SPRING 2009
Asia/Pacific – Fall 2009

BOSS

CONNECTING TO INDUSTRY

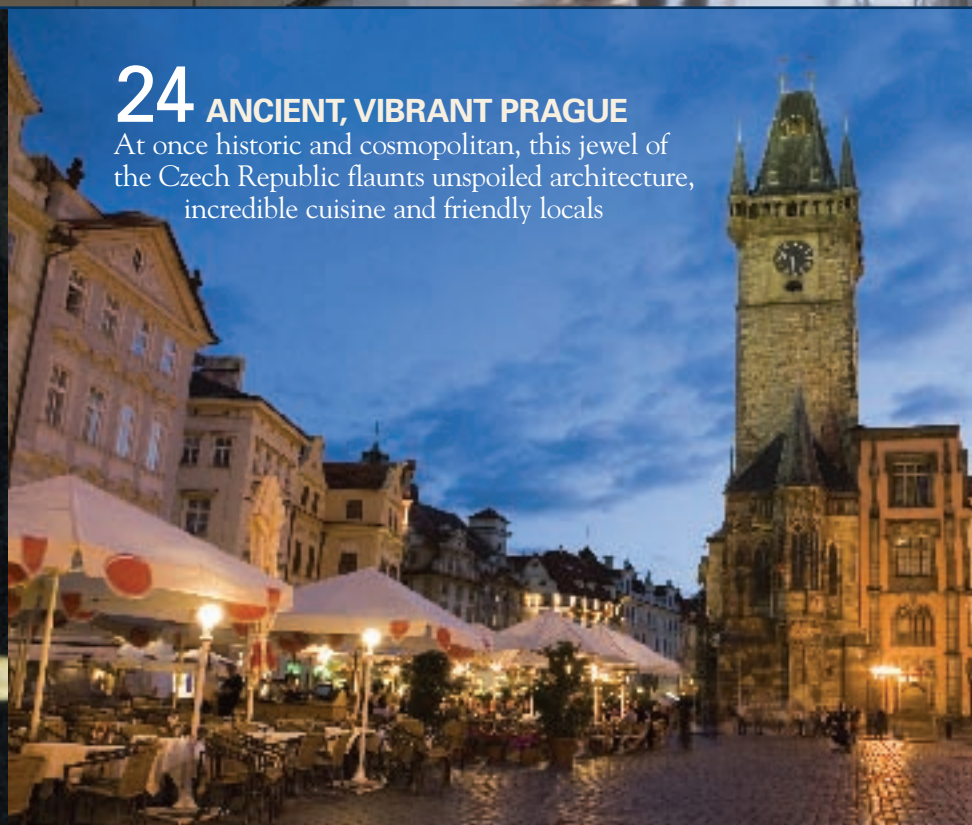
Building Green

Environmentally conscious construction—good for builders and for the environment

BOSS
SPRING 2009
ASIA/PACIFIC – FALL 2009

departments

features



Thinking Outside the Box

In this issue of *BOSS* magazine, our lead article is about green buildings. This is a fascinating subject about innovative thinking on the part of architects and builders. It seems that during trying economic times we all need to look at the way we live and conduct business and challenge ourselves to "think outside the box" as architects have in the green building field.

And like architects, we can look to the past to learn from history's good ideas, successes and failures. But in the end, we are responsible for the innovations of today. Our new methods, ideas and products will pull us forward, keep us moving and build a foundation for the next generation.

Many times change is good, so while the economy continues to test us, if we are creative we will emerge as survivors.

Thanks for reading.

Dick Goodall

When fabricating and specifying hose assemblies ASK THE FOLLOWING QUESTIONS:

S **Size:** What is the ID of the hose? What is the OD of both ends of the hose?

T **Temperature:** What is the temperature range of the media flowing through the hose assembly? What is the temperature range of the environment surrounding the outside of the hose assembly?

A **Application:** How is the hose assembly actually being used?

M **Media:** What media is flowing through the hose assembly?

P **Pressure:** What is the maximum pressure, including surges (or maximum vacuum) that the hose assembly will be subjected to?

E **Ends:** What couplings have been requested by the user?

D **Dixon:** Dixon recommends that, based on the hose, fittings and attachment method used, all assemblies be permanently marked with the designed working pressure and intended media.

Remember: Be Safe! If you have any questions on application, use or assembly call 877.963.4966.

BOSS
SPRING 2009
ASIA/PACIFIC – FALL 2009

Publisher
Dixon Valve & Coupling Company

Editor
Yvonne Lyons

Editorial & Design
Alter Custom Publishing

Art Director
Jason Quick

Copy Editor
Chris Zang

Please submit address changes to:
Alter Custom Publishing
Attn: Jessica Krznaric
1040 Park Avenue, Suite 200
Baltimore, MD 21201
443-451-0736
Fax: 443-451-0777

Dixon Valve & Coupling Company
800 High Street
Chestertown, MD 21620
877-963-4966
Fax: 800-283-4966
www.dixonvalve.com

E-mail questions or comments about BOSS to: boss@dixonvalve.com

Dimensions of Respect

By Michael Josephson

I received a letter from someone who wanted to challenge an assertion I had made to the effect that everyone should expect and demand to be treated with respect. She said her boss was abusive, dishonest and not worthy of respect. What right does he have, she asked, to demand respect?

First, we need to distinguish between three aspects of respect: what we think of others, how we treat others and how we demand to be treated.

In one sense, to respect a person means to hold that person in high esteem. This type of respect must be earned. No one is entitled to our esteem.

However, the ethical obligation of respect also governs how we act toward others. People of character treat others respectfully whether they deserve it or not. I'm reminded of the politician who refused to get in a name-calling match with an opponent. He said, "Sir, I will treat you like a gentleman not because you are one, but because I am one."

Sure, it's hard to treat people better than they treat us, but it's important to realize what's at stake. If we allow nasty, crude and selfish people to drag us down to their level, they set the tone of our lives and shape us in their image.

The final dimension of respect is self-respect. People with healthy self-respect have a strong sense of dignity and self-worth. They set boundaries and demand respectful treatment as an absolute condition of a relationship.

My listener's ethical dilemma is not really about how she treats her boss, but how she allows him to treat her. It often takes moral courage. But whether it's a bad relationship or a bad job, whether the abuser is a parent, spouse, child or boss, self-respect ought to cause us to terminate any relationship that subjects us to continuous disrespect.

IMAGES COURTESY OF THE LIBRARY OF CONGRESS

The Tale of Johnny Appleseed

The apple-tree-planting legend, thought to be a myth by many, did more than just plant seeds

By Sarah Achenbach

The heroes of American folklore—Paul Bunyan and his blue ox, Babe, digging the Grand Canyon, Pecos Bill shooting stars out of the Texas sky—make for amusing, if fictitious, fables. One tall tale rises above the myth: the real-life legend of Johnny Appleseed, a barefoot pauper wearing a tin-pot on his head who planted apple trees across the American wilderness in what is now Illinois, Indiana, Michigan and Ohio.

Separating fiction from fact in the well-known tale of Appleseed offers a richer story than the one oft repeated around 19th-century campfires or captured in classic Walt Disney animation. "Johnny Appleseed" was Jonathan "John" Chapman, born Sept. 26, 1774, a nurseryman from Leominster, Mass., and son of a Revolutionary War Minuteman. An article in *Harper's New Monthly Magazine* in 1871 confirms that Chapman was frequently shoeless, and the tin-pot he traveled with was used for cooking, gathering berries and, yes, wearing. Though two stalwarts of the Appleseed legend are untrue—he never played with a bear family or thwarted a rattlesnake bite with the hardened soles of his feet—Chapman did accomplish most of what the folklore heralds.

After stints at cider mills in Virginia and western Pennsylvania, Chapman loaded a packhorse with apple seeds in 1801 and headed to Ohio. The tall tale has him happily meandering across green fields, sprinkling seeds and communing with woodland creatures. True, from the early 1800s until his death of pneumonia in 1845 in Fort Wayne, Ind., Chapman was a wanderer. Settlers would offer lodging or he'd sleep under the stars, but the route he traveled and his planting method were far from whimsical.

Business schools today would hail Chapman as a visionary for his knack of anticipating a market for his apple trees by establishing nurseries ahead of the waves of pioneers heading west. When he established his first nursery near Licking Creek, Ohio, only three white families had settled in the area. By the time Chapman's trees were mature, pioneer families had begun to take root in the region, ready for his apple trees and their fruit. Historians note that he rarely made a poor location choice, with many towns similarly taking seed near his nurseries.

After purchasing the land, he would plant each nursery with free seed from cider mills, then Chapman would leave the nursery in the care of a manager, who sold the trees on shares. Chapman returned every few years to tend the trees and to collect any payments. Had he been concerned solely with material gain, Chapman would be remembered along with other giants of industry, as it is estimated that he planted well over 100,000 square miles of apple trees across what was then known as the Northwest Territory.

But this is where his life morphs into legend. When Chapman would come collecting, if no earnings were to be had, he would never press for payment (typically 6 ¼ cents per tree), often taking food or clothing instead. A devout Christian and missionary for the Church of the New Jerusalem, founded by the Swedish scientist and Lutheran reformer Emanuel Swedenborg, Chapman believed his calling was planting fruit trees for the pioneers and preaching to the families he would meet.

Gentle and kind, Chapman was a friend to all: settlers, the Mohicans who inhabited the region and animals. He had a conversational knowledge of several Indian languages and was respected by numerous tribes, often mediating disputes between the incoming settlers and the tribes.

During the War of 1812, both British soldiers and Indian warriors were terrorizing the Ohio frontier by killing settlers. After the murder of a shopkeeper in August 1813, the pioneers in the Ohio countryside (now the Mansfield-Mount

In 1871, *Harper's New Monthly Magazine* showcased drawings of Johnny Appleseed preparing the land to plant what would ultimately become his legacy.

Vernon region) were alarmed about a possible Indian attack. Chapman ran from house to house, across 26 miles, day and night, to warn people to take shelter.

While he lived simply, he was not penniless. Chapman bought and sold many tracts of land for apple tree nurseries as the frontier expanded. He also occasionally purchased a few acres of land to save a horse that was being mistreated. If the animal recovered, Chapman, who was a vegetarian, would give it and the land to someone in need—for the price of a promise to treat the horse well. He left an estate of more than 1,200 acres to his sister, but the 1837 financial panic wreaked havoc on the value of his land. His trees were only bringing 2 to 3 cents each, less than half the price they usually fetched at 6 ¼ cents. Most of Appleseed's land had to be sold for estate taxes and litigation. Orchardists have traced his only surviving tree to a farm in Nova, Ohio, and the Grimes Golden apple variety is believed to be a direct descendant of his trees.

Johnny Appleseed's life-well-lived is the stuff of American legends. Chapman's legacy blossoms in annual apple festivals, folk tales, books, movies, a 1960s British comic book series, Apple, Inc. computer ads, an appearance in a fantasy video game and—perhaps most fittingly and lasting—in the beloved words of the traditional song named for him and sung as a grace across the land.

The Lord is good to me,
And so I thank the Lord,
For giving me the things I need,
The sun, and the rain and the apple seed.
Oh, the Lord is good to me.

by Virginia Hughes

Building Green

Costs for environmentally conscious construction have come down, and that's good for green builders and for the environment

In April 2003, in the southwest Los Angeles suburb of Torrance, Calif., Toyota Motor Sales unveiled its new "South Campus" headquarters. The five, gleaming, three-story steel structures—together comprising 624,000 square feet of office space across 38 acres, and connected by a two-story glass atrium—had something in common with the company's best-selling Prius hybrid car: they were built "green."

Each building's rooftop holds a huge array of solar panels, providing 536 kilowatts of electricity—enough to power 500 homes, or 20 percent of the electricity needed for the entire complex. The campus uses recycled water for cooling, landscape irrigation and basic plumbing—saving 5 million gallons of potable water every year. It also boasts double-paned glass windows to reduce heat loss and recycled concrete to pave its roads.

Energy savings, water reuse, sustainable materials—these are the founding principles of green building, the movement borne out of the energy crisis of the 1970s that is now one of the most rapidly expanding industries in the developed world.

PHOTO COURTESY OF THE U.S. GREEN BUILDING COUNCIL

But another green force was at play when Toyota designed its South Campus: money. "We're achieving a very strong financial return from our green building complex," Tracey Doi, group vice president and chief financial officer of Toyota Motor Sales USA, told reporters at the time. The company's shareholders insisted that the new building generate at least a 10 percent return on investment. As it turned out, it well exceeded that requirement.

The buildings cost $90 per square foot—an average price for a campus that size. Unlike average buildings, however, the campus' green backbone saves the company $400,000 a year in electric bills and $12,000 a year in reduced water use. During construction, the company estimates it saved $35,000 by reducing and reusing waste that otherwise would have gone to landfills.

This incredible cost savings is what's primarily driving many companies to green their new construction projects. In November 2007, a survey conducted by the nonprofit U.S. Green Building Council (USGBC) of 150 "green" buildings found that the median cost increase to build green is just 1.6 percent—a premium that is well made up for in long-term energy efficiency, reduced maintenance costs and environmental protections, they contend.

The study was released at the same time as the council's annual conference in Boston, which was attended by 28,000 people from 85 countries—a 25 percent increase from the previous year.

The precise number of green building construction projects can only be traced back to 2000, when the USGBC rolled out comprehensive standards—called the Leadership

With a green roof, water-efficient landscaping and natural ventilation, the Sidwell Friends Middle School building (previous page) in Washington, D.C., is the first K-12 school in the United States to have a LEED Platinum rating (the highest of the four LEED rating categories). Fifty percent of the energy the school purchases for both of its campuses is wind energy. Toyota's South Campus sales headquarters in Torrance, Calif., currently remains the largest U.S. green building complex, left and below.

in Energy and Environmental Design (or LEED) Green Building Rating System—that would officially certify a new building as sustainable.

The USGBC started small, with only a handful of enthusiastic members. Now the USGBC is a world leader, with nearly 17,000 members, including corporations, governmental agencies and nonprofits. More than 60,000 architects and engineers from around the world are LEED-certified, meaning that they completed a LEED training course and passed a qualifying exam.

"It really took off in 2006," says civil engineer Jerry Yudelson, one of the original LEED trainers and author of *Green Building A to Z*. That was a big year, he says, for two reasons: first, Hurricane Katrina showed the vulnerability of buildings to energy price increases. Second, Al Gore's global-warming documentary, *An Inconvenient Truth*, was released. "That's really when people said, 'We better get serious about this stuff,'" Yudelson says.

A Spinach House

One of the world's "greenest" building designs is a house made of spinach.

The design plans—predominantly silver, white and green—emit a soft shimmer that hints of something from the future. Lush and unmanicured green bushes are planted inside some of the white sidewalk squares leading to the house. A gray, reconstituted concrete roof covers a wide-open, entirely unadorned front porch. The porch leads to the front door, and behind that rises the most striking feature: a tall, rounded, ultra-reflective column. This column is covered in a spinach-protein skin that absorbs heat from the sun and turns it into enough energy to power the home, neighboring houses and even the streetlights lining the block.

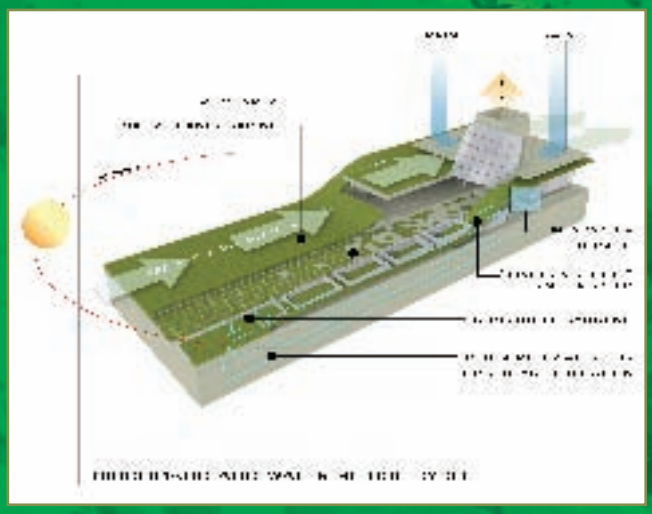
In 2004, a team of young Seattle architects submitted the revolutionary design to "C2C-Home"—an international competition of the most innovative "green" home designs. They bagged the first prize of $5,000, beating more than 625 entrants from 41 countries.

"It was a real challenge to envision what might be 20 years down the road, but at the same time be practical enough that it could be built today," says Michael Coates, the leader of the team. "The fundamental principle of the design was simple: to stop being 'less bad,' and to actually start being good in the way that we build."

The C2C-Home competition was sponsored by a nonprofit group out of Roanoke, Va., called Cradle To Cradle. The mission of the group is based on the thesis of the influential book of the same name. Written in 2002 by William McDonough, an architect, and Michael Braungart, a chemist, *Cradle to Cradle* calls for a new industrial revolution in which people live and businesses flourish without producing any waste.

"In reading that book, you understand that buildings need to stop being machines of consumption and actually start being producers of energy," says Coates. "They need to start giving back."

To create their forward-looking house design, Coates and his colleagues looked backward, to the time when most people lived in wooden shacks built around a central fireplace. "Everyone was aware of how much energy they were using because they could literally count the logs," he says. "Today, the fireplace has been relegated to a line on a real estate appraiser's checklist. We're not in touch with the energy source at all."



Everything about their design is sustainable. The living spinach panels allow it to operate entirely on solar energy. Water is conserved, too. Inside the shiny core, wastewater—including storm water from the vegetated roof system, sewage water and "grey water" from laundry, dish washing and bathing—is collected, filtered through a septic tank and finally released to irrigate the outdoor vegetable gardens. All of the building materials are produced without emitting much carbon into the atmosphere. And to offset the carbon produced in transporting goods to the building site, the design included plans to plant trees in the community.

Though three years have passed since this design was given the top prize, the structure has yet to be built.

"They didn't get the support in their community financially that they were hoping to," Coates says. In late 2006, he presented a model of it at the "Massive Change" exhibit at the Museum of Contemporary Art in Chicago. The ensuing press attention gave Coates and the C2C-Home leaders a "renewed vigor" for seeing the building in the real world.

"We're working together now to apply for grants and find funding for it," he says. "The intent is to make it the C2C-Home headquarters, to use it as their offices, as a demonstration home, as a training area and as inspiration."

PHOTO COURTESY OF THE AMERICAN INSTITUTE OF ARCHITECTS/BARRY HALKIN

Sidwell Friends Middle School's library allows sunlight to permeate the room. Virtually all interior spaces receive some daylight. Elsewhere in the school, thermal comfort is enhanced and energy use is reduced through the use of ceiling fans, which allow air-conditioning temperatures to be comfortably set 5 degrees warmer than usual.

More than 1,700 projects are now LEED-certified (and almost 14,000 are in the certification pipeline), in 69 countries, making up 3.9 billion square feet of building space. (See "By the Numbers," page 15.) By 2010, LEED's 10th anniversary, the global value of the green building industry is projected to reach $60 billion, according to McGraw-Hill Construction Research and Analytics.

If the movement wants to sustain this growth, however, it will need to overcome the largest hurdle to building green: the perception that it costs more money. When green building first began around 2000, the projects did cost more money—especially for specific components, like photovoltaic panels, and for sourcing local, sustainable materials. But now that architects and construction crews have many green buildings under their belts, they know how to find these materials quickly and can work together with manufacturers to lower costs.

Initial costs are an obvious obstacle in developing countries, too, whose growing populations are perhaps most in need of technologies that capitalize on efficiency and shared resources.

"The holy grail of all this is to do really high-performance buildings and not spend any more money," Yudelson says.

History

The seeds of the USGBC were sown in 1993 by three guys in a Washington, D.C., bar.

The three guys were David Gottfried, a real estate developer; Mike Italiano, a lawyer; and Rick Fedrizzi, who for 25 years had been an executive at Carrier, a major heating and air-conditioning company. "They were very different from your usual group of greenies," jokes civil engineer Yudelson. "They said, 'Why not just form this thing and start getting people talking about green building?'"

Murmurs of eco-building had begun in the 1970s, when Arab oil exporters stopped trading with countries that supported Israel, drastically cutting the Western world's supply. This led President Carter, in a famous 1977 television address, to advise Americans that "conservation is the quickest, cheapest, most practical source of energy." The idea cropped up again in 1984 when, in response to NASA's call for designs for human settlements on the moon and Mars, Iranian architect Nader Khalili created the "Super Adobe" home, a giant beehive-like structure made of sandbags and other locally available materials.

But the real genesis of the modern green movement came in 1992. That's when the city of Hannover, Germany, asked architect William McDonough to develop a set of sustainable design principles—later coined the "Hannover Principles"—for the 2000 World's Fair. Those principles were released in June, at the United Nations Conference on Environment and Development, termed "Earth Summit," in Rio de Janeiro. The Earth Summit, attended by 108 heads of state, resulted in a 300-page plan for achieving sustainable development in the 21st century. Suddenly, green issues were making international headlines.

It was these events that led Fedrizzi, Gottfried and Italiano

to form the USGBC. From 1993 to 1997, they focused on gauging interest, building membership and laying the foundation for what would become the LEED.

"To promote green building you need some kind of metric that describes what that means," says Michelle Moore, senior vice president of policy and public affairs at the USGBC. "So it was part of their position to have a green building rating system from the very earliest day."

In the mid-1990s, the U.S. Department of Energy provided the USGBC with financial assistance to further develop the LEED guidelines. The guidelines were beta-tested on 50 projects over 1998 and 1999, and in 2000, updated guidelines were made available to builders across the world.

In 2004, Canada began its own Green Building Council, which now includes more than 1,300 member organizations. Sixteen countries—including Australia, India, Taiwan and Vietnam—now have their own Green Building Councils, which all belong to the World Green Building Council.

"What we've seen is a real blossoming of green building councils around the globe," Moore says.

So What is a Green Building?

LEED guidelines give a performance standard—specific efficiency goals to reach above and beyond what's dictated by the local building codes—but they don't dictate how to meet those goals, leaving green architects a lot of room for creativity.

Perhaps the two most important principles of green building are energy conservation and waste reduction. Green buildings typically use at least 30 percent less energy than standard buildings, usually with renewable sources like solar power. Increasingly, green buildings also are buying more of their power from off-site wind farms.

To cut back on waste, green builders can measure more thoroughly and plan ahead to reduce construction waste by up to 50 percent. Green buildings also will typically use salvaged materials, materials made from recycled content, such as fly ash from coal-fired power plants, and "rapidly renewable" materials that can be regenerated within 10 years, such as bamboo or cork.

Energy conservation and waste reduction are perhaps the "no-brainers" of green building. But there are several more subtle elements that are just as crucial to achieving sustainability.

Some of the most innovative green engineering ideas, for instance, come in making efficient use of water. Take, for example, the American Embassy in Sofia, Bulgaria, built in 2004 for $78.5 million. Inside the 184,000-square-foot building, water-efficient sink fixtures and a sophisticated irrigation system save 136,000 gallons of water per year, using 21 percent less than a conventional building. What's more, the system uses electrical pulses instead of harsh chemicals to treat the water.

Another fundamental component of green building is the appropriate use of the building site. The site shouldn't be on or near a wetland, for instance, or prime agricultural land. If possible, it should be near public transportation so that people don't have to rely on cars. Once the site is chosen, builders

PHOTO COURTESY OF THE U.S. GREEN BUILDING COUNCIL

The first green American Embassy in Sofia, Bulgaria, serves as a prototype for its advanced 'green building' technologies and design features.

should make great efforts to use local renewable materials. These ideas were used to beautiful effect by the designers of the Sidwell Friends Middle School in Washington, D.C., rebuilt in 2007 for $28 million. The school is next to a metro station. All cars are parked underground, giving room for more than 80 species of native plants in place of an asphalt parking lot. The flooring was made partly of pilings salvaged from the Baltimore harbor.

Finally, a green building should provide a green atmosphere for its future inhabitants. The Computer Science and Engineering Building of York University in Ontario, Canada, for instance, provides fresh-air ventilation through the hundreds of windows—which occupants can open and close themselves—in its central atrium. Since the building's construction in 2001, the builders say there has been a "noticeable decrease in the number of complaints regarding air and environment quality."

How To Green Your Home

Non-green buildings—which make up the vast majority of the market—put an enormous strain on the environment every year. In the United States, buildings represent 39 percent of primary energy use, 70 percent of electricity consumption and 39 percent of all carbon emissions, according to the Department of Energy. Buildings use 12.2 percent of all potable water, or 15 trillion gallons per year, according to the U.S. Geological Service. And every year, the American building industry generates more than 136 million tons of construction and demolition waste, according to the Environmental Protection Agency (EPA).

Here are some tips for greening your current home (and, in the process, saving quite a bit on energy bills):

- Plant shade trees around your home to naturally insulate it in the winter and cool it down in the summer.
- Replace single-pane windows with high-performance windows.
- Install high-efficiency heating systems, water heaters, dishwashers, washing machines, refrigerators, toilets, faucets and shower heads. Install insulation with recycled materials, and insulate existing ductwork, to keep heat or cool air from escaping.
- If you live in a sunny climate, consider a solar water heating system or photovoltaic system.
- Switch your light bulbs to compact fluorescent light bulbs (CFLs). They cost a bit more upfront ($6 to $7 each in the United States), but last longer and use much less energy, saving you $30 or more in electricity costs over each bulb's lifetime. The average U.S. household has 45 light bulbs; replacing that number of 75-watt incandescent bulbs with CFLs would save $180 per year.
- If you redecorate, use paints that are low in VOCs (volatile organic compounds), which have many adverse health effects, according to the EPA.

Good Business Sense

Making tenants happier is one of the major byproducts of building green—and one of its biggest selling points.

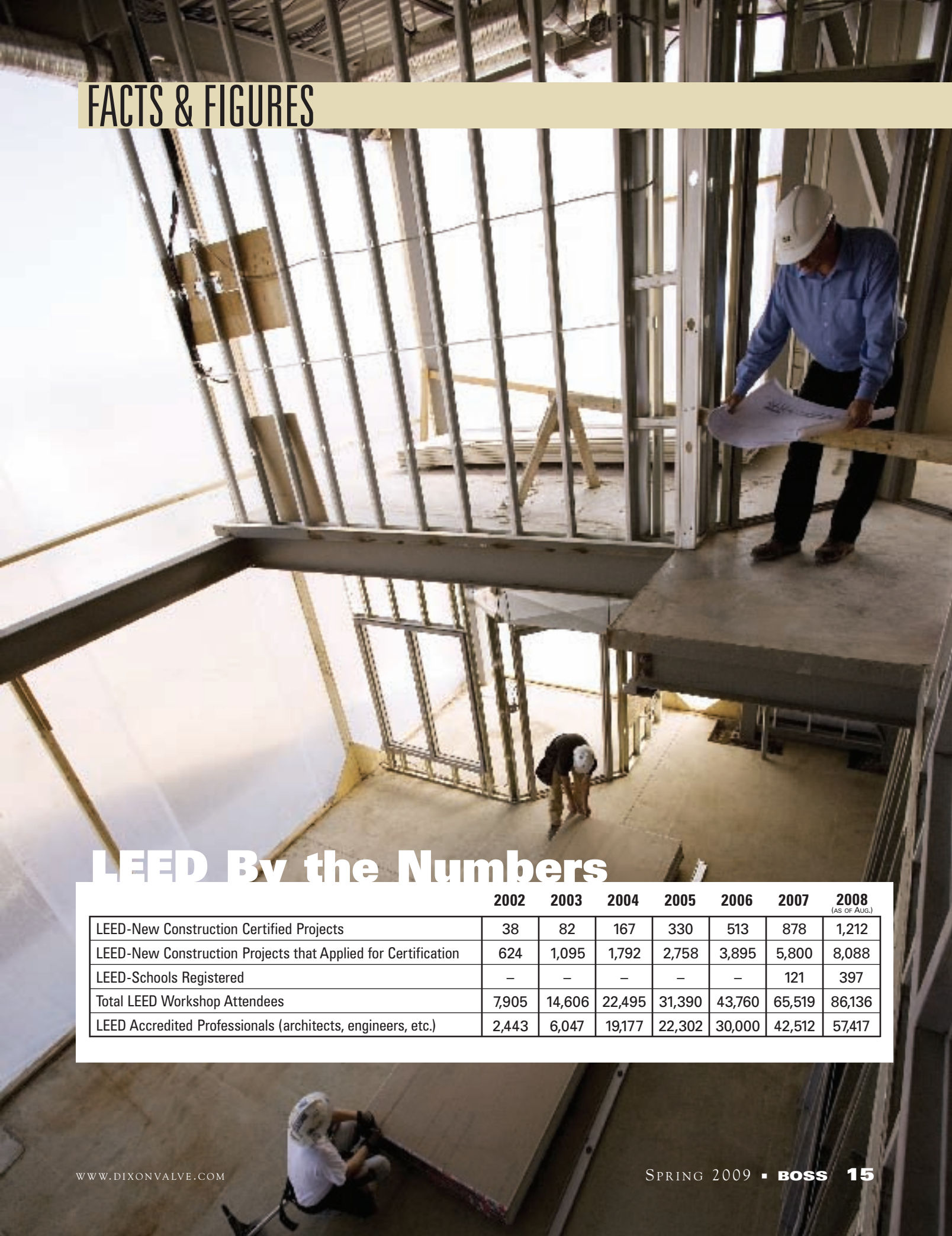
"Major corporations are basically in the talent business, they're all about getting and keeping good employees," says Yudelson. He says that "going green" is particularly important for the 30- to 40-year-old work force that employers desperately want to attract. "I call it the pillow talk issue. The spouse says, 'Why are you going to work for these people?' And the other spouse can say, 'Because they're green.'"

Now that LEED is off and running, USGBC has focused its efforts on expanding green building by making this business argument.

"Today we're affecting about 10 percent of all new commercial construction, but 99 percent of all buildings that are already in operation today are in large part energy hogs," Moore says. "So our biggest strategy is just demonstrating the business case, showing people that by doing the right thing—building a building that's going to produce dramatically less CO2 emissions, be much more energy-efficient, be healthier and respect the natural resources around which it's built—that that's going to be something that's beneficial for the bottom line."

Green building owners save an average of 30 to 50 percent on electric and water bills. In March 2008, CoStar Group, an independent research firm, analyzed the resale values of 355 LEED-certified buildings and 945 buildings certified by ENERGY STAR, an older and less stringent green certification system. The researchers found that compared to conventional buildings, those LEED-certified buildings had 4.1 percent higher rental occupancy and commanded $171 more per square foot on resale value. The ENERGY STAR buildings analyzed had 3.6 percent higher occupancy and a $61 per square foot premium on resale value.

"Economics drives everything," Yudelson says. "We've basically proven the business case for green buildings; now it's only a matter of getting people lined up to figure out how they can do it in their own situations."



LEED By the Numbers

	2002	2003	2004	2005	2006	2007	2008 (as of Aug.)
LEED-New Construction Certified Projects	38	82	167	330	513	878	1,212
LEED-New Construction Projects that Applied for Certification	624	1,095	1,792	2,758	3,895	5,800	8,088
LEED-Schools Registered	–	–	–	–	–	121	397
Total LEED Workshop Attendees	7,905	14,606	22,495	31,390	43,760	65,519	86,136
LEED Accredited Professionals (architects, engineers, etc.)	2,443	6,047	19,177	22,302	30,000	42,512	57,417

Larger than Life

by Sarah Achenbach

The Theodore Roosevelt remembered today is mostly caricature: a barrel-chested figure in a natty soldier's uniform, eyes glinting beneath spectacles and a toothy, mustachioed smile. But it is the uncompromising moral fortitude of the United States' 26th president—and exuberant sense of adventure and iron-class will—that marks the man who led a country in the throes of cataclysmic change.

When he became president in 1901, the Industrial Revolution was changing how and what the country produced and was pushing the United States into foreign markets. The immigrant flood and the development of the once-wild West were changing the American landscape. The poor were getting poorer, while men like Andrew Carnegie, John D. Rockefeller and J.P. Morgan amassed great wealth and power. And post-Civil War segregation had given birth to the "separate but equal" Jim Crow laws. America needed a steady hand at the helm to usher the nation—and the American presidency—into the modern era.

From outdoorsman to Rough Rider, war hero to U.S. president, Theodore Roosevelt's blend of moral fortitude and sense of adventure is the stuff of legend

Every step he took seemed to lead to the White House. When he took the oath of office, Roosevelt was just a few weeks shy of his 43rd birthday, becoming the youngest U.S. president ever. He already had had several successful careers: New York State assemblyman, cattle rancher, conservationist, author, New York City police commissioner, assistant secretary of the Navy, war hero, governor of New York, and U.S. vice president under William McKinley.

Born on Oct. 27, 1858 to a wealthy New York family, "Teddy" (as his family called him) was sickly, frail and suffered from severe asthma. Young Roosevelt refused to succumb to his illness, and rode, swam, hiked and developed a love for the outdoors that would inspire him throughout his life. Taking his cue from his father, Theodore Sr., one of the founders of the American Museum of Natural History (as well as the Metropolitan Museum of Art), Roosevelt created his own "Roosevelt Museum of Natural History," eventually collecting more than 1,000 specimens. The first of his 35 published works was a pamphlet titled *Notes on Some of the Summer Birds of Oyster Bay* (1877), and as an adult, he was recognized nationally as a preeminent mammal expert.

His legendary determination was evident during childhood. After losing a fight to two boys, his father urged him to improve his level of fitness and Roosevelt did just that with daily workouts. When fully grown, Roosevelt stood only 5 feet 8, yet his physique gave the appearance of a much larger man.

After graduating a member of Phi Beta Kappa from Harvard in 1880, he briefly considered a career as a naturalist, but pursued politics instead. He married his college sweetheart, Alice Lee, and they settled in New York City among the social elite. Roosevelt threw himself into the Republican Party, and at age 23, he became the youngest man ever to be elected to the New York State Assembly. He quickly earned a reputation as a champion for government reform, challenging and defeating the political corruption of New York's Tammany Hall.

Feb. 12, 1884, marked another joyous event, with Alice giving birth to a healthy baby girl. Tragically, his wife died on Feb. 14 of kidney disease gone undetected during pregnancy. A few hours earlier, in the same house, Roosevelt watched as his beloved mother died of typhoid fever. He rarely spoke of these events again, and by the fall of 1884, he left politics for the lure of the Dakota Badlands. After the blizzard of 1885, he sold his cattle ranch, returned to New York to marry his childhood friend Edith Carow (with whom he would have six children), and, unfortunately, failed in a mayoral bid.

Turning his attention to writing and conservation, he and friends formed the Boone and Crockett Club named for frontier heroes Daniel Boone and Davy Crockett. With Roosevelt as its president, the club successfully lobbied Congress for the Forest Reserve Act of 1891 and the Park Protection Act (1894) to protect Yellowstone National Park, the nation's first national park, from the threats of railroad expansion.

In 1895, he was back in his natural element, fighting corruption as New York City's police commissioner with innovation: he shut down the practice of buying promotions, hired minorities, required physical exams and installed the department's first telephone system. Washington took notice and appointed him assistant secretary of the Navy.

When President McKinley declared war on Spain over Cuba in 1898, Roosevelt immediately enlisted in the newly formed First U.S. Volunteer Cavalry. He had wanted to be a soldier since he was 6, when he watched from the window of his family's New York brownstone as soldiers escorted Abraham Lincoln's casket on its way to Springfield, Ill. With the commission of lieutenant colonel, he took command of his new regiment, a colorful crew of seasoned marksmen that was used to riding over rough country—hence the nickname "Rough Riders."

On July 1, 1898, armed with only a pistol, Roosevelt led his Rough Riders on attacks on the Spanish strongholds of Kettle Hill and San Juan Hill. Victory was quick and stunning. Peace talks began several weeks later and Roosevelt returned to his Long Island home, Sagamore Hill, a hero. On Jan. 16, 2001, he was awarded the U.S. Medal of Honor posthumously for his bravery during the Spanish-American War.

Following the war, Roosevelt won his 1898 bid for governor of New York. With a savvy for good press that would put any modern-day politician to shame, Roosevelt campaigned in his uniform with fellow Rough Riders; a cavalry charge preceded each of his speeches. His reforms as governor included laws to regulate working conditions in factories and a ban on racial segregation in public schools.

When he went after corruption in the Erie Canal management, U.S. Sen. "Boss" Thomas Platt, head of New York's Republican Party and the man who championed Roosevelt for governor, became irate. Platt struck back by persuading New York delegates and McKinley to put Roosevelt on the Republican ticket as McKinley's vice president. Roosevelt saw the vice presidency as a dead-end, boring job and didn't want the position, but Platt's influence proved too strong. Roosevelt received the VP nomination, reluctantly took to the campaign trail for the 1900 presidential race (typically without McKinley), and the McKinley/Roosevelt ticket won in a landslide over Democrat William Jennings Bryan.

McKinley intentionally gave Roosevelt little notice. When the Senate adjourned in March 1901 for a long recess, the Roosevelt family took an extended vacation. Roosevelt was in Vermont when he received the shocking news that McKinley had been shot. Eight days later, on Sept. 14, 1901, the president died, and Roosevelt was sworn in to the office.

The country was in mourning, but Roosevelt's joy was unbridled, at least within the walls of the White House.

IMAGES COURTESY OF THE LIBRARY OF CONGRESS

Roosevelt's patriotism and determination never faltered as he led the First U.S. Volunteer Cavalry, the "Rough Riders," to victory during the battle of San Juan Hill.

Lincoln Steffens, editor of the *New York Commercial Advertiser*, recalls seeing Roosevelt a few days after being sworn in: "He strode triumphant around us, talking and shaking hands, dictating and signing letters, and laughing … his joy showed in every word and movement. With his feet, his fists, his face and with free words he laughed … with glee at the power and place that had come to him."

Roosevelt's personal stamp on the White House has yet to be duplicated. Visitors might find the president laughing and lowering his children out second-story windows in baskets or being ambushed in the hallways by his pillow-wielding sons. The family's menagerie of cats, dogs, rabbits, flying squirrels, snakes, hens, parrots, ponies and kangaroo rats had nearly free rein of the grounds.

His approach to the job created the modern-day standard of executive leadership. He courted the press and used them to vet his ideas, an unheard-of practice at the time. In 1906, he created the country's first consumer-protection laws, including required labels listing all ingredients, and created the Food and Drug Administration.

Throughout his presidency, he widened his conservation efforts with programs in land reclamation, forest preservation, wildlife protection and safeguarding historic sites, persuading Congress to pass the Antiquities Act of 1906, which gave power to grant monuments. And Roosevelt wasn't afraid to meddle in the affairs of big business—he took on and won against J.P. Morgan and his railroad monopoly, the Northern Securities Co.

Roosevelt's famous "speak softly but carry a big stick" philosophy was never clearer than in setting the course for America's emergence as a world superpower. When he created the Panama Canal and expanded the U.S. Navy to a military force second only to Great Britain, nations took notice. When he deftly negotiated peace between the warring countries of Russia and Japan, he was awarded the Nobel Peace Prize in 1906, the first American to win a Nobel Prize in any field. But as the 1908 presidential elections loomed and Roosevelt's popularity at home and respect abroad grew, he could not seek a third term. He had given his promise years earlier to stop at two consecutive terms.

After his friend William Howard Taft was elected, Roosevelt settled into retirement as best he could. Taft proved a disappointment to Roosevelt, so in 1912, he threw his hat in the presidential ring. Bitter that the Republican nomination went to Taft, the Colonel—the name he preferred—formed a third party, the Progressive or "Bull Moose Party."

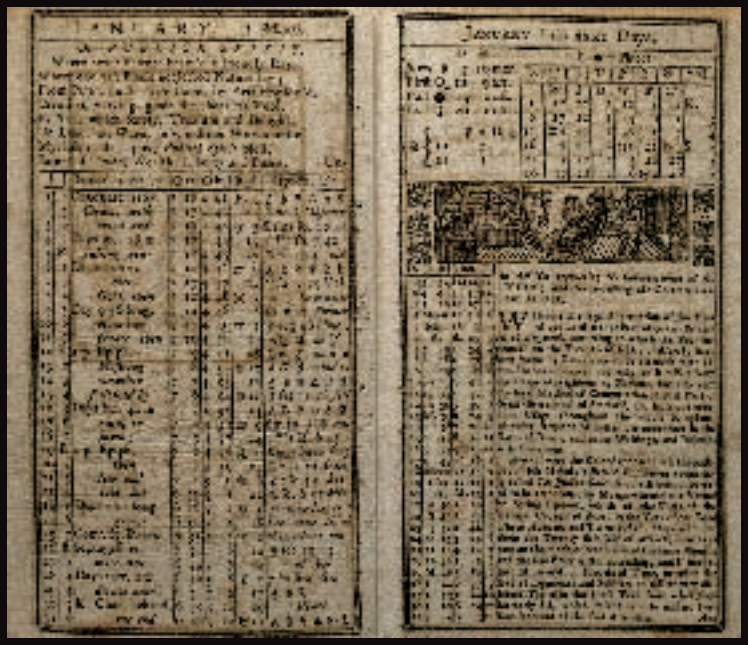
His platform was radical: voting rights for women; a national minimum wage and health care; and court reform. Friends abandoned him, and even his distant cousin Franklin Delano Roosevelt, whom he had encouraged in politics, would not support him. (Two decades later, President FDR championed Roosevelt's progressive ideas.) Roosevelt garnered more votes than Taft, but both lost to Woodrow Wilson.

Roosevelt retreated to Sagamore Hill to write, read, dote on grandchildren and take his sons exploring and big-game hunting. The consummate soldier, he watched with pride when nearly all his children served in World War I; when son Quentin's plane was shot down, Roosevelt presided over a hero's burial at the site.

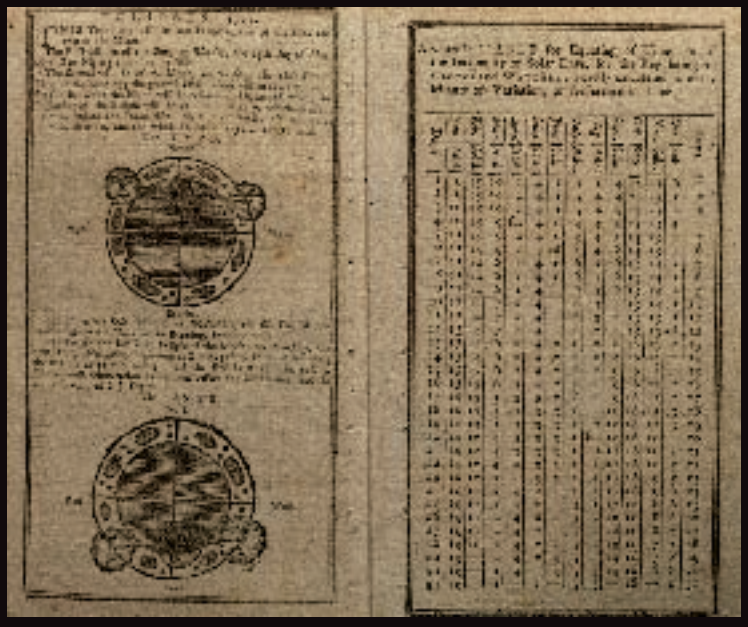
He also prepared for one more run at the White House, setting his sights on the 1920 presidential election. This adventure would prove to be his last. On Jan. 6, 1919, fulfilling his words to "wear out, not rust out," Roosevelt died in his sleep at age 60 of a coronary embolism. Of his accomplishments, he once said, "I put myself in the way of things happening, and they happened." As it was during his storied life, Theodore Roosevelt remains larger than life today, still inspiring his nation to reach for the greater good, to seize its destiny, to make things happen.


1752


Of the Eclipses 1733.




A Table of KINGS,

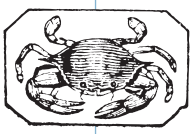


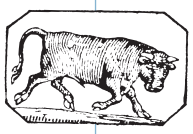
THE OLD FARMER'S ALMANAC

An essential tool to the early American family

"Most prolific, most indispensable of books, which every man uses … the supreme and only literary necessity—preferable even to the Bible or daily newspaper."
Moses Coit Tyler, *A History of American Literature*








A typical 19th-century American farm required only one comprehensive reference book: an almanac. Seemingly a library in itself, within its pages were a calendar, weather forecasts, agricultural reports, recipes, essays, tales, poems and humor. It was said that a Bible addressing the hereafter, and an almanac highlighting the here and now, offered all the information a person might ever need.

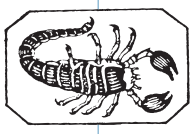
Published annually since 1792, *The Old Farmer's Almanac* is the oldest continuing periodical in North America. In rural 19th-century America, the book provided farms with news from the outside world, including current events, innovations and fashions. The coronation of a young English queen named Victoria was of minor interest, but the development of a steel plow was genuine news. Women on the farm might never see a bustle or a whalebone corset, but at least the almanac kept them informed of the latest fashions. Today, *The Old Farmer's Almanac* is not the primary source of news, but 18 million readers still find it a handy and enjoyable reference.

Although the almanac was a staple in early American life, its origins date back to antiquity and to the pagan beliefs in the zodiac. Observing the skies, one could see a relation between the movement of the stars and the changing seasons.

Ancient man later concluded that the movement of the stars could predict the future in addition to determining weather patterns. In the second century, a Greek scientist named Ptolemy wrote a table correlating the alignment of the stars with corresponding events on Earth, which could be regarded as the first almanac.








by Eugene Finerman

IMAGES COURTESY OF QUINN/BREIN PUBLIC RELATIONS

Actual pages from *Poor Richard's Almanac* contained not only weather predictions, articles and stories but the wit and wisdom of its creator, Benjamin Franklin, page 20. *The Old Farmer's Almanac* covers from 1793 (left), 1851 (center) and 2009 (right), reveal evolution in design but not in content, above. Second century Greek scientist Ptolemy's early scientific discoveries contributed to many of the almanac's current features, below.

Moorish scientists in 11th-century Spain then applied their mathematical precision to astrology. Their efforts produced new astrological tables—and gave us the world almanac. "Al manakh" is Arabic for the reckoning or calendar. Written in 1088, the almanac gave the daily positions of the heavenly bodies—with a corresponding mix of scientific and astrological interpretation. It was a scholarly work and not for popular consumption. A Latin translation was soon available and inspired a renewed enthusiasm for astrology in Christian Europe.

The church regarded astrology and its predictions as relics of paganism, but tolerated its study so long as astrologers conceded that God moved the stars.

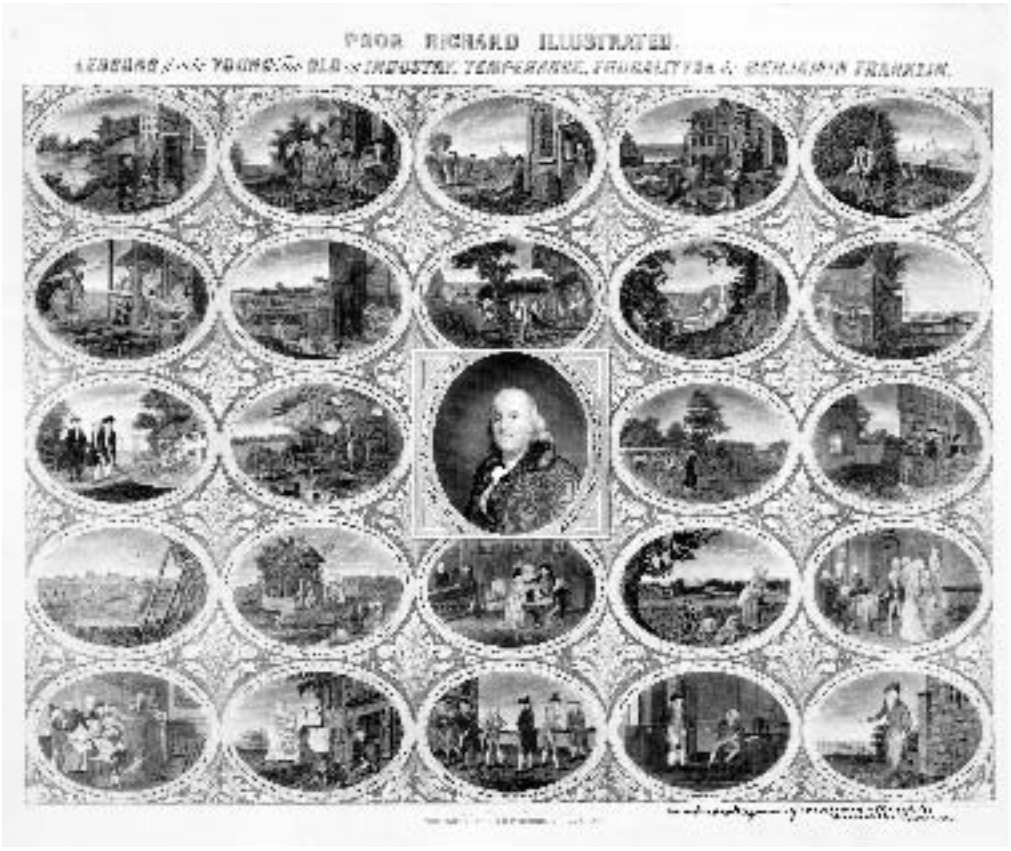
By the 14th century, Europe was experiencing the first promise of the Renaissance and the newly founded universities—at Padua, Bologna, Paris and Oxford—all had professors of astrology, who published their studies as almanacs.

Despite the almanac's intended academic audiences, the advent of the printing press in 1453 would introduce it to the general public. The first almanac was printed in 1457 by Johannes Gutenberg, himself. Since the public was not fluent in Latin, almanacs soon were printed in contemporary languages, including the first English version in 1497.

The public proved interested in astrological predictions, and astrologers and publishers were all too eager to produce almanacs. The once scholarly tabulations now were gossipy tabloids. Of course, the predictions—especially about kings—had to be vague or tactful. Publishers could be executed. Two were—after having predicted a major fire in London; when it occurred, the publishers were accused of arson.

In England's American colonies, the first almanac was published in 1639 under the auspices of the newly founded Harvard College. (The first continuously published newspaper in the colonies would not be distributed until 1704.) The "Almanack Calculated for New England" reflected the Pilgrim attitudes of its readers. It was a practical application of astrology, not a frivolous prognosticator, and provided a useful reference for agriculture and health. (If planets could affect the oceans' tides, they certainly must have influence on the fluids in a human body.) This "Almanack" became the model for the current notion of the book —the ready reference tool and the thumbnail encyclopedia.

Almanacs soon were published throughout the colonies, with calculations and articles reflecting each region. The New England book had become an American genre. According to *The American Bibliography*, between 1639 and 1799, more than 1,100 different almanacs were published in



A lithograph from *Poor Richard's Almanac* illustrates adages taken from Benjamin Franklin's writings, right.

America—and almanacs were published in greater quantities than all other books in America combined.

Of these 1,100 works, only *The Old Farmer's Almanac* continues to be published. However, one other almanac is also honored in the American anthology. *Poor Richard's Almanac*, which appeared continually from 1732 to 1758, featured the wit and wisdom of its author: Benjamin Franklin. *Poor Richard's* was such a success—selling 10,000 copies a year—that Franklin retired to lead a comfortable life.

Robert B. Thomas emulated Franklin's example when he began publishing his own almanac in 1792. "To be useful with a pleasant degree of humor" was the pledge of his publication. Thomas, the son of a Massachusetts farmer and schoolmaster, attended Harvard but eventually withdrew. From his own regimen of education — including astronomy, mathematics, agriculture and bookbinding, Thomas derived a secret formula for forecasting the weather. His predictions would be a major feature of his almanac. *The Old Farmer's Almanac* still uses his calculations for weather predictions and claims a 78 percent accuracy rate. That includes a correct forecast in 1816 of a snowstorm in summer. By contrast, the almanac claims that the U.S. Weather Service has an accuracy rate of 65 percent.

Originally called *The Farmer's Almanac*, Thomas' book was an immediate success despite some 20 other almanac titles that were in print in New England at the time. Selling for 9 cents a copy (when $1 was a good day's wages), its first edition of 3,000 almanacs quickly sold out. The following year, Thomas printed and sold 9,000 copies. This almanac would entertain as well as educate; the long winters of rural New England required some distraction, so Thomas included comic characters including opinionated Tom Bluenose and the less-than-sober saloonkeeper Toddy Stick.

In 1832, in tribute to the enduring popularity of his publication, Thomas revised its title to *The Old Farmer's Almanac*. Thomas would write the almanac until 1846 when he died at the age of 80; the book's longevity owes something to his. The next editor, John Henry Jenks, added a distinguishing feature to the almanac. For the 1851 edition, he commissioned a cover illustration that depicted the four seasons as well as portraits of the two inspiring spirits of the almanac: Benjamin Franklin and Robert Thomas. That trademarked illustration remains the cover of every edition.

The almanac also has another unique feature: there is a hole in the upper-left-hand corner of the book. It is a reminder of the book's unrefined practicality. For easy reference, the almanac could be hung from a nail in a toolshed, workshop … or outhouse. The almanac was never meant to be a coffee-table book.

By the mid-19th century, *The Old Farmer's Almanac* had a circulation of 225,000 and extended far beyond New England's borders. A copy in Illinois was used as evidence in an 1858 murder trial. A witness had claimed to see the crime by the light of the full moon on an August evening. However, the defendant's attorney, a Mr. Abraham Lincoln, cited the almanac to prove that there was no full moon that night. Mr. Lincoln won the case, but he is remembered for other successes as well.

The Old Farmer's Almanac has survived the changes in American society and the challenges of history. During the Depression of the 1930s, the almanac experienced its only drastic decline in readership; its circulation in 1938 was less than 90,000. During World War II, the almanac's weather forecasts were subject to government censorship; a German spy had been found with a copy of the book.

Today, there are only 2 million U.S. farms; more than 80 percent of Americans live in metropolitan areas. The 18 million readers of the almanac are more likely to be weekend gardeners than farmers. Yet, in its content and tone, Robert B. Thomas would recognize *The Old Farmer's Almanac* of today.

Ancient, Vibrant Prague

At once historic and cosmopolitan, this jewel of the Czech Republic flaunts unspoiled architecture, incredible cuisine and friendly locals

To understand Prague, first consider its citizens. They love beer and hockey and are laid back, intelligent and inquisitive. Picture a college professor who grades exams in a 13th-century pub built upon Roman ruins. In between papers, watch him down a pint and sneak a peek at the HC Sparta Praha (one of two local, professional hockey clubs) game on the high-def TV.

That's Prague. Ancient, vibrant and unfussy rolled into one stunning spectacle.

Prague, however, isn't as old as it used to be.

Long regarded as one of the most beautiful cities in Europe, Prague today is one of the most visited on the continent and decidedly more cosmopolitan than the view from afar.

The city, located in the heart of the Czech Republic and Bohemia, blends an intellectual vibe (bookstores on seemingly every corner) with a storied past that reverberates in its cobbled streets, stone bridges and Gothic-spired buildings, built by some of the world's greatest architects. Throw in some punk rock clubs, boutique shops and ultra-modern five-star restaurants and the real Prague comes into focus.

The city dates back to 880 when Prince Borivoj of the Premyslid dynasty built Prague Castle, the magnificent fortress that has stood watch over the Czech city on the Vltava River. The fortification, one of the largest ancient castles in the world, has survived fires, invasions and World Wars and remains both the symbol of the city and the seat of Czech rule.

by GREG RIENZI

The city grew steadily over the next five centuries, until modern Prague began to emerge in the 14th century, dubbed the city's Golden Age.

The city underwent several dark periods, notably during the 15th century's Hussite Wars, when many historical artifacts were destroyed and the castle was allowed to deteriorate, and again in the 1800s when the city lost some of its prominence.

In a sense, the city was reborn when the Austro-Hungarian Empire fell in 1918 and Prague became the capital of independent Czechoslovakia.

Nazi Germany occupied the city during World War II, but Prague was spared extensive bombing and its character, and many architectural treasures, survived.

The city lived under Soviet-imposed communist rule from 1948 to 1989, a period defined by the utilitarian gray architecture that sprang up in pockets around town. In 1989, Vaclav Havel led the Velvet Revolution, thereby ending a repressive 40-year-period when immigration and tourism were stifled.

The city, in effect, reopened for business.

And business is booming. Tourists flock to the city, drawn by both its beauty and budget prices.

Prague has been nicknamed "the golden city" and "the city of a hundred spires," although by last count there were more than 500 towers piercing the city's sky. Its historic core is spread across four hilly districts: Hradcany (the district that surrounds Prague Castle), the Old Town, the Lesser Town and the Jewish Quarter, which all must be seen on foot—so pack comfortable shoes.

Start with the castle. More than a simple fortress, Prague Castle is a vast complex of buildings crested by Saint Vitus Cathedral, the 14th-century structure that set the scene in Tom Cruise's *Mission Impossible*.

Harold Chambers, a radio executive who first visited Prague in 1999, says it's no coincidence that movie producers seek out the city. "When you see the Saint Vitus Cathedral uplit at night it's like a Hollywood creation. It's beautiful and shimmering and unreal," Chambers says. "It's just so beautiful there and you can feel the history all around you."

Chambers' favorite Prague stomping ground is its Old Town, which sits to the east of the Vltava River. Old Town Square dominates the district and is the quintessential meeting place.

Some come to see the famous Tyn Cathedral or the Astronomical Clock. Others come for the celebrations

Prague Facts

Getting there: Fly into Prague Airport, the second biggest airport in central Europe. To get downtown you can take a taxi, but many recommend the CEDAZ minibuses, which run every 30 minutes from the airport to major metro stations.

Getting around: Prague's public transportation gets top marks and some say it's the best in Europe. The metro and tram systems cover most of the city and are both comfortable and efficient. Pick up a 72-hour travel pass that allows for unlimited travel on the city's transport system (metro, bus, tram and funicular, or inclined railway). It costs 330 CZK (Czech koruny, $17) for adults and can be found readily at the city's American Express branches and Prague Information Service offices.

The people: The city's roughly 1.3 million inhabitants are, generally speaking, a friendly and cultured lot. A word of advice, the locals abhor noise, so keep the gatherings at street corners to a dull roar.

When to go: Each season has something unique to offer. Summer has its long days, warm weather and many events. In the fall, the changing colors make an already breathtaking city all the more romantic. Winters in Prague can be harsh and several attractions have reduced hours, but the Christmas markets, white-capped buildings and decorations transform the city into an enchanted place. Spring might be an ideal time to visit, as the weather is still very pleasant,

the city is abloom and the crowds of tourists not so thick.

The temperatures vary from about 14 degrees Fahrenheit in winter (-10 Celsius) to 80 degrees Fahrenheit in summer (27 Celsius), though summer (June-August) highs can soar into the mid-90s F (35C). Expect nightfall around 4 p.m. in December.

What to do: Start your journey at the Prague Castle with a guided tour of the grounds and gardens. Make sure to visit Prague Cathedral within the castle's walls. You'll also want to witness the changing of the guard, but don't ask them to smile. Many of the attractions at the castle are free.

Wenceslas Square is a pleasant place to shop, eat and take in the city's history. The square was the scene for both the communist takeover and the Velvet Revolution, which ushered in the end of communist rule. Nearby is the Museum of Natural History, the largest

museum in the Czech Republic, known for its majestic marbled interior courtyard.

A visit to Prague would not be complete without walking over the Charles Bridge, the dark Gothic bridge that spans the Vltava River. The bridge is flanked by a series of giant stone statues, one of which (St. John of Nepomuk) is said to bring good luck to those who touch it.

Down at Old Town Square get in line to observe the Astronomical Clock on the side of the Old Town Hall Tower. The clock, which still functions, dates back to the 15th century and offers accurate data on astrological events. Each hour the clock chimes and a trap door opens to reveal moving wooden puppets. Old Town Square also is home to the ornate Gothic Church and many

and holiday markets. Visit the square during Christmas or Easter season and you'll find throngs of people with a bag of hand-made gifts in one hand and a mug of Pilsner in another. If you're lucky, you will time your visit with a major sporting event, when large crowds of fans descend upon the square to view a hockey or football game on huge screens.

Old Town also features the Powder Gate, begun as a 65-meter-tall tower (214 feet) in 1475 to form one of the 13 entrances to the district. The gate acquired its present name in the 17th century when it was used to store gunpowder. The tower has since turned into a museum, so be sure to climb its steps for great views of the area.

From the gate to the square you can take Celetna Street, named after the plaited bread rolls first baked there in the Middle Ages. Nearby stands the Municipal House, the city's most prominent Art Nouveau building and the site of Smetana Hall, the biggest concert hall in Prague (named after Czech composer Bedrich Smetana).

In terms of music appreciation, Prague rivals Vienna in almost every way. The music scene permeates the fabric of life there. Rock and punk bands crank up the volume to distorted

One of the Czech Republic's most iconic landmarks, Prague Castle is illuminated at night to showcase the intricacies of its Gothic architectural façade, above.

restaurants, bars and cafés.

From Old Town Square, take Paris Street to the Jewish Quarter, where several synagogues house museum exhibits. Along your jaunt you'll want to take in the Statue of Moses, grand architecture and the burial home of the mythical beast, the Golem of Prague.

If you're looking for something old and new, visit the Vysehrad, the old fortress where Prague was founded. Inside its thick stone walls are shops and the National Cemetery, which houses the graves of Prague's most famous citizens. Right next to the Vltava River is the ultra-modern Dancing Building, a unique masterpiece of glass and steel that was modeled after the dancers Ginger Rogers and Fred Astaire.

Music lovers will delight at the Rudolfinum, the city's major concert hall and the home of

the Prague National Orchestra.

The Czech Republic is renowned for its spas and one of the best is the Spa at Mandarin Oriental, located in a former Renaissance chapel where you can still see the remnants of the church under a glass floor.

Where to eat and drink: Each day begins with breakfast, and where better to go in Prague than the Cafe Savoy, the elegantly decorated restaurant that is now owned by local culinary heavyweights the Ambiente Group. The Savoy serves a reasonably priced lunch and dinner (with many Czech staples on the menu), but many swear by the early-morning fare.

In Old Town, one standout is the Flambée, an intimate restaurant set in a Gothic cellar where candlelight flickers on brick walls. The Flambée features live piano every night in a romantic setting.

One of New Town's best is the Cerny Kohout (The Black Rooster), which specializes in modern Czech, French and international fare.

If a great view is what you're after, dine at the Kampa Park Restaurant. One of the city's finest restaurants, Kampa Park sits beside the river on Kampa Island, right next to Charles Bridge.

On some menus you might find special beer-friendly delicacies under the heading "proti velke zhyzeny" (against great thirst and hunger). Sample the "naakladanee hermeleen," a soft cheese covered in a thin white film and "utopenci," sausages pickled in vinegar, oil, onion, red pepper and spices. Grilled sausages and traditional fried cheese sandwiches can be found at food stands all over town. Wash it down with the drink Czechs are famous

for—beer. Some popular brews are Pilsner Urquell, Budweiser (Budejovicky Budvar), Gambrinus and Staropramen.

Where to stay: A good bet is the sleek and attractive Corinthia Towers Hotel. The high-rise offers panoramic views stretching to Prague Castle and beyond.

The K+K Hotel Fenix stands at the heart of the city and just a short walk from Wenceslas Square. The decor is modern and lively, with just a hint of exclusive atmosphere.

Techies might be drawn to the Hotel Icon—located one block south of Wenceslas Square—with its Skype phones, iPod docks and biometric safes that open with a fingerprint.

For a more Old World accommodation, stay at the restored Hotel París, which oozes with period elegance and is located near Old Town Square.

levels in a thriving club scene, and even street performances make you consider paying the city a cover charge. Turn a corner, for example, and you might run into a violinist playing Bach or a five-piece jazz band doing a bit of ragtime.

The Prague Spring International Music Festival showcases not just the city's but the world's outstanding performing artists, symphony orchestras and chamber music ensembles. Founded soon after World War II, Prague Spring, as it's called, ranks as one of Europe's major music festivals.

The celebration of music continues into the fall with the Prague Autumn Festival, a three-week series of classical concerts in September, and November's International Jazz Festival, which has drawn the likes of B.B. King, Herbie Hancock and Dave Brubeck. Jazz and Prague, in fact, go back a long way. During the days behind the Iron Curtain, jazz became the unofficial music of the independence movement as the art form was driven underground. The ruling party closed all the city's jazz clubs, except the state-run U Maleho Glena, which is still in operation today.

Architecture lovers should not miss Lesser Town, which resides on the slopes below the Prague Castle on the western side of the river. The picturesque Nerudova Street, part of Royal Way, leads up to Prague Castle and contains many stately homes adorned with emblems of colorful beasts such as the Green Lobster and the White Swan.

The heart of the area is Lesser Town Square where you'll find official buildings, a number of restaurants and historic sites such as St. Nicholas Church. The leading artists of the day crafted the statues, frescoes and paintings inside.

Two other notable destinations in the district are Maltese Square, named after the Knights of Malta, and Kampa Island, known as the Venice of Prague. Kampa Island, formed by a branch of the Vltava called the Devil's Stream, features beautiful gardens, pottery markets and other small shops. No gondolas here, but the view along the river on a

Mounted on the wall of Old Town Hall, the Prague Astronomical Clock is a tourist hot spot with its hourly display of "The Walk of the Apostles," left. A bird's-eye view accentuates the layered bridges over Vltava River, located in the heart of the city, below.

lantern-lit boat is just as romantic.

When you're done in Kampa Island, walk over the Charles Bridge, which connects Lesser Town with Old Town. Named after Emperor Charles IV and completed in 1400, Charles Bridge is Prague's most familiar monument.

The Jewish Quarter contains the remains of Prague's former Jewish ghetto. Nearly 6,000 people currently reside in the community, known best for former resident Franz Kafka and the mystical Golem created by Jehuda ben Bezalel, also known as Rabbi Loew.

The center of modern Prague is undoubtedly New Town. Less visited by tourists, the area is best known for Wenceslas Square, surrounded by shops, museums, cinemas, office blocks, hotels, restaurants and cafés.

Journalist and writer Mark Baker first moved to Prague in 1991 from Vienna, where he was a journalist for *The Economist*. He stayed in the city for three years before moving to New York. Baker returned to Prague in 1997, drawn back by its distinct character and atmosphere.

"[Prague] is much more relaxed than your typical European city," Baker says. "The pubs and people still seem more real and down to earth. I think it has something to do with Czech culture. It's very close to the land and that makes Prague feel like a real place."

Chambers said that when he returned to Prague in 2007 he looked forward to reconnecting with the locals as much as touring the city. "They are a very warm and interesting people. I just love to sit in a café and people watch," says Chambers, a Pittsburgh, Pa., native who now lives in New York. "Prague is really one of my favorite places."

Clearing the Clog

High pressure is often used to open clogged pipes, but when assembly pressure ratings are ignored, results can be disastrous

By Phil Kimble

No one wants to be in the undesirable position of flushing a toilet and having the water level in the bowl rise. When this happens, anxiety levels rise, usually in proportion to the level of the water. Frantic phone calls are made to the department of sanitation or to a local plumbing company to clear the leaves, trash, tree roots and other unmentionables that have likely impeded or blocked the movement of sewage to the wastewater treatment center. Periodic sewer cleaning is an unpleasant, but necessary facet of urban living.

The sewer cleaning truck is a sophisticated piece of equipment. It has a pump that is capable of blasting a stream of water at up to 2,000 psi. Specialized nozzles, attached to a hose, use this pressurized water to clean and unclog pipes. The pump can also pulsate this water stream, giving the nozzle a "jackhammer" effect to remove really tough clogs. When the task is complete, the nozzle is retrieved from the sewer pipe by winding the hose back up on its hose reel. The truck also has a huge vacuum for cleaning up muck and debris.

A sanitation crew was dispatched to remove blockage reported by homeowners in a neighborhood. The crew was experienced at this type of call and was well versed with the equipment. They were excited to see how much time a new "quick replace" system would save if they needed to change the nozzle on the hose. This 1-inch hose often got damaged while traveling down the sewer pipe and while being rewound onto the hose reel. The crew supervisor had installed this new system on a trial basis on the truck. If it worked as planned, all sewer cleaning trucks in the city would be outfitted with the new system.

The job was going smoothly. The operator had the pump running at about 50 percent capacity and had just run out the full length of hose. He was preparing to shut off the pump and retrieve the hose when he heard a loud pop. Before he knew what happened, he was on the ground writhing in pain. The "quick replace" components had shattered, allowing the hose to whip. The hose struck the operator in the shin, breaking his leg just above the ankle.

During the accident investigation, it was discovered that the "quick replace" components, otherwise known as cam and groove couplings, were rated for only 250 psi working pressure. The sewer cleaning truck manufacturer stated in its literature that all components connected to this particular system must be rated for at least 2,000 psi working pressure. With the pump running at more than 1,000 psi at the time of the accident, these components were grossly overmatched.

There's a saying that a chain is only as strong as its weakest link. A hose assembly is no different. No assembly should ever be used to handle more pressure than that of the lowest rated component. Let's "Keep It Safe" by knowing the assembly pressure rating. Don't rely only on the pressure rating on the lay line of the hose. Doing so can lead to disastrous and potentially painful results.

FOR PRODUCTS AND SERVICE THAT STAND THE

TEST OF TIME.

THINK DIXON.

When you choose Dixon, you get so much more than quality products and immediate availability. The fact is, no one else makes a bigger commitment to your smooth-running operation and bottom-line profits.

When it's got to be right, it's got to be Dixon.

DIXON

The Right Connection™

dixonvalve.com

Why We Forget Things

As we age our memory begins to fail, but it is possible to stay mentally sharp and remember where you put your car keys

By Maria Blackburn

What did you eat for dinner last night? Did you turn off the lights before you left the house this morning? Where are your car keys? These are simple questions, the kind of details that seem so easy to remember. Why then, when we reach our 30s, does our memory start to fail us and make us feel so foolish?

The answer is simple, says Sam Wang, co-author with Sandra Aamodt of *Welcome to Your Brain: Why You Lose Your Car Keys But Never Forget How to Drive and Other Puzzles of Everyday Life* (Bloomsbury USA, 2008). When you understand how your brain works, it makes a lot of sense that you forget where you put your car keys and other similar details you hold in your short-term memory, he says.

"We think of memory as being like a hard drive, something that's written down and stays in place and you just read it. But that's not what memory is really like," says Wang, an associate professor of molecular biology and neuroscience at Princeton University. "In fact, your brain has a half-dozen systems of memory; each specialized for different kinds of tasks."

One memory system helps you remember things in the short term, like where your car keys are. Another memory system helps you remember skills like how to operate a car. "All of these different brain systems seamlessly work together so that day to day we don't think about having a number of memory systems, we just think about having a memory, period," Wang says.

Normal brain performance worsens with age. We're not talking about Alzheimer's disease, which causes two-thirds of dementia cases and is expected to affect some 81 million people worldwide by 2040. We're just talking about normal, age-related memory decline. "Normal memory loss is if you forget where your glasses are," Wang says. "Forgetting the fact that you wear glasses, that's not good."

Spatial navigation relies on a part of the brain called the hippocampus that's involved in short-term memory. The hippocampus shrinks as a person gets older causing short-term memory loss. "You might forget your keys, but you won't forget how to drive or what to do at a red light," Wang says. This loss happens surprisingly early. "After age 30, on average, people have a slow but steady decline in their short-term memory," Wang says.

However, just because age-related memory loss happens to everyone, that doesn't mean everyone has to accept it. "It turns out that many mental capacities are like muscles you can exercise," he says. "There are things you can do about it."

Some memory tips:

Get moving. "What's good for your heart is often good for your brain," Wang says. In fact, regular exercise—three 30-minute sessions per week—has been shown to be more effective in keeping the brain fit than any sort of computer software targeted at exercising your brain. When people reach their 70s, they start experiencing a decline in executive function, the set of abilities that allows one to plan, exercise self-control and make a good impression on others. "Studies have found that people who engage in physical exercise experience less decline and even improve in executive function as they age," Wang says. Scientists aren't entirely sure why this is, though a possibility is that just as exercise increases blood flow to the heart, it also increases blood flow to the brain.

Skip the dietary supplements. There is no good peer review evidence that shows that Ginkgo biloba has positive effects on one's memory, Wang says. But limiting red meat, eating lots of green leafy vegetables, drinking a little red wine every day (up to two glasses per day for women, up to three for men) and eating a bit of dark chocolate–all heart-healthy dietary changes–can help keep a brain fit.

Be intellectually engaged. "The No. 1 correlate of preserved mental function later in life is education," Wang says. "This doesn't mean you have to be highly educated in order to maintain positive function, but it does mean it's important to be mentally engaged as you age." Learning a language, traveling and having complex hobbies are all pastimes that engage mental activity and help preserve mental function.

Spend time with friends. Social interactions are some of the more complex mental activities we engage in, and seeing friends makes sure that people engage in these kinds of interactions. "One correlate of reducing depression is having friends and an active social life," Wang says.

Another word about exercise. Exercise also is associated with a reduced risk of dementia later in life. Studies show that people who exercise regularly in middle age are one-third as likely to get Alzheimer's disease in their 70s as people who did not exercise. It's not too late to start: people who begin exercising in their 60s have their risk of Alzheimer's reduced by half.

Get enough sleep. At a very basic biological level, scientists aren't exactly sure what sleep is for. "It is believed that sleep may be a time when memories are reconsolidated, sorted out and processed to form longer lasting memories," Wang says of this active area of research. One certainty is that sleep deprivation is a cause of stress and stress is bad for the body as well as the brain. "Stress hormones reduce the brain's ability to undergo change," he says. In addition, stress reduces the production of new brain cells.

Finally, some good news about brain function and aging. While you may not ever regain the short-term memory you had when you were 20, you can maintain and even improve brain function with age. "There are actually some brain functions that get better with age," Wang says. "Older people are better at controlling negative thoughts and adapting to negative information. They're also better at emotional self-control. And skills such as verbal ability do not decline with age. Vocabulary may even get better."

The Hard Facts

Concrete's sturdy beginnings

By Lisa De Nike

In 2006, a team of French and American researchers rocked the archaeological world with their announcement that the great Egyptian pyramids were not, as always assumed, constructed of 2-ton blocks of limestone that had to be hauled—at the cost of many slaves' lives—from nearby quarries and then hoisted hundreds of feet into the air.

Instead, the team asserted, painstaking modern chemical analysis revealed that the imposing and awe-inspiring structures were built of *blocks* of early concrete made *on site* of liquefied limestone and poured into molds.

If this is indeed true—and many archaeologists and Egyptologists hotly dispute it—it would mark the earliest documented use of concrete, a substance now so ubiquitous in our sidewalks, roads, bridges and buildings that we barely take notice of it and can hardly imagine modern life without it.

In fact, most historians credit the Romans with inventing the ever-changing mixture of volcanic sand, water, lime mortar and stones that comprised early "*caementa*." The Romans reportedly would stir up this composite (sometimes adding the more interesting ingredients of animal fat, milk and even blood) and spread it into big wooden frames that were then placed against facings of stone or brick before being left to dry.

The result—once the frames were removed—was sturdy slabs that could be slathered in stucco later and which cost a lot less than Italian tufa or marble imported from Greece.

So sturdy, in fact, that some of the things the Romans built are still around today.

Before we go on to chronicle the fascinating history of concrete, however, it's important to distinguish between concrete and cement, as many people confuse the two and tend incorrectly to use the terms interchangeably.

Concrete is a material made up of crushed stone, rock, sand and cement. Nearly 6 billion tons of concrete are used each year and some experts estimate that one-half to two-thirds of the world's infrastructures are made of concrete. It's also estimated that concrete is so strong it can last about 50,000 years and that more than 55,000 miles of highways in the United States are paved with this material, which lasts about 2.5 times longer than asphalt.

Cement makes up about 15 percent of the mass of concrete and is made from limestone, silicon, calcium, iron and aluminum, which are heated to 2700 degrees Fahrenheit in a kiln to produce a pebbly mixture called "clinkers." The "clinkers" are ground into a powder and gypsum is added, resulting in a grayish substance we think of as cement. Mix that with water and—voila!—it can be spread into many shapes and as it dries, it hardens into a very solid mass.

A British engineer named John Smeaton is credited with stirring up the first batch of modern concrete by adding powdered bricks and pebbles to cement to give it strength in 1793. Thirty-one years later, another Englishman, inventor Joseph Aspdin, came up with what is considered the first artificial cement (called "Portland cement") by burning clay and ground limestone together, which he knew would make it even stronger.

Concrete has much to recommend it as a building material, but it is far from perfect. Its main deficit is that it has what engineers call "poor tensile strength," which means that it is not well-equipped to withstand cross-structural stressors such as earthquakes or other horizontal forces (such as wind). To remedy this, some concrete is "pre-stressed," meaning that it is reinforced with stretched steel rods. This kind of concrete was invented by a Parisian gardener named Joseph Monier, who patented it in 1867 as a way to reinforce concrete garden pots with steel mesh for added durability. Monier's strong tubs were one of the exhibits at the Paris Exposition of 1867, giving others the idea of using pre-stressed concrete in floors, bridges, arches and even railway ties.

The time-consuming process of mixing concrete by hand came to an end in 1885, when the first rotary kiln allowing for mass production of the substance was introduced in England. Two years later, the first concrete reinforced bridge was built in Golden Gate Park in San Francisco. From then on, concrete technology and the use of the material grew by leaps and bounds.

More recently, in 1990, the tallest reinforced concrete building in the world was erected in Chicago (961 feet/293 meters) and a year later, the very dramatic concrete-and-glass structure known as Boston's JFK Museum—designed by I.M. Pei—was completed.

Of course, most things constructed of concrete are not quite as remarkable as the JFK Museum. Who among us, after all, really notices the roadways, the sidewalks and the buildings that are such an integral part of our everyday lives? Yet where would we be without them?

NATALIE TURNER,
Executive Assistant
17 years

"SUPERIOR PRODUCTS ARE WHAT OUR CUSTOMERS WANT. BUT WE'RE NOT DOING OUR JOB IF WE DON'T ALSO PROVIDE OUTSTANDING

SERVICE

AND SUPPORT. I TAKE THAT RESPONSIBILITY SERIOUSLY."

DIXON

The Right Connection™

dixonvalve.com

UPS FREIGHT GUARANTEED

The same reasons you choose UPS for your small packages are now the reasons to choose UPS Freight for your LTL shipments. That means the reliability and tracking you're used to. Plus a new, on-time guarantee. It's not just freight, it's UPS Freight.

Find out more at upsfreight.com

WHAT CAN BROWN DO FOR YOU?®

On-time guarantee applies to customers whose shipments are rated from the current UPGF 560 base rate tariff only. See Rules Tariff for applicable terms, conditions, restrictions and remedies.