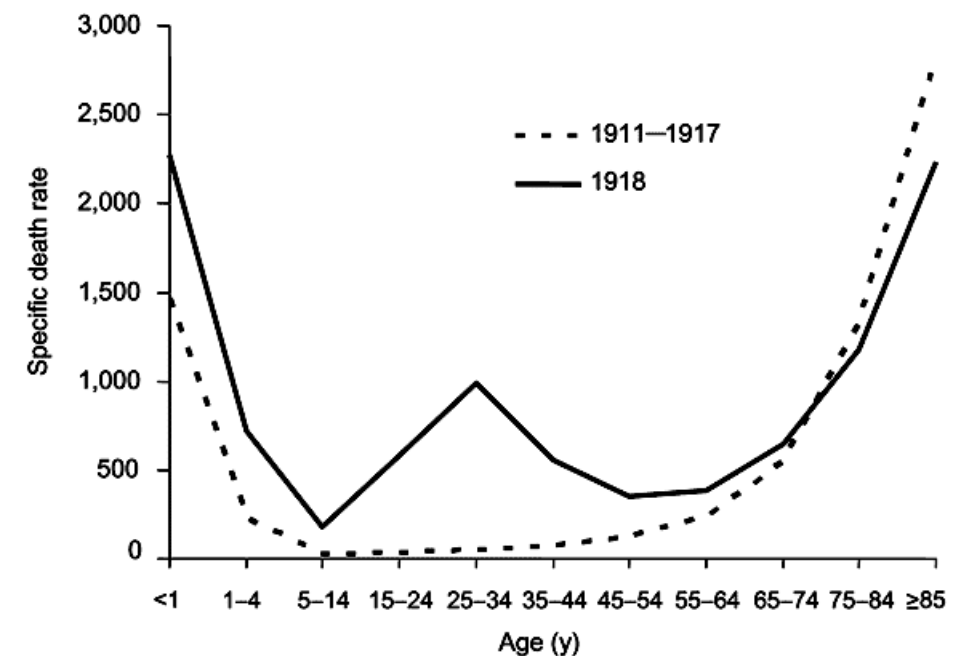


Chart showing the "W Curve" of Spanish Flu mortality, which disproportionately affected healthy young adults



Additional Images

2,500 people line up in a mall in Texas City, Texas to receive a dose of the H1N1 vaccine from the Galveston County Health Department, October 30, 2009



(Source: Creative Commons)

A student using waterless hand sanitizer at Boston University during the swine flu pandemic, 2009



(Source: bu.edu)

Chickens slaughtered as a way to help combat an outbreak of Avian Flu, 2008



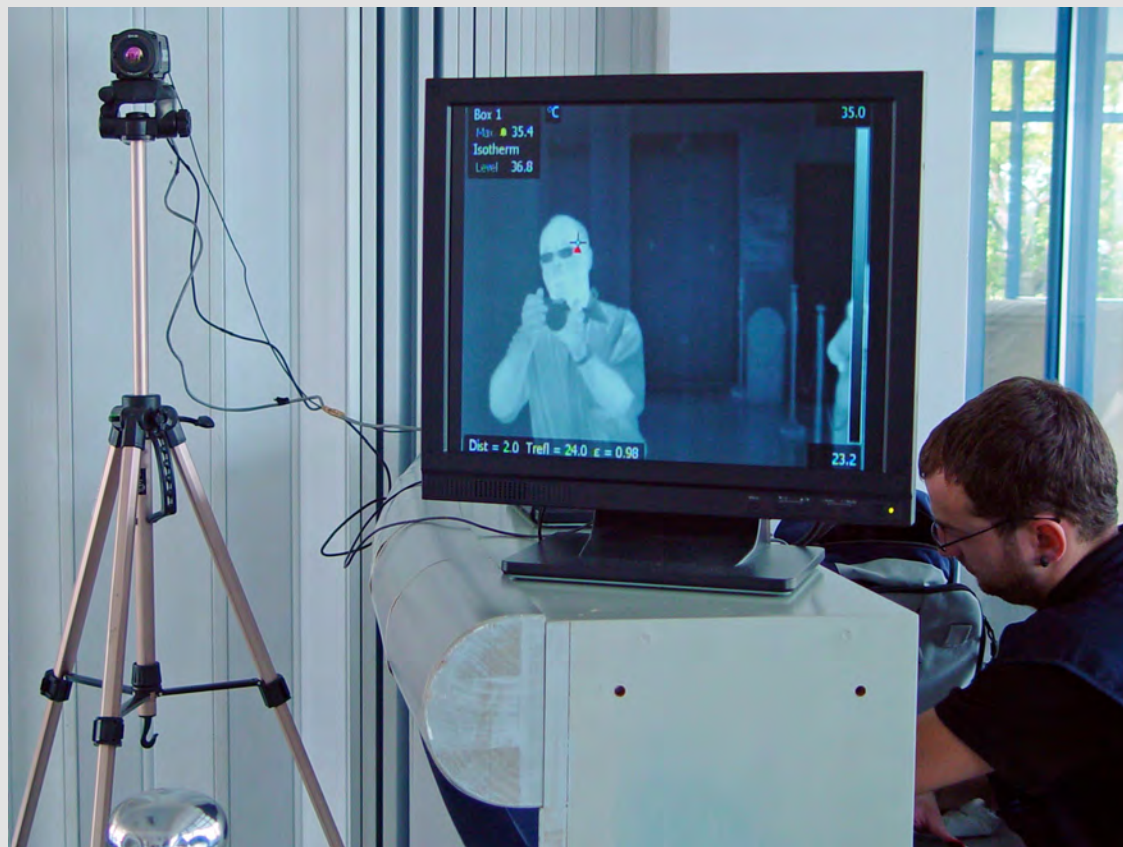
(Source: dailygalaxy.com)

Street car conductor in Seattle not allowing passengers aboard without a mask, 1918



(Source: archives.gov)

A Thermographic Camera and screen used at the airport at Ioannina, Greece to screen out travelers with elevated temperatures, a sign of influenza infection. September 11, 2009



(Source: Wikipedia)

The arrivals area at Singapore International Airport, using thermoscanning to look for travelers with a fever who may be infected with swine flu, June 2009



(Source: Public Domain)

The CDC's Terrence Tumpey working with reconstructed 1918 Pandemic Influenza Virus, 2005



(Source: CDC)

Two American Red Cross Nurses demonstrate treatment practices during the influenza pandemic of 1918



(Source: Library of Congress)

U.S. President Gerald Ford getting vaccinated for Swine Flu in 1976



(Source: Public Domain)

Top Ten Origins: Vaccination

EDITOR'S NOTE:

Outbreaks of measles across the globe have once again set off the great debate over vaccination. Since 2014, more than 22,000 cases of measles have appeared in Europe and the World Health Organization recently [called for increased vaccination campaigns](#) in the region. In the U.S., measles that began in Disneyland in late 2014 infected more than 150 people.

The development of vaccines and extensive childhood vaccination campaigns are among the most important public health achievements of the past 200 years. They have saved millions upon millions of lives each year and in some cases eradicated dangerous diseases not only locally but globally. The Earth was declared smallpox-free in 1980; in 2000, the United States asserted itself rid of measles.

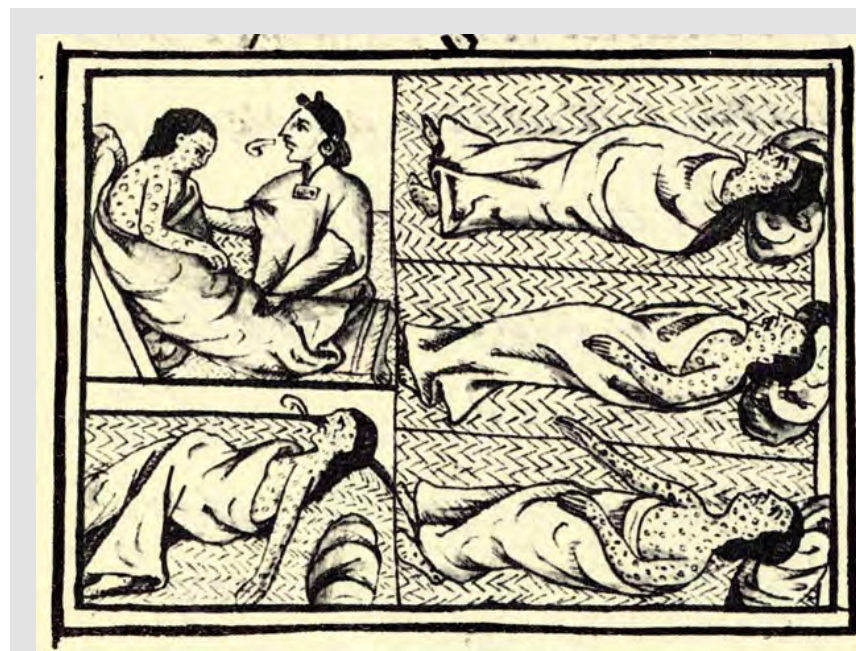
Despite these successes, the anti-vaccination movement has been gaining traction in recent years, spurred on by religious opposition to vaccines and by the concerns raised by now-discredited studies that linked vaccines and autism. And as vaccination rates decline, the spread of these previously controlled diseases is on the rise.

As we discuss and debate, Origins offers the Top Ten things you should know about vaccines and vaccination efforts.

Published March 2015.

By **CHRIS OTTER**

1. Nasty, Brutish, and Short: Life Before Vaccines



Rendering of the Nahua Population after exposure to Spanish-carried smallpox in Conquest-Era Central Mexico (from the Florentine Codex, a Spanish ethnographic research project). (Source: Wikipedia)

Throughout most of history, human populations have lived in an unvaccinated state, and have been extremely vulnerable to endemic and epidemic infectious disease, particularly if they had no previous exposure to a particular disease. This was most spectacularly seen with smallpox in the Americas in the early modern period. Spanish invaders, themselves possessing acquired immunity

to smallpox, introduced the disease to indigenous populations, with devastating results. By 1568, the Central American population had fallen to around 3 million, which was around one-tenth of its original population. Before the nineteenth century, the most efficacious way of dealing with epidemic disease was

quarantine: the European landscape was littered with pest-houses and lazarettos. Life expectancy was correspondingly low. Global life expectancy was between 25 and 30 years as recently as 1800, and fewer than 5% of most populations survived until sixty-five. People rarely lived to be old.

2. *Variolation* and the Scourge of Smallpox



A portrait of Lady Mary Wortley Montagu, who observed the practice of variolation in the Ottoman Empire. (Source: Wikipedia)

The origins of vaccination lie in the practice of *variolation*, which was used to protect against smallpox (a disease that killed annually an estimated 400,000 people in Europe alone in the eighteenth century). Variolation involved transferring disease material from the pustules of an infected to an uninfected person. It was practiced in numerous parts of the world from the early modern period: China, Africa, the Near East and South Asia. It was introduced into Europe by Lady Montagu, who observed the

practice in the Ottoman Empire. Her son was inoculated in 1718 and her daughter, Mary, in 1721, the latter being the first person to be variolated in England. Variolation was brought to New England by Cotton Mather and Zabdiel Boylston in 1721. Following the development of vaccination, the practice of variolation declined and was ultimately banned. The British, for example, banned it in 1842. The practice of variolation was eliminated along with the smallpox virus itself in 1980.

3. What We Owe to the Cows



EDWARD JENNER (1749-1823)

A 19th century colored engraving of Edward Jenner vaccinating his young child as a man stands outside with a cow. (Source: The Wellcome Trust)

The term *vaccination* comes from *variolae vaccinae*, or “smallpox of the cow,” otherwise known as cowpox. The close relationship between smallpox and cowpox was common lore in the

eighteenth century. We have accounts of individuals inoculating their children with cowpox pus, for example Peter Plett in Hesselburg in 1791. There is also evidence that the practice was known in South Asia and Persia. In 1796, Edward Jenner took cowpox material from the hand of the dairymaid Sarah Nelmes and inoculated James Phipps, the eight year-old son of Jenner's gardener. He then published his results as *An Inquiry into the Causes and Effects of the Variolae Vaccinae, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of the Cow Pox* (1798). Jenner did not discover vaccination, but he publicized the technique and proved its effectiveness to doctors.

4. Edward Jenner and the Arm-to-Arm Method

Jenner was, however, immediately faced with a basic problem. Cowpox was a seasonal disease, common only in the spring, and it was hard to maintain a constant supply of cowpox matter.



Hence Jenner developed the so-called “arm-to-arm” method. After vaccination, pustules would erupt on the arm. This pustular material could then be used as a reservoir for another vaccination: it could be extracted from the arm and rubbed into the skin of another patient following mild laceration with a lancet or needle. Jenner could thus maintain a permanent supply of vaccine. The technique spread rapidly: Hanover became the first



Continental vaccine center, in 1800. Vaccination spread to the United States (1800), Moscow (1801) and Japan (1824). Some states made vaccination of all children compulsory, for example



*Louis Pasteur photographed working within his laboratory, undated.
(Source: Wikipedia)*

Bavaria (1807), Denmark (1810), and Sweden (1814). The arm-to-arm method, however, disappeared with the rise of animal vaccines in the 1860s.

5. From Cows to Test Tubes: Producing Vaccines in the Lab

Later in the nineteenth century, scientists began to manipulate pathogens with the aim of reducing their virulence, thereby producing safer and more effective vaccines. This process is particularly associated with Louis Pasteur, who produced the first laboratory-produced vaccine in 1879, for chicken cholera. Although the vaccine was rather ineffective, it heralded a new age

of disease control. Jean-Joseph-Henri Toussaint produced an anthrax vaccine in 1880, an invention for which Pasteur later claimed credit. Neither vaccine, however, was used on humans. This changed when Pasteur developed a rabies vaccine after long experiments with attenuation. His vaccination of Joseph Meister in 1885, using material harvested from the spinal cord of rabbits, demonstrated that it was possible to cultivate vaccinations to protect against human diseases.

6. From Hot Irons to Vaccines: Treating Diphtheria

Diphtheria was a major killer of children, and treatments were often desperate: sometimes physicians tried to burn away the disease's characteristic throat pseudomembrane with silver nitrates or even hot irons. Following the discovery of the diphtheria bacterium in 1883, the microbial activity causing the disease was understood. Émile Roux and Alexandre Yersin identified the toxin produced by the bacterium in 1889, and in 1890, Shibasaburo Kitasato and Emil von Behring successfully inoculated guinea pigs with an attenuated, heat-treated diphtheria toxin. Human antitoxins were then successfully utilized, and contributed to the dramatic fall in the disease's incidence by [World War One](#). After the war, a totally inactivated antitoxin was developed by Gaston Ramon and Alexander Glennie. The combined diphtheria, pertussis, and tetanus (DPT) shot dates from 1948. Today, diphtheria has been practically eliminated from the United States and many other parts of the world.

7. Paralyzed or Worse: Polio

Until the early twentieth century, poliomyelitis was an endemic infantile disease, and it became increasingly common as living standards rose. In 1916, a polio epidemic killed 6,000 Americans, and left thousands more paralyzed. American president [Franklin Delano Roosevelt](#) was stricken with polio as an adult and spent the rest of his life wearing painful leg braces. In 1929, the iron lung was developed to help sufferers breathe. The first functional



Scientist Jonas Salk raises high two bottles holding the cultures used to grow Polio vaccine in 1955; Photo of oral Polio vaccination in India. (Source for both: Wikipedia)

vaccines, a killed vaccine pioneered by Maurice Brodie and an attenuated vaccine invented by John Kolmer, were developed in the 1930s. Six of those given the attenuated virus died and tests were immediately suspended. In the 1950s, however, Jonas

Salk's inactivated vaccine proved successful in trials: it was licensed in the U.S. in 1955. Albert Sabin, meanwhile, a Russian-born American scientist, pioneered a successful oral vaccine using an attenuated virus, which was successfully administered to millions of Soviet children in 1959. Sabin's vaccine was then widely used in the global polio eradication campaign.

8. False Starts: Vaccines that Haven't Worked

Many diseases have, unfortunately, proved refractory to vaccination. In the mid-nineteenth century, for example, Joseph-Alexandre Auzias-Turenne undertook several experimental “syphilisations” of patients. His work was furthered by an Italian, Sperino, and a Norwegian, Boeck. Although some success was claimed, a functional syphilis vaccine has never been developed. Jaime Ferran's 1885 cholera vaccine was the first to be used against a human bacterial disease. However, cholera vaccines have never been enormously effective, and only confer immunity for a short period. The development of an HIV vaccine is extremely difficult, due to the complexities and idiosyncrasies of the retrovirus. Finally, some vaccines have been doomed from the start. The German physiologist Wilhelm Weichardt, for example, attempted to develop a fatigue vaccine in the early twentieth century, and sprayed an entire school classroom with antikenotoxin solution in 1909. Alas, the fatigue vaccine did not prove a long-term success.



This series of vignettes, published by Turkish Republic Health and Social Assistance Ministry in the 1930s, presents the stages and treatment of syphilis. (Source: The Wellcome Trust)

9. Vaccination Has Generated a Backlash from the Beginning

Variolation and vaccination immediately attracted controversy and opposition. In 1722, an English Reverend, Edmund Massey, called variolation a “Diabolical Operation” which “banish[ed] Providence out of the World.” A 1723 Paris thesis claimed that the technique could be used to kill children. In nineteenth-century Britain, vaccination officers symbolized the power of medical elites and the state. Anti-vaccinators declared the practice a great violation of the bodily freedoms of the individual. Vaccination seemed singularly counterintuitive. Some parents expressed concern that, following vaccination, their children might “low

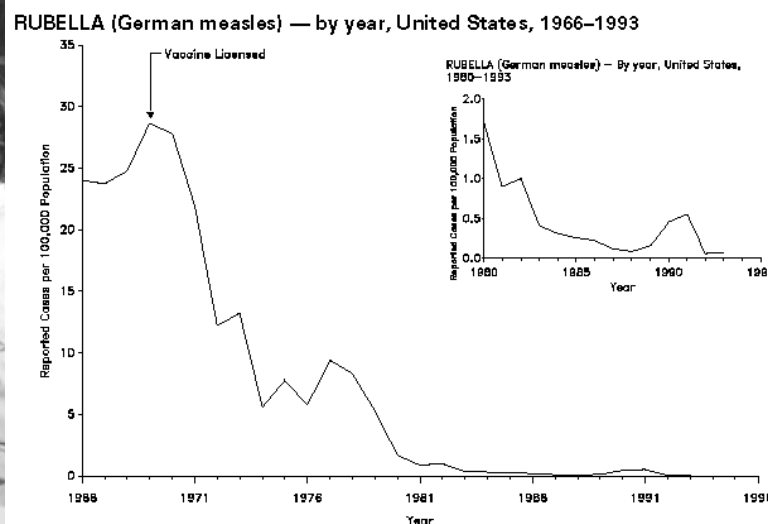


This 19th century French cartoon depicts children fleeing from a diseased woman morphing into a mermaid, an apothecary yielding a syringe, and a physician riding a cow – showing the public distrust of vaccination. (Source: The Wellcome Trust)

and...browse in the fields like oxen.” Others worried that the passage of infected material from body to body would spread disease or even transgress racial boundaries, leading to changes in skin color. In 1885, an effigy of Jenner was hanged and decapitated in Leicester, while vaccination officers were pelted with eggs or rotten fruit. An 1898 “conscience” clause allowed British parents to opt out of vaccination. In the United States, where vaccinations began as initiatives from individual states, most states permitted exemptions for “religious” reasons. And they still do. Muslims in several countries have recently

denounced vaccination campaigns as “western” and “anti-Muslim.” In 2014, public health workers in [Pakistan](#) working to immunize people from polio were murdered by anti-vaccination crusaders. Not coincidentally, Pakistan is now regarded as the global “hot spot” for new polio cases.

10. Less Nasty, Less Brutish and Much Longer: Life After Vaccines



A child receives Polio vaccination in Sweden, 1957; The charted effects of vaccination on Rubella (German Measles) within the United States. (Source for both: Wikipedia)

The overall global effects of vaccination are impossible to overstate. Seven diseases have been brought under significant control through the use of vaccines: smallpox, diphtheria, tetanus, yellow fever, whooping cough, polio, and measles. Of these, smallpox has been completely eradicated, saving an estimated 5 million people annually. And polio is currently close to eradication: there were only 416 cases in 2013. According to the

World Health Organization, the measles vaccine saves around one million lives annually. Along with clean water supplies, improved nutrition and extensive public health and medical infrastructure, vaccination has been responsible for dramatic declines in deaths from certain infectious diseases. It is thus a central factor in the epidemiological transition, to an age where non-infectious diseases like cancer, heart disease and diabetes, are the major killers. By 2014, global average life expectancy had risen to 73 for girls and 67 for boys.



Indian variolation vial with smallpox virus.



(Source: Wikipedia)

Section 3

People Were Skeptical about Veterans' Hospitals, Too: The Affordable Care Act and Health Policy Precedents

EDITOR'S NOTE:

Nothing in American political life has generated more acrimony in the last four years than the Affordable Care Act. While its opponents have decried this as an intrusion of the federal government into the private market place and into people's private lives, historian Jessica L. Adler demonstrates that the roots of "Obamacare" lie not in the Great Society programs of the 1960s or even the New Deal of the 1930s but in the legacy of the First World War and the creation of a health care system for military veterans.

Published February 2014.

By **JESSICA L. ADLER**

"Don't let them fool you," President Barack Obama told attendees of the Disabled American Veterans (DAV) National Convention in August 2013. "No one is taking away your benefits. Your veterans' healthcare is safe."

A few months before his signature Affordable Care Act (ACA) was scheduled to launch, the president was offering those reassurances to beneficiaries of the Veterans Health Administration (VHA), the largest integrated health care system in the United States, and one of the country's first medically focused entitlement programs.



President Warren G. Harding at Walter Reed Hospital in March of 1921. Perhaps contrary to popular belief, providing healthcare to veterans was never without controversy as historian Jessica L. Adler highlights. (Source: Department of Defense)

His remarks made it clear that the ACA was only the latest iteration of government involvement in the health care realm. In fact, by the time “Obamacare” was passed, roughly 20% of Americans already had access to medical services via federal programs like the VHA, Medicare, Medicaid, or the Children’s Health Insurance Program.

None of those government initiatives came about without controversy.

The story of the establishment of the VHA provides insight into how major changes in U.S. health policy have materialized in the past. It also reveals that the ACA, while in many ways unique, is rooted in previous debates and policies.

During and immediately after the Great War, there was no guarantee that military veterans would have access to publicly funded health services. In the 1920s, a nationwide system of hospitals was established for former service members, in part, as a response to the failure of previous policies and to alleviate an economic and public health burden.

Similar conditions in recent years shaped the passage of the ACA. Sweeping new legislation was put in place, in part, as a response to a perceived social crisis: the increasing number of uninsured, a population widely viewed as a drain on the economic and public-health systems.



President Obama Signs the ACA into Law. (Source: Wikimedia Commons)

Separated by almost a century, the tone and wording of the debates surrounding these two distinctly American health programs are remarkably similar.

After the First World War, legislators said the federal government’s incursion into health care would constitute an “immeasurable expense.” They worried that it went against the American tradition of local responsibility; that it would breed dependency; that it was “socialism.”

Although they never went so far as shutting down the government in protest, politicians of the 1920s—much like those who debated the ACA in 2010—felt that the legislation they were considering

was deeply flawed. They argued that, in addition to being vague and impractical, it gave too much power to the federal government and offered privileges to people who did not deserve them.

But, like their counterparts nearly a century later, many voted for passage not only to gain political favor and alleviate a perceived crisis, but also because of a dearth of alternatives.

Meanwhile, advocates of both medical support for veterans and the passage of the ACA argued that the programs were cost-effective and necessary. They would serve as safety nets for citizens who might otherwise be neglected by state and local health systems, or become—in World War I-era parlance—“public charges.”

Alongside those similar patterns, there are telling differences between the veterans' health system and the ACA.

The former is intended to provide direct, government sponsored care to a specific category of citizens widely deemed worthy, and took form incrementally with multiple pieces of legislation between World War I and World War II.

The latter—a one act attempt to alleviate problems wrought by a century's worth of haphazard policies and practices—aims to make health insurance accessible, through both public and private channels, to the greatest possible number.

In this respect, the ACA is path-breaking. It marks a shift away from the twentieth-century model of offering individuals federal assistance based on their membership in a clearly definable group of citizens.

Preparing for the Health Fallout of War

In the months surrounding the United States' declaration of war in April 1917, the social reformers, doctors, and legislators who conceptualized medical and rehabilitation plans for service members were guided by a Progressive-Era faith in the potential of government and professional medicine to buffer citizens from society's ills.



A "Soldiers' Home" illustration, 1885. (Source: Wikipedia)

They dreaded the possibility of young men being released from service shell-shocked, maimed, and helpless. In such a state, they feared, individuals were doomed to live in mendicancy or, perhaps worse, on monthly pensions like their Civil War brethren.

In the second decade of the twentieth century, although less than ten percent of southern men age 65 and older were pensioners, approximately 35 percent of their counterparts in the north received regular payments from the federal government by virtue of their military service. At the outbreak of World War I, Civil War veterans also had access to ten national Soldiers' Homes and a variety of state-run institutions. Those facilities focused primarily on providing domicile care for aged men with nowhere else to turn, rather than medical or rehabilitative services.

By 1917, policymakers felt the current system was costly, antiquated, and unproductive.

Lawyer and Judge Julian Mack gave voice to their belief that the power of the state should be harnessed to make more self-reliant citizens, but selectively. "The great outcry against the (Civil War) compensation system had not been due to the moneys that were paid to the men who died or were disabled because of injuries received while serving this country," Mack declared in 1917. "The outcry" came with the establishment of the service pension legislation in the 1890s, which "aims to give a man a pension because he was a soldier, and sometimes a soldier for 30 days, and sometimes not much of a soldier at that for 30 days."



Soldiers and Nurse at Walter Reed Hospital. (Source: Wikimedia)

Mack's rationale—that government benefits had to be earned by action or circumstance—represents a recurring credo of American social policy.

In an effort to improve the chances of long-term health and financial independence for veterans, policymakers of the Great-War era mandated the ultimate universal health-care program: the military would oversee care of personnel until so-called "maximum curative results" could be achieved.

Jefferson R. Kean, Director of Military Relief for the American Red Cross, addressed the issue at a June 1917 meeting of the Medical Board of the Council of National Defense, an advisory

body focused on health-related war efforts.

While treating soldiers in Europe, Kean reported, “it was impossible to accomplish anything ... unless they were under military discipline and treated as soldiers until repair work has been completed.” When it came to healing the wounded, he said, “the problem is military and should be under military control.”

But even as an extensive, centralized military-based rehabilitation program took shape, legislators and the civilian experts who



Amputees from WWI Recovering at Walter Reed Hospital. (Source: Library of Congress)



New York's famous 369th regiment arrives home from France. (Source: National Archive)

guided them acknowledged that the health fallout of war would likely extend beyond Army and Navy hospitals.

The 1917 iteration of the War Risk Insurance Act vaguely guaranteed that former service members could receive necessary medical care after being discharged, but failed to define who would manage and fund those services.

The Burdens and Bureaucracies of “Maximum Curative Results”

As soldiers were treated in military hospitals during and immediately after the war—some for bodily injuries from the front, but many more for diseases such as “mental alienation” and tuberculosis—it became clear that doctors, patients, and bureaucrats had widely varying views of the definition of “maximum curative results.”

The urgency of the situation became increasingly apparent soon after the armistice, as the Bureau of War Risk Insurance (BWRI)—the Treasury Department agency created to administer insurance and disability compensation payments—put forth estimates of massive future need. Approximately 640,000 of the 4.3 million men and women who served during World War I, according to the BWRI, qualified as potential future claimants. Of those, more than 425,000 had been discharged with a disability.

Large numbers of sick and injured soldiers posed “a great public health and economic problem,” declared Charles E. Banks, Chief Medical Advisor of the BWRI. They were, he told members of Congress in September 1918, “a menace to their families and ... communities.”

As the number and pace of discharges increased in early 1919, Congress mandated that a variety of pre-existing federal agencies would work together to usher medical care and rehabilitation into the broader society.

The result was a makeshift system rife with problems. Veterans complained about being treated by under-trained doctors in ill-suited institutions. Federal officials accused one another of incompetence and legislators voiced frustration that dysfunction reigned, even as tens of thousands of dollars were allocated to the rehabilitation project.



The VA was certainly not the only public service offered to returning soldiers and sailors as this advertisement, dated 1917, illustrates. The poster shows a soldier holding his "Honorable Discharge" form, crossing a welcome mat to pass through the door of a "Bureau for Returning Soldiers and Sailors." (Source: Library of Congress)

Soon enough, newspapers regularly reported that veterans were receiving treatment “that cannot be justified by anyone who has any regard for the well being of the men who fought to maintain the country,” as the *Atlanta Journal-Constitution* put it in 1920.

Around this time, Public Health Service Surgeon General Rupert Blue asserted that offering quality care in hospitals geared

specifically at the needs of veterans would lead to “economic saving” by “preventing or deferring the payment of compensation and insurance claims” and “by providing medical supervision for ... a large portion of the population at the greatest productive age period.”

Far from fostering dependency, Blue suggested, increased federal aid would encourage self-reliance. If the government made quality health services more accessible, not only individual veteran-patients, but also society at large, could benefit.

The Creation of the Veterans Bureau

As medical care for veterans remained in disarray, increasingly powerful veterans’ organizations helped sway Congressional debates from focusing on temporary measures—such as the need for additional and better facilities—to the merits of more far-reaching legislation mandating that one federal agency be created and charged with “treating all the necessities of the disabled man.”

Representatives of advocacy groups pragmatically argued that the creation of a veterans’ bureau was a necessity and a righteous duty, rather than a new and unwarranted expansion of government. They insisted that it would ensure that the pre-war promises contained in the War Risk Insurance Act—that the government would provide financial and medical assistance for veterans—were fulfilled.



Judge Robert S. Marx, Nat. Commander, Disabled Am. Vets of World War, 1921. (Source: Library of Congress)

“The government today,” John H. Sherburne of the American Legion told legislators in 1921, “has the chance to salvage more human wreckage than they have ever had in a similar situation before.” That was a powerful argument to make at a moment when medical professionalization, industrialization, and the advent of new technologies such as the X-ray, had brought about an expansion in both the use and expectations of institutionalized medical care.



But advocates in the 1920s knew that demonstrating the prevalence of suffering and a public health necessity was not enough. They pointed out that the proposed bureau would alleviate costly redundancies—veterans receiving payments from two different government agencies, for example—rampant under a system of “divided authority.”

Veterans’ groups also maintained a focus on the universally appealing goal of self-reliance. Robert Marx, National Commander of the Disabled American Veterans, told a gathering of former service members in 1921 that government assistance

could inspire in disabled veterans “a determination to come back and to take their place in the nation as self-supporting and independent citizens.”

Despite those arguments, some legislators argued that the extent, power, and permanence of the proposed agency had to be limited. Many were disturbed to find that men who had never seen the front lines—even some who had been admitted to the military only to be deemed unfit for service before completing training—were eligible for future benefits, including hospital care.

Senator Reed Smoot (R-UT) expressed his concern with the proposal that the bureau should fund medical care not only for



VA Medical Center in Durham, North Carolina. (Source: Wikipedia)

those whose injuries or illnesses could be conclusively proven to be “upon service origin,” but also former soldiers whose ailments had been “aggravated” while they were in the military.

He noted that if an injury was of service origin, it should be “taken care of,” but contended that “this thing is wide open ... every soldier thinks his case is an aggravated one. There will be no end to the examinations; there will be no end to the dissatisfaction; there will be no end to the demands for the next 50 years.”

Like Julian Mack, Smoot implied that federal benefits should be earned by virtue of one’s actions and valor.

Yet even legislators who were skeptical about creating a new government agency conceded it was the only viable solution to the problem of underserved veterans.

“Further continuation of the present system of separate bureaus handling the problems which are so closely interrelated,” said a 1921 Senate report, “would be not only unfavorable from the viewpoint of our incapacitated war veterans, but would be a pitiable reflection on Congressional inability to bring about quick beneficial changes in the present laws.”

Ultimately signed into law on August 9, 1921, “an Act to Establish a Veterans’ Bureau” (VB) laid the groundwork for a vast system of federally sponsored hospital care. The new agency would have a central office in Washington, DC, and more than 150 regional and “suboffices.”



Women played an important role in running the Veteran's Bureau. This photo of chief nurses is dated November of 1923. (Source: Library of Congress)

In addition to overseeing the disbursement of insurance benefits and vocational education, the Bureau would be responsible for providing examinations, hospitalization, and dispensary and convalescent care for veterans and military nurses who had incurred injuries or illnesses in the line of duty, and for those whose pre-existing conditions had been aggravated in service.

Hospital Access for all Veterans

A veterans’ hospital system was never deliberately legislated, but its roots were planted with the creation of the VB. In April 1922,

the Public Health Service formally transferred facilities treating former service members to the new bureau.

Local representatives of different stripes—legislators, Chambers of Commerce, private citizens—eagerly approached the federal government about building hospitals for former service members in their communities.

In 1924, once a network of more than 40 veterans' hospitals existed across the country, VB Director Frank Hines told Congress that all former members of the military—regardless of whether their injuries or illnesses were connected to service—should have free access to the facilities.

In the 1920s, like today, the idea of unfettered, universal access—even when practically justified for a select group of citizens—was greeted with hostility.

“You do not recommend that every man who walks up to a hospital with a discharge in his hand ... regardless of his financial standing, shall be admitted to that hospital?” asked an incredulous Alfred L. Bulwinkle (D-NC).

Providing federal assistance so all veterans could access medical care would cost “billions of dollars,” said James H. MacLafferty (R-CA).

“If we establish the principle of free hospitalization for all veterans,” noted Robert Luce (R-MA), “it would then be incumbent upon us to furnish the facilities.”

Luce was ideologically opposed to the whole idea, which, he asserted, “involves an immeasurable expense over 50 to 75 years, but also involves a long step toward that centralization of activities which some people call socialism.”



Women putting checks in envelopes in the Veterans Bureau, Washington, D.C. (Source: Library of Congress)

By granting millions of former service members access to government hospitals, Luce suggested, communities would no longer be encouraged to collectively provide for themselves. “You are throwing away ... the idea of local responsibility,” he said.

Again, advocates and bureaucrats countered with arguments about efficiency.

“We believe, rather than go through all the administrative work of investigating and segregating, (that the VB should) take care of the man as he comes knocking at your door,” Edwin Bettelheim, of the Veterans of Foreign Wars, told members of Congress. Bettelheim noted that the reviews of records necessary in order to prove service connection were time-consuming and costly. Treating all veterans who sought care, as opposed to only some, Bettelheim and others asserted, would help alleviate wastefulness.

Wasn’t it worth spending four or five million dollars per year, Bettelheim asked, “to take care of these men that will become a charge on some community?”

By focusing on these and other practical benefits of expanding access, bureaucrats and advocates overpowered legislators’ ideological concerns about socialism. Congress passed the World War Veterans’ Act on June 7, 1924 stipulating that the director of the VB could provide hospitalization to all honorably discharged veterans who had served since 1897.

But the notion that a system of preference should exist was—and is—central to the shape of veterans’ health care.

According to the World War Veterans’ Act, former service members could be treated through the VB “without regard to the nature or origin of their disabilities,” but only if “existing Government facilities (permitted).” Preference for care would be granted to those with service-connected disabilities and individuals who were “financially unable to pay for hospitalization” otherwise.

As a result of the passage of the World War Veterans’ Act and increasingly lenient rules regarding disability ratings and service-connection for various conditions, the number of patients under hospital treatment sponsored by the VB grew from approximately 18,000 in 1924 to more than 30,000 in 1930. By that point, 46 percent of bureau patients were receiving hospital care for non-line-of-duty injuries or illnesses.

According to the 1930 Veterans Bureau annual report, the “hospitalization of veterans of the world and other wars, and the necessity for the expansion of government facilities” constituted a “growing problem.”

An Adaptable, Lasting, Selective System of “Socialized Medicine”

The legacy of postwar policy surrounding medical care for soldiers and veterans is not simply one of unyielding growth and generosity. Throughout the twentieth and twenty-first centuries, the U.S. government has backtracked and vacillated in its willingness to fulfill promises made to those who served, and the veterans’ health system has experienced both challenges and successes.

Still, legislation passed during and after the Great War was crucial. It established the fundamental principle that medical care should be offered as a federally sponsored entitlement to former service members.

As headlines abound regarding the rough rollout of the Affordable Care Act, it



Mitt Romney on campaign. (Source: Wikipedia)

is worth noting that, even in the early days of veterans’ hospitals, there was great confusion and controversy about eligibility, standards of care, and how the bureaucracy would work.

Throughout the interwar years, piecemeal legislation was passed in order to address some of the most glaring problems with the new medical program.

Even after the Veterans Bureau was consolidated with the Bureau of Pensions, and the National Home for Disabled Volunteer Soldiers to form the Veterans Administration (VA) in 1930, the hospital system remained a “backwater,” as scholar Paul Starr puts it.

After World War II, when public concern for former service members was reignited, veterans’ hospitals gained more federal attention and funding, and began affiliating with medical schools. By the mid-twentieth century, the system had grown exponentially—it consisted of hospitals, nursing homes, ambulatory care, and education and training for medical professionals—but it failed to shake its negative reputation among veterans and many others.

In the wake of the [Vietnam War](#), the majority of veterans eligible for care through the VA opted not to access it.

But during the last decades of the twentieth century, there were signs of progress. In the late 1970s, VA doctors pioneered an

electronic health record system that continues to serve as a model for private sector institutions.

In 1989, the VA became the Department of Veterans Affairs, as it gained cabinet status and the administration of health services was placed under a reorganized branch—the Veterans Health Administration.

Soon after, in the mid-1990s, VHA administrators undertook efforts to make services more accessible to non-indigent veterans and those with non-service-connected disabilities. At that time, 23 regional “integrated service networks” consisting of a variety of types of in- and out-patient facilities replaced hospitals as the focal points of care.

Following those organizational improvements, battles about the righteousness and conditions of federal intervention have raged on. As the U.S. engaged in two lengthy wars in [Iraq](#) and [Afghanistan](#), the number of veterans eligible for treatment rose sharply, much to the chagrin of conservative legislators who argued—as some did in the 1920s—that access to publicly sponsored medical care should be strictly limited.

The Cato Institute’s Michael F. Cannon [maintained in March 2006](#) that the Veterans Health Administration was hardly a model system since it was forced to “play politics with people’s health” and cope with decreases in federal funding by “freezing

enrollment, increasing waiting times, and rationing access to the latest prescription drugs.”

In November 2011, when presidential candidate Mitt Romney [told a gathering of veterans](#) in a South Carolina barbeque shop that he wondered “if there would be some way to introduce private sector competition” to the VHA, *New York Times* columnist and economist [Paul Krugman joined a chorus](#) of skeptical veterans’ advocacy groups.

“What Mr. Romney and everyone else should know is that the VHA is a huge policy success story,” Krugman argued, pointing out that it has achieved “rising quality and successful cost control.” That is true, he added, because it is an “integrated” system, meaning it both provides and pays for health care. “Yes,” Krugman noted, “this is ‘socialized medicine’ ... but it works.”

Today, more than eight million former service members receive health care through the VHA.

Echoes of the Past

Justifications offered during the post-World War I years for the necessity of publicly sponsored veterans’ health services were echoed nearly a century later during debates over the ACA: government intervention was not only laudable in a humanitarian sense, advocates maintained, but it would cut costs, increase efficiency, and protect the public’s health.

“This bill creates four million jobs,” House Democratic Leader Nancy Pelosi said in a [July 2012 congressional floor speech](#) in opposition to Republican efforts to repeal the ACA. “It reduces the deficit, it enables our society to have the vitality of everyone rising to their aspirations without being job locked ... let us move forward together to strengthen the economy and to strengthen the great middle class, which is the backbone of our democracy.”

President Obama, too, reiterated arguments focused on economic efficiency. “Each time an uninsured American steps foot into an emergency room with no way to reimburse the hospital for care,” he told attendees of the [American Medical Association convention in Chicago in 2009](#), “the cost is handed over to every American family as a bill of about \$1,000.”

Likewise, opponents of the ACA have cited concerns similar to those who questioned the expansion of the VA system: cost, government largesse, and the squashing of individual rights and initiative.

In August 2012, when Republican Representative and Vice Presidential candidate Paul Ryan [addressed the Republican National Convention](#), he invoked Robert Luce’s ideals regarding “local responsibility” and gave voice to a timeless argument against federal involvement in health care: “We do not each face the world alone,” Ryan said. “And the greatest of all responsibilities, is that of the strong to protect the weak.” But,

Ryan argued, “our rights come from nature and God, and not from government.”

[An October 2009 report](#) by Matt Peterson of the National Center for Public Policy Research made a related point, referring specifically to the ACA’s requirement that every citizen purchase insurance. The so-called individual mandate, Peterson said, “would constitute a gross abuse of governmental power and a violation of every American’s right to decide what is best for themselves and his or her family.”

Perhaps the most stunning similarity between the formation of a veterans’ health program and the ACA is that in both cases conceptions about dependency—the creation of a “dependent class” as Mark Steyn put it in the *National Review* in 2009—shaped opinions.

Some, including Public Health Service Surgeon General Rupert Blue, Robert Marx of the Disabled American Veterans, and Democratic Leader Nancy Pelosi, viewed federal intervention as a means of promoting self-reliance.

Others—Utah Republican Reed Smoot, his Massachusetts counterpart, Robert Luce, and Paul Ryan—tended to see it in the opposite light: government aid was something to be earned, a potential threat to community, and frighteningly paternalistic.

In a variety of ways, early proponents of veterans’ health care faced less of a challenge than the Obama administration and its

supporters. They represented a limited and, they argued, worthy constituency.

The ACA, on the other hand, was designed with the ambition of making health insurance available to virtually every citizen—not least of all to those left behind by state- and employer-sponsored programs established in the twentieth century. Today’s “underserved” are the working poor, the young, and people with previously existing conditions; they do not form a cohesive and powerful constituency.

Time will tell if the legislation intended to cover those populations, like its twentieth-century predecessor aimed at veterans, will prove enduring. ♦

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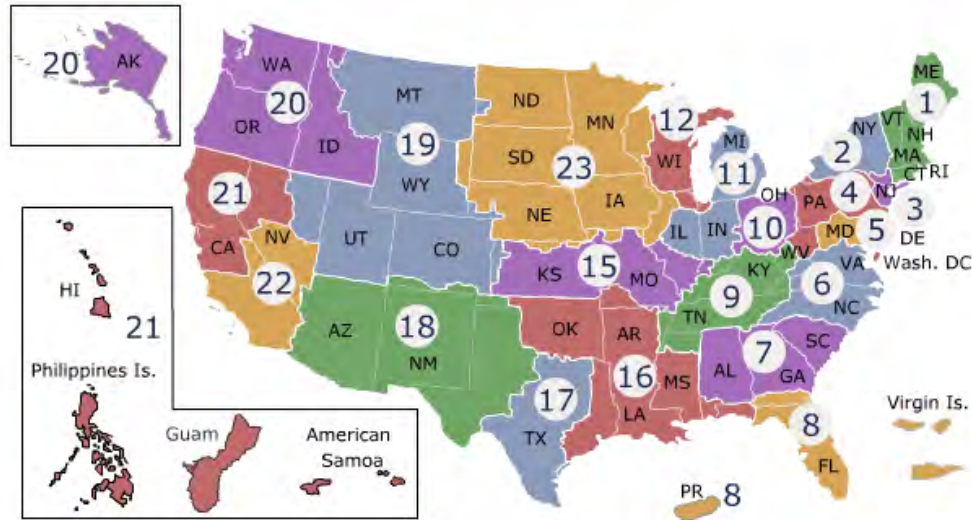
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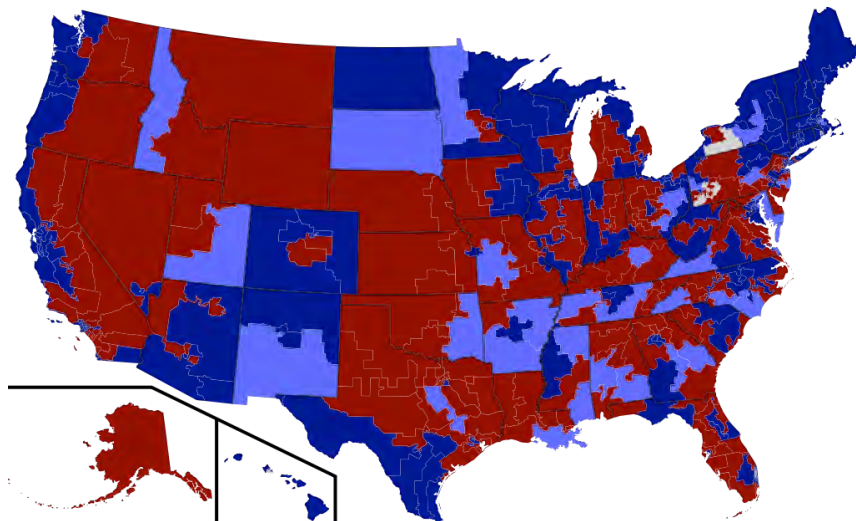
Maps and Charts

Veterans Health Administration Locations Regional Map



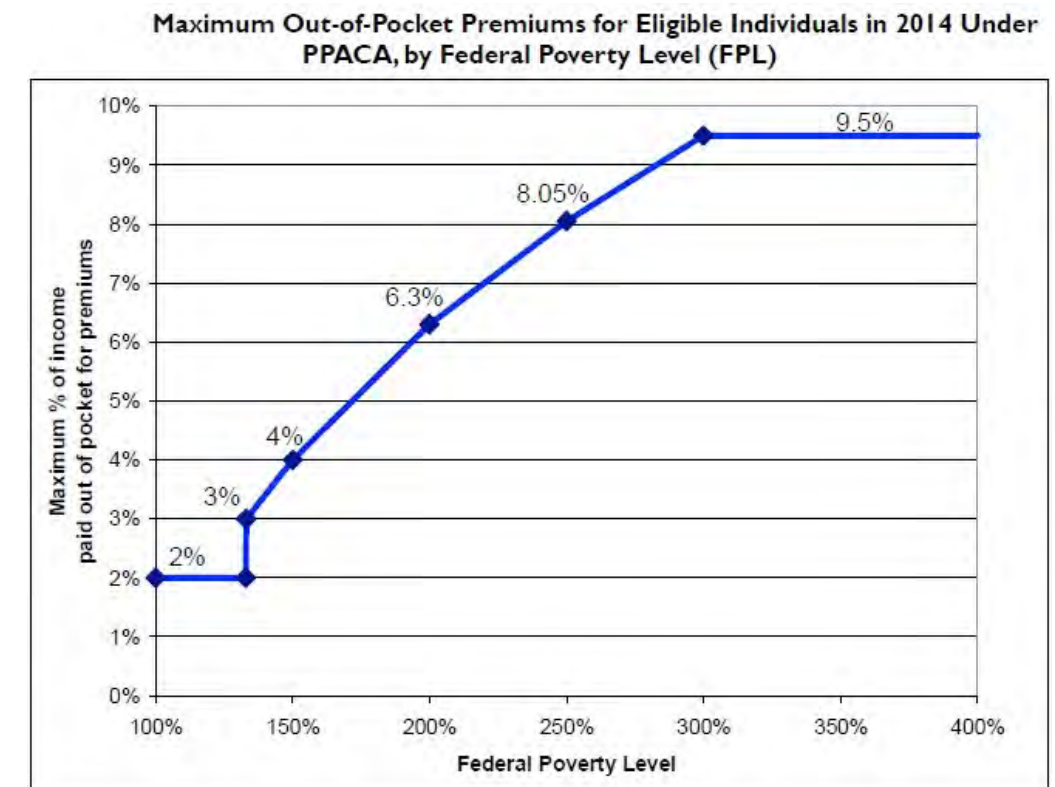
(Source: Government of Virginia)

111th Congress Yea and Nay Votes for ACA



(Source: Wikimedia Commons)

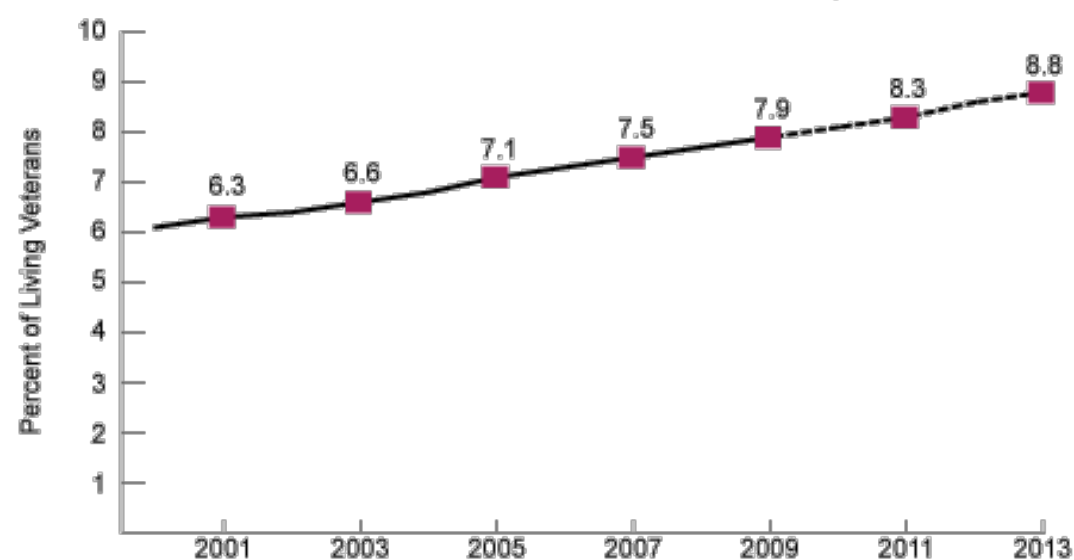
Premiums under ACA by Federal Poverty Level



Living Women Veteran Population 2001 - 2013

Living Women Veteran Population, 2003–2013*

Source I.12: Department of Veteran Affairs, Office of Policy and Planning

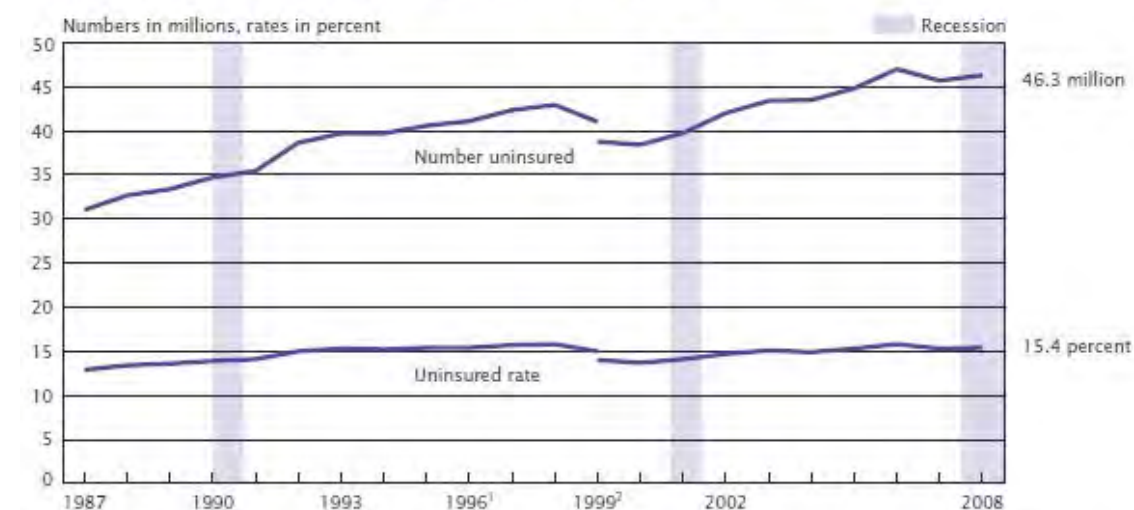


*Historical data from 2000-2008; projected for 2009-2013

Number of Uninsured Americans and Uninsured Rate, 1987 - 2008

Figure 6.

Number Uninsured and Uninsured Rate: 1987 to 2008



¹ The data for 1996 through 2003 were revised using an approximation method for consistency with the revision to the 2004 and 2005 estimates.

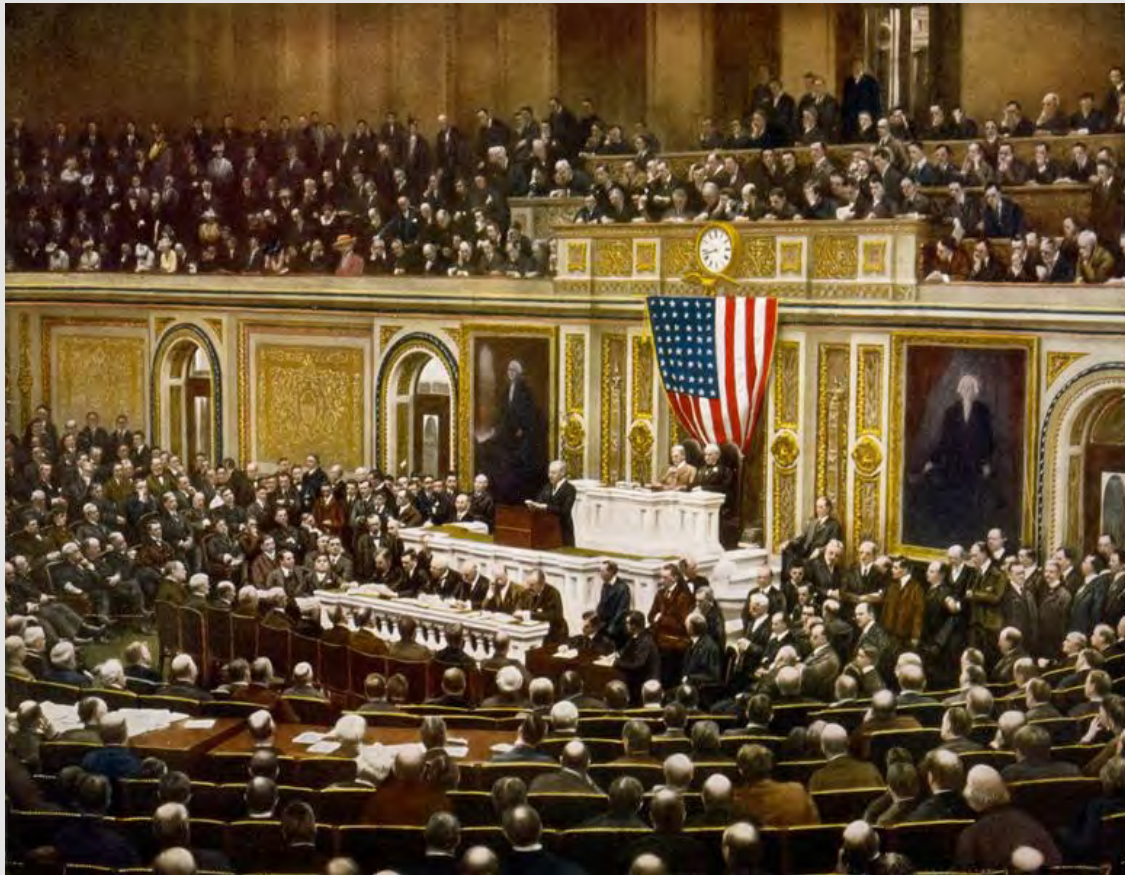
² Implementation of Census 2000-based population controls occurred for the 2000 ASEC, which collected data for 1999. These estimates also reflect the results of follow-up verification questions, which were asked of people who responded "no" to all questions about specific types of health insurance coverage in order to verify whether they were actually uninsured. This change increased the number and percentage of people covered by health insurance, bringing the CPS more in line with estimates from other national surveys.

Notes: Respondents were not asked detailed health insurance questions before the 1988 CPS. The data points are placed at the midpoints of the respective years.

Source: U.S. Census Bureau, Current Population Survey, 1988 to 2009 Annual Social and Economic Supplements.

(Source: National Center for Policy Analysis)

Additional Images



(Source: Public Domain)



(Source: Public Domain)

Two women process checks from the Bureau of War Insurance



(Source: Library of Congress)

Section 4

The Contentious ACA (*Podcast*)



Join your usual *History Talk* co-hosts [Leticia](#) and [Patrick](#) along with this month's expert guests [Sandra Tanenbaum](#), *Origins* editor [Steven Conn](#), and [Tamara Mann](#) as they discuss the contentious history of healthcare policy in the United States—specifically the Affordable Care Act, also known pejoratively and positively as "Obamacare." Is the label "socialist" a kiss of death? Does the ACA move away from the "public charge" model? Is Obamacare about cost-effective healthcare or is it more about health coverage for all? How long has it taken policymakers in the past to craft effective programs?

Origins has covered both [aging](#) and [veterans'](#) in the U.S. healthcare system.

Published February 2014.

Listen to this podcast on the web at <http://origins.osu.edu/historytalk/contentious-aca>. ♦



President Barack Obama and Secretary Kathleen Sebelius hold a town hall on the ACA. (Source: Wikimedia Commons)

Should Age Matter? How 65 Came to Be Old and Old Came to Be Ill

EDITOR'S NOTE:

Baby boomers, 78 million strong, are turning 65 at a rate of 4 million per year. The press, the government, and the medical community claim, often and loudly, that these numbers augur a mass dependency crisis. Such spokesmen envision a world of decrepit elders afflicted with chronic disease slurping their way through the country's resources. This month historian Tamara Mann explores how, in the United States, the so-called "geriatric crisis" is less related to age itself than to the relationship between old age and government funds, particularly Medicare. She explains how 65 became a federal marker of old age and why health insurance came to be offered as the best solution to the problems afflicting America's elders.

Published February 2013.

By **TAMARA MANN**

Baby boomers, 78 million strong, are turning 65 at a rate of 4 million per year in the United States.

The press, the government, and the medical community claim, often and loudly, that these numbers augur a mass dependency crisis. Such spokesmen envision a world of decrepit elders afflicted with chronic disease devouring the country's resources.

Still, amidst the alarmists, a few commentators acknowledge that aging itself has changed. Many boomers are working well into their 70s and 80s, staying in remarkably good health, and reinventing this final stage of life. In short, they are proving that chronological age is not biologically uniform.



In 1942, when this photograph of an elderly Mennonite couple was shot in Pennsylvania, science and medicine were transforming the idea of old age by extending life expectancies and curing chronic disease. Most Americans at this time supported some form of national health insurance, but only particular groups such as the aged would soon receive it. (Source: Library of Congress, by U.S. government photographer Marjory Collins.)

In the United States the so-called “geriatric crisis” is less related to age itself than to the relationship between old age and government support—such as the unequal distribution of health care dollars, via Medicare, across the age spectrum.

Such policies assume that people over 65 are by definition in worse health, dependent, and in need of government support. Yet this is not always the case. A financially independent, healthy 70-year-old costs society less than an ill 40-year-old.

Throughout the first half of the twentieth century, Americans argued over the proper relationship between the state and its elderly citizens. They tried to define “old age” and its problems, while questioning the federal government’s obligation to offer a solution.

In different measures, the Social Security Act in 1935 and the passage of Medicare in 1965 offered policy conclusions to these debates. The elderly would be defined as individuals over 65 years of age and the problem of old age would be characterized as illness and its related expenses.

Neither of these conclusions was foregone; both were expedient answers to social and political pressures. Indeed, many analysts over the century did not believe that old age necessarily meant ill health or dependency if approached correctly. They opposed plans and policies to separate the elderly from the rest of the

population, and advocated for preventative health spending throughout the lifespan.

This article will return to the middle of the twentieth century to explore how 65 became a federal marker of old age and why health insurance came to be seen, in the years following the first National Conference on Aging (1950), as the best solution to the problems afflicting America’s elders.

The “Problem” of Old Age

On July 30, 1965, Lyndon Johnson, the 57-year-old President of the United States, honored 81-year-old former president Harry Truman by traveling to Independence, Missouri, to sign into law a bill that would give America’s elders federally funded health insurance.



Johnson signs Medicare bill. (Source: Wikipedia)

The passage of Medicare—a policy that Truman had reluctantly supported in the early 1950s—became Johnson’s political windfall. Johnson could now claim to have solved the “problem of old age.”

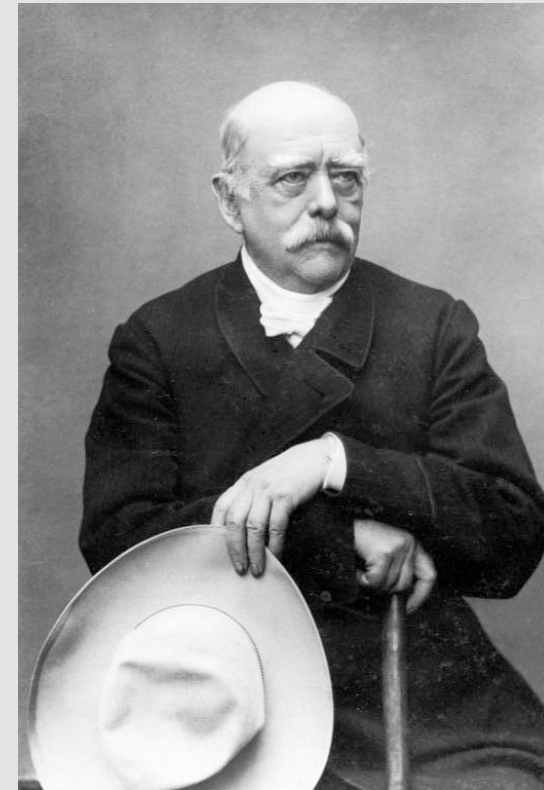
The problem of old age started to attract public and political attention in the 1930s, when industrialization, urbanization, mass unemployment, and the Depression combined to leave many of the aged without jobs or support from their extended families.

As a result, during this decade, the problem of old age was largely characterized as impoverishment due to unemployment.

At the same time, the elderly were a group whose numbers were on the rise. Advances in public health had transformed life expectancy in America: from 1860 to 1930 the percentage of the American population over 65 had more than doubled. In ten years, from 1930 to 1940, there would be an additional 36.5 percent increase in this group, at a time when the entire population increased by only 7.2 percent.

Within the decade, spokesmen across the United States pressed the government to enact more pension programs. By the time Franklin Roosevelt became president, some thirty states delivered pension programs, albeit unevenly; only 3% of those deemed aged were receiving state funds in 1935.

The fight for pensions, or just cash, continued through the thirties in the popular [Townsend Old Age Revolving Pension Plan](#), Upton



Otto von Bismarck, chancellor of Germany from 1871 to 1890, initiated the first social insurance plan. (Source: Wikipedia)

Sinclair’s [End Poverty in California \(EPIC\)](#) plan, and Robert Noble’s [Ham & Eggs movement](#). All of these groups argued that the government should give a stipend to those deemed too old to work, whether 50, 60, or 65.

At its base, the philosophy of social insurance, or the social welfare tradition, maintained that governments should provide some measure of economic security. First enacted in 1889 by Otto Von Bismarck in Germany, social

insurance programs spread quickly across Europe.

American yearnings for such programs emerged with Theodore Roosevelt in 1912 and reached an apex during the Great Depression. In 1927, Abraham Epstein, a weathered state pension advocate, announced: “It’s time for a group that will do nothing but work to create old-age pensions.”

Mindful of the sullied public reputation of the word pension, Epstein titled his organization the American Association for Old

Age Security, later to be renamed the American Association for Social Security.

Epstein's rechristening worked. Quickly backed by such activist luminaries as Jane Addams and Florence Kelley, Epstein and his intellectual mentor, I.M. Rubinow, helped create a federal social security program. Ad campaigns exposing the horrors of the poorhouse bolstered the numbers of Epstein's supporters and focused further attention on the plight of unemployed elders.

By 1934, Epstein had succeeded in nurturing American empathy for the aged if not for his particular pension plan. In his proposal, the unemployed would receive money from a central pool funded by employee and employer alike. Conservatives skewered him and his supporters for advocating a redistributive scheme that reeked of communism.

In 1934, President Roosevelt issued an executive order to create the Committee on Economic Security with the goal of studying and solving the problem of economic insecurity in America. Epstein along with other social insurance experts advocating redistributive programs were strategically left out of almost every planning meeting.

Still, asserts historian Michael Katz, through Epstein and his cronies, "old-age security broke loose from its earlier association with poor-relief; forged ahead of every other kind of social



President Roosevelt signs the Social Security Act. (Source: Wikimedia)

insurance; and earned its privileged place as the only irreversible and untouchable welfare program in American history.”

On August 14th, 1935, President Roosevelt signed into law the monumental Social Security Act. The Act failed, Epstein protested, to redistribute wealth or actually alleviate economic insecurity for the most needy (since it offered relatively equivalent support to all older Americans). Nonetheless, it fundamentally changed the relationship between the government and its older citizens, setting apart the elderly as a distinct social and political

group that the government now took responsibility to assist and protect.

How 65 came to be “Old”

In 1935, the aged—or “oldsters,” as they were often called—were not exclusively defined chronologically. In fact, numerous doctors and scientists working in the 1930s pushed for a biological, rather than chronological definition of old age, claiming that physical markers and not simply the passing of years best defined old age.

They looked at the correlations between poverty, chronic disease, family history, and psychology to determine that the onset of senescence or old age was relative rather than uniform. These early gerontologists believed that employment and usefulness would stave off the markers of old age. Still, they had little control over industry policies that pushed workers out of jobs at the early age of 40. Some factories even retired women at 35.

The Committee on Economic Security understood both the harsh economic reality of forced retirement and the absolute social necessity to keep the young employed. The Committee settled on 65 as the marker of old age for its economic feasibility.

At the time, life expectancy at birth was 58. Taking their cues from existing state pension systems and the recently passed Railroad Retirement System, the committee recognized that 65 was a

number that could be sustainably financed through payroll taxation.

As historian Andrew Achenbaum reports, “As a result of the Social Security Act, old age—defined for administrative purposes as the attainment of age sixty-five—for the first time became a criterion for participation in several important programs at the federal level.”

From 1935 on, the U.S. federal government committed itself to the well-being of its senior citizens, who hereby would be defined as individuals over 65 years of age.

Wards of a Biomedical State

By the 1940s, the pension movement of the 1920s and 1930s had largely collapsed. Having achieved the Social Security Act, popular participation in pension-oriented lobbying groups diminished and political organizers focused attention elsewhere. Then, just as the pension movement slowed to a halt, the field of biomedical research exploded.

Science and war proved productive partners. The utilization of penicillin, skin grafts, and blood transfusions, writes historian Victoria Harden, “enhanced public belief that scientific research offered an endless frontier on which a happier, healthier life could be built.”



Oscar Ewing, who administered the Federal Security Administration under President Truman, navigated the political intricacies of creating a national health insurance program for select groups of people. (Source: Truman Library)

After the War, Congress went to work, sponsoring a spate of legislation to update American health care. According to Medicare expert Theodore Marmor, federal spending after WWII focused on three areas, “medical research, hospital construction, and federal health insurance programs.”

While scientists and doctors in the 1930s sought to ameliorate the social and physical stigmas of old age by discovering the parameters of what healthy aging could look

like, scientists and doctors of the forties and fifties came to believe that chronic diseases could be reversed in laboratories and cured in hospitals. The federal government agreed.

While the federal government got into the bio-medical business, older Americans, reeling from the unintended consequences of the Social Security Act—such as forced retirement whether a person could or wanted to work longer—joined together in

community halls and religious institutions to figure out where they stood in the post-war order.

“By setting an arbitrary retirement age,” the co-authors of The Senior Rights Movement argue, “the Social Security Act had inadvertently circumscribed the problems of persons over 65 as a distinct set of social problems. As such it provided a coherent basis for their solidarity and common identity and gave a newfound sense of legitimacy to elderly demands for social justice.”

In 1950, this nascent group of politically conscious elderly collided with an energized bio-medical industry and fair-deal policy wonks at the [Federal Security Agency](#) (FSA)’s National Conference on Aging.

Old Age Insurance and the First National Conference on Aging

In 1949 Oscar Ewing had problems. Since taking over the Federal Security Agency (FSA) in 1947 he had become a maligned figure in Washington. Branded by the American Medical Association as “Mr. Socialized Medicine,” Ewing opened his political life with a more modest nickname, Jack.

The straight-laced technocrat started his career in high school as the secretary of the Decatur County, Indiana, Democratic Committee, and pursued his political ambition at Indiana

University, becoming first president of his junior and senior classes and then valedictorian. From there, he went to Harvard Law School, edited the Harvard Law Review, and eventually started his own law firm in Indianapolis. After enlisting as a first lieutenant in World War I, Ewing returned as a captain, primed to take on high profile legal cases and enter national politics.

In 1944, he publicly supported Truman's run for the vice presidency, thereby securing a position as one of Truman's key political strategists. When Truman became President, he urged Ewing to head the FSA and help him pass national health insurance.

In 1942, *Fortune* magazine announced the American public's [support for national health insurance](#) as a whopping 74%. It seemed just a matter of time until the United States followed in Europe's path and offered every citizen the right of health care.

In 1944, President Roosevelt called for an "Economic Bill of Rights" proclaiming that every American had the "right to adequate medical care . . ." With Roosevelt's untimely death, Harry Truman took up the mantle and tried unsuccessfully to push national health insurance through the clenched jaws of the Republican Congress.

The President's tepid approval ratings, the postwar Congress's conservative bent, and the powerful alliance of anti-national health insurance special interest groups, spearheaded by the

American Medical Association (AMA), combined to thwart health insurance legislation from 1945 to 1947.

Ewing became the much-maligned face of Truman's thwarted National Health Insurance program. In a profile titled "Ewing: Deeply Sincere Man or Designing Politician?" *The Sun* attempted to get a handle on the vitriol. Was Oscar Ewing, "a quiet, mild-mannered, deeply sincere man who left a lucrative law career to serve his country," or a "skillful, designing, power-thirsty politician bent on fastening the 'welfare state' tighter and tighter upon the American people..."? Ewing, *The Sun* would agree, desperately needed a break.

At a cocktail party in 1949, the famed publisher William Randolph Hearst Jr. gave him one. Hearst, Ewing recalls, leaned in and said, "I'm very much in favor of your idea for national health insurance. But the thing that worries me about it is that if anything went wrong, if it didn't work, the upheaval that would result would be catastrophic because we would have a completely different system of medicine....Isn't there some small segment of the problem that you could pick out, apply your health insurance program to it, use it as a pilot plan operation?"

Ewing liked the idea, but which segment of the population could quiet the conservative opposition?

Louis Pink, a former client and insurance expert with New York Blue Cross/Blue Shield, suggested covering the elderly, a high-

risk group that insurance companies avoided. Ewing understood the value of Pink's suggestion. The government, he thought, could start slowly, insuring those over 65 and then expanding to other groups.

National health insurance, like the history of voting, would be incremental, bestowed to one group at a time. The brains behind Truman's social security legislation, Arthur Altmeyer, Wilbur Cohen, and Isadore Falk, were less persuaded. In fact, Ewing recalled, they "were completely wedded to national health insurance and didn't want to take less."

Then came the "oldsters."

In April 1949, the few existing elderly experts assembled at the FSA offices to discuss the mounting demographic problem of unemployed, impoverished, and discarded elders. The problem of old age, these experts claimed, was as much existential as it was physical.

Old age, explained Ollie Randall, one of the few known elder activists working at the time, "is a period of losses—loss of family, of friends, of job, of health, of income, and most important of all, of personal status." It doesn't begin at the same time for everyone but when it does, Randall explained, it is the loss of personal status or of social usefulness that elderly men and women described as the most crushing. "To feel useless or

unimportant," she argued, "is the most devastating experience a person can have."

To put the elderly back to work and salvage their dwindling reputation as employable and capable citizens, the FSA, with Randall's and others' urging, decided to host a conference on old age.

The first National Conference on Aging held in 1950 achieved mixed results. Although the Conference established the elderly and their hardships as national issues, replete with federal committees and popular journals, the content goals stated by the conference participants came to be overshadowed.

The lasting results of the First National Conference on Aging would be the demonstration of the growing power of America's senior citizens and the marriage of this power to Oscar Ewing's old-age hospital insurance program.

The Aged Matter

"You should live so long," chirped N. S. Haseltine, in a snarky *Washington Post* piece. "And because you will," he continued, "national experts convened here to talk over what should be done for you."

The day was August 13, 1950; the place was Washington, D.C., where over 5,000 "out of towners" descended on the sweltering city to attend a conference-packed weekend. In addition to the

meagerly populated National Conference on Aging, the Army and Navy Union of the U.S.A., the International Typographic Union, the Croatian Fraternal Union of America, and the Pi Phi Fraternity competed for broadcast minutes.

With only 816 people in attendance, the National Conference on Aging, at the stately Shoreham Hotel, still managed to capture the country's attention. Newspapers from California to New York reported on the massive implications of this recently discovered social problem.

For one thing, the guests were colorful. Dr. Francis E. Townsend arrived prepared to push his latest pension plan, \$150 a month for everyone over sixty.

Then came the “Texas cyclone,” an avuncular figure with “the longest name, longest beard, and longest tongue of Texas,” Arlon Barton Cyclone Davis, to advocate for pay-as-you-go pensions and demonstrate his sixty-nine years of impeccable health.

Representatives from General Electric, Eastman Kodak, the Motion Picture Association of America, life insurance companies, hospitals, and social welfare agencies hunkered down for back-to-back sessions on the indignities faced by America's elders.

For three days, interested parties gathered to confer on the “problem of old age.” Despite a wide range of professional training, and active debate, the participants settled on surprisingly similar conclusions.

Whether they attended the meeting on “Employability and Rehabilitation” or “Living Arrangements,” these new experts claimed that the hardships of old age could be discussed primarily through the language of dependency. The problem of old age, they concluded, was not actually a problem of passing birthdays. Rather, it was part of an intergenerational plight of physical and financial dependence.

The working group on health, the largest at the Conference, came to be one of the most vocal adversaries of age-based policies. In their written summary, the group asserted that the bulk of medical spending must be used for early intervention. Rather than attend to disease at the end of life, they argued that health-care professionals should focus on preparing middle-aged individuals for years of optimal health in their homes.

The emphasis should remain on creating the “well person” rather than coping with the sick one. For this reason, isolating the elderly from other age groups in terms of health care did not



Social Security card of Clinton Lester Rooker (deceased), issued in 1943. (Source: Wikipedia)

make sense. The group concluded, “health programs for the aging should be developed within the framework of our total health services. Further fragmentation would be wasteful and would perpetuate an undesirable social concept.”

Ewing took the Conference’s conclusions seriously. He realized the problems of old age were complex, intergenerational, personal, and societal.

Still, he couldn’t help but view the throngs of politically primed elders through his own policy prism. He saw their voting potential and realized that they would be a new and powerful constituency.

At the start of his duel with the AMA over national health insurance in the late 1940s, Ewing wanted to organize an equally powerful American Patients Association. After August 1950, he realized that the elderly could be that association. The numbers were on his side. “You had 19 million people over 65, and you had 185,000 doctors,” he exclaimed.

After the conference, Cohen and Falk came to Ewing’s side, completing a draft of the legislation by 1951. The duo found a way to make old-age insurance palatable to a resistant Congress.

First, they limited the insurance to hospital expenses, thus following the established path of federal support for hospital growth. Second, they decided to integrate hospital insurance into the newly expanded and nationally respected Old Age and Survivors Insurance program.

By restricting health-care benefits to Social Security recipients over 65 (and their spouses), they avoided a means test, as well as charges that they were giving benefits to the undeserving. In this case, the elderly would have prepaid for their health insurance through taxes over the course of their lives.

To persuade Congress, they began compiling data on the connection between old age and illness as well as deficits in insurance coverage for those over 65. Deployed to offer a simple causal relationship between old age and illness and then illness and poverty, the data ignored the complicated and multi-directional relationship between poverty, unemployment, depression, and disease.

As Wilbur Cohen would later write, “anyway, it’s all been very Hegelian. The state and federal proposals for compulsory health insurance were the thesis, the AMA’s violent opposition was the antithesis, and Medicare is the synthesis.”

In April of 1952, Senators James Murray (D-MT) and Hubert Humphrey (D-MN) and Representatives John Dingell (D-MI) and Emanuel Celler (D-NY) introduced Ewing’s old age hospital insurance bill in Congress. Truman gave Ewing permission to move forward but never truly put his weight behind the program. Neither the Senate nor the House had hearings on the bill. “They couldn’t even get hearings on Medicare, when I had it introduced,” lamented Ewing.

In the fall of 1953, the situation looked bleak. The Truman administration had failed to implement national health insurance and failed to implement restricted hospital insurance. With the end of the Truman administration, remarked Ewing, “also came the end of any real pressures for national health insurance.”

What did not end, remarkably, was the pressure for Medicare.

The Problem of Old Age Becomes the Problem of Illness

As the cost of medical care continued to rise, so did the organizational capacity of the elderly. Local old age groups, religious societies and Golden Ring Clubs began to agitate for help and a new lobbying group, The National Council of Senior Citizens, pushed Congress to enact Ewing’s hospital insurance program.

The definitions and solutions to the problem of old age voiced at the First National Conference on Aging gave way to the language of political expediency.

The problem was no longer dependency, but poverty caused by health failure and rising health-care costs. The AMA now had to battle with an organized front of aged activists, who argued that America’s deserving grandfathers and grandmothers were undeservingly poor because they were ill.

Between 1950 and 1965, the contours of American politics around health policy transformed. The power structures shifted in Congress, interest groups lost and attained influence, and a new American solution captured the hearts of the country.

From 1957 until 1964, bill after ill-fated bill bounced through Congress, until finally, on July 30th, 1965, the conclusion of decades of compromise actually stuck. An amendment to the Social Security Act providing hospital and medical insurance for Americans over 65 years of age became law.

But more than just policy changed.

By the 1960s, the conversation around the problems of old age grew ever more anemic; chronological age came to be an accepted way of dividing the old from the young, and aging became a disease to be solved.

Old age is not a static concept. It is defined, like so many other animating categories, by social assumptions, political necessities, and biological mechanisms.

In the United States, old age has come to mean something chronologically specific with very concrete policy benefits. Sixty-five continues to mark a person as “old.” Yet, this arbitrary number makes increasingly less sense in an age where life expectancy at birth has jumped to a man’s late 70s and a woman’s early 80s.

As 78 million baby boomers turn 65, live decades with degenerative diseases, and prepare for a new kind of retirement, the definitions and lived experiences of old age are undergoing a fundamental transformation.

How policy should follow these changes is a debate worth having. ♦

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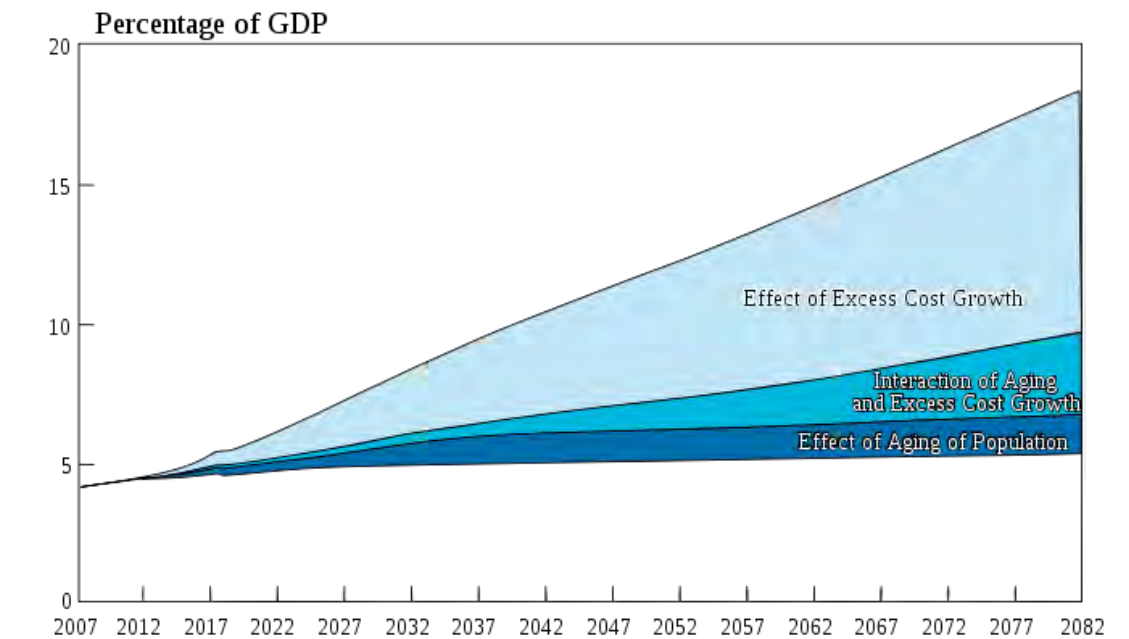
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Maps and Charts

Medicare and Medicaid spending

Projected Federal Spending on Medicare and Medicaid (% GDP)

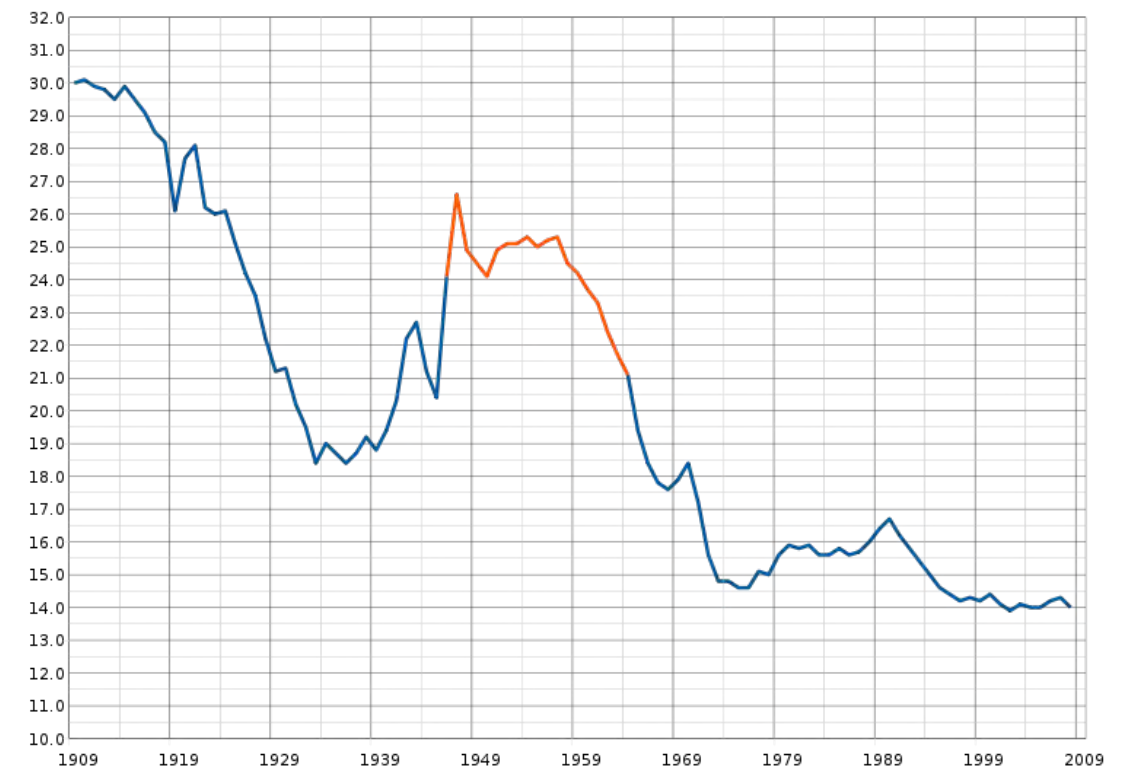


- It is the of spending per individual that will have the most impact rather than the / demographics of an aging population. *ratequantity*
- "Excess cost growth" refers to the extent to which the increase in health care spending for an average individual exceeds the growth in per capita GDP.
- "Interaction..." refers to the effects of excess cost growth and the aging of the population, which result in greater growth in spending than would result from either factor separately.
- "Aging of population" refers to demographic shifts, such as increasing average population age and life expectancy.

Source: Congressional Budget Office

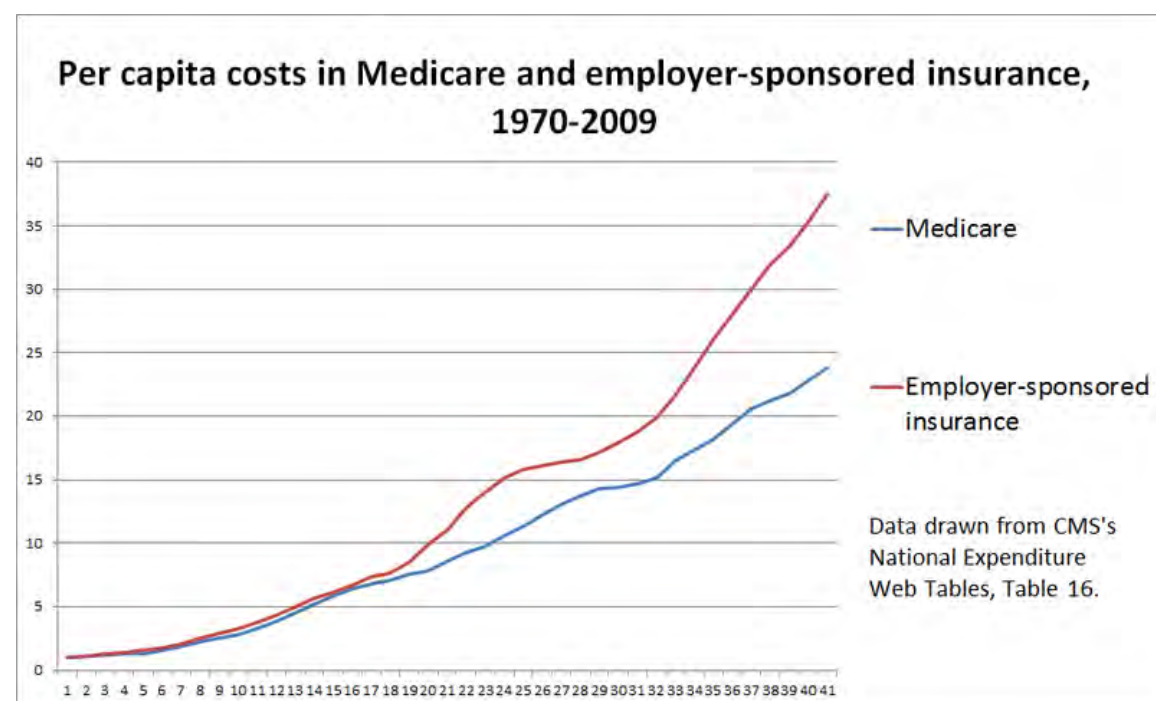
(Source: Creative Commons License (Lokal Profil))

Baby Boom



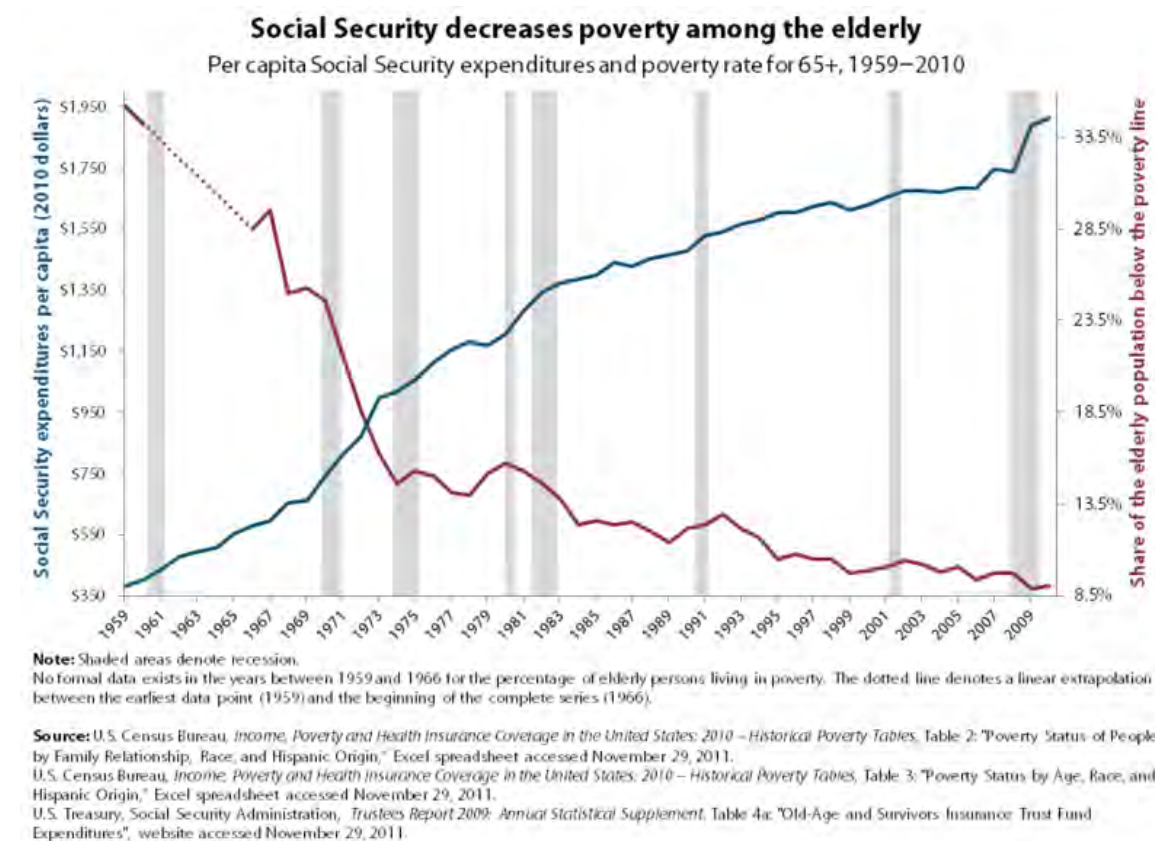
Births per thousand people in the United States from 1909-2008. The red segment is known as the Baby Boomer period.

Medicare and private insurance



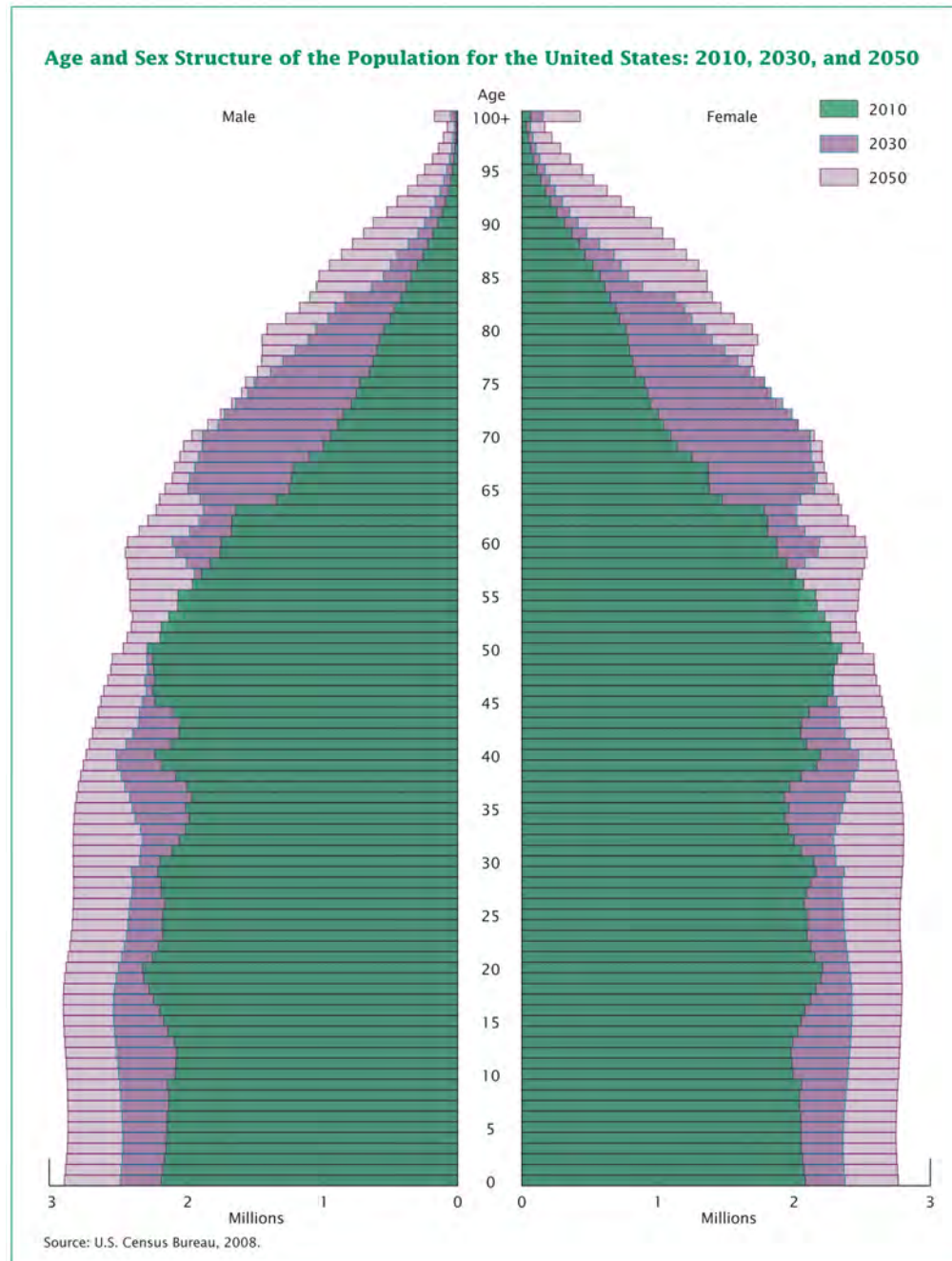
For comparison, per-capita costs in 1970 are set to 1. The red line represents private insurance cost growth and the blue line represents cost growth in Medicare.

Social Security and poverty among the elderly



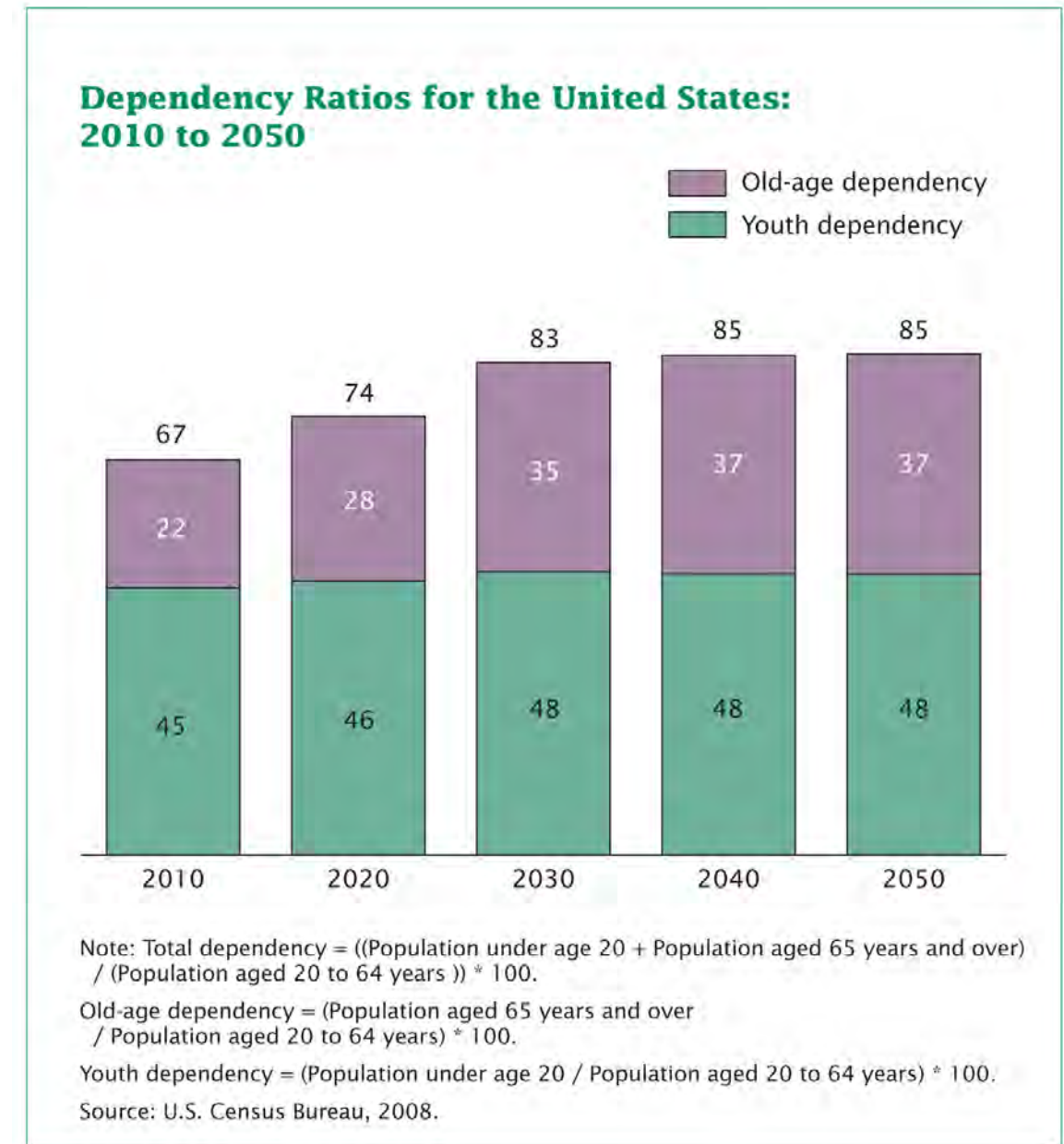
The blue line indicates per capita Social Security expenditure (in 2010 dollars), while the red line indicates the percentage of the population aged 65 or older with an income at or below the poverty line.

Projected U.S. populations by age and sex



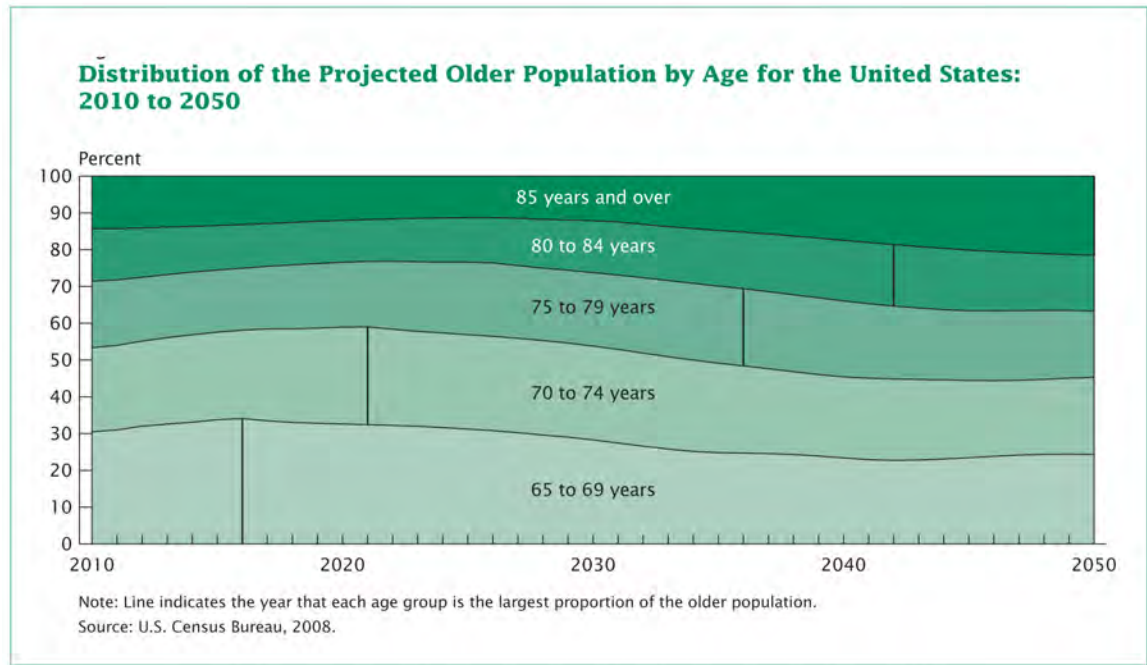
The age structure of the overall population is projected to change greatly over the next four decades. Much of this change is driven by the aging baby boomers and trends in immigration. (Source: US Census Bureau)

Dependency in the United States over time



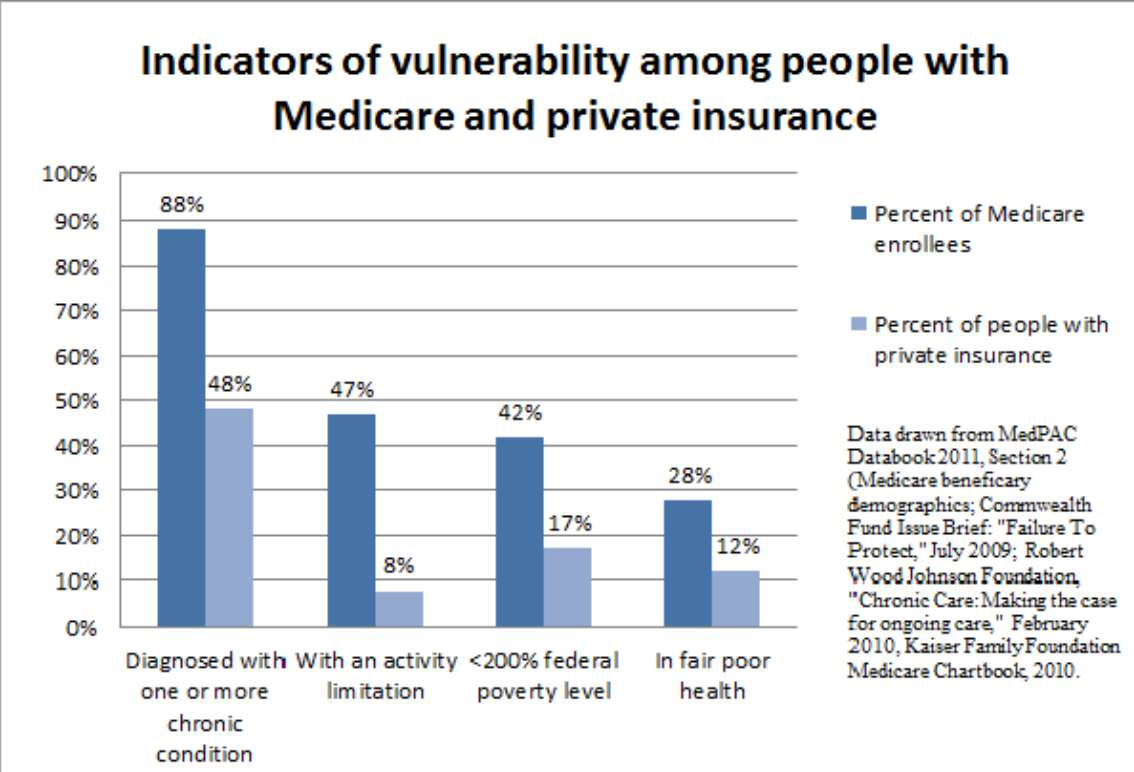
One way to examine the changing age structure of the population is to look at dependency ratios, which indicate the potential burden on those in the working-age population. The total dependency ratio is projected to increase from 67 to 85 between 2010 and 2050, as more baby boomers move into the 65 and older category. (Source: US Census Bureau)

Changing makeup of the older population



The age composition within the older ages is projected to change between 2010 and 2050. As the baby boomers move into the older age groups, beginning in 2011, the proportion aged 65–74 is projected to increase. (Source: US Census Bureau)

Medicare and private insurance



Indicators of vulnerability among people with Medicare and private insurance (Source: Wikimedia)

Additional Images

Federal Security Agency



Logo of the Federal Security Agency, established in 1939, which administered Social Security pensions. (Source: Wikipedia)

Johnson signs Medicare bill



President Lyndon Johnson signs the Medicare bill into law while former President Harry S. Truman looks on. (Source: LBJ Library)

Harry S. Truman



The official White House portrait of former President Harry S. Truman. (Source: Public Domain)

President Lyndon B. Johnson



(Source: White House Press Office)

Nursing home



An old man in a Norwegian nursing home in 2012. (Source: Thomas Bjørkan)

From Commonplace to Controversial: The Different Histories of Abortion in Europe and the United States

EDITOR'S NOTE:

As the 40th anniversary of Roe v. Wade, the US Supreme Court case legalizing abortion, approaches, many Americans assume that legalized abortion is only as old as that ruling. In fact, as Anna Peterson discusses this month, abortion had only been made illegal at the turn of the 20th century. The different histories of abortion in Europe and the United States reveal much about the current state of American debates—so prominent in the 2012 elections campaigns—over abortion and women's health.

Published November 2012.

**Update: for our podcast, [we caught up with Anna Peterson](#) during her research in Oslo, Norway.*

By **ANNA M. PETERSON**

Representative Todd Akin (R-Missouri) caused a political firestorm this August when he told a television reporter that he opposes abortion in all circumstances because "legitimate rape" rarely leads to pregnancy. Republican Presidential candidate Mitt Romney quickly distanced his own pro-life views from Akin's, and President Barack Obama reiterated his commitment to not make "health care decisions on behalf of women."

Politicians frequently use their stances on abortion to elicit electoral support, and this election year is no different. Abortion is again a major point of divisive debate



Planned Parenthood supporters demonstrate in St. Paul, Minnesota. Over the last hundred years abortion practices and policies have gone in very different directions in Western Europe and the United States, where abortion rights are far more politically polarizing. (Source: Wikimedia Commons)

in presidential and congressional races. And state legislative efforts to restrict abortion access are currently under way in twelve states.

The 2012 Republican Party platform calls for a constitutional amendment to outlaw abortions but makes no explicit mention of whether exceptions would be made for cases of rape and incest. Romney has indicated in several interviews that he supports the repeal of *Roe v. Wade*.

Across the Atlantic, the abortion issue seldom garners such rapt attention. As members of national health insurance plans, most Western European women enjoy access to elective abortion services—also called abortion on demand. While there are significant regional differences in abortion policies and political discourse, abortion is rarely a point of contention during elections.

Abortion practices, debates, and laws initially developed quite similarly in Europe and the U.S., but at the turn of the twentieth century, cultural attitudes began to diverge. While Europeans continued to believe that abortion was a desperate act of unfortunate women, some powerful Americans began to argue that abortion was an immoral act of sinful women. These divergent perceptions of abortion and the women who have them still affect abortion debates and legislation on both sides of the Atlantic.

Historically, abortion policy has revolved around three main players: government officials, women, and medical practitioners.

The historical record also shows that, for thousands of years, women have limited the number of the children they bore through pregnancy prevention, abortion, and infanticide. Abortion was only recently outlawed, and then only for a period of roughly 100 years. When women did not have legal access to abortion services they still found ways (albeit often unsafe ways) to end unwanted pregnancies.

Abortion at the Turn of the Nineteenth Century



Drawing from a 13th-century manuscript depicting a pregnant woman in repose, while another holds some pennyroyal in one hand and prepares a concoction using a mortar and pestle with the other. Pennyroyal was historically used as an herbal abortifacient. (Source: Wikipedia)

For most of Western history, aborting an early pregnancy was considered a private matter controlled by women and was not a crime.

At the turn of the nineteenth century most people in Western Europe and the United States did not believe human life was present until a pregnant woman felt the first fetal movements, a phenomenon referred to as *quickening*.

Before quickening, women thought about pregnancy in terms of a lack of something (menstruation) rather than the presence of something (a fetus). In an effort to restore their monthly periods, they took herbal abortifacients such as savin, pennyroyal, and ergot, which they often found in their own gardens.

They did not consider such practices abortion. In fact, the word abortion was confined to miscarriages that occurred after quickening. Medical doctors had trouble even verifying a pregnancy until the woman reported that quickening had occurred.

Religious authorities such as the Roman Catholic Church also supported the idea that the soul was not present until a later stage of pregnancy. Although not official church doctrine, this belief was based on St. Augustine's fifth-century interpretation of Aristotle, that the soul enters the body only after the body is fully formed—some 40 days after conception for males and 80 days for females.



St. Augustine, who theorized in the fifth century that the soul enters the body only after the body is fully formed. (Source: Wikimedia Commons)

Laws reflected this distinction between the quick and the nonquick fetus. In the United States and England, abortion was legal in the early 1800s as long as it was performed prior to quickening. During later stages of pregnancy, abortion was a crime, but distinct from other forms of murder and punished less harshly.

It was very difficult to prove that a woman accused of abortion had ever felt the fetus move. Even in infanticide cases, the court often had to rely on the accused woman's testimony to know whether the child had died in utero or had been born full-term and alive.

When Margaret Rauch was put on trial in Pennsylvania in 1772 for a suspected infanticide, she testified that the baby "used to move before, but did not move after [she fell during the pregnancy]." Rauch was acquitted.

At this time, the pregnant woman had significant power in defining pregnancy and the law was based on her bodily experience.

By the mid-1800s women from all walks of life aborted pregnancies, and abortion services had grown more widely available. As the professionalization and commercialization of medicine began, more abortion options became available to the women who could afford to pay for them.



1893 newspaper advertisement for cotton root, an abortifacient, termed a "female regulator." (Source: Public Domain)

Poor women—especially unmarried ones—continued to use herbs to abort unwanted pregnancies, and could purchase abortifacients from pharmacists through the mail. If those drugs failed they could go to the growing number of practices that used medical instruments to induce abortions. Costing anywhere between \$5 and \$500, most women who could pay skilled professionals for such services were married members of the middle and upper classes.

The Road to Criminalization

In the late nineteenth century, American and European doctors, social reformers, clergy members, and politicians made abortion into a social, political, and religious issue. Women's experiences of quickening were discredited as unscientific and medical doctors became the recognized experts on pregnancy and fetal development.

Quickening lost credibility as a valid indication of fetal life when doctors lobbied state governments to change laws to reflect their new way of thinking. By 1900, Western European countries and the United States had outlawed abortion during all stages of pregnancy.

The U.S. and England, where quickening had carried the most legal weight, criminalized abortion during all stages of pregnancy by the late 1880s. British criminalization began with Lord Ellenborough's act of 1803 and was fully realized when Parliament passed the Offenses Against the Person Act in 1861.

Abortion was outlawed state-by-state in the U.S. between 1860 and 1880. Abortion was also considered a criminal act in most of Western Europe, with many of the laws originating in the 1810 Napoleonic legal code.

During the last half of the nineteenth century, social scientists began to publish statistics comparing birth rates among nations.



Ludwig Quessel, a German journalist who warned the "specter of a birth-strike" was haunting Europe at the turn of the 20th century. (Source: Wikipedia)

As nationalism and imperialism intensified tensions between European countries, these numbers took on new significance. Statesmen feared that if women chose to have fewer children then this would decrease their nation's ability to compete in modernized warfare.

Anxiety racked French politicians when they learned France's birth rate had fallen nearly a third between 1870

and 1914, while its neighbor (and recent and future enemy) Germany's had barely changed at all. The idea that women needed to give birth to as many children as possible spread contagiously.

Ludwig Quessel captured the dire essence of this worry when he said: "A spectre is haunting Europe: the spectre of a birth-strike." In this climate, women's control of their fertility represented a threat to national interests.

Concerns arose in Europe and the U.S. not only over women's refusal to bear more children, but over *which* women were limiting their family size. The visible use of abortion by white, middle-

class women seemed to threaten the status of their male counterparts and "white" positions of power.

As Theodore Roosevelt put it in 1894, women of "good stock" who refused to have children were "race criminals."

The Criminalization of Abortion

Increased scrutiny of pregnancy and childbirth coincided with a push by medical doctors to increase their professional influence. Because of the variety of abortion methods available to women,



Depiction of doctors from an 1888 exposé in the Chicago Times. (Source: Public Domain)

trained physicians had little control over this area of what they considered medical science.

In the United States, the newly created American Medical Association (AMA) initiated an antiabortion campaign in 1857 as part of its efforts to professionalize and to restrict competition from homeopaths and midwives. They lobbied for the criminalization of abortion, capitalizing on fears that not enough white, native-born women were having children.



Pope Pius IX declared in 1869 that an embryo was a human being with a soul from the time of conception. (Source: Wikipedia)

Doctors claimed there was little difference between a quick and a nonquick fetus and that earlier and later stages of pregnancy were not distinct. In doing so, they redefined the meaning of abortion to include early stages of pregnancy.

AMA doctors discredited women's experiences of quickening as unscientific and emotional. Noted AMA physician and antiabortion advocate Dr.

Horatio Storer quipped in his 1868 book *Why Not?*: "Many women never quicken at all, though their children are born living."

American doctors joined forces with religious authorities to pass antiabortion laws. While doctors spearheaded the movement to discredit quickening and criminalize abortion, their ideas about fetal development also led to important changes in Roman Catholic Church doctrine.

Pope Pius IX declared in 1869 that an embryo was a human being with a soul from the time of conception. This declaration challenged existing beliefs that an ensouled, animated fetus was different from an inanimate one. Pius also stated that abortions performed at any stage of pregnancy warranted excommunication. In 1895, a papal decree condemned therapeutic (life-saving) abortions as well.

These changes inspired many Catholics to support the AMA's antiabortion campaign. Protestant churches, with their doctrinal emphasis on individual reason and responsibility, remained more open to abortion and more accepting of therapeutic abortion.

American and most European abortion laws included an exemption allowing doctors to perform abortions if a woman's life was in danger. These exemptions further solidified the alliance between the state and doctors, however, by allowing doctors to adjudicate the legality of abortions. Doctors took the lead in

having abortion criminalized, and the state, in turn, recognized them as the only legitimate providers of abortion services.

By 1900, then, abortion had been culturally and politically redefined as the taking of a human life—an immoral and illegal act. The shift in attitudes toward pregnancy and abortion that had been championed by doctors and church officials led politicians in most Western countries to enact antiabortion legislation.

What had once been considered a private matter minimally legislated by the state had become a public concern worthy of punishment. Women's bodily experiences were viewed with distrust and their efforts to control their fertility often deemed criminal.

"When Abortion was a Crime"

Abortion was illegal in Western Europe and the United States for much of the twentieth century. Women did not, however, stop having abortions.

Though the legal status of abortion had changed dramatically, the general public in both the United States and Europe still widely accepted the practice. Most women continued to see abortion as an acceptable method of ridding their bodies of unwanted pregnancies and restoring their menstrual cycles. They did not feel a moral obligation to carry the pregnancy to term until they felt the fetus move

Many medical practitioners actually continued to perform illegal abortions, often charging substantial amounts of money. Doctors, midwives, and others offered abortion services in walk-up offices, clinics, and even hospitals.

Women quietly informed one another who could be counted on to help them. While midwives and homeopaths faced the greatest risk of imprisonment for performing abortions, doctors were



Soviet poster circa 1925, warning against midwives performing abortions. Translation: "Miscarriages induced by either trained or self-taught midwives not only maim the woman, they also often lead to death." (Source: Public Domain)



Birth control advocate Margaret Sanger was prosecuted under the Comstock Act. (Source: Wikipedia)

largely able to avoid prosecution by claiming they were merely performing the therapeutic abortions allowed by law.

Abortion businesses boomed, mainly because most women stopped using herbs to induce abortions and increasingly sought surgical abortions to terminate unwanted pregnancies.

Medical abortions, especially those performed with surgical tools, had garnered a reputation as a more effective and safer means of inducing miscarriage. Practitioners most often used dilation and

curettage—a procedure in which a woman's cervix is dilated and a spoon-shaped instrument is inserted into the uterus to scrape out the fetal and placental tissue—to terminate pregnancies. As a result, abortion in the twentieth century ceased to be a secret kept among women and became a publicly available service.

In the United States, the AMA reacted to the continued widespread acceptance, and use, of abortion in the early twentieth century with a renewal of their antiabortion campaign. Prominent AMA doctors were appalled that women still believed that having an abortion prior to quickening was a perfectly acceptable and moral act.

Dr. Storer's hope in 1868 that "Women in every rank and condition of life may be made sensible of the value of the fœtus, and of the high responsibility which rests upon its parents" had not been fulfilled. They blamed a lack of enforcement for the persistence of high rates of illegal abortion.

In order to convince the general public that abortion was wrong, some American doctors, along with moral crusaders like Anthony Comstock, waged a cultural campaign against abortion. The Comstock Act outlawed the circulation of "obscene" materials including contraceptives and information about contraceptives or abortion. Many birth control advocates, including Margaret Sanger, were prosecuted under the law for sending such materials through the mail.

The Parting of Ways

In the late nineteenth century, American attitudes toward abortion began to diverge from those in Europe. People in both Europe and the U.S. had long expressed sympathy for women who had abortions and many believed abortions helped unfortunate women in difficult situations.

American antiabortionists instead put forth an image of women who procured abortions as frivolous and promiscuous.

The AMA argued that abortion was a moral issue and insisted it was doctors' Christian duty to educate others about the immorality of abortion. Chairman of the AMA Section on Obstetrics, J. Milton Duff, described abortion in 1893 as "a pernicious crime against God and society." In 1915, Chicago circuit court Judge John P. McGoorty echoed these views, "A woman who would destroy life in that manner is not fit for decent society."

The idea that only disreputable women sought abortions gained less traction in Europe, where the Social Democratic Party (SDP) was gaining popular support.

The growth of a party focused on socialist goals lent credibility to the notion that women who had abortions were desperate and destitute. So when it became evident that criminalization had not stopped abortion, European Social Democrats and women's

rights activists argued that the best way to solve the abortion problem was to resolve socioeconomic issues.

Meanwhile, the global economic crisis of the 1930s led more married women than ever before to demand (illegal) abortion services.

The Seeds of Abortion Law Reform

The Great Depression led to a sharp increase in both legal and illegal abortion rates, further widening the divide between European and American attitudes.

Some doctors stretched their definitions of therapeutic abortion to include social criteria, but many did not. Desperation led many women to accept unsafe abortion methods.

Dr. Frederick J. Taussig and the Kinsey Institute for Sex Research estimated that in the United States alone 17,000 women died each year from abortion-related complications during the 1930s. These deaths became visible evidence of the consequences of illegal abortions and created an opportunity for public debate on abortion reform.

European political efforts to legalize abortion in the 1930s drew upon the already prevailing idea that women were driven to abortion by poverty and desperation. Birth control advocates often led these reform movements and used anecdotal evidence to emphasize women's desperation.

Ordinary women like Astrid Knudsen, a poor Norwegian woman, beseeched birth control advocates to help her end her pregnancy as "our situation is such that we cannot manage the two children we already have ... and to bring more children into this horrible world [would be] impossible."

As the SDP achieved more political success in this period, especially in Northwestern Europe, governments were increasingly persuaded by these heart-wrenching stories. Many European countries subsequently expanded the therapeutic conditions for legal abortions, but abortions performed at a woman's request remained illegal.

In the United States, birth control became more widely accepted for married couples in the 1930s, but no popular movement to reform abortion laws emerged in the interwar years due in part to American fears of Soviet communism. While the Soviets had been the first in the world to legalize abortion on demand in 1920, Stalin recriminalized abortion in 1936 to stimulate population growth.

Still, Americans continued to link abortion with Soviet socialism throughout the 1930s, hindering public discussion of decriminalization.

So, while the dramatic increase in abortion-related deaths during the 1930s had inspired decriminalization debates in Europe,

Americans responded by intensifying enforcement. Police and prosecutors began to arrest and prosecute abortion providers.

The police also stepped up their interrogations of hospitalized women who were dying from abortion-related complications, sometimes under threat of withholding access to medical treatment.

As a result, hospitals defensively set up committees to legitimate medical reasons for abortions. These efforts served to heighten the focus on the criminality of abortion and the women who sought abortion services. This, coupled with the lack of an abortion reform movement, served to keep abortion a closeted issue in the U.S.

The (Re)Legalization of Abortion

The severe repression of abortion in the United States during the 1930s and 1940s created a discriminatory system with deadly results. Women and physicians who had seen the results of "back alley" abortions grew increasingly frustrated.

Abortion had always carried a high risk. Over time, many women had died from home remedies like ingesting large doses of abortifacients, being kicked in the abdomen, throwing oneself down a flight of stairs, or having unskilled surgical procedures. But by the 1930s, deaths and complications from abortions

sought outside the home rendered these dangers public and seemingly epidemic.

When large numbers of women were hospitalized with abortion-related complications, people couldn't help but witness the tragic results of criminalization.

As a result, women and some reform-minded physicians formed abortion reform movements in the 1950s and 1960s that would eventually succeed in legalizing abortion in the United States and stimulate the repeal of abortion laws around the world.

Medical professionals joined forces with lawyers to expand the conditions under which women could legally procure abortions. A few highly publicized abortion cases in the 1960s captured public attention.

When Sherri Finkbine found out her sleeping pills contained thalidomide—a drug that causes birth defects—she scheduled an abortion at an Arizona hospital. After she went public with her story to warn other women about the dangers of thalidomide, the hospital refused to treat her because they were worried about bad publicity. She eventually had to go to Sweden to obtain an abortion.

The public focus on women's abortion needs in the 1960s went hand-in-hand with the emergence of the second-wave feminist movement. Feminists in Europe and the United States began to mobilize around the abortion issue. In Europe, where reform

movements had been present since the 1930s, feminists shifted the focus from reform to repeal.

American and European feminists wanted women to be able to freely choose whether to have an abortion instead of having to rely on a doctor's interpretation of legitimate reasons. To these feminists the criminal status of abortion represented men's subordination of women and the medical establishment's control of women's bodies. They claimed that the repeal of all antiabortion laws was a cornerstone of women's liberation.

Feminists in the U.S. and Europe employed different strategies that had the most resonance with existing cultural beliefs.

American feminists often based their arguments on abstract principles of individual rights. American feminists never directly challenged the belief that women obtained abortions frivolously. Instead they emphasized women's right to control their bodies without state interference.

Many European feminists framed their demands for legalized abortion in terms of public health and humanitarianism. They reasoned that until the state ensured that all women could bear children without suffering economic or social consequences, women should have access to legal abortion services.

They drew upon the established belief that most women only had abortions out of legitimate need. Feminists argued that these self-identified welfare states were obliged to protect women,



especially poor women, from the burdens of unwanted pregnancy.

The (re)legalization of abortion that occurred in the 1960s and 1970s was informed by the ideas put forward by feminists and physicians.

In 1967, Britain significantly expanded the conditions for legal abortion. The Abortion Act stated that abortions were legal as long as two medical professionals agreed that pregnancy endangered the life, mental or physical health of the woman or her children, and in cases of fetal deformity and handicap. While

this law did not completely decriminalize abortion it represented an important step toward the legalization of abortion in Western Europe and the United States.

The American legalization of abortion stemmed from two Supreme Court cases. In 1973 the Supreme Court ruled in *Roe v. Wade* and *Doe v. Bolton* that the nineteenth-century antiabortion laws were unconstitutional violations of women's rights and doctors' rights.

The *Roe v. Wade* decision found that "a woman's decision whether or not to terminate her pregnancy" was constitutionally protected under the right to privacy. This ruling also found that medical doctors had the right to treat patients without undue interference.

In *Doe v. Bolton* the Supreme Court declared that hospital committees set up to legitimate therapeutic abortions were unconstitutional. They determined that these restrictions on abortion infringed on a woman's right to health care and a physician's right to practice medicine.

Neither *Roe v. Wade* nor *Doe v. Bolton* gave women the unconditional right to abort. Instead these decisions built on a fairly new idea that fetal development could be divided into trimesters. A woman's constitutional right to terminate her pregnancy was only protected during the first trimester. This legal

recognition of trimesters harkened back to when quickening was a legal marker of fetal viability.

But the Supreme Court did not deem later-stage abortion criminal. Instead individual states *could*—but did not have to—regulate abortions during the second and third trimesters of a woman's pregnancy as long as such laws did not interfere with maternal health.

Demands for abortion reform gained ground in nearly all Western countries in the 1960s and 1970s. By the late 1980s, abortion was legal in most Western European countries, New Zealand, Australia, and [Canada](#).

In general, Protestant countries repealed their abortion laws earlier than predominantly Catholic countries. Ireland is currently the only Western European country to ban abortions in all cases.

Abortion in Europe and the U.S. Today

Following the legalization of abortion, a backlash crystallized on both sides of the Atlantic.

The Catholic Church, evangelical Protestant groups, and the New Right joined forces in the 1980s and 1990s to form antiabortion movements. This intense minority opposition to the legalization of abortion has been able to achieve some success in the United States. In comparison, the size and influence of antiabortion protests in Europe have been negligible.



Demonstrators hold signs at the 2009 March for Life in Washington, D.C. (Source: photo by John Stephen Dwyer)

The American movement mobilized around *Roe v. Wade*. The Court's finding discredited the belief that human life began at conception and undermined the idea that mothers should put their children's needs ahead of their own.

Since the 1970s, antiabortion activists have worked to create a discourse about abortion that portrays the fetus as innocent and the woman as a murderer. They have frequently quoted Mother Theresa as saying, "By abortion the Mother does not learn to love, but kills her own child to solve her problems." This conjures

the image of a self-indulgent woman who rejects her natural calling as a mother and murders her own child.

While many of these ideas had been present in American antiabortion discourse since the late nineteenth century, the fetus has become important in a way that it never was before.

Antiabortionists often refer to the fetus as a baby and emphasize its human characteristics. They have been particularly good at using images to try and get their message across to the American public.

"Prolife Across America" billboards on nearly every interstate include a color photo of what this group describes as a "winsome baby" who reveals a fact about fetal development such as, "My heart started beating 24 days after conception."

Antiabortionists also use enlarged pictures of aborted fetuses to argue that abortion is the murder of a human being. These are often pasted on the sides of trucks that drive through university campuses and in shopping malls.

The aim of these campaigns has been to overturn *Roe v. Wade*. They have not succeeded but have chipped away at the full impact of the law.

The 1977 Hyde Amendment stipulated funding restrictions, waiting periods, parental consent clauses, and counseling requirements. Antiabortion activists have also tried to prevent

abortions by picketing clinics, harassing doctors and patients, and in some cases bombing clinics and assassinating physicians.

Since the 1980s, opposition to abortion has become a core tenet of conservative politics. In their struggles to control women's reproductive and sexual freedom, right-wing politicians have tried to restrict women's access to legal abortion services.

Many of their current efforts focus on the idea of fetal life. The Ohio Heartbeat Bill would prohibit abortion from the first detection of a heartbeat. Recently the Arizona state legislature passed a law that counts gestational age as beginning two weeks prior to conception in order to ban abortions after the 18th week of pregnancy.

Paradoxically, this climate of political antagonism toward legal abortion takes place at a time when most Americans (77%) believe abortion should be legal. In fact, a May 2012 Gallup Poll found that more Americans think abortion should be legal for any reason (25%) than illegal in all circumstances (20%).

The political strength of the antiabortion movement and their association with the Republican Party obscures the presence of this acceptance towards abortion. The political conflict over abortion in the United States has had no real equivalent in Western Europe, and as a result abortion laws remain largely intact. Antiabortion movements do exist, but have not succeeded at recasting abortion as an issue of fetal rights.

Religious arguments typically do not have as much sway in secularized Western Europe as they do in the United States and as a result it is more difficult to make moralistic arguments about abortion.

In many European countries legal abortion is restricted to the first trimester of pregnancy, and antiabortion activists have a hard time convincing the public that these abortions constitute murder. For many Europeans abortion is simply another service that the welfare state provides in order to ensure equal access to safe and affordable health care.

European laws have not been diluted by restrictive legislation that limits access to abortion services. In the predominantly Catholic Western European countries—where the strictest abortion restrictions have been in place—efforts to loosen these regulations have recently been under way. Portugal legalized abortion in 2007 and now allows women to have abortions for any reason during the first 10 weeks of pregnancy.

Even in those Catholic countries where abortion access is severely restricted, women still have abortions.

In Ireland, this often means traveling to nearby England. In one case from 2010, Michelle Harte, who was dying of cancer, was told by doctors at Cork University Hospital that she should terminate her pregnancy for medical reasons, but the same doctors refused to perform the illegal procedure. Weak and prone

to vomiting, she hired a nurse to fly with her to England so she could obtain the necessary abortion services. Cases like these have been the driving force behind abortion reform discussions in Ireland.

The history of abortion practices and policies reminds us that while people will likely continue to debate the origins of human life and the right a woman has to end her pregnancy, women will continue to have abortions. The legal status of abortion will not determine whether a woman will abort an unwanted pregnancy but rather whether she will have access to safe abortion services.



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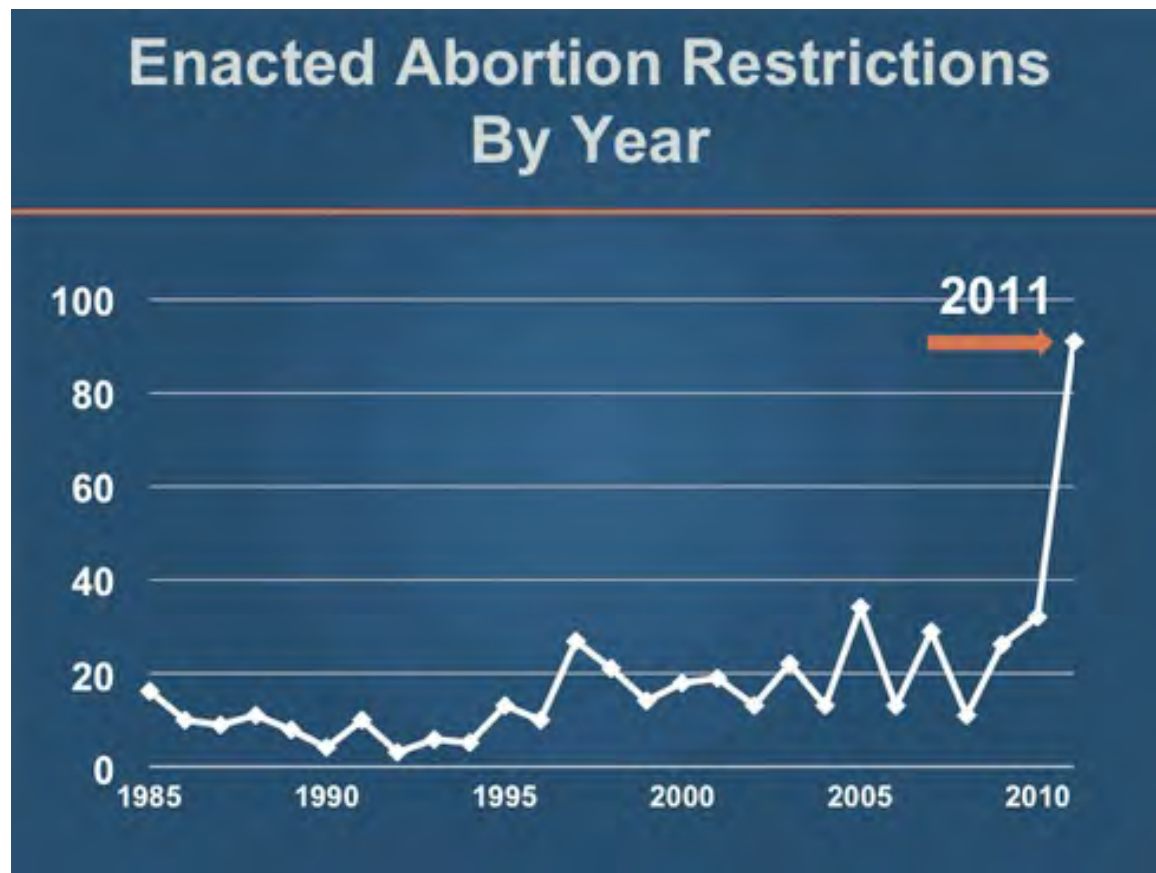
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Maps and Charts

Abortion restrictions enacted by states over time, including mandatory ultrasounds, waiting periods, and the prohibition of insurance coverage for non-life-threatening abortions

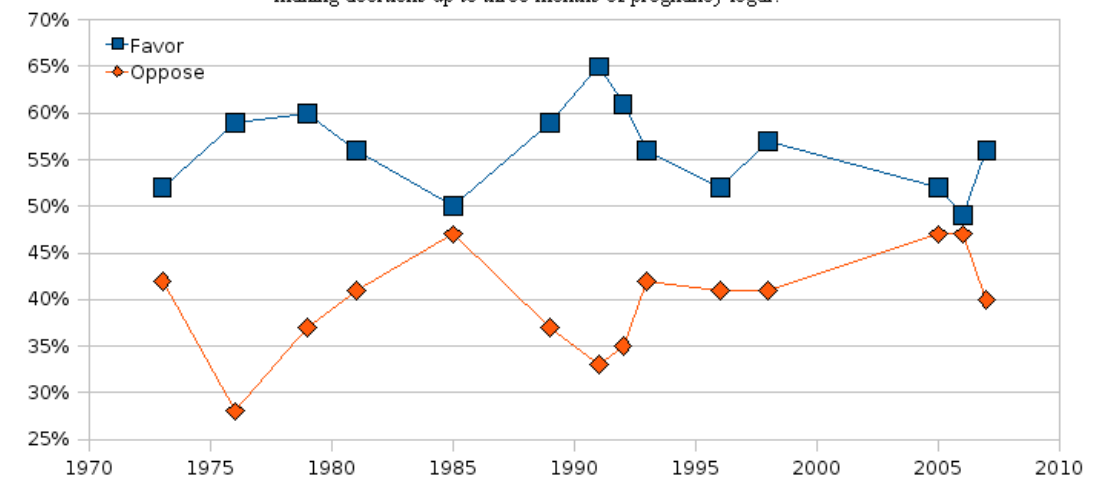


(Source: Guttmacher Institute)

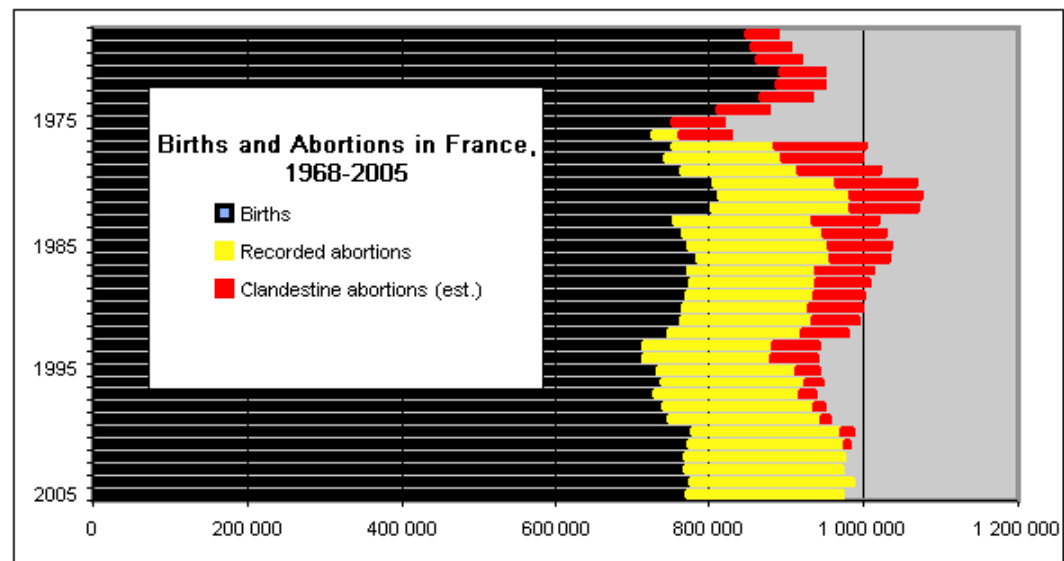
Support for Roe v. Wade over time

U.S. Public Opinion About Part of *Roe v. Wade*

POLL QUESTION: "In general, do you favor or oppose this part of the U.S. Supreme Court decision making abortions up to three months of pregnancy legal?"



This chart represents the recorded number of births in France since 1968, the estimated number of clandestine illegal abortions since 1968, and the number of recorded legal abortions since France legalized abortion in 1975.



(Source: Wikimedia)

Additional Images

A Romney/Ryan campaign button identifies the prolife cause with the Republican Party.



An Obama bumper sticker identifies the prochoice cause with the Democratic Party



Pennyroyal, an herbal abortifacient



(Source: Wikipedia)

Drawing from a 13th-century manuscript depicting a pregnant woman in repose, while another holds some pennyroyal in one hand and prepares a concoction using a mortar and pestle with the other. Pennyroyal was historically used as an herbal abortifacient.



(Source: Wikipedia)

Dr. Horatio Robinson Storer, who led a crusade against abortion in the late 1800s.



(Source: Wikipedia)

Representative Todd Akin of Missouri, who made inflammatory comments about abortion in August 2012.



(Source: United States Congress)

Ultrasound of an embryo at eight weeks



(Source: Wikimedia Commons)

Section 7

The Politics of Abortion in Europe and America (*Podcast*)



In this *Origins* podcast of *Writers Talk History*, historian Anna M. Peterson joins the show all the way from Oslo, Norway. Host [Patrick Potyondy](#) interviews her about one of the most contentious topics today—[abortion](#)—as well as her research experience in a foreign country.

Published April 2013.

Listen to this podcast on the web at <http://origins.osu.edu/historytalk/politics-abortion-europe-and-america>. ♦



Two photographs from the 2004 March for Women's Lives. (Source for both images: Wikimedia Commons)

The Illegalization of Marijuana: A Brief History

EDITOR'S NOTE:

The speed with which Americans are now considering legalizing marijuana has taken everyone by surprise. But in the midst of this shift in public opinion and state law it is worth remembering the speed with which marijuana was made illegal. This month Stephen Siff looks at how political and racial factors combined with the way marijuana users were portrayed in the media to create the "illegalization" of marijuana across the 20th century

Published May 2014. .

By **STEPHEN SIFF**

On the first day of 2014, Colorado became the first state to permit marijuana dispensaries to sell pot for recreational use. Across the state, celebratory stoners welcomed the New Year by lining up at licensed retailers to buy bags of (heavily taxed) artisanal marijuana, with varietal names like Pineapple Express and Alaskan Thunderbolt.

Since the first statewide medical marijuana laws went into effect in California in 1996, the number of Americans with legal access to what for many is a pleasurable drug has been steadily growing.



First Lady Nancy Reagan speaks at a "Just Say No" rally in Los Angeles, California in 1987. (Source: Wikimedia Commons)

Twenty
states
and the
District
of



Colorado was one of the first two states to legalize marijuana, although it remains a Schedule I drug at the federal level. (Source: Wikipedia)

Columbia now permit the sale of various forms of marijuana for medical purposes; in the past several months, the governor of New York, a state known since 1973 for its punitive drug laws, announced that he too would pursue accommodation for medical marijuana; and recreational marijuana is expected to be offered for sale in Washington State later this year.

Recently, the District of Columbia decriminalized the possession of an ounce or less of marijuana, treating it as a civil offense from now on.

In the least restrictive jurisdictions, purchasing medical marijuana requires a perfunctory visit to a “pot doc”—licensed physicians who specialize in prescribing marijuana, easily located through

online and
newspaper
advertisements
—for the
diagnosis of
any of dozens
of conditions,
including
chronic pain,
gastrointestinal
distress, and
depression,
which the drug
is believed to
help alleviate.



*Cannabis is the scientific name for marijuana. This image shows the plant growing in the wild in Russia. There are two major strains of the plant, *Cannabis indica* and *Cannabis sativ*. (Source: Wikipedia)*

Medical marijuana remains solidly in the realm of alternative medicine, and few clinical studies have been conducted to confirm specific claims.

After paying a consultation fee on the order of \$100, new medical marijuana patients are issued a card that allows them to shop at a dispensary or order from delivery services that offer cultivars of the two major strains of the plant, *Cannabis indica* and *Cannabis sativa*, as well as potions, baked goods, and candies made from its extracts.

With the current state-level push toward legalization, voters seem to have found a way around the twentieth-century quest for prohibition—a [prohibition](#) that has become increasingly difficult to explain or justify.

Consider that marijuana remains on the federal government's list of Schedule I drugs, defined as the most dangerous of the controlled substances, and is labeled as posing a severe risk of addiction, although many physicians don't believe that to be true.



The federal government classified marijuana as a Schedule I drug, meaning it is considered to have no medical use. Although scientific verification is scarce, thousands of patient testimonials claim the opposite. Twenty states and the District of Columbia now permit the sale of various forms of marijuana for medical purposes, as seen in the above photo (Source: Wikimedia Commons).

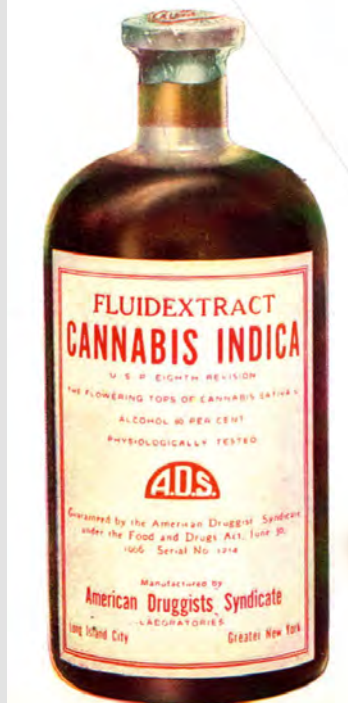
Unlike alcohol, excessive pot smoking has not been unambiguously implicated in violent behavior or poor health. As a Schedule I drug, under federal law, marijuana is considered to have no medical use, although there are thousands of patient testimonials to the contrary.

And perhaps the biggest contradiction of all is that since the century-long drive for prohibition was initiated, marijuana has

become extremely popular. Every year, hundreds of thousands of unlucky citizens face criminal sanctions for getting caught with a drug that one third of all Americans—including college students, professional athletes, legions of entertainers, and the past three U.S. Presidents—have experimented with at least once. In popular culture, the drug has become accepted as harmless fun. In 2014, [a talk show host can joke](#) with a former congressman about being pot smokers on cable TV.

As Americans consider further legalizing marijuana it is worth reviewing how the use of this plant became illegal in the first place and why prohibition persists in much of the country more than a half century after its use became common.

Interestingly, while marijuana use has been an urgent topic of conversation for over a century in this country, the voices of doctors and scientists have been largely quiet. Instead, the debate has been shaped by media portrayals of drug use and reinforced by politicians and advocacy groups that supported them.



This drug bottle or potion dates from pre-1937. The label reads it was "Manufactured by American Druggists Syndicate" of "Greater New York." (Source: Wikipedia)

From Commonplace to Illegal

Today, in states with the most liberal marijuana laws, citizens' access to the drug now resembles that of the nineteenth and early twentieth centuries, before the first attempts at federal regulation.



This drawing is from Köhler's book of medicinal plants, 1897.
(Source: Wikipedia)

Cannabis, like opiates and cocaine, was freely available at drug stores in liquid form and as a refined product, hashish. Cannabis was also a common ingredient in turn-of-the-century patent medicines, over-the-counter concoctions brewed to proprietary formulas.

Then, as now, it was difficult to clearly distinguish between medicinal and recreational use of a product whose purpose is to make you feel good. The hashish candy advertised in an 1862 issue of *Vanity Fair* as a treatment for nervousness and melancholy, for example, was also “a pleasurable and harmless stimulant.” “Under its influence all classes seem to gather new inspiration and energy,” the advertisement explained.

While there were fads for cannabis across the nineteenth century, strictly recreational use was not widely known or accepted.

During this period, American druggists were familiar with hashish and other preparations of cannabis, and the marijuana plant had been widely cultivated for the hemp fiber used in rope and ships' riggings.

But the practice of smoking marijuana leaf in cigarettes or pipes was largely unknown in the United States until it was introduced by Mexican immigrants during the first few decades of the twentieth century. That introduction, in turn, generated a reaction in the U.S., tinged perhaps with anti-Mexican xenophobia.

The first attempt at federal regulation of marijuana came in 1906, with the passage of the Pure Food and Drug Act. The act included cannabis among the various substances patent medicine companies were required to list on their labels in order that worried customers could avoid it.

Then, between 1914 and 1925, twenty-six states passed laws prohibiting the plant. The anti-marijuana laws were uncontroversial and passed, for the most part, with an absence of public outcry or even legislative debate.

Flush with success in pushing through [alcohol prohibition](#), temperance campaigners in the 1920s began turning attention toward opiates and cocaine, which had become prohibited under increasingly strict Supreme Court interpretations of the 1914 Harrison Narcotics Act.

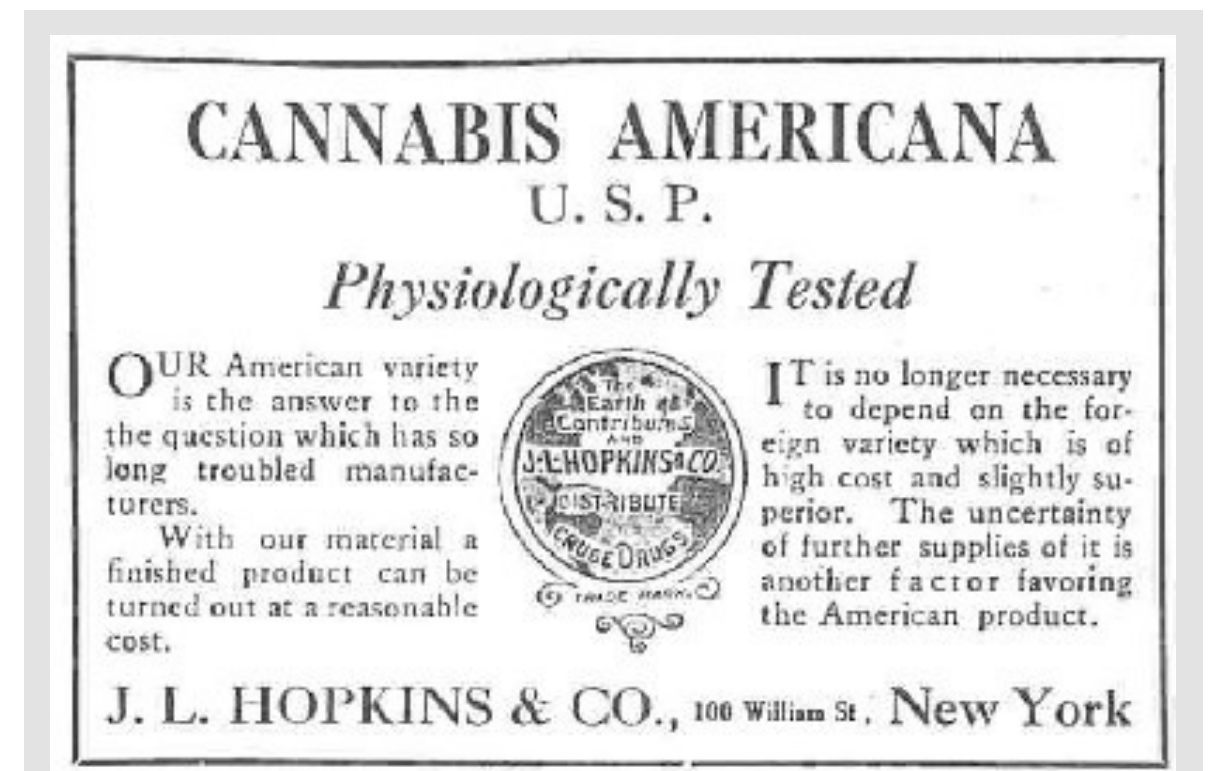
Former Spanish-American War hero Richmond P. Hobson, who had been the Anti-Saloon League's best-paid public speaker, began warning of a dire threat posed by narcotics to national survival and the national character. Newspapers and magazines published melodramatic and sensational stories about the threat of narcotics addiction and the horrible plight of those caught in narcotics' grip.

Following a Hollywood drug scandal in 1921, the newspapers published by William Randolph Hearst launched what became an annual crusade against narcotics with a hyperbolic and tear-

jerking account by star reporter, "sob sister" Winifred Black, who also wrote under the name Annie Laurie.

Hearst's efforts, timed to coordinate with Hobson's annual Narcotic Education Week, exploited a new angle during the second half of decade: depicting marijuana as the largely unknown drug of murder, torture, and hideous cruelty (such as this [example from 1927](#)).

The fact that marijuana smoking was a habit of immigrants and the lower class clearly played a role in its prohibition, though there is little indication that Hearst was more racist than might be



This advertisement appeared in 1917. Part of the ad reads, "Our American variety is the answer to the question which has so long troubled manufacturers. With our material a finished product can be turned out at a reasonable cost." (Source: Wikimedia Commons)



Reefer Madness was released in 1936 as an anti-drug film. By the 1970s, it was openly mocked for its corny portrayal of the supposed dangers of marijuana. (Source: Fair Use)

expected of a man of his time and station.

The association of murder, torture, and mindless violence with marijuana was not borne out by evidence or actual events but blossomed thanks to the vivid imaginations of the journalists charged with sensationalizing the tired story of drug use and addiction. Until a few decades prior, the public was acquainted with opiates from widespread medicinal use, and with cocaine from its presence in drugstore potions including Coca-Cola.

Journalists, politicians, police, and middle-class readers had no similar familiarity with marijuana, allowing it to become the vessel for their worst fears:

addicting, personality-destroying, violence-causing. For the journalists in the 1920s charged with composing annual anti-narcotics jeremiads for Hearst's famously sensational newspapers, a new "murder" drug must have seemed a gift.



Harry J. Anslinger, a former assistant commissioner of the Prohibition Bureau who headed the U.S. Treasury Department's Narcotics Bureau from 1930 to 1962, initially opposed federal legislation against marijuana because he foresaw it would be difficult for his agency to enforce. (Source: Creative Commons by Pennsylvania State University)

Prohibition Repealed, But Not for Drugs

In the 1930s, the nation's top anti-narcotics official took up the anti-marijuana cause.

Ironically, Harry J. Anslinger, a former assistant commissioner of the Prohibition Bureau who headed the U.S. Treasury Department's Narcotics Bureau from 1930 to 1962, initially opposed federal legislation against marijuana because he foresaw it would be difficult for his agency to enforce.



The Federal Bureau of Narcotics distributed this anti-marijuana advertisement in 1935. (Source: Wikimedia Commons)

However, Anslinger began to capitalize on fears about marijuana while pressing a public relations campaign to encourage the passage of uniform anti-narcotics legislation in all 48 states. He later lobbied in favor of the Marijuana Tax Act of 1937.

In Congressional testimony, Anslinger drew from what became known as his “gore file” of brutal murders and rapes allegedly committed by people high on pot. (That the marijuana was a causal factor for the crime was taken for granted.) “How many murders, suicides, robberies, criminal assaults, holdups, burglaries and deeds of maniacal insanity it causes each year can only be conjectured,” Anslinger wrote in a 1937 article in *American Magazine* titled “[Marijuana, Assassin of Youth.](#)”

It was surely no coincidence that the scare movie [Reefer Madness](#) came a year earlier.

The 1937 Marijuana Tax Act, which regulated the drug by requiring dealers to pay a transfer tax, passed in the House after less than a half-hour of debate and received only cursory attention in the press. House members seem not to have known a great deal about the drug. In response to a question from another member, Speaker of the House Sam Rayburn (D-Tex.) explained that marijuana was “a narcotic of some kind,” while another Representative John D. Dingle (D-Mich.) appeared to confuse it with locoweed, a different plant.

In hearings, the only witness to speak against the bill was a representative of the American Medical Association, who congressmen accused of obstructionism and misrepresenting the AMA's views.

Anslinger favored strict legal penalties against the use of narcotics, including marijuana, and worked behind the scenes to defund or discredit research that contradicted his views on the danger of these drugs or the effectiveness of prohibition.

When New York Mayor Fiorello LaGuardia and the New York Academy of Medicine produced a report in 1944 concluding that marijuana was only a mild intoxicant, it was pre-emptively attacked in the *American Journal of Psychiatry* in an article solicited by Anslinger.

Fourteen years later, Anslinger tried to prevent publication of a joint American Bar Association-American Medical Association study that suggested penalties for possession were too harsh. The report was ultimately published by the Indiana University Press after narcotics agents convinced the original sponsor to drop funding.

Through the 1950s, lawmakers and journalists seemed to have little patience or interest for fine distinctions among illegal drugs. Heroin, cocaine, or marijuana were all “dope”: dangerous, addicting, frightening, and bad.

The Kids Are Alright? Marijuana Comes to Campus

Views of drugs changed in the mid-1960s, with increasing reports about a new type of marijuana smoker: college students.

Along with uppers and downers—the amphetamine and barbiturate pills that had become ubiquitous through nearly every segment of American society—journalists found that the sons and daughters of America’s middle class were taking to marijuana.



President Nixon recruited Elvis Presley as an anti-drug spokesman in 1970 even though the entertainer's cultural cache had already peaked and was on the decline. (Source: Wikimedia Commons)

The pronounced expansion of marijuana use among youth in the 1960s had no single cause. In the sweet-smelling haze, observers have seen mutiny against the values of the previous generation and [the War in Vietnam](#), an admiration for the free-spirited Beats, and the freedom born from [an excess of material wealth and time](#).

For many youth, smoking pot seemed harmless fun, perhaps just a little more fun because it was against the law. The mild pleasures of the drug itself seemed to refute the logic of the laws against it.

By 1965, the epidemic of drugs on campus occupied the front pages of newspapers, but neither journalists nor legislators had any enthusiasm for locking up America's best and brightest for what increasingly seemed like a trivial offense.

By the 1960s, even Anslinger conceded the criminal penalties then in force for youthful marijuana use were too severe. In 1967, not only hippie activists but the solidly mainstream voices of *Life*, *Newsweek*, and *Look* magazines questioned why the plant was illegal at all.

Meanwhile, the number of state-level marijuana arrests increased tenfold between 1965 and 1970.

Drugs and the “Law and Order” Presidency

Elected to the presidency in 1968 on a promise to restore “law and order” to a nation jolted by riots, protests, and

assassinations, Richard Nixon aggressively recruited journalists and media executives to participate in what he declared would be a War Against Drug Abuse.

The public relations push included attempts to strong-arm radio broadcasters to cease playing drug-themed music and recruiting television personality Art Linkletter and (oddly) the pill-popping Elvis Presley as anti-drug spokesmen. (Presley never actually did any work on behalf of the anti-drug campaign but did request that Nixon give him a badge from the Bureau of Narcotics and Dangerous Drugs. [The photo of their meeting](#) has become the most requested item from the National Archives.)

At a White House event for television executives in 1970, Nixon obtained pledges that anti-drug themes would be inserted in twenty prime-time shows, ranging from “Hawaii Five-O” to “Marcus Welby M.D.” (Prior to this time, television programming, like studio films, avoided drug themes.) By applying pressure to television stations and sponsors, the Nixon administration collected \$37 million worth of commercial airtime for anti-drug messages by 1971.

Changes in federal drug policy during the Nixon administration loosened penalties for some kinds of drug violations, while expanding the powers of law enforcement (including the creation of no-knock and late-night search warrants) and reshaping the federal anti-drug agencies to be more directly responsive to White House control.

In 1970, Congress passed the Comprehensive Drug Abuse Prevention and Control Act, which placed marijuana in the most restrictive category of drugs having no permissible use in medical practice. The scheduling of marijuana was suggested by an Assistant Secretary of Health pending the report from a Commission on Marijuana and Drug Abuse, headed by a former governor of Pennsylvania Raymond Shafer with members appointed by the president, speaker of the House, and the president pro tem of the Senate.

The report, which was released in its final form in 1973, called for an end to criminal penalties for marijuana possession and also an end to the government's anti-drug education efforts, which the report decried as wasted money. White House tapes recorded Nixon pressuring Shafer to reject the committee's findings, and the president refused to receive the report in public.

Nixon's director of the Narcotics Treatment Administration [recalled to Frontline documentarians](#) that when he joined the administration the president told him, "You're the drug expert, not me, on every issue but one, and that's decriminalization of marijuana. If you make any hint of supporting decriminalization, you are history. Everything else, you figure it out. But that one, I'm telling you, that's the deal."

There was a tautological aspect to Nixon's opposition to marijuana. The president, whose preferences ran toward mixed drinks, detested marijuana precisely because the drug was illegal,

and to smoke pot was to embrace the lawlessness that he saw as sweeping the country.

"Believe me, it is true, the thing about the drug [marijuana], once people cross that line from [unintelligible] straight society to the drug society, it's a very great possibility they are going to go further," Nixon told Linkletter in a private conversation preserved by the White House's secret taping system. "You see, homosexuality, dope, immorality in general. These are the



First-Lady Nancy Reagan promoted the "Just Say No" anti-drug campaign during the 1980s. Some of the artifacts from this nationwide campaign now reside in a display at the Reagan Library as seen above. Studies have shown that this sort of strategy is ineffective in reducing drug use. (Source: Wikipedia)

enemies of a strong society. That’s why the communists and left-wingers are pushing the stuff, they are trying to destroy us.”

As the particular fears that motivated anti-marijuana legislation dissipated, attitudes toward marijuana prohibition became a litmus test for attitudes about the relationship between law and personal judgment. The laws gave the drug an extra attraction for youth experimenting with rebellion, but within the logic of “law and order,” disrespect for the law seemed to be the root of many problems. The [anti-war protesters](#), Nixon believed, were “all on drugs.”

An Easing of Attitudes in the 1970s

Despite Nixon’s unyielding anti-marijuana stance, during the early and middle 1970s, there was a growing consensus that criminal punishments for pot were contrary to the public interest; and medical and legal authorities were disputing the logic of harsh anti-marijuana laws.

The National Parent Teacher Association Congress, American Medical Association, American Bar, American Public Health Association, National Education Association, and the National Council of Churches all passed resolutions endorsing decriminalizing possession of small amounts of marijuana. The Committee for Economic Development and the Consumers Union agreed.

The *New York Times*, *Washington Post*, and the conservative *National Review* all editorialized in favor of decriminalization. The film *Reefer Madness*—which had been made to scare the nation about the dangers of marijuana—was now being released by pro-marijuana campaigners as a comedy on the midnight movie circuit.

By 1977, the use of the drug seemed so commonplace and the fears so archaic that President Jimmy Carter called for the decriminalization of marijuana. As Carter pointed out [in a message to Congress in 1977](#), anti-marijuana laws cause more harm to marijuana users than the drug itself.

Drugs and the Media in the Age of “Just Say No”

Still, not everyone had grown comfortable with drugs’ increasing prevalence and the loosening of attitudes about them.

In 1976, Marsha “Keith” Schuchard and her husband, Ronald, were appalled when confronted with evidence that their 13-year-old daughter was smoking pot. With a neighbor in their suburban Atlanta neighborhood, Sue Rusche, Schuchard formed Families in Action, a parents’ group that promoted anti-drug education and zero-tolerance policies.

Within a few years, they had formed organizations that offered support to thousands of similar groups around the country. Under



This screenshot of the slogan, "Winners Don't Use Drugs," appeared in all arcade videogames imported into the U.S. from 1989 to 2000. (Source: screen capture by Rookervik)

commission from the federal National Institute on Drug Abuse, Schuchard wrote a handbook for parent organizations, *Parents, Peers, and Pot*. More than a million copies were distributed and more than 4,000 parents' groups formed by 1983.

Schuchard stated in the book that her goal was to protect psychologically vulnerable children from a popular culture that pushed them toward drugs, not to advocate prohibition for adults. However, the fine distinction was lost by politicians who built on the movement's support.

Ronald Reagan had opposed decriminalization of marijuana as governor of California and, as president, showed no sympathy for drug use or users.

Prompted largely by fear over [crack cocaine](#), Congress passed three major pieces of anti-drug legislation during the 1980s, each more punitive than the last. In 1986, Reagan called for the implementation of drug testing to ensure that schools and workplaces remained "drug-free."

As in the past, the generalized fear of "drugs" distinguished only between teetotalers and criminals. Drugs were drugs, albeit federal sentencing guidelines made some drugs much worse.

During the Reagan administration, the White House spearheaded an extensive anti-drug media campaign that was soon joined by nonprofit and independent groups. Soon after the election of her husband, First Lady Nancy Reagan took on the mission of spreading an anti-drug message, unveiling her "Just Say No" slogan at an elementary school in 1982.

In the years that followed, Nancy Reagan recited the slogan at rallies and public appearances across the country, in public service announcements designed by the Ad Council, in thousands of billboards, and on dozens of talk shows.

The Drug Abuse Resistance Education (DARE) program, which brought police into schools to lecture against drugs, was also founded during this period, as were clubs in many schools that enticed pupils to sign anti-drug pledges.

The Partnership for a Drug-Free America, founded by a group of advertising executives in 1985, introduced its "[This is your brain](#)



General McCaffrey served as President Clinton's drug czar in the late 1990s.
(Source: Wikipedia)

on drugs” public service advertisements a few years later.

Highlights in the media barrage must also include the White House-sponsored “[Stop the Madness](#)” music video starring, among many others, New Edition, LaToya Jackson, and Whitney Houston, with a brief appearance by Nancy Reagan.

Government surveys

showed that drug use declined during the 1980s, but ending “the scourge of drugs” was still a successful campaign issue for George H. W. Bush when he pursued the presidency in 1988.

Concern over drug use appeared to peak in September the following year, when 64 percent of respondents in a *New York Times*/CBS News poll identified drugs as the single most pressing issue facing the nation, not long after Bush gave an Oval Office speech on the subject.

The media campaign against drugs persisted well into the 1990s, [in every medium imaginable](#), from television to t-shirts to milk cartons, as a cause ostensibly absent of political overtones.

Evidence is mixed on whether anti-drug media campaigns served their purpose of reducing drug use. [A study of the National Youth Anti-Drug Media Campaign](#) from 1998 to 2004 found that the \$1.2 billion federal initiative was not effective in reducing drug use, and may even had the reverse effect on some youth, by sparking teens’ curiosity.



Activists across the U.S. have pushed for decriminalization and complete legalization. They have been willing to take incremental steps—such as the legalization of marijuana for medical uses—to reach their final goal.
(Source: Wikipedia)

The DARE program was curtailed in many parts of the country after [a number of studies found no evidence](#) that it resulted in decreased drug use among children.

These programs certainly seem to have been effective in raising the profile of the drug issue and maintaining public concern. Even for a president such as Bill Clinton, who admitted smoking (but not inhaling) marijuana, continuing to warn the public against the threat while pledging an undying effort to fight it must have seemed better politics than suggesting a compromise.

In 1998 and 1999, Clinton's drug czar, Barry McCaffery, paid out \$25 million to five major television networks for writing anti-drug messages into specific prime-time shows, with the White House reviewing and signing off on scripts in advance.

The Road to Legalization?

Over the past few decades, it was possible to joke about weed in the media—there were of course still Snoop Dogg, Willie Nelson, and Cheech and Chong—but decades of intense anti-drug propaganda have made it awfully hard for anyone to credibly support something called “drugs.”

Since the beginning of the twentieth century, there have been persistent links between political decisions about drug policy and efforts to influence public opinion.

Following the anti-drug campaigns of recent years, it is fascinating to note that today's liberalization efforts have largely succeeded not by trying to shift attitudes about drugs, but by redefining marijuana as medicine and by focusing on the



The Partnership for a Drug-Free America has worked with government agencies to resist decriminalization and legalization attempts (photo from 2002). (Source: Wikipedia)

economic and social costs of the incarceration that has resulted from drug laws.

About 800,000 Americans are arrested annually for marijuana offenses, mostly simple possession. Few wind up in prison as a result of a first offense, but this encounter with the criminal justice system can have serious consequences, including the loss of eligibility for federal student financial aid and subsidized housing.

And the “three-strikes laws,” which 22 states and the federal government passed between 1993 and 1995 and which mandated stiff prison sentences for a person convicted of a third felony, ensure that marijuana offenses can lead to dire results.

Although black Americans smoke pot at a nearly identical rate as whites, they are nearly four times more likely to be arrested because of it.

“It’s important for it to go forward because it’s important for society not to have a situation in which a large portion of people have at one time or another broken the law and only a select few get punished,” President Barak Obama said in a [January interview with the New Yorker](#).

And all taxpayers contribute to the billions of dollars a year required to enforce anti-marijuana laws and punish the offenders. Pot often inspires giggles, but marijuana prohibition has serious implications.

To the extent that these arguments to end the illegalization of marijuana have been persuasive it has largely been the result of voter initiatives, rather than the efforts of politicians.

Further liberalization seems likely. According to Gallup, [58 percent of Americans now favor legalizing](#) marijuana. This has been the first time the firm has recorded a pro-legalization majority since it began asking the question in 1969.

It seems unlikely that “doing drugs” will become acceptable any time soon. But smoking a joint? Maybe.

Depending in which state you pose the question, it might be just fine already. ♦

Suggested Reading

William O. Walker III (ed.), *Drug Control Policy: Essays in Historical and Comparative Perspective* (Penn State Press, 1992)

Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (The New Press, 2013)

David F. Musto and Pamela Korsmeyer, *The Quest for Drug Control: Politics and Federal Policy in a Period of Increasing Substance Abuse* (Yale, 2002)

Kathleen Frydl, *The Drug Wars in America, 1940-1973*
(Cambridge University Press, 2013)

Albert DiChiara and John F. Galliher, Dissonance and Contradiction in the Origins of Marijuana Decriminalization, *Law and Society Review* 28, 1 (1994)

Martin A. Lee, *Smoke Signals: A Social History of Marijuana—Medical, Recreational and Scientific* (Simon & Shuster, 2012)

Richard J. Bonnie and Charles H. Whitebread, *The Marijuana Conviction: A History of Marijuana Prohibition in the United States* (University Press of Virginia, 1974)

David F. Musto, *The American Disease: Origins of Narcotics Control*, expanded ed. (Oxford, 1987)

Patrick Anderson, *High in America: The True Story Behind NORML and the Politics of Marijuana* (Viking, 1981)

Edward Jay Epstein, *Agency of Fear: Opiates and Political Power in America*, rev. ed. (New York: Verso, 1990)

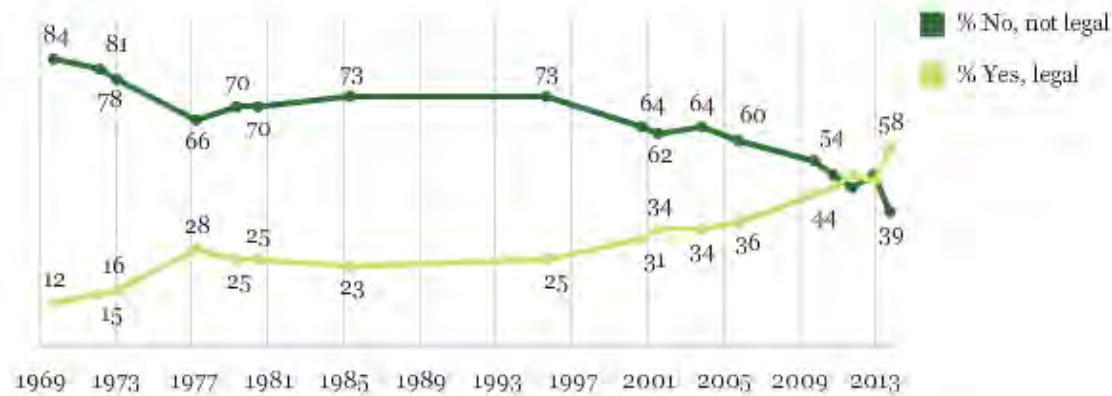
Jonathan P. Caulkins, Angela Hawken, Beau Kilmer, Mark A.R. Kleiman, *Marijuana Legalization: What Everyone Needs to Know* (Oxford, 2012)

MAPS & CHARTS

American Attitudes Toward Marijuana Legalization

Americans' Views on Legalizing Marijuana

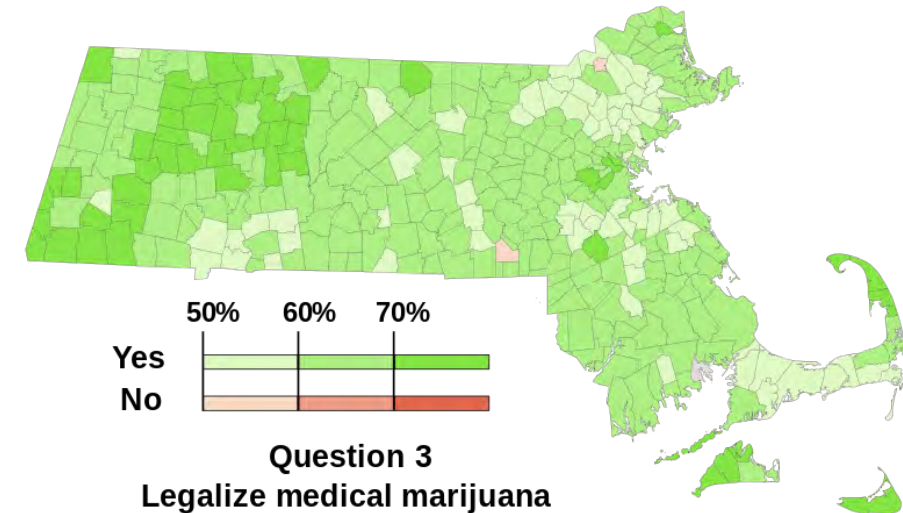
Do you think the use of marijuana should be made legal, or not?



GALLUP

This national poll, dating from 1969 to 2013, reveals that for the first time, more Americans—at 58 percent—favor marijuana legalization. In 1969, 84 percent did not favor legalization (Source: Gallup)

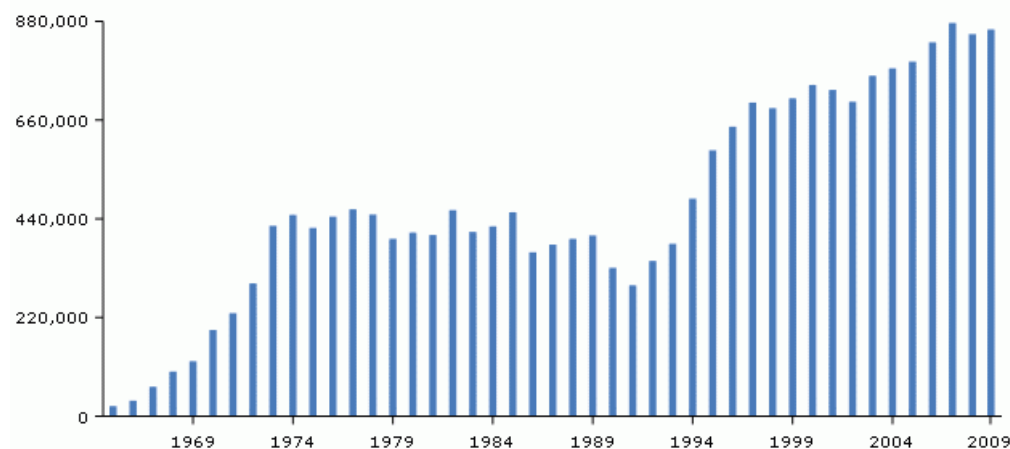
Medical Marijuana Ballot Results from 2012 in Massachusetts



Since the mid-twentieth century, attitudes toward marijuana have shifted rapidly toward a greater acceptance of the drug. Many no longer view it as dangerous or immoral as they once did. (Source: Wikipedia)

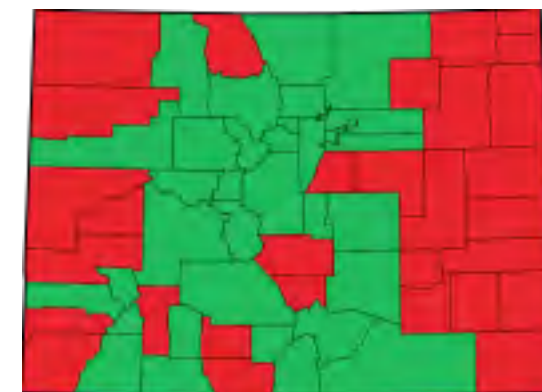
Cannabis Arrests by Year in U.S.

cannabis arrests 1965-2009



This chart shows the arrests per year for marijuana possession in the United States, 1965-2009 (Source: Wikipedia)

Results of Colorado Legalization Ballot Issue



This map shows those counties in favor of legalization in green and those against in red. The map shows a loose correlation between rural and urban areas of the state. Colorado Amendment 64 was on the ballot in 2012, and 55 percent of Coloradoans voted in favor of legalization. (Source: Wikipedia)

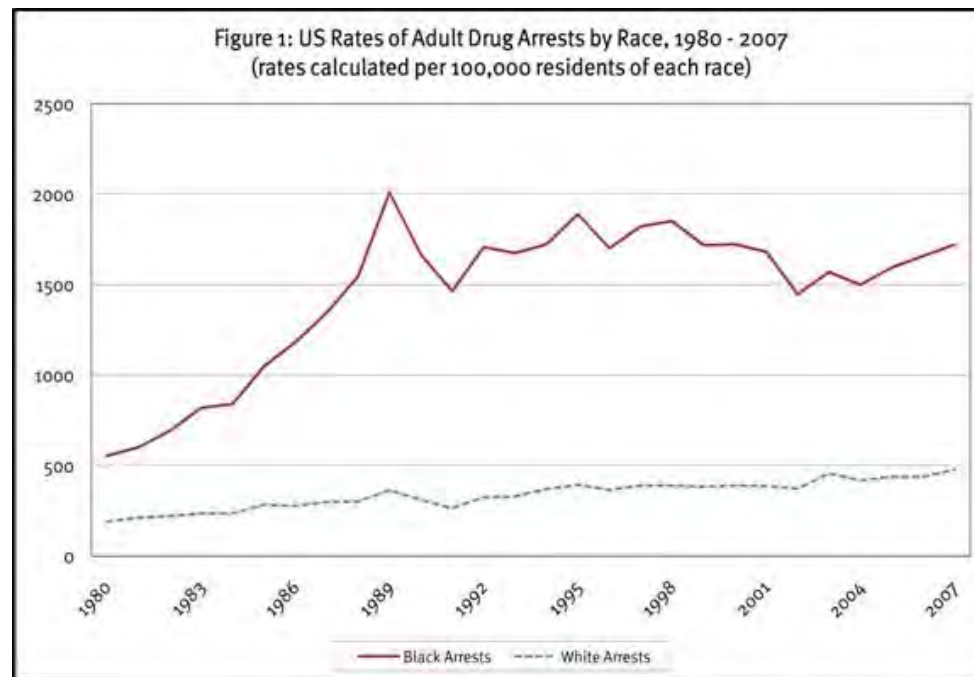
The above map shows state-level laws concerning marijuana.
 Green: states that have completely legalized marijuana.
 Dark Blue: states with both medical and decriminalization laws
 Medium Blue: states with legal medical marijuana laws
 Light Blue: states with marijuana decriminalization laws
 (Source: Wikipedia)

The chart displays the percentage of the U.S. population incarcerated from 1920 to 2008. The y-axis ranges from 0.1% to 1.0% in 0.1% increments. The x-axis shows years from 1920 to 2008 in 10-year increments. The area under the line is shaded red. The rate starts at 0.1% in 1920, rises to a peak of 0.2% in 1940, dips to 0.15% in 1950, and then fluctuates between 0.15% and 0.2% until the late 1970s. After 1980, the rate increases exponentially, reaching 0.8% by 2008. Two callout boxes highlight key events: '1971: RICHARD M. NIXON DECLARES "WAR ON DRUGS"' and '1984: SENTENCING REFORM ACT (SRA)', both with arrows pointing to the rising portion of the graph.

Year	Percentage of Population Incarcerated
1920	0.1%
1930	0.15%
1940	0.2%
1950	0.15%
1960	0.18%
1970	0.15%
1980	0.2%
1990	0.5%
2000	0.7%
2008	0.8%

This timeline shows the U.S. incarceration rate from 1920 to 2008. It highlights 1971 when Richard Nixon declared a "War on Drugs" and the passage of the Sentencing Reform Act of 1984. (Source: Wikipedia)

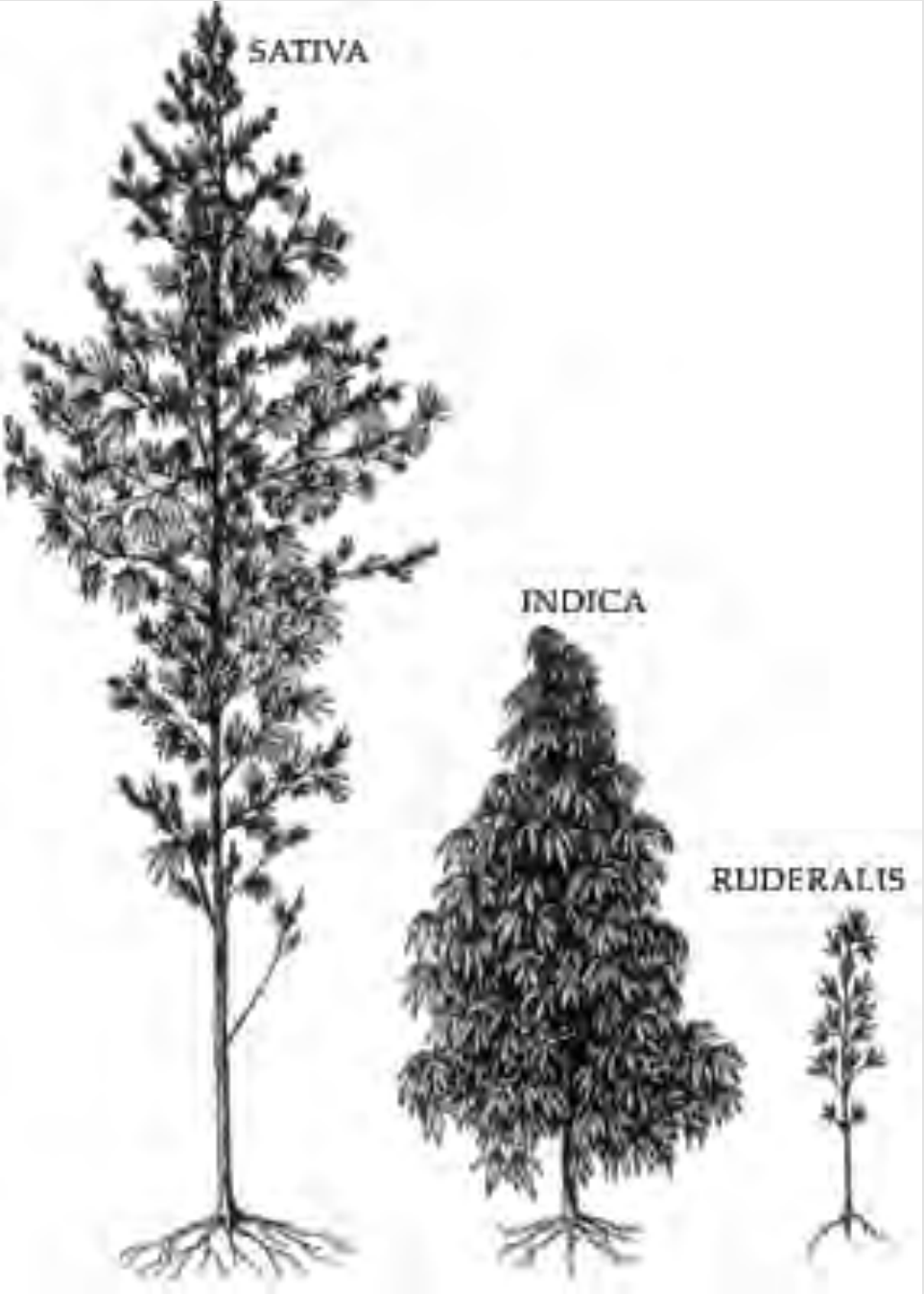
US Rate of Adult Drug Arrests by Race, 1980-2007



This graph produced by Human Rights Watch, charting from 1980 to 2007, illustrates that African Americans are much more likely to be arrested because of drugs. Blacks, however, are no more likely to deal or use drugs than whites. Blacks are 14 percent of regular drug users but are 37 percent of those arrested. From 1980 to 2007, one in three of the 25.4 million adults arrested for drugs in the U.S. was African American. (Source: Human Rights Watch)

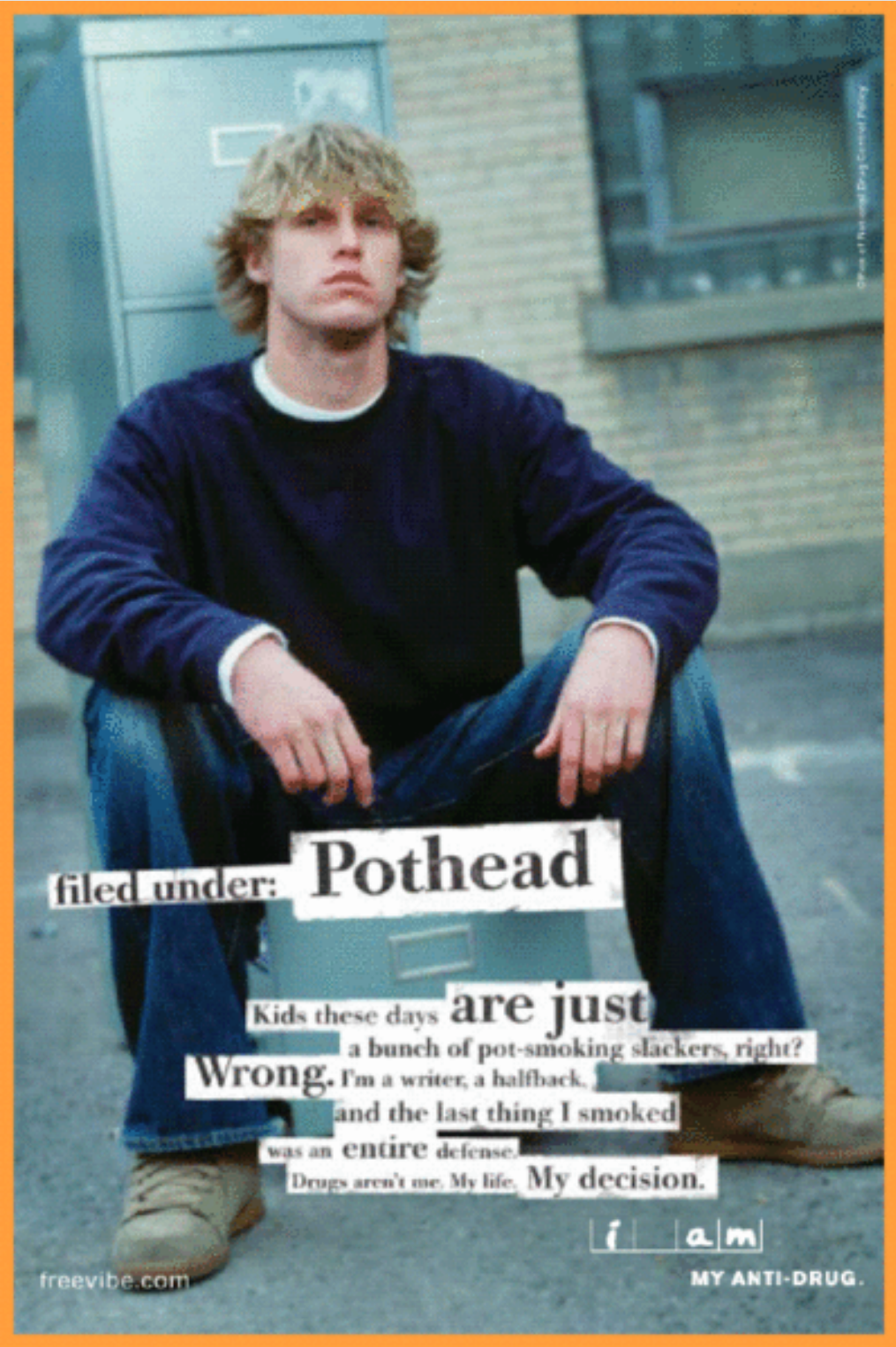
Additional Images

Various Cannabis Species



This drawing depicts the relative sizes of different species of marijuana. (Source: Wikipedia)

Anti-Drug Poster ca. 2000



(Source: Wikipedia)

Protest in San Francisco in Favor of Marijuana Legalization



"Cannabis is Medicine" protest in San Francisco, 2007. (Source: Wikipedia)

Medical Marijuana for Sale



The federal government classified marijuana as a Schedule I drug, meaning it is considered to have no medical use. Although scientific verification is scarce, thousands of patient testimonials claim the opposite. Twenty states and the District of Columbia now permit the sale of various forms of marijuana for medical purposes, as seen in the above photo from a Seattle dispensary. (Source: Ted Warren ASSOCIATED PRESS)

The Acid Tests

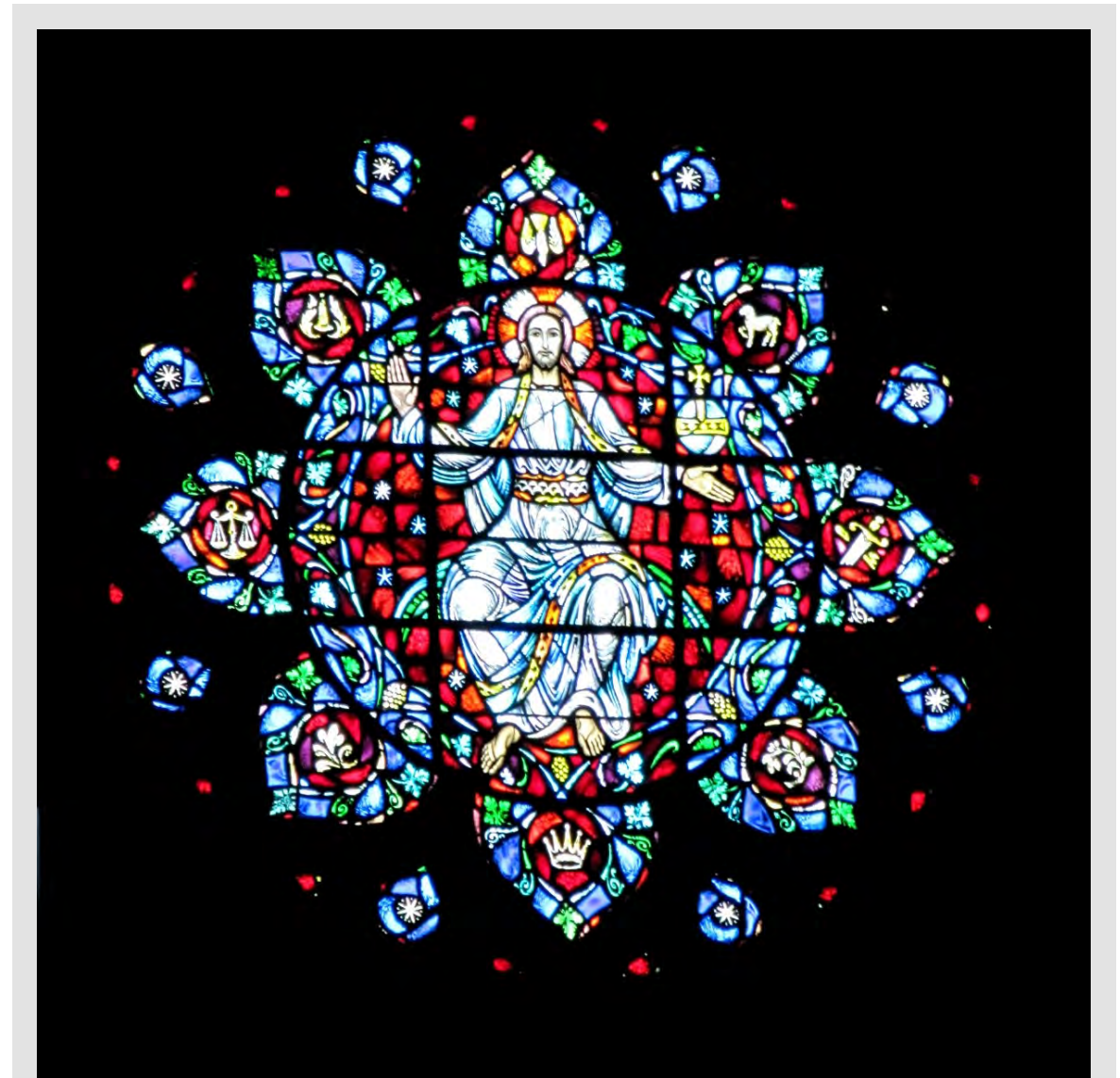
By **DYLAN CAHN**

Published December 2015.

December 2015 marks the 50th anniversary of the “Acid Tests,” events held by Ken Kesey and the Merry Pranksters in partnership with legendary musicians The Grateful Dead. Acid, also known as **LSD (lysergic acid diethylamide)** is a powerful hallucinogen that elicits a variety of psychoactive effects in users. Although the Acid Tests took place over less than one year, their influences continue to ripple through American culture and counterculture.

LSD was first synthesized and tested by **Dr. Albert Hofmann in 1943**. The CIA experimented with LSD in the 1950s for its potential use in psychological warfare; and in 1975 the United States Army acknowledged that it had administered LSD to nearly 1,500 people between 1956 and 1967 to test the drug’s military potential.

By the early 1960s, several leading universities had begun to investigate the psychological effects and health benefits of LSD. Most famously, between 1961 and 1963, Harvard professors Dr.



One stained glass window at Boston University's Marsh Chapel, site of the Harvard Psilocybin Project. (Source: Wikipedia)

Timothy Leary and Dr. Richard Alpert (now known as Ram Das) tested Acid for its therapeutic use.

Leary and Alpert worked together in the psychology department where, according to Alpert, the pair experienced their first psychedelic journey through “magic mushrooms” (a natural hallucinogen producing effects similar to LSD) at varying times in 1961. The experience with mushrooms prompted Leary to work also with Aldous Huxley to secure a supply of synthetic Psilocybin (the active psychedelic ingredient in “magic mushrooms”) from Sandoz pharmacy.

In the Harvard Psilocybin Project, Alpert and Leary proceeded to conduct psychological tests on willing students and on themselves using hallucinogens such as Psilocybin and LSD. They were dismissed from Harvard in the spring of 1963, with the university particularly angered that the tests were conducted on its students.

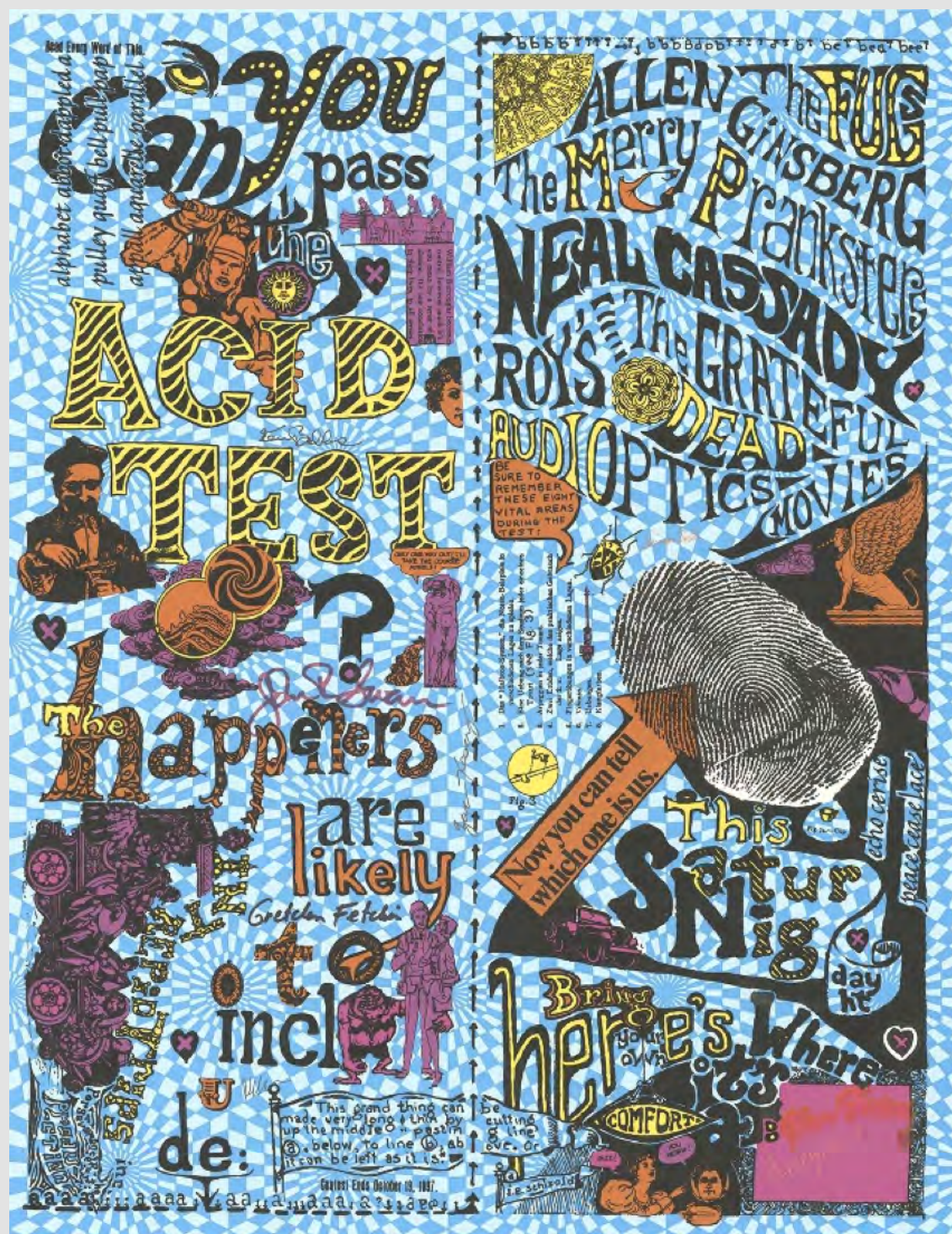
After universities restricted Acid research on their campuses, the next phases of experimentation occurred in unofficial, grassroots type settings. Kesey first used LSD in one of the CIA’s secret trials (Project MKUltra, often dubbed the CIA's “mind control program”). However, his 1965-1966 Acid Tests helped make LSD more accessible to the general public, especially on college campuses. For countercultural devotees of Acid, using the drug promised psychological, social, and other kinds of liberation.



Merry Pranksters' famous (2nd) bus known as "Further." Recently restored and pictured here at Hempfest 2010, Myrtle Edwards Park, Seattle, Washington. (Source: Wikipedia)

In 1964, a group called “The Merry Pranksters” took a trip across the country in a rainbow bus named “Furthur.” Once The Pranksters arrived on the west coast they quickly befriended the band “The Warlocks” (later known as The Grateful Dead). Between 1965 and 1966 the Pranksters convinced the Dead to sit as the house band for Ken Kesey’s Acid Tests.

The Tests involved the group traveling around California, administering LSD to willing participants, and putting on various art performances. The first Test took place on December 4, 1965 in San Jose, California and the last two occurred in San Francisco on October 2 and 31, 1966 when the pranksters held their



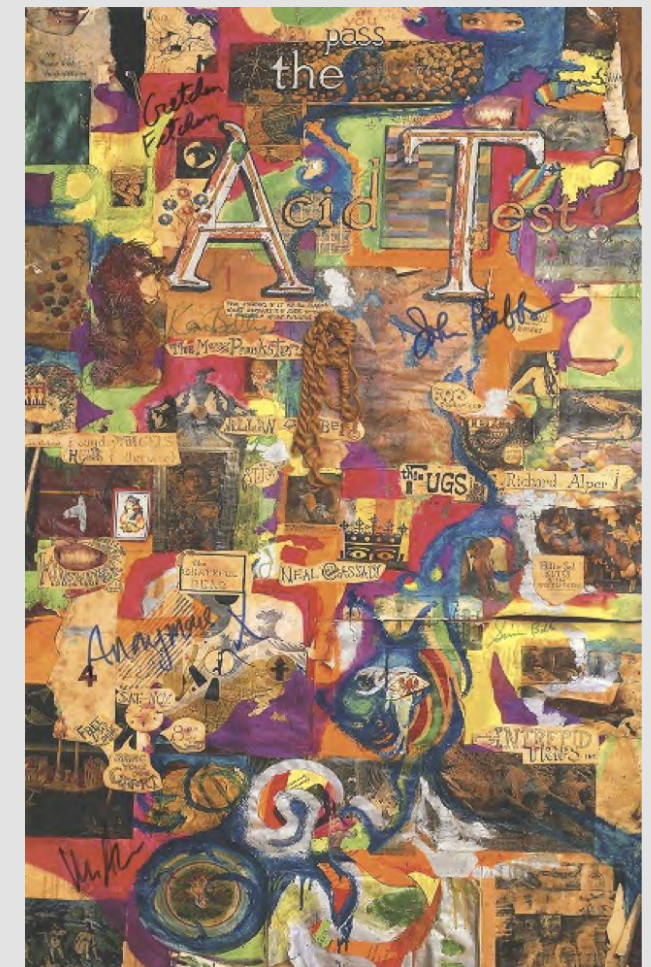
"Can You Pass the Acid Test? The happeners are likely to include The Fugs, Allen Ginsberg, The Merry Pranksters, Neal Cassady, Roy's Audioptics. The Grateful Dead," 1966. (Source: Wikipedia)

"Closing Jam" and "Graduation Jam."

Two years later, author Tom Wolfe brought the Acid Tests to a much wider audience with the publication of his book *The Electric Kool-Aid Acid Test*, perhaps the most popular example of the "New Journalism."

After the end of Kesey's Acid Tests, LSD began to take on a more spiritual and revolutionary meaning for the individuals who "turned on" to the drug during musical and counterculture events of the late 1960s. LSD journeys or "trips" became more informal and focused on an individual's journey through their own body and mind and the connection formed with other likeminded people.

The legacies of the short-lived Acid Tests are still with us today. Through the grassroots acid experimentation started by Ken Kesey, the Pranksters, and the Grateful Dead in 1965, LSD became a central part of the influential hippie subculture of the



"Can You Pass the Acid Test?" 1966. (Source: Wikipedia)

late 1960s and early 1970s. The drug acted as a revolutionary tool and language that allowed a growing youth counterculture to cohere and speak out against mainstream social and political institutions, including the U.S. war in [Vietnam](#).

Leary, for one, promoted ideas such as “turn on, tune in, drop out” and “think for yourself and question authority.”

Moreover, Harvard Acid pioneer Richard Alpert was motivated by his experiences with LSD to seek out spiritual counsel in India, which ultimately led him to author his famous book “Be Here Now” that spoke to countless spiritually oriented hippies, many of whom came to the book through LSD experimentation.

“Be Here Now,” along with other books, brought Eastern spiritual culture (yoga, meditation, Zen culture) into the mainstream of American culture through popular fitness and health, where it remains prominent and vibrant today. ♦

Albert Hofmann Discovers LSD

By **BENJAMIN BREEN**

Published April 2013.

Roman doctors described a disease called the sacred fire (sacer ignis) which by the Middle Ages came to be known as St. Anthony's Fire: "an ulcerous Eruption, reddish, or mix'd of pale and red: and painful to the Patient," as [one 1714 text](#) put it. This disease was ergotism: poisoning produced by exposure to the compounds found in a fungus that grows on wheat.

In the early decades of the twentieth century, pharmaceutical firms began investigating ergot, finding that it contained valuable medicinal compounds such as ergotamine, used to treat migraines. A Swiss chemist named Albert Hoffman became especially interested in this field, and in November 1938, in the week following Kristallnacht and the run-up to World War II, he first created a derivative of ergot that would later be dubbed lysergic acid diethylamide: LSD.

It was not until five years later, however, that Hoffman returned to his invention. His discovery of the new drug's profoundly



A 1951 vial of LSD manufactured by Sandoz Laboratories, Albert Hoffman's employer.

psychoactive effects was one of the more famous accidents in the history of science.

Immersed in the complex process of synthesizing the drug, Hoffman accidentally allowed a droplet of LSD to dissolve onto his exposed skin. He thought nothing of it: hardly any

psychoactive drugs work in such small doses. Later that day, however, he found himself “affected by a remarkable restlessness, combined with a slight dizziness.” As he recollected in his book *LSD: My Problem Child* (1980) some forty years later, he went home sick, lay on his couch, and

sank into a not unpleasant intoxicated-like condition, characterized by an extremely stimulated imagination. In a dreamlike state, with eyes closed (I found the daylight to be unpleasantly glaring), I perceived an uninterrupted stream of fantastic pictures, extraordinary shapes with intense, kaleidoscopic play of colors. After some two hours this condition faded away.

Three days later, on April 19, 1943, the chemist decided to administer what he assumed was a tiny, threshold dose of the compound to himself in order to further test the effects of the drug. He took 250 micograms, which is now known to be a high dose, roughly ten times higher than the threshold.

Within an hour Hoffman found his perception of the world to be strongly altered. He asked his lab assistant to escort him home—by bicycle. Cycling through the Swiss countryside, Hoffman was shocked to observe that “everything in my field of vision wavered and was distorted as if seen in a curved mirror.”

By the time he arrived home, Hoffman found the effects of the unknown drug alarming enough that he thought it wise to call a

doctor. However, the physician reported no abnormal physical symptoms besides dilated pupils, and Hoffman began to enjoy himself, admiring

the unprecedented colors and plays of shapes that persisted behind my closed eyes. Kaleidoscopic, fantastic images surged in on me, alternating, variegated, opening and then closing themselves in circles and spirals, exploding in colored fountains, rearranging and hybridizing themselves in constant flux.

Hoffman awoke the next morning “refreshed, with a clear head,” and with “a sensation of well-being and renewed life... Breakfast tasted delicious and gave me extraordinary pleasure... the world was if newly created.” Hoffman was astonished: there was “no other known substance that evoked such profound psychic effects in such extremely low doses.” To this day, LSD is recognized as one of the most potent drugs known to medical science, and, as Hoffman realized early on, it is virtually unique in its ability to evoke “dramatic changes in human consciousness.”

One of the remarkable aspects of Hoffman’s story is how detached it was, both temporally and culturally, from the 1960s context with which LSD is often associated today. This delay between the scientific identification and the popular adoption of a drug is a common story.

Fans of Breaking Bad might be surprised to learn, for instance, that methamphetamine is actually a product of the nineteenth century. It was synthesized by the Japanese scientist Nagai Nagayoshi in 1893, but was not widely used until World War II, and failed to break into popular (and street) culture as a recreational drug of abuse until recent decades.

Similarly, LSD came into the world in the 1930s, but its remarkable effects were not even noticed until the 1940s, and it was not until the post-war era that it began to feature in medical studies and reach popular consciousness as a drug of abuse.

Hoffman's invention left a profound legacy: much of our legal and cultural understanding of illicit drugs in the past five decades has been shaped by the impact of LSD. Like the early atomic scientists who were busy at work on the day that Hoffman rode his bicycle in 1942, it took time for the genie to come out of its bottle. But when it finally did, the world changed. ♦

Vaccine Nation: America's Changing Relationship with Immunization

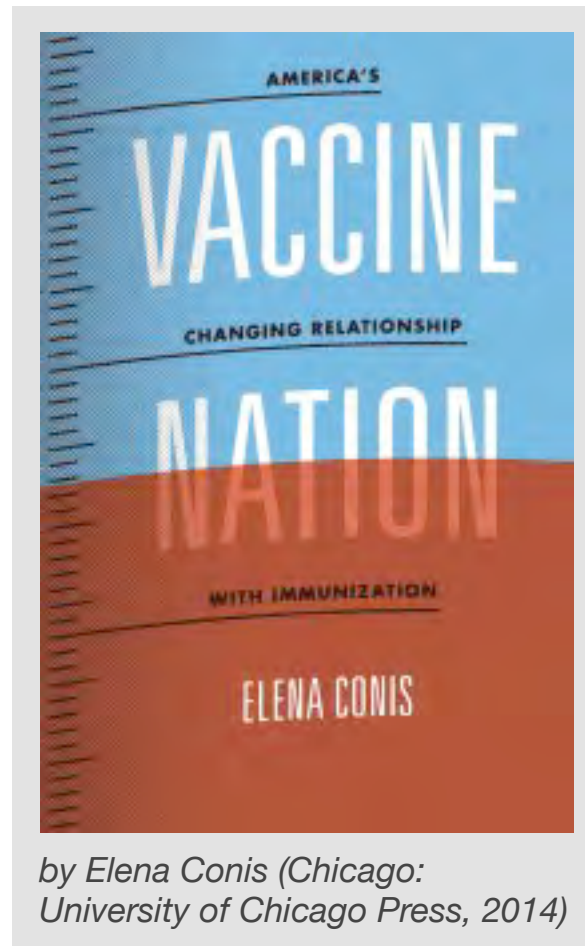
Book Review By

ZEB LARSON

Published April 2015.

Vaccine Nation: America's Changing Relationship with Immunization by **Elena Conis** (University of Chicago Press, 2014).

Elena Conis' *Vaccine Nation* examines the [changing perceptions of vaccines in the United States](#). In the early 1960s, vaccines were held in great confidence by the public, and scientists hoped that vaccines could be used to eradicate common childhood diseases such as mumps and rubella. Yet this optimism soon gave way as critiques of vaccination became increasingly popular. Conis traces the



disparate influences of environmentalism, feminism, and cultural politics in creating an anti-vaccination movement

Conis begins the book in the Kennedy Administration after briefly reviewing the successful vaccination campaigns aimed at polio and smallpox. Kennedy and other lawmakers saw [federal involvement](#) with the 1962 Vaccination Assistance Act as a cost-effective way to improve public health (20). Vaccination also played into [concerns about national security](#): improving the health of American children was critical at a time when a fifth of applicants to the U.S. military were being rejected (27).

More serious diseases such as polio and smallpox were disappearing or had already been eradicated in the United States, and now federal attention was turned to so-called dirty diseases such as measles. Modern confidence in science was such that many believed these older diseases could and should be eradicated. Conis writes, “Nature was something to be overcome with technological breakthroughs and scientific expertise” (54).

Yet doctors weren't in lockstep regarding the benefits of vaccines, especially regarding mumps, which was regarded as a harmless and comical disease of childhood. These diseases, once understood as an inescapable fact of childhood, were now targeted because of the damage they could do to a young child's development (52). Vaccine manufacturers such as Merck expounded on the threat that these diseases could pose, such as the risk of sterility from mumps. Vaccine manufacturers and public health officials pushed the vaccine as part of responsible parenthood, especially after a combined measles, mumps, and rubella vaccine became available. While mumps was never fully eradicated, by 1985 there were just 3,000 cases in the U.S., down by 98% from 1968.

The next major federal push for immunization came during the Carter Administration as the Childhood Immunization Initiative. Rather than relying on the federal government to immunize children, Carter used celebrities, PTAs, corporate leaders, and governors to force states to tighten their vaccination laws combined with parental education campaigns to push vaccination rates up. It was a cost-saving measure that Conis asserts reflected the general philosophy of Carter and his administration, which favored decentralized control over medicine and a reduced federal presence (88).

Carter's initiative also reflected [changing American concerns with healthcare](#). Health care costs were rising precipitously. In Carter's

view, a major part of the problem was that few Americans seriously tried to prevent serious diseases before they happened. [Responsible parents needed to be active in protecting their children with immunization](#). Pushing vaccination as a way to keep health care costs low was a less-expensive way to tackle the larger problem. Carter's initiative was the high-water mark of public confidence in vaccination, and by 1980 96% of children were being immunized against measles, mumps, rubella, pertussis, and other diseases. At the same time, several disparate cultural movements posed new challenges to public confidence in vaccination.

Second-wave feminism was one such movement. As caregivers, women traditionally bore the burden of overseeing vaccinations. Yet second-wave feminism challenged the patriarchal nature of medicine by trying to give women agency over women's health issues (114). Magazines such as *Mothering* urged women to be cautious with the measles vaccine, for example, because the vaccine could sicken those allergic to eggs. When women expressed concerns about complications from the pertussis vaccine, doctors brushed them aside. The effect was that women increasingly questioned the utility of vaccinations, especially in their role as a responsible parent.

The burgeoning environmental movement also posed a challenge, as environmental concerns clashed with the scientific triumphalism of the 1960s. Even in the nineteenth century, some

people had feared that vaccines transmitted poisons or animal matter into the human body (133). Rachel Carson's *Silent Spring* ushered in new fears of radiation and heavy metals in the environment, and critics of vaccination would frequently compare vaccines with environmental pollutants. By the early 1990s, authors such as Harris Coulter were proposing that vaccinations were responsible for psychiatric disturbances, including the behavior of serial killer Ted Bundy (148). In the view of environmentalists, nature had an intrinsic value, and it was better to let nature run its course with diseases like the chicken pox.

The hepatitis B vaccine was developed in 1982, largely to immunize health care workers. At that time, the disease barely existed in the public imagination (182). Yet concern about the disease grew throughout the '90s, and officials hoped to vaccinate schoolchildren to eradicate the disease. The vaccinations proved to be deeply divisive and set off fears over the vaccines' safety and the moral imperative to vaccinate children for a disease spread by "adult" behavior.

In the early 2000s, vaccine-safety advocates stoked fears that vaccines were causing autism. While the evidence was widely debunked by scientists, news media seized on one aspect of the story: the misinformed, irrational parent who refused to get their kids vaccinated (223). This perspective greatly oversimplified the debate, Conis argues, by eliminating any discussion around side-

effects from vaccination or dealing with barriers created by poverty and the health care system.

The author ends the book with a discussion of the human papillomavirus (HPV) vaccine. HPV went from being a disease that only a few people had heard of to a leading cause of cervical cancer. The vaccine sparked a large debate over the vaccination of school-age girls, ranging from concerns over teenage sexuality to safety concerns as well as intrusion by public health officials. Teenaged girls also had a voice in this discussion, as emerging social media meant that adolescents could offer their own insights.

The book is about two separate but connected narratives: [the development of various vaccines](#) and the creation of a public forum in which they can be debated. At the start of the book, scientists and politicians effectively own and control the debate. Some figures on the political fringe question the efficacy or use of vaccines, but their voices are largely discounted. By the end of the book, public opinion is an essential part of policy, and policy is consistently framed around what is "responsible parenthood." As more voices entered the debate, what exactly made a responsible parent became a heavily debated and divisive topic.

AIDS and the failure to create an AIDS vaccine is strangely absent from this narrative and would have been interesting to use in examining the public attitudes toward vaccination. Much of the book is about the public's increasing distrust of expert advice.

The AIDS epidemic in the 1980s was made worse by a delayed federal response as well as the failure to develop a vaccine, which has fed into popular distrust of public health officials.

Nevertheless, this is an interesting and engaging book, one which presents a balanced portrait of debates about vaccines without leaving behind the perspective of scientists and doctors. ♦

Mother of Invention: How the Government Created “Free Market Health Care”

Book Review By

LETICIA R. WIGGINS

Published October 2014.

Mother of Invention: How the Government Created “Free Market Health Care” by **Robert I. Field** (Oxford University Press, 2013).

“Keep the government out of my health care.”

If you’ve been privy to any of the discussions on the nature of United States health care in the past couple decades, you have undoubtedly heard this sentence, or some other variation of it. It’s a cry that’s only grown louder with passage of [the Affordable Care Act of 2010](#). With *Mother of Invention*, Robert I. Field is no stranger to the current debates in health policy. He writes to discredit the notion that the government’s hand is *only now* sticking its fingers into the healthcare jar.



by **Robert I. Field** (Oxford University Press, 2013)

Field, whose degrees include a JD, a MPH, and a PhD, may be the perfect candidate to settle the current debate on how modern health care developed. His biography hints at the methodical way he dissects the health care system through both a historic and a policy-driven lens. Through this approach, Field promotes a straightforward premise that the United States



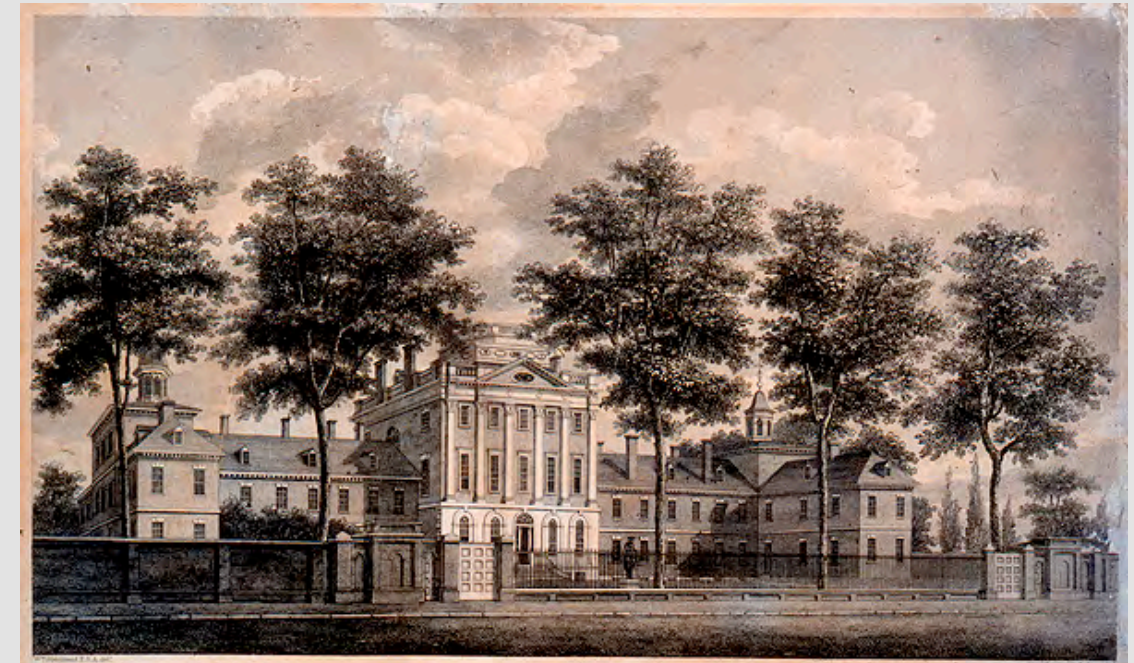
Barack Obama's reaction to the signing of the health care reform bill on March 21, 2010 (Source: Wikipedia)

government and private enterprise collectively worked as equally-involved parents to nurture what is now the largest health care system in the world.

In a way, Field's argument—that government and private industry created the health care system we know today—is nothing new. He explains that the health care industry developed much like the railroads, the highway system, the internet, and even the home-building industry. Thus, health care belongs on this list of governmentally subsidized “private” industries.

To him, the “free market” functions as an idealized system of unfettered exchanges between buyers and sellers. There's no room for the government in this faulty formulation, which he reveals is simply silly since the government has been involved in health care all along. By focusing on the pharmaceutical industry, the hospital industry, the medical profession, and private health insurance, Field illustrates government's fundamental role in each. Thus, rallying behind a pure “free market” ideology in its purest sense is a historical and political contrariety.

The first hospital in the United States was the brainchild of Benjamin Franklin and a friend Dr. Thomas Bond (among other collaborators), who in 1751 founded the Pennsylvania Hospital in Philadelphia. It replaced the religious almshouses for the poor and sick. Direct government funding of such hospitals quickly followed.



Architect William Strickland's sketch of the first Pennsylvania Hospital.
(Source: Wikipedia)

Moreover, since the earliest days of the republic, the state has supported the medical care of [military personnel](#). A year before the nation's founding in 1775 —when the country geared up for the approaching Revolutionary War—the first wave of government subsidizations backed private health care. By 1798, Congress had authorized the creation of a Marine Hospital Service to build hospitals to treat ill sailors.

The rise of the professional doctor followed this same state-backed trajectory. Faced with a shortage of doctors, the federal government decided to build more vocational schools for the new profession. It was only then, with direct government involvement, that this coveted profession thrived and grew.

But healing also happens in the home. Every American who has taken a prescription drug in the past 50 years is ingesting the product of a public-private collaboration. Field's chapter on pharmaceutical drugs is perhaps his most convincing. Taxol, in particular, the best-selling cancer drug in history, is the product of a long back-and-forth between the public and private sectors. The discovery of this drug's base came from the research of a botanist employed by the United States Department of Agriculture, intent on exploring the healing properties of yew bark. Though drugs are sold in what is usually thought of as a "free market," this occurs only as a result of the government's

direct involvement in the production and regulation of pharmaceuticals.

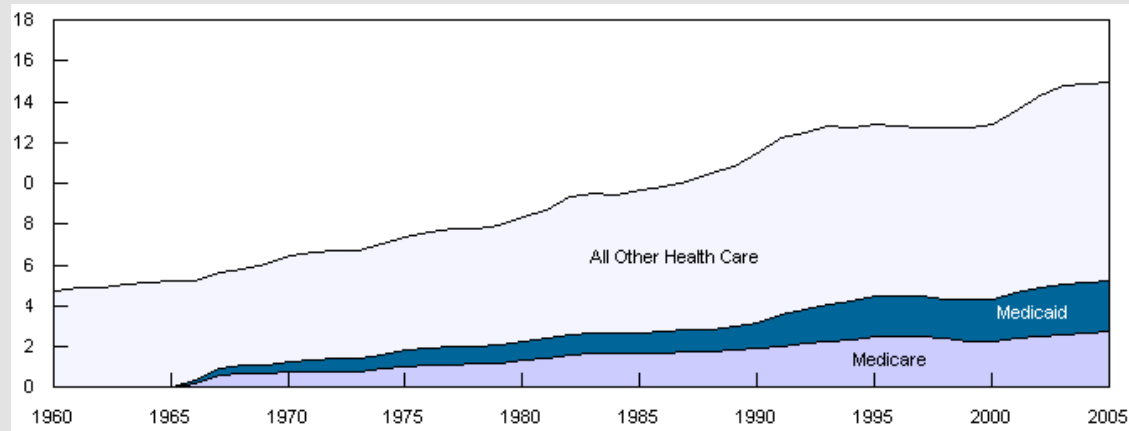
Alas, the reader might have spied a large hole in the health system up to this point: to pay for everything from hospital visits to prescriptions, one needs health insurance. Of the country's entire investment in health care, around 33 percent was financed through private health insurance in 2010, more than doubling the average of 15 percent in the rest of the world. Field points out that this "private" health insurance system is only made possible by various government policies of the twentieth century.

In one of the final chapters, the author outlines how the state subsidized what is now a multi-billion dollar private health insurance industry. From workplace programs to coverage afforded by [Medicare](#) and Medicaid, the government created the system it is now bound to and restricted by. This has continued with [the crafting of the ACA](#), which only expanded the government's reliance on private insurance to cover the uninsured.

Field does not shy away from his central metaphor—that of a doting mother preparing chicken soup for a stuffy-nosed child. With *Mother of Invention*, he certainly proves his point: even if the government wasn't serving the soup, it usually created the can. It had a key role in the development of this system from the earliest days of the nation. The government was there all along, though Field may do better to address the negative effects of its



Yew bark (Source: Wikipedia)



Medicaid and Medicare spending as part of total U.S. healthcare spending. (Source: Wikipedia)

influence as well as the positive contributions lest he be criticized for leftist bias.

Still, perhaps Field's strongest argument that translates to the future of American health care comes in his final chapter. "Health care cannot function," he declares, "without a solid infrastructure of regulation and financing that only it [the government] can provide."

In this sense, government involvement remains a necessary component for healthcare to advance. In the author's estimation, the government's hand will not be going anywhere anytime soon, and moreover, we should hope it doesn't if we want to keep the behemoth that is American health care running. ♦

A Cruel Wind: Pandemic Flu in America, 1918-1920

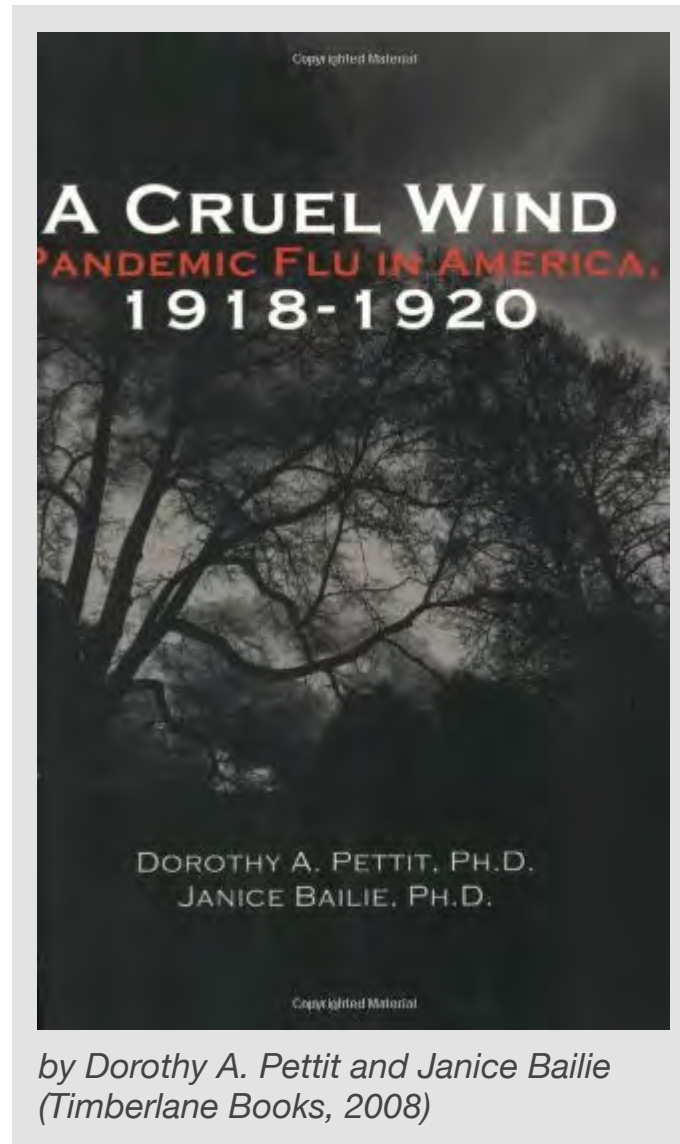
Book Review By
ANNE SEALEY

Published July 2009.

A Cruel Wind: Pandemic Flu in America, 1918-1920 by Dorothy A. Pettit and Janice Bailie (Timberlane Books, 2008).

Pandemic influenza has recently been in the air, both literally and figuratively. Almost exactly as I sat down to read Dorothy A. Pettit and Janice Bailie's excellent *A Cruel Wind:*

Pandemic Flu in America, 1918-1920, the World Health Organization held a press conference in Geneva to announce



that it was upgrading the recent outbreak of H1N1 influenza, more commonly known as "swine flu," to a global pandemic. Although the designation comes from the increasing spread and not increasing severity of the disease, the announcement is understandably worrying. The world has not experienced a full-blown pandemic since the relatively mild 1968 outbreak, which still killed nearly one million people worldwide.

An even more worrying memory is the 1918 pandemic, which likely killed a staggering 50 to 100 million around the world and an estimated half million Americans. The 1918 flu seemed even more cruel because it came just as World War I drew to a close, and while the Great War has been memorialized ever since, the flu was lost to a collective amnesia through much of the 20th century.

The 1918 flu has been rescued from obscurity by recent events, including the SARS outbreak, avian flu and now H1N1. Many readers will thus be familiar with the general outline of the story of the 1918 influenza, from its nebulous beginnings in either Asia or North America, to its petering out in 1919. Pettit and Bailie's book is organized roughly chronologically, they follow the

pandemic from its early, elusive days in the spring of 1918 through its conclusion in 1919. They describe, in serious but not alarmist terms, the growth of the pandemic to its crescendo in October. They vividly paint the picture of world in which public masks were common, anti-influenza propaganda existed alongside the anti-German, and the healthiest young adults, those between 18 and 40, were most likely to die of influenza.

The greatest strength of this book is the intimate portraits that Pettit and Bailie give of life during the pandemic. These include the stories of prominent figures, such as poet Robert Frost, and also the less well-known, such as children Bridget and Mary McG., who recovered from the illness but lost their father Timothy to it because he had worked through his illness in an attempt to support his family. Particularly interesting are the first and second chapters that cover the early days of the pandemic at home and in the field. Pettit and Bailie illustrate how life at home, where the government kept the disease closely under wraps through censorship and deliberate under reporting, differed greatly from the front lines, where it was unavoidable.

Pettit and Bailie tease out the many implications of the outbreak. They are good at the big consequences: the possibility that Woodrow Wilson was ill when attempting to negotiate the treaty of Versailles, the effect of high levels of illness among troops on war planning, the economic consequences of the number of people off work. They evoke the frightening scenes of bodies

stacked in morgues. They also discuss changes in understanding of the disease and of its treatment. Pettit and Bailie even illustrate how the experience of the pandemic helped ease the way for the entry of the government into medical and life insurance.

They also highlight the less obvious effects. Pettit and Bailie illustrate the dramatic impact that the influenza panic had on American theatre attendance and the World Series. They discuss how Ringling Brother's circus was forced to close due to lack of performers and audience members.

Pettit and Bailie back up their anecdotal stories with plenty of charts and graphs for the more statistically inclined. These figures clearly lay out the major influenza pandemics of the past century, death rates, morbidity rates and a host of other figures. For the more pictorially inclined a number of pictures are included. They have discovered a number of local images that do not appear widely in the available pandemic literature. The image of Seattle police wearing masks in 1918, featured page 102, is particularly striking, illustrating how the mundane was changed by the disease.

The book suffers from some small organizational problems. The first is the introductory chapter on influenza. The dense and detailed biological discussion of the influenza virus seems out of place in a book that is otherwise so accessible. A less specialized account would have served as a better introduction and been more in keeping with the tone of the book. Another slight problem

is the break of chronology. The book jumps several times from wartime conditions to the post-influenza peace and back again, making it difficult for the reader to judge how the two events affected each other. The confusion is particularly striking because otherwise the narrative is so gripping and clear.

A Cruel Wind does a valuable service to our understanding of both this illness and the context in which it raged. No other recent work surveys the event with such attention to the political and social environment of the period of the entire country. They have integrated both compelling local studies and the growing international literature on the subject. Despite this breadth of background, they have never lost sight of the human experience of the story.

Many scientists are hopeful that the current pandemic will look more like the relatively mild 1957 or 1968 pandemics than 1918 for epidemiological and sociological reasons. Even still, *A Cruel Wind* may provide some insight. Historians are notoriously bad prophets, but Pettit and Bailie's book should bring some comfort for its illustrations of the compassion and humanity that were as widespread as the 1918 pandemic. One hesitates, especially under the current circumstances, to call a book about a pandemic enjoyable. However, if such a label can be applied, Pettit and Bailie's book deserves it. ♦

Science and Technology

An image of galaxy NGC 660 from Hubble Telescope. (Source: Wikimedia Commons, ESA/Hubble, and NASA)

Aerial Torpedoes, Buzz Bombs, and Predators: The Long Cultural History of Drones

EDITOR'S NOTE:

The use of unmanned drones for surveillance, for targeted assassinations, and for attacks more broadly seems to be the latest evolution in the technology of war. But as historian Kenneth C. Hough reminds us, the military use of drones goes back at least a century, as does the controversy they have generated over the morality and meaning of using such technology to kill.

Published August 2013.

By **KENNETH HOUGH**

On May 23, 2013, one day after acknowledging that U.S. drone strikes had killed four Americans during his tenure, President Obama delivered his first major speech to outline drone warfare policies.

Since 2002, the nation has been arming drones to fight its global war on terrorism. Yet it took a decade of such attacks and the prospect of Obama's upset in the 2012 presidential election to "develop explicit rules for the targeted killing of terrorists by unmanned drones," in the words of *New York Times* reporter Scott Shane.

Six months after securing a second term, Obama appeared at Fort McNair's National Defense University to launch a public discussion over the use of Unmanned Aerial Vehicles (UAVs) under the rules of international warfare.



The modern drone has many technological and cultural precursors dating back to the turn of the century. Shown here is a Predator drone widely used by the Central Intelligence Agency and U.S. Air Force; originally designed for reconnaissance, it has now been outfitted with missiles and used in offensive strikes. (Source: Wikipedia)

Hoping to blunt some of the mounting controversy, the president reminded his audience that, “from the Civil War to our struggle against fascism, on through the long twilight struggle of the Cold War, battlefields have changed and technology has evolved.”

While drones may be new, Obama suggested, American leaders have long embraced cutting-edge weapons and severe tactics to preserve American ideals.

Obama also evoked these hard-won victories of the past to contrast with the apparent precision, economy, and flexibility of twenty-first-century drone warfare. Though controversial, limited drone strikes could be a hedge against the devastation caused by older strategies of annihilation and attrition that made the Civil War and World War II so deadly.

Obama claims that UAV warfare is not only legal, but also more moral in that there is a “near-certainty that no civilians will be killed or injured.”

Not everyone shares such optimistic appraisals of drones, and even Obama was forced to concede the dangers of undue secrecy, lack of oversight, and diplomatic fallout. Antiwar activist Medea Benjamin heckled him mid-speech: “Can you take the drones out of the hands of the CIA? Can you stop the signature strikes killing people on the basis of suspicious activities?”

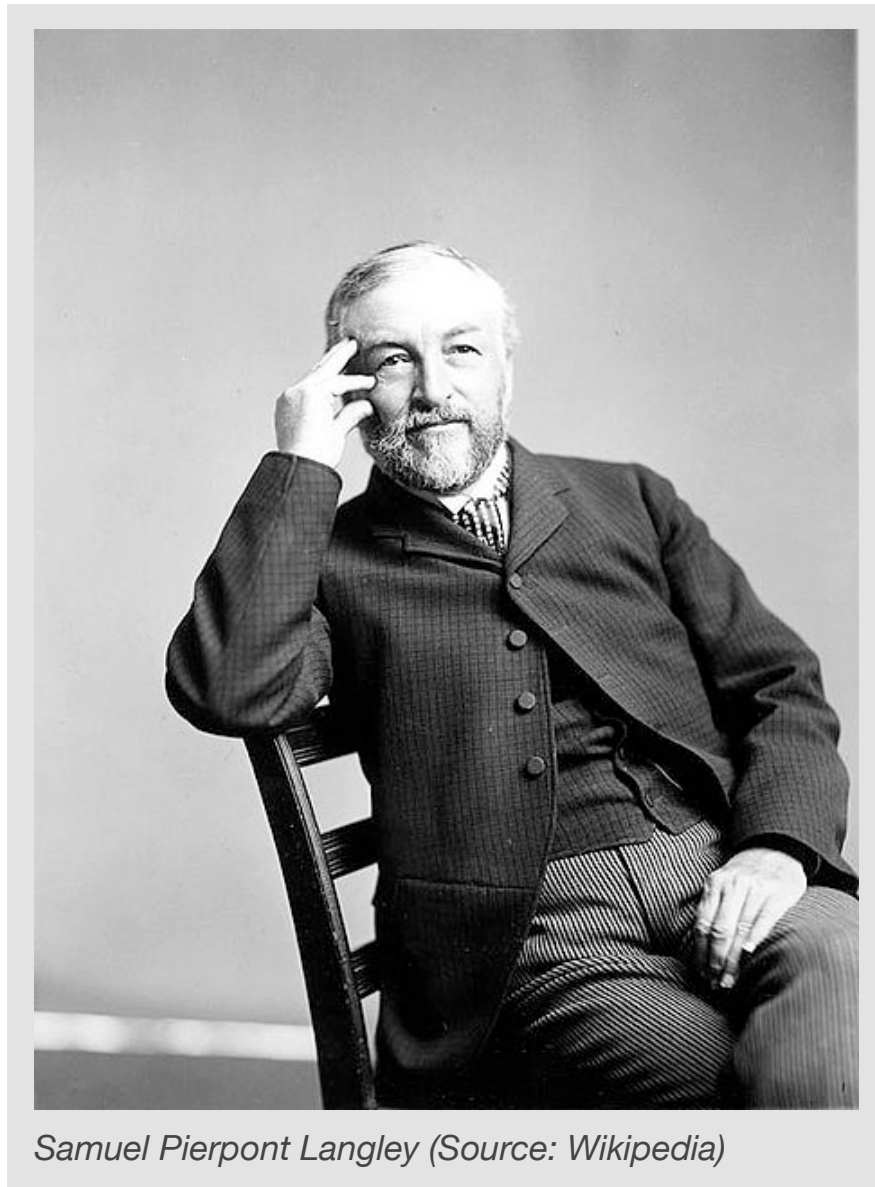
Time will tell if UAVs will emancipate us from the ravages of modern warfare, or if they will become the appliances of Orwellian control.

What is remarkable is how much Obama’s speech not only reflects current mixed feelings over drones, but also an American ambivalence about robotic flying machines that has existed for well over 100 years. Our cultural uncertainty over UAVs is as old as the automobile and predates the Wright Brothers’ first flight. Moreover, the American military has been in the business of testing unmanned aerial weapons since World War I and has deployed drones in combat in every major conflict since World War II.

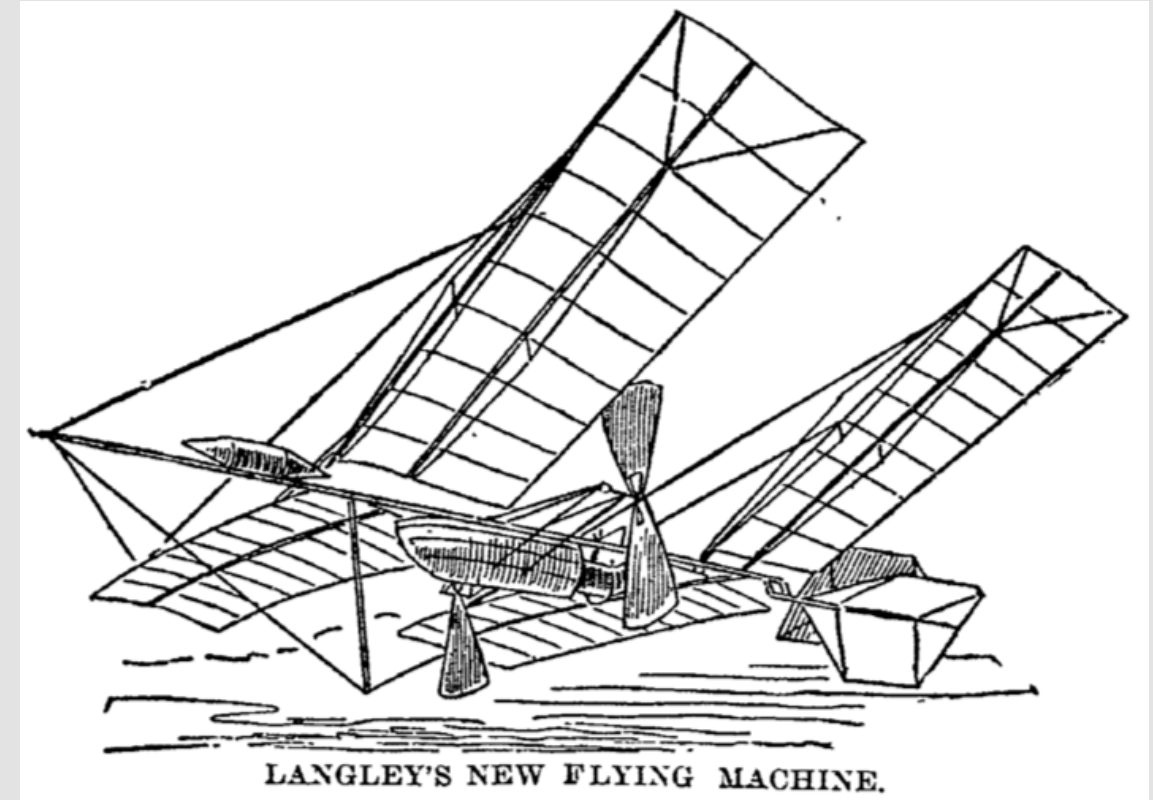
Since their emergence in the late nineteenth century, Americans have regarded unmanned aerial systems as four basic cultural phenomena: heralds of human accomplishment and hope for the future, signs of inhuman depravity portending society’s doom, mechanical misfires that are both ineffective and humorous, and transcendent machines that spark existential questions about war and society, tapping into what David Nye calls our “fundamental hopes and fears.”

Langley's Aerodrome and drones before World War I

On May 6th, 1896, Samuel Pierpont Langley, secretary of the Smithsonian and an early pursuer of [heavier-than-air flight](#), launched a steam-powered drone dubbed the *Aerodrome No. 5* (Latin for “air runner”) over the Potomac near Washington, D.C.



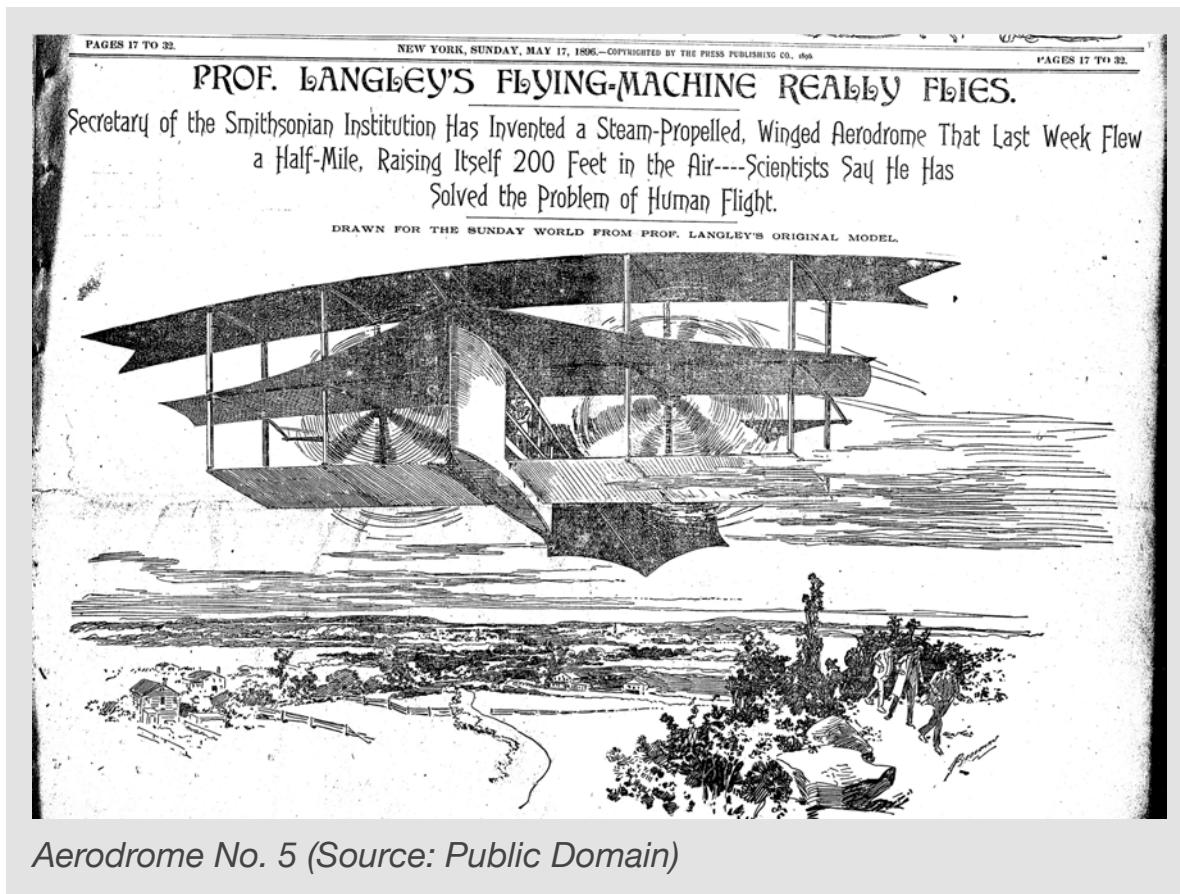
Samuel Pierpont Langley (Source: Wikipedia)



Newspapers published this illustration of Samuel Pierpont Langley's Aerodrome in 1899. (Source: Public Domain)

The pilotless craft, constructed of wood, fabric, and steel, gracefully spiraled one hundred feet into the air and one half mile downstream before its engine gave out. A second flight narrowly escaped a thicket of trees to settle gently on the river.

Each trip of the *Aerodrome* lasted barely 90 seconds. Yet observer Alexander Graham Bell believed the event historic, telling newspapers: “No one could have witnessed these experiments without being convinced that the practicability of mechanical flight had been demonstrated.”



The British *Church Weekly* praised the *Aerodrome* as a peaceful triumph betokening the uplift of mankind and Langley for enabling “common people, as well as poets and orators, to soar.”

Not every reviewer was so enamored. Indiana’s *Logansport Pharos Tribune* scoffed it was “a model only ... shaped like a mackerel ... a toy” and “of doubtful value, for it is not possible to imagine even a tried and successful aerodrome in popular demand.”

Given America’s late-nineteenth-century fixation on projecting military force and defending newly won overseas territories, the *Aerodrome* was unsurprisingly imagined as a revolutionary weapon.

A year after the [Spanish-American War](#), the *Daily Herald* of Delphos, Ohio speculated the drone combined with a “dynamite thrower” as conceivably “the most powerful engine of war known to civilized man.” Armed with the tiny craft, the American military would be invincible: “A fleet of ironclads could be destroyed by it in fifteen minutes. Coast defenses would be broken up like rail fences before a tornado.”

The *Boston Globe* went further, surmising hostile *Aerodromes* might even “make war so terrible, that the national troubles of the future will be settled by arbitration.”

This first well-known American drone was quickly described in the types of words that continue to color today’s discussion of pilotless aircraft.

Some described the *Aerodrome* as a liberating machine (like Bell’s own telephone) that could erase natural impediments and unlock a bountiful future for mankind. The *New York World* likened Langley’s drone to an act of magic, and assured that, “no man has as yet really flown, but on May 6 a machine did. With that machine men will fly.”

World War I and Interwar Drone Fantasies

The *Aerodrome*'s importance and lethality existed principally in the imaginations of newspaper editors, and Langley's device was largely forgotten in the wake of the Wright Brothers' manned ascent in 1903.

With rapid advances in manned aviation, including military aircraft, the possibility of armed drones once again surfaced.

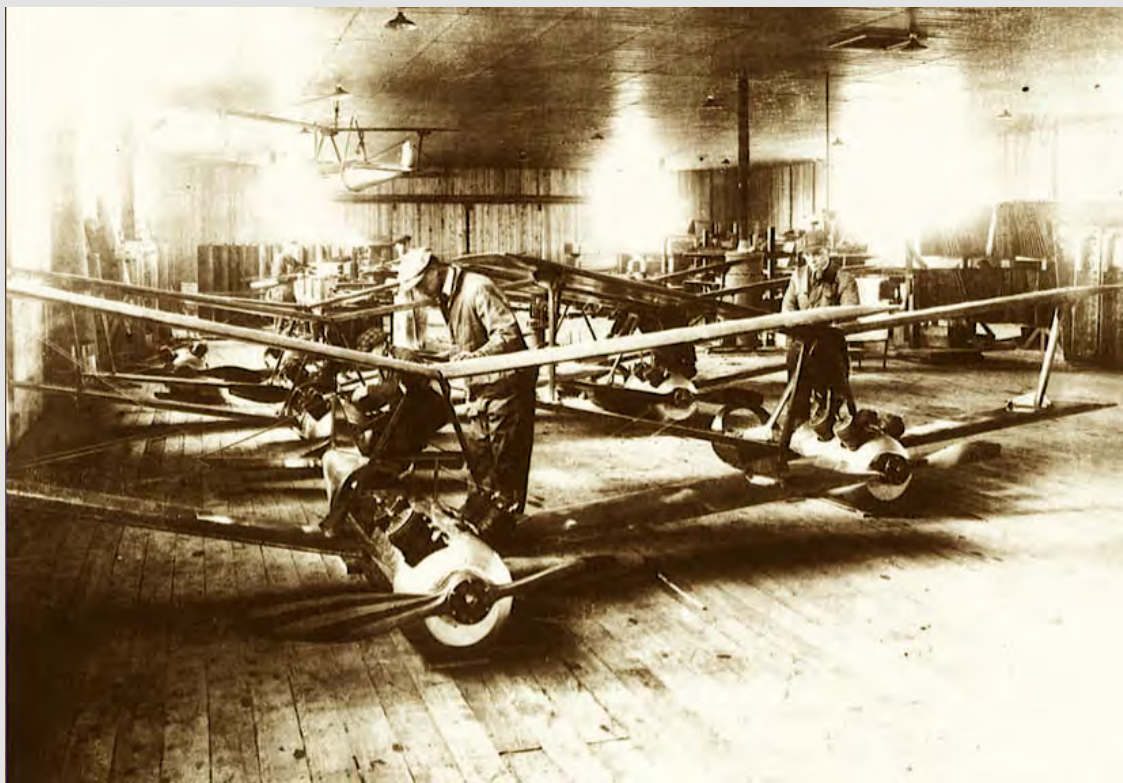
Well before Europe's fracturing into myriad battlefields in 1914, speculative fiction depicted unmanned "aerial torpedoes" as part of the mechanized future of war. An imaginary drone was the star

of a 1909 short film, *The Airship Destroyer* (aka *The Battle in the Clouds*). It depicted German dirigibles attacking England, a premise lifted from H.G. Wells' novel *The War in the Air* (1908). The "airship destroyer" performs better than manned planes and heroically spares the world such horrors as the bombardment of British homes, churches, and civilians by zeppelins.

Copying this storyline, D.W. Griffith's 1916 film *The Flying Torpedo* shows another citizen inventor saving California from a Japanese invasion with his wireless flying bombs. Both *Airship Destroyer* and *The Flying Torpedo* were screened widely and rereleased many times even as the "war to end all wars" raged around their viewers.

Indeed, soon after the U.S. entered World War I, remotely piloted vehicles moved from the silver screen to drawing boards of arms manufacturers in the hopes of saving American lives with explosive UAVs sent deep into German territory. Perhaps inspired by Hollywood, Secretary of the Navy Josephus Daniels' Naval Consulting Board (NCB) enlisted private scientists and engineers in the "war of technological surprises."

Headed by Thomas Edison, the board induced Elmer Ambrose Sperry, inventor of the stabilizing gyroscope, to join them. Sperry's gyroscope became the major component of the NCB's "most audacious and forward-looking project": the Curtis-Sperry Aerial Torpedo.



Flying Bomb Factory. (Source: Air Force)

The military investigated several such drones during the war, including the “Kettering Bug” or “Liberty Eagle” flying bomb, designed by Charles F. Kettering (future lead research engineer for General Motors) and built by Orville Wright’s Dayton Wright Airplane Company.

The idea behind each of these drones was simple, if their execution was not: once launched, the diminutive, explosive-laden planes were stabilized and guided by a combination of gears, pneumatics, and gyros. After a predetermined number of engine revolutions, their engines would stall and the UAVs would plunge in a terminal dive upon whatever unlucky object or person lay beneath.

Though neither drone was perfected in time for combat, the Curtis-Sperry Aerial Torpedo became the first purpose-built attack drone to make a successful flight. And despite its poor performance, the Kettering Bug impressed the army enough to become the first mass-produced drone in history.

Drone strikes were not a part of the Great War’s appalling destruction, but the U.S. military kept its UAV projects going well into the 1920s, hoping unmanned “death engines” might inoculate the U.S. against the evils of future wars.

Popular images of radio-controlled drones also endured in the interwar years, as media reports kept the public abreast of drone developments. These stories mixed hope about eliminating



William "Billy" Mitchell (Source: Wikipedia)

American war casualties with caution for possible domestic peril.

In 1924, *Literary Digest* suggested the newly formed Geneva Convention should prohibit the “manless airplane,” lest “this winged brood of destruction” spell the “final and utter destruction of the race and its civilization.” A remorseful Kettering later hoped blueprints for his Liberty Eagle would remain locked up “for all time.”

A similar if sillier pessimism crept into the 1936 cartoon *Plane Dippy*, which pitted Porky Pig, a newly enlisted Army Air Corps cadet, against an unruly experimental robot plane. With Porky trapped on board, the malfunctioning drone carves a path of



Bundesarchiv, Bild 146-1975-117-28
Foto: Lysiak | 1944/1945 ca.

Fieseler Fi 103 (Source: Wikipedia)

destruction through the air base and a nearby town, before the portly *Looney Tunes* star can escape to a life of safe boredom in the infantry.

Images of drone-enabled Armageddon grew more elaborate as experts appraised advances in UAV technology.

General William “Billy” Mitchell, controversial air power visionary and father the U.S. Air Force, produced graphic scenes of drone-delivered death while also advocating their use. In a series of popular magazine articles the outspoken Mitchell was preoccupied with what might be called an “aerial torpedo gap” that he saw growing between the United States and Europe.

Mitchell’s 1928 *Collier’s* piece “Look Out Below!” disjointedly delights in cutting-edge aerial torpedoes, while simultaneously describing a harrowing, cataclysmic gas attack on New York City



This German propaganda poster depicts the United Kingdom in flames under an onerous V-1, the most widely used unmanned aerial vehicle during World War II.

by drones, “suffocating the people, getting into subways, penetrating basements and lower floors of houses from which women and children would come rushing out and fall dead on the sidewalks.”

Mitchell’s emotional propaganda both boosted magazine sales and presaged future air warfare tactics. He believed the U.S. should not shy from aiming aerial torpedoes at civilians to spread terror, hobble an enemy’s ability to produce war materials, and quickly end wars.

Mitchell’s ideas disturbed many readers and American military leaders, but by the late 1930s world events played out his dire scenarios. His prediction of aerial torpedoes fired from Germany or France into population centers proved correct, although London and not New York was subject to drone attacks in the coming war.

World War II and the Dawn of the V-1

Technologically and culturally, World War II was the real coming of age of the combat drone, beginning dramatically in spring 1944 when Nazi robot bombs started falling on London.

Germany’s Fieseler Fi-103, better known as the V-1, was the progenitor of the modern cruise missile and the most widely used drone of World War II. Taking a page from Billy Mitchell, Hitler targeted his *wunderwaffe* at civilian centers, hoping to bring

England to its knees and forestall the imminent Allied invasion of Fortress Europe. While accomplishing neither, the V-1’s cultural impact is easily the longest lasting and most varied of any drone before or since.

A measure of this influence is in the array of nicknames given to the V-1, running the gamut from silly to somber and outnumbering those earned by any other specific model of weapon:

“doodlebug,” “bumblebomb,” “chucksnoof,” “dynamite meteor,” “whizbang,” “diver,” “Goebbels’ Gizmo,” “crow,” “June bug,”



Frederick T.W. Cook's depiction of a flying bomb over the Tower Bridge in London, 1944. (Source: Imperial War Museum)



Wilfred Stanley Haines painted this image of a bomb raid in 1944.
(Source: Imperial War Museum)

“crossbow,” and “Hellhound.” The best known appellation, “buzz bomb,” has since been applied to a disparate array of products including perfume, fishing lures, batteries, and bowling balls.

In July 1944, *Life* magazine declared the robot bomb one of the “historical mementos of World War II” and as culturally significant as the Jeep and Spam. This cultural cachet is all the stranger given the buzz bomb’s reputation as “one of the most terror-filled psychological weapons ever devised.”

Fulfilling fifty years of speculation about aerial torpedoes, the buzz bomb’s development into a cultural icon cannot be separated from the desperation with which Axis powers flung it as their empire began to unravel.

Originally dismissed by the Luftwaffe as a “dubious and uninteresting” project, the drone was resurrected in 1942 after the failure of conventional air raids on England and in response to round-the-clock bombardment of Germany by the Allies.

Rechristened the *Vergeltungswaffe* (revenge weapon), the V-1 was like a diabolical Model-T: a cheap, mass-produced, futuristic death delivery system. Built at the Volkswagen and Mittelwerke plants, often with slave labor, each drone could be assembled in just 350 man-hours and at only 2% the cost of a medium bomber.

Since no German aircrews would be lost in V-1 sorties, the drone seemed to offer maximum bang for the Deutsche Mark. “What the average damage from a robot bomb hit is,” observed American journalist W. Earl Hall, “I’ve never seen expressed in pound notes or dollars and cents. I only know that it’s very, very large.”

Though plagued with malfunctions, over 2,400 German UAVs under rudimentary autopilot control crossed the English Channel, killing 5,500 people and injuring 16,000 more between June 1944 and March 1945. At the height of the attacks, the British evacuated 360,000 women and children from London, validating

Gen. Mitchell's prediction that aerial torpedoes could spread terror among civilians.

The V-1's wild aerobatics and unpredictability added to its folklore. Stories about V-1s filled magazines, newspapers, newsreels, radio reports, comic books, and other media. Jokes abounded about the buzz bomb's randomness and ineffectiveness. "The mountain hath groaned and given forth a mouse!" quipped one of Winston Churchill's advisors after the initial buzz bomb assault failed to do much damage.

Bob Hope gleefully mocked vivacious actress Betty Hutton (and her brassy singing voice) as the "Allies answer to the buzz bomb." As if in retort, a cleaning woman quoted in *Yank Magazine* jokingly dubbed the drones "Bob Hope bombs," explaining: "When they come ... you bob down. And then hope for the best."

The robot's random cruelty enraged others. An American WAC seethed that a chance V-1 hit that killed 74 American soldiers was "more like murder than war."

The drone's haphazardness posed an existential threat as well, endangering cultural treasures and suggesting new societal realities. The U.S. Army's *Roberts Commission for the Protection and Salvage of Artistic and Historic Monuments in War Areas* castigated the Nazis for "campaigns of sheer terror" in launching "robot bombs without the slightest regard for what was hit."

This sort of violent modernity knocked about the world of art as well. British impressionistic painters tried to capture the weirdness of doodlebug raids in watercolors and oils.

Writers like Ernest Hemingway and George Orwell also commented on the social damage done by robot bombs. Hemingway disparaged the V-1 as "an ugly metal dart with a white-hot bung hole," endangering civilians and insulting the masculinity of fighter pilots. The ordeal of senseless drone attacks becoming part of everyday life left its mark on Orwell's



Actor and radio-controlled plane enthusiast Reginald Denny at his hobby shop in Los Angeles. (Source: Righter Family Archives)



A young factory worker who would later change her name to Marilyn Monroe posed with an airplane propeller for *Yank Magazine* in 1945. (Source: Wikipedia, by David Conover)

dystopian novel *Nineteen Eighty-Four* (1949). Flying bombs called “steamers” randomly menace Winston Smith and other workers, but are ignored by Big Brother’s tyrannical government.

Some commentators wondered if the arrival of robot bombs might reshape civilization’s moral standards.

For peace activist Norman Angell the V-1 was an indictment of society’s “incapacity to restrain criminal violence in international affairs.” He wondered whether global unity was sufficient to curtail the perfection of robot bombs before cities like New York and Chicago were reduced to “bloody rubble.”

Fellow pacifist H. M. Tomlinson (whose home was destroyed by a V-1) saw drone warfare was the “arrival...of Frankenstein [that] changes the old values of existence.” Richard Lee Strout saw no controversy in ranking flying bomb attacks as equivalent atrocities to the Nazi death camps, arguing that both were war crimes necessitating Germany’s harsh punishment.

The V-1 produced fears of Axis raids on American cities. In 1945 Admiral Jonas H. Ingram, commander in chief of the Atlantic Fleet, caused a mini-sensation when he announced that robot attacks on Washington, D.C. and New York City causing death and destruction were “possible and probable” within the coming months. “I know the enemy,” Ingram explained, “think what it would mean to Dr. Goebbels at this stage of the war to announce that ‘today we have destroyed New York.’”

Although other officials were more restrained, the army and navy had secretly developed a “Joint Robot Defense Plan” to defend the Eastern Seaboard against U-boat launched flying bombs.

While statisticians calculated the risks of Americans being injured or killed by flying bombs at fifteen million to one, insurance providers reported that the “robot scare” had caused an uptick in sales of domestic war damage insurance policies. The *New York Times* charged the directors of the Metropolitan Museum of



An American JB-2 buzz bomb on display to the public during a war bond drive in New York City in 1944.

Modern Art with playing chicken with the “most valuable collection of art treasures in the city” by not taking the drone threat seriously.

Comic book publishers jumped on the apocalyptic imagery of a buzz bomb attack on the U.S. “Robot Death Over Manhattan,” the cover story in the January 1945 issue of *Wings Comics*, depicts swarms of buzz bombs threatening the Empire State Building and exploding in Times Square. Similarly, a *Human Torch* comic from mid-1945 has Japanese soldiers directing buzz bomb attacks on the city via television.

Catastrophic visions like these had lasting power. When a B-25 bomber crashed into the Empire State Building in July 1945, some eyewitnesses feared a Japanese attack with appropriated Nazi V-weapons.

The American Adoption of Drones

While some fretted over the social changes wrought by German robots, the Allies were already fighting fire with fire.

The U.S. Army Air Force’s “War Weary Bomber” project turned obsolete planes into flying bombs that were steered by pilots in other planes at German cities in the ANVIL and APHRODITE operations in 1944.

This response to the V-1 proved overly complicated and often more dangerous to its own aircrews than to its targets. Joseph P.

Kennedy, Jr., elder brother of John F. Kennedy, was killed when the drone he was preparing prematurely exploded.

The effectiveness and ethics of these primitive drones divided American military leadership.

General Carl Spaatz, commander of U.S. Strategic Air Forces in Europe, believed UAVs should be directed at undefended urban areas for greater “psychological effect.” Navy Chief of Staff Admiral William D. Leahy demurred, calling drones an “inhumane and barbarous type of warfare with which the United States should not be associated.”

Despite Leahy’s qualms, the U.S. Navy was at the leading edge of America’s drone warfare programs, launching purpose-built drones like the radar-controlled SWOD-9 “Bat” bombs against Japanese targets in the Pacific.

A U.S. military campaign attempted to make robot warriors palatable to the American people and starred actor Reginald Denny, an aviation enthusiast and radio-controlled plane hobbyist.

Denny adapted his sophisticated toys for use as target drones, and in 1944 the army’s First Motion Picture Unit, headed by Denny’s friend Ronald Reagan, dispatched photographers to document the Radioplane factory.



One of Denny’s female workers, a young Marilyn Monroe, was launched into stardom when a *Yank Magazine* photographer took pictures of her holding one of the diminutive target drones and steered her toward modeling. With slight exaggeration one might say that America’s quintessential 1950s “bombshell” was drone delivered.

U.S. auto manufacturers like Ford and Willys Overland soon began producing a much more deadly model than Denny’s diminutive targets. The JB-2 (“Jet Bomb 2”) Thunderbug was reverse-engineered from V-1s captured intact and a virtual knock-off of the infamous doodlebug. Celebrating the quick appropriation of Axis technology, *Universal Newsreel* claimed that while the German drones had terrified and killed civilians, America’s counterfeit was “a super dream of modern warfare, fostered in the imagination of Jules Verne.”

Contorting himself in a like manner, Major General Bennett E. Meyers of the army's Air Technical Service Command (ATSC) tried to distinguish America's bomb from its Nazi twin. "We may never need the robot bomb," explained Meyers, "for the Army Air Forces do not go in for indiscriminate bombing attacks. But if we do need it, we've got a good one."

Drones, the Atomic Bomb, and the Cold War

A few weeks before the Trinity atomic test in New Mexico, Meyers's ATSC mounted displays in Washington, D.C. and New York of "America's buzz bomb" as part of a public war bond drive.

The campaign tapped into the nation's anti-Japanese zeal, drawing unsubtle associations between the aims of U.S. and Nazi drones. "You've read how much damage 'buzz' bombs did to England," announced the campaign, "now see America's own robot bomb which is part of our plans to beat Japan."

The International News Service was more blunt, indicating that robot strikes on Tokyo would teach "Japanese civilians [the] meaning of total war."

By 1945, indiscriminate drone strikes by America might not have shocked a public accustomed to the carnage of World War II and hopeful that a new weapon might abbreviate the hostilities.

Ultimately, the JB-2 was never deployed, but the suggestion of its targeting Japanese civilians paved the way for a public

understanding of the atomic bomb. The advent of the nuclear age and its fears of instantaneous destruction overshadowed the birth of drone warfare, yet both weapons intertwined in meaningful ways.



Workers assemble a Firebee drone. (Source: Flickrriver)

Both the V-1 program and Manhattan Project were conceived in 1942 as desperate scientific gambles, in partial awareness of each other. President Roosevelt's initiation of the atomic program and its breakneck pacing were inspired by gloomy forecasts about a German atomic V-weapon falling on American cities.

Especially striking were the ways in which the moral debate over robot bombs presaged and even set the stage for discussions over the ethics of atomic warfare.

George Fielding Eliot's 1944 article "Science and Foreign Policy" in the journal *Foreign Affairs*, written almost a year before the Manhattan Project became public knowledge, regarded push-button flying bombs as the most troubling sign of science's power "to destroy us all."

He called for the creation of a global organization to police the use of robot bombs, evocative of the future International Atomic Energy Agency. Without an international agreement on drones "a secret armament race between the United States and Russia would keep the world in terror and undermine the whole structure of world security."



An array of drones during the 2005 Naval Unmanned Aerial Vehicle Air. (Source: US Navy by Daniel J. McLain)

In many post-war commentaries imagining the horrors of World War III, the two infernal devices were combined into a single "atomic buzz bomb."

The *New York Times* speculated that armed "fleets of drones" could "saturate" and confuse enemy defenses, allowing a few atomic warheads to sneak through.

Professor Arthur H. Compton, Chancellor of Washington University, envisioned a superpower war wherein "jet propelled planes ... with atomic warheads ... sent without warning at each of the enemy's major production centers" would disintegrate cities, killing 10% of the population in the first *hour* of combat.

Gen. Spaatz, too, raised the specter of a nuclear Pearl Harbor in a December 1945 *Collier's* article warning readers that nuclear laden "robot planes ... controlled by an internal 'brain'" could challenge America's air defenses and make World War II seem "mild and slow" by comparison. Months later, Spaatz predicted the Soviets had "improved on the German buzz bomb" capable of more than ten times the range of the original V-1.

Spaatz's alarm over Soviet drones took strange cultural divergences. In mid-1946 a "ghost rocket" panic swept Scandinavia, and thousands reported buzz bombs streaking across the skies. This early UFO-like flap was ignited by the Soviet capture of the *Peenemünde* German rocket facility where V-1s had first been tested.

Similarly, in the opening sequence of the science-fiction film *The Day the Earth Stood Still* (1951), radar operators mistake a flying saucer for a Soviet buzz bomb attack on the East Coast.

Like earlier fears of V-1 raids on the U.S., the danger posed by Soviet drones was greatly exaggerated. Stalin's crash program to develop drones (fearing V-1 attacks on Moscow) was plagued with setbacks and not viable until 1952. Yet Soviet investment in ballistic missile technology outpaced American capabilities, eventually allowing the Soviets many firsts in the Space Race.

The Cold War proved a technological boon to drone warfare, but a setback in terms of the broader public discussion on UAVs.

America's second-generation buzz bombs were radar controlled, launched from submarines, and fitted with nuclear warheads. Radio-controlled drones were used on a limited basis during Korean War, and were even given star treatment in Glenn Ford movie *The Flying Missile* (1950)—“The Bomb That Stalks Its Prey!”

However, real public debate about push-button warfare, which had been reaching a crescendo in the late 1940s, began evaporating in mid 1950s, just as a series of embarrassing domestic accidents occurred, injuring civilians and killing American servicemen.

The most embarrassing drone snafu was the so-called “Battle of Palmdale” in 1956 when a drone launched from Point Mugu Naval



The New York Police Department arrested New York artist Essam Attia for placing this poster, satirizing a domestic drone program, around the city in 2012.

Air Station in California went rogue and threatened to fall on Los Angeles. Air force rockets failed to hit the runaway craft, and instead ignited enormous brushfires.

Miraculously, no one was injured, but the fires and shrapnel destroyed property and came frighteningly close to bystanders. Although the fugitive F6F Hellcat drone eventually crashed inertly into the desert, a furious Los Angeles County Supervisor Roger Jessup introduced a resolution demanding “utmost care” in future drone testing.

As the Cold War dragged on, a new breed of multiuse “smart” robotic spies filled out top-secret military and intelligence agency arsenals.

By the early 1960s, Ryan “Fire Fly” and “Lightning Bug” reconnaissance drones were flying CIA missions over Cuba, China, and Vietnam, replacing human U-2 pilots who were frequently shot down. The unmanned spies were just as vulnerable to interception, but their robotic nature allowed U.S. officials to take a noncommittal stance if operational losses occurred. Today’s official reticence to discuss drone operations was born in this “no comment” era.

However, the stealth and flexibility offered by Kennedy-era drones was hemmed by the all-consuming desire to secure technological secrets. Days after the Cuban Missile Crisis, Secretary of Defense Robert S. McNamara suggested air force drones might be used to monitor the removal of Soviet surface-to-air missiles, but noted military opposition to “possible loss and compromise of the highly classified drone.”

Drones were significant in U.S. intelligence gathering and electronic air defenses during the Vietnam War, and were anthropomorphized by both Americans and Vietnamese. American ground crews affectionately named their UAVs, painting them with nose art and awarding “purple hearts” to wounded or lost drones. North Vietnamese soldiers shot these drones down and posed victoriously atop the American robots, as if having vanquished mechanical dragons. Yet this theater remained mostly on the battlefield, failing to become part of larger public discussions about the war.

Research, testing, and use of UAVs moved forward, but all outside the public eye. When drones did make the papers it was in strange incidents like the crash of an alien-looking Ryan Model 154 stealth drone into the Los Alamos Atomic Energy Complex in 1969.

Government silence left press and public to speculate about black budgets and the secret UAV missions. Incidents that breached the wall of secrecy around intelligence drones were rare, and only convinced officials to take tighter controls over top-secret projects.

Cultural depictions of drones over the next decades reflected a similar ambivalence, mixing fears about the perils of technology with post-Vietnam War, post-Watergate public distrust of government.

The combat UAV featured in the 1986 Chevy Chase comedy *Deal of the Century*, for instance, is schizophrenically portrayed as futuristic, cheap, silly, erratic, precise, and deadly to the point of being demonic. More dangerous to domestic tranquility than the enemy, the “Peacemaker” drone is downed by a human pilot before it can destroy Los Angeles (a favorite drone target).

Satires of drones as Cold War excesses joined less sanguine movies of robots-run-amok and what H. Bruce Franklin calls “the alienation embodied by war-making computers,” including *WarGames* (1983), *The Terminator* (1984), *Runaway* (1984), and

RoboCop (1987). This genre scorned ballooning defense budgets as breeding killer machines uncontrollable by inept authorities.

This sentiment was also present in Gregg Easterbrook's 1984 *Washington Monthly* article "The Army's \$800,000 Model Airplane," which reported dismaying cost overruns and official ineptitude in the army's Aquila drone program. With the threat of the U.S.-Soviet war still palpable, Easterbrook suggested the military should contract with private companies then developing smaller "Samurai" drones to neutralize Soviet airpower in the event of "an all-out surprise attack by the Warsaw Pact."

By 1991, the year of the Soviet Union's collapse, fictional drones were once again endangering humanity and future Los Angeles in the year's the biggest movie *Terminator 2: Judgment Day*.

Earlier that year, real-life UAVs had flown above the Kuwaiti desert in the closing days of the Gulf War. The aptly named Pioneer provided live television surveillance of the battlefield and made history when Iraqis surrendered to one of the unarmed drones—the first time a robot had ever captured humans in war.

Drones Today

Pinpointing the moment when our current fascination over drones began is difficult, but two events in the wake of the 9/11 attacks are milestones.

In a now infamous speech on October 7, 2002, just days before Congress authorized the [Iraq War](#), President Bush raised the specter of robot attacks on the United States for the first time since World War II. Contending that if swift action wasn't taken Saddam Hussein's weapons of mass destruction "could come in the form of a mushroom cloud," Bush also warned about Iraq's "growing fleet of manned and unmanned aerial vehicles" that might attack American cities with chemical and biological weapons.

Within a month of this phantom Iraqi drones alert, the Bush Administration had slain Al-Qaeda operative al-Harithi in Yemen with a Predator drone's hellfire missiles.

These two events, one phantasmagorical and one genuine, embody much of the current cultural schizophrenia over UAVs.

While the military ramps up its investment in drone fleets, already accounting for over one quarter of all combat aircraft, criticism of UAV warfare has united voices across the political spectrum, from Occupy Wall Street-inspired street artists, to libertarian radio programmers, to conservative Congressman Rand Paul and former Democratic President Jimmy Carter, who question the wisdom, legality, and morality of American drone attacks.

Popular culture shows us equally jumbled impressions. A recent PBS documentary treats UAVs as high tech wonders, while an episode of the TV drama *NCIS: Los Angeles* posits terrorists-

commandeered drones attacking California. The U.S. Air Force uses drones in recruitment ads, with the tagline: “It’s not science fiction. It’s what we do every day.”

The 2012 video game *Call of Duty: Black Ops 2*, which raked in \$500 million in the first twenty-four hours of its release and billions more since, allows players to fight back against hijacked air force UAVs attacking—yes—Los Angeles. In the equally lucrative world of fast food, Domino’s Pizza recently unveiled its “DomiCopter” drone, a brave new world for home delivery.

Future historians may come to see Obama’s recent statements on drone policy as an important course-correction in today’s frenzied debate over drone warfare, but given the 117-year history of debate over drones it seems unlikely that these inaugural policy forays will have a conclusive, much less immediate, effect.

To fully appreciate this, a person attending the President’s May 23 speech would only have needed to take a brisk, twenty-five minute stroll to the north, to the Smithsonian’s Air and Space Museum where today’s modern military UAVs rub wingtips with the Aerodromes, buzz bombs, and Pioneers from our drone-filled past. ♦

Suggested Reading

Remarkably, relatively little has been written about the long cultural impact of drones, especially the fifty-year period spanning the birth of drone technology and the first use of drones in battle during World War II. However, a number of straightforward, technical histories of drone technology have been written that occasionally touch on cultural reaction. These include:

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Laurence R. Newcome, *Unmanned Aviation: A Brief History of Unmanned Aerial Vehicles* (Reston, VA: American Institute of Aeronautics and Astronautics, 2004).

Curtis Peebles, *Dark Eagles: A History of Top Secret U.S. Aircraft Programs* (Novato, CA: Presidio, 1995).

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More general histories of aviation culture flight and drone technology include:

Robert . E. Batholomew, *Little Green Men, Meowing Nuns, and Head-Hunting Panics: A Study of Mass Psychogenic Illness and Social Delusion* (Jefferson, N.C.: McFarland, 2001).

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Steve Zaloga and Jim Laurier, *V-1 Flying Bomb, 1942-52: Hitler's Infamous "Doodlebug"* (Oxford, U.K.: Osprey, 2005).

Steve Zaloga, *Target America: The Soviet Union and the Strategic Arms Race, 1945-1964* (Novato, CA: Presidio, 1993).

Wilfried Kopenhagen, *The V1 and Its Soviet Successors* (Atglen, PA: Schiffer Pub, 2000).

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Department of Defense, *Department of Defense Report to Congress on Future Unmanned Aircraft Systems Training, Operations, and Sustainability* (Washington, D.C.: Government Printing Office, 2012).

Document 134, Summary Record of the 17th Meeting of the Executive Committee of the National Security Council, November 2, 1963, *Foreign Relations of the United States, 1961–1963, Volume XI, Cuban Missile Crisis and Aftermath*, U.S. Department of State, Office of the Historian, <http://history.state.gov/historicaldocuments/frus1961-63v11/d134>.

George Fielding Eliot, “Science and Foreign Policy,” *Foreign Affairs*, 23:1/4 (1944/1945).

Gregg Easterbrook, “The Army’s 800,000 Model Airplane,” *Washington Monthly*, July/August, 1984.

William Mitchell, “Look Out Below!” *Collier’s*, April 21, 1928.

“Professor Langley’s Flying Machine Really Flies,” *New York World*, May 17, 1896.

“Science to End War or End the Race,” *The Literary Digest*, October 4, 1924.

Carl A. Spaatz, “Air Power in the Atomic Age,” *Collier’s Weekly*, December 8, 1945.

U.S. Navy, War Diary, Eastern Sea Frontier, *Robot Defense Plans*, January 1945.

Additional Images

"Tempests Attacking Flying Bombs"



A 1944 painting by Walter Thomas Monnington. (Source: Wikipedia Commons)

Aerial torpedo boat



The Aerial Torpedo-Boat in Action

Drawing of an "aerial torpedo-boat in action" from the San Francisco Call, November 1896.

Robot Bomb



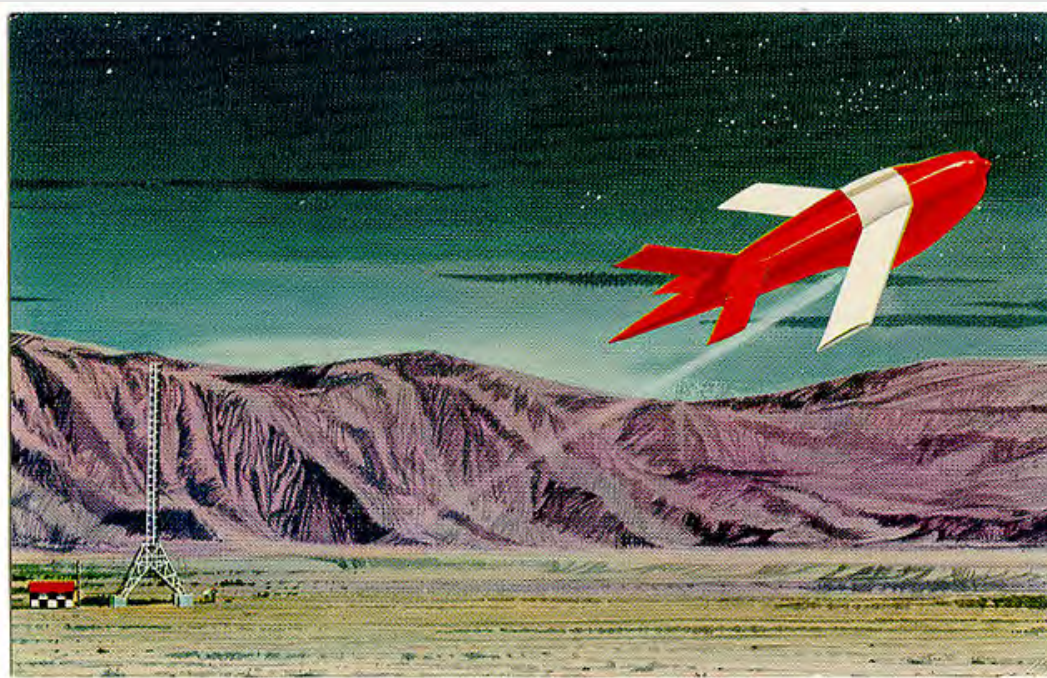
A poster depicting Nazi drones during World War II.

Predator and Hellfire



*An armed Predator drone launches a Hellfire missile in 2010.
(Source: Wikipedia)*

Ryan Firebee



This 1960s post card depicts one of the first jet-powered unmanned aerial vehicles.

Flying Bomb Cutaway

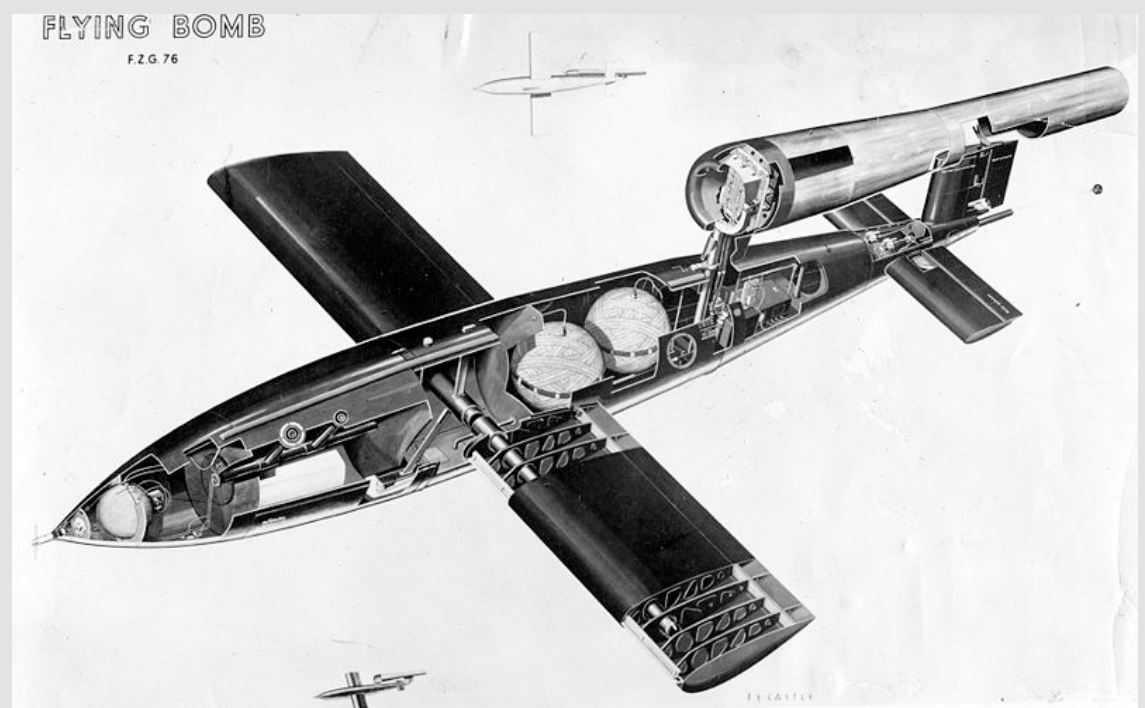


Illustration of a V-1 flying bomb, circa 1944. (Source: Wikipedia)

Charles Darwin's American Adventure: A Melodrama in Three Acts

EDITOR'S NOTE:

*2009 was celebrated around the world as 'The Darwin Year.' It marked the 200th anniversary of Charles Darwin's birth and the 150th anniversary of the publication of his landmark *On the Origin of Species*. While Darwin's theory of natural selection caused considerable controversy at the time, his ideas are now accepted as the foundation of all the modern biological sciences. With the festivities winding down, this month historian Steven Conn looks back on Darwin's history in the United States—the only developed country where Darwin denial is still widespread—to look at the strange career Darwin has had in this country.*

Published February 2010.

By **STEVEN CONN**

Prologue

In 2009, people all over the world wished Charles Darwin a happy 200th birthday. They did so through symposia and conferences, exhibits and television specials, books and lectures. 781 events of one sort or another in 45 countries according to the International Darwin Day Foundation website.

Born on February 12, 1809, Darwin published his epochal study *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life* in 1859 when he was fifty. A double celebration then: a bicentennial birthday and a sesquicentennial anniversary.

If you are reading this in the United States, you can be forgiven if you didn't quite notice the festivities. Certainly there were a number of events across the country



British scientist Charles Darwin. Darwin's scientific discoveries concerning evolution had an immediate impact on the scientific community. But, their impact on society, politics, and debates about science and religion have had much longer term implications for American society. (Source: Public Domain)

marking the Darwin Year, but from my own observations these celebrations tended to be subdued, small-scale, often confined to university campuses, and a number happened late in the year giving them the faint odor of hurried after-thought.

The Smithsonian Institution, the nation's flagship scientific research organization, managed to muster a small, temporary exhibit in the National Museum of Natural History, and that opened only in September, 2009.

To be fair, Americans also had to contend with another 200th birthday in 2009: Abraham Lincoln's. By astonishing coincidence, Darwin and Lincoln arrived on this earth not just in the same year but on the very same day.

Lincoln was much more on the American mind in 2009, with events sponsored by national and state "Lincoln Commissions," and because of the remarkable presidential election of 2008 where Barack Obama repeatedly drew connections between himself and Lincoln. In this cultural context, Darwin occupied the back seat.

Still, the relatively quiet nature of Darwin observance in 2009 in the United States reflected the uneasy career Darwin has had in this country from the moment copies of *Origin* arrived on these shores. More so than in any other industrialized nation—indeed, more than in many nations—Americans remain in Darwin denial.

In spring 2009 the British Council conducted a poll surveying attitudes about Darwin around the world. To the question, "is there scientific evidence to support Darwin's theory of evolution?" 77% of Indians, 72% of Chinese and 65% of Mexicans answered yes; only 41% of Americans did, which put the United States slightly behind South Africa. In addition, roughly the same number of Americans, 43%, reported that life on Earth was created by God and has always existed in its current form.

Darwin Deniers exist all over the world. So too do scientists who, while enthusiastically and faithfully accepting the foundational ideas of *Origin*, have reconfigured and updated the theory over the intervening 150 years. Yet, only in the United States have religious objections to a scientific theory been turned into a social and political movement.

On May 3, 2007 during the first debate among the ten candidates vying to be the Republican nominee for president, a reporter asked, "Is there anyone on stage who does not believe in evolution?" Three of the men raised their hands, including a former governor, a sitting US Senator, and a Congressman. A fourth, John McCain, who would go on to represent the GOP, insisted that while he believed in evolution, "I also believe that when I hike the Grand Canyon the hand of God is there also."

It is difficult to imagine another country where mainstream politicians from a major party would respond this way. Indeed, it is hard to imagine another country where the question would

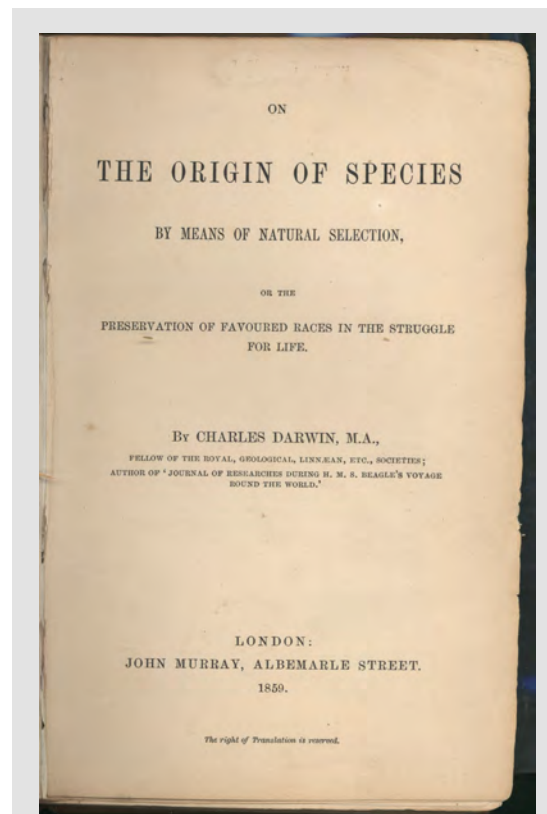
even be asked. Of course, the woman McCain later picked to be his running mate wears her Darwin denial like a badge of honor.

So now that the Darwin Year has come to a close, I want to review the difficult reception Darwin has had, and continues to have in the United States. At one level, it is easy to argue that little has changed since religious Americans first got angry at Darwin. But it is also that case that Darwin Denial has transformed significantly over the last century and a half.

Act I: In Which Science is Confused with Social Science

By the time *Origin* appeared in 1859, the notion of evolution had been floating around for quite some time in scientific circles. In England, Darwin's own grandfather Erasmus saw evidence for evolution, and in the United States Joseph Leidy, the father of American paleontology, was also an evolutionist, to pick just two.

Darwin's contribution to natural science was to provide an

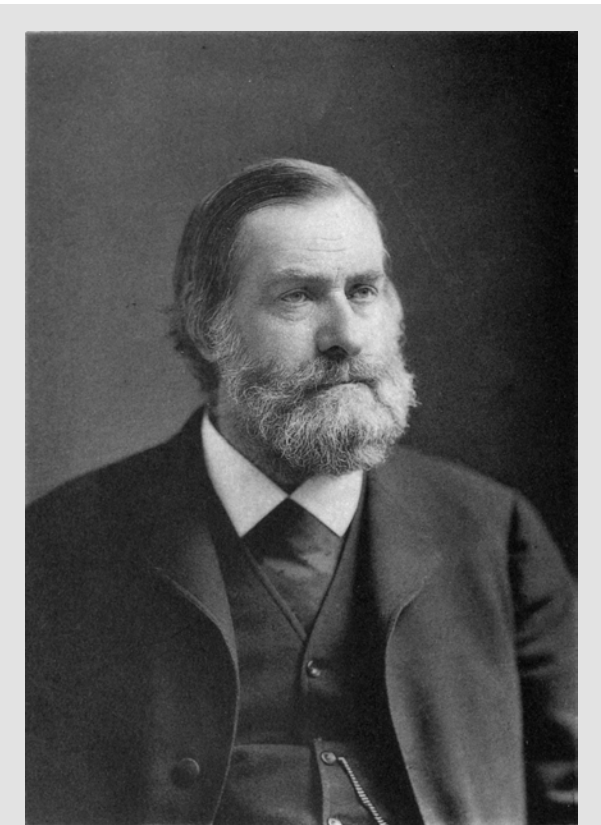


Title Page of *On the Origin of Species*, 1859. (Source: Public Domain)

explanation for how evolution worked, and he called it "natural selection." Noticing that the population of any species exhibits a certain degree of variation, he proposed that competition over resources and breeding would tend to favor, or not favor, certain of those variations. Over time—and Darwin suspected a great deal of time—new species would emerge out of this process of selection.

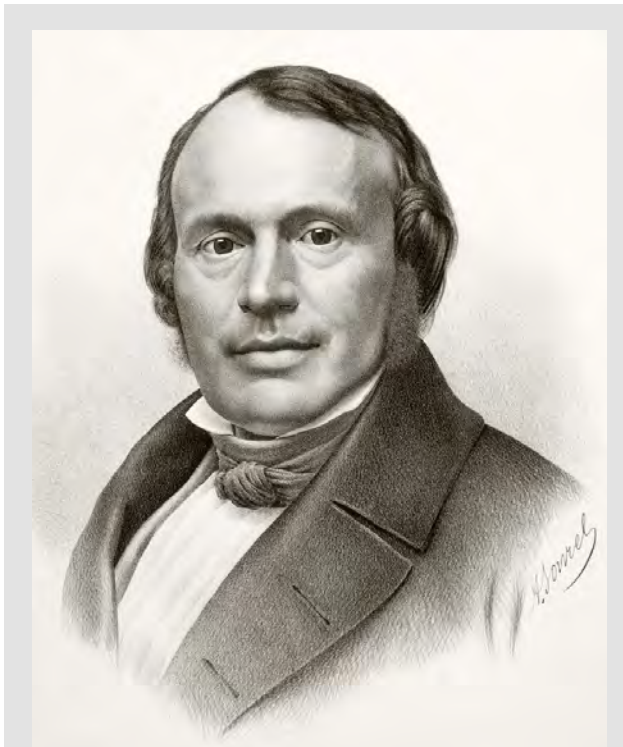
Leidy was so dazzled by the theory that he nominated Darwin for membership in Philadelphia's prestigious Academy of Natural Sciences, which became the first American institution to acknowledge Darwin's achievement.

Yet, in 1859, Harvard's Louis Agassiz, the most well known scientist in the United States, and among those with the most prestige, immediately took the role of Darwin's antagonist in this country. (As it happens, the first person to review *Origin* in the



Joseph Leidy (1823-1891)- American paleontologist and Professor of Anatomy at the University of Pennsylvania then Professor of Natural Science at Swarthmore and supporter of evolution's principles. (Source: Public Domain)

United States was Agassiz's Harvard colleague Asa Grey, a botanist who gave it a strong and positive notice, which must have made for interesting faculty meetings). Like a majority of people at the time, Agassiz remained convinced that the Bible explained creation, and that each species on earth, never mind how many new thousands were being discovered every year, was "a separate thought of the creator."



Louis Agassiz (1807-1873)-Swiss Scientist who taught at Harvard and campaigned against Darwin and evolutionary theories.(Source: Public Domain)

Agassiz died in 1873 and spent the last years of his life crusading against Darwinism. He was joined as well by some of the leading religious figures of the time. In 1865, the Reverend De Witt Talmage, preaching in Brooklyn's enormous Central Presbyterian Church, denounced Darwin by asking whether those who had died so bravely in the Civil War were somehow less fit than those who survived.

Charles Hodge from his post at the Princeton Theological Seminary had become perhaps the most respected theologian of

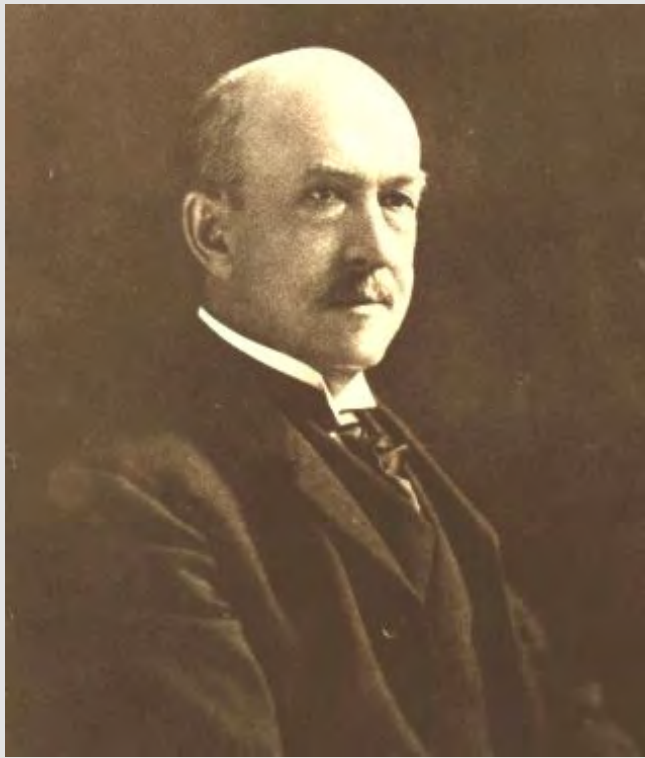
the day. In his 1874 book, he asked *What is Darwinism?* and concluded: "It is atheism." In a deeply religious nation, Darwin offended the faithful.

By the turn of the twentieth century, however, a consensus of sorts emerged, or better put perhaps, a truce. Most scientists by that time accepted Darwinism in its broad outlines. The nascent field of genetics located the biological source of inheritance and variability, filling in a major lacuna in Darwin's book. Even those who weren't entirely convinced by the theory of natural selection acknowledged that there was no better way to explain the origin of species.

Likewise, by the turn of the last century most mainstream religious figures conceded the reality of evolution: species clearly did change over time—the explosion of paleontological discoveries in the late 19th century provided compelling evidence for the arrival and disappearance of all kinds of fantastic creatures—and thus evidence that species were not fixed.

Evolution was itself set in motion by the creator, they posited, much the way an earlier generation of theologians had imagined—in the face of Newtonian physics—the heavenly bodies set in motion by a divine hand.

Still, while religious leaders at the turn of the 20th century could accept evolution, most could not accept natural selection as its mechanism. Natural selection operated in chance and random



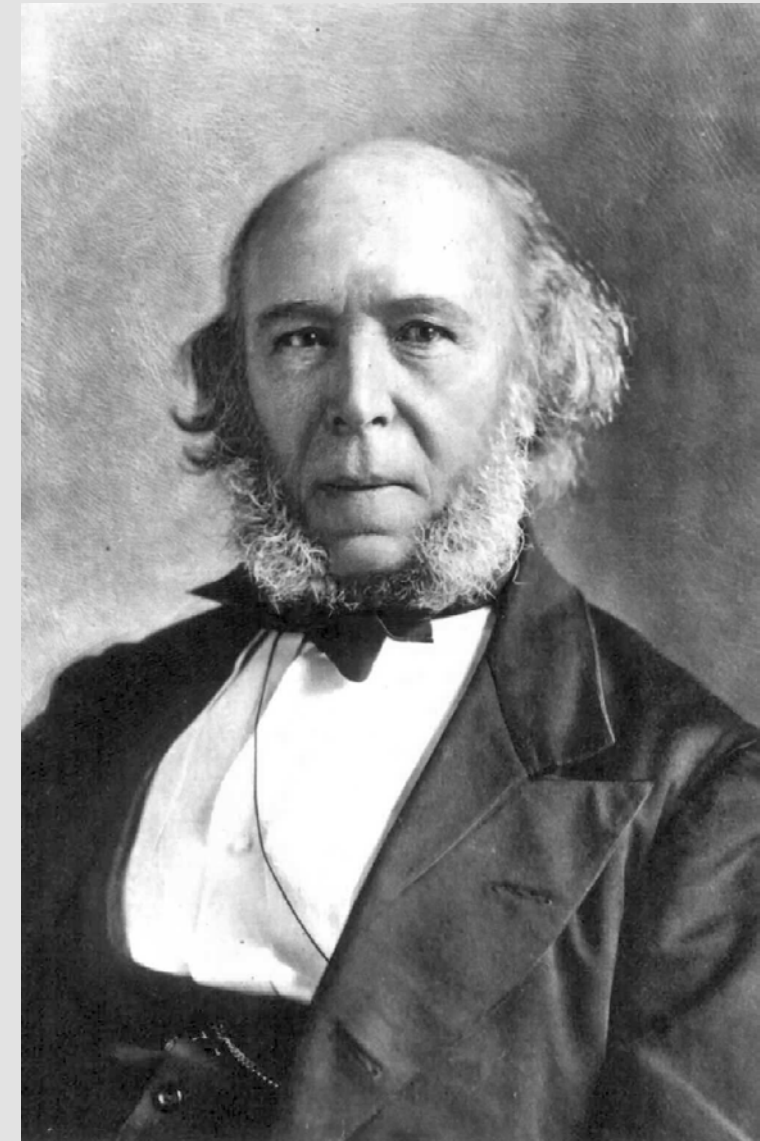
William Graham Sumner (1840-1910)-American Professor at Yale, where he taught the first "Sociology" course in the United States. (Source: Public Domain)

ways, without purpose or design. A world governed by natural selection did not move ever upward and forward, but simply adapted to changing circumstances. And a world without design was dangerously close to a world without a designer. Religious figures could live with Darwin, provided no one asked too many hard questions.

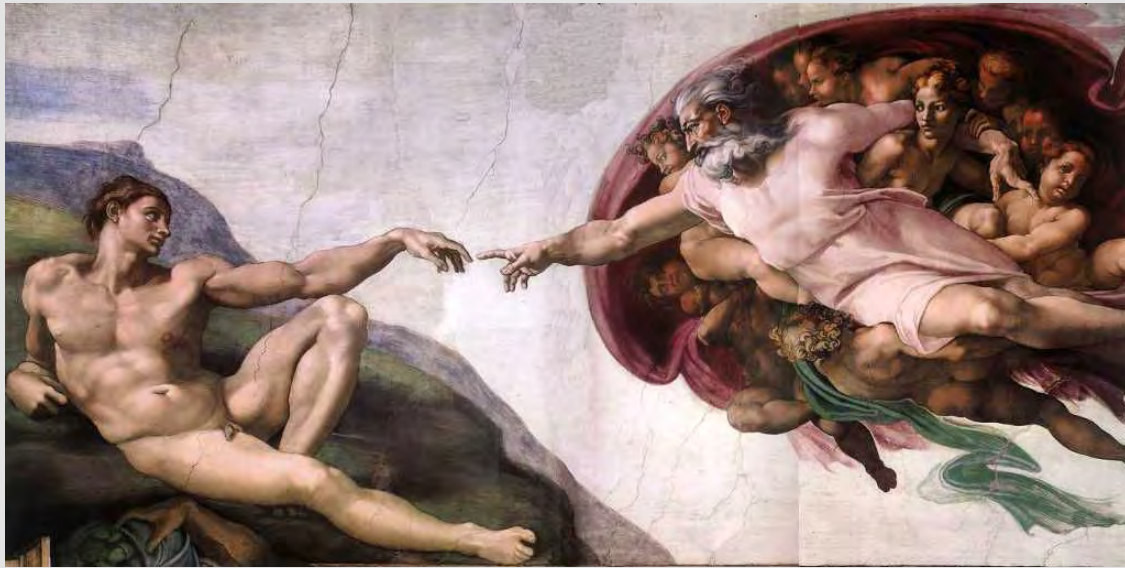
What religious leaders of the late 19th century, especially those associated with the [Social Gospel movement](#), could not abide, however, was the pernicious variant of Darwin's theories: Social Darwinism.

It is worth remembering that the phrase we most associate with Darwinism, "survival of the fittest," was coined by the British philosopher Herbert Spencer. (Darwin, though, did adopt the phrase later himself). And Spencer coined that phrase to capture the essence of the idea known as "Social Darwinism." By

applying—or, frankly utterly misapplying—the mechanism Darwin saw at work among finches and pigeons to people and societies, Spencer insisted that natural selection—survival of the fittest—operated in the human and social world as well as in the natural world.



Herbert Spencer (1820-1903)-British Scientist who argued for natural selection and its effects on social and biological phenomena. (Source: Public Domain)



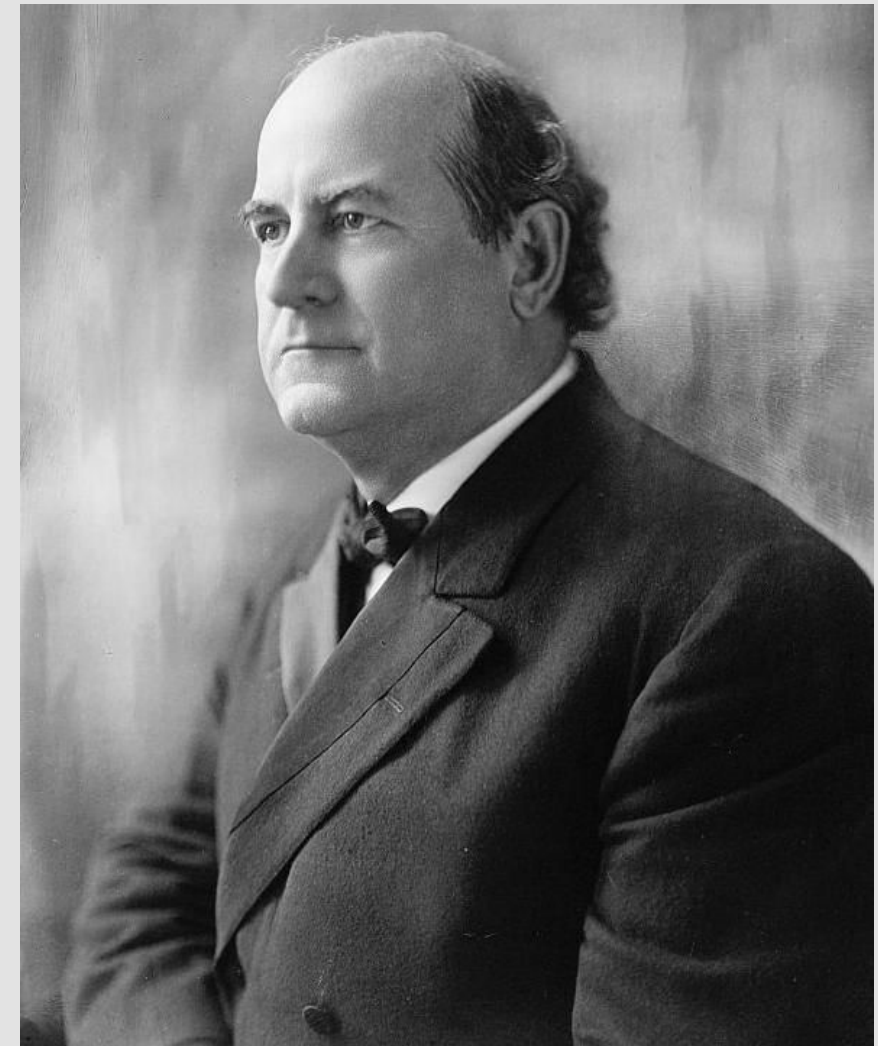
Michelangelo's "Creation of Adam," 1511. (Source: Public Domain)

He spun a vast philosophy around this notion, which, among other things, helped to justify the dominance of certain races and classes over others. Invested with the power of scientific Darwinian insight, Spencer also insisted that Social Darwinism was no mere political ideology, but a natural law and an unalterable fact.

Spencer proved hugely popular and influential in Gilded Age America. Indeed, it is probably true that most Americans who claimed they were familiar with Darwin were, in fact, familiar with Spencer's version of him.

Chief among Spencer's American proselytizers was the nation's first professor of sociology William Graham Sumner. From his office at Yale University, Sumner described a society which functioned best when the strong triumphed over the weak, and in

which any attempt to ameliorate the suffering of the inferior interfered with society's greater progress. Asking hypothetically if he wanted to kill off "certain classes of troublesome and burdensome persons," Sumner responded, no, but added: "it would have been better for society, and would have involved no pain to them, if they had never been born."



William Jennings Bryan (1860-1925)-Democratic politician and Populist, leading prosecutor in the Scopes Trial and defender of Creationism. (Source: Public Domain)



Clarence Darrow (1857-1938)-
American Lawyer who was known for
defending John Scopes for the ACLU
in his Trial in Dayton Tennessee in
1925. (Source: Public Domain)

The laissez faire doctrine of American politics in the late 19th century found its intellectual champion in Sumner. That Sumner's sociology served simply as an apology for the [Robber Barons](#), dressed up as "science," did not go unnoticed at the time.

Those who preached the Social Gospel insisted that Christian duty demanded we alleviate human suffering and mitigate the effects of poverty and exploitation. They advocated a muscular

Christianity that would leave the quiet of the churches and march in the streets. They railed against Sumner and other Social Darwinists that human society was not—should not be—an uncaring, savage jungle where only the strong survived. Human beings, they argued, could do better than the animals. This, after all, was the message of the Scriptures, according to Social Gospellers. In any Christian society, we really are our brother's keepers. In 1912, for example, Reverend Walter Rauschenbusch

called industrial capitalism, the social order Sumner defended, only "semi-christian."

In other words, by the turn of the 20th century, the most vocal and pressing religious objections to Darwin were not to Darwin's scientific theory, but rather to the specious and ham-handed way science had been used to tart up a particular brand of political economy, and thus to justify a world of Dickensian social inequality.

In turn, Darwinism, arguably the greatest scientific revolution of the 19th century, became an unwitting source of our largest intellectual oxymoron: social science.



Spencer Tracy in the movie trailer for "Inherit the Wind," a play and movie based on the Scopes Trial that addressed the teaching of evolution in high school in the 1920s. (Source: Public Domain)

Act II: In Which That Ol' Time Religion Arrives on the Scene



A car decorated with Creationist materials, Athens Georgia. (Source: Creative Commons, by Amy Watts)

As a morality play, it could not have been scripted any better.

1925. Dayton, Tennessee, a small Southern town stewing in its own backwardness. John Scopes, a young, courageous high school teacher who took on the forces of reaction. And with a courtroom serving as the OK Corral, two nationally famous gunslingers brought in to fight it out: prosecuting young Scopes was William Jennings Bryan, himself a relic of the nineteenth

century, whose own childhood education consisted only of [McGuffey Readers](#) and the Bible and that was plenty. Defending Scopes the nation's most famous champion of righteous and unpopular causes, Clarence Darrow.

They called it the Scopes Monkey Trial, and as it proceeded its significance quickly grew beyond the mere facts of the case. It was seen as a struggle between science and religion, between the modern and the traditional, between superstition and reason.

John Scopes was brought to trial in the summer of 1925 for violating Tennessee's Butler Act, which made it a crime to, "teach any theory that denies the story of Divine Creation of man as taught in the Bible, and teach instead that man has descended from a lower order of animals." "Save our children for God!" cried one state senator in support of the bill when it was debated.

Scopes in fact was only a substitute science teacher and wasn't exactly sure himself whether he had discussed evolution in his class, though the ACLU pointed out that the state-approved science textbook in Tennessee did, and thus all science teachers in the state were, in effect, being forced to break the law. No matter, Scopes was found guilty after a 7-day trial.

Our view of the Scopes trial is usually filtered through the lens of Jerome Lawrence's and Robert Edwin Lee's play, *Inherit the Wind*, which premiered in 1955, thirty years after the trial itself. The playwrights weren't interested in a strictly accurate account

of the events in Dayton. Rather, much like Arthur Miller did in *The Crucible*, they used a dark and embarrassing episode in American history to critique the era of McCarthyism. The play ran on Broadway for two years and has been made into a movie at least four times.

So, despite Scopes's conviction in court, many Americans have seen the Scopes trial as a defeat for Christian fundamentalism and the anti-rational forces of Darwin Deniers.

The play made it easy to laugh at the true-believing hicks. After all, Bryan and all he represented looks increasingly foolish as he sputters and fumes against science, defending the faith to the cheering faithful packed in the courtroom—or at least he does in the movie version with Spencer Tracy. Scopes may have lost the battle, so the lesson of the morality play would have it, but Darwin won the war.

But perhaps we have drawn the wrong conclusions about the real and symbolic importance of that 1925 trial. Fundamentalists themselves did not slink off the stage, tail between their collective legs, after the trial. Emboldened by what they saw as a clear victory in Dayton, they pushed for similar laws in other states.

By 1927, 13 states, and not all of them in the South, were considering bills modeled on the Butler Act; Mississippi and Arkansas passed such laws. They joined South Carolina,

Oklahoma, and Kentucky, which already had some form of Darwin ban on their books.

Further, and most importantly, the conviction of John Scopes, upheld a year later by the Tennessee Supreme Court, affirmed the most insidious part of the Butler Act in the first place: that the ideas of science can be legislated by politicians. That principle, that the biases and bigotries of elected officials can define what science is or isn't in school curriculum, has been at the root of every Darwin controversy since 1925.

The problem with that, of course, is that science is not democratic. We don't get to vote on gravity, or quantum mechanics, or the location of earthquake fault-zones, and not even as august a body as the Tennessee legislature can change the principles of basic biology.

Act III: In Which That Ol' Time Religion Concedes Defeat (Without Quite Realizing It)

If *Inherit the Wind* was written as a protest against one form of cold war hysteria, then in a delicious irony, Darwin came back in American education because of another form of it.

After the Soviet Union launched the Sputnik satellite, and thus took the lead in the "space race," Washington policy makers decided to get serious about American science education. As part of science's return, state restrictions on teaching Darwin

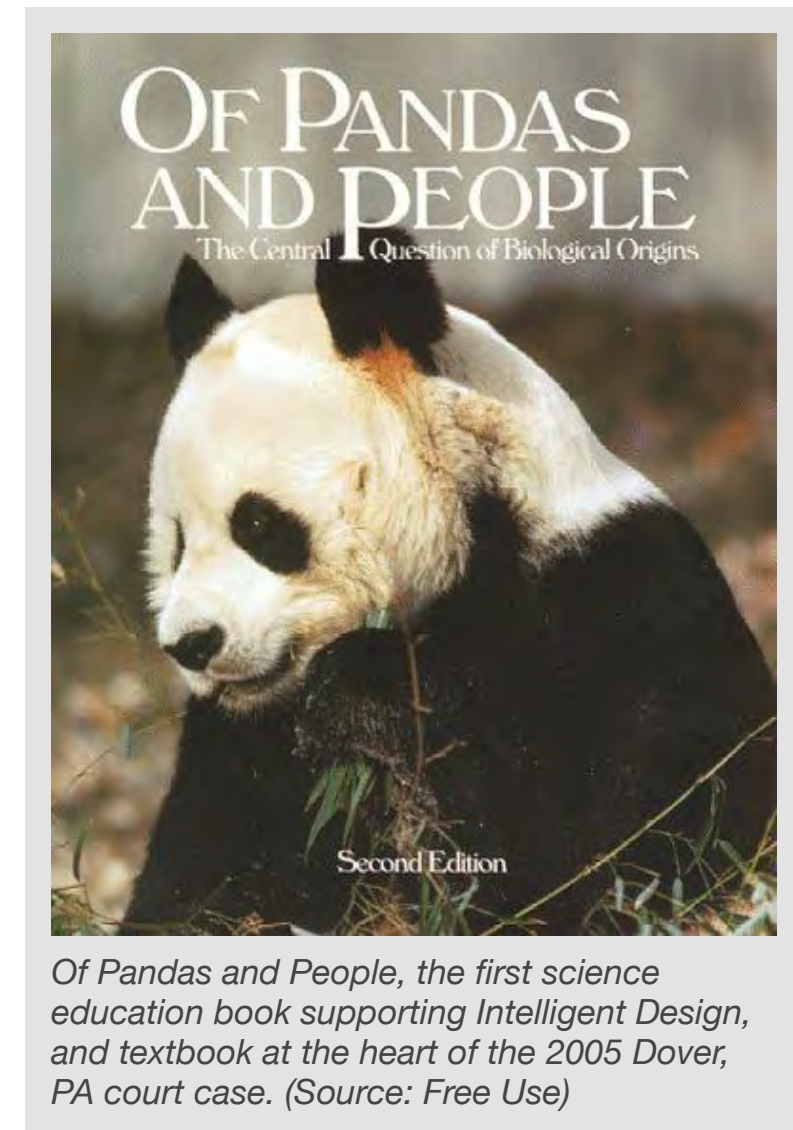
were struck down. Even Tennessee got around to repealing the Butler Act, though not until 1967. This was the context in which most people saw *Inherit the Wind* as a victory.

Fundamentalist Christianity, and the anti-intellectualism that goes with it, did not disappear from American life, but it is probably fair to say that its influence on public policy waned during the mid-century.

It re-emerged with a vengeance with the election of Ronald Reagan in 1980. As far as I know, Reagan took no public position on Darwin, but he certainly invited a number of Darwin Deniers into the White House. The Darwin wars were back on.

In the 1980s, at one level, we lived the 1920s all over again. There were economic policies that created the largest gap between the rich and the middle class since the 1920s; and the re-emergence of the businessman as a heroic figure. Reagan even brought back the official White House portrait of Calvin Coolidge, which had been banished to the basement since the Great Depression.

So too with the Darwin wars, which were fought on the state level sometimes, but even more often at the level of local school boards. Those battles culminated in Kansas and in Ohio, whose state boards of education debated whether to include creationism in state science curricula. But nowhere was the fight more spectacular than in the little town of Dover, Pennsylvania, which



became the modern substitute for Dayton, Tennessee during a well-publicized trial in 2005.

And like in the 1920s Darwin was both the specific issue and a proxy for conservatives to howl at any number of other issues. Recently, Oklahoma-based fundamentalist G. Thomas Sharp blamed Darwin for "the overthrow of America's Hebrew-Christian culture," an apocalypse he dated, quite specifically if somewhat bafflingly, to 1962-63.



Jerry Falwell (1933-2007)-American Preacher and leader of the "Moral Majority." A main proponent of intelligent design in the late 20th century. (Source: GNU license, by Liberty University)

The nouveau creationists of the recent past didn't simply reprise the terms of earlier debates, however. They demonstrated their own —dare I say it?!— evolution. The first concession that the new generation of creationists made was that they no longer tried to outlaw Darwinian science altogether. Rather, they wanted to force the teaching of creationism alongside the teaching of Darwinian evolution in the science curriculum.

That seems reasonable enough and it appeals to the American sense of fair play and democratic debate. There are always two sides to every issue, right? And why not teach both and let students decide. Certainly President George W. Bush thought so. As he told a reporter when asked about the issue: "both sides ought to be properly taught so people can understand what the debate is about."

By this logic, astrology ought to be taught as the counterpart of astronomy, and likewise if we teach that the earth rotates the sun, we ought to teach it the other way round too. But as in these cases, so too is there no debate between creationism and Darwin among scientists. There are not two sides to this issue, scientifically speaking. The only debates here are political ones.

Yet this insistence that there is a real scientific debate over the basic principles of Darwinism reveals just how much ground the neo-creationists have yielded since Darwin was put on trial in 1925.

In the first 75 years after *Origin* was published, religion stood against science—or perhaps alongside it—as a different but equally powerful way of understanding the world and of making meaning out of it.

Now, in contrast, creationists insist that the Bible be understood as science, and they want to support their literal interpretations of Genesis with real, "scientific" evidence. Never mind that the results of this "research" are patently absurd, Darwin Deniers want to be taken seriously as scientists too. Why else, after all, would Darwin Deniers build a Creation Museum on the model of a traditional natural history museum, complete with dioramas depicting human beings cavorting with dinosaurs, thus "proving" that the biblical version of creation must be true?

Indeed, the creationism of the 1920s changed its name to "creation science" in the 1960s and 1970s, which in turn was replaced by the more recent and scientific-sounding "intelligent design." Both of these, of course, were simply the same old religious claims dressed up in different language.

This was the central issue in the Dover, Pennsylvania court case. There, a group of parents sued the local school board after that board insisted that creationism be taught in the science classroom. The parents argued that "intelligent design" was simply another version of religious creationism and thus violated the separation of church and state.

Judge John Jones, who presided over the case, issued a devastating ruling against the creationists, and in his opinion made it unarguably clear that "intelligent design" was nothing more than a religious point of view masquerading as science.

The important thing to notice is that creation science and intelligent design were dressed up in the language of science. In this sense, the creationists acknowledge that at the turn of the millennium calling anything "scientific" confers the greatest truth-value on it. It gives legitimacy to any claim in a way nothing else can. In the end, one might argue, it is a pretty anemic faith indeed that needs to justify itself scientifically.

There are two final ironies about Darwin denialism over the last two decades. First, unlike their predecessors in the late 19th

century, the religious figures who have denounced Darwin in the recent past have been perfectly comfortable with the revival of Social Darwinism that the nation has also witnessed since the 1980s. Indeed, many were vocal advocates for it.

Over and over again, Christian fundamentalists sided, Social-Darwinist style, with the powerful over the oppressed. In the mid-1980s, for example, Jerry Falwell, Reagan's favorite preacher, encouraged his congregation to buy Krugerrands to bolster the apartheid regime in South Africa against the black majority. Poverty ceased to be a moral issue for American fundamentalists as Reaganite economic policies plunged more and more Americans into it. God wants you to be rich, many fundamentalists trumpeted, suggesting that if you were poor God must not be very happy with you.

For these new Social Darwinists, God doesn't approve of Darwin but apparently he does approve of Donald Trump. Small wonder that George W. Bush, the born-again Darwin Denier, enjoyed so much support among fundamentalists; or that they cheered his economic policies that made the rich richer at the expense of the middle class and poor. The socially expansive vision of the Social Gospel that we are all our brother's keepers has been replaced by the narcissistic [Promise Keepers](#).

Likewise, those who rejected Darwin in earlier generations saw themselves as fighting a rising tide of modernity—developments like urbanism, immigration, the emergence of feminism, and more

beside—that made them profoundly uneasy. Many did not like any of the ways in which the world was changing. By contrast, today's Darwin Deniers want to enjoy all the benefits of the modern world—medical breakthroughs, the internet—without acknowledging the role science has played in creating those things.

Recently, I stood in line with 2500 of my closest friends to get an H1N1 vaccination. Statistically, about half those waiting with me were Darwin Deniers of one stripe or another (in fact, in this rural Ohio county probably more than that). But there they all were eagerly awaiting an inoculation whose very invention was built upon a biological foundation laid by Darwin. There may or may not be any atheists in a foxhole, but no one wants a faith healer treating them for influenza. Not even Darwin Deniers.

In this sense, the current generation of Darwin Deniers isn't anti-modern, as their predecessors were, but decidedly post-modern. Perfectly happy to enjoy all the fruits of modern science, they also have imbibed a post-modernist point of view that all claims to truth are political claims and each has equivalent authority. In this view, scientific "evidence" is treated as so much propaganda if it disputes dearly held belief, and facts are simply dismissible if they are inconvenient.

Among the very few academics who would testify on behalf of "intelligent design" in Dover, PA, was Steven Fuller, a professor at the University of Warwick in England. Fuller is not, nor has he ever

been a practicing scientist. Rather, he is a sociologist of science, a vantage so lofty it gives him a much better understanding of how scientists work than the scientists themselves, or so he claimed.

And from that vantage he testified that what we call "science" is merely a set of power relations enforced by a set of "elites" in order to keep opposing ideas outside the boundaries of debate. Sure, he went on, science should include investigations of the supernatural (however that might be done) and that creationism was just as much as science as Darwinian biology. Once again we witnessed the perils of confusing "social science" with actual science.

Epilogue:

In a lecture he delivered in 1886, Joseph Leidy reminded his listeners that major scientific advances have always met with conservative reaction. When Newton "announced that law of gravitation, people objected to it, for they regarded it as a denial of God's control of the movements of the universe." More recently, "when Franklin suggested the use of the lightning-rod, it was denounced as an impious attempt to deprive the Deity of his thunderbolts." And so it has been with Darwin.

In 1992, the Catholic Church got around to apologizing officially for charging Galileo with heresy, thus acknowledging officially the heliocentric solar system. It only took 360 years. Eventually, most

Americans too will come to terms with Darwin even if some percentage never does. Most Americans, after all, have in fact put lightning rods on their houses, despite Franklin's impiety.

Which is not to say that Darwin Deniers haven't created tremendous mischief for American education—mischief that was foreshadowed in the decision written by the Tennessee Supreme Court in the Scopes case. The justices wrote that while the Butler Act banned teaching Darwin, it did not mandate teaching creationism or anything else.

While public schools today do not teach creationism in the science classroom, many teachers have chosen to skip the subject entirely as a way of avoiding controversy and hassle. In surveys I do with my students, very few were taught creationism in biology class; just as few learned about evolution and natural selection. A wide majority report not learning anything at all.

The legacy, therefore, of creationism is not to have defended fundamentalist Christianity against the corrosive effects of science, but to have struck a blow for ignorance over learning. ♦

Suggested Reading

Darwin intended his great work to be accessible to the general public, and indeed *On the Origin of Species* remains an interesting read. Anyone interested in Darwin should start with that.

Cynthia Russett's book, *Darwin in America*, is a scholarly consideration of how American intellectuals responded to Darwin in the late 19th century.

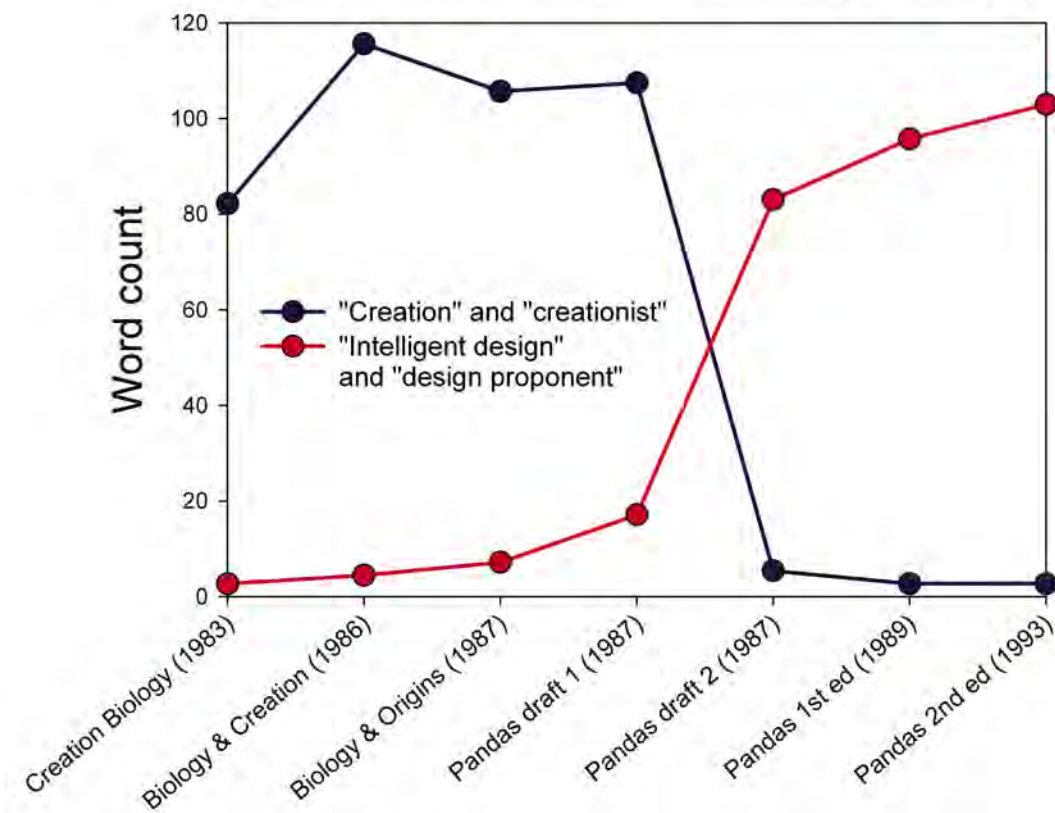
Jonathan Weiner's book *The Beak of the Finch* is a marvelous weaving together of history and current research being done on the Galapagos Islands. He charts with page-turning excitement Darwinian evolution in action.

Most recently Richard Dawkin's book *The Greatest Show on Earth* is a magisterial consideration of all the evidence we have now accumulated to prove Darwin's theory of natural selection.

Maps and Charts

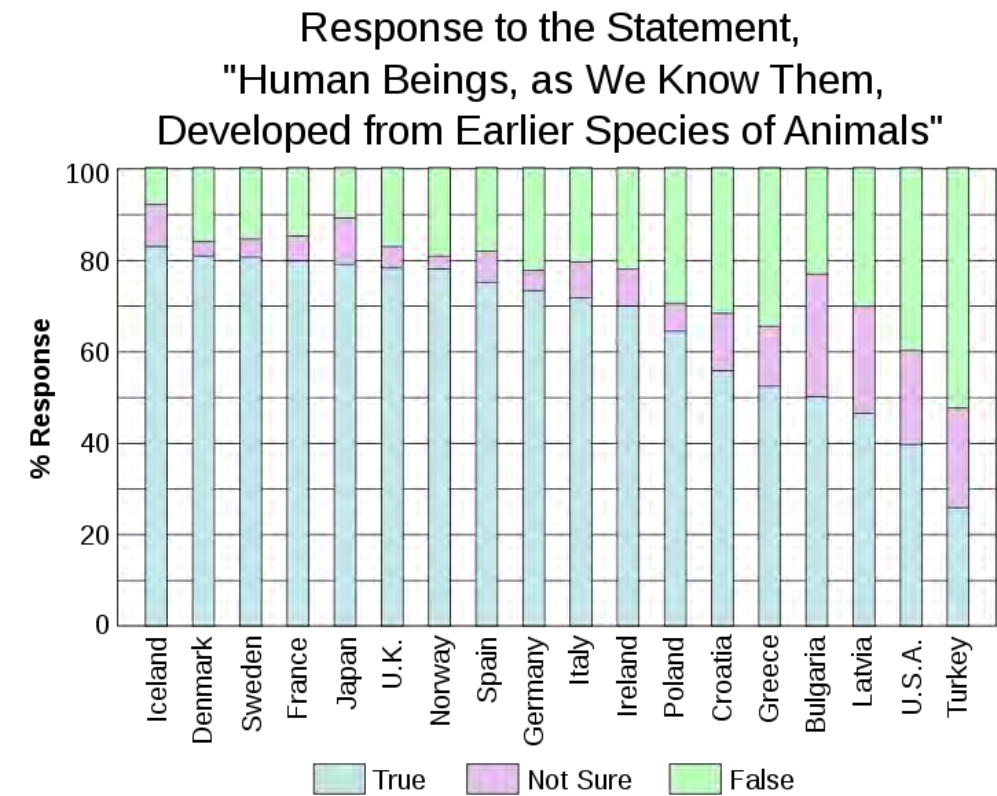
Textual Analysis of Of Pandas and People textbook, illustrating the change in terminology through different editions to show the introduction of "intelligent design"

Replacement of "creationism" with "intelligent design"



(Source: Wikipedia)

Views on Evolution by Country.



(Source: Wikipedia)

A “God Particle” for Isaac Newton’s Birthday

By **PATRICK R. POTYONDY**

Published 2012.

On December 25, 2012, we celebrate [Isaac Newton’s](#) 370th birthday. On one hand, the man popularly famous for getting hit on the head with an apple could probably think of better birthday presents than the Higgs Boson, or “God Particle,” which might challenge the very foundations of Newtonian physics. On the other hand, Newton also claimed to have seen further than others only because he stood on the shoulders of giants, so perhaps he’d welcome the gift.

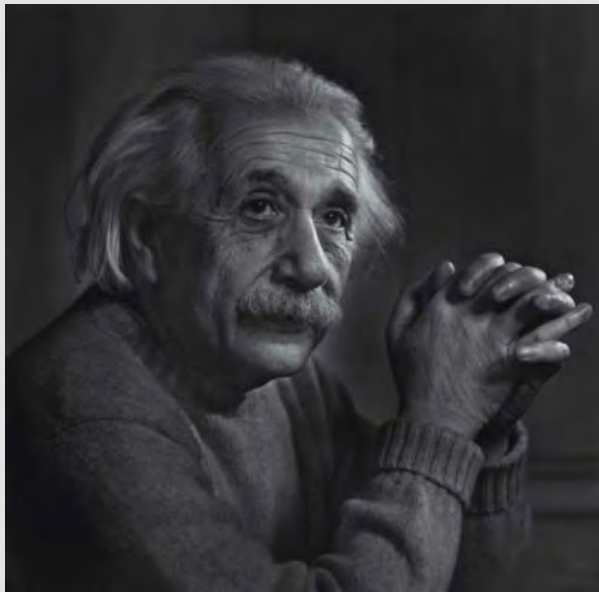
Newton is famous for [Principia Mathematica](#) (1687), the weighty tome which laid out the three laws of motion—inertia, action and reaction, and acceleration. His research helped legitimate the scientific method and, eventually, led to huge strides in technology. Newton’s theories have proven excellent at describing the movement of atoms, setting the foundation for modern physical sciences until Albert Einstein’s [1905 Special Theory of Relativity](#) and [1915 General Theory of Relativity](#) showed that Newton’s laws collapsed at near-light speed or in

stronger gravitational fields than Earth’s. Enter the boson, a particle that obeys quantum rather than Newtonian laws.

Newton’s laws still work for us here on Earth in day-to-day matters. But just as Einstein refined Newton, so Higgs has



Newton is depicted here as a “divine geometer” in a painting by William Blake. (Source: Wikimedia Commons)



Einstein is shown here in a photograph by Yousef Karsh. (Source: Wikimedia Commons)

refined Einstein. The Higgs quantum field allows physicists' mathematical equations to [maintain their symmetry](#). Perhaps the best analogy is one of a Hollywood party described by [the Exploratorium here](#). Or, to tailor your explanations to various audiences, try this hilarious [guide from The Guardian](#).

Most physicists rue the Higgs Boson's nickname "God particle," popularized by Leon Lederman in a 1993 book (although he claims the publisher came up with the name). Peter Higgs, who, along with others, proposed the existence of the particle in 1964, is an atheist who dislikes the term because he worries it will offend the religious. Other scientists say that, although the Higgs Boson is essential in pushing particle-physics theory forward, the nickname gives it too much credit.

Newton, too, aimed to keep God out of his explanations for the physical laws of the universe. His first edition of the *Principia* made no mention at all of God, but he was urged by some contemporaries to add passages on God's place in his natural

philosophy, in order to refute those who had accused him of disbelief by omitting God from his explanation of a world system. The second edition, 26 years after the first, described a God that had created, ordered, and continued to contain the universe, but who did not run it on a day-to-day basis. "In him are all things contained and moved," he wrote, "yet neither affects the other: God suffers nothing from the motion of bodies; bodies find no resistance from the omnipresence of God." Newton did not see God as necessary for explaining physical laws, but as a "First Cause" of them. Thus Newton separated his explanations of how



Higgs is pictured here in a 2008 portrait by William Currie. (Source: Wikimedia Commons)

the universe worked—according to laws—and how it came to be—through a divine creator.

Einstein's thoughts on God were remarkably similar. Although he had [rejected his Jewish religious training around age 12](#), Einstein always maintained that reverence for the “mysterious”—for the unknowable in nature—constituted a religious outlook. He disparaged those that used his words to bolster the attraction of atheism. “Try and penetrate with our limited means the secrets of nature and you will find that, behind all the discernible laws and connections, there remains something subtle, intangible and inexplicable,” he said. “Veneration for this force beyond anything that we can comprehend is my religion.”

Disputes over the Higgs Boson's unfortunate nickname remind us that physicists from Newton's time to today have been forced to grapple with what is left unknown. When Newton and Einstein were prodded into articulating their beliefs in God's place in science, they attributed the unknowns to God. Perhaps creationism and Biblical literalism have created more and more tension between science and religion in the United States. And the increasing specialization of scientific work means most scientists are no longer regarded as public intellectuals with crucial and highly qualified opinions on God's place in nature. Scientists now seem to view religious metaphors, much less explanations, as hindering public understanding of their work. ♦

- All images via Wikimedia Commons

Soviets Launch Sputnik, 1957



By **BENJAMIN BREEN**

Published October 2012.

Sharp-eyed stargazers on the night of October 4, 1957, would have noticed a tiny unblinking point of light moving silently across the night sky, its glow waxing and waning.

The world in those days was far less polluted by background light than it is today: interstate freeways were still a theoretical idea, electric lighting had yet to spread to many parts of the world, and 24-hour businesses were virtually unheard of. Much of the world remained agrarian and used premodern lighting by candle or kerosene. Yet the tiny light that tracked across the unpolluted cosmos of 1957 was a herald of the future.

The next morning, *Pravda*, and other Soviet newspapers, announced “the first successful launch of a satellite” to the

world. *Pravda* put a distinctively communist spin on the news, arguing that “artificial satellites from the Earth will pave the way to interplanetary travel... our contemporaries are destined to witness how the freed and meaningful labor of the people of the new, socialist society will transform humanity’s most daring dreams into a reality.”

American officials – who surely numbered among the unnamed “contemporaries” that *Pravda* had in mind – were flabbergasted. Although both the Soviets and the United States had been preparing long-distance rocket programs since the early 1950s, the launch of Sputnik caught President Dwight D. Eisenhower’s



(Source: Wikimedia Commons)

to proclaim that Sputnik was an event “second in importance to no other, not even the splitting of the atom” – a troubling thought for American technocrats.

The futuristic and high-technology nature of the event had been celebrated loudly by the Soviet state, which was intent on depicting Marxism-Leninism as leading the vanguard of a new era of technological innovation, ambitious social projects, and marvels of engineering. Sputnik was only one of a number of other projects that highlighted the cutting-edge work of Soviet nuclear physicists, cosmologists, biologists, architects, filmmakers and engineers. Sputnik’s launch simultaneously initiated the United States into a race that it did not yet know it was running – the Space Race – and indicated that the Americans were lagging behind.

Although Sputnik’s launch came as a surprise to the world, it had become clear by the early 1950s that advanced rocketry and telemetry systems developed during World War II could be repurposed for space flight. As early as July 22, 1951, two dogs named Dezik and Tsygan (“Gypsy”) had been launched onboard Soviet R-1 rockets to sub-orbital altitudes at around 110 km, on the very edge of space (both dogs returned unharmed and Tsygan was adopted by the Soviet physicist Anatoli Blagonravov.) The flights of these “space dogs” continued throughout the 1950s.

By comparison, United States space technology lagged behind – although the US government was developing trans-continental ballistic missiles to deliver nuclear warheads in this period, their focus was squarely on military applications and not on

spaceflight. Sputnik’s launch into earth orbit – a substantially more challenging feat than the suborbital flights of the space dogs – spurred the US government into what would become the Space Race and led directly to the earliest NASA missions. Sputnik also inspired the formation of the Advanced Research Projects Agency (ARPA, or later DARPA), which was tasked with creating an American satellite to match Sputnik’s achievement – and which would in the 1960s develop the electronic communications infrastructure that gave rise to the Internet.

Sputnik was no less influential in the realm of culture and society. American children gathered in public parks, schoolyards and backyards to catch a glimpse of the tiny dot of light as it orbited the earth (what was visible was actually the rocket booster that carried Sputnik into orbit rather than the satellite itself). The sight helped inspire the first generation of NASA astronauts and rocket engineers, including Allan Shepherd and Homer Hickam.



Laika, the most famous of the space dogs (Source: Wikimedia Commons)

More generally, it contributed to a cultural fascination with outer space, extraterrestrials, and science fiction. Among other things, it inspired the so-called “Populuxe” style of late 1950s and early 1960s industrial design, which was characterized by sleek, Sputnik-inspired metalloid forms, parabolas, and modernist rocket motifs. The Space Age was in some ways as much a creation of filmmakers, short-story writers, architects, designers and artists as it was an initiative of the United States and Soviet governments.

The “Theme Building” at the Los Angeles International Airport, constructed in 1961, reflected the Space Age aesthetics inspired by Sputnik.



The “Theme Building” at the Los Angeles International Airport, constructed in 1961, reflected the Space Age aesthetics inspired by Sputnik. (Source: Wikimedia Commons)

By the late 1960s and early 1970s, however, the Space Age was coming to an end, supplanted by a turn toward nature and cynicism regarding the supposed triumph of high technology and scientific rationality that space flight represented.

Today, however, a new Space Race is on the horizon. Two emerging superpowers – India and China – are currently competing to reach the moon, and China has already sent an astronaut into earth orbit (2003), completed a spacewalk (2008) and a docking (2012) with plans to send a lunar rover to the moon in late 2013.

Meanwhile, with the retirement of the Shuttle fleet earlier this year, the United States finds itself without its own dedicated spacecraft for the first time since the era of Sputnik. For-profit corporations financed by billionaires like Richard Branson’s Virgin Galactic and Jeff Bezos’ Blue Horizon have stepped in to fill the gap.

The 2010s and 2020s thus promise to be interesting decades for spaceflight as new rivalries emerge both in the developing world and in the private sector – but the origins of all these stories trace back to that tiny polished sphere of metal that slowly tracked the night skies of October, 1957. ♦

- All images via Wikimedia Commons.

Measure of the Earth: The Enlightenment Expedition That Reshaped Our World

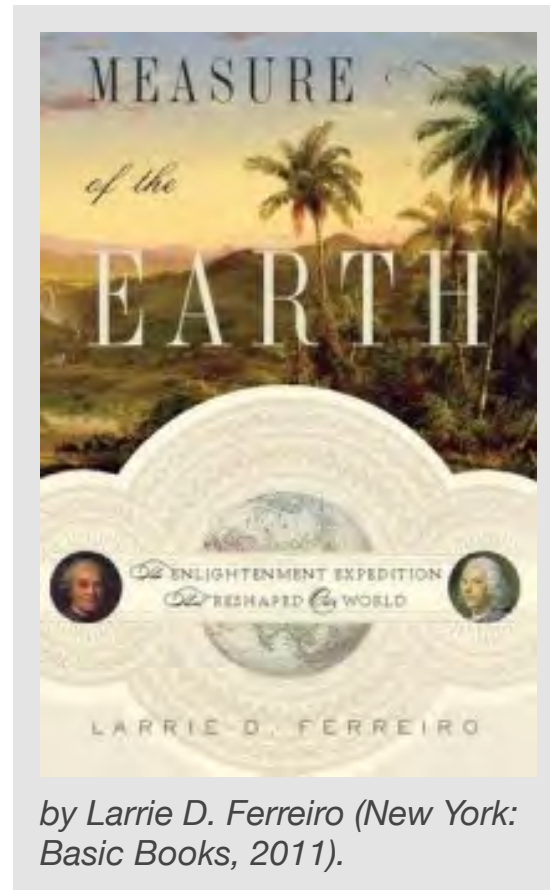
Book Review By

ROBERT CLEMM

Published August 2011.

Measure of the Earth: The Enlightenment Expedition That Reshaped Our World by **Larrie D. Ferreiro** (New York: Basic Books, 2011).

The process of surveying is a very repetitive one requiring an almost obsessive attention to detail, a commitment to exacting measurements, and above all a patient disposition. A quite laborious process, often involving measuring miles of territory in small 20 foot segments, it does not strike one as the most suitable subject for an exciting story.



However, Larrie D. Ferreiro's *Measure of the Earth: The Enlightenment Expedition that Reshaped our World* manages to be such a story. In documenting the first international scientific expedition to measure a degree of latitude at the equator, he recounts not only a scientific adventure filled with eccentric personalities but a mission that intersects with the politics, culture, and intellectual tenor of the time.

A joint Franco-Spanish expedition was tasked with traveling to Peru to measure accurately a degree of latitude at the equator. Comparing it with another measurement of latitude made in France would enable scientists to know the true shape of the world. An unlikely mix of adventurers, officers, and scientists were assembled to complete a task intended to take only three years. Instead, a difficult environment, caused as much by terrain as the personalities involved, extended the mission to a full ten years.

What best unlocks the nature of the book is its subtitle relating to the Enlightenment. Fundamentally, the scientific mission was designed to settle an ongoing academic debate regarding the

shape of the world. To one side were the defenders of René Descartes and on the other the acolytes of Isaac Newton.

While Europeans had long known the shape of the earth they had yet to catalog its exact dimensions. Descartes believed the Earth was elongated at the poles giving it an egg-like shape while Newton thought the spin of the earth caused it to bulge at the equator and flatten at the poles. This debate highlighted the changes occurring in Enlightenment Europe both in the belief in human reason to unlock the mysteries of the universe and the growing professionalism of science.

Ferreiro brings us into the very halls of the French Academy of Sciences where careers were made, and lost, over this debate. But, this was not merely a dry academic question. While the "men of letters" at the French Academy and British Royal Society could overlook political differences in the name of science, government and military officials were well aware that the shape of the earth was of grave importance.

Indeed, the French mission was giving funding and support by Comte de Maurepas Louis XV's minister of the navy and minister of colonies. Maurepas well understood advantages that would come with an accurate measurement of the earth which might give France the scientific advantage necessary to supplant British sea power. It is no surprise that at the same time the British were offering £20,000 to whoever could claim the "Longitude Prize" and enable an accurate measurement of longitude at sea. These

connections, between science and the politics of the day, are what the *Measure of the Earth* helps to illustrate.

Yet, Ferreiro's book is also about the expedition itself and he balances such intellectual issues with an almost intimate look at the members of the expedition. In doing so, he humanizes what might have been presented as a bland mission of cataloging measurements. This is, by far, the most colorful aspect of the narrative with such vignettes as expedition leader Louis Godin who spent 1,000 ecus (\$27,000) of the expedition's funds on a diamond for his lover in Saint Dominque, or the expedition's surgeon, Jean Seniergues who, deeply enmeshed in a lover's quarrel, was killed after helping cause a riot at a bullfight in the town of Cuenca. These serve to highlight the quite eccentric cast of characters who were tasked with such an important mission.

Ironically, if there is a weakness to the book as a whole it is the attention to these figures. Having so well established the importance of this mission Ferreiro's cataloging of these misadventures, such as an entire chapter to the aforementioned surgeon, leaves the reader lost at times in terms of the overall expedition. With that said the painstaking nature of the endeavor, for example a full three years devoted to making astronomical observations to account for stellar aberration, meant that a compelling narrative could only be crafted through the personalities assembled for the expedition.

Upon returning to Europe Pierre Bouguer and Charles-Marie de La Condamine, two of the chief scientists on the mission, wrote memoirs recounting the mission. While not indicated the title of the book appears a blending of the titles of both memoirs: *Figure of the Earth* (Bouguer) and *Measure of the First Three Degrees of the Meridian* (La Condamine). Beyond a potential allusion to these titles Ferreiro's book also straddles the two natures of these authors themselves. Bouguer achieved scientific acclaim and position in the Academy while La Condamine "won" in public with his more exciting narrative *Journal of the Voyage to the Equator* becoming "the most recognized story of the Geodesic Mission."

Ferreiro succeeds in blending exciting narrative along with erudite science, including one of the most concise and clear descriptions of triangulation surveying I have encountered, leaving the reader both educated and entertained. While the debate had largely pitted French and English scholars against one another, it was a sign of the growth of a scientific mindset how readily the findings of the mission, which proved Newton correct, was readily accepted. The Geodesic mission to Peru was just the beginning of greater cooperation among scientists to form a more accurate measure of the earth. The end result of this process would be a command from the French National Constituent Assembly to form a new set of measurements to replace those used by the old regime. What they decided, based around a "meter" or one-ten-

millionth of the distance between the North Pole and the Equator, would become the nearly universally adopted metric system.

Thus, the "winner" of the scientific debate fades from the narrative in the same way it did in reality as *Measure of the Earth* documents the far more interesting intersections of this mission to the science, intellectual ferment, politics, and culture of the times and the legacy of the mission itself. ♦

The Discovery of Mankind: Atlantic Encounters in the Ages of Columbus

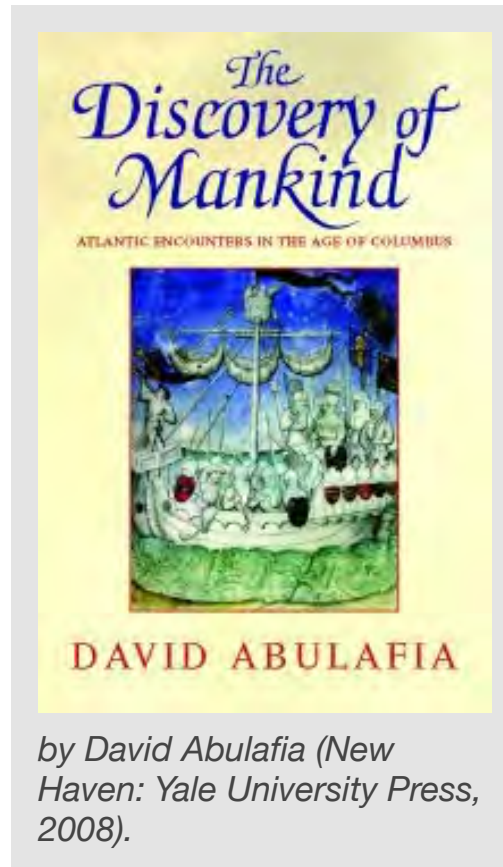
Book Review By **JOHN HUNT**

Published June 2008.

The Discovery of Mankind: Atlantic Encounters in the Ages of Columbus by **David Abulafia** (New Haven: Yale University Press, 2008).

Traditional histories of the Old World's encounter with the Americas typically follow a deterministic trajectory: Christopher Columbus

"discovered" the New World and then Spanish conquistadors tamed this new land and conquered its empires, thus paving the way for Spanish and subsequent European hegemony of the globe from the sixteenth century onward. A simple and straightforward story, but one that does not tell the entire history of Europe's meeting with the native populations of the Americas and their culture.



Instead of emphasizing the technological and military innovations that underlay the European exploration and subjugation of the New World, David Abulafia, best known for his work on the medieval Mediterranean, highlights the immediate impact of the meeting between these two worlds on the explorers and intellectuals throughout Europe. In writing about the New World, fifteenth- and sixteenth-century explorers, such as Columbus, brought their own preconceptions with them, based on the ancient writings of Aristotle and Pliny the Elder as well as the medieval travelogues of Sir John Mandeville and Marco Polo.

Expecting to find Japan and Cathay, Columbus landed with visions of wealthy cities laden with gold and spices and lands populated with dog-headed men and other oddities. Instead, he found semi-nude natives who led simple lives without the accoutrements of civilization. Columbus, although fascinated with Indians and their "paradise," never stopped believing that the islands he had found were not located on the fringes of the Indies. It took later explorers and writers to announce the "discovery" of the New World.

The shock of the discovery of people, whom neither the ancients nor the Bible ever mentioned, is the main theme of Abulafia's history. The indigenous peoples of the Americas both fascinated and alarmed European intellectuals. Columbus provided the first ambivalent account of the Indians of the Hispaniola and Cuba. While he praised the simple, peaceful Tainos, extolling their virtues as potential subjects of the Spanish crown and followers of Christ, he condemned the belligerent, cannibalistic Caribs, suggesting that only slavery could tame them.

Subsequent writers, many who had never stepped foot in the New World, argued over the humanity of the Indians. Were they humans? Did they have souls? Could Europeans lawfully take their lands since they were not Christians? European intellectuals fell back on the writings of Aristotle and Thomas Aquinas in attempting to answer these questions. In the end, however, they rejected Aquinas, who had written that it was unjust to attack peaceful pagans and take their lands.

The Spaniards, the first to tackle this problem, instead followed the Augustinian and Islamic idea of a just war—that pagans could be attacked by virtue of their lack of faith. This became the foundation for the "Requirement" (*El Requerimiento*), the notorious document that the Spanish read to the uncomprehending Indians before seizing their land. These arguments, despite criticisms from the likes of the Dominican

Bartolomé de las Casas, provided the justification for the conquest of the New World and the enslavement of the Indians.

The debate over the humanity of the Indians is what Abulafia means by entitling his book, "The Discovery of Man." But it is also an explicit reference to Swiss historian Jacob Burckhardt's argument that during the Renaissance the modern individual emerged to take his place in history. This is an extremely interesting part of the book, although Abulafia never really develops how the discovery of the Indians and the debate over their nature fits into the Renaissance worldview. In fact, the very authors he cites tended to fall back on medieval writers and ideas to form arguments about the Indians. This is particularly troublesome since the existence of a new continent, populated with unknown flora and fauna, ultimately called into question the authority of classical authors, whom the humanists frequently cited in their letters.

Perhaps the most innovative part of Abulafia's story is his section on the earlier European encounter with the Canary Islands. Here Abulafia argues that the Portuguese landing on the Canary Islands in 1336 and the gradual Spanish subjugation of the islands (not completed until 1496) prepared Europeans for their encounter with the New World after 1492. Like the debates over the humanity of the Indians, fourteenth-century writers, beginning with the prominent humanist Boccaccio, attempted to make sense of the indigenous population of the islands, the Neolithic

Guanches, who shared a common ancestry with the Berbers of North Africa. And like the Indians of the New World, these authors both praised their simplicity and criticized their wild state of nature. Columbus and other explorers, familiar with these writings on the Canary Islands, compared their encounters with the culture of the Indians to the similarly simple culture of the Guanches. Thus, the Canary Islands, rather than the wealthy, sophisticated and islamized kingdoms of West Africa, prepared Europeans for the shock of the New World.

Abulafia provides a fascinating narrative of the background and first twenty years of the European encounter with the New World. This very narrative format, however, often prevents him from exploring arguments in greater depth. Moreover, his habit of ridiculing authors he labels "postmodern," trivializes their work and unfairly represents their arguments. For example, Abulafia cursorily dismisses arguments that the cannibalism of the Caribs was a myth employed by the Spanish in order to justify enslaving them. And yet he never provides any evidence—other than the biased accounts of explorers and contemporary armchair scholars—that the Caribs did practice cannibalism. Elsewhere in Renaissance Europe, unfounded charges of man-eating were variously leveled against enemies and perceived outsiders, such as witches (poor women), Jews, and the Uskok pirates of the Adriatic Sea. Abulafia's reluctance to view the European discussion of Indian customs as a discourse grounded in power is thus problematic.

Despite this last reservation, I found Abulafia's narrative exciting and informative. It should force us to ask more questions about the initial encounters Europeans had with cultures vastly different from their own. ♦

In the Beginning: Fundamentalism, The Scopes Trial, and the Making of the Antievolution Movement

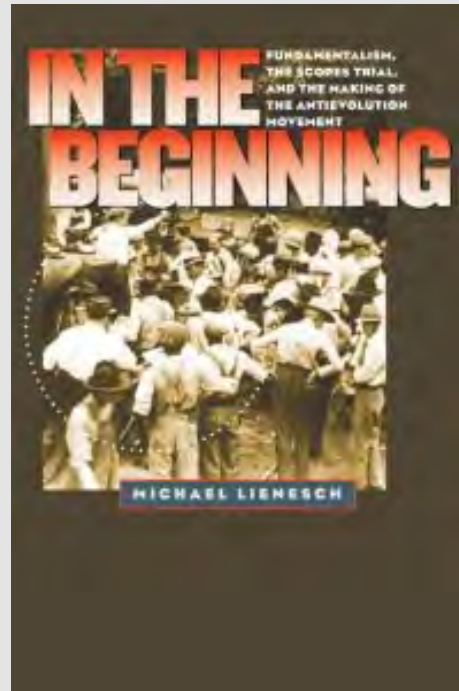
Book Review By

BRIAN KENNEDY

Published January 2008.

In the Beginning: Fundamentalism, The Scopes Trial, and the Making of the Antievolution Movement by **Michael Lienesch** (Chapel Hill, University of North Carolina Press, 2007).

In the first five years of the present decade, forty-three states witnessed political battles over the teaching of Darwinian evolution in public schools (231). How is it that a movement that many assume was killed in Dayton, Tennessee eighty years ago continues to be so influential? How did the anti-evolution movement originate and how has it developed into the "intelligent design" movement of today? These are the questions



by Michael Lienesch (Chapel Hill, University of North Carolina Press, 2007).

that Michael Lienesch attempts to answer in his book *In the Beginning*.

Lienesch begins with a brief but solid history of the development of American fundamentalism. Starting with the 1909 decision of Lyman Stewart to publish the series *The Fundamentals*, Lienesch traces the growth of fundamentalism in the United States and the almost simultaneous rise of a coherent anti-evolution movement. Disturbed by all the forces of the modern world, both in society at large and in the Protestant churches of the day, early fundamentalists sought to refocus their churches upon what they considered to be the fundamentals of their faith.

In addition to laying out five precepts of Christianity, early fundamentalist leaders created an identity and a new discourse for like-minded Christians. They argued that philosophers, "higher critics," and religious liberals were corrupting the Christian faith by insinuating that the Bible was nothing more than a collection of myths. Fundamentalists began to unite across denominational boundaries in order to defend their faith and their nation from the challenges of liberalism and modernism.

Although the early volumes of *The Fundamentals* focused on issues such as materialism, leaders of the movement soon came to direct their anger at Darwinism. Fundamentalist preachers used the issue to mobilize their flocks and launch a crusade to reform Christian America. They argued that teachers in the universities were undermining the faith and ridiculing the beliefs of impressionable students. Unable to project their influence into the universities, fundamentalist preachers soon began to focus on public schools. Lienesch traces the development of this anti-evolution rhetoric into a full-fledged movement, the movement's political successes in the 1920s, and its continuance up to today.

As well as providing a detailed history of the movement, Lienesch, a political scientist, uses this story to explain social movement theory. Lienesch outlines how anti-evolutionists created a collective identity, mobilized activists and built institutions, framed the issue in a way best designed to win over converts, utilized allies in the political realm, and performed strategic retreats in the years after the Scopes trial. Lienesch's introduction to social movement theory will be interesting and informative for those unfamiliar with such theory.

Lienesch's comparisons of the antievolution movement to other social movements, such as the southern civil rights movement and American women's movement, are also thought provoking, if debatable. *In the Beginning* is certainly at its finest when providing the nitty-gritty details of movement strategy and

organizational politics and showing how they fit into a theoretical framework.

Although Lienesch's book broadens our understanding of the anti-evolution movement, fundamentalism, and social movements, it is not without its flaws. Most obviously, Lienesch fails to reach his own ambitious goals. Lienesch states in the introduction that he intends to provide "the story of the anti-evolution movement...from beginning to end, top to bottom, inside and out" (6). Such would be a daunting task for any historian who is attempting to tackle a century-old movement and the establishment of a new religious philosophy, all in just two hundred and thirty pages. In the end, Lienesch, as most undoubtedly would, does not fulfill this promise entirely.

Lienesch also asserts in the introduction that he is trying to refocus the story from the Scopes trial which, as he laments, usually receives far more attention than the anti-evolution movement's "early development or later manifestations" (3). Yet, Lienesch spends more time discussing the Scopes trials than the past seventy-five years combined. Given the plethora of books on Scopes, including Edward Larson's excellent *Summer for the Gods*, one is left wishing Lienesch had lived up to his original goal of providing the rest of the story. Instead, the last chapter, briefly dealing with the years from 1932 to the present, glosses over the question of how the movement has evolved in the past seventy-five years, providing less here than in his analysis of the 1920s.

Whereas *In the Beginning* is reserved and cautious when detailing the movement in the 1920s, the final chapter is sweeping and theoretical when describing the years since. Lienesch argues in Chapter 8 that the anti-evolution movement survived over time by adapting its strategies and techniques to the changing political and social climates while retaining the same core beliefs. What he describes, however, is far more than a shift in tactics; the movement has seemingly changed its goals completely in recent decades.

Early anti-evolutionists, according to Lienesch, were trying to snuff out liberal, modern Protestantism as well as Catholicism and Judaism. Modern proponents of "intelligent design" – the new name given to the old creationism – by contrast, find themselves allied not only with Catholics, Jews and Muslims, but even with those who believe that life on earth originated from Extraterrestrials! Furthermore, advocates of "intelligent design," when referencing the Scopes trial, often overtly align themselves with Clarence Darrow (the man once depicted as Satan incarnate!) while arguing, like Darrow once did, that "multiple viewpoints" should be discussed in the classroom. Lienesch argues this is simply a shift in tactics and an attempt to use the popular conception of the Scopes trial to their advantage. "Multiple viewpoints," however, is exactly the opposite of what early anti-evolutionists, who Lienesch argues believed in one fundamental truth, were seeking. Such transformations seem far greater, at a social if not an ideological level, than the mere

changes in tactics that Lienesch argues they are. And, of course, at a scientific level, there is no debate over Darwinian evolution.

In the Beginning lives up to the title and provides a rich and detailed study of the early days of the anti-evolution movement, from 1909 to 1932. Historians and general readers interested in American fundamentalism, the Scopes trial, and the origin of the anti-evolution movement should find it informative and readable. Those interested in the modern debates about "intelligent design," meanwhile, should find a good starting point for their research in his last chapter and its footnotes. ♦

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