Facts and ideas from anywhere

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MAD COWS VS SANE COWS

Mad cow disease, officially called bovine spongiform encephalopathy (BSE), emerged in British cattle in the mid-1980s (1). Its origin is unknown, but scientists believe it spread to >180,000 calves in the United Kingdom and to about 1300 elsewhere in Europe through feed that had been fortified with meat and bone meal extracted from BSE-infected cattle (2).

Human consumption of BSE-infected beef in Europe has led to 92 cases of new variant Creutzfeldt-Jakob disease, primarily in the United Kingdom (3). The fatal disease begins with psychiatric symptoms such as anxiety and depression.

In 1989, the USA banned the import of live cattle from countries with BSE-infected cows. The US Department of Agriculture says that 496 cows from the United Kingdom and Ireland were imported into the USA before the 1989 ban took effect (4). The agency has tracked down, tested, or burned all but 32 of those animals. The latter were never found and could have entered the food supply, but whether or not they carried BSE is not known.

In 1997, the Food and Drug Administration (FDA), following a ban on meat and bone meal in cattle feed that had been enacted in the United Kingdom in 1988, imposed similar restrictions on feed for the USA's 98 million cows (5). In early January 2001, the FDA's Center for Veterinary Medicine reported that about a quarter of the renderers and feed mills inspected were not properly labeling feed. After being notified by a Texas feed mill that it might have mistakenly given prohibited feed to cattle, the FDA quarantined a herd of about 1200 cows. The cows will not be allowed to be slaughtered for food if FDA officials discover that the feed had a significant amount of prohibitive material in it. The issue, however, may be a feed compliance issue and not an animal safety issue, since the product does not contain BSE.

So far, the US Department of Agriculture has examined the brains of nearly 12,000 cows in the USA suspected of having brain impairment and found no hint of BSE disease. There has been no testing to detect the disease in live animals that have not yet begun to show symptoms of illness. Mad cow disease is one of a family of brain-destroying diseases that afflict many species, including sheep, deer and elk, mink, and humans. Most scientists have thought that these diseases were species specific and posed no risk to other animals, but many now think that the disease got into cattle by way of infected sheep ground up and added to cattle feed. Prior to the emergence in the mid-1980s of mad cow dis-

ease, this kind of illness had never been recognized in cattle. Chronic wasting disease, a brain-destroying condition in deer and elk, has been seen in <200 cases in the USA and was first documented about 20 years ago (6). There has been no known transmission to humans or to cattle and other livestock (7).

In American-grown beef, there is no indication of any BSE. But where it exists, the infectious agent believed to be the cause of the disease, a misshapen form of protein called a prion, is found in the brain and spinal cord (8). This material could accidentally be mixed in ground beef, sausages, and other foods. Some scientists speculate that it got into pureed meats used in baby food in the United Kingdom. Muscle tissue, steaks and roasts, are thought to be free of infection, and no evidence points to infection in dairy products.

Available tests detect the presence of abnormal prions in the brains of slaughtered cattle. There are no tests to detect them in ground beef or other meat products. And cooking doesn't help. The prions survive radiation and autoclaving. Prions have survived when subjected to heat as high as 1112°F for 15 minutes!

It appears that the epidemic in British cattle is on the wane thanks to changes in animal feed policies. However, the disease in humans has an incubation period of unknown length, possibly as long as decades. BSE is simply another reason to avoid eating cows. Even sane cows are not harmless: along with eggs, they are the major source of cholesterol in our diets, and cows alone provide 30% of fat ingested in the USA.

Mad cow disease is affecting our blood supply. In January 2001, an FDA advisory panel banned anyone from donating blood in the USA who had lived in France, Portugal, or Ireland for 10 years since 1980 because of fears of mad cow disease (9). This move comes a year after the FDA banned blood donations by any American who had spent 6 months or more in Britain, where the world's worst cattle epidemic of BSE occurred (10). No one knows for sure whether the human version of mad cow disease could be spread by blood, although some experiments with nonhuman animals suggest it might. The American Red Cross urged the FDA panel to be stricter. It wanted a ban for all of Western Europe and not just France, Portugal, and Ireland. So far, only 3 people in France have contracted the new variant Creutzfeldt-Jakob disease. The panel voted against a full European ban, saying that that would hurt the US blood supply far more than the theoretical risk of BSE.

HEROIN UP, COCAINE DOWN

According to the White House Office of National Drug Control Policy, the estimated number of heroin users in the USA has risen to 980,000 from 600,000 at the beginning of the 1990s

(an increase of 39%), while cocaine use has decreased 70% in the same time period (11). The agency attributes the resurgence in heroin use to new forms of the drug, smokable and snortable alike; a prevailing myth among the young that heroin is safer when not injected; and the “heroin chic” look of models in the early 1990s. Household surveys show that from 1990 to 1998, an estimated 471,000 people used heroin for the first time, with 25% of the new users under age 18 and 47% aged 18 to 25. Heroin is not only less expensive than it once was but also is cleaner and purer according to the Center for Addiction and Substance Abuse at Columbia University. Many young people apparently think they can snort it without getting hooked on it, but eventually they become addicted and turn to needles to achieve a more potent high. Some public health experts see the large increase in heroin use as further evidence that the nation’s 20-year-old war on drugs, with its emphasis on punishment rather than treatment, needs a new approach.

INCREASED USE OF METHAMPHETAMINE AND METHYLENEDIOXYMETHAMPHETAMINE

During the past 4 years, methamphetamine use, particularly in several western and midwestern states, has skyrocketed. Methamphetamine—also known as meth, speed, ice, crystal, chalk, or glass—is a human-made drug produced by cooking commonly available chemicals, including iodine, acetone, and the cold medicine pseudoephedrine hydrochloride (12).

While use of the drug is hurting more people every day, its production is creating hazardous conditions in houses, hotel rooms, cars, and just about anywhere else a meth maker can set up a small lab. Cooking the drug generates a host of dangerous substances such as hydriodic acid, which can dissolve flesh in seconds and has fumes so toxic that even small amounts can collapse the lungs, and red phosphorus, which, if mishandled, converts to yellow phosphorus and can spontaneously ignite. Fumes from the drug brew soak into walls, ceilings, carpeting, and furniture. It is such a hazard that the Occupational Safety and Health Administration requires special training, special suits, and breathing equipment for drug agents.

In 1999, law enforcement agencies in Arizona busted 378 methamphetamine labs, whereas in 1995, only 16 were shut down. The Drug Enforcement Administration has registered 330 lab busts in Arizona for 2000 and expects the number to increase. Most methamphetamine operations in Arizona are small, designed to supply enough drugs for the producer and a few friends. Only one of the Arizona labs shut down in 2000 was a so-called “super lab,” able to produce at least 10 pounds of the drug in 24 hours. The Drug Enforcement Administration estimates that the cleanup cost for each lab bust is about \$18,000. More lives are bound to be hurt, more neighborhoods will be exposed to hazardous materials, and the cleanup costs will grow unless something is done to change the trend.

The January 21, 2001, issue of the *New York Times Magazine* carried a piece entitled “Experiencing Ecstasy,” which described the effects of methylenedioxymethamphetamine (MDMA) or Ecstasy, which has become the fastest-growing illegal substance in the USA (13). A freshman college student described his experience after swallowing a few MDMA pills. He stated that he felt euphoria and a heightened sensory awareness, while not feel-

ing “stoned or day dreamy” or hallucinating: “I felt like some reptile quadrant of my brain had been soothed. My emotions, my memory, my sense of smell—they were all as accessible as a photo album on my lap.” The student also acknowledged a longing for human connection—an ability to accept others and to open up to them without defenses. New perceptions became possible, and guilt and negativity were lifted. In addition, he reported that aches and pains vanished. He did, however, experience negative side effects: increased heart rate, increased body temperature, decreased hunger, a dry mouth, and intense jaw grinding, “but at the time you’re not really aware of these odd side effects. You have everything you need. . . . I experienced a kind of wordless glory. This was the best I’d ever felt in my life.”

Today Ecstasy comes in a hundred different colors and sizes, churned out pneumatically from underground factories in the Netherlands run by international crime organizations. While consumption of drugs like cocaine and marijuana among American teenagers has stabilized in the past decade, Ecstasy’s popularity has increased exponentially. Last year, US Customs officials seized 9.3 million pills; in 1997, they seized 400,000 pills.

How damaging is Ecstasy? Some scientists have indicated that MDMA can kill, but few users end up in the hospital. In 1999, 554,000 people went to US emergency rooms for problems related to cocaine, heroin, and other drugs; <3000 went to the emergency room because of Ecstasy. Rats and monkeys given large and/or repeated doses of Ecstasy showed partial loss of serotonin neurons, specifically the sites that reabsorb serotonin after it has been transmitted. One researcher has concluded that even one dose of MDMA can lead to permanent brain damage. In high doses, MDMA clearly causes physical changes in the serotonergic nerve network of the brain. No one knows yet what such changes mean in terms of human behavior.

Could Ecstasy ever be used as a medicine? How much different is Ecstasy than legal psychotropic drugs, and would some mildly depressed people be better off taking Ecstasy once in a while than Prozac every day for years? To address these questions, a few experiments with MDMA have been done. A study in Spain has just begun in which Ecstasy is being offered to treat rape victims for whom no treatment has worked, based on the premise that MDMA “reduces the fear response to a perceived emotional threat” in therapy sessions. A Swiss study in 1993 yielded positive anecdotal evidence on Ecstasy’s effect on people suffering from posttraumatic stress disorder. A study may soon begin in California in which Ecstasy is administered to end-stage cancer patients suffering from depression, existential crises, and chronic pain.

In general, 2 problems with Ecstasy have been identified. One is that Ecstasy is not always MDMA. Manufacturing MDMA requires a stable laboratory condition, and impure samples can be lethal. The other problem is hyperthermia. MDMA gives users the energy to dance for 5 straight hours, raises body temperature, and causes dehydration. Although it is not hallucinatory, users are so swept up by the terrific sense of well-being that they don’t feel as though they are overheating even when they are. And if they drink too much water to quench that terrific thirst, they can die from thinned-out blood. In 1995, one 18-year-old English woman took just one hit of Ecstasy at home and then

over the next few hours proceeded to drink around 3 liters of water, in effect drowning herself.

ATTENTION DEFICIT/HYPERACTIVITY DISORDER AND METHYLPHENIDATE (RITALIN)

Ritalin was introduced in 1975 for treatment of attention deficit/hyperactivity disorder (ADHD). In 1999, 10.6 million US prescriptions were written for it (14). In Texas, Ritalin prescriptions numbered nearly 192,000 in 1991 and 716,000 in 1998. Ritalin works as a stimulant that boosts the levels of the neurotransmitter dopamine in the central nervous system. Dopamine helps increase motivation, alertness, and action. Possible side effects include insomnia, loss of appetite, stomachaches, and headaches.

ADHD is the most common childhood behavioral disorder, occurring in about 4% of US school children. Boys are 4 times as likely to be afflicted as girls. The disorder also affects about 3% of adults. Its symptoms include fidgeting, forgetfulness, disorganization, and a tendency to make careless mistakes.

Many physicians, parents, and educators swear by Ritalin as a safe and effective treatment that allows many children to succeed in school for the first time. But these days, critics are speaking louder. They say that ADHD is an inexact diagnosis made on children who have a wide range of problems. They believe that Ritalin can have troubling side effects and that resorting to drugs to control unruly children does not address underlying behavioral or academic problems. Last fall, the Texas Board of Education heard impassioned testimony from Ritalin supporters and critics; they narrowly passed a resolution expressing concern about the drug. Other state boards also have recently held hearings on the drug.

Mental health advocates are now scrambling to head off what they see as mounting opposition to ADHD as a diagnosis and Ritalin as a treatment. Medical associations have recently issued statements saying Ritalin and related drugs are safe when taken properly. The American Medical Association says, "There is little evidence of widespread overdiagnosis or misdiagnosis of ADHD or widespread overprescription" of Ritalin and similar drugs. In a 1999 report, the US Surgeon General's Office called Ritalin and related drugs "highly effective" for 75% to 90% of ADHD sufferers.

Such endorsements from the medical establishment, however, have not allayed the concerns of Ritalin's detractors. In 2000, a lawsuit was filed in south Texas against Novartis Pharmaceuticals Corporation, the manufacturer of Ritalin. Also named as defendants were the American Psychiatric Association and Children and Adults with Attention Deficit/Hyperactivity Disorder. The plaintiffs—parents whose children took Ritalin—said they wouldn't have allowed the "drugging" of their children if they had known that ADHD was "an extremely subjective and broad" diagnosis. The suit, 1 of 4 recently filed across the country, accuses the defendants of promoting the diagnosis of ADHD to boost Ritalin sales and failing "to warn of the serious side effects associated with Ritalin use." The lawsuit is pending in court in Brownsville.

According to the National Institute of Mental Health, as many as 2.6 million US children—about 1 per classroom—have ADHD. Dallas school district officials apparently are not quick

to recommend Ritalin and related drugs. Ritalin is prescribed only as part of an overall treatment plan that can also include counseling, impulse management, and social skills training. Schools become involved in Ritalin treatment because the drug is usually taken 2 or 3 times a day, including once at school. Medical personnel there are responsible for keeping custody of the medication and dispensing it. We have not heard the last of this issue.

PLATELET DONORS, CAMARADERIE, AND MICHAEL McDERMOTT

Because giving platelets takes more time and effort than giving blood and can be done more often—every 14 days instead of every 56 days because platelets grow faster than red cells—it fosters a special camaraderie among those who give (15). It takes about 2 hours to donate platelets. The blood flows through a machine that strips out the platelets, collects them in a plastic bag, and then pumps the blood back into the donor's arm. Many platelet donors appear to be an unsung band of regulars who provide the lion's share of the platelets needed by chemotherapeutic patients to stop their bleeding.

It turns out that Michael McDermott, accused of gunning down 7 coworkers December 26, 2000, at Edgewater Technology in Wakefield, Massachusetts, donated platelets every other Wednesday evening in Dedham for years. The "Donate Platelets" bumper sticker on his car was beamed across the country in news reports. Donors and staff were comfortable with the big bearded man nicknamed "Mucko," who usually arrived with a friend. They saw him as boisterous, fun-loving, and even a casual friend, who gave no hint of problems. It seemed out of character for someone who was giving of himself to help others to be linked to one of the worst mass killings in New England history.

MENINGITIS VACCINE ADDED TO IMMUNIZATION LIST

A new childhood immunization schedule issued by the Centers for Disease Control and Prevention recommended 4 doses of the new pneumococcal conjugate vaccine for infants aged 23 months and younger (16). The vaccine would be given when children receive the other vaccines on the immunization schedule. The vaccine also is recommended for children up to age 5 who have sickle cell disease, chronic illness, or weak immune systems or who are infected with the virus that causes AIDS. Pneumococcal infections cause about 700 cases of meningitis and about 17,000 cases of bloodstream infections every year in the USA among kids <5 years old.

FAST FOOD NATION

Fast Food Nation is the title of a new book by Eric Schlosser, who explores how the rise of McDonald's, Burger King, and Pizza Hut has affected the nation's children, farmers, meatpackers, waistline, environment, and landscape (17). According to the book, every month >90% of American kids eat at McDonald's! I'm convinced that the health of this nation will not improve unless people boycott fast food. Parents must demand that schools ban fast food, no matter how much corporate money is offered.

The workers in these fast food chains are poorly paid as a rule. In 1998, more restaurant workers were murdered on the job in the USA than police officers! The fast food industry hires the

young, the poor, and the disabled because it often gains government subsidies for “training.” The industry, which typically has fought unions, benefits from hiring teenagers who are easily cowed. No other industry pays so many employees minimum wage. US teens are injured on the job at twice the rate of adult workers. The jobs are kept mechanized because rapidly shuffling bodies through is cheaper than keeping a well-trained workforce that might demand insurance and higher wages.

Schlosser describes the meatpacking industry in detail. It reads like Upton Sinclair’s 1906 classic, *The Jungle*. The blood, the stench, the brutal pace. The workers submit because they have no other way to support their families. The jobs are often performed by poor women, the illiterate, and illegal aliens, and the workers run the risk of terrible injuries. *Fast Food Nation* is the kind of book young people should read because it demonstrates far better than any social studies class the need for government regulation, the unchecked power of multinational corporations, and the importance of our everyday decisions.

BURGER KING OR MURDER KING?

The animal rights group—People for the Ethical Treatment of Animals (PETA)—that prodded McDonald’s to change how it treats and slaughters animals is about to announce a new black sheep, namely Burger King (18). The group says that, unlike McDonald’s, Burger King has refused to modify the way it treats animals. Having it Burger King’s way means treating animals as scum, says PETA President Ingrid Newkirk. McDonald’s now leaves Burger King in the dust over animal welfare. PETA has set up a grisly Web site that refers to Burger King as “Murder King.” PETA wants Burger King to require suppliers to enlarge chicken cages and to stop removing the beaks of laying hens. It also wants suppliers to stop withholding food from hens as a way of forcing them to lay more eggs. And it wants slaughterhouses to stun animals unconscious before cutting their throats. McDonald’s has demanded that its suppliers make these changes—and it has begun unannounced inspections of its suppliers’ slaughterhouses to ensure compliance.

THE FATTEST CITIES IN THE USA

The February 2001 issue of *Men’s Fitness* magazine lists the 25 fattest cities in the USA: Houston is #1; Fort Worth, #11; El Paso, #15, and Dallas, #16. San Diego and San Francisco, in contrast, are the fittest cities in the USA (19).

THE FIRST MEASURED CENTURY

For Christmas, my son Cliff gave me a book entitled *The First Measured Century* by Theodore Caplow, Louis Hicks, and Ben J. Wattenberg (20). It is an illustrated guide to trends in the USA from 1900 to 2000, the first century to measure things in a systemic manner. I summarize some of the main points below.

Population: In 1900, the US population was 76 million, and by the end of 2000, it was 281 million. Rapidly falling death rates, massive immigration, and a baby boom in mid-century caused the US population to expand at an extraordinary rate, doubling in the first half of the century and almost doubling again in the second half. At the same time, the world population grew by almost the same factor of 4. Thus, the American population constituted about the same fraction of the world population—

4.5%—in 2000 as it did in 1900. Most of the decline in death rates occurred in the early part of the century, primarily among children. Immigration rates also were highest in the early part of this century. The baby boom, which lasted from 1946 to 1964, added 76 million babies to the US population. Fertility rates fell dramatically after the baby boom, but immigration helped sustain a population growth rate of about 1% a year through the end of the century. If these trends in fertility and immigration persist, the American population will continue to grow in the early 21st century, although at a diminishing rate. By 2011, the US population is predicted to be 300 million.

The life expectancy at birth increased by 26 years for men and 29 years for women during the century. In 1900, life expectancy at birth was 48 for men and 51 for women; by 1996, life expectancy at birth was 74 for men and 80 years for women. Driven principally by a decrease in infant mortality, most of this improvement occurred by 1950. Infant deaths in the first year of life per 1000 births numbered 165 in 1900 and only 7 in 1997. Average expected length of life at age 60 was 74 for men and 75 for women in 1900 and by 1996 it was 80 for men and 83 for women. The life expectancy at birth for nonwhite Americans was 33 years in 1900, 15 years lower than the life expectancy of 48 years for whites. This gap declined throughout the century, narrowing to 7 years by 1996.

The proportion of children in the population decreased steadily from 44% in 1900 to 29% in 1998. If the birth rate declines further or remains stable and average lifespans continue to lengthen, the youthful component of the population will continue to decrease.

In 1900, there were 46, and in 2000, 262 *centenarians* per million population in the USA. From 1900 to 1950, the proportion of the population that had obtained or surpassed age 100 years declined with each decade. While life expectancy was increasing dramatically at younger ages, the number of centenarians per million Americans dropped from 46 in 1900 to 15 in 1950. The number of centenarians per million population was roughly the same in 1975 as in 1900. By 2000, however, the number had escalated to 262 per million. According to Census Bureau estimates, 72,000 centenarians were alive in the USA in 2000.

The *migration from rural areas to the cities and from cities to the suburbs* changed the face of the nation. In 1900, 60% of the population lived in or around places with <2500 inhabitants, and most were involved in farming. In 2000, only 25% lived within or in the vicinity of such small communities, and very few had any connection with farming. The cities grew rapidly during the first half of this century as rural people left the land and the immigrants of the early 1900s flowed into the cities. The combined population of the 10 largest American cities in 1900 was slightly more than 9 million; the 10 largest cities of 1950 had about 22 million residents. Because so many people left the cities for the suburbs during the second half of the century, most cities experienced little growth, and many actually lost population. The 10 largest cities of 1998 had about the same combined population as those of 1950. The share of the US population who lived in the suburbs doubled from 1900 to 1950 and doubled again from 1950 to 2000.

During the 20th century the nation recorded its highest percentage of *foreign-born* residents—15% of the US population in 1910. Although the foreign-born constituted <10% of the population in 1999, they represented the largest number of foreign-born residents in US history—nearly 26 million. The educational level of the foreign-born was lower: 35% of foreign-born adults did not have a high school education compared with only 16% of natives. As individual immigrants remained in the USA, their social and economic well-being tended to improve rapidly. By 2000, for example, immigrants who came to the USA in the 1990s had very low rates of home ownership, but foreign-born residents who arrived before 1970 had a higher rate of home ownership than did natives.

The federal government officially recognizes 4 population groups that are entitled to the benefits of *minority* preference programs: 1) American Indian or Alaska Native; 2) Asian or Pacific Islander; 3) Black, and 4) Hispanic. From 1800 to 1900, the proportion of such minorities in the population fell from about 20% to 13%. In 1900, minorities were predominantly black, with a thin scattering of reservation Indians, Chinese and Japanese in California, and people of Mexican descent in the Southwest. From 1900 to 1950, the relative size of the minority population remained about the same. From 1950 to 2000, however, the Asian proportion of the American population rose about 20-fold and the Hispanic proportion rose about 10-fold. The American Indian proportion tripled. In 2000, an estimated 28% of Americans belonged to an official, legally protected minority group. In 1900, 97% of the population of the 10 largest cities in the USA was white; by 1950 that percentage had dropped to 80%, and by 1990, to 38%.

The number of *physicians*, *lawyers*, and *engineers* per 1000 population in 1900 was 1.7, 1.4, and 0.5, respectively, and in 1998, 2.7, 3.5, and 7.6, respectively. The relative supply of physicians declined early in the century, primarily as a consequence of the 1910 Flexner Report, which brought reform to the standards and curricula of US medical schools and closed marginal schools. As a result, the number of physicians per 1000 population remained almost unchanged from 1920 to 1970. The restriction of supply in the face of increasing demand gave physicians the highest average incomes of any occupational group. Such restrictive policies were largely abandoned after 1970 in response to public pressure as well as massive new funding from the Medicare and Medicaid programs.

Labor force: The labor force participation rate of adult men gradually decreased from 86% in 1900 to 75% in 1998. The decline in labor force participation was most conspicuous for men age 65 and older: in 1900, 2 of every 3 were working or looking for work, but by 1998, only 1 in 6 was working or seeking work. Education, marriage, and race had striking effects on labor force participation rates. Only 7% of male college graduates <65 years were out of the labor force in 1998, compared with 25% of men in the same age group who had not finished high school. Married men of any age were more likely to be in the labor force than single, divorced, or widowed men. Black men had a lower-than-average participation rate, but Hispanic men had a higher-than-average rate.

In 1900, the typical factory work schedule was 10 hours a day, 6 days a week, for a total of 60 hours. Thereafter, it fell steadily,

reaching 35 hours per week in 1934. The average factory work week climbed to 45 hours at the peak of World War II, declined to 40 hours after the war, and remained at that level until the early 1980s when it began to inch upward. By 1999, the average manufacturing employee worked about 42 hours per week. The average office worker continued to come in later and work shorter hours throughout the century than did factory workers. Retail store employees always had heavier-than-average schedules. Thirteen-hour workdays were common in retail stores in the early years of the century, but by 2000, retail employees worked shorter hours but often worked on weekends and holidays. Unlike weekly and daily hours, annual work hours continued to decline slowly because of longer vacations, more sick and parental leave, and time off for obligations such as voting, jury duty, and military reserve service.

In 1900, 44% of single women were in the labor force, and by 1998 that percentage had risen to 69%. Among widowed, divorced, and separated women, 33% were in the work force in 1900 and 49% were in it in 1998. Only 6% of married women were in the labor force in 1900. That percentage had climbed to 61% by 1998. In 1936, 82% of both men and women in the USA disapproved of married women working; that percentage had dropped to 17% by 1996.

In 1900, 6% of physicians, 1% of lawyers, and 0.01% of engineers were women; by 1998, 26% of physicians, 29% of lawyers, and 11% of engineers were women. In 1940, 2.4% of physicians, 0.5% of lawyers, and 0.1% of engineers were black; by 1998, 4.9% of physicians, 4.0% of lawyers, and 4.1% of engineers were black.

Educational attainment: Only 13% of the population aged ≥25 years had at least a high school education in 1910. That number had risen to 83% by 1998. In 1910, only 3% of the US population aged ≥25 had at least a college education, and that number had risen to 24% by 1998. In 1900, 19% of bachelor's degrees were bestowed upon women; that percentage had reached 56% by 2000. Only 6% of academic doctorates were bestowed upon women in 1900, and that had risen to 41% by 2000.

Marriage: The marriage rate was lower at the end of the century than ever before. The number of marriages per 1000 unmarried women per year in 1920 was 92, and by 1996 it had dropped to 50. The average age at first marriage, which fell to an all-time low during the baby boom, climbed to an all-time high at the close of the century: the median age at first marriage for men was 26 in 1900 and 27 years in 1996; the median age at first marriage for women was 22 in 1900 and 25 years in 1996.

At the beginning of the century, very few women were *sexually active before marriage*. By the end of the century, most were. In 1900, 6% of 19-year-old unmarried women had had sexual experience; by 1991, that percentage had risen to 74%. At any point in time and at any given age, the percentage of men with premarital sexual experience was significantly higher than the corresponding percentage of women, and the percentages of black men and women with premarital sexual experience were higher than the corresponding percentages of white men and women.

In 1960, only 0.2% of *unmarried couples lived together*; by 1998, that percentage had risen to 7.1%.

The *divorce rate* rose unevenly but substantially from 1900 to about 1967, when the introduction of no-fault divorce led to

the doubling of the rate during the subsequent decade to a level that was sustained through the closing years of the century. The number of divorces per 1000 married women per year in 1900 was 4; by 1996, it was 20.

The decline in the share of US households maintained by a married couple proceeded slowly until 1970 and accelerated thereafter. In 1910, 80% of households were headed by a married couple; by 1998, 53% were.

The proportion of white women who were married at any given time rose irregularly from a low of 57% in 1900 to a high of 70% at the peak of the baby boom in 1960. The percentage began to decline after 1960, and by the late 1990s it was again approaching the level of 1900.

Women's fertility declined during the early decades of the century, increased during the baby boom, and declined sharply thereafter. The total fertility rate in 1905 was 3.8 children per woman, down from about 8 children per woman in 1790. By 2000, the fertility rate was down to 2.07. (The total fertility rate must be 2.1 for a generation-to-generation replacement under current mortality conditions.) Most of the reduction in fertility was accompanied by contraception and the advent of legal abortion. Condoms were the most common form of birth control for married couples in 1935. Oral contraceptives replaced condoms as the modal form of birth control by 1973. By 2000, surgical sterilization was the most common method of birth control for married couples. Reliable statistics about abortion in the early part of the century are impossible to obtain. The gradual state-by-state legalization of abortion accelerated suddenly in 1973 when the Supreme Court cut down most restrictions in its *Roe v. Wade* decision. The number of legal abortions began a steep climb, reaching about 1.5 million in 1980 and then declining to 1.4 million in 1996. The principal effect of abortion was to reduce the number of nonmarital births; >80% of abortion patients were unmarried.

Births to unmarried women increased sharply after 1960, when intentional childbearing by unmarried women came to be tolerated, if not fully approved. In 1917, 1% of births to white women and 12% of births to black women were out-of-wedlock or nonmarital, whereas in 1997, 26% of births to white women and 69% of births to black women were nonmarital.

US households became smaller. In 1900, 50% of US households had 6 or more persons; by 1998, only 10% of households contained this many people. In 1900, 6% of households contained 2 people, and by 1998, 25% did. The number of households with 3 to 5 persons was not much different from 1900 to 1998 (43% vs 55%). In 1900, only 1% of households had only 1 person; that number had increased 10-fold by 1998.

In 1900, 37% of all homes were owner occupied and by 1998, 66% were.

Mechanization of the American home: In 1900, only 2% of US homes had electricity; by 1997, 99%. Only 8% of homes in 1900 had central heating; by 1997, 93% did. Washing machines were unavailable in 1900; by 1997, 76% of homes had them. Flushing toilets were present in only 10% of homes in 1900 and in 98% in 1997. No homes contained refrigerators in 1900; 99% of homes in 1997 did. No homes had air conditioning in 1900 or in 1950, but by 1997, 78% did.

Automobiles, buses, and trucks: Eight thousand passenger cars were registered in 1900, half a million in 1910, and nearly 10 million in 1920. No previous invention anywhere had ever spread so quickly. Driven an average of >5000 miles a year in the 1920s, automobiles had a major impact on work, leisure, religion, and sexual behavior. By 1950, the basic open car of 1900 had evolved into a wide array of motor vehicles: sedans, coupes, station wagons, pickup trucks, delivery vans, large trucks, and buses. The number of automobiles, buses, and trucks per 1000 population in 1900 was 0.1; by 1997, 776.

Television: The spread of television was even more rapid. There were 8000 television sets in the entire country in 1946. Eight years later, 26 million sets reached more than half the population. By the end of the century, 98% of American homes had television sets, and most homes had at least 2. Television viewing rose to a very high level by 1970 and remained about the same through the end of the century. In the average US household, at least 1 set was on for >7 hours a day, and the average person actually watched the screen for about 4 hours. Effects of extensive television watching included increased juvenile violence, the fading of regional accents, the commercialization of college sports, the growth of evangelical denominations, the decline of school work, the commercialization of elections, and a global audience for scandal.

Residential mobility and geographic migration: Residential mobility—the movement of individuals and families from one dwelling to another, whether across the street or across the country—declined during this century. The proportion of people changing addresses from one year to the next declined from 1 of 5 in 1948, the earliest year for which national data are available, to 1 in 6 in 1999. Migration—the movement of individuals and families between states—increased moderately during the century. In 1900, 79% of the native population lived in the state in which they were born; by 1990, only 62% of the native population lived in their state of birth.

Religion: In 1906, 41% of the US population belonged to a religious organization and by 1998, it was 70%. At the end of the century, 8 of every 10 Americans were Christian, 1 adhered to another religion, and 1 had no religious preference. The official count of denominations increased from 186 in 1906 to 256 in 1936, when the Census Bureau stopped counting them. In 1900, 2.2% of the US population were members of the Southern Baptist denomination, and by 1998, 5.9%. In 1900, 5.5% of the US population were Methodist, and by 1998, 3.1%. Roman Catholics made up 13% of the population in 1900 and 23% in 1998. Membership in the 3 major Jewish denominations—Orthodox, Conservative, and Reform—more than tripled during this century, from 1.5 million in 1900 to 5.5 million in 1998. From 1950 to 1998, the number of Buddhists increased 10-fold. Muslims were too few to count in 1950, but by 1998, their numbers exceeded 3 million, and mosques were being erected throughout the nation. Church attendance remained fairly level in the latter decades of the century. In answer to the question, “Have you attended church or synagogue in the last 7 days?” 43% answered yes in 1939 and 40% did so in 1998.

Men's track and field records: From 1900 to 1998, the record high jump increased by 22% (from 78 to 95 inches); the record long jump by 21% (from 24 to 29 feet); the record pole vault by

66% (from 11.9 to 19.7 feet); and the time of the record mile decreased by 11% (from 256 to 228 seconds). In 1900, the American records in all 4 of these events were also world records. By 1998, the long jump was the only one of these events in which an American held the world record.

Overseas travel: Overseas travel by Americans greatly increased during the latter part of the century, but the number of foreign visitors to the USA increased even more. In 1919, 152,000 Americans went abroad; by 1997, 22 million. In 1919, 47,000 foreigners visited the USA and by 1997, that number was up to 24 million.

Common childhood diseases: In 1920, >30,000 children died from diphtheria, measles, or pertussis. More than 200,000 cases of diphtheria were reported in the USA in 1921, almost 300,000 cases of pertussis in 1934, and 900,000 cases of measles in 1941. Many more cases probably went unreported. By 1960, the death rates for all 3 diseases had been reduced to zero. Diphtheria was becoming rare; measles and pertussis were still common but no longer lethal. By 1995, the incidence of measles and pertussis had fallen significantly, and not a single case of diphtheria was reported in the continental USA that year. Other communicable childhood diseases—rubella, scarlet fever, and mumps—followed similar trajectories, first becoming less dangerous and then all but disappearing. Acute poliomyelitis ended abruptly when an effective vaccine was developed in the 1950s.

Major infectious diseases: The infectious diseases that killed great numbers of adults in the early part of the century were largely brought under control. In 1900, tuberculosis killed 194 per 100,000 population per year and by 1997, that number was down to 0.4. Influenza and pneumonia killed 202 persons per 100,000 per year in 1900, and by 1997, it was down to 33. During the influenza epidemic of 1918, 600 per 100,000 population per year died.

Major cardiovascular diseases (coronary artery disease, stroke, high blood pressure): In 1900, major cardiovascular diseases killed 345 per 1000 population per year. That number rose to about 500 by 1960 but was down to 352 in 1997.

Cancer: Cancer killed 64 per 100,000 population in 1900. By 1997, it killed 201 persons per 100,000 population.

Sexually transmitted infections: In 1920, there were 175 cases of syphilis per 100,000 population per year; that number rose to as high as 450 during World War II and fell to 18 by 1997. In 1920, there were 175 cases of gonorrhea per 100,000 population per year; that number rose to a high of 450 about 1980 and fell to 121 in 1997. AIDS killed 128 persons in the USA in 1981 and 16,516 in 1997. There were 327 new cases of AIDS in 1981 and 30,153 in 1997.

Suicide rate: In 1900, there were 10.2 suicides per 100,000 population per year, and that number rose to a high of 17.4 in the depths of the Depression. After 1945, it averaged 11.5 per 100,000 people with little annual variation. The number of suicides exceeded the number of homicides by nearly 60%. In 1997, there were 29,700 suicides and 18,800 homicides. The incidence of suicide was highest among whites and men. The suicide rate for whites was about twice the rate for blacks, regardless of gender or age. Male suicides were 4 times more numerous than female suicides. After age 65, the propensity for suicide increased dramatically for men but declined slightly for women. Older

white men have a suicide probability about 500 times higher than that of older black women. Guns were the preferred means of suicide for both sexes, although by a lesser margin for women, who preferred poison until about 1970.

Alcohol consumption: The per capita consumption of alcohol beverages fluctuated. Each adult consumed an average of 1.4 gallons of hard liquor in 1900. That number fell to 0.2 gallons from 1919 to 1933, when national prohibition was in force, and increased to a peak of 3 gallons per adult per year during the 1970s. By 1997, consumption had dropped to 1.9 gallons per adult per year. Wine consumption averaged 0.5 gallons per adult per year in 1900, fell to nearly 0 during prohibition, rose to a peak of 3.3 gallons by 1980, and fell to 3.0 gallons per adult per year by 1997. In 1900, the average adult consumed 17 gallons of beer per year. That fell to virtually 0 during prohibition, rose to a peak of 37 gallons per adult per year in 1980, and fell off to 34 gallons per adult per year by 1997. Most American adults and a large minority of adolescents drank frequently in the company of friends and relatives.

Five percent to 10% of adults became physiologically addicted to alcohol, typically with conspicuous damage to their health, their work, and their relationships. A study by the National Institute on Alcohol Abuse and Alcoholism estimated that nearly 108,000 Americans died in 1992 from the effects of alcohol, about a third from drinking-related injuries and the remainder from alcohol-related diseases. A large proportion of the injuries involved sober persons who got in the way of a drunk driver or someone on a binge.

Cigarette consumption: In 1900, 54 cigarettes were smoked per person per year, and in 1950, the per capita consumption of cigarettes was 66 times greater. Among 25- to 44-year-olds in 1955, 7 of 10 men and 4 of 10 women smoked. By 1999, 2136 cigarettes were smoked per capita per year. The 48 million smokers in the USA in 1997—about 25% of the adult population—consumed an average of 27 cigarettes per day. By coincidence, there were also 48 million smokers in the USA in 1970—37% of the adult population at the time—and they averaged about 30 cigarettes per day. By the end of the century, about 430,000 deaths were attributed to smoking annually. One study found that lifelong nonsmokers lived 18 years longer than lifelong smokers!

After the first surgeon general's warning in 1964, smoking came under increasing regulatory pressure. Cigarette advertising was dropped from television and radio in 1971, and smokers began to be segregated in restaurants and hotels and on common air carriers around 1983. By 1990, smoking was barred altogether on commercial aircraft and soon afterward in most offices, stores, and schools. The US military, which had distributed free cigarettes for decades, became a virtually smoke-free organization. As smoking slowly declined in response to this pressure, it developed an inverse correlation with income and education. On average, smokers at the end of the century had lower incomes and much less education than nonsmokers. In 1955, 59% of adult men smoked and by 1997, that percentage was down to 28%; in 1955, 31% of women smoked and by 1997, 22%.

Nonvehicular accidental deaths: The death rate for nonvehicular accidents (falls, drownings, fires, poisoning, and accidental discharge of firearms) declined steadily from 94 per 100,000 people in 1907 to 19 per 100,000 in 1997.

Hospitalization: In 1900, most Americans were born at home and died in their own beds. By 1930, nearly all births and a large proportion of deaths took place in hospitals, as was the case at the end of the century. During the 50 years that followed, the capacity of hospitals, measured by the number of beds, continued to grow a little faster than the population grew, while average occupancy rose from 63% of capacity in 1930 to 78% in 1980. Thereafter, the number of hospital patients began to decline, while community hospitals continued to add new capacity. In the mid-1980s, declining occupancy forced many hospitals to close or consolidate, but not fast enough to match decreasing demand. By 1997, the occupancy rate had returned to the 1930 level and was still falling. (The average daily census of hospital patients per million population was approximately 1950 in 1930 and in 1997.) The ever-rising cost of hospital care encouraged shorter hospital stays and increasing reliance on outpatient visits for various types of treatment, including surgery. From 1980 to 1995, the ratio of hospital admissions to population declined by a fourth, the average hospital stay shortened from 7.6 to 6.5 days, the proportion of surgical procedures performed on outpatients increased from 16% to 58%, and the ratio of outpatient visits to hospital admissions more than doubled.

Health care expenditures: Health care expenditures increased sharply toward the end of the century. In 1999 dollars, the health care expenditures in 1929 were \$290 per capita and by 1997, \$4243 per capita per year. When national health care expenditures were first calculated in 1929, they amounted to 3.5% of the gross domestic product (GDP). Nearly all health care costs were borne by patients or private institutions. By 1960, health care expenditures had risen to 5.1% of the GDP or \$20 billion. A third of this total—\$6.6 billion—was borne by the federal government, primarily for medical and hospital treatment of World War II veterans. The introduction of Medicare and Medicaid in 1966 began a period of sharp growth. Per capita health care costs nearly tripled between 1970 and 1997. The cost of Medicare benefits for the elderly was borne by the federal government. The cost of Medicare benefits for the poor and disabled was divided between the federal government and the states. Substantial infusion of public money is one factor that stimulated price increases throughout the health care sector.

During the subsequent 30 years, the annual inflation of medical, hospital, and pharmaceutical prices significantly exceeded the general rate of inflation. Total health expenditures as a percentage of the GDP rose to 13.5% in 1997, up from 7.9% in 1980. Meanwhile, the share borne by the federal and state governments rose to nearly half of the total. At the end of the century, hospital charges were the largest single component in the trillion dollar price of health care in the USA, accounting for about half of all third-party health care payments by government agencies and private insurers. Less than 5% of hospital patients paid all or most of their own charges, although copayments were often substantial. Between 1950 and 1995, the average cost per patient day in general hospitals, excluding the effect of inflation, increased by >1000%. Before World War II, hospital charges were billed directly to patients. As late as 1939, only 6% were covered by any form of hospital or surgical insurance. That percentage increased to 51% in 1950 and 86% by 1970, approximately the same level it was at the end of the century.

Patients in mental institutions: The population institutionalized for mental disorders increased from early in the century to the 1950s and then declined sharply. The number of people institutionalized for mental retardation continued to grow throughout the century. The advent of phenothiazine tranquilizers in the late 1950s, followed by other reliable chemical therapies, coincided with a shift in attitudes towards mental illness and revulsion against the inhumane conditions of the typical asylum in the first half of the century. A new psychiatric consensus held that most mental patients could be safely accommodated in community facilities, and the asylums began to empty out.

Blindness and disabilities: The incidence of blindness in the American population declined during the second half of the century. There were 64 blind people receiving public assistance per 100,000 population in 1950 and only 30 per 100,000 population in 1997. This striking improvement was largely attributable to a decrease in industrial accidents, enormous progress in cataract surgery and the repair of detached retinas, and advances in controlling glaucoma and other diseases of the eye. The incidence of total disability from other causes, however, increased substantially during the same period. The number of people with disabilities who received public assistance rose from 46 per 100,000 population in 1950 to 1886 per 100,000 population in 1997. The most likely explanation appears to be that the criteria for classifying public assistance applicants as disabled were progressively liberalized, while the criteria for classifying applicants as blind remained essentially unchanged.

UNIVERSITY OF PENNSYLVANIA HEALTH SYSTEM'S "REMARKABLE RECOVERY"

Dr. Venkata Ram sent me the following piece: "In mid September, after the executive committees of both the University of Pennsylvania Health System and the university trustees reviewed the financial figures for fiscal year 2000, UPHS released them publicly. For the fiscal year that ended on June 30, 2000, the health system's operating loss was \$30 million. In their memo, Robert D. Martin, PhD, interim CEO of the health system, and Arthur K. Asbury, MD, interim dean of the school of medicine, noted that they were 'pleased to report on the remarkable financial improvement.'" Imagine what the trustees would have said if they had made money!

SIMPLIFY YOUR LIFE

In 1994, Elaine St. James published a book entitled *Simplify Your Life—100 Ways to Slow Down and Enjoy the Things That Really Matter* (21). I didn't see this book until the year 2000, but I enjoyed it immensely and have tried to carry out some of her recommendations. Interestingly, her first recommendation is "reduce the clutter in your life." Her guideline is "if you haven't used it in a year or more, get rid of it." Her 100th recommendation is "build a very simple wardrobe." Some of her health recommendations include simplifying eating habits, splitting restaurant meals, having a fruit or juice fast 1 day a week, making water your drink of choice, eating muffins, packing your own lunch, getting rid of exercise equipment and personal trainers and taking a walk, getting up an hour earlier, going to bed by 9 PM 1 night a week, throwing out everything but the aspirin, creating

your own rituals, learning to laugh, learning to meditate, slowing down to the posted speed limit, cleaning up your relationships, just being yourself, trusting your intuition, stopping attempts to change people, spending 1 day a month in solitude, keeping a journal, taking time to watch the sunset, just saying no, resigning from any organizations whose meetings you dread, changing your expectations, and reviewing your life regularly to keep it simple. This little book can be read in a little more than an hour, and I found it very worthwhile.

CLEAR YOUR CLUTTER

In 1998, Karen Kingston published a book entitled *Clear Your Clutter with Feng Shui* (22). Some of the chapters included in this book are "The Problem with Clutter," "The Effectiveness of Clutter Clearing," "What is Clutter Exactly?" "How Clutter Affects You," "So Why Do People Keep Clutter?" "Letting Go," "How to Clear Your Clutter," "Staying Clutter-Free," "Clutter Clearing Your Body," "Clearing Mental Clutter," "Clearing Emotional Clutter," and "Clearing Spiritual Clutter." I found this book highly useful. I tend to retain things much longer than I should and keep a messy desk. Among her advice is to always leave your office each day with a clean desk. Since reading this book, I have turned my office at home upside down and now work more efficiently in it. I have found that clearing my desk before leaving work each day makes coming in the next day more enjoyable and more efficient. We all tend to have too much clutter in our lives, and this young lady tells us how to rid ourselves of some of it.

TEXAN DEFICIENCIES

Texans, of course, are proud at the moment because the present president of the USA is from our state and indeed was the previous governor of this state. Craig McDonald recently delineated a few deficiencies in the state of Texas, as summarized below (23).

Environment: Texas is first in the nation in toxic and cancerous emissions, hazardous waste, animal excrement, and environmental complaints. No other state consumes as much energy or emits as much global-warming carbon dioxide. Thus, Texas is a contender for the title of the most polluted of the 50 states.

Education: Texas ranks 36th in teacher salaries, with more than a quarter of Texas teachers holding second jobs. Texas is 32nd in spending per student. Texas students do well in fourth grade math but test at or below average in other grades and subjects. Just 4 states have a higher high school dropout rate.

Human services: Texas is first in the percentage of its people who lack health insurance (24%). It trails the nation in spending on public and mental health. It is second in its hunger rate and in its caseload of infectious diseases. It provides food stamps to only about a third of the people who qualify for them.

Public safety: Texas has the nation's deadliest death row. No other state has sentenced a full 5% of its adult population to the criminal justice system. Yet two thirds of the American people enjoy lower crime rates than those in Texas. The Lone Star State is the nation's leading host of gun shows, which exempt gun buyers from the normal rules requiring criminal background checks. Only 3 states surpass Texas in the number of their guns that are traced to crimes in other states.

Economy: Just 6 states have a wider income disparity separating the richest fifth from the poorest fifth of their populations.

Texas is tenth in the percentage of its people who are impoverished (16%); 26% of its children subsist below the poverty line. Texas ranks 45th in home ownership.

THE BRICKLAYER

My friend Carol-Ann Valentine sent me this bricklayer's accident report that was printed in the newsletter of the English equivalent of the Workers' Compensation Board. The following is the bricklayer's true report:

Dear Sir:

I am writing in response to your request for additional information in block #3 of the accident reporting form. I put "poor planning" as the cause of my accident. You asked for a fuller explanation, and I trust the following details will be sufficient.

I am a bricklayer by trade. On the day of the accident, I was working alone on the roof of a new 6-story building. When I completed my work, I found I had some bricks left over which when weighed later were found to weigh 240 lbs. Rather than carry the bricks down by hand, I decided to lower them in a barrel by using a pulley which was attached to the side of the building at the sixth floor.

Securing the rope at ground level, I went up to the roof, swung the barrel out, and loaded the bricks into it. Then I went down and untied the rope, holding it tightly to ensure a slow descent of the 240 pounds of bricks. You will note on the accident reporting form that my weight is 135 lbs.

Due to my surprise at being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rapid rate up the side of the building. In the vicinity of the third floor, I met the barrel which is now proceeding downward at an equally impressive speed. This explains the fractured skull, minor abrasions and the broken collarbone, as listed in section 3, accident report form.

Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were 2 knuckles deep into the pulley, which I mentioned in paragraph 2 of this correspondence. Fortunately, by this time I had regained my presence of mind and was able to hold tightly to the rope, in spite of the excruciating pain I was now beginning to experience.

At approximately the same time, however, the barrel of bricks hit the ground and the bottom fell out of the barrel. Now devoid of the weight of the bricks, the barrel weighed approximately 50 lbs. I refer you again to my weight. As you might imagine, I began a rapid descent down the side of the building. In the vicinity of the third floor, I met the barrel coming up. This accounts for the 2 fractured ankles, broken tooth, and severe lacerations of my legs and lower body.

Here my luck began to change slightly. The encounter with the barrel seemed to slow me enough to lessen my injuries when I fell into the pile of bricks, and fortunately only 3 vertebrae were cracked.

I am sorry to report, however, as I lay there on the pile of bricks, in pain, unable to move, and watching the empty barrel 6 stories above me, I again lost my composure and presence of mind and let go of the rope and I lay there watching the empty barrel begin its journey back onto me.

HARRY POTTER AND J. K. ROWLING

There has never been anything like it before. Four books by the same author in the top 4 spots on *The New York Times* Bestseller List during several weeks in the year 2000 (24)! The first book was *Harry Potter and the Sorcerer's Stone*; the second, *Harry Potter and the Chamber of Secrets*; the third, *Harry Potter and the Prisoner of Azkaban*; and the fourth, *Harry Potter and the Goblet of Fire*. Children in >30 countries and many adults are just wild about Harry, their bespectacled hero who discovers on his 11th birthday that he is a wizard. Harry Potter inherited his magical powers from his parents, who were slaughtered by the evil wizard Lord Voldemort. Harry, who bears a lightning scar on his forehead, also Voldemort's handiwork, then has a series of white-knuckle adventures at Hogwarts School of Witchcraft and Wizardry. This is housed in a remote Scottish castle where mail is delivered to pupils by their owls. Today the 4 books have sold 41 million copies. On July 8th, when the *Goblet of Fire* was released, the book sold nearly 373,000 copies in hardback in the United Kingdom and 3.8 million copies in the USA.

J. K. Rowling is a soft-spoken, 35-year-old woman who was born in 1965 at Chipping Sodbury, South Gloucestershire. She was a writer from age 6 and had 2 unpublished novels in a drawer when she was stuck on a train in 1990 and Harry walked into her mind fully formed. She spent the next 5 years constructing the plots of 7 books, one for every year of his secondary-school life. She started writing the first book, *Harry Potter and the Sorcerer's Stone*, in Portugal, where she was teaching English and had married a journalist. The marriage lasted barely a year but produced baby Jessica. Leaving Portugal, she arrived in Edinburgh in 1993 to stay with her sister Di, a lawyer. She had just enough money for a deposit on a flat and some baby equipment. She had come from a middle-class background and had a degree in French and classics, but when she returned to Edinburgh she lived in a mouse-infested 2-bedroom flat.

At first nobody wanted to publish the first of the Harry Potter books. She was told that the plot, like her sentence structure, was too complex. Refusing to compromise, she finally found a publisher, Bloomsbury, and after obtaining a \$12,000 grant from the Scottish Arts Council, began writing the second book, *Harry Potter and the Chamber of Secrets*. In 1997, Rowling received her first royalty check for *Sorcerer's Stone* and quickly banked it. By the third book, she had skyrocketed to the top of the publishing world. She is now worth an estimated \$30 million.

So what has Rowling got that the other writers haven't? Positions, intrigue, magic, and what happens next—the same formula that Shakespeare used. Rowling may write about wizards, ghosts, elves, and the hippogriff (half horse, half eagle), but her books are driven by all the suspense and twists of detective novels. Perhaps that's why Harry is also hugely popular with adults.

And now Harry is making the transition to the movies. *Sorcerer's Stone* is already in preproduction. One person who is not there to see and share her success is her half-Scottish,

half-French mother, who died of multiple sclerosis in 1990 at age 45. She had no idea that her daughter had started writing about Harry Potter. Her father, a retired aircraft engineer, is immensely proud, but books were her mother's big passion. I guess we should try to get more spills and spells in medical books to make them a bit more exciting.

William Clifford Roberts, MD

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