

6 Dixon Turns 90
Almost a century of success
at Dixon Valve & Coupling

8 Profile of Courage
Veteran Audie Murphy shows
that bravery comes in all sizes

18 Rocket Man
Dr. Wernher Von Braun's role
in the U.S. space program

24 Going to Germany
It's more than just bratwurst
and beer

SPRING 2006
Asia/Pacific - Fall 2006

BOSS

CONNECTING TO INDUSTRY

RIBBONS
ACROSS
THE LAND

MILLIONS OF MILES OF
HIGHWAYS—CONSTANTLY
CREATED AND REPAIRED—
KEEP THE WORLD CONNECTED.





Dixon: For products and support that's broad and deep.

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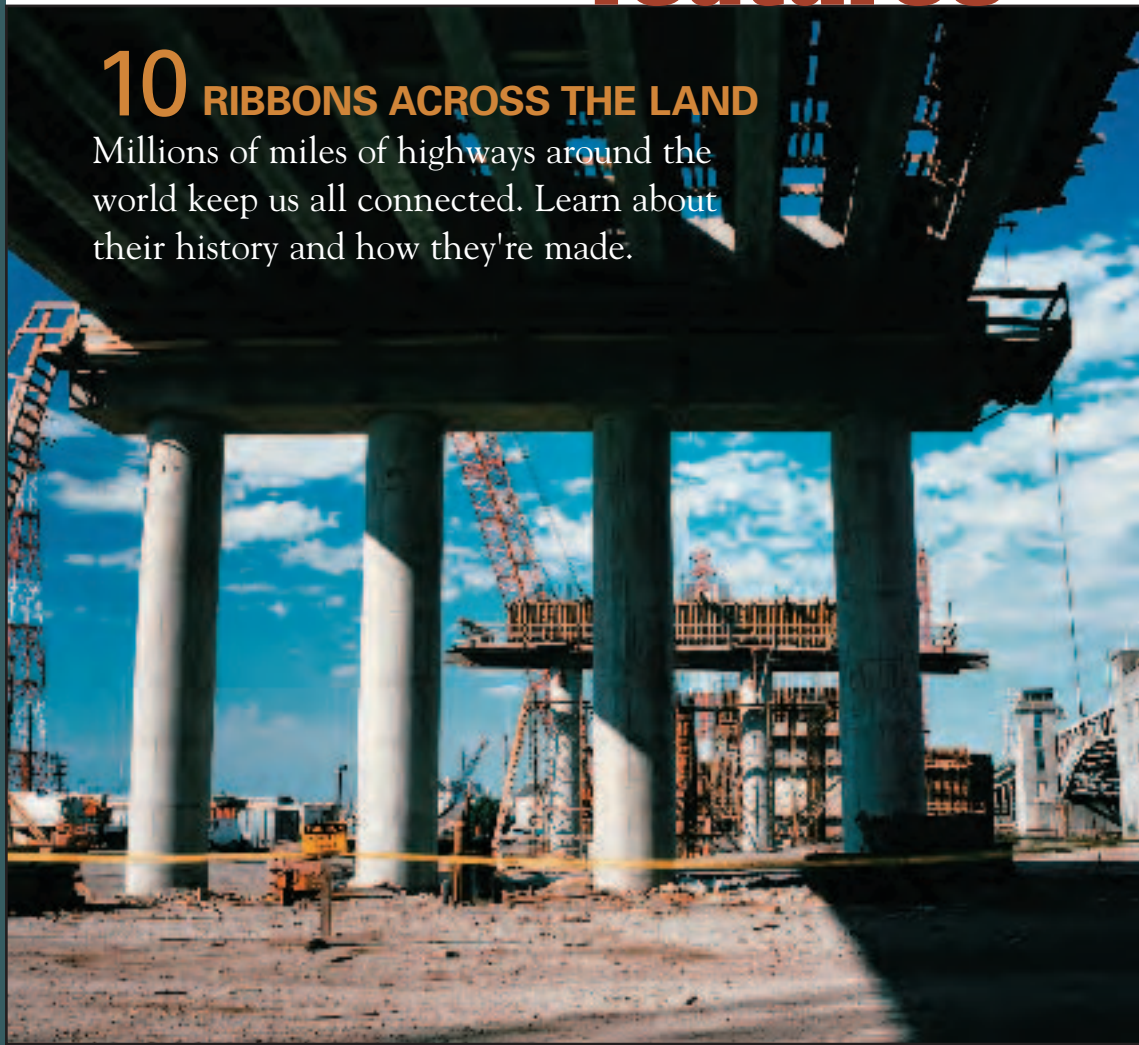
features

10 RIBBONS ACROSS THE LAND

Millions of miles of highways around the world keep us all connected. Learn about their history and how they're made.

departments

- 8 **PROFILE OF COURAGE**
Veteran Audie Murphy shows that bravery comes in all sizes
- 17 **FACTS & FIGURES**
U.S. highways by the numbers
- 22 **HEALTH & FITNESS**
Walk your way to better health
- 32 **KEEPING IT SAFE**
Pressure and temperature ratings save lives
- 34 **BUILDING CHARACTER**
Happiness is a choice



6 NINETY YEARS OF SUCCESS
A look back at almost a century of history at Dixon Valve & Coupling

Dixon's original rotary hose coupling, patented in December 1917.

18 ROCKET MAN

Dr. Wernher Von Braun played an integral role in the U.S. space program



24 GOING TO GERMANY

It's more than just bratwurst and beer. Visit this country rich in history and travel activities.





Milestone Anniversaries

The interstate highway system in the U.S. turns 50 this year. It's hard to imagine that just a half-century ago, many roads in the Western half of our country were still just made of dirt. The

brainchild of Dwight D. Eisenhower, the highway system surely expanded into more than Ike ever imagined.

Now, imagine if you will that Dixon is almost twice as old as many U.S. interstates! Our company turns 90 this year, founded by my grandfather, H.W. Goodall in downtown Philadelphia. Consider that at this time in history, the world was in the throes of World War I, fighting what would be the longest battle of that war, the Battle of Verdun. Things we take for granted, such as frozen food and the television, had not yet been invented.

Certainly a great deal has changed, both at our company and around the world, since H.W. Goodall started Dixon in 1916. However, one thing that hasn't changed at Dixon is the philosophy by which we operate. We conduct our business with the six pillars of character—respect, responsibility, caring, citizenship, trustworthiness and fairness. We've been operating with these principles in mind for the past 90 years and we intend to do so in the future.

In this issue of BOSS magazine, you'll read about the beginnings of Eisenhower's interstate highway system, and what goes into making some of the millions of miles of roads around the world. And in our anniversary article, you'll get a glimpse of how Dixon got its start and how we've grown. We're happy to share our birthday with you, because you've made us what we are today!

Thank you.

Dick Goodall

BOSS

SPRING 2006
ASIA/PACIFIC – FALL 2006

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NINETY YEARS OF SUCCESS

By Sarah Achenbach

WHEN HURRICANE KATRINA hit the Gulf Coast last September, Richard L. Goodall (R.L.), CEO of Dixon Valve & Coupling Company, Inc., knew exactly what his company's response should be. After all, the decision had been nearly 90 years in the making.



March 21, 1916
H.W. Goodall founds Dixon Valve & Coupling Co.



1929
Dixon moves its headquarters to Hancock and Columbia Avenues in Philadelphia.



1934
Dixon opens locations in Canada, called Dixon Limited



1940
Acquires the Mulconroy Co.

World War II
Nearly 100 percent of Dixon production goes toward military contracts

“At Dixon, we have always done whatever it takes to get the job done,” says Goodall of the philosophy with which his grandfather, H.W. Goodall, founded Dixon in 1916. “For many of our products, we’re the only manufacturer in the United States,” explains Goodall of Dixon’s 200-plus individual product lines. “We went 24/7 for a month.”

R.L. Goodall, his brother Douglas, longtime head of manufacturing and engineering at Dixon, and other administration and staff joined factory employees on the assembly lines, with many executives doing nine-hour shifts working machine tools and assembling clamps to meet the demand surge for Gulf Coast recovery efforts.

Celebrating its 90th anniversary this year, Dixon Valve & Coupling has grown from a small Philadelphia factory to an international company.

Headquartered in Chestertown, Md., with distribution centers around the globe, Dixon is the leading innovator in the hose and coupling industry. But the heart of the company and its 90-year success story is the work ethic and founding philosophy of the man who created Dixon—a vision and drive that still inspire the men and women of Dixon today.

In 1887, with an eighth-grade education, 15-year-old H.W. Goodall quit school to take a job as a general clerk and errand boy for Philadelphia rubber distributor Latta &

Mulconroy Co. As the son of a cabinetmaker, he loved to tinker and was soon designing hose couplings and clamps as accessories to Latta & Mulconroy’s hose line. With Mr. Mulconroy’s blessing, H.W. promoted the new couplings to a few accounts. When H.W. requested permission to introduce his products to the region’s leather tanning industry, Mr. Latta refused and dismissed the young man.

H.W. didn’t lose a step. He founded the Goodall Rubber Co. and the Knox Manufacturing Co. to manufacture and sell hose and couplings. For him, product development and customer service intertwined as he crisscrossed the country, visiting every major construction site he could locate, identifying its hose and coupling needs, and then manufacturing the necessary products. On March 21, 1916, armed with firsthand knowledge of the needs of the United States’ growing mining, oil, drilling, construction and railroad industries, H.W. founded Dixon Valve & Coupling Co. in Philadelphia. Eight years later, urged to slow down for health reasons, H.W. sold the Goodall Rubber Co.—he previously had sold the Knox Co.—to concentrate exclusively on Dixon.

“We conduct our business with the six pillars of character—respect, responsibility, caring, citizenship, trustworthiness and fairness,” explains Douglas Goodall. “My grandfather and father, R.B. Goodall, may not have used the same

1950s

Pioneers use of non-metallic hose fittings with Tuff-Lite line of nylon fittings



1974

Partners with a leading manufacturer of wormgear clamps to sell its products. First major products sold by but not designed or manufactured by Dixon

1976

Moves headquarters from Philadelphia to Chestertown, Md.

1951

Founder H.W. Goodall dies. R.B. Goodall becomes president and chief operating officer

1960s and 1970s

Adds branch locations throughout the United States to provide overnight service to customers and a custom computer system for distribution and shipping.

1975

Purchased Adflow (England), now Dixon Group Europe Ltd.



words, but they set the foundation. Both men were great salesmen and motivators.”

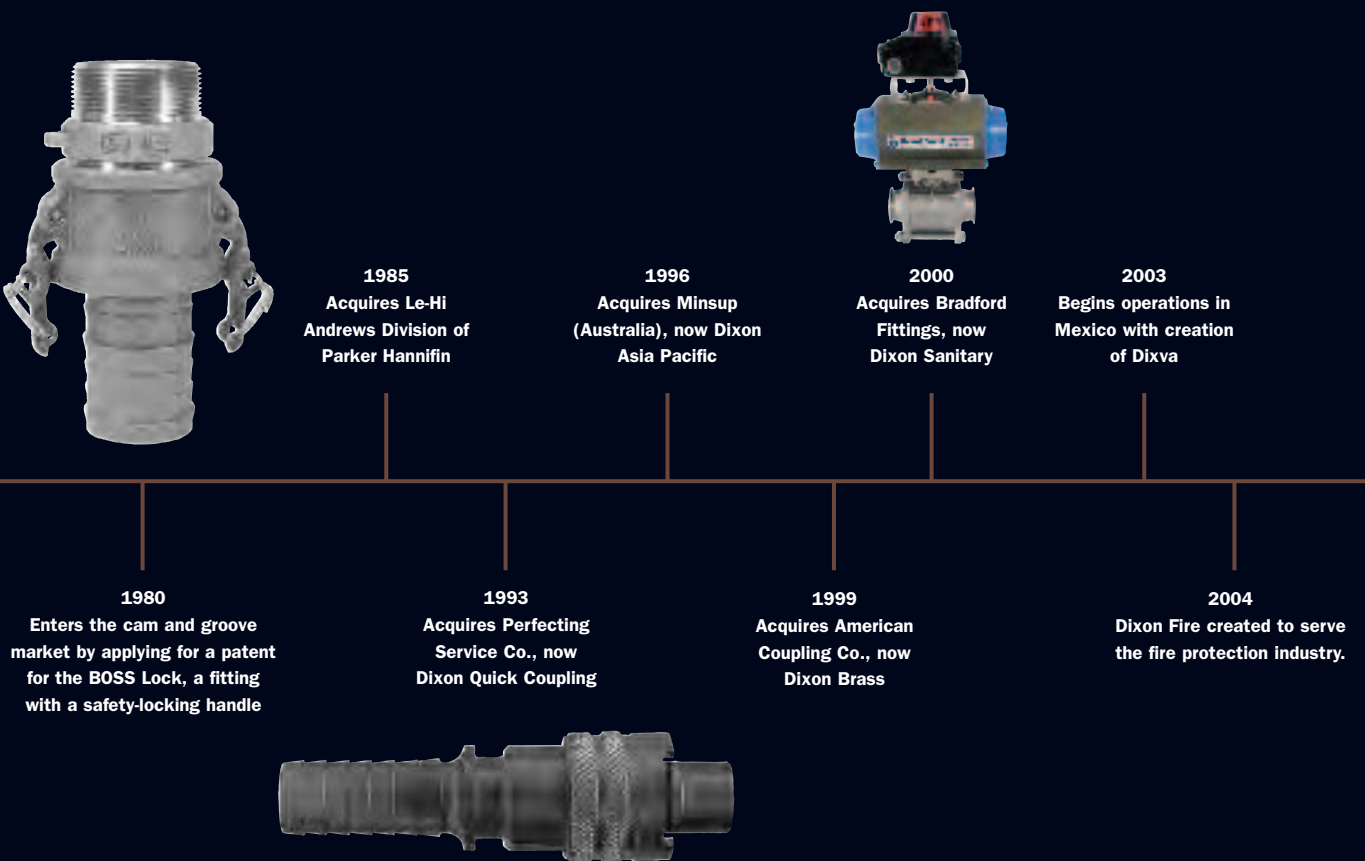
In 1951, H.W. died shortly after becoming ill during a West Coast sales trip. R.B. then became president and chief operating officer until his official retirement in 1988 (he remained active in the company until 1993). Sons Richard and Douglas took over to become the third generation to lead Dixon. The week of R.B.’s death in 1994, R.L. Goodall recalls writing down two words that inspired his father and his father before him to lead Dixon: listen and encourage. “Dad listened to every one of his employees,” recalls Goodall. “Our people are absolutely terrific, and they stay with Dixon because they know they are valued.” From the factory to the front office, numerous Dixon employees have long tenures with the company. “We sit down quarterly with every employee in small groups to talk about the Dixon values system and to get ideas and feedback,” he says. “Every person is a huge part of Dixon’s success.”

In 2001, Lou Farina was named president, the company’s first non-family member to hold the position. A second-generation Dixon employee, Farina joined Dixon in 1959 to work in the mailroom. His father, Louis, had worked at Dixon since 1931 and, in the early days of distribution, would deliver orders to the Post Office by

pulling a small wagon. In the 1960s, the younger Farina helped Dixon reach its customers overnight—unheard of at the time—by taking packages to the Philadelphia Greyhound bus station for shipping. Today, products are never more than 24 hours from customers with warehouses around the world. “We have the best products out there, but it’s our commitment to customers that sets us apart,” says Farina.

Dixon has introduced industry “firsts” from a high-pressure rotary hose coupling used for oil drilling to non-metallic Tuff-Lite hose fittings now standard in the agricultural, food and medical industries. In 1940, Dixon’s first acquisition came with a bit of irony when it purchased the Mulconroy Co., formerly the Latta & Mulconroy Co., H.W.’s first employer. Since then, Dixon has strategically expanded its markets and product line by acquiring companies and by creating new divisions.

“H.W. Goodall wouldn’t have dreamed of how far Dixon has come,” muses Richard Flaherty, president of sales and marketing. But with each new innovation, the Dixon philosophy has remained steadfast. “We strive to be easy to do business with and, at the same time, to be better at it than anyone else,” Flaherty says. “For some companies, that’s lip service, but for us, it’s what we do every day.”



Youth and Size Prove Small Obstacles for Hero Audie Murphy

BY SUE DE PASQUALE

At 5-foot-5 and 112 pounds, he was too short to join the Marines, and the paratroopers wouldn't take him either. So "Baby Face" Murphy, the sharecropper's son from Texas, signed on with the Army (lying about his age in the process). His heroic exploits over the next three years—while serving in Sicily and France—would become the stuff of legends and earn him the distinction of being the most decorated U.S. combat soldier in World War II.



By the time the war ended, months before his 21st birthday, Audie Leon Murphy had fought in nine major campaigns across the European theater, been wounded three times, and earned 28 awards and decorations, including the Medal of Honor—the highest U.S. military award for bravery.

The famous one-man stand that earned the diminutive Murphy that honor unfolded on an icy wooded field near Holtzwihr, France, on January 26, 1945. Stubbornly intent on “holding the road” against approaching German infantry, Murphy ordered his men back to cover before advancing to climb atop a burning tank destroyer. With his map and field phone in hand, he directed artillery while spraying the advancing Germans with fire from the tank's .50-caliber machine gun. At one point, when the officer on the other end of the line asked how close the enemy had advanced, Murphy reportedly replied, “If you'll just hold the phone, I'll let you talk to one of [them].”

After more than an hour, the Germans retreated. Murphy got down from the tank, which exploded in flames soon afterward, and led his men on a successful counterattack. Accounts differ, but those familiar with the events report that Murphy single-handedly killed 50 to 100 opposing infantrymen that frigid January day.

After the war, Audie Murphy's storied battlefield heroics—and, undoubtedly, his good looks—landed him a spot on the cover of *Life* magazine, prompting actor James Cagney to invite him to Hollywood in the fall of 1945. The young Texan struggled at first but eventually signed a contract with Universal-International, where he starred in 26 films over the next 15 years. His best-known performance was in



Audie Murphy returned to France in 1948 at the invitation of the French government. During a visit to a local school, he was overwhelmed with emotion when a group of schoolchildren sang for him.

“The spirit of freedom was hovering over that play yard as it did all over France at that time,” he later recalled. “A country was free again. A people had recovered their independence and their children were grateful. They were singing in French, but the melody was freedom and any American could understand that. America, at that moment, never meant more to me.”

To Hell and Back, the 1955 blockbuster based on his autobiography of the same name. It held the record as Universal's highest grossing movie until *Jaws* in 1975.

Though he'd been forced to drop out of school to care for his siblings, Murphy had a knack with the written word. As a songwriter (hits included “Shutters and Boards,” and “When the Wind Blows in Chicago”) he teamed up with composers including Jimmy Bryant and Coy Ziegler to produce works for dozens of great performers, including Dean Martin, Eddy Arnold, Charley Pride and Roy Clark.

Despite the financial success of his work (it's estimated that his films alone earned him close to \$3 million), Murphy had trouble holding on to his money. He was a gambler, who bet on the horses and loved a poker game. It was while scouting out a business opportunity that Audie Murphy died at age 46. The private plane he was traveling in crashed into a mountain near Roanoke, Va., on May 28, 1971, killing all aboard.

Audie Murphy's death came at a time when he was lobbying the government to provide more funding for Post-Traumatic Stress Disorder to veterans of the Korean and Vietnam wars. Murphy himself was plagued by recollections of battlefield horrors throughout his life.

Today, this American hero's grave—a simple, white, government-issue tombstone—is among the most visited grave sites at Arlington National Cemetery (after John F. Kennedy, Jr.'s and the Tomb of the Unknown Soldier). The small white slab provides room to list only a few of Audie Murphy's many military decorations, prompting Arlington's historians to note: “The stone is, as he was, too small.”



RIBBONS



ACROSS THE LAND

By Sue De Pasquale, with David Holzel



Are we there yet?

These four words, emanating from the back seat of a minivan, are enough to send modern parents scrambling for their iPods.

But today's highway travails are nothing compared to what a young Dwight D. Eisenhower experienced back in the summer of 1919, when he set out from Washington, D.C., on a transcontinental convoy to assess the United States' fledgling road system. "In those days, we were not sure it could be accomplished at all," Ike would later recall. "Nothing of the sort had ever been attempted."

With World War I just ended, military leaders were eager to find out how quickly troops could move across the United States in the event of another war. The answer? At a snail's pace. The convoy of trucks, which crawled across the nation's "Lincoln Highway" at speeds averaging just 5 miles per hour,

took more than two months to reach San Francisco from the East Coast, according to Dan McNichol, author of *The Roads That Built America*. Along the way, McNichol notes, the expedition lost 21 men to injury, damaged or destroyed 88 bridges, and left nine trucks behind on the road—in muddy ditches and at the bottom of embankments.

"It's not possible to exaggerate how bad roads were back then," says Roger White, an associate curator at the Smithsonian Institution's National Museum of American History, in Washington. "Automobile development was way ahead of the roads of the time." Once past Illinois, the convoy encountered only dirt paths and trails nearly all the way to California.

For the young Army lieutenant Eisenhower, the arduous 3,200-mile trek left an indelible impression. More

than two decades later, when World War II took him to Germany, he looked with marvel at the autobahn. "Hitler's Road" was a model for the modern superhighway, with its high-speed, multi-lane, limited-access, divided roadways. In fact, once the Allies gained control of the autobahn, the defeat of the Germans came within six weeks. "The old convoy had started me thinking about good, two-lane highways, but Germany had made me see the wisdom of broader ribbons across the land," Eisenhower wrote in his 1967 book *At Ease: Stories I Tell to Friends*, in which he shared memories of his life up to the end of his military career.

In June 1956, Eisenhower saw his dream for these "broader ribbons" realized when, as president of the United States, he signed into law the



largest public works project in the history of the world: the Interstate and Highway Defense System. The ambitious program (later renamed to honor the president) aimed to connect the entire country—East and West, North and South—with the federal government footing 90 percent of the construction bill. Originally estimated to cost \$37.62 billion, the project would balloon to a whopping \$128.9 billion by the time it was completed in 1991, according to the American Road & Transportation Builders Association (ARTBA).

“Today, this nearly 47,000-mile road network is a symbol of the freedom that we enjoy as Americans,” notes U.S. Secretary of Transportation Norman Y. Mineta, as the 50th anniversary of the interstate system approaches. Though the interstates account for just 1 percent of the nation's roadways, these highways carry 24 percent of all traffic, including 41 percent of truck traffic.

The punishing loads have left their mark, on the interstates and the legions of other highways constructed in the United States and throughout the world during the same period, points out William Buechner, Ph.D., vice president for economics and research at ARTBA. “Most highways built during the 1950s and 1960s were constructed for a 40-year life span,” he says. “But traffic has certainly been

heavier than anyone could have anticipated.”

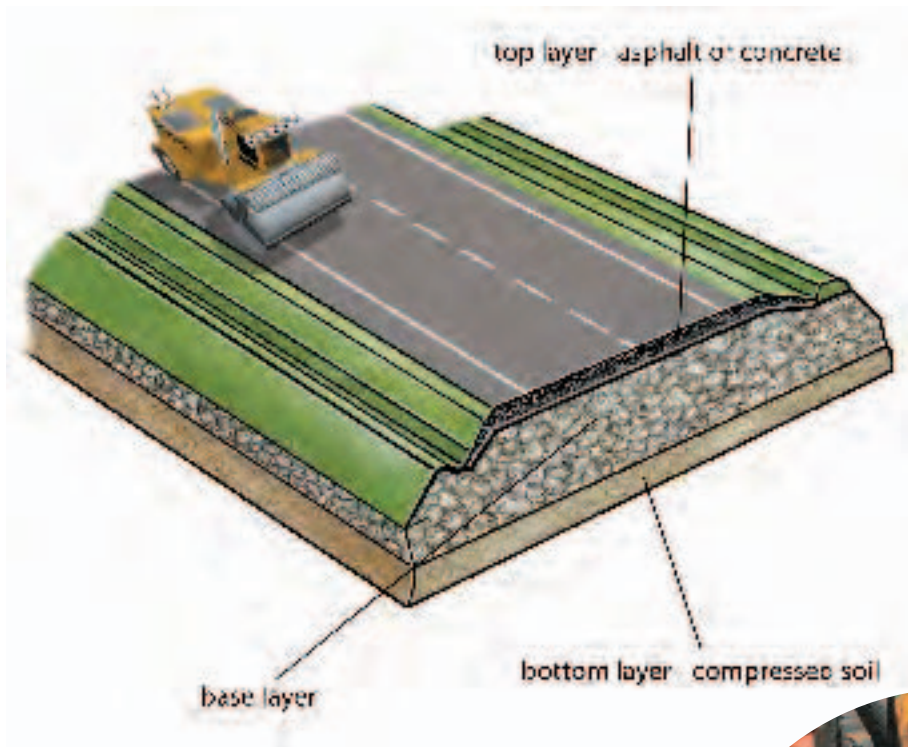
In 1960, for example, the number of registered U.S. vehicles stood at 74 million. By 2003, that number had skyrocketed to 231 million vehicles. (See “U.S. Highways by the Numbers,” p.17.) It should come as no surprise, then, that many of the nation's roadways today are buckled, cracked and riddled with potholes.

Construction Zone



- Highway workers spent 246.4 million hours working on the National Highway System in the U.S. during the year 2001.
- Between 1982 and 2000, the number of roadways considered congested grew from 34 percent to 58 percent.
- More than 40,000 people are injured each year as a result of motor vehicle crashes in work zones in the United States.

Source: U.S. Department of Transportation—Federal Highway Administration



Layers of Roadway

Think of a highway as a layer cake. Highway engineers begin their cake with a bottom layer of soil, which must be compressed and stabilized to hold the layers that follow. The compression process “usually involves blending and grading it to the approximate proper elevation,” explains Steven M. Waalkes, managing director of technical services for the American Concrete Pavement Association. “Then the soils are compacted with rollers to achieve the proper density.” Sometimes the soil is poor (think: clay and silts) and must be improved. In the case of concrete paving, road builders typically add chemical stabilizing agents.

These agents can include cement, cement kiln dust, lime or fly ash. “These chemicals act as binders and drying agents, which makes the soil stronger and able to support the subsequent layers,” Waalkes says.

The next layer in the cake is the base layer, made of rock, crushed stone, asphalt hot mix or recycled concrete. The busier the road, the thicker the base will be, says Bill Davenport, vice president of communications and membership for the American Concrete Pavement Association.

Once this is set, workers can create the main, top layer—which can range from 8 to 13 inches thick—of asphalt or concrete. While concrete is considered a rigid pavement (offering smoothness, durability and safety, Davenport notes), asphalt is petroleum-based and more flexible.

In the case of concrete, workers either truck in a concrete mixture from a processing plant or mix it using central mix plants on or near the paving site. The cement is then placed on the roadway. Much the way a baker uses a spatula to smooth and even a cake’s icing, construction workers operate a slipform paver, which uses sensors to make sure the concrete it is laying is straight and level. A screw-like apparatus under the paver spreads the concrete, while the sensors guide the track and define the width of the road. The paver is also able to adjust to curves and changes in grade—the angle of the highway.



“That assures that they are laying down a consistent thickness,” explains Davenport. “Behind the paver, people are smoothing the pavement—finishing it with hand tools and helping to cure [dry] the pavement.” To control cracking, the pavement is saw-cut into slabs, and often reinforced with smooth steel bars—dowels—across transverse joints. “These bars are used to ensure that neighboring slabs can assist in carrying traffic loads that are applied on an individual slab,” Davenport says.

When traffic engineers opt for asphalt as the top layer of their cake, their cooks must fire up the ovens. That’s because asphalt is made by mixing asphalt (black, petroleum liquid) with aggregate (crushed stone, gravel and sand) and then heating it to temperatures of 275 to 300

degrees Fahrenheit.

In the most common process for laying an asphalt road, the mixture is heated at the plant and then trucked to the roadbed, where it’s dumped into the hopper of a paver and placed onto the roadway. Workers use

augers to spread the asphalt evenly. Then a steel bar, called a screed, passes over the area, making sure the material is an even height and thickness across the road. In the final step, workers use rollers to compress the asphalt surface.

Along the nation’s aging highway infrastructure, it’s this top layer—whether asphalt or concrete—that first shows signs of wear and can be a tip-off to damage below.

That’s why the big story in highway construction these days lies in repair, maintenance and preservation, according to the ARTBA’s Buechner. He estimates that 97 percent of all federal money is dedicated to preservation efforts. “There are no more than 300 to

400 miles of road each year built new with federal funds,” Buechner says.

Last August, President Bush signed into law a sweeping transportation funding bill that authorizes some \$286.4 billion to be spent from 2004 through 2009, on highways, highway safety and transit programs. Known as SAFETEA-LU (for Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users), the law guarantees just over \$36 billion for highways for 2006 alone.

As policymakers allocate these funds to road repairs, they are looking to highway engineers to use the latest technology—including recycled materials—to cut costs, reduce disruption to traffic, and minimize environmental impact.

According to David Newcomb, vice president of research and technology for the National Asphalt Pavement Association, most “mill and fill” highway renovations currently enable contractors to reuse about 20 percent of the original asphalt. In addition, says Newcomb, “People are constantly looking for ways of introducing recycled materials into asphalt.”

He notes that discarded tires have become a popular source of “crumb rubber” that is ground into granular bits, blended with liquid asphalt, heated and stirred for several hours until “digested,” then combined with aggregate. The asphalt recycling strategy, first used in Arizona during the 1970s, is popular in warm-weather states like Florida, Texas and California. Other contractors are using recycled roofing shingles with great success, Newcomb says.

Davenport, of the American Concrete Pavement Association, points out that concrete is the most recycled building material in the world. “Typically, a concrete pavement that has served past its design life may be crushed and the steel reinforcements separated and recycled in their own right,” he says. “The crushed concrete is then used for base materials, but also may be used in other applications. One example is known as “rip-rap,” which are large pieces of concrete typically used on an embankment as erosion control and protection



International Highway Facts

Stocking Up Down Under -

Motorists intrepid enough to traverse the Eyre Highway, which links Western to Southern Australia, are advised to stock up on extra water and gas. The highway passes some of the hottest and most remote places in Australia—where settlements are few and far between.

Built on Blood, Sweat, and Tears -

More than 400 road-builders reportedly died during the 20 years it took to complete the great, winding Karakoram Highway, which follows 800 miles of ancient trade routes linking Kashgar in Western China with the Pakistani capital, Islamabad.

The Need for Speed - Most people know that Germany's acclaimed Autobahn has no blanket speed limit, technically making it legal for motorists to zip along at speeds exceeding 125 miles per hour (200kph). But the country does have a minimum speed requirement: Vehicles that can't reach 37 mph (59kph) are prohibited.

Ring Around the Island - For tourists intent on seeing Iceland, Route 1 (known as the “Ring Road”) is the way to go. The 1,339-kilometer-road (832 miles) runs around the entire island. While most of the Ring Road is two lanes wide and

paved in asphalt, there are stretches that are unpaved and lined only with gravel.

International Highways by the Numbers

80 mph (128 kph): speed limit on French autoroutes under normal driving conditions. France's speed limits for its limited access highways is the highest set speed limit in Western Europe or North America.

2008: The year when a modern “Via Egnatia” is expected to be completed in Greece—a 680-kilometer highway (422 miles) that begins at the Greek-Turkish border and ends at the western Greek port of Igoumenitsa. Known as E-90, the highway will have 76 tunnels and 1,650 bridges.

20,000 kilometers (12,427 miles): The length of the longest numbered highway in the world. Highway 1 in Australia is a coastal highway that connects all the mainland's state capitals and coastal towns and circumnavigates the entire continent.

58,000 kilometers (36,039 miles): The length of the road system that constitutes the National Highway system in India. It represents just 2 percent of the roads in India, yet carries some 40 percent of total road traffic.

against water damage or flooding.”

He says the concrete industry is also working hard to come up with ways to lessen disruption to traffic. One current promising strategy is known as “fast-track paving technology.”

“Many people assume concrete must cure for 14 or 21 days, but fast-track methods allow same-day reopening to traffic,” Davenport says, adding, “A few years ago, a section of paving was closed after the morning rush hour in mid-town

Manhattan, New York, repaired, and re-opened for the [afternoon] rush hour.”

Those in the highway construction industry say that innovations like these are just the tip of the iceberg of what’s to come in highway construction and maintenance.

Notes Newcomb: “Technological innovation is the key to producing the longer-lasting, more economical and environmentally friendly roadways of the future.”

Dixon Valve & Coupling Company offers the following products for the asphalt and concrete industries:

Boss Ground Joint Fittings
Air King
King Combination Nipples
King Safety Cables
Safety Check Valves
Ball Valves
Hydraulic Quick Disconnects
Suction Hose Fittings
In-Line Lubricators
Air Receiver Manifolds
Internal Expansion Fittings



Famous Roads of the World

By David Holzel

The Appian Way

The Via Appia, the first well-constructed Roman road, is named after the man who is believed to have begun its construction in 312 B.C., Appius Claudius. It started in the center of Rome and headed southeast. By 244 B.C. it had been extended as far as Brindisi on the Adriatic coast, some 300 miles from Rome.

In their attempt to connect to continually expanding dominions for communications and administration, the Romans constructed roadways all over the empire—some 6,000 miles of roads in Britain alone. As the Roman empire declined, the roads fell into disrepair. But some routes are still followed today, such as Watling Street, which runs from Dover to London.

Route 66

Begun as a two-lane highway in 1926, Route 66—which took Americans between Chicago and Los Angeles—was reported as “continuously paved” in 1938, and widened to four lanes in the 1950s, according to Roger White, of the National Museum of American History.

Route 66 provided truckers with a livelihood and was a catalyst for roadside business. Families migrated west to California on Route 66, hitchhikers thumbed rides and outlaws escaped pursuit along the concrete ribbon. And it gave advertisers a new medium—the billboard.

“It had a great deal of personality from the get-go,” says White. Although it was decommissioned in 1984, Route 66 shows no sign of disappearing. There’s a Route 66 historical society in every state it once passed through.

The Pan-American Highway

Proposed at the Fifth International Conference of American States in 1923, the Pan-American Highway was to be a continuous road running 16,000 miles from Alaska to the southern tip of Chile. What eventually emerged is not as grand as its original idea, but no less impressive.

Carretera Panamericana in Spanish and Estrada Panamericana in Portuguese is a network of roads that aids transportation and communications between the hemisphere’s countries and within them.

Today it is possible to drive from above the Arctic Circle down to Puerto Montt (which sits nearly 600 miles south of Santiago, Chile) with the exception of a 54-mile stretch between the Panama Canal and northwest Colombia. That stretch, called the Darien Gap, is a mountainous rain forest. Disagreement and controversy remain over paving that last link of a route that touches an entire hemisphere.

U.S. Highways by the Numbers

3.9 million: Number of miles of roads and highways in the United States

2.9 trillion: Personal vehicle miles driven in 2003

231 million: Number of registered vehicles in the United States in 2003

74 million: Number of registered vehicles in the United States in 1960

72 percent: Percent of the total value of commodities shipped annually in the U.S. that are transported via highways—more than \$4.4 trillion worth of products.*

721 billion: Number of miles traveled by Americans on interstates in 2004

3 million tons: Average amount of concrete in one mile of interstate

Longest interstate route in the United States: I-90, Seattle to Boston, which runs 3,020 miles

Shortest interstate route in the United States: I-73, which spans 12 miles in North Carolina

*SOURCES: Federal Highway Administration; Dwight D. Eisenhower Library, ARTBA, *T. Peter Ruane of ARTBA*

Rocket Man

The Life and Times of Dr. Wernher Von Braun

by Karen Baxter

“I HAVE LEARNED TO USE THE WORD IMPOSSIBLE WITH THE GREATEST CAUTION.”

As a child, Wernher von Braun dreamed of exploring space. The young German, born in 1912, could never have imagined though that one day he would play a key role in America's space flight program.

Von Braun was born in Wirsitz, Prussia, the second child of Baron Magnus von Braun and Baroness Emmy von Quistorp. According to a biography from the Marshall Space Flight Center in Huntsville, Ala., von Braun's early years were indicative of his life's path with a visionary interest in helping to “turn the wheel of time.” Von Braun composed music and salvaged used auto parts to build a new car—a project that he says he found more interesting than school, and which led to his status as a less than “star pupil.”

Von Braun conducted his first rocket experiment when he was 12. He rigged a half-dozen of the biggest skyrocketers he could find to an unmanned wagon and lit them.

He later wrote about the incident: “It performed beyond my wildest dreams. The wagon careened crazily about, trailing a tail of fire like a comet. When the rock-

ets burned out, ending their sparkling performance with a magnificent thunderclap, the wagon rolled majestically to a halt.

The police, who arrived late for the beginning of my experiment, but in time for the grand finale, were unappreciative. They quickly took me into custody. Fortunately, no one was injured and I was released to the minister of agriculture [my father].”

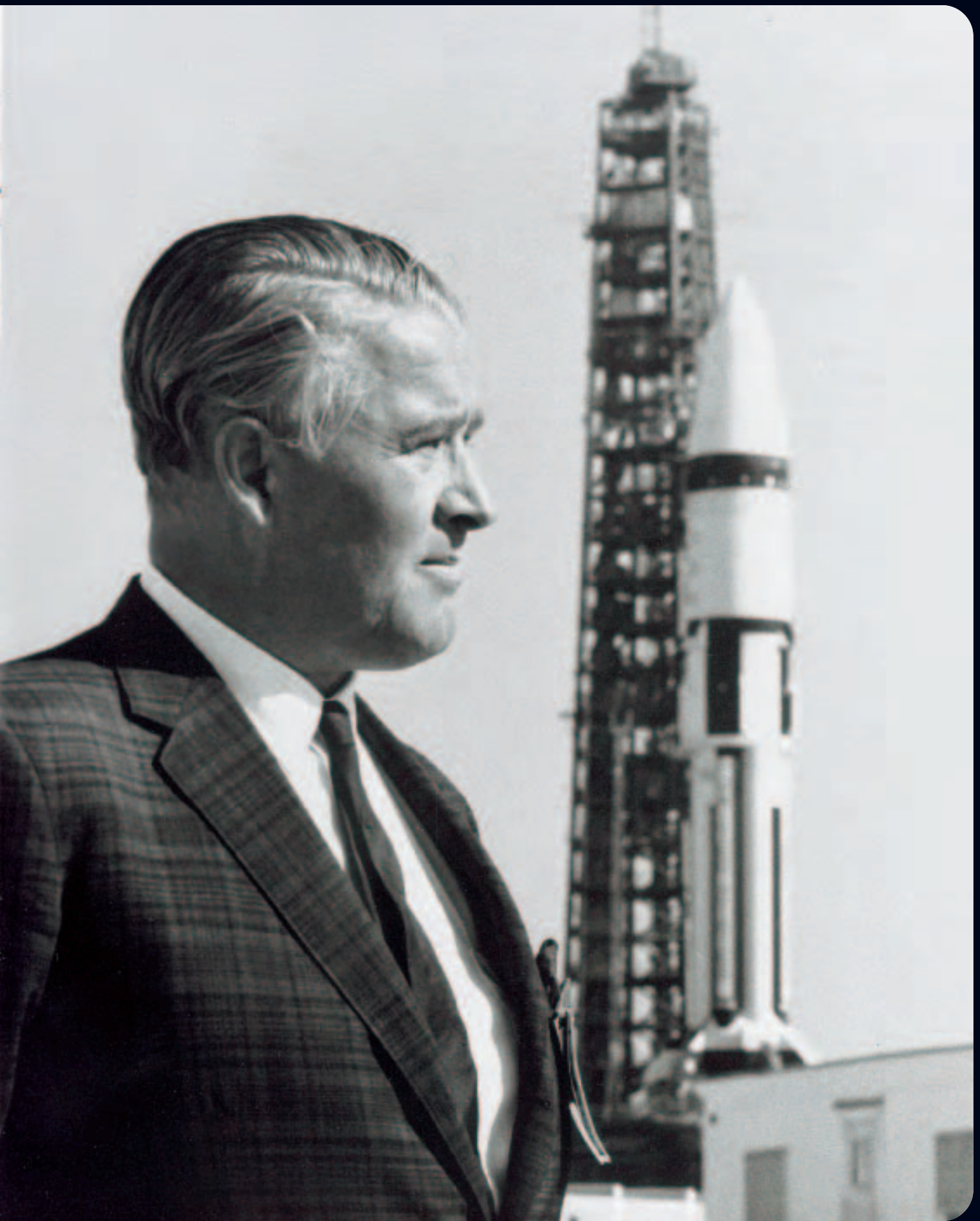
Von Braun's grades improved after his father transferred him to a boarding school near Weimar. There, he was greatly influenced by Hermann Oberth's book *By Rocket to Space*. Following his graduation, von Braun joined other members of the German Society for Space Travel as one of the professor's assistants on the proving grounds of the Chemical and Technical Institute, the

German equivalent of the U.S. Bureau of Standards.

Von Braun received his bachelor's degree in mechanical

“The wagon careened crazily about, trailing a tail of fire like a comet. When the rockets burned out, ending their sparkling performance with a magnificent thunderclap, the wagon rolled majestically to a halt.”

Dr. Wernher von Braun stands in front of a Saturn IB launch vehicle at Kennedy Space Flight Center.



engineering from the Berlin Institute of Technology in 1932 at the age of 20 and his Ph.D. in physics two years later from the University of Berlin, where he studied liquid-fueled rocket engines. Around that time, he became involved in the Verein für Raumschiffahrt (rocket society), according to a biography by the NASA History Division.

Also in 1932, he began building rockets for the German army. He was a part of what was dubbed the "rocket team," which operated at a secret laboratory at Peenemünde on the Baltic coast, and was responsible for developing the V-2 ballistic missile—which flew at speeds in excess of 3,500 miles per hour—for the Germans during World War II.

Making him somewhat of a controversial figure, von Braun joined the Nazi party in 1937. He says he was pressured to do so.

"I was officially demanded to join the National Socialist Party. At this time [1937] I was already technical director of the Army Rocket Center at Peenemünde ... My refusal to join the party would have meant that I would have to abandon the work of my life. Therefore, I decided to join. My membership in the party did not involve any political activities ..."

In a letter to author R.W. Reid, he also said:

"With the tight press censorship imposed by Hitler, the abuses of his regime were not nearly as visible to the average German ... I never realized the depth of the abyss of Hitler's régime until very late. ... While right from the beginning I deeply deplored the war and the misery and suffering it spread all over the world, I found myself caught

in a maelstrom in which I simply felt that, like it or not, it was my duty to work for my country at war."

After being arrested by the SS for "crimes against the state" (for reportedly saying the war was not going well) in 1944, and then released, von Braun led the surrender of 500 of his top rocket scientists to the Americans before the Allied capture of the rocket complex. A team of American scientists was dispatched to the complex to collect documentation and missile components. Von Braun and his men were brought to the United States in a transfer known as "Project Paper Clip."

The men were transferred to Fort Bliss, Texas, where they were not allowed to leave the installation except with a military escort. They sometimes referred to themselves as "PoPs," Prisoners of Peace, according to the Marshall Space Center biography. Nearby, in White Sands Proving Grounds, in New Mexico, they worked with American associates to refurbish and launch some of the V-2s that had been shipped in from Germany.

During this time, von Braun mailed a marriage proposal to his first cousin, Maria von Quistorp. In March 1947, they married in a Lutheran church in Germany. Their first child, Iris, was born at Fort Bliss Army hospital in December 1948, later to be followed by Margit and Peter.

Dr. von Braun surrenders to U.S. Army Counterintelligence personnel of the 44th Infantry Division in Ruetten, Bavaria on May 2, 1945. Left to right are Charles Stewart, CIC agent; Dr. Herbert Axster; Dieter Huzel; Dr. von Braun (arm in cast); Magnus von Braun (brother); and Hans Lindenberg.

"My refusal to join the [Nazi] party would have meant that I would have to abandon the work of my life. Therefore, I decided to join."





In 1950, the team moved to the Redstone Arsenal near Huntsville. Five years later, von Braun became a U.S. citizen. It was in Huntsville that his team built the Jupiter ballistic missile, which successfully launched the Western Hemisphere's first satellite, *Explorer 1*, in 1958. America's space program had been born.

"He was an instant hero," writes author Diana Semler, who in a biographical article describes von Braun as "a social charmer who hated to get up early and got his best ideas at midnight." Semler goes on to say, "This tall, blond genius not only had an unquenchable enthusiasm for space flight but also played the cello and piano. His favorite foods were spaghetti, steak, fish and Chinese food."

NASA opened the Marshall Space Flight Center in 1958 and transferred von Braun and his team there to work for the newly created NASA. Von Braun served as director of the center from 1960 to 1970.

In 1969, von Braun's dreams were realized when a Saturn V rocket developed at Marshall launched the *Apollo 11* crew. Six teams of astronauts explored the moon's surface as part of the Apollo program.

Von Braun moved to Washington, D.C., in 1970 to serve as NASA's deputy administrator of planning. Less than two years later, he retired from NASA to become

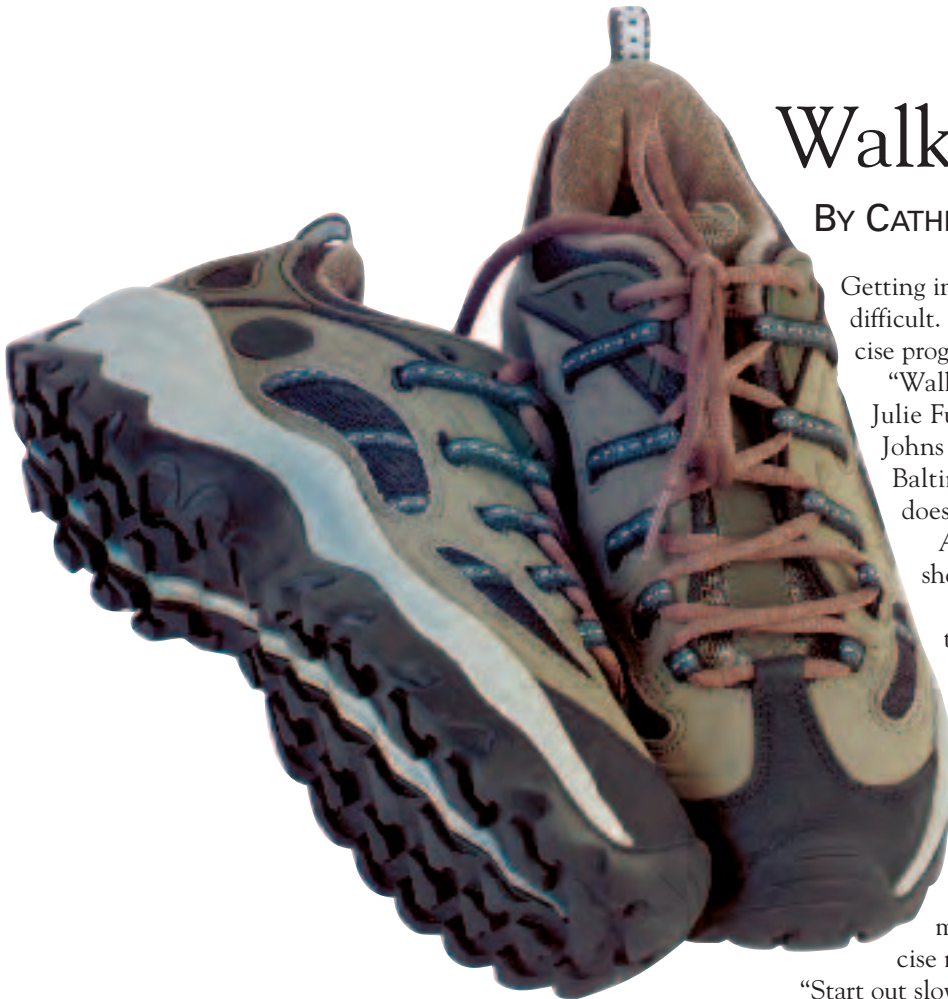
Dr. von Braun (center) explains the Saturn Launch System to President John F. Kennedy. NASA Deputy Administrator Robert Seamans is to the left of von Braun.

vice president of engineering and development for Fairchild Industries, a defense company in Germantown, Md., where he helped establish the National Space Institute, a precursor of today's National Space Society.

In addition to his work at NASA, von Braun left his mark on popular culture, by serving as a technical consultant on three space-related Disney television movies in the 1950s, including "Man in Space." He even appeared on camera in the "science-factual" films, as they were dubbed.

Von Braun died of cancer in 1977 at the age of 65 in Alexandria, Va., leaving behind a great legacy.

"There have been ups and downs, feasts and famines, and stop-and-go progress," von Braun wrote of his more than 30-year career. "But through the years there has always been a singleness of purpose, a certain consistency, that has guided my efforts and those of my teammates. And while for many years, and on two continents, the more immediate task ... was to build rockets as weapons of war, our long-range objective has remained unchanged to this very day—the continuous evolution of space flight."



Walking for Fitness

BY CATHERINE PIERRE

Getting in shape doesn't have to be complicated or difficult. In fact, when it comes to starting an exercise program, easy may be better.

"Walking is a great way to start exercising," says Julie Funderburk, an exercise physiologist at Johns Hopkins Weight Management Center in Baltimore, Md. "It's simple, low-impact, it doesn't require equipment, and it's natural."

All you need is a good pair of supportive shoes, some comfortable clothes, and a plan.

If you want to start a walking program, there are two ways to go about it, Funderburk says. The first option is to create a walking routine: Figure out what time of day is best for you and where you'll go—around your neighborhood if there are sidewalks, a local school track, a treadmill, or even the mall—and plan to take a walk every day, if possible. (The U.S. Surgeon General recommends 30 minutes or more of moderate intensity exercise most days of the week.)

"Start out slowly," Funderburk suggests. "If you've never done a walking program, start out with five- or 10-minute walks. If you've already been walking, try 30 minutes."

Simple Steps to Reach 10,000

Increasing the number of steps you take each day doesn't necessarily require a big time commitment, or even a trip to the track. "Be aware of what you're doing each day," says exercise physiologist Julie Funderburk. "Think, 'How can I make this more active?'"

AT HOME:

- Put that leaf blower back in the garage; raking leaves is a great form of exercise.
- Instead of spending money on a housecleaner, grab the mop and get to work.
- Don't carry all of the grocery bags into the house at once; more trips to the car mean lots more steps.
- If you're watching television, do something at every commercial: Change the laundry, carry those shoes up to the bedroom closet; tidy up the living room.

AT THE OFFICE:

- Instead of e-mailing a colleague, take a trip to his or her office for a face-to-face conversation instead.
- Skip the elevator, use the stairs.
- Decide to use a restroom on a different floor to get in a few extra flights each day.

OUT AND ABOUT:

- Walk to the store instead of driving, or if you have to drive, park farther away.
- Don't just sit there! If you're at the airport, walk around the terminal while you're waiting for your flight.
- At your kid's soccer game, do some laps around the field—you can still keep an eye on the game.

She adds that even if you're very busy, you should get a minimum of three walks a week. If you don't have a 30-minute break, try five minutes three times a day. It all adds up.

The other option is to get a pedometer and aim to walk 10,000 steps a day, or about five miles. "That sounds like a lot," Funderburk says, "but when you add up all the little activities, it's not as difficult to reach as people would think."

Pedometers are a very good motivational tool, says Funderburk. "You start to get used to watching how many steps you take. You may get to a point in the day when you look at it and say, 'Uh-oh. I've only walked this many steps.'"

If you want to go this route, wear the pedometer for one week without making any changes to your daily routine. That will give you your baseline number. Then, each week, aim to increase your steps by 10 percent.

"Some studies show that a typical inactive adult is going to take 3,000 steps a day," Funderburk says. "So the next week, we'd shoot for 3,300. The week after that, 3,600. If you set your goals too high, you could be setting yourself up for failure. Think of your short-term goals as adding 10 percent each week, and your long-term goal as getting to that 10,000."

Whichever option you choose, drink lots of water to stay hydrated, and make sure you're eating a healthy diet. The combination of good food and good exercise will make getting in shape a walk in the park.

Keep it Up!

Sometimes the walking is easy, it's staying motivated that's hard.

Exercise physiologist Julie Funderburk offers these tips:

- Set goals that you can attain. And don't be afraid to readjust them if you need to—it's better than giving up!
- Find ways to make your walk fun. Bring a friend with you, listen to music or, if you're walking on a treadmill, tune in to your favorite TV show.
- Keep records of how far you've walked and how you feel; that way you can track your progress.
- Vary your routine as much as possible. Taking the same walk every day is a recipe for boredom. See if your neighborhood has a walking trail or a greenway.

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GERMANY

Going to

Germany—it's the land of beer, bratwurst and Mercedes Benzes, right? Well, sure. But it's also a country celebrated for its dazzling mountain scenery, meticulously preserved castles, and a deep appreciation for art and culture. Add to that a long and compelling history, some fine wine and the 2006 World Cup soccer tournament, and you've got the potential for a great vacation.

A country half the size of Texas with 82 million people, Germany lies in the heart of Europe and shares borders with nine other countries. Comprised of 16 states, the country offers every kind of setting, from gleaming modern cities and restored medieval towns, to bustling harbors and the Black Forest. Germany boasts world-class art museums in all its major cities, a music scene with equally dynamic classical and contemporary modes, and the invigorating aura of an energetic people who play almost as hard as they work.

IT'S MORE than just bratwurst.
Visitors to Germany find
world-class sports,
enchanted castles
and cosmopolitan cities.

by Catherine Pierre, with Theodore Fischer

BERLIN

Split down the middle during the Cold War era, Berlin is once again the capital of a reunited Germany. With a population of 3.5 million, it is a vast city: Germany's next three largest cities—Munich, Frankfurt and Hamburg—could fit within its borders.

As the east side of the city opens up, this is a fascinating time to wander its streets and take in its history. Many of the city's buildings and monuments still bear the scars of World War II air raids. Gleaming new skyscrapers sprout up where the older buildings were reduced to rubble. Potsdamer Platz, one

of the busiest squares in Europe before the war, is now being reborn as Berlin's commercial district, with stunning new architecture including Hans Kolhoff's Potsdamer Platz No. 1 and Helmut Jahn's Sony Center.

Many of Berlin's attractions hearken back to its dark history. Brandenburg Gate, built in 1791, epitomizes much of the city's past: Napoleon's army marched through it; so did Hitler's; during the Cold War it was a cordoned-off section of the Berlin Wall.

Though the Wall came down in 1989, one graffiti-covered section still stands along Mühlenstrasse, and a brick pathway traces what was once its route around the city. Checkpoint Charlie, the border crossing celebrated in so many spy novels, retains its original Cold War signage. A museum at the site recounts the many heartbreaking stories of East Berliners' attempts to escape to the freedom of the West. Exhibits include the flying, driving and smuggling devices they invented for their

Photos: Germany's Black Forest region (previous page). Left to right below: Brandenburg Gate, Berlin Television Tower ("telespargel"), a still-standing section of the Berlin Wall known as the East Side Gallery (top), Potsdamer Platz (bottom), Checkpoint Charlie.



When To Go

Germany has a temperate climate with four distinct seasons, all of them relatively mild. Daily high temperatures average no higher than the mid-70s Fahrenheit (22-23 degrees C) in summer, with frequent rainy and overcast days, especially in northern Germany. Winter temperatures average in the mid-30s F (0-2 C) although it can get much colder in the Alps and Germany's Black Forest region.



(often unsuccessful) crossings, as well as an explanation of just how far the government would go to stop them.

On a lighter note, the Television Tower (nicknamed “telespargel” or “television-asparagus” because of its odd shape) was built in 1969 and was a symbol for East Berlin. At 368 meters, it is one of the tallest structures in Europe. At the top is a revolving restaurant that, on a clear day, offers unrivaled views of the city in all directions.

Despite the weight of the past, Berlin is a lively and cheerful city with great shopping, restaurants and night life. Europe's largest department store,

KaDeWe, is on the Kurfürstendamm, a gracious 19th-century boulevard. Berlin's other great thoroughfare, Unter den Linden (Under the Linden Trees), is a former imperial mall that runs from Brandenburg Gate through the renewed shopping districts of the city's east side.

HAMBURG

The 1,200-year-old city of Hamburg, located on the Elbe and Alster rivers, is famous for its port, one of the largest in Europe. The city's many canals and waterways make boating one of the favorite pastimes here, and a harbor tour is a great way to get an

up-close-and-personal tour. Highlights include the Fish Market, which dates to 1703 and is the oldest open-air market in the city, and the Oevelgönne historic harbor, a fleet of 20 beautifully restored historic ships.

The people of Hamburg know how to have fun, and the city is renowned for its theater district—next to New York and London, this is one of the most important stops for musicals—with literally hundreds of theaters, concert halls and music and cabaret venues. There is also the St. Pauli district, the place to go to experience Hamburg night life. Full of bars, discos, shops and restaurants, St.



Pauli is also the home of the Reeperbahn, the red-light district where the Beatles performed in the '60s.

MUNICH

Munich is Germany's third largest city (after Berlin and Hamburg) and, after Berlin, its second most popular visitor destination. The capital of the southern state of Bavaria, Munich is a (comparatively) laid-back city known for tree-lined boulevards and jaunty blue-and-cream-colored trams.

The heart of Munich is Marienplatz, a midtown square built around a statue of the Virgin Mary, Munich's patron

saint. (München, the city's German name, means "monks.") Enameled copper characters in the glockenspiel in the square's Neues Rathaus (New City Hall) perform dances to ward off the plague and enact a wedding daily at 11 a.m., noon and 5 p.m.

Munich's great houses were built by the Wittelsbach family, Bavaria's rulers for 700 years. In town, they inhabited the Residenz, where the family's collection of rare items made of precious metals and stones is on display in the

Schatzkammer (Treasury). Four miles west of the center of the city, Schloss Nymphenburg summer palace admits the public to 16 of its ornate rooms and the Royal Stables Museum filled with gilded coaches.

Of course, Munich is also home to the vast beer halls that each year host the world-famous Oktoberfest, which takes place this year from September 16 to October 3. The festival dates back to 1810, when Bavaria celebrated Prince Ludwig I's wedding. Now, more than 6

Photos left to right: Munich beer hall during Oktoberfest (top), Munich Town Hall (bottom), Neuschwanstein Castle in Bavaria.



million visitors flock to Munich each year to enjoy the festivities, consuming more than 1 million gallons of brew—including dunkle (dark), helles (light) or Radler (half beer, half lemon-lime soda). Whatever your pleasure, all German beer (by a law established in 1516) is made with only four ingredients: malt, water, hops and yeast.

Get away from Munich for a trip to Neuschwanstein, a Disney-esque fairy-tale castle that is Bavaria's most popular tourist attraction. It took Ludwig II—the “Mad King of Bavaria”—more than 17 years (1869-86) to build the castle, which honors German chivalry



INDUSTRIAL STRENGTH

By Theodore Fischer

Germany's prosperity is founded on diligence and industry. Here are attractions that demonstrate German ingenuity and engineering prowess.

Brauerei Beck (Beck Brewery), Bremen.

Guided tours of brew house, stables and museum of internationally renowned beer in the familiar green bottle.

Gutenberg Museum, Mainz. Exhibits in the reconstructed workshop of Johannes Gutenberg (1394-1468) trace the history of printing. Highlights include Gutenberg's original hand press and two Gutenberg Bibles.

Imhoff-Stollwerck Museum, Cologne.

Presents saga of chocolate-making history around the world; the exhibit includes a miniature chocolate factory and a fountain dispensing free samples.

Mercedes-Benz Museum, Stuttgart.

The first Mercedes (1902) and the first motor-bicycle are on display at the museum, located near the world's oldest automobile plant. Also in Stuttgart: the Porsche Museum.

Speicherstadt, Hamburg.

The world's largest self-contained warehouse complex (447,000 square yards of floor space) on the Hamburg waterfront is an area of canals and Victorian buildings where industrialists store goods tax-free until the price is right. The on-site Speicherstadtmuseum tells the story.

Staatliche Porzellan-Manufaktur (National Porcelain Factory), Meissen.

Extremely popular guided tours of Meissen porcelain studios and workshops. The nearby Schauhalle displays the world's largest Meissen porcelain collection.

Wutachtalbahn, Blumberg, Black Forest.

Convuluted steam railway line with horseshoe curves, three long viaducts and five tunnels built in late 1880s to move German troops to the French front.





Garmisch-Partenkirchen, Germany's most popular ski resort.

ROADTRIPS

By Theodore Fischer

Germany's intercity autobahns have no speed limits, but sometimes it's more fun to get into the slow lane for a leisurely look at the German countryside:

Romantic Road (Romantische Strasse) -

A drive through medieval Germany, the Romantic Road winds from Würzburg in the Franconian wine country to Füssen on the edge of the Bavarian Alps, past a series of picturesque towns: Rothenburg, Germany's best-preserved walled city; Dinkelsbühl, a medieval town surrounded by a moat; and Augsburg, a 2,000-year-old center of commerce. (180 miles)

Fairy-Tale Road (Märchenstrasse) -

The Brothers Grimm tour of northwest Germany begins outside Frankfurt at Hanau, the brothers' birthplace. The road hits Kassel, site of the Bruder Grimm Museum; Sababurg, where the Sleeping Beauty legend originated; and Bremen, where the eponymous town musicians dwelled. (370 miles)

German Alpine Road (Deutsche

Alpenstrasse) - Enjoy breathtaking views of the mountains, lakes, forests and castles of the Bavarian Alps. Highlights include the medieval village of Berchtesgaden; the famous spa towns Bad Reichenhall and Bad Wiessee; the 9,720-foot Zugspitze, Germany's highest peak; Mittenwald, a quintessential Bavarian resort town; Garmisch-Partenkirchen, Germany's top ski resort; and Lindau, on the shores of Lake Constance (Bodensee). (300 miles)

Mosel Valley Road -

Follow this Rhine tributary through Germany's wine country, with tasting stops at the wine village of Cochem; the medieval wine town Beilstein; Zell an der Mosel, which produces Schwarze Katze (Black Cat) wine; colorful Bernkastel-Kues—to Trier, Germany's oldest city. (120 miles)

and composer Richard Wagner. Alas, Ludwig died after having lived in his new home for only 172 days.

Fans of football—or soccer to our American friends—will want to be in Munich on June 9 for the 2006 FIFA World Cup opening ceremony, which will take place in the new FIFA World Cup Stadium. The tournament is coming to Germany for the first time in 32 years. Matches will take place in a number of cities, with the final at Berlin's Olympiastadion on July 9.

FREIBURG

Founded in 1120, Freiburg balances its stunning medieval architecture with a cosmopolitan university-town atmosphere. Perhaps the most famous site here is the gothic cathedral, called the Münster; which took more than 300 years to finish (in 1513). Climb to the top of its striking, 381-foot tower for gorgeous views of the historic Old Town; the former customs and trade building, called the Kaufhaus; and the two medieval city gates.

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Located in Southern Germany, Freiburg has a warm climate and is one of the country's sunniest cities—which is good, because its location just outside of the Black Forest makes this a great place to enjoy the great outdoors. With mountain ranges, natural and manmade lakes, and vast meadows and woodlands, the Black Forest is one of the most popular places for Germans and tourists alike to come for skiing, hiking, water sports and scenic drives.

For day trips, travel northwest to the Kaiserstuhl region of the Rhine River Valley, where the warm weather and good soil make an excellent place to grow grapes for wine. You'll find beautiful old towns here, as well as wineries and wine bars. Freiburg is also part of the “cultural triangle,” where Germany, France and Switzerland meet, making this a great home base for day trips to those areas.



FRANKENSTEIN'S CASTLE

Located in Darmstadt, the castle made famous by Romantic writer Mary Shelley was No. 2 on the Travel Channel's list of “Best European Castles” this year. Its most famous inhabitant was Johann Konrad Dippel von Frankenstein, an 18th-century alchemist who, according to legend, tried to create a new human from body parts he stole from local cemeteries. A trip to Darmstadt should include visits to Mathildenhöhe artists colony and Rosenhöhe Park (a rose garden), but best to go at Halloween, when the castle holds its annual bash to celebrate Frankenstein's monster.

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Ignoring Pressure or Temperature Ratings Can be Dangerous—or Deadly

BY PHIL KIMBLE

A freshly paved road is a beautiful thing. It makes the daily commute to work less stressful or the family vacation more enjoyable. However, age, weather and traffic all take their toll. Cracks appear. Ripples form. Potholes spring out of nowhere. The road that was once a pleasure to traverse is now an unsettling adventure.

BAND CLAMPS - DO AND DON'T



DO:

- Offset buckles around hose to eliminate "straight line leak."
- Mark intended clamp positions on hose casing.

DON'T:

- Align buckles
- Neglect to mark hose indicating proper band placement.



We're all familiar with the orange cones and lane closure signs that often signal traffic jams, elevated frustration levels and a long commute. To the road repair crew, it's just another day on the job. To fill cracks and potholes, various combined materials are used to fill the void and then sealed and bonded with hot tar that is sprayed onto the area. It is then packed down with a hand tamper or a mechanical roller.

The tar starts in solid block form and is put into a portable "tar pit" to make it into a liquid. This "tar pit" consists of a kettle that holds the tar, a burner to heat the tar to liquid form, a pump, a length of hose and a spraying wand. Tar, even when heated, is a thick viscous product. If mishandled, it can even turn lethal.

On a summer day, a road repair crew was out doing its job but, for various

reasons, was way behind schedule. The supervisor was intent on bringing his crew back on schedule and, if his idea worked out, even pushing his men ahead of schedule. He determined that the bottleneck was the rate at which the tar was being applied to the aggregate. If the tar could be sprayed more quickly, then the repairs would be finished faster.

The first thought was to increase the output on the pump supplying the tar to the spraying wand. This helped some, but not as much as hoped. The next thought was that because tar is thick, if it were hotter it would flow easier. If 250 degrees Fahrenheit works fine under normal use, then 500 degrees would make the tar flow twice as fast. The supervisor increased the output of the burner as high as it would go. With the increased pump pressure

and hotter tar, the repairs progressed rapidly. For a while.

The hose ruptured just behind the coupling that connects the pump to the wand. Luckily, the wand operator was wearing all of his protective gear, but even with this precaution, some tar got into one glove, leaving him with second- and third-degree burns on his forearm and hand.

The temperature of the tar, estimated to be between 450 and 475 degrees, exceeded the maximum temperature rating of the hose. Know the limitations of the component parts to a system. Follow the manufacturer's operating recommendations. If uncertain, call the manufacturer. Never exceed the maximum pressure rating or the maximum temperature rating of either the hose or the couplings. Doing so can lead to painful, if not deadly, results.

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Happiness Is a Choice

BY MICHAEL JOSEPHSON

In a "Peanuts" cartoon, Lucy asks Charlie Brown, "Why do you think we were put on earth?" Charlie answers, "To make others happy."

"I don't think I'm making anyone happy," Lucy replies, "but nobody's making me very happy either. Somebody's not doing his job!"

Charlie talked about life in terms of giving, while Lucy only thought about getting. I know a lot of people like Lucy. Preoccupied with getting and having, they are so aware of what they don't have that they never enjoy what they do. They live in an "if only" world, always at least one step away from happiness. "If only I could get this raise, make this sale, pay off my debts, win this game, I'd be happy."

Dennis Prager, in his book *Happiness Is a Serious Problem*, argues that human nature itself impedes our ability to be happy. He claims that children learn to demand "more" as soon as they begin to communicate, and that the desire for more can never be satisfied because the more we have, the more we want.

Abraham Lincoln, who was prone toward depression, said, "A person is generally about as happy as he's willing to be." He understood that happiness is a way of looking at your life. It's about choosing good feelings over bad, positive attitudes over negative ones, and gratitude over greed. Thus, people who are poor, ugly, and in ill health can be considerably happier than people who are rich, beautiful, and healthy—because they choose to be.

Happiness is not getting what we want; it's learning to want what we get.

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