

the
**Henry
Ford**

Gain perspective.
Get inspired.
Make history.

MAGAZINE

JUNE-DECEMBER 2013

IN GOOD HANDS

Will Allen asks
communities to
grow food and
watch kinship
follow

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OF PRESIDENTIAL
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DO HUMANS
HAVE THE CHOPS
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Together We Are

GROWING POWER

ALSO INSIDE ▶
MAKER MARK HATCH
JULIAN BOND AND
THE RIPPLE EFFECT
LEARNING FROM
DOROTHEA GILLIM

LOVE
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Will Allen, the celebrated guru of urban agribusiness, says grow food and watch communities thrive



ROY RITCHE



COURTESY OF POLARIS DEFENSE

ON THE COVER
"Give me a handful of worms today ... and I can build you a system as big as you want." — Growing Power's Will Allen on vermicomposting

JFK REMEMBERED

NOVEMBER 18-22, 2013
This year marks the 50th anniversary of President John F. Kennedy's assassination on November 22, 1963. The Henry Ford will reflect on this significant date in American history with special programming November 18-22, 2013, in Henry Ford Museum. An evening lecture with Secret Service agent Clint Hill (pictured at right climbing on JFK's limo) is scheduled for November 19. See Page 61 for additional details.



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▶ At approximately 12:30 p.m. on November 22, 1963, shots were heard on the streets of Dallas, a frantic presidential motorcade was seen speeding away and a nation was soon forever changed.

AP IMAGES



Behind the Scenes

Who We Are and What We Do

Gain perspective. Get inspired. Make history.

ABOUT THE HENRY FORD

The Henry Ford in Dearborn, Michigan, is the world's premier history destination and a national historic landmark that celebrates American history and innovation. With an unparalleled collection of authentic artifacts that changed the world and the stories of some of the greatest innovators that ever lived, The Henry Ford is a significant educational resource for understanding America's history of innovation, ingenuity and resourcefulness. Its mission is to use its assets to inspire future generations to help create a better future.

The institution's collections comprise 26 million authentic artifacts and documents, including Thomas Edison's Menlo Park laboratory, the bus on which Rosa Parks refused to give up her seat, the Wright brothers' home and cycle shop and R. Buckminster Fuller's Dymaxion House.

Five distinct attractions captivate and inspire more than 1.5 million visitors annually: Henry Ford Museum, Greenfield Village, the Ford Rouge Factory Tour, the Benson Ford Research Center and The Henry Ford IMAX® Theatre. The Henry Ford is also home to Henry Ford Academy, a 500-student public charter high school.

On thehenryford.org, find an extensive public digital collection and online editions of *The Henry Ford Magazine*, along with access to oninnovation.com where a series of online educational resources is available.

The Henry Ford is an independent nonprofit organization. By supporting The Henry Ford, you are supporting programs that connect and inspire the stories we share as Americans. Donate online at thehenryford.org/support.

The Henry Ford provides a unique cultural environment, both educational and inspirational, designed to effect positive change in the world by fueling the spirit of American innovation and inspiring a "can-do" entrepreneurial mindset and culture.

OUR CONTRIBUTORS



CYBELLE CODISH is an award-winning photojournalist and has traveled the globe as a tour and editorial photographer. Her work has been featured in *Rolling Stone*, *Martha Stewart Living* and *Spin*, among others. Her work has recently been displayed at the Smithsonian National Museum of the American Indian in New York and the National Geographic Museum in Washington, D.C.

How Our Garden Grows,
Page 7



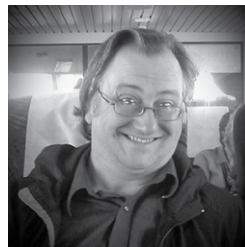
CLARA MOSKOWITZ is a longtime space geek who loves writing about science and space flight. She studied astrophysics at Wesleyan University and earned her graduate degree in science journalism from the University of California, Santa Cruz.

Cosmos Commuters, Page 28



ROY RITCHIE is a Detroit photographer who shoots advertising and editorial with a client list that includes *Bloomberg*, *Car and Driver*, *HOOR Detroit*, *ESPN*, *TIME* and *Fortune*. He has been featured in *Communication Arts* photo annual and *Applied Arts* photo annual for the last three years.

OnInnovation, Page 34



DAVID SZONDY has been writing for more than 30 years on almost every topic in every medium. He has incredibly itchy feet and spent most of his life wandering the globe looking for new things to learn and write about. Though he still travels, he has come to prefer writing stories that involve staying in hotels rather than tents without room service.

Turning Point, Page 22



WENSDY VON BUSKIRK is a freelance writer whose articles have appeared in *Marie Claire*, *Modern Bride*, *HOOR Detroit* and the *Detroit Free Press*, among many other newspapers, magazines and online sources.

How Our Garden Grows,
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Hungry for Some History?
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Letter from the President

Casual Thoughts and Serious Correspondence

Henry

Ford believed in the power of real things to inspire, inform and engage people in ways no image or description could do on its own.

He believed that history mattered. That it could move people to think, to act. It could provoke and ask us to imagine a better future.

I agree. History does matter. And at The Henry Ford, we are so privileged to afford our visitors a place to see, feel, be immersed in the stories, moments and accomplishments of America's history – of ordinary people doing extraordinary things. In fact, let me make an important distinction: We are not just “a” place, we are “THE” place.

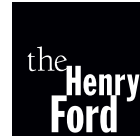
We impact people every day – whether it's a 10-year-old boy, the designers of the famed Herman Miller Aeron office chair or the president emeritus of the NAACP speaking in Henry Ford Museum on the National Day of Courage.

At our core, we want to inspire every visitor to take what they learn about history and why it matters, and do something with it for the future. We want them to learn those important lessons of the past. We want them to eagerly consume priceless nuggets of information about the doers, thinkers, creators and change agents we showcase here. Most important, we want them to take it forward through their own visions and dreams.

It's really up to all of us to see, in our mind's eyes, what we can create, how we can make a difference, create a solution and change the world.

At The Henry Ford, we feel incredibly fortunate that we can offer such magnificent assets and be a part of the enormous opportunity to move our country, our world, forward.

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► The Henry Ford President Patricia E. Mooradian (center), moderator Darlene Clark Hine and The Henry Ford past President and current Trustee Steven K. Hamp discuss the acquisition and restoration of the Rosa Parks Bus during the National Day of Courage events held in Henry Ford Museum in February 2013.



GARY MALERBA

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Ideas in Action

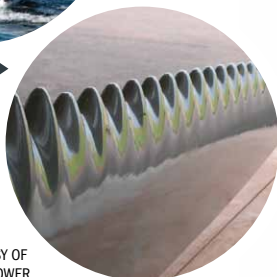
A Sampling of Cool Inventions and Crazy Notions

HOW NATURE CAN INSPIRE INNOVATION

From tiny burrs to big whales, Mother Nature can inspire sustainable solutions to human problems.

WIND AND WHALE

One day, a professor of biology was struck by a sculpture of a humpback whale and questioned why it had bumps on the fins. Today, those whale bumps, called tubercles, are translating to more efficient wind turbines. Putting tubercles across the leading edge of a wind turbine blade reduces noise, increases stability and enables the turbine to capture more energy from the wind.



COURTESY OF WHALEPOWER

LEG UP

When a team of engineers at NASA's Jet Propulsion Laboratory had to figure out one of the biggest challenges for future space expeditions — how to attach to a zero-gravity rocky surface without drilling permanent anchors — they turned to the cockroach leg for inspiration. Cockroaches have grasping spines on their legs that allow them to crawl around just about anywhere, on any kind of terrain.

LET'S STICK TOGETHER

In 1941, Swiss engineer George de Mestral was hunting and noticed his pants were covered with burdock burrs. He wondered how the seedpods could hold on and took to his microscope, examining the burr's "hooks" and how they clung to fabric. Eight years later, de Mestral patented Velcro, his now famous hook-and-loop fastener.



REINVENTING THE WHEEL

Tires are round, hexagons are not. But what if you had a tire composed of a series of hexagons, a bit like a honeycomb built by a colony of bees? Tech and tire companies are partnering to study the strength and flexibility in structure of the honeycomb-inspired tire, which can withstand great payloads. Best of all, no more flat tires.



COURTESY OF POLARIS DEFENSE



SWIFT SKIN

When researchers at Speedo were looking to create a new line of suits that could help swimmers cut through the water with ease, they looked to the mighty man-eaters of the sea — sharks — for ideas. A shark's skin is covered with dermal denticles, tiny, flat, V-shaped scales that decrease drag and turbulence, creating a faster, quieter swim for the big fish.

How Our Garden Grows

From heirloom vegetables in the Ford Home Kitchen garden to colorful blooms at the Martha-Mary Chapel garden (a favorite spot for weddings), you'll find a lush garden variety in Greenfield Village. You can even unearth themed merchandise at The Henry Ford gift shops.

The Liberty Craftworks District, where Greenfield Village artisans make glass, pottery and tin handcrafts, has its own garden — the village's only cultivated wetland — full of cattails, water irises and native grasses. The Garden Collection Raindrop vase (\$100) and bowl (\$60), and assorted mini ceramic bowls and pots (\$12 each), are crafted by Greenfield Village glassblowers and ceramic artisans.

Robin Goodfellow's jewelry (on book) is decidedly influenced by nature. Here, a necklace (\$59.99), bracelet (\$79.99) and adjustable ring (\$19.99) are made from rhinestones, pearls, crystals, glass and metal beads.

Available products can be purchased at the Henry Ford Museum Store. Glassware is also sold at the Liberty Craftworks Store, and daily glassblowing demonstrations are held at the Greenfield Village Glass Shop, mid-April to November.



ONLINE visit giftshop.thehenryford.org

A Word or Two

Defining People, Places, Pastimes

Matter

[MAT-ER] N., V.

When you're in a scientific mindset, it's everything around us. When you're not, it's why something is important to us — like history, playtime or reading the pages of this magazine.

PAGE 5

Motorcade

[MOH-TER-KEYD] N.

A procession of luxury limos or, in the case of our commander in chief, an armored oasis on wheels.

PAGE 23

NICKNAMES OF PRESIDENTIAL LIMOUSINES

THE BEAST President Obama

SUNSHINE SPECIAL President Franklin Roosevelt

BUBBLETOP President Eisenhower

Vitesse

[VEE-TESS] N.

Translated French to English, we're talking about speed. The hair-blowing, take-your-breath-away, 200-mph rate of movement of high-speed rail.

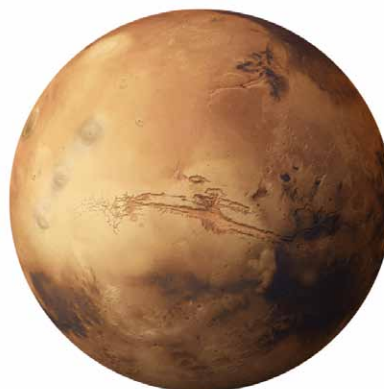
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Crowdfunding

[KROUD-FUHND-ING] N.

When peeps use the Internet to pool their little bits of money together and get big things done.

PAGE 14



Colonization

[KOL-UH-NAHYZEY-SHUHN] N.

The spread of a species into a new habitat. In today's hot topics, humans are the species and Mars is our new habitat.

PAGE 30



Vermicompost

[VHER-MIH-KHAM-POHST] N.

This is what you get when you mix worms with a little dirt and feed them that squishy banana you refused to eat for lunch. Helps farmer Will Allen grow good food.

PAGE 34





► Kids can play mechanic and put on a car tire in *Driving America's Texaco Station*.

WHY DOES **PLAY** MATTER?

“Go out to play” is probably some of the best advice you received from your parents. Playing is a way to explore our environment and understand relationships, to dream of possibilities and learn to be happy. Play, where there is no wrong or right answer, no rules. No one is telling you what to do or how to do it. Where you could be building a tree house or setting up a fort for make-believe and to have fun. Where the journey is yours to take and create.

I’m reminded of Steve Wozniak, creator of the Apple II computer and a playful innovator. Through his incessant tinkering, Steve figured out how to create a “cheap” personal computer with a color screen because he wanted the world to engage in games, work and play on a computer. Being playful is a part of his essence and process. Before he created a paradigm-changing computer, Steve did not have a drawn-out, engineered plan. He did have an idea of trying different chips and using as few parts as possible, and he kept playing around with different ways to configure the

parts and codes until he created the Apple II system, which, utterly altered the way we work and live.

At The Henry Ford, we feel the same way about play. In Greenfield Village, we watch kids run with a hoop, make a candlestick and have the kind of fun that inspires ideas and innovation. This year, we are adding even more opportunities for unstructured play, installing a playscape reminiscent of an early 20th-century construction site where possibilities for dreaming and having fun are endless. We encourage kids to tinker in our *Driving America* exhibit, fixing a car, putting on a tire. We ask visitors to join us for our *Tinker. Hack. Invent.* programs each month, where kids — and maybe a few adults — just enjoy figuring out for themselves how things work.

Play. It matters because it inspires our imagination. When we change our environment, get our hands dirty and leave structure behind, it causes creativity. And, let’s be honest, playing is just a great deal of fun. **CHRISTIAN W. ØVERLAND**

CHRISTIAN W. ØVERLAND is the executive vice president of The Henry Ford. Øverland also speaks and publishes on the topics of museums, American innovation and design, as well as community development. He enjoys playing Risk as well as making swing sets, playhouses and water balloon catapults with his wife and children. He also recommends, for further reading on the importance of nature and play for our youth, Richard Louv’s *Last Child in the Woods*.

Turn it **ON**

Explore *The Henry Ford's Destination*
for Enthusiasts of All Kinds

CHANNEL YOUR INNER ENTHUSIAST

COMING LATE SUMMER 2013

Really into autos? Inspired by great design? Dream about all things DIY? Whichever makes you all tingly inside, The Henry Ford welcomes you to its new set of six online enthusiast channels.

Here's where you can delve deeper into the intimate details attached to the collections, events and people associated with The Henry Ford. Where content is always fresh, conversations are always engaging and new friends that share your particular passion will be waiting. Best of all, it's free!

SUBSCRIBE > Get set for a true adventure when you subscribe to the e-newsletter that speaks to your inner enthusiast. Sign up at www.thehenryford.org/enews.



THF ONWHEELS

for auto and racing ▼
enthusiasts

Got cars on the brain?
So does The Henry Ford.
Welcome to OnWheels, where
all the action is whether you are
a collector, cruiser, gearhead,
racer or restorer.

The 1963 Avanti

The Studebaker Avanti. Owners loved 'em 50 years ago when they were introduced. They are still cherished status cars today.

Designed at a time when even sports cars tended toward the bulky and exuberant, the Avanti was different. It was lean, with minimal chrome and a deliberate lack of decorative flourishes. It was an incredible vehicle, one Studebaker possibly considered as its last hope for survival in an automobile market dominated by Detroit's Big Three (Ford Motor Company, General Motors and Chrysler).

In retrospect, even if the Avanti had been a big hit — sales failed to meet expectations — it's doubtful that one car alone could have saved Studebaker's floundering car business.

Studebaker only built the Avanti for two model years (1963, 1964), with a total production of 4,643 units, but the

sports car's survival rate today is high thanks to its active fans, owners and dedicated associations.

► Studebaker fans mark two significant anniversaries in 2013, the 50th for the Avanti (above) and the 50th for the end of Studebaker's car production in South Bend, Indiana.



THE ONLIVING

for home, holidays and entertaining

Lewis Miller Sketchbook of Watercolor Drawings of Central Park in New York, with Handwritten Notes, 1864

What is wonderful about this 54-page sketchbook is that its artist and author, Lewis Miller, shows daily life in Central Park (circa 1864), including a concert in a gazebo and folks strolling and riding horses.

Lewis, a noted Pennsylvania German folk artist, also annotated every page of this sketchbook with information that he thought significant – for example, trees in a given area, the architectural features present, etc.

Find out more about this masterwork of folk art and why urban, landscape and cultural historians consider it a treasure trove of American life in the 1860s.

THE ONLEARNING

for life-long learning and teaching

Teacher? Thinker? Mentor? Lifelong learner? Unveil a wide variety of online, on-site and off-site educational resources offered by The Henry Ford on the American experience. There's something for all ages.



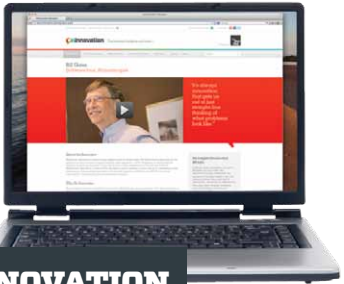
THE ONDESIGN

for design enthusiasts

Ford Rotunda by Philip Lyford, 1933-1934

Ford Motor Company took up a staggering 11 acres for its exhibit at Chicago's 1933-34 Century of Progress Exposition, which was themed around progress to encourage optimism during the Depression. At the center of Ford's space was the central Rotunda, depicted in this oil painting by Philip Lyford. Designed to simulate graduated clusters of gears, the Rotunda put Ford in the spotlight as the most talked-about world's fair exhibit of 1934.

Find out how the six most prominent world's fairs of the 1930s helped introduce thousands of Americans to new ideas, designs, products and more. ▶



THE ONINNOVATION

learn how to think and act like an innovator ▲

Delve into the minds of past and present innovators, from software icon Bill Gates and entrepreneur Martha Stewart to inventor Thomas Edison and civil rights powerhouse Rosa Parks. Look through the lens of innovation and feel empowered on how to think and act like innovators. Visit oninnovation.com now and explore Innovation 101 curriculum at www.oninnovation.com/education.aspx.



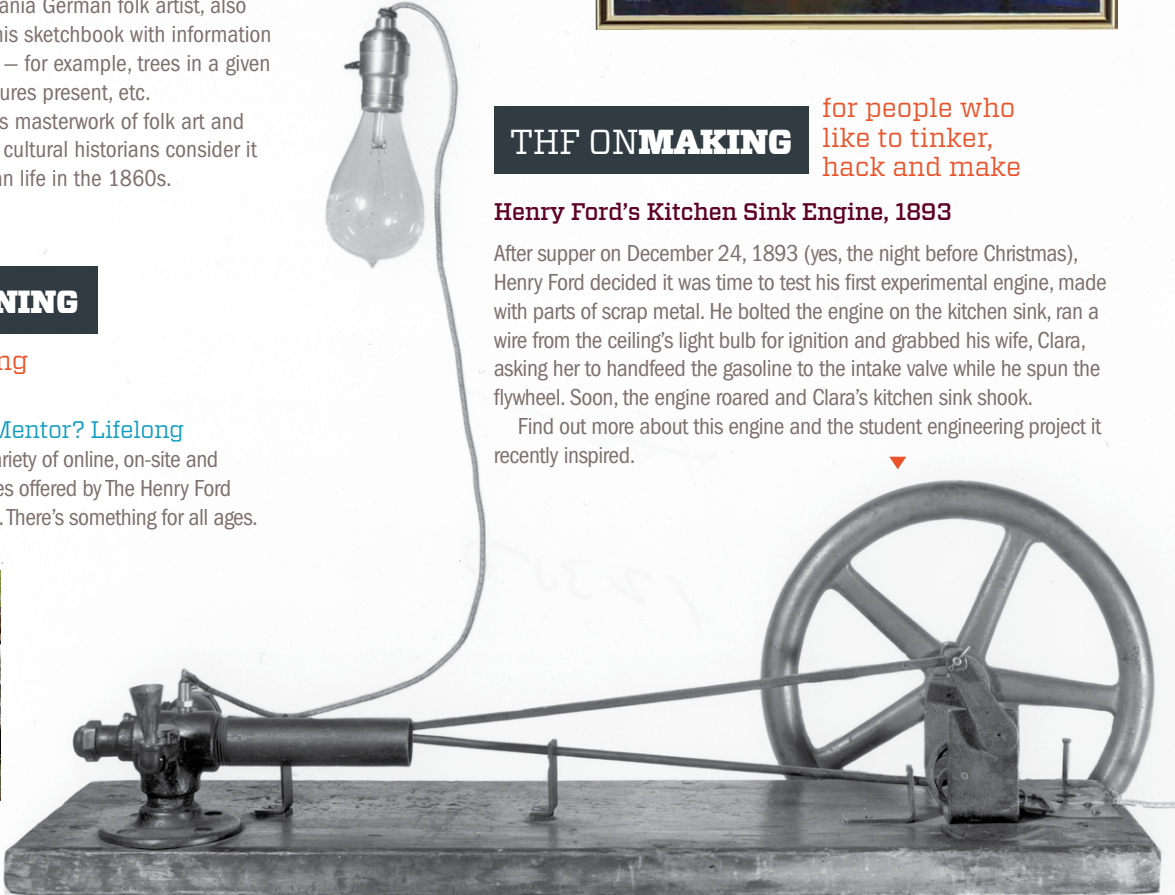
THE ONMAKING

for people who like to tinker, hack and make

Henry Ford's Kitchen Sink Engine, 1893

After supper on December 24, 1893 (yes, the night before Christmas), Henry Ford decided it was time to test his first experimental engine, made with parts of scrap metal. He bolted the engine on the kitchen sink, ran a wire from the ceiling's light bulb for ignition and grabbed his wife, Clara, asking her to handfeed the gasoline to the intake valve while he spun the flywheel. Soon, the engine roared and Clara's kitchen sink shook.

Find out more about this engine and the student engineering project it recently inspired. ▼





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Innovation Nation

Personal stories AND perspectives
from today's forward thinkers

The Henry Ford Magazine recently decided to give some of today's visionaries a pencil and paper and ask them to write about innovation. Unedited and insightful, *Innovation Nation* is a compilation of their viewpoints. In this issue, you'll discover the powerful influence of desire. How what we learn, create, overcome and change can instinctively depend on how bad we really want something. And how we will tirelessly search out the resources we need to achieve our goals.

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→ Technology

Ready to Launch

Meet Laura Bruland, barista by day, roller derby dame (“Chiquita Bonanza”) on weekends, and sole owner and operator of Yes & Yes Designs, a successful jewelry business she built in under a year for less than the cost of a bad coffee addiction.

One day, Laura came into one of our TechShop membership-based, do-it-yourself (DIY), fabrication studios, and learned how to use a laser cutter. She then came up with the idea of using discarded book covers as a material for jewelry designs. Sounds kind of odd, I know, but the jewelry is beautiful. She started to sell her jewelry at fairs and launched an ETSY store online. It started to go well – real well. So well, in fact, she needed to buy her own laser cutter. The cheapest usable versions she could find to do what she needed cost thousands of dollars. So, she launched a Kickstarter crowd-funding campaign, asking family, friends and the Internet to invest in her dream. She raised more than \$8,000 and bought her own laser cutter, which she named Lucky. She is now selling her jewelry all over the world through small retail stores, including the San Francisco Museum of Modern Art MuseumStore.

Laura’s story could be anyone’s story, proving three platforms – TechShop, ETSY and Kickstarter – can destroy the major barriers to launching a business.



JOSEPH SCHELL

As the CEO of TechShop, I’ve been at ground zero for watching this revolution over the past six years. At a TechShop, we have 17,000 square feet of studio space with every tool you need to make just about anything in the world. Really ... almost anything – clothing, jewelry, motorcycles, musical instruments, robots, furniture and even a satellite that went into orbit.

Kickstarter is the largest crowd-funding site on the Internet. It is amazing. You post a project (once it has been approved), socialize the project to your network and then the Internet gives you money. How cool is that? Well, only if it is a good idea and you do a great job like Laura did selling her idea online. Tons of people have raised millions of dollars on Kickstarter.

ETSY is like eBay for makers. If you craft or make something by hand, ETSY is the largest ongoing, online “craft fair” where you can sell it.

So, following in Laura’s footsteps, you can start a business for the cost of some materials (around 200 bucks), a membership at TechShop (\$125 a month) and a laser cutter class (\$60). And fund most of your other costs as you go by selling products on ETSY and using Kickstarter to finance the rest.

And after that, you can buy as much coffee as you want.

What a great time to be alive, learn a skill and start a business.

What are you waiting for? ●



MARK HATCH is chief executive officer of TechShop, one of the leading brands in the “makerspace” business. He has created one of the most vibrant creative communities for hobbyists, engineers, students, entrepreneurs – basically anyone with an idea – by providing affordable access to the tools, software and space needed to bring good ideas to life. In fall 2013, his book, *The Maker Movement Manifesto*, will be available from McGraw-Hill Professional.



High Speed at a Snail's Pace

A few years ago, I had the privilege of riding on the French *tres grande vitesse* (TGV), or high-speed train, from Paris to Lyon. The distance was 265 miles, and the train made it in two hours flat, on time and according to schedule. Its top speed was 170 mph.

What was remarkable was that the passengers with whom I spoke took this matter-of-factly. Indeed, this was no special press run, but one of a whole fleet of hourly TGVs. One passenger reported that she was going to Lyon to do some shopping. Another passenger was en route to a funeral, which he said he wouldn't have attended without the TGV.

As the railroads initially did in the 19th century, high-speed rail is again changing the way people view time and distance. And since my visit, the French have introduced even faster TGVs, running at up to 200 mph. Germany, Japan and China have all also opted for world-class, high-speed rail (150 mph and up) in order to solve transportation problems and preserve mobility.

Here in the U.S., we're content to dawdle.

We demand ever more feasibility studies to show that high-speed rail can be viable in a highway-centric culture. Our only entry in the field is the Amtrak Acela in the Northeast Corridor, which briefly touches 150 mph for a few miles of its 456-mile dash between Boston and Washington. The Acela fleet is highly successful, but critics say it's a special case because of the dense population there, claiming that such trains can't work elsewhere in America.

Yes, they can.

Enough people believe that so that Amtrak and various states have begun to work to increase speeds on conventional trains — in Illinois, Michigan, New York and Pennsylvania, for example. This approach — shooting to raise maximum speeds from 79 mph to 110 mph — is a first step toward incrementally bringing high-speed rail to these shores.

Boosters in California have talked for years about the other approach — starting from scratch with an entirely new right-of-way — to create a

high-speed line connecting Los Angeles and San Francisco or Los Angeles and Las Vegas. They may well succeed, but several prior efforts have foundered, and the costs of such dedicated intercity passenger (non-commuter, non-freight) systems are well up in the billions.

In the meantime, Amtrak, whose premature obituary has been written many times over its 42-year history, is working with states to take it step by step.

High-speed rail is coming to America. The only questions are how soon and how fast. ●



DAN CUPPER



DAN CUPPER of Harrisburg, Pennsylvania, is deputy editor of *Railroad History* magazine and once served on the staff of a state high-speed rail study. He is the author of several books on railroad and highway history. These days, he earns his living on the freight side of the railroad business, as a conductor for Norfolk Southern.

→ Design

No More Porridge

When I was fresh out of design school, I set out to be an expert in product innovation. Decades later, I've noticed that I have become an expert in overcoming the barriers to product innovation.

Let me explain.

In my 30-year career, I've learned a lot about the sciences of design, engineering, prototyping and tooling. But I've come to realize that the secret to product innovation may reside more within a different science — the science of animal behavior.

Neophobia is the fear of the new and different. All animals, including we humans, have been naturally selected to possess this healthy fear and skepticism of “out of the ordinary.” Neophobia keeps us from getting killed or eaten by something we have never seen before. It's in our nature, and it has probably been reinforced by nurture.

So, while this has been great for the survival of our species, it's been bad for product developers. It's rare for an extraordinary new product concept to make it past the first round of traditional consumer research. Extraordinary is a subset of “out of the ordinary.” Ask humans (aka consumers) which new concept they like the best, and they lean toward the one that stands out the least, gravitating to the one most like all the others already on the market.

We believe neophobia is the root cause of the sea-of-sameness that exists in almost every product category today, and why almost every manufacturer is fighting a price war in a field



BILL BOWEN

with commoditized competitors and their commodity products — what I call the porridge. With a nod to Goldilocks, these products are not too hot, not too cold, they're just right. They are also warm, mushy and bland. In their zeal to be just right for everyone, they're not really special to anyone.

The good news is that we don't have to be afraid anymore. Armed with an understanding of what's going on, we can develop processes that will overcome neophobia and its associated risk.

The real risk is to continue to introduce more porridge, more products that seem safe, but serve only to perpetuate their own commodity status. ●

► Premium pruners from True Temper™ are a cut above the rest thanks to design input from product innovation studio Sundberg-Ferar. The pruners are deliberately designed to be visually distinguishable from competitors, address the differences in hand and finger sizes between men and women, and, of course, provide users with optimal comfort and performance.



Curt Bailey is president of Sundberg-Ferar, a metro Detroit-based product innovation studio that, since 1934, has helped countless companies in dozens of industries — from transportation and housewares to consumer electronics and medical equipment — decommoditize their products.



Cooking Up Transparency

A few years ago, I thought food culture in this country was functional and uninspired. Even before the global financial crisis of 2008, people were focused on price, getting the most from their dollars, seemingly regardless of taste or quality. And we certainly didn't give much thought to where our food was coming from or how it was prepared. Our definition of "value" was narrow and shallow.

National food brands served this demand with ever lower-priced "value menu" items, allowing consumers to forget that value and price aren't the same thing. Value is what you get for the money. If the food isn't great, is it really a deal?

And we were part of the problem. At Domino's, as the global pizza delivery leader, we responded to the market with pizza we knew could be better. It was hot, it was fast and it was priced low.

As the "Chief Food Guy" at Domino's, I knew we needed to change. Our customers were becoming more sophisticated about food and demanding better taste. They wanted greater transparency — to be a little closer to the food and where it comes from. So, a small group of us began work on a "New & Inspired" pizza recipe.

Can you imagine walking into the CEO's office and delivering the news that our core product was not up to par and we needed to change a nearly 50-year-old recipe? I can, because I did it.

And rather than being chastised and the idea ridiculed, our CEO and leadership team embraced change.

As a brand — a company — when faced with such a challenge, you can hold on to your old ideas and pretend your old model is fine, or you can be bold and seek to transform your brand. So often people focus on the risk of change while ignoring the fact that doing nothing may be the biggest risk of all.

Our company understands this. We didn't stop the improvement at our core ingredients like dough, sauce and cheese. We also brought in inspired new ingredients like fresh baby spinach, roasted red peppers and feta cheese. Fresh baby spinach at Domino's? You bet. We also were the first national pizza chain to launch a gluten-free crust.

We reached out to get closer to the farm and our producers when we partnered with Dairy Management Inc. to increase cheese sales and support our nation's dairy producers. We've changed our logo, and now we are even rethinking our retail spaces, allowing customers a chance to see us handcraft their pizza.

It's a complete evolution of our brand. One that all started when we publicly admitted in a full-blown advertising campaign that we knew our pizza wasn't good enough. Honesty, accountability, transparency. Our customers deserve no less.

While some marketing "experts" panned us, the two years since the launch have made clear this transparency has reconnected us with customers and is leading our brand to newfound success. And it has brought our pizza — the core of who we are — right where we want it to be. Inspired. ●



BRANDON SOLANO is a vice president at Domino's Pizza, where he and his team developed the chain's award-winning new menu and "New & Inspired" pizza. He has been named a top marketer by *Advertising Age* and is the white-coated chef seen in Domino's recent national TV commercials.

→ Social Innovation

The Ripple Effect

In 1954, the Supreme Court ruled against segregation's legality. Soon a movement arose to challenge segregation's morality as well.

The modern civil rights movement has much to teach us today.

From its inception, this was a people's movement — the cumulative effect of individual acts of courage. Most of those who made the movement were not famous — they were faceless. They weren't the noted — such as Rosa Parks and Martin Luther

King Jr. — they were the nameless who challenged fear in big and small ways. The marchers with tired feet. The protesters beaten back by fire hoses and billy clubs. The unknown women and men who risked job and home and life.

The movement succeeded, in part, because these victims became their own best champions. Because mass participation came to the civil rights movement in spite of cowards planting bombs in the night, in spite of shots fired in darkness, in spite of lynch mobs and hooded thugs. In spite, as Dr. King once said, of the brutality of a dying order shrieking across the land.

Now, it falls to all of us as individuals to continue this fight, this movement.

Robert Kennedy once said: "Each time a man stands up for an ideal, or acts to improve the lot of others, or strikes out against injustice, he

sends forth a tiny ripple of hope ... these ripples build a current that can sweep down the mightiest walls of oppression and resistance."

Next to the famous and the faceless who came before us, we are called to give comparatively little. Our time, our energy, our caring.

We have more experience, more skills and more allies. We can double our support for organizations that guard our liberties and protect our rights. We can monitor our children's education. We can realize our political potential to reward those who support our rights and punish those who do not.

Create your ripple. Teach others what courage is. Start more mighty movements that may be simple in their tactics but overwhelming in their impact. Send the message that we move forward fastest when we move forward together. ●



PHOTO BY FRANCIS MILLER / TIME LIFE PICTURES / GETTY IMAGES

+ See video of Bond's speech at the National Day of Courage ▶ <http://bit.ly/Xu3Cdl>

+ See Bond's interview at the National Day of Courage ▶ <http://bit.ly/16P0IYG>

▶ Julian Bond (circled) participates in a 1963 civil rights rally in front of the Washington Monument.



JULIAN BOND is chairman emeritus of the NAACP Board of Directors. He is also a distinguished scholar in the School of Government at American University in Washington, D.C., and professor emeritus at the University of Virginia. He knew Rosa Parks personally and was one of the honored few asked to eulogize her when she passed in 2005.

→ Education

Playing Cupid

Romance belongs in the classroom. I'm not talking about the stuff of Harlequin Romance novels but a different kind of love — the love between student and subject. For me, as a creator/producer of media for kids, romance also belongs in the living room, the backseat of the car, and anywhere else kids access educational videos and games. And my job is to play Cupid.

When I studied at the Harvard Graduate School of Education, the one thing that stuck was a turn-of-the-20th-century theory of learning by Alfred North Whitehead. He believed that there are three components to learning: romance, mastery and generalization. Romance is the stage in which we fall deeply in love with a subject. We hear a Chopin Prelude and are filled with the desire to play the piano. Mastery covers everything involved in becoming proficient in that subject. So, for piano, it means practicing, playing scales and learning to read music. Generalization is when we apply what we've learned in a novel context. So having mastered Chopin, we demonstrate generalized learning when we pick up a Bach Prelude and perform it with aplomb.

All three ingredients are key to learning, according to Whitehead. Yet in this teach-to-the-test era, we tend to overlook romance in favor of mastery and generalization.

But that may be changing.

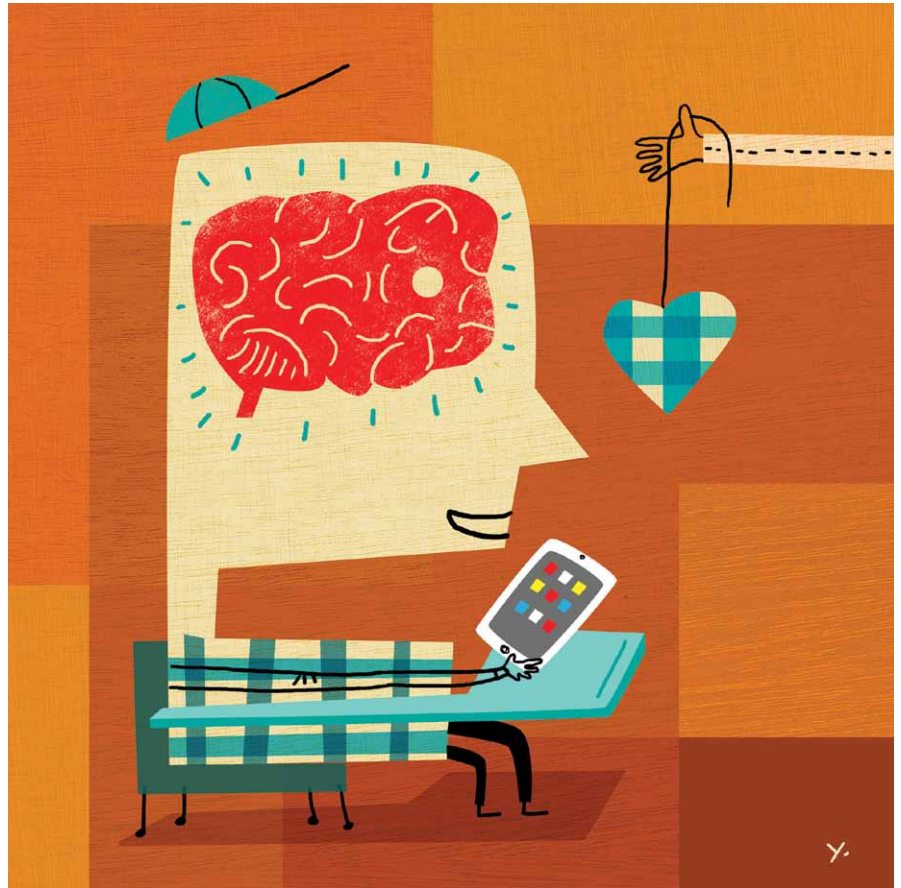


ILLUSTRATION BY JAMES YANG

John Gabrieli's research out of MIT uses neuroimaging to peer into the brain to better understand the biology of learning. He's discovered that when our brain's pleasure center is turned on — when we have a desire to learn — we learn more. In other words, our emotions play a big role in learning. They not only motivate us to learn, but they actually help to create a receptive state for receiving and retaining information. So romance really does belong in the classroom and anywhere else learning happens. Like on screen.

A good educational television show can be a great Cupid. The medium is uniquely primed to romance — to deliver stories and characters that engage, excite and hopefully inspire kids to

want to know more. Good teachers do that too, of course. I certainly credit my love of storytelling to a few phenomenal English teachers who inspired it. All educators, whether we work in the classroom or the living room, have the ability and now the mandate to play Cupid. We just use different arrows. Mine are relatable characters, surprising stories and humor.

Whatever your arrows are, keep in mind that a love of learning — be it curiosity or full-blown infatuation — is a critical ingredient to a successful education. And make it your mission to play Cupid, as well as skill-builder, taskmaster, coach and all the many roles required in this complex pursuit called teaching. ●



DOROTHEA GILLIM created *WordGirl* for PBS and now is executive producer of *Curious George*, both Emmy Award-winning shows. Before working in television, Gillim taught fifth grade.

→ Manufacturing

////////////////////////////////////
A Thriving Nation

In 1985, President Ronald Reagan proclaimed December “Made in America Month.” It’s something few people may know or remember, but as a staunch advocate for all things Made in America, I find the simple fact that nearly 30 years ago our president chose to proclaim the year’s biggest shopping month Made in America Month to be hugely significant.

Recall that during this time in American history, the U.S. automobile market was facing its biggest challenge to date. Our Big Three automakers found themselves outpriced and outdesigned by the imported car influx. Americans were unhappy with the quality and/or design of American automobiles, gravitating toward the more economical, stylish imports flooding our shores.

President Reagan saw this crisis unfolding and took action.

What happened next is what I find interesting — or maybe the most disturbing. Given the proclamation’s context and content, why didn’t retailers and media pick up on this great opportunity? Use this proclamation as a “marketing” idea similar to Valentine’s Day or Mother’s Day to drive traffic? Very little attention was paid to the proclamation. In fact, it almost seems as though it was suppressed, neglected and ignored.

Why? Is it not sexy enough? Do big retailers not see the inherent marketing opportunity to increase sales, drive traffic and create additional



BILL BOWEN

promotions? I find this fascinating and think we must examine and question why Made in America is not commonly promoted.

I believe that President Reagan saw the writing on the wall. He saw that if the United States of America did not take proactive action to protect challenged industries from outside imports, many of our industries would die and disappear. Look, for example, at the American toy industry. Gone. Only five percent of toys are manufactured in the United States today, and there are countless other American industries that have all but disappeared from our national manufacturing landscape.

Free markets can compete in a global economic environment that is fair. But, with so many variables — cost of labor, materials, environmental regulations and taxes — the global playing field can quickly become skewed, and first-world economies cannot compete with third-world economies.

Henry Ford knew that manufacturing and innovation were critical to a thriving nation. He is one of the founding fathers of an industry that stands as a testament to American innovation, drive and determination. Reagan fought hard to protect that ideal, and we now have that choice presented directly in front of us again.

Made in America — it stands for more than jobs. It stands for pride, it represents our history as a nation, and it is the fabric that created a thriving middle class and innovation that has stood the test of time. Made in America is who we are. We are not a nation of takers, but a nation of makers. It is just what we do. ●



JULIE REISER, founder of Made in USA Certified in Boca Raton, Florida, is a leading voice in the conversation for why manufacturing in the United States is key to America getting back to work. She is a nationally recognized writer, speaker and TV correspondent advocating on behalf of U.S. manufacturers, producers and service providers.

"OBSTACLES
ARE THOSE
FRIGHTFUL
THINGS YOU
SEE WHEN
YOU TAKE
YOUR EYES
OFF YOUR
GOALS."

— *Henry Ford*

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TURNING POINT

By **David Szondy**

How one day
in history
transformed
**presidential
travel** from
an open-air
exchange into
a defensive
exercise



MAXIMUM EXPOSURE
President Kennedy's motorcade route through Dallas on November 22, 1963, intentionally put him in front of larger pockets of cheering crowds.

CORBIS IMAGES

November 22, 1963, was a warm, sunny day in Dallas, Texas. President John F. Kennedy was in town as part of his early re-election campaign. As his motorcade passed through downtown, the president and first lady Jackie Kennedy waved to the crowds from their open-top Lincoln convertible. Though the Secret Service was alert, agents didn't perceive any special threat.



AP IMAGES

UNPROTECTED AND UNSUSPECTING

Fifty years ago, convertible travel was standard practice for presidents; they wanted to be accessible and visible to the people who elected them.

In

the following car was Clint Hill, one of two Secret Service agents assigned to protect Mrs. Kennedy. "We knew that Dallas was a somewhat conservative area and that President Kennedy might not be as popular there as he was other places, but it didn't seem to be a bigger problem than going anywhere else," said Hill.

The crowds were large, and Hill was busy making sure that he remained close to the first lady as the president's car negotiated the streets — especially when the crowds came close or when the car stopped so the president could shake hands with bystanders.

"The situation was always the same," said Hill. "Big crowds, open windows, people on balconies and rooftops. It was standard procedure."

Then, at 12:30 p.m., the first shot rang out, and Hill rushed toward the president's

car. His memories of the next few moments are vivid nearly 50 years later.

"I heard these noises that came from the rear of the motorcade, and I started to look toward that noise. But I only got as far as the back of the car when I saw the president react when the bullet hit him in the neck. When he grabbed his throat, I knew he was in trouble, and I jumped and I ran. My objective was to get up on the top of the car and lie there between the president and Mrs. Kennedy and anybody who was trying to do them harm. Unfortunately, by the time I got to the car, the third shot had been fired and hit the president in the head. It was too late to do anything except protect Mrs. Kennedy and the other occupants of the car."

President Kennedy was rushed to Parkland Memorial Hospital four miles away and declared dead at 1 p.m.

"All the advantages went to the shooter," recounted Hill. "We didn't have any. I did everything I could do, but it wasn't enough." ▶

WHERE WERE YOU?

Most people old enough to remember November 22, 1963, can recollect exactly where they were when gunshots rang out in Dallas. Secret Service agent Clint Hill (shown here) was sprawled across the president's limo trying to protect him and the first lady.





AP IMAGES



CUSTOMIZED COMFORTS

President Kennedy's 1961 Lincoln Continental X-100 featured (from left to right) radio controls in the back seat, a refreshed 1962-model grille and custom-built step-ups on the rear bumper for toting Secret Service agents.



 See video and get more content from our digital edition [▶](#)
Available mid-June 2013 for iPad and Android tablets



AP IMAGES

GENERAL MOTORS

THEN AND NOW

Hill's firsthand recollection of that tragic day in Dallas is also seared in the American collective memory. We talk of turning points, but this truly was one for the United States. Even the immediate aftermath showed how unfathomable such an event was as the Secret Service scrambled to get the vice president, President Kennedy's body and the first lady back to Washington, D.C., as quickly as possible.

"We really didn't know how elaborate the situation was," said Hill. "We didn't know if it was a lone gunman or a coup d'etat."

With 2013 marking a new presidential term and the 50th anniversary of the Kennedy assassination, how things have changed is obvious if you just conduct a simple comparison of presidential cars then and now.

Consider, for example, President Franklin Roosevelt's Sunshine Special. The first "official" presidential limo, this Lincoln got its nickname in the 1930s because, when President Roosevelt was in it, the top was almost always down. In similar fashion, Kennedy's 1961 Lincoln Continental X-100 was a large luxury convertible modified for a longer wheelbase. It wasn't bulletproof. It had a removable plexiglass top. In addition,

a metal rail gave the president the ability to securely stand upright and be exposed when the vehicle was moving. Plus, the rear seat could be raised hydraulically for better visibility.

In today's lexicon, such accessibility to a world leader — in an uncontrolled, open environment — is both shocking and would even be considered by some as point-blank reckless. But, at that time in history, there was logic and a certain naivete behind it. From Roosevelt to Kennedy, an important duty of the president was to be seen by — be accessible to — the people who elected him.

The current presidential limousine, affectionately called "the Beast" by the Secret Service, fails miserably in the accessibility department. A tank-like machine with leather upholstery, the Beast has armor-glass windows that make it difficult to get even a small glimpse of the president from within.

Neither the Secret Service nor General Motors will comment on the Beast's presidential specs for security reasons, but Mark Burton, CEO of International Armoring Corp. in Utah, which turns luxury cars into armored vehicles, said that GM took technology to the point of "overkill" with this vehicle. The Beast can not only withstand armor-piercing bullets but gas, explosives,

THE BEAST

President Obama's presidential ride is the most technologically advanced protection vehicle in the world, symbolizing how much our culture has changed in the past half century.

"Most people don't see the president in the White House; they see him when he comes to visit their town in his armored limousine. It's a connection between the people and the president himself."

— **Matt Anderson**, curator of transportation, The Henry Ford

fire, bioweapons and just about any other threat to national security you can think of.

Common sense tells us the Beast's technological overload is still in direct response to what happened in Dallas a half century ago. According to Hill, the X-100 also got its own bit of technological excess when it was decided that the vehicle should be rebuilt rather than retired after the assassination. "The car was sent back, redone completely and didn't return until 1964," noted Hill. "It was armored and bulletproof glass installed and was used then on a limited basis by President Johnson."

The Secret Service also received a total overhaul after November 22, 1963. "The organization was completely reorganized from that point on," said Hill. "The entire headquarters staff was revamped. A great many things were done and changed completely."

SYMBOLS OF THE PRESIDENCY

Since then, security around the president has been airtight, and all presidential limousines have followed the example of the revamped X-100, which is now on display in Henry Ford Museum, along with four other presidential rides (see sidebar at right).

Unfortunately, the Beast and future presidential vehicles will never be seen in a museum collection or elsewhere for

that matter. Although the government once leased the cars for a nominal fee and returned them at lease end, it now purchases each vehicle outright and keeps them, but not as historical artifacts. Instead, the Secret Service, looking to keep the secrets of these high-tech cars confidential, uses the retired vehicles for security tests, which end with the vehicles' destruction.

Hard to feel sorry for a machine, but the demise of these presidential wheels is tinged with a little regret, according to Matt Anderson, curator of transportation at The Henry Ford. Anderson sees these vehicles as symbols of the American people's relationship with the automobile and of the presidency itself.

"They tie in beautifully with the automobile in American life," said Anderson. "They've become a symbol of the presidency. Most people don't see the president in the White House; they see him when he comes to visit their town in his armored limousine. It's a connection between the people and the president himself."

The security measures now in place after Kennedy's assassination equate to a safer president when en route, but they also signify an impenetrable distance between a leader and those he serves. ●

IN HIS WORDS

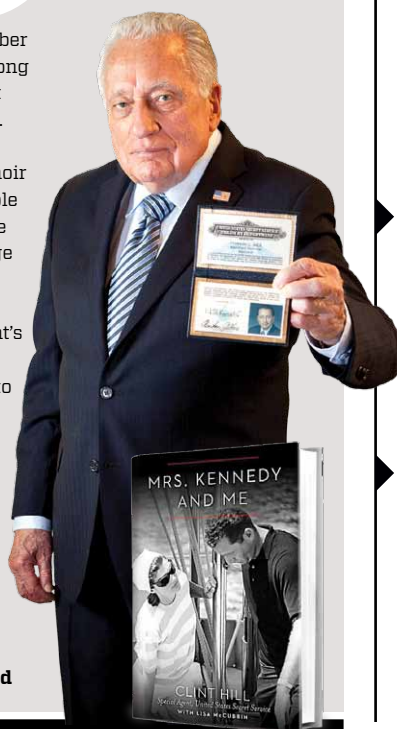
Clint Hill, the Secret Service agent assigned to first lady Jackie Kennedy during John F. Kennedy's presidency, will be at The Henry Ford on November 19, 2013, as part of Henry Ford Museum's weeklong recognition of the 50th anniversary of President Kennedy's assassination on November 22, 1963. Hill will be hosting a lecture next to Kennedy's presidential limo and a book signing of his memoir *Mrs. Kennedy and Me*, which is currently available through traditional retail outlets as well as at the variety of gift stores at The Henry Ford. (See Page 61 for details on *JFK Remembered* events.)

Hill is the agent seen in the Zapruder film frantically climbing onto the back of the president's limo as he tried to protect the Kennedys when shots rang out on the streets of Dallas (see photo on Page 25).

John F. Kennedy Lecture: An Evening With Former Secret Service Agent Clint Hill and Lisa McCubbin

Tickets for lecture and special VIP reception featuring Clint Hill and Lisa McCubbin go on sale June 5. Seating is limited.

ONLINE For more information about the lecture and purchasing tickets ▶ visit thehenryford.org/jfkremembered



In Working ORDER

Henry Ford Museum is home to five presidential cars. Most are as close to original condition as possible.

1



Teddy Roosevelt's Horse-Drawn Brougham

This brougham, built in 1902, was used by President Theodore Roosevelt in public parades and outings.

2



The Sunshine Special

President Franklin Roosevelt's vehicle got its name because the top was almost always down. In 1939, it became the first "official" presidential limousine and the first of a long line of Lincolns used by presidents.

3



Eisenhower's Bubbletop

When Eisenhower became president in 1952, he discovered that people couldn't see him when the top was up on the 1950 Lincoln Cosmopolitan that was the designated presidential limousine. To make himself visible to crowds on rainy days, Eisenhower had a plexiglass bubble top installed, and soon the vehicle was nicknamed the "Bubbletop."

4



Kennedy's Presidential Limo

The limousine President Kennedy was riding in when he was assassinated. Undoubtedly, it is the most famous presidential vehicle in the museum's collection.

5



Reagan's Presidential Limo

The last presidential limo to be preserved, this vehicle is where President Ronald Reagan took refuge during the 1981 assassination attempt by John Hinckley.

COSMOS COMMUTERS

Do we
Earthlings
have the
right stuff
to start
populating
space?

by Clara Moskowitz





Hundreds of years in the future, people may wake up to see not the green grass of Earth, but the arid deserts of Mars or the craters of the moon out their windows. One day, people may be born and live their lives off the planet Earth.

This

future is by no means assured, but some say it's more likely than ever now that a growing number of private companies are reaching for space.

Companies such as Space Exploration Technologies Corp. (SpaceX), founded by PayPal entrepreneur Elon Musk, and British billionaire Sir Richard Branson's Virgin Galactic aim to make travel to space cheaper and more routine. Eventually, these startups and others may make space accessible to everyone.

And if that happens, what's to stop humanity from breaking the bonds of Earth once and for all and expanding out into the cosmos? What will it take to populate the solar system?

"I really do believe that it's inevitable," said two-time space shuttle astronaut Gregory H. Johnson. "Human curiosity and the human spirit are going to force us to go find out what's past that door, what's beyond the line of the frontier. It's in our blood."

Historians and space junkies agree. "After all," said Christian Øverland, executive vice president of The Henry Ford, "significant programs such as Skylab and the Hubble telescope made it possible for us to see what we believed to be the edge of our universe. Current science and technology heroes like Musk will only continue our journey into new frontiers, thinking differently, solving problems and achieving far beyond what is expected." ▶

ALTERED STATE

High expectations and even higher barriers do loom large.

“I think it’s a big question,” said Roger Launius, who has served as NASA’s chief historian and is now space history curator at the Smithsonian’s National Air and Space Museum. “There are some real fundamental questions that are going to have to be resolved, and they are going to be very difficult.”

Equipping the human body to withstand the rigors of space radiation and altered gravity may be among the trickiest challenges in colonizing space, experts say. High-energy space particles can damage cells in the body, eventually causing cancer, and long periods spent in low or no gravity erode muscle, eat away at bone density and even damage eyesight.

In addition to the biological challenges, there are a slew of technical hurdles.

Communication with Earth will be key, especially in the early stages of any colonization mission. But that presents a problem, because you can forget about instant messaging in space. The time lag for radio signals to travel back to Earth gets larger the farther you go. Sending messages to and from Mars, for example, will take up to 20 minutes each way.

New technologies and materials will be needed to build

long-term, habitable structures on another world, and novel life-support systems and resource recycling capabilities will be vital to keep such outposts sustainable.

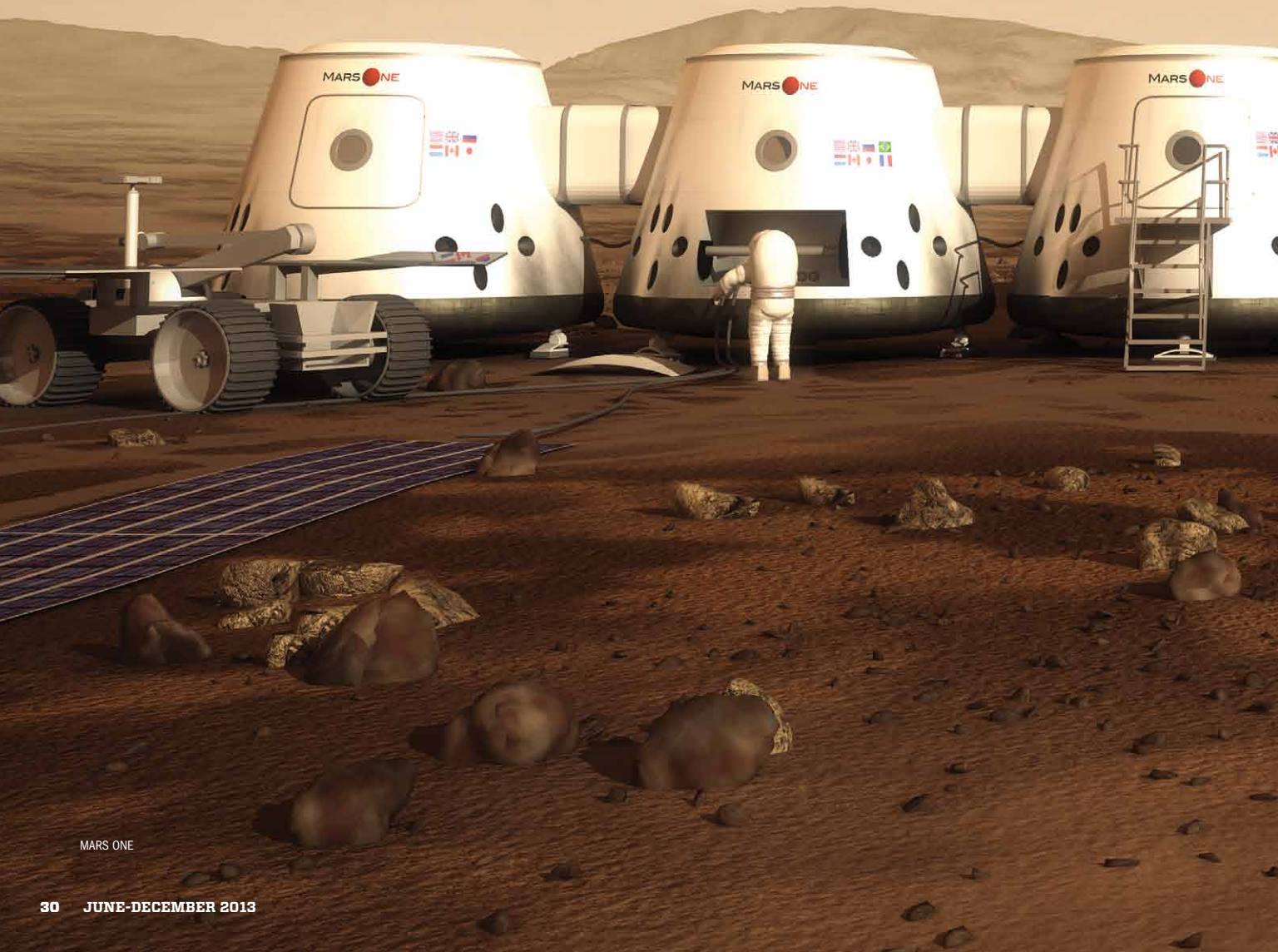
Furthermore, to really make traveling between planets possible for human beings, a leap in propulsion technology is probably necessary. “When the jet engine came about, it revolutionized airplanes,” Johnson said. “In space, we’re going to need that propulsion breakthrough. It takes six months now to get to Mars. If we can get there in six days, that would solve a lot of these challenges.”

To make this jump, we might have to start thinking in terms of exotic engines based on nuclear energy or antimatter.

WHY GO?

The question of whether or not humanity will inhabit the cosmos is partly tied up with the issue of why we should bother. If humans are ever to establish a foothold on another planet, there must be a strong reason to do so.

One potential motivator is no less than the survival of the human race. “This planet doesn’t have an infinite lifetime,” Johnson said. Between environmental damage and the eventual engulfment of Earth by an aging sun, our planet won’t last forever. “We need to colonize space to ensure the continuation of our species.” ▶



“I really do believe that it’s inevitable. Human curiosity and the human spirit are going to force us to go find out what’s past that door, what’s beyond the line of the frontier. It’s in our blood.”

— **Gregory H. Johnson**, two-time space shuttle astronaut



EARLY SETTLERS

Is this what humanity on Mars will look like? Nonprofit Mars One wants to establish such habitable, sustainable settlements on the Red Planet by 2023.

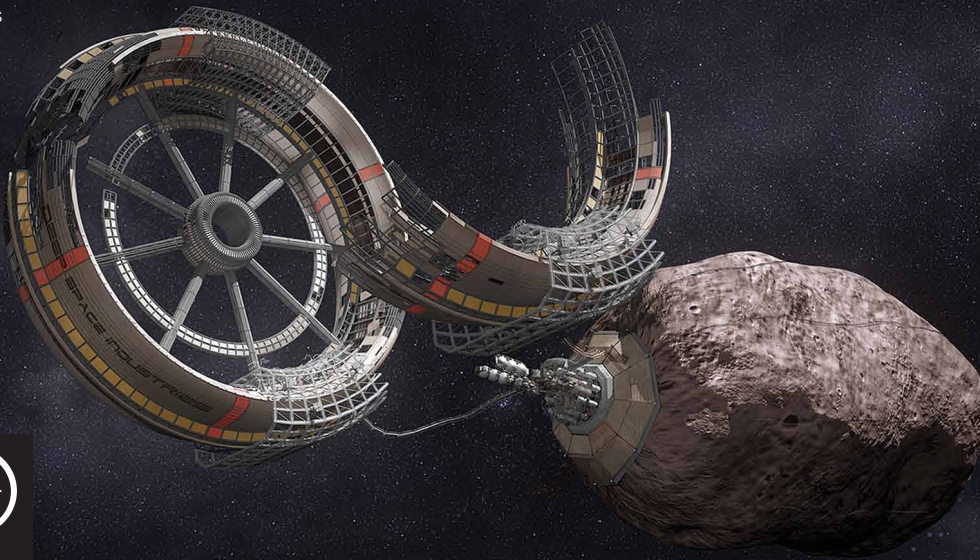


COSMOS COMMUTERS



NASA

DEEP SPACE INDUSTRIES



PLAY VIDEO

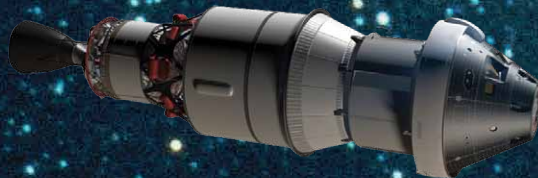
But more prosaic concerns could also force human beings to live and work beyond Earth.

Several firms, such as Planetary Resources and Deep Space Industries, are hot to pursue space mining. Their targets are the stores of valuable titanium, iron, nickel and other minerals thought to be cached in significant quantities on the moon and on many asteroids. Furthermore, entrepreneurs say water and oxygen on the moon could be harvested as consumables for astronauts and as the ingredients of rocket fuel for missions heading deeper into space.

Space tourism could also prove a booming business. Already seven private citizens with fat bank accounts have paid their way to the International Space

Station aboard Russian spacecraft. It cost them between \$20 million and \$35 million apiece. SpaceX, Virgin Galactic and their cohorts are hoping many more civilians have the will, and the means, to buy tickets to space. One company, called Bigelow Aerospace, is even designing inflatable space stations to cater to these space vacationers, among other customers.

Ticket prices have to go on a steep decline, however, if inhabiting space is ever to become a reality. "We're working on reusable rocket systems and space systems," said Virgin Galactic CEO George Whitesides. "The cost of space access has to come down a lot to make colonization feasible. If we manage to find economical models, I think that will probably be a sign that expansion into space is sustainable." ▶



UPKEEP IN ORBIT

Clockwise from top left: NASA astronaut Sunita Williams vacuums the Harmony node of the International Space Station; European Space Agency astronaut Christer Fuglesang participates in extravehicular activity as construction resumes on the International Space Station; a visionary rendering of a galactic settlement designed by Deep Space Industries.

INTERGALACTIC REAL ESTATE

Whether or not there is a business case for commercial companies to colonize space, these companies could help humanity reach that future indirectly. If they can carry out routine operations in low-Earth orbit, perhaps government agencies can focus more on pushing out to new frontiers.

"They are filling in the support base necessary to incorporate low-Earth orbit into our normal area of human activity," said space historian Launius. "What that does do is, I hope, free NASA to engage in its mission of space exploration."

With the space shuttles retired, NASA is developing a new capsule called Orion and a huge heavy-lift rocket called the Space Launch System to carry astronauts on missions to the moon, asteroids and Mars. It may be that government space programs, free of the burden of making a profit, are the most likely to push humanity farther out in space than ever before. If NASA and other space agencies do the initial exploration, commercial companies will follow when the ground is proven, experts say.

Many of today's space devotees believe the goal of space colonization is so important, they're willing to help out in any way they can. In February, the first space tourist, American entrepreneur Dennis Tito, announced he was financing a nonprofit called the Inspiration Mars Foundation to pursue the goal of launching the first manned Mars mission in 2018. Though this journey would be a flyby of the Red Planet rather than an actual landing, Tito believes the flight could lay the groundwork for future voyages.

He sees his mission as a small step in the overall goal of people setting up shop in space. "Colonizing Mars is going to be much more difficult than anyone is suggesting, and I think it may take hundreds of years or even more," Tito said. "It's a step-by-step process, and we have to learn step by step."

Ultimately, though, we humans are a scrappy species. We've managed to pull off more than a few amazing achievements already, so why shouldn't space be our next frontier?

"I think it's just the way we're wired," Tito said. "Throughout history, humans have migrated. We will eventually migrate to Mars. It's just natural." ●



PREPPED FOR SPACE LIVIN'

Astronaut Charles Conrad Jr., commander of the first manned Skylab mission, goes through a checklist of activities during Skylab simulation training at the Johnson Space Center.

SKYLAB

AMERICA'S FIRST SPACE STATION

THE UNITED STATES MADE ITS FIRST FORAY INTO SPACE LIVING WITH THE SPACE STATION SKYLAB IN THE 1970S.

State of the art for its time, Skylab's 12,000-cubic-foot volume hosted three crews over six years from 1973 to 1979, before it ended its life by falling through the atmosphere and crashing into Western Australia. The 200,000-pound facility included an orbital workshop, a solar observatory and what amounted to a living room for its three-astronaut crews.

In making the leap from the Apollo moon landing missions to Skylab, NASA was forced to consider new challenges in space-flight, such as keeping human bodies fit in weightlessness for extended periods of time. Creature comforts were also important.

"If you're going to have astronauts up there for months on end, you have to deal with things in a different way," said Roger Launius, former chief historian for NASA and the cur-

rent space history curator at the Smithsonian's National Air and Space Museum. "You can't scrunch them together in a sardine can. You have to pay attention to human factors."

In The Henry Ford's collection, 1960s and '70s design renderings commissioned by NASA for Skylab and its further development reveal these considerations at work. The drawings, by industrial designer Raymond Loewy, show livable arrangements of consoles, cabinets and chairs in space station interiors.

"They were very mindful of providing an environment that can function as a home, as opposed to a science lab," said Marc Greuther, chief curator at The Henry Ford. "Many of these renderings convey a certain kind of romance and optimism."

The lessons learned from Skylab are evident now on the International Space Station, which contains not only science laboratories but a room with a view called the Cupola and humanizing elements such as a guitar and a Christmas tree.

➕ See video and get more content from our digital edition ▶ Available mid-June 2013 for iPad and Android tablets

Powered by The Henry Ford, OnInnovation is a video oral history project designed to advance a culture of innovation through interviews with today's visionaries. Here are edited excerpts from one of those interviews, which can be viewed in its entirety online at the OnInnovation (OI) website www.oninnovation.com.



WILL
ALLEN

the FARMER

THE CELEBRATED GURU OF URBAN AGRIBUSINESS SAYS GROW FOOD AND WATCH COMMUNITIES THRIVE

His father was a sharecropper. His mother came from a family that had been farming more than 400 years. He grew up farming in rural Maryland, where he had to plow, plant and harvest before he could go play. But a young Will Allen didn't have his head wrapped around farming. He was passionate about hitting home runs and shooting hoops. And he was good at it. He eventually fled the farm and became the first African-American to play basketball at the University of Miami. He even went pro after college with the American Basketball Association.

But something happened one day when a teammate asked Allen to come help dig up potatoes on a family farm. "I felt something that was a transformative moment for me," remembered Allen. "I had missed it [farming]."

Today, Allen is the quintessential icon of the urban farming movement — a master farmer with more than 50 years of growing under his belt. His innovative techniques in seeding, vermicomposting (see Page 39) and aquaponics have built the multimillion-dollar operation Growing Power from a two-acre farm in

Milwaukee. Here, Allen still personally nurtures more than 20,000 plants and veggies, creates compost from more than 180,000 pounds of waste per week, raises thousands of fish of varying types and tends to an ever-expanding flock of chickens, goats, rabbits and more.

Along with selling what he harvests to neighboring communities in need, he is equally committed to sharing what he knows. He is training urban youth in his farming techniques so they, too, can grow their own good food, wipe out inner-city food deserts and start building healthy, sustainable food systems for future generations. Already, these well-trained prodigies are running more than a dozen additional Growing Power farms in Illinois and Wisconsin as well as a dozen more regional training centers across the U.S.

When The Henry Ford interviewed Allen as part of the OnInnovation initiative, Allen admitted that he really didn't have a plan early on, but he did have a vision and an intense curiosity. More important, he was always willing to get his hands dirty and experiment with new ideas and different approaches to tried-and-true techniques. ▶

PHOTOS BY ROY RITCHIE



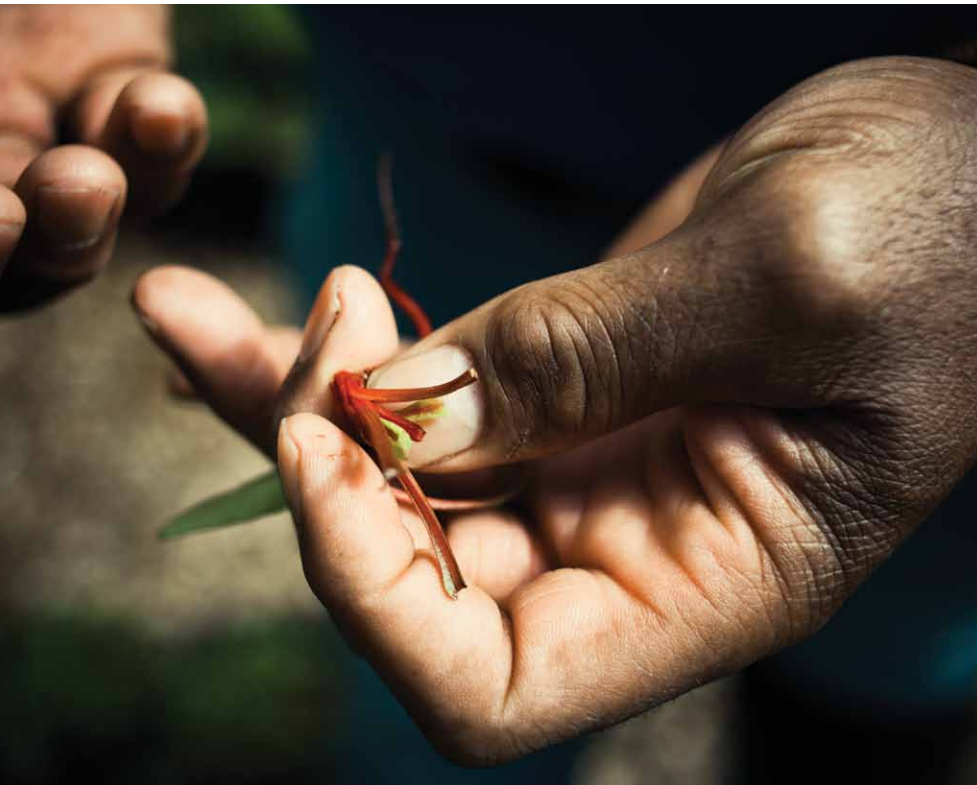
Together We Are



GROWING POWER

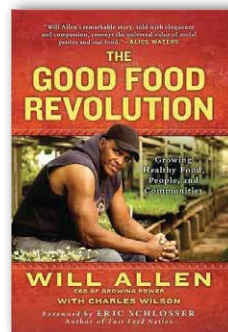


PLAY VIDEO



HANDY WORK

Will Allen is hands-on at his home-base Milwaukee farm, nurturing tender seedlings (left) and his prized red worms.



READ ALL ABOUT IT

Learn more about Will Allen's vision for creating healthy, sustainable food systems across the world in his book, *The Good Food Revolution: Growing Healthy Food, People, and Communities*, available at Henry Ford Museum and Greenfield Village stores and online at giftshop.thehenryford.org.

DID YOU KNOW / Will Allen was one of four national spokesmen who joined first lady Michelle Obama at the White House to launch her Let's Move! initiative to reverse the epidemic of childhood obesity by 2015.

DID YOU KNOW / In May 2010, *TIME* Magazine named Allen to the *TIME* 100 World's Most Influential People.

OI ▶ Urban agriculture. What is it?

WA ▶ Urban agriculture is a different kind of farming. You start looking at farming in a different way. You look at it in terms of square footage instead of acres. And you look at it in terms of the idea that you need to grow good food year-round.

If you look around the country, there's a period of about six months when you don't have that good food. Where industrial agriculture controls the system, because they're the only show in town. In my lifetime, we've lost more than 2 million farmers in America. We've gone from 200-acre farms to 20,000+-acre farms.

We're dependent on about five states for our fresh fruits and vegetables, or we go outside the country. In some cases, by the time the food gets into our bellies, it could be 14 days old. It is picked. It sits in the field, is processed, goes to a warehouse, is loaded onto a refrigerated truck and heads down the road for three or four days, sits at a wholesaler, is delivered to a grocery store, is set on a shelf where you buy it, take it home and put it into your refrigerator until you eat it. Up to 14 days!

Urban agriculture can create a situation where people have another choice. Where they can buy locally produced food all year long. Where it goes from growing in the ground or on the vine to potentially getting in your belly with all its nutrients intact within a day and a half.

OI ▶ How do you create that situation?

WA ▶ To really go into action, really make it commercial and scale things up, you need to grow soil, because soil is at the very basis of all farming.

Inside our cities, the soil is highly contaminated. So, composting is the thing we do, growing soil is what we have to do. And there are plenty of materials, in terms of the waste that we create, the waste that we haul out into the countryside and put in a big hole. Organic and vegetable waste. Horse manure. Some cities even put leaves in their landfills. If we can rescue all of this material, compost it and turn it and grow new soil, then we have a chance of really scaling this thing up.

Imagine all the different types of local jobs we could create with this new type of agriculture. The communities we could grow. It could be similar to the industrial system, but local with planners and finance people to folks installing renewable energy systems to operate greenhouses. There would be truckers involved, composters involved, salespeople involved to sell the produce to stores and do outreach and marketing. Imagine the environmental impact if we had 10 percent less trucks driving produce across the country from California.



“Food is not just food in itself. **It also is a community-building tool and a friendship-building tool.**”

— Will Allen

OI ▶ You seem very passionate about farming and your vision for its future. You are from a family of farmers, correct?

WA ▶ My father was originally a sharecropper from South Carolina, and even though he had a construction job while I was growing up, he always wanted me and my brothers to know where our food came from. So, we had a small farm. At the time, I looked at the farm as just hard work while our friends were out there having a good time. But it was really a gift because we always had food. Probably 85-90 percent of the food we ate, we produced ourselves. Having food is a very powerful thing to have.

And we were able to share that food with our extended family and friends. My mother used to fix enough food for probably 30 people every day. That's how friendships were built, why my parents always had a way to get places even though we didn't have a car and why there was always help when things needed to get done. My parents really understood that food is at the very basis of our survival and at the basis of our communities' survival. Without a strong food system, a community cannot call itself sustainable.

OI ▶ Your career path? How did you go from the farm to professional basketball back to the farm again?

WA ▶ When I was a teenager, I fell in love with basketball. I used to sleep with a basketball. After just two years of playing the game, I became a high school All-American. I had more than 100 scholarship offers and decided on the University of Miami.

I rejoiced and said, "Never again will I do this farming stuff. I'm going to college, getting an education and playing professional basketball."

When I started playing basketball in Belgium after playing with the American Basketball Association, a teammate asked me to come help out his family on their farm. It was a transformative moment for me. I eventually took a place in the country in Europe, started growing food and got 25 chickens.

When I returned to the States, I had this burning desire to farm. One day I was driving to see a client while working a corporate job for Procter & Gamble, and I noticed this for-sale sign on an old greenhouse farm in Milwaukee.

Long story short, I cashed in my retirement, got a loan and took the big gamble — the risk — and started an urban farm.

OI ▶ So is that how Growing Power got started?

WA ▶ At first, I was running as a for-profit, taking my produce and selling it. About two

years in, I sat on a board for a hunger-fighting organization. The director called and asked if I would help a youth group that wanted to grow an organic garden. That's why I'm sitting here today. Those kids led to more groups, a nonprofit business and a continuum that allowed me to try this and that.

OI ▶ What types of "this" and "that" have you tried?

WA ▶ I like to call it my country research, my trial-and-error research. We started vermicomposting. And I really got hooked on the worms. I wanted to know their favorite food. What is the best temperature that they like to be in? What triggers reproduction?

They are really livestock. They eat all the compost and food and turn it into wonderful fertilizer. I have just kept increasing the volumes, building these huge worm depositories.

Give me a handful of worms today, drop me off anywhere in the world, and I can build you a system as big as you want.

Then it was aquaponics. I started digging trenches inside the greenhouse and raising tilapia first, learning how the fish give off waste and the plants take the nitrogen out. It's a symbiotic relationship. Now, we raise thousands of lake perch, too, which require high water quality to survive.

I call it a food system puzzle. And you're always adding a piece to the puzzle to make some of the things work better. You're always thinking on how to improve what you're doing. With aquaponics, how do I capture water? How can I use the earth to heat the water?

With every system I thought about and started creating, I wanted it to be something that people could do without spending a lot of money or going really high-tech.

OI ▶ Simple ways to raise good food?

WA ▶ Yes. Our fish run system, for example, costs about \$3,000. That same system would cost \$50,000 if you had all the bells and whistles of bead filters. Our system uses the same water being cleansed by the plants. And then you're able to harvest and sell those plants. It's a very attractive kind of system for communities not only here in the U.S. but around the world.

I think that's what really makes me happy. None of this stuff is necessarily new technology — ancient civilizations used aquaponics, for example. But watching people from other countries such as Africa come in and take one of our tours or workshops and then take these systems back to their countries, their farms, their cities or their organizations and start building them — maybe building them a little different than ours, but adapting them using our techniques.

OI ▶ Was that part of your grander plan to "grow" Growing Power? To create affordable techniques which are also highly adaptable, scalable?

WA ▶ I really didn't have a plan. It was more of an evolutionary thing, a natural, spiritual kind of revolutionary process. When I work, I do this kind of visioning. I don't put things on paper. It's just in my head. I look at the present, maybe five years from now, 10 years and then try to make it happen.

I tried to come up with all these little profit centers. They could be individual businesses like the aquaponics. Growing fish could be a business. Growing sprouts could be a business. We had bees. Selling honey could be a business. Composting could be a business. So within this structure, we started to develop all these individual little businesses with income streams that were all housed within a nonprofit.

Today, Growing Power has 60 employees, 15 farms and 30 or more income streams that have been very profitable, allowing us to fund the other side of the business, our social responsibility and training programs.

OI ▶ Can you talk more about the training programs, the workshops?

WA ▶ When people come, they learn the basics. They still have to go back and practice the art, because farming is an art just like anything else. We teach them how to grow sprouts. That they are easy to seed in flats. That you cover one flat with another flat and in three days those seeds in the bottom flat come up and start pushing the top flat up. And you remove it, put it in the sun. Four days later, you're harvesting.

When they come to a workshop, they learn how to build an infrastructure for an aquaponic system. We teach them how to do compost using layers of carbon and nitrogen in a 4x4 configuration that they can replicate at home easily. We teach them how to build a worm bin and maintain the bin so that they can get 700 pounds of finished worm castings at \$4 per pound. For a product that started out as waste, that's pretty good money.

OI ▶ What does your typical day look like today?

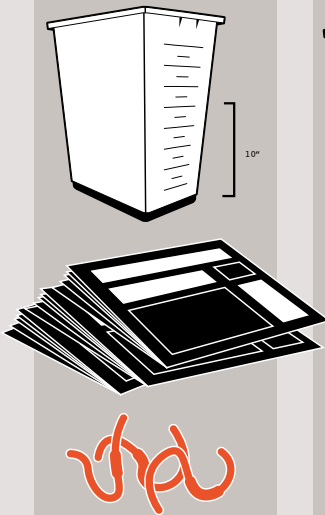
WA ▶ Training is an ongoing piece, and there are some things on the farm that I do — that only the principal farmer does. Like seeding. We have 25,000 pots hanging because we do vertical farming. Sometimes in one little pot there are 500 seeds. And it's all done by hand. So in a given day, I might have to go in and seed 1,000 pots. It takes years of experience to learn how to seed these pots to get to a profitable ▶

Vermicomposting 101

“Give me a handful of worms today, drop me off anywhere in the world, and I can build you a system as big as you want,” said Growing Power’s Will Allen. Allen is talking about vermicomposting: a living system composed of carbon residue, nitrogen residue, microorganisms, minerals and, most important, red wiggler worms. The resulting material, worm castings (aka worm waste), helps create a super soil full of nutrients that makes plants strong and healthy and keeps them growing healthier food. Whether you live in a tiny apartment or on a sprawling suburban ranch, you can vermicompost. To start, follow these simple instructions.

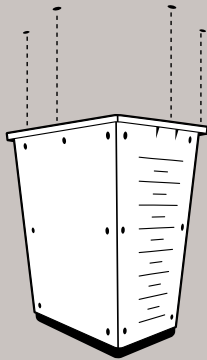
STEP ONE

Gather materials, including a covered plastic storage bin at least 10 inches deep, newspaper for bedding and red worms. You can buy worms online by the pound.



STEP TWO

Prepare your bin by drilling 10-15 holes on the lid and sides of the bin for air circulation.



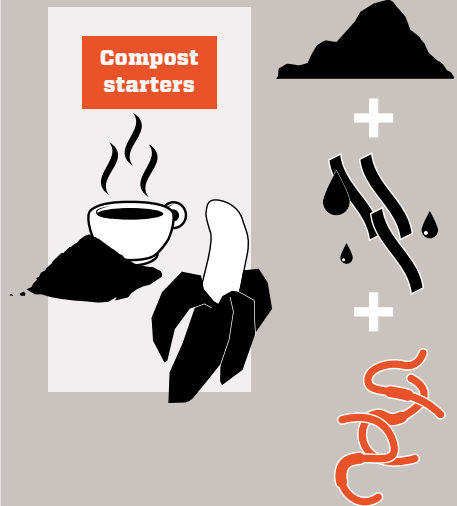
STEP THREE

Make the bedding by shredding newspaper into long, medium-width strips. Dampen the strips and create about 8 inches of bedding in the bin.



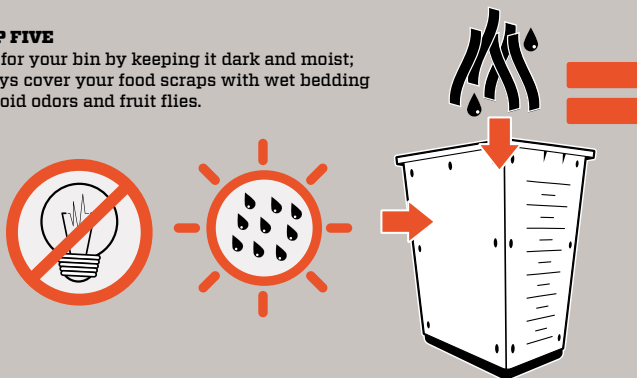
STEP FOUR

Add compost and worms by combining compost with a little organic soil and covering with wet paper bedding. (Insider tip: Allen will tell you that worms love the simple sugars — so make your compost with items such as old bananas, sweet potatoes, even old coffee grounds. And, according to Allen, red worms absolutely go mad for molasses.) Introduce your red worms to their new home.



STEP FIVE

Care for your bin by keeping it dark and moist; always cover your food scraps with wet bedding to avoid odors and fruit flies.



Avoid odors and fruit flies

INSIDER TIP: Allen has a simple equation for feeding. If you have 5 lbs. of worms, you need 5 lbs. of food for them every day. If you have 5,000 lbs. of worms, you need 5,000 lbs. of food. And so on.

ILLUSTRATION BY MARINKO MILOSEVSKI

A photograph of a large greenhouse interior. The structure is made of a metal frame with a translucent covering. The floor is covered with long, narrow black trays containing rows of young green plants. In the background, there are two large industrial fans and a green sign with the number '1'. The lighting is bright, and the overall atmosphere is one of a modern, controlled agricultural environment.

ROOM TO GROW

Hundreds of lush, green flats thrive at Growing Power's Milwaukee farm.

“In the old days, farmers didn’t have business plans. They just went out, started growing food, and they hoped for the best. We can’t do that anymore. We have to plan these farms.”

— Will Allen

production level. You have to recognize whether you have to, after 15 cuttings, take out that crop, reseed it quickly, cover it with worm castings for fertility and move on.

And watering in most greenhouse operations is done by the owner because watering is a skill. You don't want just anybody watering.

OI ▶ Can you go around the country now and find where you've trained people and they've started to build critical mass? Another kind of seed you planted?

WA ▶ Oh, yes. We have 12 regional training centers in the U.S. now. These have evolved out of folks coming to our workshops and then coming to our five-month commercial urban training program. And we're seeing farms pop up all over the country too — started by people that went through our programs and came to our workshops. Everywhere I go, I run into somebody that started a farm.

OI ▶ Does that give you a sense that what you are doing is innovative and is really something that might change the way the world works?

WA ▶ The vision is big. My goal is that every human should have access to healthy, safe, affordable food. It's a lofty goal and I don't think we can do it in the way we've tried in terms of the industrial food system. I think it has to be done on a local level, a grassroots level. We have to fundamentally change the food system.

It's been estimated that we would need 50 million people growing food that are currently not doing so. That's probably not going to happen in my lifetime, but it is something we should all be shooting for.

And I am inspired. To see the young people now come on board, that I can pass on what I've learned to them, because they're so interested in what we're doing and wanting to get involved. I think that's what stokes me every day to keep going. The fact that we're increasing farmers in this country.

OI ▶ So how does the new urban farmer get started?

WA ▶ I always tell people to start small and work their way up. You can start on a very small piece of land, in a backyard even. If you are going to sell your product, never sell a product that you can't repeat the performance at least 52 weeks of the year. Don't overcommit yourself and always overproduce. ●



George Washington Carver: Soil Scientist

Urban farmer Will Allen isn't the first to sing the praises of soil and its critical role in the art of productive farming. Scientist, inventor and botanist George Washington Carver, who gained fame and critical acclaim in the early 1900s for his foundational work with dirt, laid down that groundwork long ago.

"I think George Washington Carver was definitely a genius and an innovator of his time. He was a soil scientist. Some of his writing would rival anything that you would read today," commented Allen, founder of the Milwaukee-based Growing Power.

A collection of Carver's informational pamphlets about soil fertility, growing sweet potatoes and planting peanuts is now preserved at The Henry Ford, along with other Carver correspondences and scientific tools.

Although Carver — a former slave — was a well-read, well-educated individual schooled in the scientific methods and language of botanists, biologists and the like, his writings spoke directly to the farmers sowing the soil and the housewives cooking what's harvested from the soil.

"Carver was passionate about looking for ways to make farming work with the family resources at hand," said Jim McCabe, acting curator of agriculture at The Henry Ford. "His pamphlets were written for the family as much as the scientist"

Carver revolutionized Southern agriculture, educating farmers about the soil-depleting effects of being a one-crop land of cotton, teaching them about soil-enriching crops such as peanuts and sweet potatoes and

A CAREFUL OBSERVER

George Washington Carver (above) examines a skein of soy fiber. For closer looks, he used the microscope below, now part of the collection at The Henry Ford.

describing the multiple profitable uses for these new crops. He developed and promoted about 100 products made from peanuts alone, from soaps and paints to charcoal and plastics.

"Carver had uncanny skills of observation and could dissect ecosystems in action," added McCabe. "He saw the soil, the plants, the insects as highly interconnected systems within a larger context and could identify ways to make the family fit within that context."

Like Allen, who has dedicated much of Growing Power's power to educating others in the art of urban farming, Carver also had an intense belief that ideas should be shared for the greater good, not for the greater profit. Carver did not patent or profit from most of his products.

"The fact that he was an African-American working in a time of segregation, in a time of great struggle, he's one of my heroes and a legacy that lives on today," said Allen of Carver. "He passed on his work, just as I am passing on my work to other folks. I think that's the way it should be."

— Jennifer LaForce



ONLINE OnInnovation archived interviews such as the one conducted with Will Allen, along with related resources, can be accessed at www.oninnovation.com. ▶

The Rebellious Life of Mrs. Rosa Parks

CHRISTIAN W. ØVERLAND, EXECUTIVE VICE PRESIDENT, THE HENRY FORD,
REVIEWS JEANNE THEOHARIS' IN-DEPTH BIOGRAPHY OF ROSA PARKS

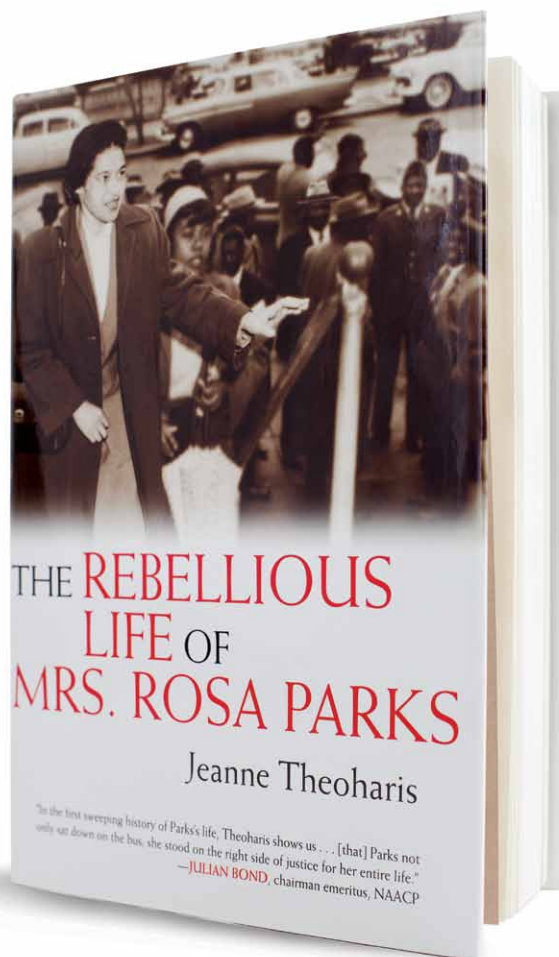
Jeanne Theoharis' definitive political biography of Rosa Parks sets out to correct the popular myth of Rosa Parks as the quiet, tired seamstress who refused to give up her seat on Montgomery City Lines Bus #2857. Through extensive and intricate research, Theoharis asserts that Rosa Parks spent years working courageously for civil rights. She prepared herself with an assured readiness, which she could rely on when an opportunity occurred as it did on the bus on December 1, 1955.

As Theoharis points out, Parks started her political activist career at an early age, decades before she refused to give up her bus seat. Parks and husband Raymond, who met in 1931, shared a passion for taking action against segregation laws. She joined the Montgomery NAACP in 1943 as a volunteer advocate organizing black youth groups and trying to bring justice for young black women raped by white men. A few years later, she became the secretary of the NAACP — working with E.D. Nixon, president of the Montgomery NAACP chapter — to advocate for anti-lynching laws and overcoming the formidable process of registering black people to vote.

Rosa Parks also was a strong advocate for integrating whites and blacks. In 1947, the Freedom Train, carrying historic copies of the Declaration of Independence, Constitution, Bill of Rights and the original Gettysburg Address and Emancipation Proclamation, "was scheduled to stop in Montgomery and Parks published a report objecting to Montgomery's all-white train committee," according to Theoharis. The national requirement that the exhibit be racially integrated was highly controversial in Montgomery, Birmingham and Memphis. Parks and her colleagues were instrumental in bringing the Freedom Train to Montgomery as they pressured city officials to ensure all children would actually enter on a first-come, first-served basis. As the Montgomery NAACP secretary, she created several campaigns for racial integration, wrote numerous press releases countering white arguments for segregation and continued to mount successive and tireless campaigns for black voter registration.

Theoharis brings us through six decades of Parks' courageous life as a political activist, which had serious consequences for her and her family. Great economic stress, constant harassment and people threatening physical harm and even death were now part of her life. Despite the private toll, Parks continued to publicly urge perseverance for the civil rights movement, never retiring as an advocate for racial justice.

Theoharis' *The Rebellious Life of Mrs. Rosa Parks* is an exceptional scholarly work that offers a great story for its readers and should be part of every library and classroom. This work provides a new awareness of the importance of an American icon whose real history is better and far more relevant to move our society forward than the myth of a tired seamstress.



Copies of Jeanne Theoharis' book, \$27.95 (hardcover), are available for purchase at Henry Ford Museum Store.

See video of Jeanne Theoharis at the National Day of Courage ► <http://bit.ly/12LBVAV>

What are we reading + watching?

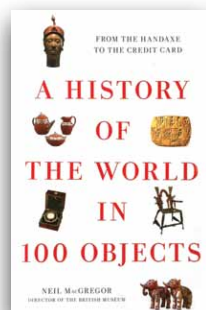
Clara Deck
Senior Conservator
The Henry Ford

A HISTORY OF THE WORLD IN 100 OBJECTS

By Neil MacGregor

Great artifacts tell essential stories, from simple stone hand axes to elaborate gold reliquaries and beyond. Published as a book in 2010, *A History of the World in 100 Objects* was first presented on British radio under the careful guidance of Neil MacGregor, director of the British Museum in London, as a 100-part series exploring world history from 2 million years ago to the present day.

This provocative series proves that museums with huge, encyclopedic collections are relevant today. And that studying real three-dimensional objects can help us take a very long view of humanity's presence, impact and ability to get along on Earth.



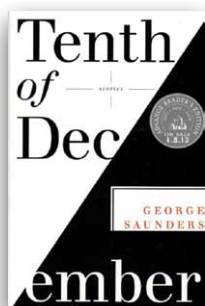
Ellice Engdahl
Digital Collections
Initiative Manager
The Henry Ford

TENTH OF DECEMBER: STORIES

By George Saunders

George Saunders specializes in creating dystopian worlds that are not quite like your own, but close enough to make you worry. His most recent short story collection, *Tenth of December*, covers a number of favorite themes for Saunders: commercialism run amok, intolerance, social standing and average people doing the best they can in the circumstances given them. To these, he brings a great dry sense of comic timing and voice in the tradition of Kurt Vonnegut Jr.

Not to be missed is the longest story in the book, "The Semplica Girl Diaries," about the struggles of an "ordinary" family to make the right choices in a morally questionable world.



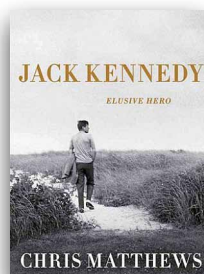
Marilyn Zoidis
Director,
Historical Resources
The Henry Ford

JACK KENNEDY: ELUSIVE HERO

By Chris Matthews

November 22, 2013, marks 50 years since President John F. Kennedy's assassination. For those familiar with JFK's carefully constructed narrative, this book is revealing. Among its details are the chronic illnesses that plagued him. Today's media intensity would make such obfuscation impossible. Within this story of intense physical pain and near-death, however, a story of fortitude and resiliency emerges. Although popular images of a robust figure conflict with the truth, Kennedy's depth of resolve was real.

Matthews chronicles this determination and tenacity through two critical events in Kennedy's life: his rescue of his men after attack during World War II and when facing down the Soviet Union during the Cuban Missile Crisis. A story worth reading.



Lisa Korzetz
Registrar
The Henry Ford

EMPIRE OF THE AIR: THE MEN WHO MADE RADIO

By Tom Lewis

Empire of the Air, published in 1991, remains a fascinating book about the history of radio. Like digital technologies of today, radio transformed the way Americans lived. Author Tom Lewis tells the story through three individuals: two inventors of radio technology, Lee de Forest and Edwin H. Armstrong, along with entrepreneur David Sarnoff, who would build RCA into a communication powerhouse. The book is a nice link to the vast collections of The Henry Ford, which include early radio broadcasting equipment from RCA and Edwin Armstrong's portable radio — the first in the world.



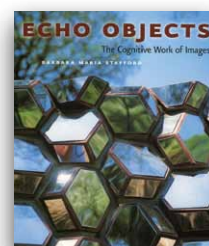
Nardina Mein
Manager, Archives &
Library Services
The Henry Ford

ECHO OBJECTS: THE COGNITIVE WORK OF IMAGES

By Barbara Maria Stafford

We all experience the power of images in our daily lives. Everyone would agree that images of all kinds help us experience beauty, understand concepts and tell stories in ways that can be inspirational, compelling and, at times, frightening. But how does the brain process images and endow them with meaning, and how do images enhance our ability to understand and remember?

Increasingly, new technologies make it possible to study the brain while a research participant is reading, listening to music or studying works of art. As this research develops, scholars and scientists can study how the brain processes images and how images can impact human thought and emotion. *Echo Objects* explores this interaction by mixing neurological findings with images of more than 90 works of art.



Hungry for Some History?

BY WENDY VON BUSKIRK | PHOTO BY BILL BOWEN

If you build up an appetite touring Greenfield Village, stop by the Owl Night Lunch Wagon, an early edition of today's popular mobile food trucks.



► Owl Night Lunch Wagon, Greenfield Village, c. 1933

Dating to the 1890s, Owl Night is believed to be the last remaining horse-drawn lunch wagon in America. According to the book *American Diner Then and Now* by Richard Gutman, the wagon once pulled up in front of Edison Illuminating in Detroit to serve “fast food” to night shift workers — including Henry Ford.

Ford acquired the wagon in 1927 and parked it in Greenfield Village, where it has served visitors in a variety of capacities ever since. Owl Night Lunch Wagon is located across the street from the Miller School.

Grab a cuppa joe and a slice of Greenfield Village's signature walnut raisin Hobo Bread (\$4).



Inside The Henry Ford

Here's your ultimate guide to the world's premier history destination.

The Henry Ford is 200 acres of innovation, 300 years of history and 26 million artifacts. Flip through the following pages to find out what's happening inside this mind-blowing cultural institution during the summer and fall.

Henry Ford Museum	46
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Acquisitions + Collections	56
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Assembly of Power

Build a Model T, a hands-on exercise that lets you take the wheel — and bolt it on

Did

you know a Ford Model T is built just about every day somewhere in America? That somewhere is Henry Ford Museum.

At the Build a Model T experience in *Made in America*, an authentic 1917 Model T Touring Car is put together and taken apart each day of the year (except Thanksgiving and Christmas). Even more amazing, it's assembled by guests to the museum who may never have picked up a wrench.

"We start from essentially a frame and parts," said Tom Varitek, senior manager of program operations at The Henry Ford, "and we build it to a finished car."

Stop by the exhibit and you'll be invited to do your part, from adding a single bolt or piece of trim to operating the gantry crane that's used to lower the engine into place.

According to Varitek, the Model T is done by about 2:30 p.m. each day, and staffers take it apart before the museum opens the following morning.

ONLINE For more information, hours and pricing ▶ visit thehenryford.org/museum

Build a Model T was created in 2008 for the Model T centennial celebration and recently got a new look with crates and parts that would have been found at Ford's Highland Park Assembly Plant. Guests to the exhibit are educated about the iconic vehicle, and a nearby activity even lets kids build toy Model Ts on a moving belt.

"It gives visitors the feel of the assembly line process used to actually build the Model T in its day," Varitek said.

Many guests add multiple pieces to the car, and some "regulars" even challenge themselves to affix every part at least once, for bragging rights that they've built an entire Model T.

Turns out, it's not that hard — a deliberate component of Henry Ford's iconic vehicle design. "Compared to today's cars, the Model T was built partially so the owners themselves could work on it," Varitek said.



► Kids tap their inner engineer at the Build a Model T experience in Henry Ford Museum — and learn a thing or two about using their heads and their hands.



BY THE NUMBERS

1: Times per day a 1917 Model T Touring Car is built from scratch at The Henry Ford.

2,049: Approximate number of times annually the Model T will have been taken apart and put back together.

15: Minutes it takes the Canadian Model T Assembly Team to build a vehicle during Greenfield Village's Old Car Festival each year. This year's event is Sept. 7-8, 2013.

Back on Track

Locomotives, objects of awe for all ages

On

the timeless streets of Greenfield Village, you'll see Model Ts, Model AA omnibuses, horse-drawn shuttles and even vintage bicycles. But the favorite mode of transportation for many is riding behind the locomotives of the Weiser Railroad.

Henry Ford shared a love of locomotives in his day. And although hard-core rail fans may appear to be a dying breed today, a quick online search will uncover a surprisingly strong community of enthusiasts, young and old, posting roaring video footage and compelling commentary about their modern-day appreciation for the powerful machinery now coming down America's tracks. Just read the commentary from author and current-day train conductor Dan Cupper on Page 15. As he describes a recent ride on an overseas high-speed train, his passion for rail jumps off the page.

Imagine Ford as giddy as a small boy with a Thomas the Tank Engine™ toy train in his hand. Ford's hand, however, is on the throttle of his very own 100,000-plus-pound steam engine barreling down the tracks. The feeling of freedom and speed combined with Ford Motor Company's remarkable success must have been intoxicating.

Visitors to Greenfield Village can get a taste of that power as an 18-year restoration project to bring one of Ford's pet steam engines back to life is nearly complete.

Ford acquired the Detroit & Lima Northern No. 7 Locomotive with his purchase of the Detroit, Toledo

& Ironton Railroad in 1920. The line carried coal from his mines in Kentucky to his River Rouge Complex, but Ford's use of No. 7 went beyond business.

Holding a special place in Ford's heart, this elegant engine was often reserved for his playtime. "This was Henry's personal toy in the early '20s," said Tom Fisher, chief mechanical officer for The Henry Ford.

Added Matt Anderson, curator of transportation for The Henry Ford: "There's no doubt that Ford loved steam locomotives in general. He loved all things mechanical, and there's nothing better for that than a steam locomotive — all the moving parts are on the outside where you can see them.

"I've seen many references to No. 7 as one of Henry Ford's personal favorites."

Ford may have modified the steam locomotive over the years, but the Greenfield Village restoration has focused on bringing it back to its original state, when it first rolled out of Baldwin Locomotive Works of Philadelphia in 1897.

The process has been painstaking, with a team of engineers and mechanics consulting old catalogs and manuals to fabricate lost parts and restore and learn how to use antique equipment. Visitors to Greenfield Village have been patiently watching the project's progress from the DT&M Roundhouse balcony in anticipation of someday being lucky enough to have their own "playtime" with the No. 7.

Their wait is over.

ONLINE For more information, hours and pricing visit thehenryford.org/village



BILL BOWEN



PLAY VIDEO



▶ Henry Ford's favorite steam engine — the Detroit & Lima Northern No. 7 — is fitted with new pipes in anticipation of its debut after an 18-year restoration.

Sedum vs. Shingle

A living roof, the embodiment of responsible manufacturing

When

you take the Ford Rouge Factory Tour, it's easy to see industry in motion. Look a little closer and you'll also see nature at work.

From the tour's 80-foot observation deck, you'll watch as Ford F-150s are assembled before your eyes. You'll also get a bird's-eye view of Ford's famous "living roof."

This eco-industrial wonder — the largest living roof in the world — blankets the top of the Dearborn Truck Plant final assembly building. Altogether, it spans 10.4 acres, about the size of a nine-hole golf course, and is made up of tens of thousands of tiny sedum plants, a perennial groundcover also known as stonecrop.

So why would a company devoted to building vehicles get into gardening?

The roof's main function is to collect and filter rainfall as part of a natural storm water management

system. The roof is capable of cleaning up to 4 million gallons of water every year. It also decreases the building's energy consumption by 7 percent and improves air quality by as much as 40 percent.

A decade after its debut, there's not much new to say about the everyday grind attached to the living roof. And that's the point. "It was installed for the 2003 Ford Centennial and has been in place and doing its job really well ever since," said Cynthia Jones, manager of the Ford Rouge Factory Tour. "Ford did a bit of checking in on it a few years ago just to confirm all is well, but it's mostly a maintenance-free, naturally renewing, naturally growing cover."

The roof, however, has helped lead new discussions and movements in the world of architecture. In the past 10 years, green roofs are no longer just on top of a building. They have become entire buildings, changing our perceptions of what structures can, and should, be made of.

ONLINE For more information, hours and pricing ▶ visit thehenryford.org/rouge

▶ Ten-plus acres of tiny plants that form the roof of the Dearborn Truck Plant suck up rainwater and filter out impurities, which can clean 4 million gallons of storm water a year.



THE LIVING ROOF

was designed by acclaimed architect and sustainability authority William McDonough, who was named a Hero of the Planet by *TIME* Magazine.

Step into a New World

Pandora, re-creating the experience
of epic film *Avatar*

With

the largest screen in Michigan and classic 15-perforation/70mm film projection technology, The Henry Ford is truly the best place in the state to see a Hollywood movie in IMAX® 3D.

That's why some film fans were slightly disappointed when The Henry Ford opted not to show *Avatar* when it was released in 2009 in favor of holiday programming. *Avatar* would go on to become the highest-grossing film of all time and be credited with reinventing the 3D moviegoing experience.

No regrets, however. Because what's happening this fall at The Henry Ford blows away just being able to see the movie on an 85-foot-wide and 62-foot-tall screen.

Starting October 26, you will be able to view the film at The Henry Ford for the first time during a three-month engagement of *Avatar Special Edition: An IMAX 3D Experience*. Better yet, the movie will be accompanied by an immersive exhibit that offers an in-depth, behind-the-scenes look into the making of this visionary film.

James Cameron's *AVATAR: The Exhibition* features authentic props and costumes as well as concept art, models and production tools. Walk into the wondrous world of Pandora, explore Na'vi language

and culture, see your movements mirrored by a computer-generated avatar, and sit in the director's chair to shoot a scene of your own.

The exhibit was organized by EMP Museum and developed in partnership with Twentieth Century Fox Consumer Products and James Cameron's Lightstorm Entertainment.

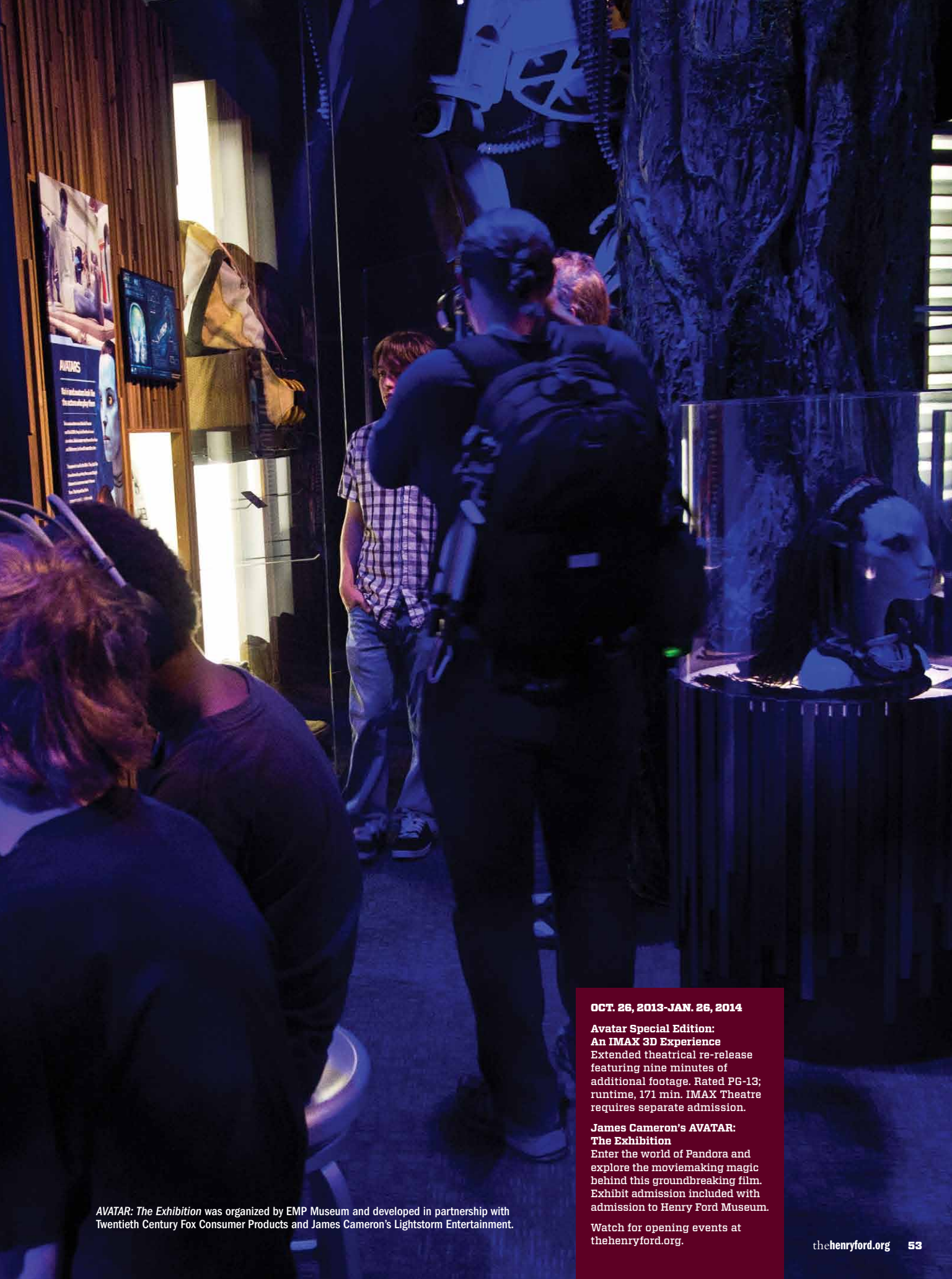
"This exhibit fits right in with The Henry Ford's mission to showcase innovation, invention and inspiration," said Amy Louise Bartlett, director of guest services and IMAX at The Henry Ford. "Both the exhibit and the film demonstrate how director James Cameron pushed moviemaking technology to its modern limits."

Ron Bartsch, senior manager of IMAX projection and programming at The Henry Ford, added that visitors should not miss this opportunity to see *Avatar* the way it was intended — via 15/70 IMAX 3D film at The Henry Ford's classic IMAX Theatre.

"Not all 3D theatrical experiences are created equal," Bartsch said. "James Cameron strived for — and achieved — not only a truly great film but an IMAX 3D experience unlike any other. We take pride in projecting IMAX films with the highest attention to quality, the way in which the director intended. We think James Cameron wouldn't have it any other way."

► The Henry Ford will do just that this fall with the simultaneous showing of *Avatar Special Edition: An IMAX 3D Experience* on Michigan's largest IMAX screen and James Cameron's *AVATAR: The Exhibition*, a behind-the-scenes look at the making of the film, in Henry Ford Museum.

ONLINE For more information, hours and pricing ► visit thehenryford.org/imax



OCT. 26, 2013-JAN. 26, 2014

**Avatar Special Edition:
An IMAX 3D Experience**

Extended theatrical re-release featuring nine minutes of additional footage. Rated PG-13; runtime, 171 min. IMAX Theatre requires separate admission.

**James Cameron's AVATAR:
The Exhibition**

Enter the world of Pandora and explore the moviemaking magic behind this groundbreaking film. Exhibit admission included with admission to Henry Ford Museum.

Watch for opening events at thehenryford.org.

AVATAR: The Exhibition was organized by EMP Museum and developed in partnership with Twentieth Century Fox Consumer Products and James Cameron's Lightstorm Entertainment.

Take it Forward

BOLD IDEAS SHAPING OUR WORLD



Car and the Cradle

Bringing baby on board looks a bit different these days.

A DEVICE OF TORTURE OR FOR SAFETY? ▶

Junior might scream some getting strapped into this 1925 rendition of the child car seat.

Driving America, Henry Ford Museum

Right on

What happens when we say no more taking liberties with our civil liberties?



◀ BRICK BY BRICK

Enslaved families on a Georgia plantation called this one-room dwelling home. Walk inside.

Hermitage Slave Quarters, Greenfield Village



MICHELLE ANDONIAN

Get Schooled

Learn about Henry Ford's favorite houses built for learning.



◀ SCHOOLHOUSE TOME

Henry Ford carried such a fondness for the McGuffey-brand schoolbooks of his youth that he decided to collect a bunch. He ended up with one of the best assortments in the world.

The McGuffey Reader, Benson Ford Research Center



Bicycle, Bicycle

I want to ride my bicycle.
I want to ride my bike.



◀ THE VAN CLEVE

Orville and Wilbur Wright built some great bikes. The popular Van Cleve cycle was a safety bike because it had two wheels of the same size, making it easier to ride.

Wright Bicycle Shop, Greenfield Village

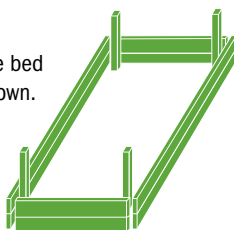
WATCH THAT GARDEN GROW

What's old is new again. Beds, boxed and raised, are the garden tradition at the 1754 Daggett Farm in Greenfield Village. Build your own raised veggie patch with a little lumber, some quality dirt and the right seedlings planted in a row.

b Read our guide to the gardens of Greenfield Village ▶ blog.thehenryford.org/2011/04/guide-to-the-gardens-at-greenfield-villages-historic-homes/

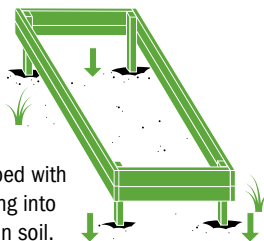
1

Assemble bed upside down.



2

Position bed with posts going into 6" holes in soil.





KIDS IN SPACE

With legs left to dangle and a hook-it-on design, the safety rating of this 1960s child carrier seems highly questionable. Decide for yourself.

Driving America, Henry Ford Museum



SNUG AS A BUG

Once laws were passed, our precious cargo started traveling safer, more soundly and certainly fully surrounded.

Driving America, Henry Ford Museum

NO. 13 Twenty-seven amendments have been made to the Constitution since 1787. The 13th declared freedom for all slaves. View a hand-lettered copy of what was ratified in 1865.

With Liberty and Justice for All, Henry Ford Museum



WORTH FIGHTING FOR

Rosa Parks said no to losing her seat and took a stand for civil rights. Sit on the Alabama bus where it all happened.

With Liberty and Justice for All, Henry Ford Museum

HENRY'S OLD SCHOOL

A young and impressionable Henry Ford was taught reading, writing and arithmetic in this one-room gem from 1873-1874.

Miller Schoolhouse replica, Greenfield Village



BILL BOWEN

HENRY'S NEW SCHOOL

Yep, there's a schoolhouse named after him now. And it just so happens to be the nation's very first charter school developed by a global corporation, public education and a cultural institution. Innovative, right?

Henry Ford Academy, The Henry Ford Campus



SMALL WHEELS, BIG THINKING

Dr. Alex Moulton said cycling status quo be damned in the 1960s and came up with a spanking-new bicycle design using a light-weight F-shaped frame and tiny wheels.

Driving America, Henry Ford Museum

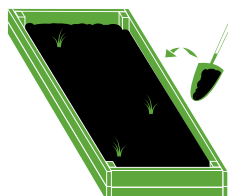


FOLD 'N' RIDE

Take it on the subway, tuck it under your desk, tote it into the bathroom if you have to. This modern-day folding Brompton is lightweight, comfortable and ready to go everywhere you go.

Driving America, Henry Ford Museum

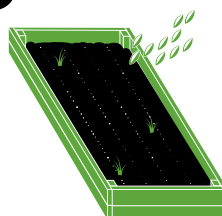
3 Fill bed with soil and compost.



4 Choose varieties to plant.



5 Plant seeds.



6 Water regularly and watch plants grow.



Soapbox Hero

Soapboxes, a testament to America's changing attitudes about how to and who should do the cleaning

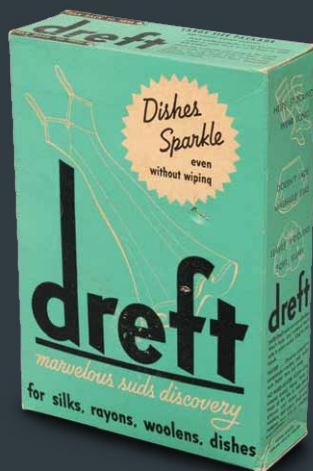
The

collections of The Henry Ford document America's traditions of ingenuity, resourcefulness and innovation. Permanent exhibits on the floor include *Driving America* and *Heroes of the Sky*, which

depict the grand stories of automotive and aviation, respectively. An online world of digital collections also exists, letting you discover even more about other movements and traditions that speak to our culture, from slavery and civil rights to iconic furniture design and laundry soap.

Laundry soap? What could a random assortment of detergents and dish soaps from past decades possibly tell us about our culture? A lot, said Donna Braden, curator of public life at The Henry Ford. They reflect changes in marketing and graphic design, women's work, America's attitude toward cleanliness and advances in chemistry.

The Henry Ford now has a unique Laundry Packaging collection which can be viewed online as part of its digital repository. Assembled by Susan Strongman Fiems, the story goes that Fiems' odd fixation with vintage soap and laundry items



began with a simple housewarming gift in 1973. She received Chipso flakes to match the Formica in her new bathroom, which was patterned in old catalog reprints. Soon after, Fiems began scouring antique malls and estate sales for more. Her collection eventually outgrew her bathroom and overflowed from several display cases, finally topping out at more than 300 household cleaning products that span the late 19th century to 2005, with the bulk from the 1940s and '50s.

"Visually they're so stunning," said Braden of the collection. "This was the era of big supermarkets, impulse buying, store windows, brand loyalty and good consumers, so everyone tried to make their packaging very eye-catching."

There was great enthusiasm among the curators to bring this unique collection to The Henry Ford because of its quality and depth. "The acquisition reflects Henry Ford's founding mission that his museum collect 'the history of our people as written into things their hands made and used,'" said Braden. "Ford was very committed to collecting the objects of everyday life."



GOOD HOUSEKEEPING

The Henry Ford's new Laundry Packaging Collection reveals several cultural tides:

1870s: "Germ theory" leads to an obsession over hygiene.

1910s-'20s: The "servant problem" leads middle-class women to take over the housework.

1933: Dreft, by Procter & Gamble, is the first branded detergent in the U.S., made possible by the development of synthetic household products.

1950s: Consumers expect every product they buy to have distinct, attractive packaging.

Source: Laundry Packaging Collection Cultural Connections, The Henry Ford.

ONLINE For more information about the collections of The Henry Ford ▶ visit collections.thehenryford.org



2013 Events

Celebrate.
Play.
Imagine.

RAGTIME STREET FAIR

July 13-14, 2013



CHUCK ANDERSEN

Long before Motown, Detroit played a central role in the ragtime craze.

Today, Greenfield Village celebrates this quintessential American music with two days of ragged-out fun.

"It's one of the most significant early jazz festivals in our region and maybe in the whole country," said Jim Johnson, senior manager of creative programs at The Henry Ford.

Ragtime, so called for its syncopated or "ragged" beat, was all the rage in the 1890s-1910s. A blending

of Latin and African-American rhythms, ragtime was at first scandalous, Johnson said, but quickly moved into the mainstream and defined American culture to the rest of the world. It paved the way for jazz, boogie-woogie and eventually rock 'n' roll.

Hear it for yourself with live music on two stages on Saturday from 9:30 a.m.-9:30 p.m. and on Sunday from 9:30 a.m.-5 p.m. You'll also find food, dance lessons, period attire, phonograph and player piano demos, and more.

DETROIT was a hugely important center for ragtime music, hosting a slew of publishing houses, composers and popular artists such as Jelly Roll Morton and Scott Joplin, "the king of ragtime."

ONLINE visit thehenryford.org/ragtime ▶

Detroit
**Maker
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Ultimate Maker Sponsor



Ford Motor Company Fund

Maker Sponsor
DENSO

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metrotimes



**MAKER
FAIRE®
DETROIT**
July 27-28, 2013

BILL BOWEN

If you're a crafter, hacker, tinkerer or any other kind of -er, you'll find your tribe at the Maker Faire.

Billed as "part science fair, part county fair and part something entirely new," Maker Faire is a family-friendly festival that celebrates all things ingenious.

The Henry Ford is a fitting location to bring the national phenomenon to Detroit, according to Jim Johnson, senior manager of creative programs at The Henry Ford. "It's an

inspirational event. There's stuff that's very whimsical that people have created, that's fun and entertaining to interact with, but there's also cool cutting-edge technology that's very practical.

"Maker Faire is all about inventing and innovation – the core of what we do here at The Henry Ford," added Johnson.

Come with an open mind, be ready to get your hands dirty and enjoy some good, clean creativity.

ONLINE visit thehenryford.org/makerfaire ▶

2013 Events

YEAR-ROUND

Macy's 2nd Mondays Children's Program

November 11, December 9
Henry Ford Museum

June 10, July 8, August 12,
September 9, October 14
Greenfield Village

Target Family Days

September 2, November 22
Henry Ford Museum

Tinker. Hack. Invent. Saturdays

June 29, July 27, August 31,
September 28, October 26,
November 30, December 28
Henry Ford Museum

JUNE

Designing Tomorrow: America's World's Fairs of the 1930s

Running through
September 2
Henry Ford Museum

Designing Tomorrow: America's World's Fairs of the 1930s was organized by the National Building Museum, Washington, D.C.

This exhibition has been made possible in part by a major grant from the National Endowment for the Humanities*: Because democracy demands wisdom; and the National Endowment for the Arts. *Any views, findings, conclusions or recommendations expressed in this exhibition do not necessarily represent those of the National Endowment for the Humanities.

Member Appreciation Days

June 7-9
The Henry Ford

Historic Base Ball Games

June 8-9, 15-16, 22-23
and 29-30

Historic Base Ball in Greenfield Village is made possible through the generous support of Cynthia and Edsel B. Ford II.

National Get Outdoors Day

June 8
Greenfield Village

Man of Steel: An IMAX® 3D Experience*

Opens June 14
IMAX® Theatre

Motor Muster

June 15-16 (Open
Saturday 'til 9 p.m.) ()
Greenfield Village

Summer in Greenfield Village

June 15-August 18
Greenfield Village

Summer Discovery Camp*

June 24-28, July 8-12,
15-19, 22-26, July 29-
August 2 and August 5-9
The Henry Ford

JULY

Designing Tomorrow: America's World's Fairs of the 1930s

Running through
September 2
Henry Ford Museum

Summer in Greenfield Village

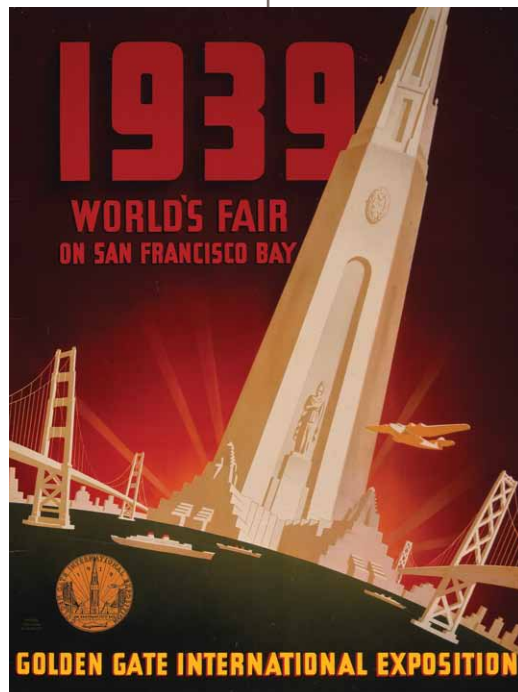
Running through August 18
Greenfield Village

Annual Salute to America*

July 3-6 ()
Greenfield Village

Historic Base Ball Games

July 6-7, 13-14, 20-21
and 27-28
Greenfield Village



► Designing Tomorrow: America's World's Fairs of the 1930s runs through September 2 in Henry Ford Museum.

POSTER, 1939 WORLD'S FAIR ON SAN FRANCISCO BAY, 1937. COMMERCIAL COLOR LITHOGRAPH. DESIGNED BY SHAWL, NYELAND & SEAVEY FOR SCHMIDT LITHOGRAPHIC COMPANY, SAN FRANCISCO. THE WOLFSONIAN-FLORIDA INTERNATIONAL UNIVERSITY, MIAMI BEACH, FLORIDA. THE MITCHELL WOLFSON, JR. COLLECTION.

Ragtime Street Fair

July 13-14 (Open Saturday
'til 9 p.m.) ()
Greenfield Village

Maker Faire® Detroit*

July 27-28 (Open Saturday
and Sunday 'til 6 p.m.) ()
The Henry Ford

AUGUST

Designing Tomorrow: America's World's Fairs of the 1930s

Running through
September 2
Henry Ford Museum

Summer in Greenfield Village

Running through August 18
Greenfield Village

Historic Base Ball Games

August 3-4 and 17-18
Greenfield Village

Blues, Brews and Local Roots BBQ*

August 8 ()
Greenfield Village

World Tournament of Historic Base Ball®

August 10-11
Greenfield Village

SEPTEMBER

Designing Tomorrow: America's World's Fairs of the 1930s

Running through
September 2
Henry Ford Museum

63rd Annual Old Car Festival

September 7-8 (Open
Saturday 'til 9 p.m.) ()
Greenfield Village

Books, Etc., Sale

September 7
Benson Ford Research
Center

Fall Flavor Weekend

September 28-29
Greenfield Village

Farmers Market

September 28
Greenfield Village

OCTOBER

Fall Flavor Weekend

October 5-6
Greenfield Village



MICHELLE ANDONIAN

Farmers Market

October 5
Greenfield Village

Hallowe'en in Greenfield Village*

October 11-13, 18-20
and 25-27 ()
Greenfield Village

Hallowe'en in Greenfield Village Dinner Package*

October 11-12, 18-19
and 25-26 ()
Greenfield Village



MICHELLE ANDONIAN



AVATAR Special Edition: An IMAX® 3D Experience
October 26, 2013-
January 26, 2014
IMAX® Theatre

James Cameron's AVATAR: The Exhibition
October 26, 2013-
January 26, 2014
Henry Ford Museum

AVATAR: The Exhibition was organized by EMP Museum and developed in partnership with Twentieth Century Fox Consumer Products and James Cameron's Lightstorm Entertainment.



JFK Remembered
Take time to reflect and see the presidential limo JFK was riding in on that fateful day in Dallas. Also receive a complimentary *JFK Remembered* souvenir program.

November 18-21
9:30 a.m.-5 p.m. each day
November 22
9:30 a.m.-3:30 p.m.
Henry Ford Museum

▶ **John F. Kennedy Lecture: An Evening With Dan Rather and Guests***

Hear panel guests including author and newscaster Dan Rather, author James Swanson and author and historian Douglas Brinkley talk about that day in 1963 that changed a nation.

November 18 (7 p.m.
Henry Ford Museum

▶ **John F. Kennedy Lecture: An Evening With Former Secret Service Agent Clint Hill and Lisa McCubbin***

Listen to former Secret Service agent Clint Hill as he gives his firsthand account of the day JFK was shot.

November 19 (7 p.m.
Henry Ford Museum

▶ **November 22**
In remembrance of President Kennedy and in respect of the anniversary, Henry Ford Museum will waive admission courtesy of Target.

9:30 a.m.-3:30 p.m.

Tickets for the November 18 and 19 lectures and special VIP receptions featuring the panel guests go on sale June 5. For more information visit thehenryford.org/jfkremembered. Seating is limited.

The Hunger Games — Catching Fire: The IMAX® Experience*

Opens November 22
IMAX® Theatre

Members 20th Annual Holiday Lighting Ceremony*

November 25 (Henry Ford Museum

Holidays in Henry Ford Museum

November 29, 2013-
January 5, 2014
Henry Ford Museum

DECEMBER James Cameron's AVATAR: The Exhibition

Running through
January 26, 2014
Henry Ford Museum

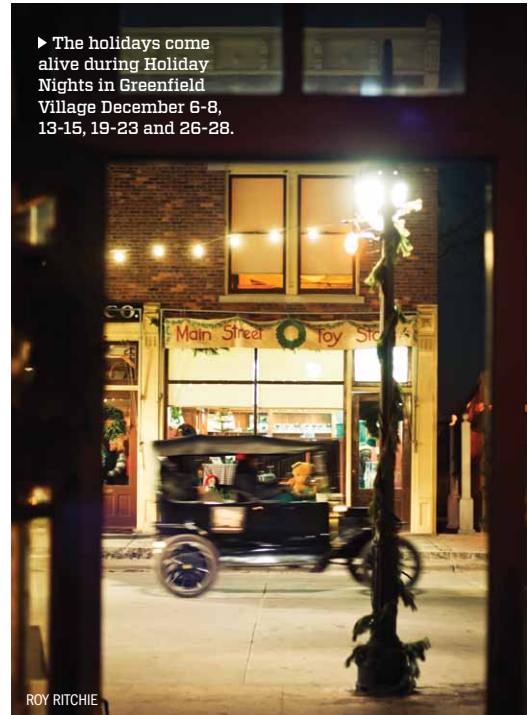


Holidays in Henry Ford Museum

Running through
January 5, 2014
Henry Ford Museum

Holiday Nights in Greenfield Village*

December 6-8, 13-15,
19-23 and 26-28 (Greenfield Village



▶ The holidays come alive during Holiday Nights in Greenfield Village December 6-8, 13-15, 19-23 and 26-28.

ROY RITCHIE

Holiday Nights Supper With Santa Package at A Taste of History® *

December 6-8, 13-15 and 19-23 (Greenfield Village

Holiday Nights in Greenfield Village Dinner Package at Eagle Tavern*

December 6-8, 13-15, 19-23 and 26-28 (Greenfield Village

The Hobbit — The Desolation of Smaug: An IMAX® 3D Experience*

Opens December 13
IMAX® Theatre

BEST VALUE!

Become a member and receive unlimited free admission to Henry Ford Museum and Greenfield Village. For details, visit thehenryford.org/membership.

* Additional fee and/or advance reservation required

(Special evening hours during these events

All programs and dates are subject to change.

BEFORE YOU VISIT

It's a good idea to give a quick call or check online to confirm dates, times and locations for all events.

b Get an inside look at the experiences of The Henry Ford ▶ blog.thehenryford.org



▶ Clint Hill (below) speaks at Henry Ford Museum on November 19 as part of *JFK Remembered*



the
Henry
Ford

Take it Forward.™



**Inspiring.
Powerful.
Unexpected.
Wow.**

How will you
leave your guests
speechless?

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300 Town Center Drive
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THE FIVE DISTRICTS OF THE D



- DW** DEARBORN/WAYNE
- DD** DOWNTOWN DETROIT
- GN** GREATER NOVI
- M** MACOMB
- O** OAKLAND

To help you get a better grip on the lay of the land, the region has been organized into five destination districts: Keep in mind that The Henry Ford is located within the Dearborn/Wayne district.

Accommodations at a Glance

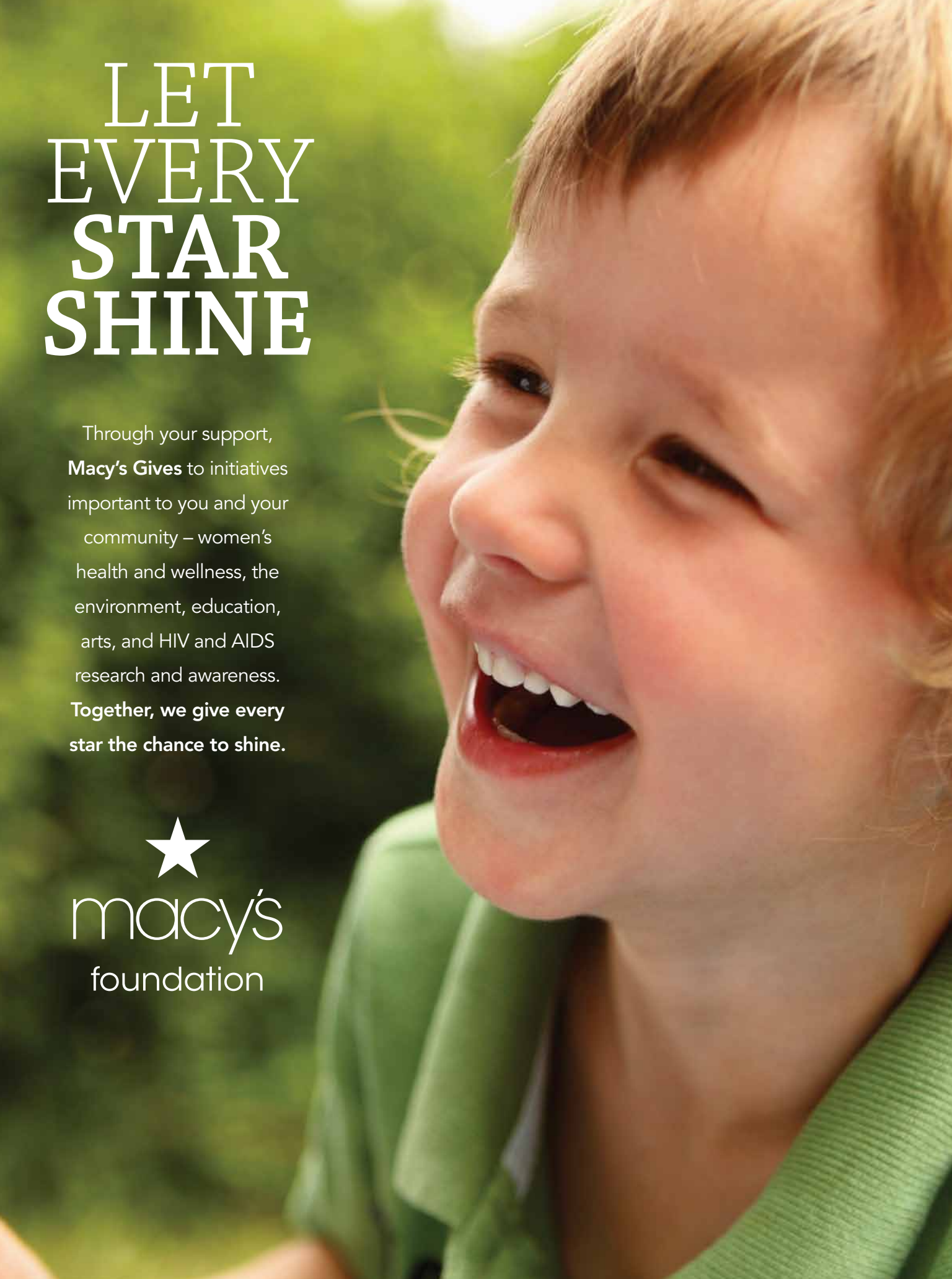
HOTEL	LOCATION AREA	DRIVE TIME*	SLEEPING ROOMS	POOL	PETS	MEETING ROOMS	MEETING SPACE (SQ. FT.)	AD ON PAGE	
FULL-SERVICE	Adoba Hotel Dearborn	Dearborn	5	773	Indoor	•	30+	62,000	70
	Best Western Greenfield Inn	Dearborn (I-94 corridor)	10	209	Indoor	•	4	1,047	69
	Detroit Marriott at the Renaissance Center	Downtown Detroit	15	1,298			29	100,000	73
	DoubleTree Hotel Detroit/Dearborn	Dearborn	10	353	In/Out		16	12,000	74
	Holiday Inn Southgate - Banquet & Conference Center	Downriver (I-75 Corridor)	15	160	Indoor		8	9,000	67
	Sheraton Detroit Metro Airport	Airport (I-94 corridor)	15	359	Indoor	•	13	18,000	70
	The Henry, an Autograph Collection by Marriott	Dearborn	5	323	Indoor	• \$	14	26,000	71
HISTORIC	The Dearborn Inn, a Marriott Hotel	Dearborn	3	229	Outdoor		17	17,000	68
	The Westin Book Cadillac	Downtown Detroit	15	453	Indoor/Spa		13	26,000	70
LIMITED SERVICE	A Victory Inn Dearborn	Dearborn	7	77	Outdoor		0		73
	Comfort Inn & Suites · Dearborn	Dearborn	6	116	Indoor		1	250	69
	Comfort Inn & Suites · Taylor	Dearborn (I-94 Corridor)	10	78	Indoor		1 (15 People)		71
	Comfort Suites · Southgate	Downriver (I-75 Corridor)	15	78	Indoor		1 (50 People)		68
	Courtyard by Marriott · Detroit Dearborn	Dearborn	10	147	Indoor		2	1,274	73
	Hawthorn Suites by Wyndham	Dearborn	10	128	Outdoor	• \$	0		73
	Holiday Inn Express & Suites · Allen Park	Dearborn (I-94 Corridor)	10	163	Indoor		2 (15 People EA.)		72
	Marriott TownePlace Suites · Dearborn	Dearborn	10	148	Outdoor	• \$	0		72
	Marriott TownePlace Suites · Livonia	I-275 Corridor	20	94	Outdoor	• \$	0		70
	Red Roof Inn · Dearborn	Dearborn	7	111		•	0		73
	Red Roof Inn · Taylor	Downriver (I-75 Corridor)	15	111		•	0		70
SpringHill Suites by Marriott · Southfield	Southfield	15	84	Indoor		1	249	70	
BED & BREAKFAST	Bishop-Brighton Bed & Breakfast	Downriver	20	3			1	350	72
	Dearborn Bed & Breakfast	Dearborn	4	4			2	800	74
	York House Bed & Breakfast	Dearborn	10	3			0		74
CAMPING	Camp Dearborn	NW Oakland County	45	191	Outdoor		0		73
	Detroit Greenfield Campground/RV Park	I-94 Corridor	20	212	On Lake	•	Outdoor Pavilion	600	72

*Drive time in minutes to The Henry Ford.

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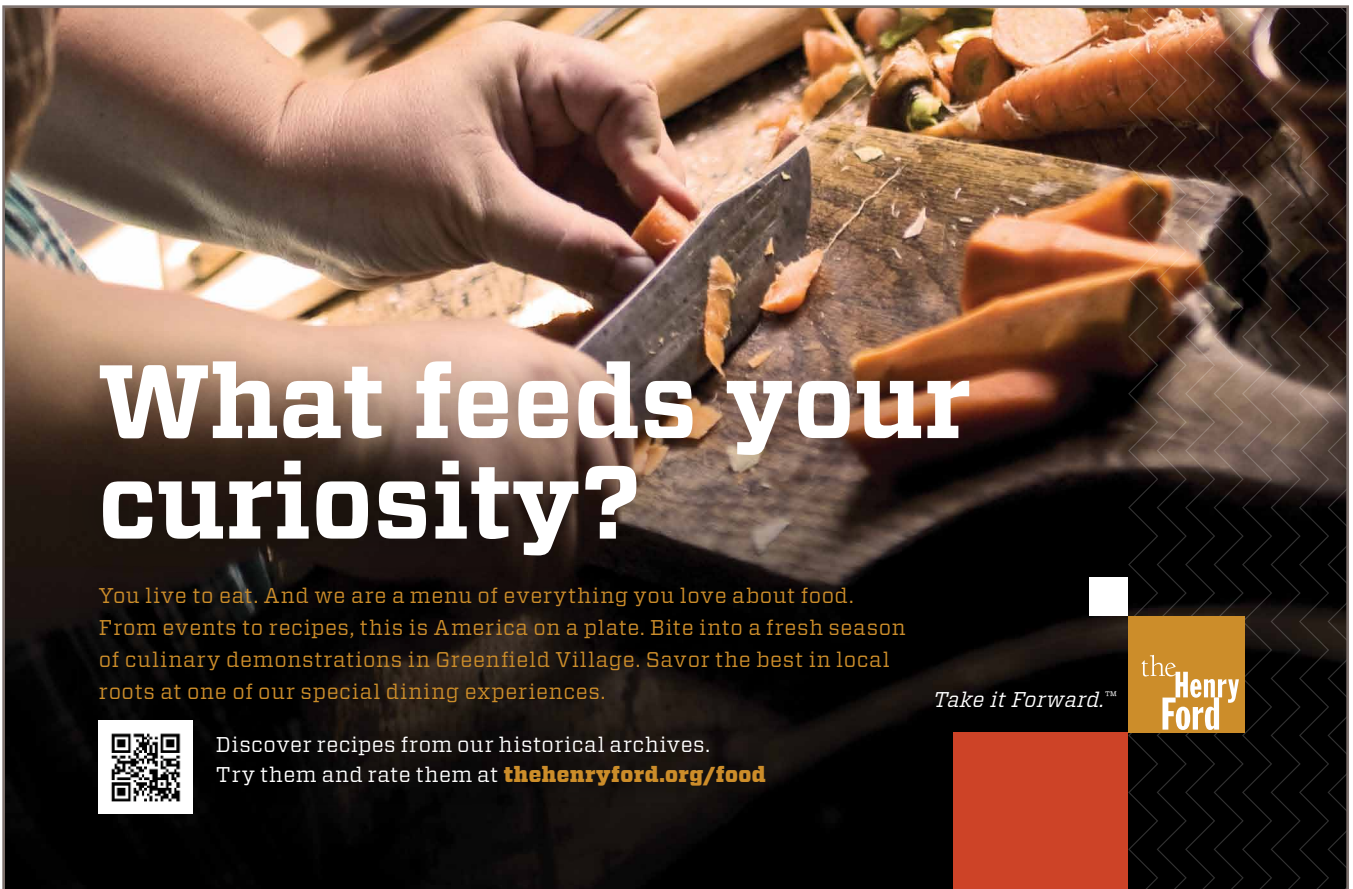
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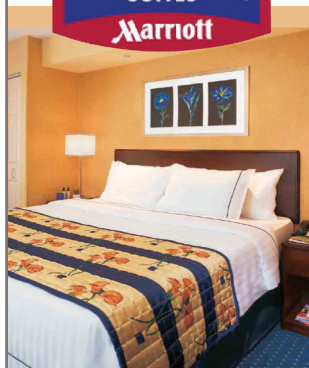
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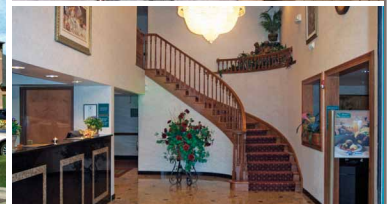
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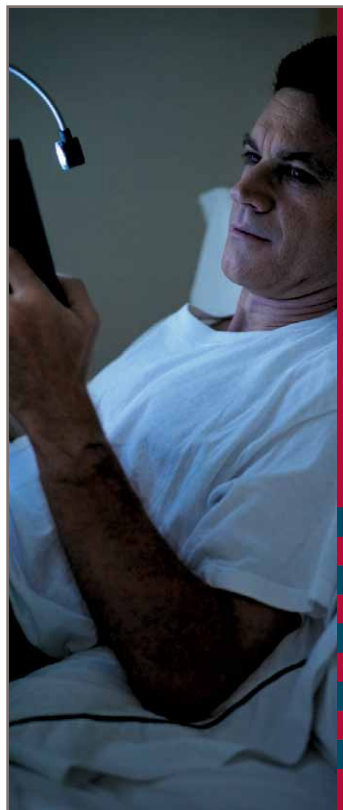
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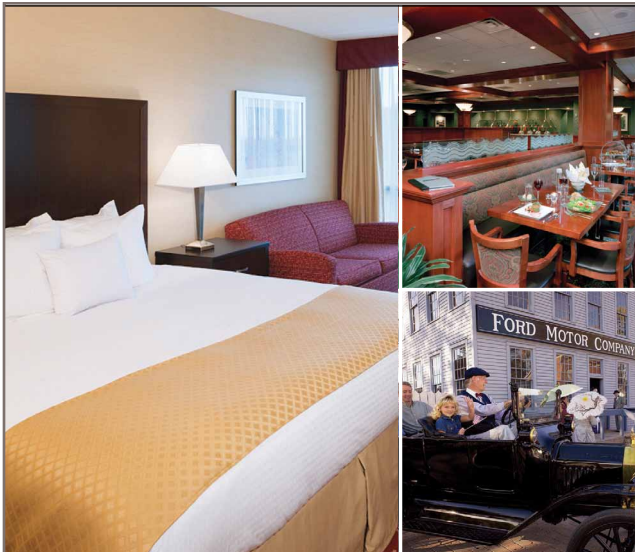
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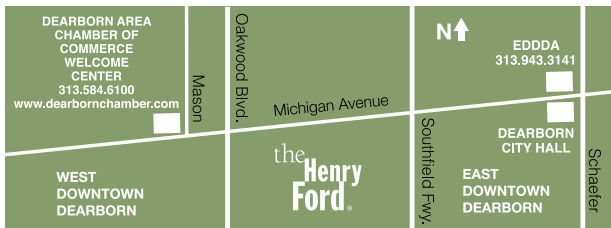


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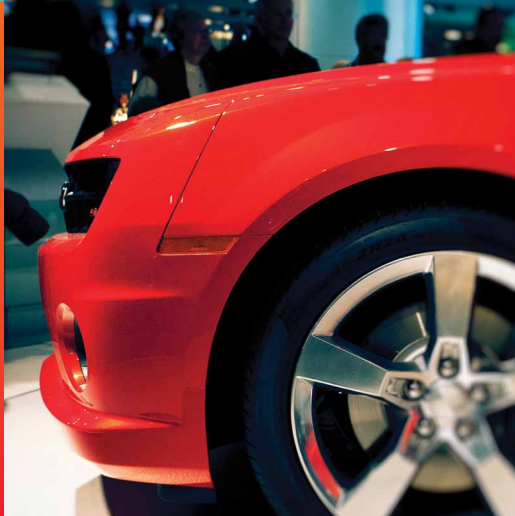
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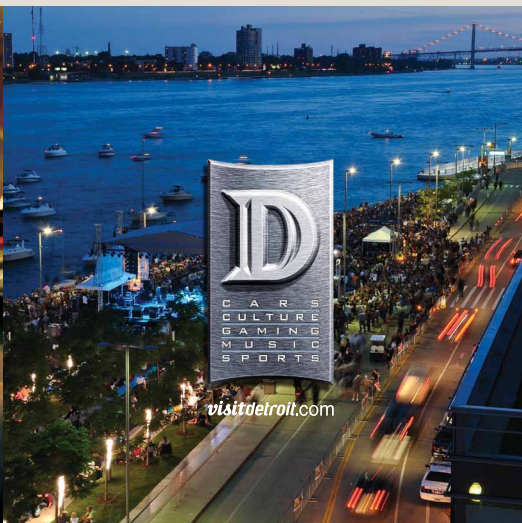


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ONE LAST LOOK

HENRY FORD'S FIRST DRIVER'S LICENSE

Driving without a license is a big no-no. It's against the law, right? Today, more than 200 million people in the U.S. have driver's licenses. It's even sort of a right of passage into adulthood when teens get one.

Henry Ford was a spry 56 when he became street legal in 1919. In part, this was because it was the first year Michigan, his home state, issued driver's licenses (Chicago, Illinois, was first in 1899). But mostly, it was because his wife got a call from a police officer one day. The officer informed Mrs. Ford that her husband and grandson had been pulled over (supposedly for "driving like a bat out of hell") without licenses. When the two got home, she sent her grandson to his room and her husband got a stern talking to. So the story goes ...

COLEMAN C. VAUGHAN
SECRETARY OF STATE

FRANK D. FITZGERALD
DEPUTY SECRETARY

MICHIGAN
DEPARTMENT OF STATE
LANSING

Operator's License No. **190565** Date.....19.....

Henry Fordresiding at
DearbornMichigan

St. is hereby licensed
Twp.

to operate a motor vehicle in accordance with the provisions of Act
No. 566, Public Acts of 1919.

DESCRIPTION OF PERSON LICENSED

Age **56** Years; Color of Hair **Gray** ;
Height **5** ft. **8½** Inches; Color of Eyes **Blue** ;
Sex **M** ; Color **W** ; Weight **138** lbs.

Not valid until endorsed by Licensee.

Coleman Vaughan
Secretary of State.

Signature of Licensee.....



► Henry Ford driving the 1896 Quadricycle, his first gasoline-powered automobile.

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Photo by Tom Hughes

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