

the
**Henry
Ford**

MAGAZINE
JUNE-DECEMBER 2016

Gain perspective.
Get inspired.
Make history.



THE FASHION ISSUE

PAGE 18

**WHAT HAPPENS WHEN
THE ART OF DRESS
PAIRS UP WITH THE
SCIENCE OF DIGITAL
TECHNOLOGY?**

A GROWING GRASSROOTS
GARMENT INDUSTRY
DESIGNERS BUILDING DRESSES,
BUILDING BUILDINGS
TELLING STORIES FROM A
FAMILY'S WARDROBE

THE HENRY FORD MAGAZINE - JUNE-DECEMBER 2016 | FASHION AND TECHNOLOGY | GRASSROOTS GARMENTS | ARCHITECTURE'S INFLUENCE ON FASHION | INSIDE THE HENRY FORD

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WHEN FASHION MIRRORS ARCHITECTURE
More often than not, these two disciplines and the artists that practice them go hand in hand

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ON THE COVER

The worlds of fashion and technology are colliding and pushing boundaries, inspiring pieces such as the Adrenaline Dress. This new take on the little black dress can react to a body's adrenaline and stress levels, opening up its carbon-fiber skeleton similar to how a threatened porcupine would display its quills. The garment takes cues from biomimicry, a scientific approach that looks to nature to solve human problems.

PHOTO BY FRANCIS BITONTI STUDIO INC.

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THE HENRY FORD: A NATIONAL TREASURE AND CULTURAL RESOURCE

The Henry Ford in Dearborn, Michigan, is an internationally recognized cultural destination that brings the past forward by immersing visitors in the stories of ingenuity, resourcefulness and innovation that helped shape America.

A national historic landmark with an unparalleled collection of artifacts from 300 years of American history, The Henry Ford is a force for sparking curiosity and inspiring tomorrow's innovators. More than 1.6 million visitors annually experience its four venues: Henry Ford Museum, Greenfield Village, Ford Rouge Factory Tour and the Benson Ford Research Center. A continually expanding array of content available online provides anytime, anywhere access to The Henry Ford Archive of American Innovation™. The Henry Ford is also home to Henry Ford Academy, a public charter high school that educates 485 students a year on the institution's campus.

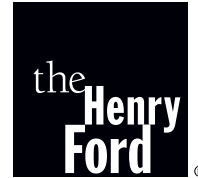
In 2014, The Henry Ford premiered its first-ever national television series, *The Henry Ford's Innovation Nation*, showcasing present-day change makers and The Henry Ford's artifacts and unique guest experiences. Hosted by news correspondent and humorist Mo Rocca, this weekly half-hour show won an Emmy® Award its first year on the air. It airs Saturday mornings on CBS.

For more information, please visit thehenryford.org.

Help us inspire future change makers

The Henry Ford inspires dreamers, doers, movers and makers with stories of the greatest breakthroughs and inventions throughout history. Your support goes a long way toward unleashing The Henry Ford Archive of American Innovation™ and making our collections available to the world.

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WHAT ARTICLE OF CLOTHING DOMINATES YOUR WARDROBE AND WHY?

Our contributors tell us.



T.M. DETWILER

I have always been most comfortable in a pair of weathered jeans and a T-shirt. And to dress things up, a variety of jackets. My wardrobe is very consistent, and as a result, I pretty much dress the same every day.

T.M. Detwiler is an illustrator living in New York City. He is a regular contributor for *ESPN*, *Time*, *GQ*, *Rolling Stone* and creative agencies the world over. His wife is from suburban Detroit, and they love visiting Michigan (more so in the summer than the winter). You can follow him on Instagram @tm_detwiler.

Ask + Answer, Page 7



LIZ GROSSMAN

I live in Chicago where it's pretty frigid for at least half the year. For this reason, I've amassed quite the collection of cozy knits — from cool, chunky sweaters to cashmere cardigans and wool-blend jackets. Pretty much anything to layer up and get us through the winter.

Liz Grossman has been a Chicago-based writer and editor for 16 years. She's the managing editor of *Plat* magazine, an award-winning national trade publication for professional chefs. She's also the co-founder of the nonprofit, food-themed live literary series *Between Bites* and recently read from her middle school diary for the Mortified Chicago reading series. Her freelance work has appeared in *Newsweek*, *Veranda*, *Chicago*, *Indianapolis Monthly* and others. Follow her foodie adventures on Instagram @elizabites_chi.

A Perfect Fit, Page 18



BETH HOECKEL

Jeans and T-shirts. I have a million cotton T-shirts ranging from very plain pocket tees to obscure band shirts I've collected over the years. And I wear Madewell jeans almost every day in either black or dark blue. I mostly wear high-waisted skinny ones but also have two pairs of overalls.

Beth Hoeckel is a freelance artist and illustrator from Baltimore, Maryland. She earned a bachelor of fine arts degree from the School of the Art Institute of Chicago, where she studied painting, photography, and printmaking, but she is best known for her collage and mixed-media pieces. Beth's work has appeared on many album and book covers, in contemporary art books, as well as in several editorial publications including *Wired*, *Paper*, *Cosmopolitan*, *The Atlantic* and many more.

When Fashion Mirrors Architecture, Page 36



ALLEN SALKIN

A multipocketed black shirt jacket made by Robert James in New York. Reporters need good pockets and garments that go easily from street to fancy affairs. Back when I started in journalism, I needed maybe three pockets for a notebook, a recorder and a pager. Photos were taken by a separate person. Now I'm a one-man band, carrying a recorder, cellphone, a Canon G-12 camera, business cards, headphones, chargers and, still, pen and paper. My black Robert James cotton thing looks sharp with a tie at a three-star restaurant or a T-shirt at a protest, has easy-access pockets and looks like the kind of rugged but ready gear a journalist should be wearing.

Allen Salkin is a world-renowned trend writer, author, filmmaker and journalist.

Homegrown Wearables, Page 28

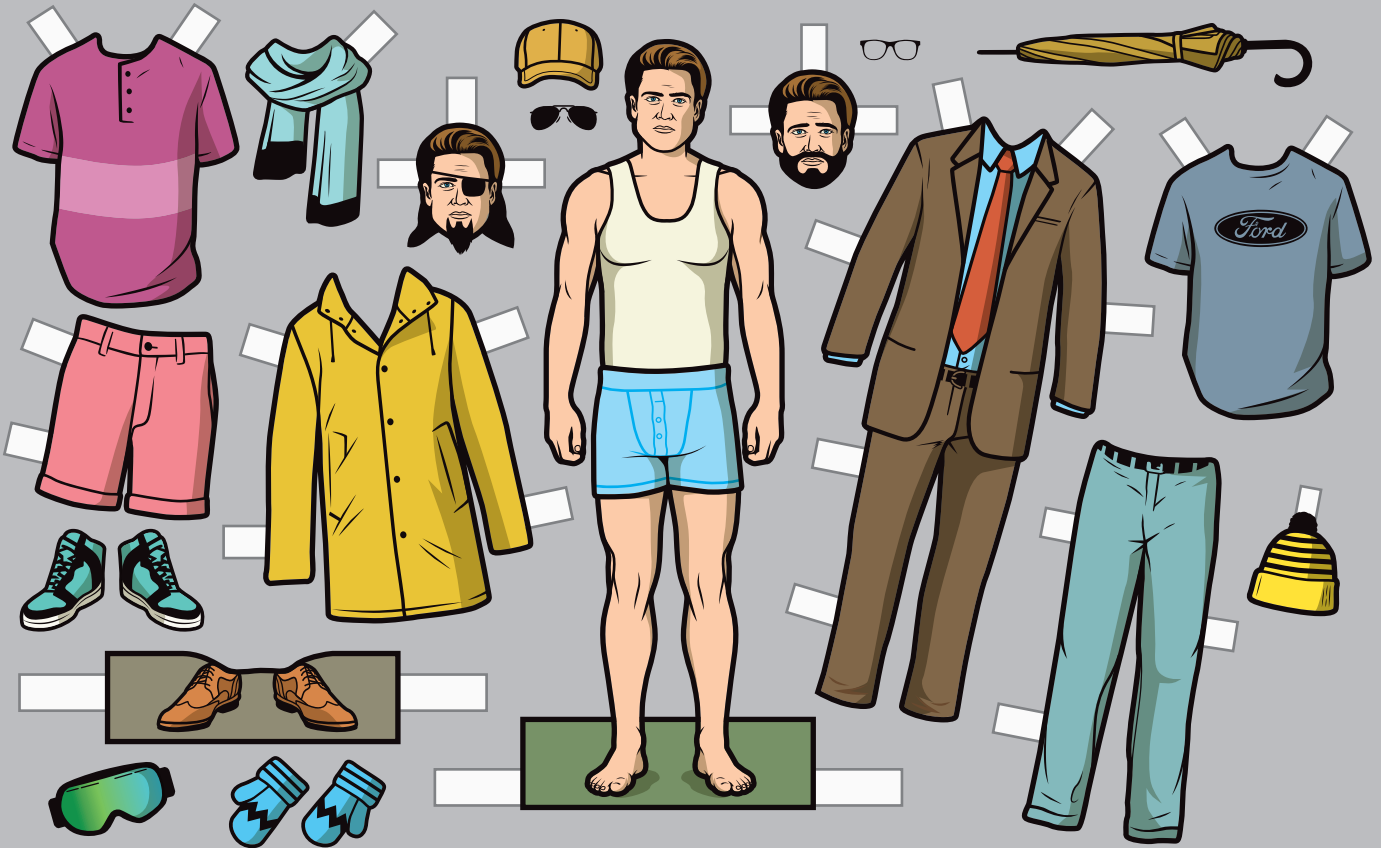


LAUREN SHERMAN

I bought a boiled wool midi skirt from the Row about a year and a half ago. I wear it two or three times a week during the winter and even try to pull it off in the summer if I'm in a place where the nights turn cool. I wear it often because it's a beautiful, versatile piece. But I also paid an unreasonable amount of money for it, so the only thing saving me is considering the cost per wear.

Lauren Sherman has covered the fashion business for many publications, including *Forbes*, *The Wall Street Journal*, *Marie Claire* and the *Business of Fashion*. She lives in Brooklyn with her husband and dog.

When Fashion Mirrors Architecture, Page 36



T.M. DETWILER

ASK: Are we what we wear?

ANSWER: People use clothing in many ways. At its most practical, clothing keeps us warm or cool. Clothing can also be a form of artistic expression — we are the canvas, and our clothing choices become the art.

Some people dress to project a particular self-image — to support their chosen identity as hip, rebellious, sporty or as wealthy and successful. Or clothing may suggest our ethnicity. We wear masquerade costumes to assume a new, though temporary, identity. Uniforms tell others that we are a soldier, a fast-food worker or an airline pilot. People with outfits that look carefully chosen let us know that clothing is important to them.

Others, dressed daily in jeans and a T-shirt, seem to prefer practicality.

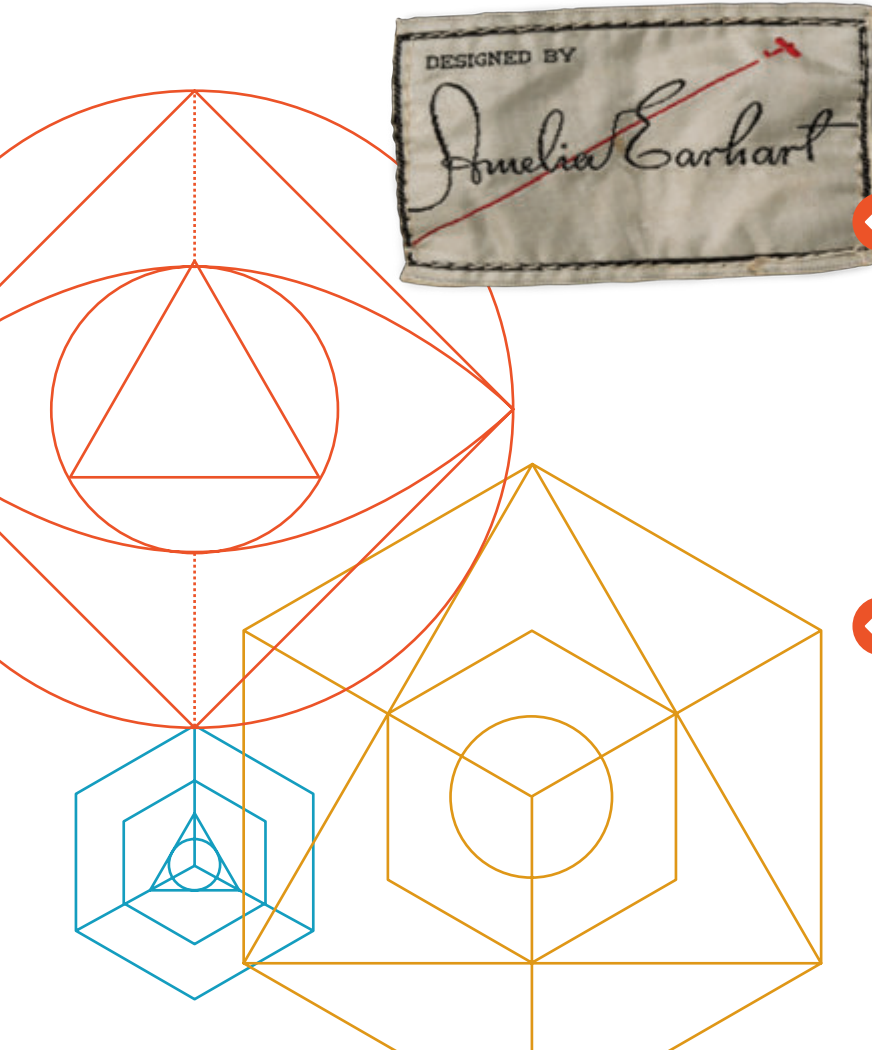
Clothing can reflect the authentic person or be a façade that masks our inner self.

First impressions can be lasting — and perception can easily become reality. Clothing *does* tell us something about a person, then. But people are more complex. Clothing does not reveal the whole person, including their life experiences, personal values or character.

So are we what we wear? Not necessarily. Does clothing tell something about us? Absolutely. But not the whole story.

JEANINE HEAD MILLER is curator of domestic life at The Henry Ford.

We are the canvas, and our clothing choices become the art.



Label

(LEY-BUH-L) N.

Discard the notion of name-calling, assigning titles to the bullies and bigots, sinners and saints. We're talking about when the tag sells the clothes as much as the fit.

PAGE 54



Geometry

(JEE-OM-I-TREE) N.

Circles, angles and the isosceles. What happens when good design, math and technology square off in a fashion factory?

PAGE 20

Hobby

(HOB-EE) N.

Sometimes the greatest of pleasures done just for fun morph into more. There's a pattern to how homespun clothiers are altering how what we wear is made today.

PAGE 32

Goo

(GOO) N.

What usually would elicit images of the slimy, nasty and viscous in nature is actually the inspiration for rings and other shiny things of the finest fashion.

PAGE 51

Fad

(FAD) N.

Beware when it's all the rage, the must-have talked about in every social circle. Sometimes the craze might last for days, weeks or even years, but most often it goes out as fast as it came in.

PAGE 80

Cobbler

(KOB-LER) N.

Not the crispy, crumbly fruit-filled dessert, but the master of design with great taste about what should go on your foot.

PAGE 24

FASHION THAT STICKS

When it comes to what we wear or don't, much is left to personal preference.

A lot of it, however, is dictated or influenced by what magazines, society, celebrities and houses of fashion tell us is in style at the time. How else would leg warmers saturate the streets in the early '80s if it wasn't for popular films like *Fame* and *Flashdance*? Good or bad, a passing fad or a forever wardrobe staple, here are some fashion finds from a mix of centuries, decades and, in some cases, just a fleeting season or two that will make you think.

Ruff collar (search Queen Elizabeth I or Lady Gaga) • Corset • Crinoline frame • Top hat • Bonnet • Pillbox hat • Slippers • Sneakers • Stilettos stacked with a 10-inch heel • The little black dress — thank you, Coco Chanel • The basic white T • Zoot suit • The disco suit of *Saturday Night Fever* fame • Leisure suit • Bikini • Miniskirt (worn with just the right amount of attitude by Twiggy in the '60s) • Daisy Dukes • Blue jeans (the oldest preserved pair dates to 1879 and sits in a vault at Levi Strauss & Co.) • Pantyhose • Skintight leggings



A Look Into Our Digital Closet

When our fans chat with us across our social media platforms to see if we have a specific artifact within The Henry Ford Archive of American Innovation™, chances are pretty good we have what they're looking for.

To test that theory, we asked Brian Wilson (@BrilWil), digital access and preservation archivist, and Ellice Engdahl (@ErisuEEE), digital collections and content manager, to pick some of their favorite clothing-related artifacts to share with our Twitter followers. It didn't take them long to generate a long list. Here's a few of their favorites in 140 characters or less.

Fashionable Mr. Ford

@ErisuEEE:

#Fashion from a miracle plant: Henry Ford in his #soybean suit, 1941

@codequette:

@ErisuEEE
@thehenryford
Does the museum have any clothing of Mr. Ford's?

@ErisuEEE: Why, yes, @thehenryford does have some of Henry Ford's clothing, like this suit!



Clothes on the Go

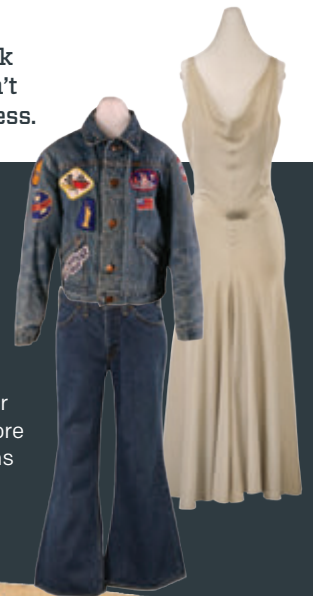
@Brilwil: Getting ready to head home for the weekend #TGIF



Dress It Down, Dress It Up

@Brilwil: Denim jacket. Bell bottoms. High school reunion here I come!

@ErisuEEE: Dress down, like @brilwil, or wow the crowd More evening gown options from @thehenryford



Keeping All Those Clothes Clean

@Brilwil: Clothespins... for hanging your "dainties" + your "heavies"

@NixoNARA: @Brilwil
Hah! I remember my Mom hanging family laundry outside on the line to dry!

@Brilwil: @NixoNARA
My parents' house had dedicated clothesline poles in the backyard. Several of the neighbors' as well.

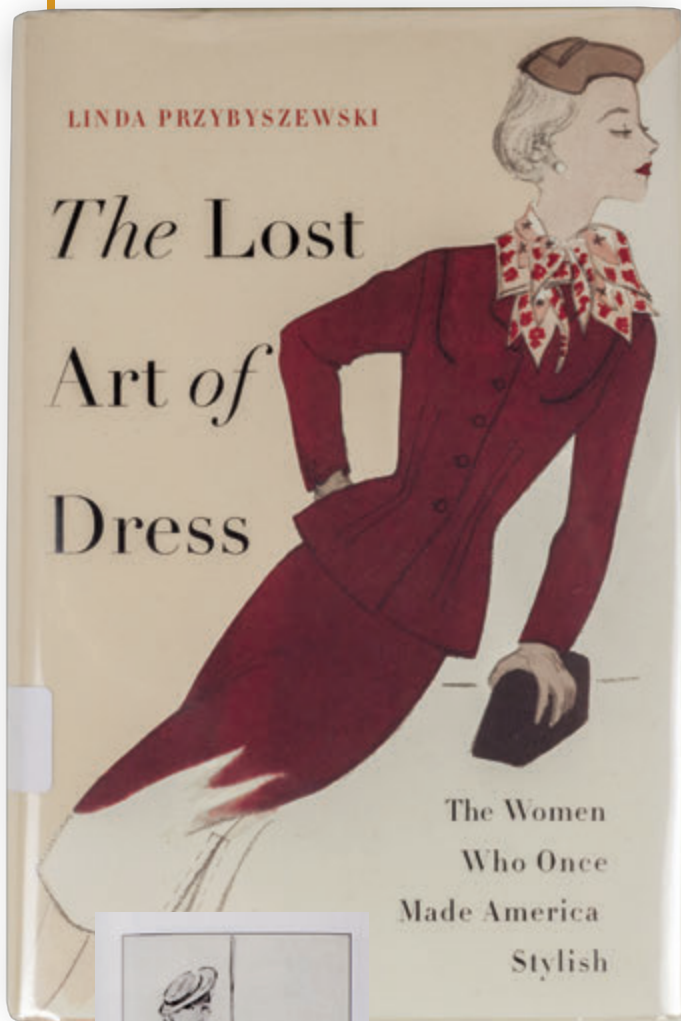
@CyclinArchivist:
@brilwil @NixoNARA
my landlady at my last apartment still hangs her laundry outside.



WE'RE HERE

To see some of your favorite pieces of clothing from yesterday and today, visit TheHenryFord.org to search our Digital Collections. Have a fashion artifact challenge for us? Ask us at @thehenryford.

FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION™



The Lost Art of Dress: The Women Who Once Made America Stylish by Linda Przybyszewski

JEANINE HEAD MILLER, THE HENRY FORD'S CURATOR OF DOMESTIC LIFE, WRITES ON THE ENTERTAINING OBSERVATIONS AND INSIGHTS SHARED BY HISTORIAN, DRESS-MAKER AND AUTHOR LINDA PRZYBYSZEWSKI ON PERSONAL FASHION AND WHY IT MATTERS.

Have we lost the art of dressing well? Linda Przybyszewski thinks so — and she takes us on a fascinating journey through the 20th century to show us how it happened. Into the 1950s, women writers known as the “Dress Doctors” taught American women the art of dressing with creativity and taste — based on timeless principles of good design. Under the guidance of these now-forgotten experts, women and girls learned to recognize quality in design and materials, choose flattering colors and create a beautiful, versatile wardrobe on a budget. Some women even parlayed these skills into careers as dressmakers, designers or department-store buyers.

In the 1960s and 1970s — with the rise of the rebel baby boomers and the demise of home economics departments that once taught these design principles — the sage advice of these experts faded away.

Today, according to Przybyszewski, the Dress Doctors would be aghast at much of what we wear — impractical micro-miniskirts, pajama bottoms in public and sack-like dresses. Fashion trends are not always about good design and quality materials.

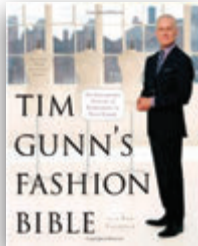
After reading this book — and enjoying the author's delightfully humorous observations along the way — you will never again look at fashion choices in quite the same way. I know I won't.

Fashion trends are not always about good design and quality materials. After reading this book ... you will never again look at fashion choices in quite the same way.

— **Jeanine** Head Miller, curator



What are we reading + watching?



Tracy Donohue
General Manager
The Clothing Studio
The Henry Ford

Tim Gunn's Fashion Bible: The Fascinating History of Everything in Your Closet

by Tim Gunn with Ada Calhoun

In my role at The Henry Ford, I've read and referenced many historical fashion books, but admittedly, most are known for their informational rather than entertainment value.

One book that is both educational and fun to read is *Tim Gunn's Fashion Bible*, written by the impeccable and knowledgeable Tim Gunn from *Project Runway*. Gunn provides interesting historical facts and social context to all of the items found in today's closets, sprinkled with insightful insider stories and a sassy, yet positive, spin that only he can provide. This entertaining book is for anyone from fashionista to novice interested in the fascinating history of fashion and building a better personal wardrobe.



Kristen Gallerneaux
Curator of Communications and Information Technology
The Henry Ford

Blank City

directed by Celine Danhier

In the late 1970s and 1980s, New York City was running on empty; its artists and musicians were inspired by ruin, alienation and punk music. In the motley cultural movement known as No Wave, guerilla filmmakers played their part by creating raw, provocative Super 8 films on no budget. In No Wave cinema, the script was flipped: musicians made films, artists made music.

Familiar faces and cult icons alike — Jim Jarmusch, Steve Buscemi, Debbie Harry, Fab 5 Freddy — narrate *Blank City*, capturing the cinematic nature of everyday life in NYC. The documentary is a moving archive rife with fashion cues and inspiring make-do attitudes that continue to inspire today.



Fran Faile
Textile Conservator
The Henry Ford

Cocaine Blues

by Kerry Greenwood

For fun, derring-do and fabulous fashion, get acquainted with Phryne Fisher, the creation of author Kerry Greenwood. She's the star of 20 mystery novels set in Australia in the late 1920s. In the first volume, *Cocaine Blues*, Phryne escapes English society and settles in Melbourne, where she embarks on a life of danger and glamour while always impeccably dressed. There's also an Australian TV series, *Miss Fisher's Murder Mysteries*, where her wardrobe really shines.



Lish Dorset
Social Media Manager
The Henry Ford

P.S. - I Made This psimadethis.com Instagram: @psimadethis

When it comes to DIY fashion, look no further than P.S. I Made This. Founded by Erica Domesek, who has been called "Fashion's Queen of DIY," her website and massive social media following are proof to the title. Domesek watches for the latest fashion trends to turn into easy-to-make DIY projects for her readers, often offering up a new project by way of a quirky infographic. Her quick, inexpensive projects make obtaining street-style fashion possible for anyone willing to wield a glue gun. Follow her on Instagram to stay up to date on her latest fashion-related travels.

ALL KINDS OF FASHION FINDS

If you're craving more about the art and history of how we dress, the Benson Ford Research Center has a collection of books, papers and other two- and three-dimensional items well-suited to your needs. For help, write to: research.center@thehenryford.org.

BOOKS

Fashioning the Body: An Intimate History of the Silhouette by Denis Bruna, editor

Men's Fashion in the Twentieth Century: From Frock Coats to Intelligent Fibres by Maria Costantino

Fashion Victims: The Dangers of Dress Past and Present by Alison Matthews David

Elegance in an Age of Crisis: Fashions of the 1930s by Patricia Mears and G. Bruce Boyer, editors

Sixties Fashion: From Less Is More to Youthquake by Jonathan Walford

PERIODICALS

Demorest's Monthly Magazine (1866-1889)

The Lady's Book and Godey's Lady's Book (1830-1892)

Peterson's Magazine (1848-1892)

ARCHIVAL COLLECTIONS

Firestone Family Papers, 1804-1991
The Elizabeth Parke Firestone Couture series, 1921-1991, includes photographs, correspondence, sketches with fabric swatches from designer houses such as Dior.

Paper Doll Collection 1850-2008
On the Avenue paper doll set, circa 1933
Hollywood Fashion Dolls, 1939

Explore our new website, and prepare to be astounded.

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EXPLORE

Watch episodes of the Emmy® Award-winning *Innovation Nation* TV series. Browse articles and other digital content and assets telling stories of innovation. Ask "What If?" with innovators past and present.



View interactive maps built with Google Maps.

COLLECTIONS & RESEARCH



Search and filter 54,000 digital artifacts. Experience, save and share stories, photos, videos and more.



CURRENT EVENTS

Use the searchable events calendar to gather info about seasonal events, exhibits and recurring activities at The Henry Ford.



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Learn about The Henry Ford's legacy and plans for the future.



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Plan a field trip, and browse The Henry Ford's educational resources.



HOST AN EVENT

Explore venues, menus and photo galleries for weddings and private events.



INNOVATION NATION

A weekly TV show that airs Saturday mornings on CBS presents inspiring stories that showcase present-day change makers and the possibilities for future progress. Each episode of *The Henry Ford's Innovation Nation* shares dramatic accounts of the world's greatest inventions — and the perseverance, passion and price required to bring them to life.



The Henry Ford's Innovation Nation received three Daytime Emmy® nominations in 2016: Outstanding Special Class Series, Outstanding Writing Special Class and Outstanding Sound Mixing-Live Action.

The Electroloom **14**
Ideas in Action **16**

SEASON 2 EPISODE 10

THE WILD WEB WE CAN WEAR

Forgo the needle and thread — all you need to make clothes from scratch is a computer and an idea

In fashion, “printed” usually refers to patterned fabric. But when it comes to one company, it actually describes the way clothing is made.

Bay Area-based startup Electroloom is using 3-D printing to create seamless garments that are soft as butter. Its innovative electrospinning process ultimately makes it possible for anyone with some CAD ability to design and produce fabric items on demand. Dubbed field-guided fabrication, it entails making a mold,

placing it in the Electroloom machine and watching as 3-D printer nozzles layer microscopic fibers up around it. Still in its infancy, the technology has so far been used to make simple garments such as beanies, tank tops and skirts.

After the Electroloom appeared on *Innovation Nation* earlier this year, *The Henry Ford Magazine* caught up with co-founder and CEO Aaron Rowley to talk more about the technology and the possibilities yet to unfold.



HOW IT WORKS

The electrospinning process, dubbed field-guided fabrication, makes it possible for anyone with a small bit of CAD ability to design and create seamless fabric items on demand.

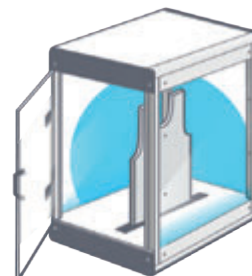
1

First, design a mold. It can be almost any shape you can imagine, designed digitally in CAD or Illustrator and made of just about any material.



2

Once the mold is made, it can be placed inside the Electroloom Alpha chamber, and the job can be started. The liquid solution is guided onto the mold by an electric field, evenly coating and binding the nano-fibers together into a cohesive, seamless fabric.



3

Once removed from the mold, the unique material can flex, drape and fold, just like the fabrics you know and love.



ALL IMAGES COURTESY OF ELECTROLOOM

THF Magazine ▶
How did the idea for Electroloom come about?

Rowley ▶ I've been working in the technology industry, as have my co-founders, and we saw an obvious lacking in terms of 3-D-printing capability — it couldn't make soft goods and material things like clothing, towels, shoes — anything that's soft and flexible. We wanted to expand 3-D printing to produce those items. We knew that it would be extremely valuable, so we set out on this hypothetical task. We just started prototyping and designing, and that's where the original genesis came from.

THF Magazine ▶
How has your company evolved?

Rowley ▶ When we first started working, we were in a garage and in our apartments working on

the kitchen floor. Then, we began to work out of a technology shop and maker's space, a community of people that supports a facility that has equipment, classes and training. We also participated in accelerated programs, which catapulted us to the next level. While the origins of this project were truly conceptual, when we were successfully getting fabrics and soft material, that's what propelled us into building these larger, more robust machines.

THF Magazine ▶
How does the Electroloom work?

Rowley ▶ The simplest way to describe it is that we convert liquids into textiles. Basically, we use electricity to pull on the liquid, and the liquid, as it's being pulled on, then hardens into a fiber and as you pull that across a gap — let's say inside of

a machine — that liquid converts into a fiber as it dries. The final product is completely seamless.

THF Magazine ▶
So what does the fabric feel like?

Rowley ▶ The fibers that we work with are actually single fibers, really tiny micro- or even nano-scale fibers. They're very, very small, which makes the material very soft. The fabric has been described as a hybrid between cotton and suede. The texture on the surface is soft like suede, but it's got the look and dimensions of cotton and polyester with comparable thickness.

THF Magazine ▶
What's next for the Electroloom?

Rowley ▶ We are in the middle of fundraising right now. We also received a grant from the National Science Foundation specifically

for projects pursuing advanced technology and nanotechnology. We are exploring some private investments, too. The goal is to expand the team to refine the technology and, later this year or early next year, have an actual set of machines "out in the wild" as well as our own clothing brand.

THF Magazine ▶
How do you see this technology being applied?

Rowley ▶ We've been approached by several clothing brands interested in working with the technology and product design teams who want to work with this method. A few stores are even interested in having the tools in-store to engage with customers. We're flushing this out to determine what's most doable in the near future. We'll be settling

on something soon and making some cool announcements.

THF Magazine ▶
Do you really see people using Electroloom to make clothing in their own homes?

Rowley ▶ I try to discern between near-term realistic stuff and what's our bigger vision. Having people make things in their homes is far off, but the goal is to, over the years, refine this technology so if somebody did want to have this in their home to print fibrous products — from kitchen towels to socks and underwear — to supplement actually going out and purchasing these items in stores, we would love for that to happen and for people to be able to add customization, colors and shapes.

Other 3-D-Printed Things

You can pretty much 3-D-print anything you can think of with a little know-how and CAD creativity. Here's a short list of items seemingly created, like Electroloom clothing, out of thin air.

A CAR

The Strati is the world's first 3-D-printed car, manufactured by Local Motors in Arizona.

A PROSTHETIC

Easton LaChappelle, a 17-year-old from Colorado, 3-D-printed a fully functioning prosthetic arm and hand using free online resources.

FOOD

From peas to pancakes and pizza to burgers, culinary labs and household kitchens are experimenting with 3-D-printed eats.



A BIONIC EAR

Princeton University researchers constructed the ear by printing a polymer gel onto an approximate ear shape. Fused nanoparticles create an antenna.

A GUITAR

Bespoke Innovations 3-D-printed an acoustic guitar, claiming it saved exotic woods and gave

musicians the ultimate ability to customize their sound.

BONES

Researchers at the University of Michigan 3-D Lab printed accurate replicas of mastodon bones, offering a new way of learning by possibly replacing less precise models.

ONLINE

Learn more about how the Electroloom works, the technology behind the innovation and what the company's founders dream for the future electroloom.com ▶

DID YOU KNOW? /

It takes between eight and 14 hours to encapsulate a mold with printed fibers in the Electroloom.

WATCH

See the full episode cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/3-d-printed-clothes ▶

IDEAS IN ACTION

A sampling of cool inventions and crazy notions

PROBLEM:

It's hard to see what's right in front of you in the dark.

SOLUTION:

Brighten up your step by restyling what's on your feet.

ILLUMINATE YOUR GAIT

After missing a marathon due to an after-dark in-training mishap, runner Doug Storer had an idea. What if he had headlights like an automobile that weren't anywhere near his head but instead near his feet? With his kitchen turned lab, he set out with a little duct tape, a few flashlights and a pair of running shoes to see how his PoC (aka proof of concept) played out against potholes and puddles hiding under dark. Night Runner 270 are water-resistant, bright LEDs that clip onto a shoe's lace. A lightweight accessory to better light your way.

nightrunner270.com

WATCH cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/tallest-roller-coaster ▶ (Season 2)



COURTESY OF BASICS PRODUCTS

PROBLEM:

Bulky billfolds are uncomfortable to carry.

SOLUTION:

Design a more minimal money holder, one that can cradle everything you need in a fraction of the space.

BETTER ON THE BACKSIDE

Cousins Jacob Durham and Jon Richards have always been the creative kind, making everything from zip lines to homemade movies when they were kids. As grown-ups, the two became devoted to diminishing the bulk they toted at their backsides, sewing together a new kind of billfold first "just for fun" and then for real. The BASICS Wallet is surprising in its design simplicity as well as its ability to carry cash and credit cards with easy pull-lever accessibility.

basicsproducts.com

WATCH cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/baby-tech ▶ (Season 2)

PROBLEM:

Man can't fly.

SOLUTION:

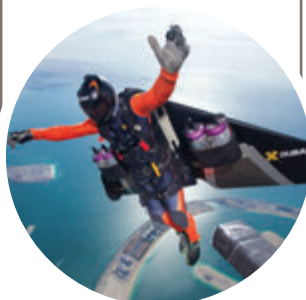
Fabricate jet-propelled wings, and set to soaring solo.

NO CAPE REQUIRED

Unless you're Superman, we humans need a little help to fly horizontally. While former Swiss pilot Yves Rossy was all about navigating the friendly skies via common man-made aircraft, he really craved more of a singular avian-like ability. Now he's known as Jetman, seen soaring the sky solo with the grace of a bird of prey — wearing his very own set of jet-powered carbon fiber wings.

jetman.com

WATCH cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/jetman ▶ (Season 2)



COPYRIGHT JETMAN DUBAI



COURTESY OF LUMO LIFT

PROBLEM:

Bad posture is bad for you.

SOLUTION:

Always stand and sit up straight.

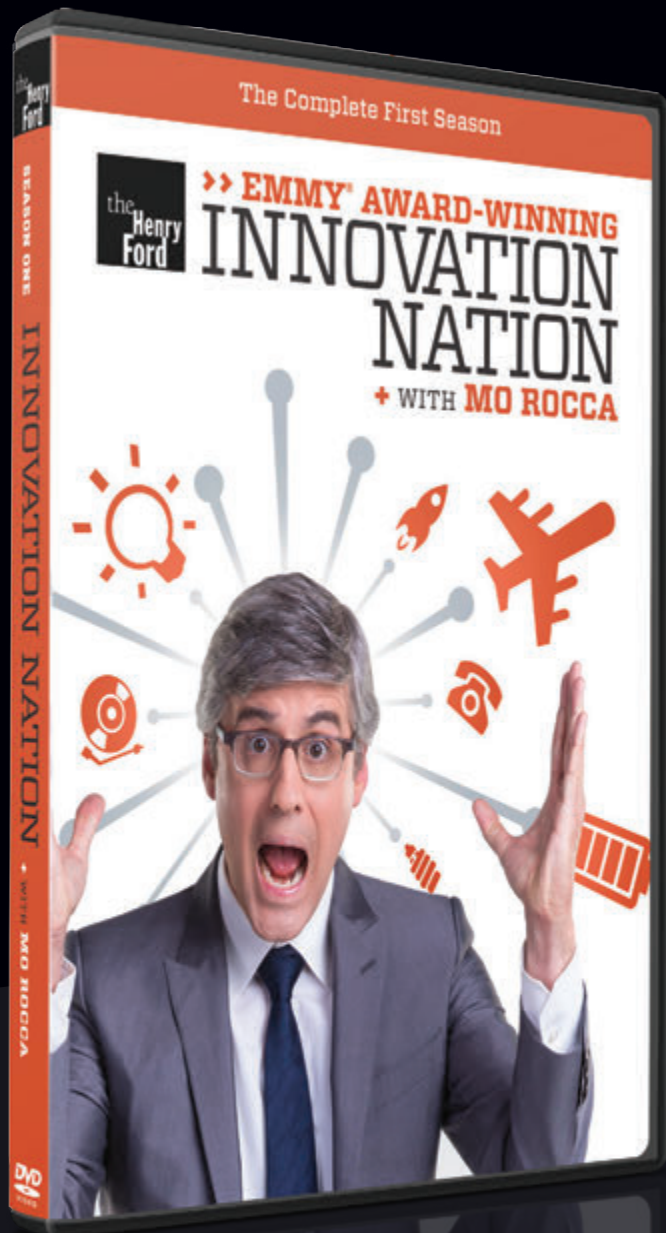
DON'T BE A SLOUCH

Walk with confidence, like fashion models on a runway, and people will take notice. While many methods for maintaining good posture, like balancing a book on your head, may seem old school, Lumo Lift packages mom's nagging reminder to always sit and stand up straight in a smart little sensor clipped to your shirt. Bend your back, and a small vibration prompts you to practice better posture.

lumobodytech.com

WATCH cbsdreamteam.com/the-henry-fords-innovation-nation/episodes/posture-tech ▶ (Season 2)

Learn about these great ideas in action and much more on *The Henry Ford's Innovation Nation* with Mo Rocca on Saturday mornings during CBS Network's block of educational programming called CBS Dream Team...It's Epic. Check your local listings.

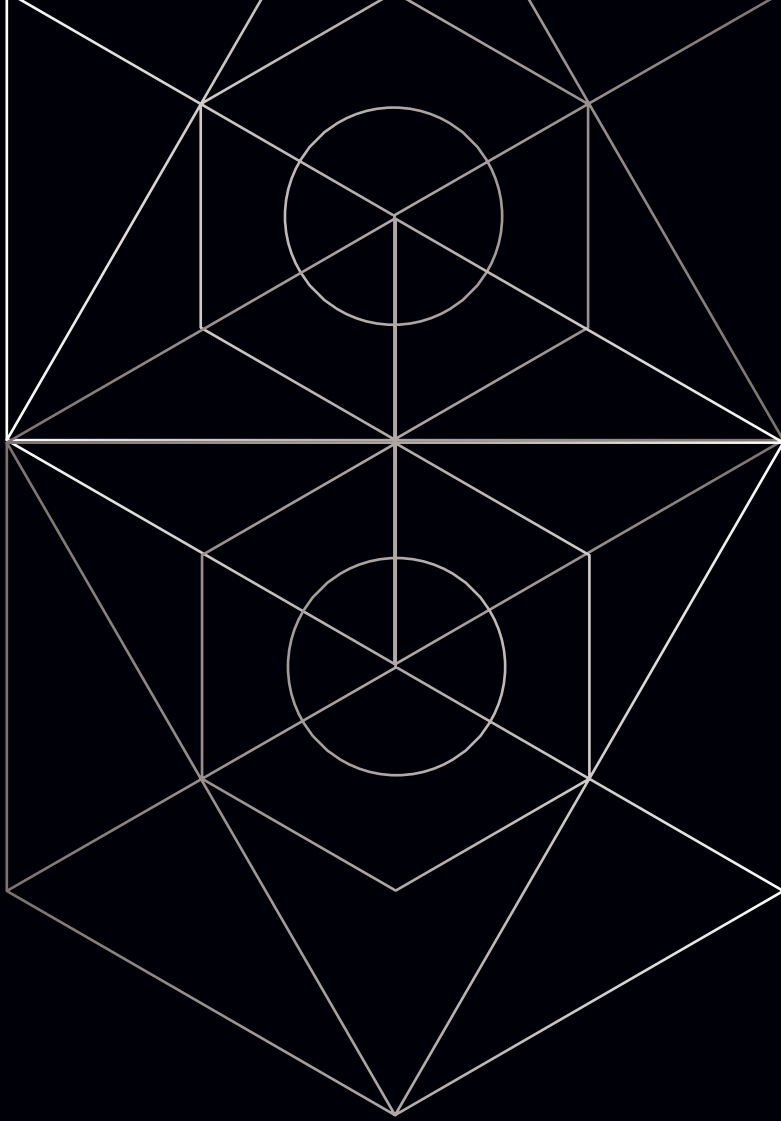


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A Perfect Fit

Fashion's elite are finding creative ways to apply science, technology, engineering and math to haute couture

By Liz Grossman



Fashion designer Julia Körner mashed together her passion for nature, architecture, high tech and fashion while creating her fall 2015 collection. Her Kelp Jacket, inspired by the seaweed's structure and created with Stratasys 3-D-printing technology, explores new possibilities in ready-to-wear couture. ▶

I'll never forget slipping on my mother's 1970s-era mood ring. It was the mid-'80s, and the silver band swung loosely around my index finger.

I would stare at the black stone, waiting for it to morph into a lush forest green or, if I was lucky (or happy, apparently), amber. Sometimes it changed and sometimes it didn't, but the idea of jewelry reading feelings seemed like the future.

A decade later, Hypercolor T-shirts had middle schoolers patting each other on the back to see their handprints transform from neon pink to green. But the heat-sensitive technology of Hypercolor clothing could be ruined with a single hot-water wash. These glimpses of the future of fashion were fun but fleeting. Today, the melding of fashion and technology has morphed into so much more than neon, as everything from haute couture to small- and large-scale shoe companies are collaborating with scientists, computational designers, biologists, architects and even the consumer directly, ever-challenging the ideas of how we wear, buy and even discard designs. The results are custom creations that blur the lines between fashion and art; introduce textures, textiles, fit and forms that didn't exist before; and combine craft-making with technology — from 3-D printing to laser sintering.

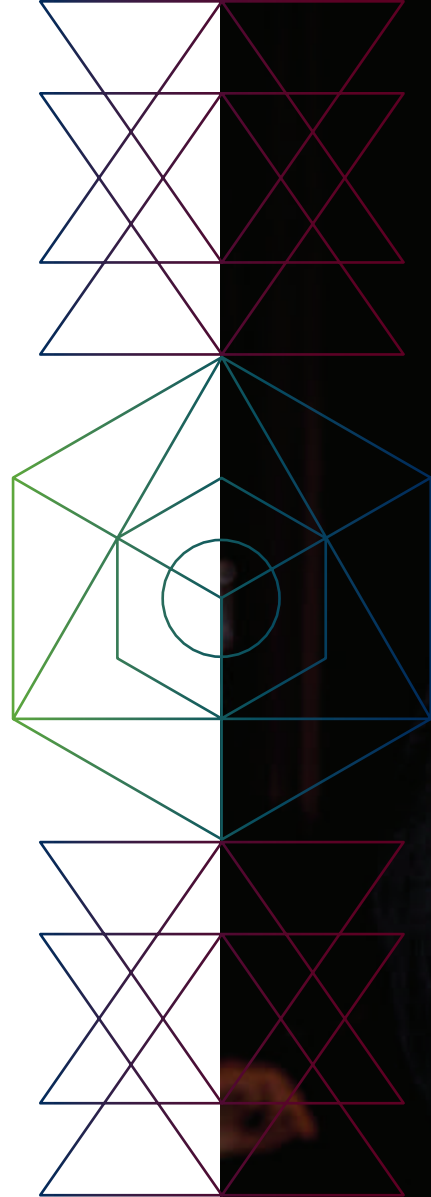
WAY OUTSIDE THE BOX

There's something about the work of award-winning haute couture Dutch designer Iris van Herpen that organically blends science and nature. Her plastic-based 3-D designs resemble flowing water, clusters of twisted branches, water splashes frozen in time or the glass-like beauty of Bubble Wrap-esque circles — all fitting beautifully to the human form. The timeless silhouettes of her clothing and shoes flaunt twists, curves and cutouts that look like futuristic glimpses into the fashionista closets of the next millennium.

Van Herpen, who studied under Alexander McQueen and started her own label in 2007, achieves many of her looks through 3-D printing, laser sintering and other digital technology through collaborations with architects, artists (from Beyoncé to Lady Gaga), scientists and designers. She continues to create boundary-pushing pieces, often written about and on display at exhibits like *Manus x Machina: Fashion in an Age of Technology*, The Costume Institute's current exhibition at The Met, running through August 14.

Among many of van Herpen's collaborations, her work with Austrian architect, designer and UCLA lecturer Julia Körner has resulted in some of her most stunning work to date. (See Page 36 for more connections between fashion and architecture.) Their first collaboration was revealed at Paris Haute Couture Week in 2012. It was a breathtaking dress called Hybrid Holism that looks intricately carved out of petrified honey. To make it, they used stereolithography, which Körner describes as one of the biggest 3-D prints you can make. The piece was printed in two parts, front and back, and took a week to print. "It's a process where there's liquid resin struck by a laser, which builds up the geometry layer by layer," explained Körner. For another look, they experimented with flexible plastic and created the intricate black lace-like Voltage dress, shown at Paris Fashion Week in 2013.

"In each of our collaborations, we used different technologies to research the material and its behavior within the garment," said Körner, who enlisted Belgian company Materialise for the printing and laser sintering, "which is different from stereolithography," she said. "It's when you have a box of powder and a laser binds it in layers, ▶



DID YOU KNOW? / The first major exhibition of Iris van Herpen's work, titled *Iris van Herpen: Transforming Fashion*, opened at the High Museum of Art in Atlanta in 2015 and featured 45 of her most groundbreaking outfits.

DID YOU KNOW? / Australian designer Donna Sgro created a dress made from Morphotex, a fabric that imitates the microscopic structure of the Morpho butterfly's wing.

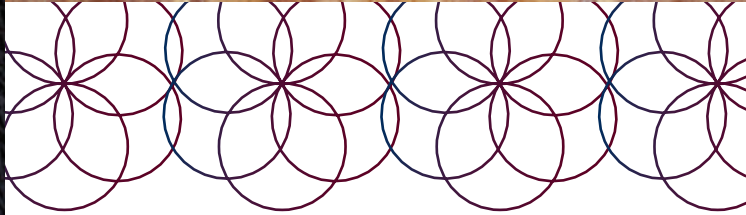
DID YOU KNOW? / Dutch fashion designer Marieka Ratsma and American architect Kostika Spaho created a 3-D-printed shoe inspired by a bird's skull.



MEETING OF MIGHTY MINDS

Dutch fashion designer Iris van Herpen and Austrian architect and designer Julia Körner have conspired and experimented with stereolithography, laser sintering, flexible plastics, geometry and biomimicry to “print” jaw-dropping pieces with Materialise/Belgium for the fashion world’s most prestigious runways, including the Hybrid Holism (below) and Voltage (at left) dresses.

SOPHIE VAN DER PERRE



HIGH-TECH HEAD TO TOE

Wearable technology as an industry is really still in its infancy. Even so, it’s not too difficult to imagine yourself dressed in tech top to bottom.



THE HANDBAG

The Mirror Handbag has laser-etched acrylic mirror sides that let light from white LEDs shine through, creating amazing animations.
cutecircuit.com

THE DRESS

Constructed of holographic leather and sound-reactive animated electroluminescent panels, the Thunderstorm Dress becomes illuminated with lightning bolts as sound volume increases.
rainbowwinters.com

THE SHOE

E-ink technology and an electronic paper display give the Volvorii high-heeled pump the ability to change hues from black to white and back again.
indiegogo.com/projects/volvorii-timeless

A PERFECT FIT

and you end up having a powder-based structure."

Their third collaboration resulted in another 3-D-printed dress, revealed as the jaw-dropping finale in van Herpen's Biopiracy collection at the Paris Ready-to-Wear Fashion Show in 2014. The dress was printed using laser sintering and was coated after the printing process with silicon to add a glossy sheen to what looks like an explosion of feathers that flow with the body. Van Herpen, whose designs sometimes start with a sketch that is turned into a 3-D-printing file, often finishes her partially printed pieces by hand, so that "the randomness and irregularities that are created by hand dominate the computational systems, which is more interesting," she explained in a 2014 interview with *The Business of Fashion* magazine. "When the computer defines the design language, it can be too perfect or too anonymous."

NATURE AS INSPIRATION

While costs are high and materials are still somewhat limited for high-end 3-D-printed clothing (you can't print cotton or nylon yet), van Herpen and Körner have been successful in manipulating plastic-based materials to move organically with the body. This

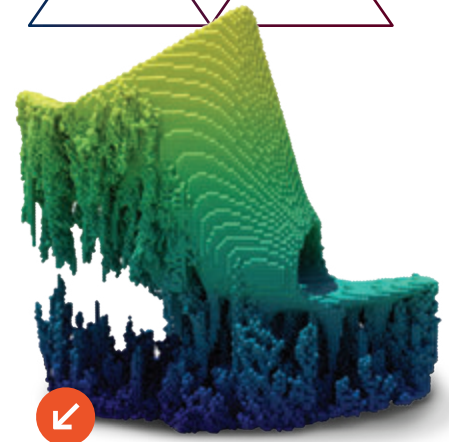
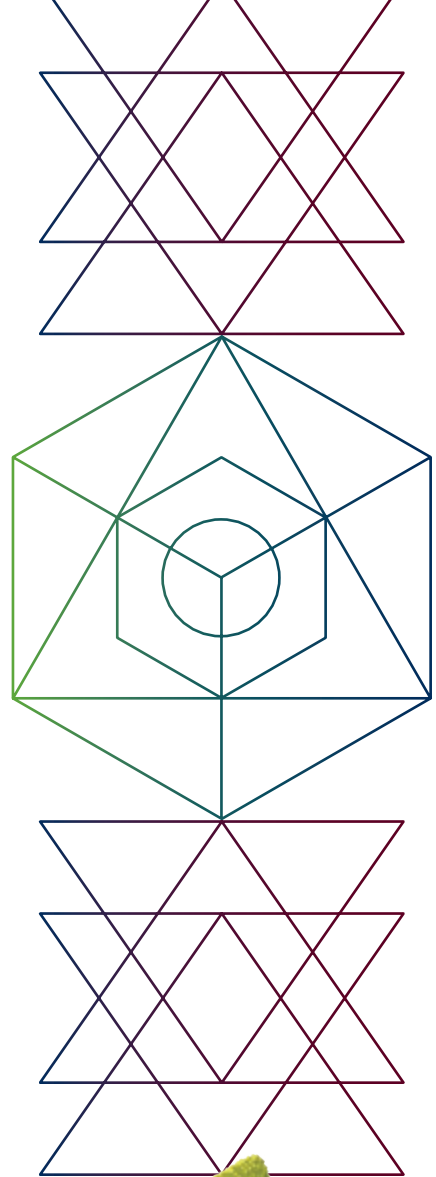


is seen most impressively in Körner's own ready-to-wear line of 3-D-printed clothing and accessories based on scans of things found in nature, from kelp to mushrooms. "I developed an algorithm computationally to a 3-D structure to understand its geometry and developed a structure which simulates the intricacy of these patterns," explained Körner of the pieces she had printed at U.S.-based Stratasys. "The Kelp Jacket can be harder where it needs to be and more structured and softer where it needs movement," she said. Although made of plastic, the elegant shape and folds of the gradient white-to-black jacket look hand-sewn and made-to-measure on the body.

"With any other garment-making technique, you cannot really do anything like this," said Körner. "You would need to use casting techniques or similar processes with a thread and needle. You couldn't generate these lace-like structures. So what's exciting about designing with the computer is you can come up with totally new 3-D structures and a new aesthetic to garment design," she said.

MIXING OLD WITH NEW

Another designer who's been obsessed with 3-D printers since he worked with them in architecture school is Francis Bitonti, whose eponymous New York City design studio is known for collaborating on stunning pieces such as the entirely 3-D-printed, 17-piece dress created with designer Michael Schmidt and Shapeways for burlesque star and model Dita Von Teese in 2013. His company collaborates with startups, fashion designers, accessory makers and Fortune 500s to print one-off and small-production runs of everything from belts to furniture. Bitonti heads up the computational design aspect, often collaborating with material scientists, engineers, computer programmers and fashion designers to bring the often one-of-a-kind pieces to life. ▶



DID YOU KNOW? / Francis Bitonti's Molecule Shoes are completely manufactured in a digital environment, one pixel at a time, using Adobe digital design software and Stratasys 3-D-printing technology.

WATCH The segment on *The Henry Ford's Innovation Nation* about Aamir Patel's stain-resistant nano Silic shirt thehenryford.org/explore/innovation-nation/episodes/nano-clothes ▶

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FRANCIS BITONTI STUDIO INC.

glossary

Biomimicry When we look to nature — its models, systems and elements — for inspiration to design and innovate, solving complex human problems through a little imitation. Kinda like burrs stuck to your pants are to Velcro, wings on a bird are to airplanes and the structure of seaweed is to the design of Julia Körner's Kelp Jacket.

Stereolithography When we let a laser beam slice through a vat of liquid resin and harden it layer by layer into intricate shapes, creating parts, prototypes and even haute couture like Iris van Herpen's Hybrid Holism computer-drawn dress that appears as if it has been carved from petrified honey.

Laser Sintering When we let a laser beam fuse together small particles or powders made of things such as plastic, metal, ceramic and glass, forming one larger desired three-dimensional shape like the silicon-coated flesh-tone dress from Iris van Herpen's Biopiracy Collection.

THE MANY BEHIND THE ONE-OFFS

New York-based designer Francis Bitonti likes to collaborate with a mix of startups, designers, Fortune 500s, computer programmers and material scientists to print his single- and small-production fashion creations, such as the 17-piece dress for burlesque star Dita Von Teese (at top and right), the Brambles jewelry collection (opposite page, top) and the Bristle Dress (opposite page, lower left).

DID YOU KNOW? /

In 2014, celebrated clothing designer Tommy Hilfiger launched a line of clothing with solar cells to charge devices.

READ

Fashionable Technology: The Intersection of Design, Fashion, Science and Technology by Sabine Seymour ▶



ALBERT SANCHEZ PHOTOGRAPHY

A PERFECT FIT



The Tennessee-based "digital cobbler" Feetz makes 3-D-printed shoes fitted to photos taken of a customer's feet. ▲

FRANCIS BITONTI STUDIO INC.

CLOTHES MADE IN YOUR CLOSET

While 3-D printing is nothing new (the technology has existed since the mid-'80s and has been used to create everything from dental implants to prosthetic limbs), there's no question that as 3-D printers come down in price and accessibility improves, custom-printed clothing, jewelry and accessories will become as ubiquitous as online shopping sprees.

"One day, it's going to be this thing in your closet where you press a button and you'll go to sleep, and your new shoes will be there in the morning," said Lucy Beard of Feetz, a digital cobbler of sorts. "It's fast fashion driven by the consumer."

While the Jetsons-esque appeal of overnight insta-shoes is still way-off, small startups like Chicago-based MNGRM are one of the ever-growing accessories companies around the country that allow customers to design and order their own 3-D-printed jewelry. Architect-cum-computational designer Max Davis learned to build the modeling technology while in school and now uses it (with the help of a 3-D printer on the East Coast) to create 14K gold, polished brass, silver and platinum necklaces based on any combination of letters or initials.

On the apparel side, Dutch designer Martijn van Strien recently launched The Post-Couture Collective, which allows the consumer to get made-to-measure, custom-fit clothing created from 3-D-knitted material that can be downloaded, printed, assembled and even recycled after it's worn.

"I think this technology tells a story. It shows consumers exactly what it takes to make a garment, which should in turn help them understand a \$5 T-shirt can't be made in an ethical way," said van Strien. "I don't think we'll all be wearing these exact garments in 20 years, but I hope it's a step in the development of a more sustainable and fair industry."

Bitonti foresees more 3-D printing happening in homes but agrees it's still in its infancy. "I could see people starting to have lots of micro-factories for small-batch local productions. The challenge is how we'll be able to do lots of small-batch production at mass scale." He sees enthusiasts, hobbyists and gamers catching on first, and for "those willing to put that effort in, there's an emotional connection with what you're doing, a desire to be a part of that process."

READ Page 14 in this issue of *The Henry Ford Magazine*, and learn about the Electroloom, one of the latest startups to mash up 3-D printing and wearable fashion. ►

READ *Make: Wearable Electronics: Design, prototype, and wear your own interactive garments* by Kate Hartman ►

"I'm trying to help brands make projects we can build at scale," Bitonti said. "We create these one-off pieces to try out ideas, when it's too early to get into large-scale production." By working on collaborations with small designers, Bitonti says they're able to drop the barrier of entry for them. "Up-front costs aren't there, unit costs end up being higher — it's great for young designers at this point in time," he said.

One of Bitonti's collaborations is with Tennessee-based Feetz, a "digital cobbler" that makes 3-D-printed shoes fitted to photos taken of the customer's feet. "It's about mixing old and new," said founder Lucy Beard. "Shoes have been around for hundreds of years, but you used to go to a cobbler who would wrap your foot for sizing. Then, 200 years ago, some British noble created standard shoe sizes based on an ear of corn, and that was the start of the sizing system." Beard's goal with Feetz is to make every shoe personal to the customer, "but you don't make the new shoe until you want it or need it. It's more sustainable. That's the digital side — there's no waste."

But even if a sustainable 3-D-printed shoe offers a perfect fit, it still needs good, wearable design, and that's where Bitonti came in. "We'd gone over 30 different designs, including weird and wonderful high couture wedge shoes, which were cool, but we wanted them to feel like real shoes," said Beard. She met Bitonti at an event in New York City and recruited him as a designer and official adviser to Feetz.

"I like people like Francis," said Beard. "He's an architect, but he thinks about weird, quirky ways and

unconventional methods. He's willing to ask, 'Why couldn't it be like this?' Now we can define and break through barriers, while the new school catches up and starts to learn what the new digital rules are."

It was a happy printing accident that created Feetz's latest collection with Bitonti, a 3-D-printed flat that's plastic-based but resembles knitted yarn.

"The printer messed up, and Francis looked at it and said, 'It's kind of woven, like knitting,' but instead of yarn, it's made with 3-D filament." Beard liked the natural look of the material that bends with the foot, and the next collection was born. After printing, the shoes are given a soft liner and carbon fiber sole, and sent to the customer within a week.

"It's not the material, but how you use it," said Beard. "It's like an egg. It's this thing in a shell, and if I crack it, I can drink it raw, or cook it and make it hard, or whip it into a meringue. It's the same fundamental material, but it's about what you do with it and how you transform the properties."

Körner agrees that no matter what technology or material is used to make a product, the designer's vision and craftsmanship remain at the heart of its creation.

"All these collaborations are sort of handcrafted, but the difference is that they're digitally crafted; so it's not a software that generates these pieces by themselves, it's still a designer sitting there for weeks designing and handcrafting the piece within the computer," said Körner. "I find it interesting if a very old tradition is combined with a very futuristic technology."

And that type of fashion is, no doubt, the future. ●



MELISSA FERRARA



HOME COUTURE

The Post-Couture Collective allows consumers to create custom-fit clothing from 3-D-knitted material that can be downloaded, printed, assembled and even recycled after it's worn. Through MNGRM.com (inset), customers enjoy the same sense of homebound creativity, designing and ordering their own 3-D-printed jewelry online.



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**DESIGNERS DISILLUSIONED WITH FAST FASHION LOOK TO
CREATE A GRASSROOTS GARMENT INDUSTRY ONE CITY AND
ONE HANDMADE SHIRT AT A TIME**

**By Allen Salkin
Needlepoint by Lish Dorset**



SAVVY SEAMSTRESS

Clothier Laura Lee Laroux is one of many upstart designers that have abandoned the world of big fashion to practice their trade in more unconventional small towns and cities, slowly reimagining an industry built around how we make, sell and buy what we wear.



WHAT'S OLD IS NEW

Fashion designer Laura Lee Laroux (left) packed up her sewing machines and moved to Montana to dedicate more time to her clothing line RevivALL. She uses recycled materials to create distinctive and earthy apparel and accessories, ranging from overalls and dresses (below) to leather utility belts (right).



CLUNEY PHOTO

Laura Lee Laroux is full of confidence, even though some peers say she shouldn't be.

Laroux, 36, moved to Bozeman, Montana, with seven sewing machines and 12 rolls of fabric in a U-Haul earlier this year, intent on making the rugged town at the northern foot of the Gallatin Range the new headquarters of her clothing line. She calls it RevivALL because she upcycles old materials into new garments, such as ruffled dresses fashioned from men's shirts and hip bags revived from leather scraps bought from a recreational vehicle manufacturer.

Laroux had been overly busy and underearning in her previous home of Eugene, Oregon, running a clothing boutique, co-producing a local fashion week and, in the snatches of remaining time, working on developing RevivALL. But then, like so many bold Americans, from the pioneers to Kerouac on down, she concluded that her destiny, her chance to leave the old middle behind and pursue her dream full time, lay elsewhere. "I just got some kind of rumbling inside me that said I have to leave Eugene," said Laroux.

But Bozeman, population 37,000, isn't New York or Los Angeles, teeming with seamstresses, fashion buyers

and media. Why does she think she can make it there?

The same could be asked of legions of other upstart fashion designers setting up shop in locales such as Lawrence, Kansas; Nashville; and Detroit, none fashion capitals likely to be featured on *Project Runway*.

Something is afoot.

The odds of upstarts breaking profitably into the \$2.5 trillion international fashion business remain long, but American entrepreneurs like Laroux have been newly emboldened to try by a confluence of cultural and economic forces. These include an appetite among some activist consumers to opt out of the fast-fashion system; Web stores like Etsy that connect small makers to buyers everywhere; low costs in postindustrial American cities; the decline of New York's garment district; and fledgling pockets of support for apparel startups by government and not-for-profit groups. The result of all this has been the growth — sometimes halting, occasionally stunted, but often encouraging — of grassroots garment industries across the American landscape.

DID YOU KNOW? /

The millinery trade had long been a traditional occupation — it was considered an ideal business for women who needed a livelihood at the turn of the 20th century.



"Not all designers have to come to New York," said Lisa Arbetter, editor of the influential fashion magazine *StyleWatch*, which has a per-issue circulation of 825,000. "Every line doesn't have to be sold in Saks."

A LITTLE IS ENOUGH

It might seem counterintuitive, but the fact that 97 percent of the clothing sold in the United States is now made overseas, up from 50 percent in 1990 and 10 percent in the 1960s, has created opportunity for American makers. While Zara, H&M, Gap and Fast Retailing, the parent of Uniqlo, have annual sales of more than \$74 billion combined, some of the fashion-forward want to wear clothes that a million other people aren't also slithering into. (See sidebar on Page 32 for deeper reasons for this.)

What's especially sweet about the kind of apparel businesses those like Laroux are starting is that a little success can be enough. Their ambition is not to become the next Betsey Johnson or Yves St. Laurent, but merely to gain the satisfaction of earning enough money selling dresses made from shower curtains, cruelty-free handbags or bespoke belt buckles to quit their boring day jobs.

"I'm close to making a living on my own stuff," said Leslie Kuluva, who has seen sales of her line of LFK T-shirts printed in Lawrence, Kansas, rise every year since 2006. Kuluva says when she started, "I used to print them on my living room table and lay them out

on the couch to dry, and cats would be walking all over them."

Now, the "stuff" she creates in her professional print shop on East 8th Street in the college town includes men's ties she buys at thrift stores and upcycles by printing clever designs on them, along with baby onesies and adult shirts she buys wholesale and unprinted from American Apparel, adds LFK logos to and sells at a profit of roughly \$10 a garment. The line is carried at downtown shops such as Wonder Fair and Ten Thousand Villages eager to support local makers.

MORE THAN A HOBBY

Of course, having one artist or even a dozen eke out a living printing shirts one by one is not on its own enough to jump-start the economy of a town or change fashion as we know it. The challenges in taking a step up from that by launching a relatively small national apparel brand are formidable, as would-be entrepreneur Lisa Flannery learned over the past few years. A veteran of two decades of toil in various roles at big brands in the Manhattan fashion business, Flannery attempted to start her own surfwear line.

"You need serious capital for development and production; unlimited amounts of time for sourcing, designing and fitting," Flannery shared in a long and deeply detailed gush during a short break from her current job as a technical design manager ▶

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SELLING SHIRTS TO SURVIVE

The LFK clothing line has seen an uptick in sales every year since 2006. The Lawrence, Kansas-based fashion startup/professional print shop is the brainchild of Leslie Kuluva, who is confident her hobby that started on a living room table can become her primary source of income.

Ills of Fast Fashion

One reason some consumers are eager to buy from smaller, made-in-the-USA apparel companies is concern over the ills of the fast-fashion industry as chronicled in the recent documentary *The True Cost* and the book *Overdressed*. While it can be a thrill to buy a blazer for \$12 that looks just like the one you saw a starlet wear in a magazine last week, the documentary shows that the system making that possible relies on pesticide-intensive cotton and inexpensive overseas labor. Fashion is the second-most polluting industry on Earth, right behind oil, the documentary instructs. Roughly 80 billion pieces of clothing are purchased globally in a year — 400 percent more than a decade ago.

Eleven million tons of clothes are chucked into American landfills annually, rotting and producing methane gas, and three out of four of the worst garment factory disasters in history happened in 2012 and 2013, including the Rana Plaza collapse in Bangladesh that killed more than 1,100 workers.

Thrift stores aren't the solution either. Only about 10 percent of clothes donated to thrift stores get sold there. The rest passes through dealers who sell it for pennies per pound, sending it via container ship to overseas merchants, everywhere from the Caribbean to Africa, where its cheap presence discourages the growth of homegrown garment industries.



at a national clothing brand. “And a partner or really good friends and family to help you with the sales, marketing and PR, legalities and accounting, etc., because you need to handle design and production, which are really jobs for multiple people — if you can manage to handle that, then you confront massive minimums, which is why you need all of that capital — minimums on fabric, trims and the amount of units the factory will produce for you — most China factories want at least 3,000 units — otherwise you are making small lots locally at very high prices, which your potential customers scoff at because they are used to Forever 21/Zara/H&M prices. And then if you do manage to get some traction, you can bet someone is going to knock you off at a much lower price.”

Flannery ended up spending more than \$10,000 and gave up when, after subsisting on four hours of sleep a night, her health started to fail. She's not optimistic about the long-term prospects for Laroux and others.

Such barriers to big dreams are why Karen Buscemi runs the Detroit Garment Group (DGG), a three-year-old nonprofit with an ambitious agenda. “We are trying to make Michigan the state for the cut-and-sew industry,” said Buscemi, a former fashion magazine editor.

Funded by donors including two automobile seating manufacturers, the DGG offers as one of its five major programs a fashion incubator. It takes up to 10 fashion entrepreneurs; installs them in offices in Detroit's Tech Town building; gives monthly workshops on making business plans; provides access to high-end design equipment for free; assigns seven mentors across legal, sustainability, sales and other fields; and, at the end of a year, sets up a showroom where retailers come and hopefully buy clothes and start a wholesale relationship with the incubees. Those not admitted to the full program can sign on as an associate member for \$100 a month to use the high-end printers, pattern-digitizers and other machines to create a fashion collection.

DGG's apprenticeship programs in pattern-making and sewing machine repair promise to help convert the unemployed into garment workers. (DGG's certificate classes in industrial sewing are offered at a few schools, including Henry Ford College in Dearborn, which is not affiliated with

The Henry Ford.) Meanwhile, DGG is working with a variety of state agencies to establish a full-blown garment district, taking advantage of the decline in New York, where the district, due to high costs and foreign outsourcing, is a shell of its old self. Los Angeles has already shown it can be done, becoming a new apparel-making center.

The idea could very well work in Detroit, too, said *StyleWatch* editor Arbetter. “They are training people in a manufacturing skill that dovetails into the history of that town as a manufacturing center, and by doing that, they are creating businesses and creating jobs. It seems that particular city is ripe for this.”

One key, Buscemi said, is starting small by helping young designers find stable footing. “They want to come out the door from college and be entrepreneurs,” she noted. “But unless you have had experience, how are you going to do that and turn it into a real business rather than a hobby you are doing on the side?”

A COMMUNITY WITHIN

Apparel brands can change a city. In Nashville in 2009, the jeans shop Imogene + Willie opened in a former gas station on 12th Avenue South. Its informal vibe, with cool folks lounging on couches next to stacks of blue jeans and thick belts — a few doors up from the famed guitar shop Corner Music — helped establish a neighborhood aesthetic.

As co-owner with her husband, Carrie Eddmenson explains in the brand's online statement: “The way Matt and I operate has always involved a mix of uncertainty reinforced by intuition, call it a gut feeling.”

The words could be a manifesto for Nashville, where guts, gut feelings and flights of inspiration have for a century oozed through the city's honky-tonk veins, only recently spilling out into creative fields beyond music.

Although the jeans are made in Los Angeles, the store's bustling neighborhood, now known by the hipster moniker “12 South,” is one of the emblems of Nashville's ferocious resurgence. Chef Sean Brock credits the city's apparel scene for his decision to open a Nashville outpost of his award-winning restaurant Husk. “I came back to visit friends,” Brock said, moments after slicing a local ham for thrilled patrons in the dining room last winter. “And there was just a buzz. People were coming from ▶

WATCH Karen Buscemi of Detroit Garment Group talk about the state of Michigan fashion [youtube.com/watch?v=RfMJaBGpPlk](https://www.youtube.com/watch?v=RfMJaBGpPlk) ▶

ONLINE Take a look at the fashion and philosophy of Brooklyn-based designer Suzanne Rae suzannerae.com ▶

RESEARCH The ethical manufacturing processes of Boll & Branch, creator of fine home fashions bollandbranch.com ▶

CUT-AND-SEW CONNOISSEUR

Karen Buscemi is using her fashion expertise, her sense of adventure and her nonprofit powerhouse Detroit Garment Group to transform the city of Detroit, a well-known hub for automotive manufacturing, into a full-blown garment-making metropolis.



MARVIN SHAOUNI



CHRISTOPHER MORLEY



LARRY NIEHUES

A PLACE FOR DENIM LOVERS

The comfortable vibe inside the Imogene + Willie jeans shop in Nashville (at top) has helped co-founders Carrie and Matt Eddmenson (above) reset the tone of a town known best for its musical heritage — as well as sew and sell a good many pairs of jeans praised for their comfort and perfect fit.



Their ambition is not to become the next Betsey Johnson or Yves St. Laurent, but merely to gain the satisfaction of earning enough money selling dresses made from shower curtains, cruelty-free handbags or bespoke belt buckles to quit their boring day jobs.

New York and LA to do things like make leather belts.”

In Bozeman, Laroux has identified what there is of a garment industry and has taken steps to become a part of it. There are companies producing backpacks there, and Red Ants Pants, a brand that is like Carhartt for women, is headquartered in Bozeman. Even though not all of these companies produce apparel in Montana, their presence, Laroux figures, means there must be expert seamstresses, fabric cutters and other production people around, some of them likely willing to take second jobs for an ambitious, youngish designer.

In her first 10 days in town, Laroux met with a woman who runs a co-working space and a screen-printing business, another who has a clothing boutique and another, Kate Lindsay, who founded Bozeman Flea, a market for artists and makers. Laroux’s goal is to start earning \$50,000 annually, after expenses. Some of that income may come from selling patterns for her dresses for \$10 each via websites such as Indiesew; some from showing at an upcoming fashion event in Helena, Montana, and at Bozeman

Flea; some from opening a local shop with other designers; some from sales of sock garters on the e-commerce maker superstore Etsy; and some, perhaps, from catching the fancy of a buyer from a national retailer looking for a unique American-made product.

The extra bedroom in the faux colonial she rents with friends, her share being \$600 monthly, has become, for now, a design studio and sewing room. Not for long, Laroux said. “In three months, in my ideal world, I would have this little storefront I’ve been looking at downtown, with my studio in the basement and three other designers that have studio space, and we take turns running the shop.”

Long ago at fashion school in New York, Laroux had a burned-out professor who told the class none of them were ever going to really make it as designers. “You’re just going to be getting coffee for people at design houses,” she recalled him saying, acting as if administering this dose of reality was a favor.

Maybe it was. He made her angry, and now she’s making her stand, assembling a fashion posse. ●

DID YOU KNOW? / Hand-sewing was a way of life for females in the 18th and 19th centuries.

READ *The Responsible Company: What We’ve Learned from Patagonia’s First 40 Years* by Yvon Chouinard and Vincent Stanley ▶

ONLINE Research The Makers Coalition, a group of businesses, educational institutions, nonprofits and service providers coming together to build a trained cut-and-sew industry in America themakerscoalition.org ▶



HATS OFF TO A HATMAKER

Elizabeth Cohen (shown at left in front of her Detroit hat shop circa 1895) supported her young family after her husband died by making and selling fashionable headwear. Hats similar to those that would have graced her storefront window more than a century ago (above) can still be admired today at Cohen Millinery, now located in Greenfield Village.

MRS. ELIZABETH COHEN

A WIDOW, A HATMAKER, A FASHION ENTREPRENEUR

Life is often a juggling act of work, play and family. While current-day clothiers such as RevivALL's Laura Lee Laroux and jeans shop co-owner Carrie Eddmenson are experiencing the trials and tribulations of being small-town entrepreneurs in the big business of fashion, more than 100 years ago many women were facing similar circumstances, leaning on their sense of style to furnish a living.

In the late 1800s, Elizabeth Cohen had run a millinery store next to her husband's dry goods store in Detroit. When he died and left her alone with a young family, she consolidated the shops under one roof. Living above the store, she was able to run a business and earn a living while staying near her children.

Cohen leveraged middle-class consumers' growing fascination with fashion, using mass-produced components to create hats in the latest styles and to the individual tastes of customers. To attract business, resourceful store owners like Mrs. Cohen displayed goods in storefront windows and might have advertised through trade cards or by placing advertisements in newspapers, magazines or city directories.

"While Mrs. Cohen was more likely following fashion than creating it, it did take creativity and design skill," Jeanine Head Miller, curator of domestic life at The Henry Ford, said of Cohen's millinery prowess. "She was a small maker connecting with local customers in her community — a 19th-century version of Etsy, perhaps, but without the online reach."

And she certainly gained independence and the satisfaction of supporting her family while selling the hats she created from the factory-produced components she acquired. "People can appreciate the widowed Elizabeth Cohen's balancing act," added Miller, "successfully caring for her children while earning a living during an era when fewer opportunities were available to women."

— Jennifer LaForce

Visit Cohen Millinery in Greenfield Village, and browse a collection of authentic late 19th-century hats and other accessories. Chat with the village's milliners dressed in period clothing, and peruse headwear for purchase. Make your own hat at Cohen Millinery during Motor Muster (June 18-19) and the Old Car Festival (September 10-11.)

IN- HOUSE TO ON- THE- RACK

Way back when, making clothing was a household enterprise. Many families raised the raw materials and did much of the labor-intensive spinning, weaving and hand-sewing to produce the clothing they needed. Textiles were precious, and most people had only a few garments. Today, clothing is a massive commercial operation — it's all about us going off-site or online and searching out ready-to-wear from hundreds of factory-made items hanging on hundreds of racks or presented as seemingly endless choices on websites. Here are some of the tools of the garment trade that got us from in-house to in-store, all part of The Henry Ford Archive of American Innovation.™

1 THE WALKING WHEEL
In the 1760s, rural families would spin wool (from sheep raised on-site) on a walking wheel inside the home, creating yarn eventually woven into cloth for making their own clothing.

Walking Wheel, Daggett Farmhouse, Greenfield Village

2 ROLLER PRINTING
The process of printing designs on textiles using a cylinder made these fabrics much more affordable and fueled demand. By the 1830s, New England textile factories were producing a staggering 120 million yards of cotton prints each year.

Dress, circa 1835 (shown below)

3 THE SEWING MACHINE
Sewing machines began to transform the process of sewing clothing during the late 1840s. While it might take 14 hours to sew a man's dress shirt by hand, it would only take an hour by sewing machine.

Howe Sewing Machine, The Henry Ford Digital Collections, 1854-1857

4 THE DRESS PATTERN
Commercial dress patterns made planning and cutting out a garment much easier. These patterns gave people a guide to making the correct cuts, sized from small child to adult.

R.S. Bailey's New Combination System for Ladies and Children's Waists, Basques, Sacques and Patterns, patented 1888

The Henry Ford Archive of American Innovation™

5 THE POWER LOOM
The power loom industrialized textile weaving during the early Industrial Revolution, automating the process of weaving and dramatically reducing the need for the skilled human hand. It took decades and a cast of innovators to perfect this technology.

Draper Company Power Loom, 1935
The Henry Ford Archive of American Innovation™



FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION™

WHEN FASHION MIRRORS ARCHITECTURE

More often than not, these two disciplines and the
artists that practice them go hand in hand

By Lauren Sherman



ILLUSTRATION BY
BETH HOECKEL



When the founders of Kate Spade decided in 2015 that they wanted to once again make a go of the accessories business, they decided that their new label, called Frances Valentine, would consist primarily of shoes instead of handbags (which was the thing they originally became famous for in the early 1990s).

DID YOU KNOW? /

In 2015, Louis Vuitton artistic director Nicolas Ghesquière showed his resort collection in Bob Hope's space-age Toluca Lake estate, which was modernized by architect-to-the-stars John Elgin Woolf in the 1950s.

The handbag market is crowded enough, they said, so rather than offer dozens of pocketbooks, they whipped up just a few easy-to-carry totes and a broad range of footwear, including everything from casual sneakers to sky-high stilettos.

No matter what category they're chasing, designers Andy Spade and Kate Valentine — who changed her surname in order to create a delineation between the real person and the still-active brand — will always favor clean lines mixed with artful graphic flourishes. That's why the collection's pièce de résistance is a chunky geometric heel that makes an appearance in the designer's spring collection under a strappy sandal and, in the fall, a sharp Chelsea boot. The heel was inspired by American architect R. Buckminster Fuller, whose futuristic domes can be found everywhere from Russell Township, Ohio, to Montreal,

Québec. (See sidebar "Dabbling with the Dome" on Page 43.)

It's a novel interpretation, but hardly an unexpected one. "Fashion is architecture," Coco Chanel once said. "It is a matter of proportions."

BODY OR BUILDING

Indeed, fashion and accessories designers have long applied the principles of architecture to their chosen medium. There are endless examples of the two intermingling. What they have in common is functionality. Unlike art, which often has no end use other than contemplation, architecture and fashion both serve a purpose. The precision required to erect a building or some other sort of edifice is an inspiration for designers, who must often bring structure to a material that lacks form.

It's no surprise that several of fashion history's greatest practiced or at least studied architecture before



CHRISTINE HAHN

learning to drape a dress. Tom Ford was an undergrad at Parsons Paris (a branch campus of New York's esteemed The New School) when his eye began to stray from the monumental toward the sartorial. Legendary Italian designer Gianni Versace studied architectural drafting while moonlighting as a buyer for his mother's clothing store in southern Italy. Italian designer Gianfranco Ferré, who earned a degree in architecture from the Milan Polytechnic Institute, began his fashion career designing accessories, a process that is often more in line with that of his intended profession — perhaps because it requires the eye of an industrial designer.

Dubbed “the architect of fashion,” Ferré went on to lead the House of Dior from 1989 to 1996. His most notable contribution to fashion, however, is his white shirt iterations. (A garment that requires plenty of engineering to get right.)

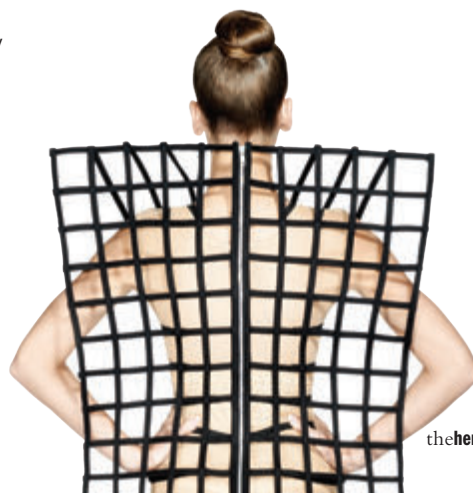
Becca McCharen, the Brooklyn-based designer behind Chromat, has used the foundations of her architecture degree from the University of Virginia to build an unorthodox fashion label. “Architecture school taught me how to approach a design project,” she said. “It is my full reference on how to design.”

Without any formal fashion training, McCharen treats each garment as if it's a building. “I think of the body as a building site,” she continued. “Just as you'd be looking at materials and the map of a site before you start plans, we're looking at context, too. Joints and the movement of the joints all around the place we're designing for.”

The designer, best known for the cage-like structures she molds to the body, also uses her electrical engineering know-how to wire garments so that they are illuminated in an enticing, not hokey, way. ▶

BUILDING HIGH FASHION'S MYSTIQUE

The Bella sandal (opposite page) designed by Andy Spade and Kate Valentine features the signature Frances Valentine heel, inspired by American architect Buckminster Fuller's omni-triangulated geodesic dome. Designer Becca McCharen let her architectural background inspire her SS15: Formula 15 Collection (above and below), a nod to the radical grid system and scaffolding-like structures perfected by Superstudio, an Italian architectural collective that rose to fame in the 1960s.



PAMU



COURTESY OF WRK-SHP



A MUTUAL ADMIRATION

It might be the minimalists, many of whom are not trained architects, who take the practice's theories most wholeheartedly.

Cuban-born American designer Narciso Rodriguez wanted to be an architect before he became a fashion designer, and the exacting lines of his clothing reflect that. "Architecture is always one of the foundations for me," he once told *The New York Times*. The New York-based designer's favorite buildings include resident treasures such as the Seagram, Empire State and Chrysler buildings.

The Turkish-born, London-based designer Hussein Chalayan has been known to draw more directly from the well of home design, crafting a skirt out of a coffee table and creating a dress that functions as a chair. Or there is Los Angeles-based designer (and former architect) Airi Isoda, whose company is called wrk-shp. She has taken to dipping clutches in latex house paint and coats in concrete.

Isoda, who studied architecture at the University of Southern California, has said the exhibit *Skin & Bones: Parallel Practices in Fashion & Architecture* at the Museum of Contemporary Art in Los Angeles was a lightbulb moment. "It was the first time I saw fashion in a new light — conceptual and architecture for the body," Isoda told the website Archinect. "Viewing an elaborately draped dress with folds similar to a façade of a building I studied in school ... it was just an eye-opening experience because I saw intellectual fashion, past its somewhat superficial and superfluous nature." ▶

THE FABRIC OF OUR LIVES

ARCHITECT TOSHIKO MORI BELIEVES IN THE RESILIENCE OF TEXTILES

"What I do doesn't have anything to do with fashion at all," said architect Toshiko Mori, one of the many innovators interviewed by The Henry Ford for its Stories of Innovation oral history project. And yet, her obsession with new materials — and performance-driven textiles in particular — suggests that she thinks of functionality in the same way an outerwear designer may approach the execution of a down-filled garment.

Mori, whose most recent work includes a cultural center in Senegal where the roof was woven with bamboo and grass, searches for ways to use textiles in lieu of hard materials.

"It's a primitive method made out of available local materials, but it's a sophisticated technique," she said of the building. "Really low tech can be made into really high tech."

The architect likes working with textiles because they are flexible and easier to repair. While something like concrete may be more resistant, the damage is more permanent.

Mori's continual research has brought her to membrane structures, like that on the roof of Osaka Stadium in Japan. "It's nearly permanent," she said. "Instead of using a steel or metal or glass roof, this is lighter and has an amazing capacity against shading."

She's also interested in inflatables and temperature-controlled textiles, such as Uniqlo's HEATTECH material, which lets the wearer sweat without retaining moisture. "That type of idea can be translated into buildings," she said. "One of the most amazing things about textiles is that they have the capacity to incorporate very complex criteria."

Watch Toshiko Mori's interview with *The Henry Ford*, or read the transcript in its entirety at thehenryford.org/explore/stories-of-innovation/visionaries/toshiko-mori.com.

— Lauren Sherman



IWAN BAAN

Architect Toshiko Mori's most recent work includes helping design and erect *Thread*, an art and cultural center in rural Senegal. The building was constructed using local materials and builders who shared a sophisticated knowledge of working with bamboo, brick and thatch. The roof is made entirely of local grass thatch and bamboo, and the walls are built from locally made mud bricks. The pitched roof is inverted, capable of collecting approximately 40 percent of the villagers' domestic water usage in fresh rainfall. ▲

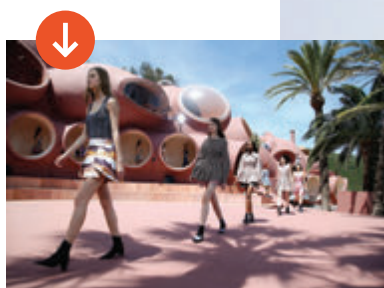
CONSTRUCTION MORE UNCONVENTIONAL

Fashion designer Airi Isoda is using architectural materials to construct unusual accessories, from latex paint-dipped pouches to necklaces made of concrete rounds and rope (opposite page). Her spring/summer 2016 clothing collection (below and at right) incorporates U-shaped forms and accents inspired by the cement archways and lily pad columns of Japanese architect Toyo Ito (far lower right).



DID YOU KNOW? /

Last year, Raf Simons, then artistic director for Christian Dior, presented his resort collection in legendary designer Pierre Cardin's Bubble Palace in the south of France, a 13,000-square-foot complex designed by Hungarian architect Antti Lovag.

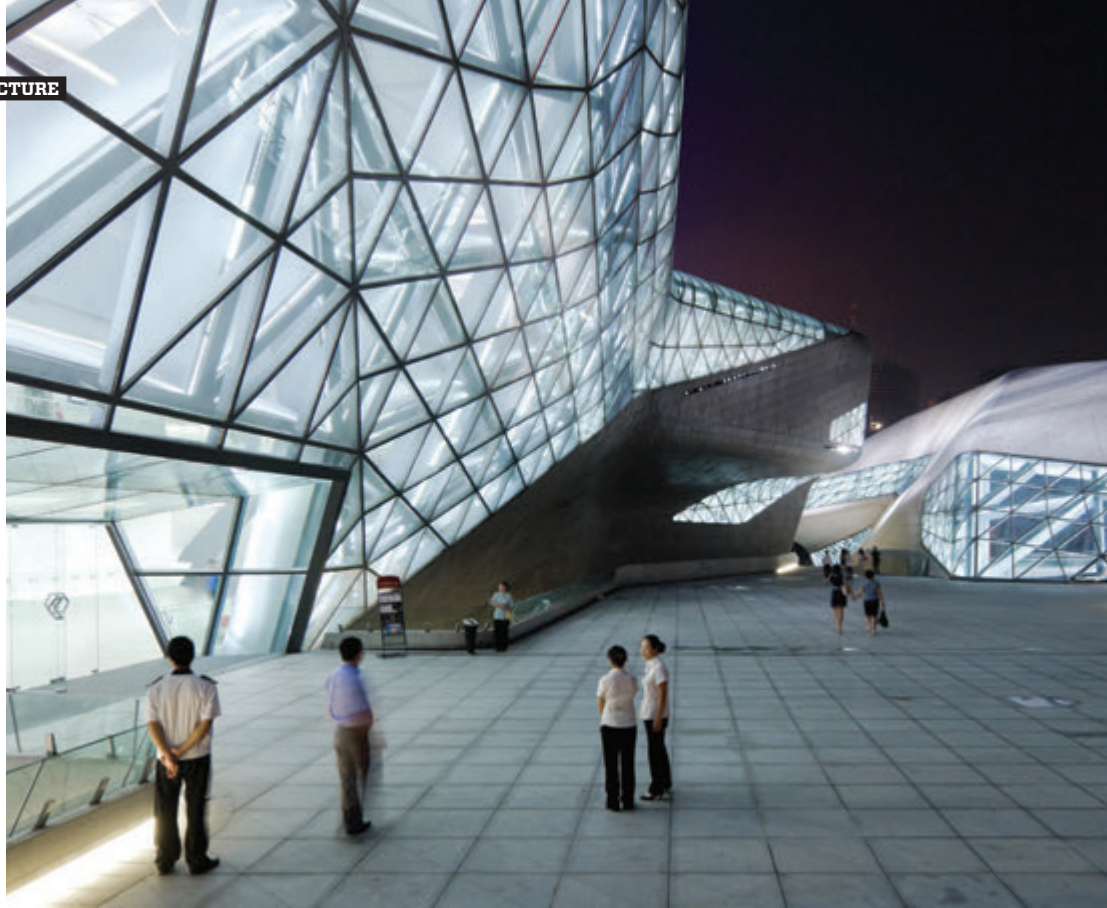


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SCOTT NORSWORTHY

COURTESY OF WRK-SHP



TOP CUFF, COURTESY OF ZAHA HADID ARCHITECTS; BOTTOM CUFF, JÜRIG BROCKMANN



ARMIN LINKE

BLURRING THE LINES

Designers are simultaneously creating a name for themselves in the worlds of both architecture and fashion. Before her death in 2016, architect Zaha Hadid was just as famous for her work on the Guangzhou Opera House in China (above) as she was her intricate fashion jewelry (top left). Meanwhile, Dutch architect Rem Koolhaas is forging fashionable ground designing retail spaces for Prada, including one in New York's SoHo (left).

“Fashion is architecture. It is a matter of proportions.”

— Coco Chanel

RESEARCH

Monash University Art, Design and Architecture (MADA) Wearing the City project artdes.monash.edu.au ►

RESEARCH

New York label Opening Ceremony, and see if you can identify similarities to the work of architect Frank Lloyd Wright in its mid-century-inspired spring collection ►

Isoda went on to study fashion design; wrk-shp is a culmination of her multiple disciplines. The company designs clothing and accessories, lighting, objects and buildings in Los Angeles and beyond. In fact, the buildings of Japanese architect Toyo Ito inspired Isoda's latest apparel collection. In particular, his “lily pad” columns have informed her silhouettes and pocket details.

It's important to note that the relationship between fashion and architecture is one of mutual admiration. “Starchitects” are often commissioned to design clothing and accessories. For instance, architect Zaha Hadid was almost as well known for her honeycomb-lattice jewelry as she was for erecting the Guangzhou Opera House. Before her death in 2016, she had also collaborated with the shoe label United Nude, as has Dutch architect Rem Koolhaas.

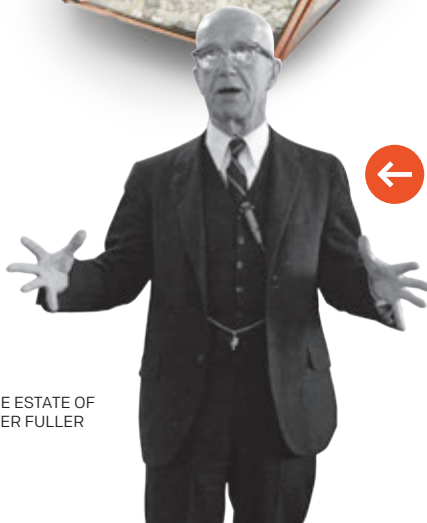
But many of the most important fashion and architecture collabora-

tions have nothing to do with actual clothes. Consider the ongoing partnership between Koolhaas and Prada. He has designed several retail stores for the Italian brand and also collaborates with its leader, Miuccia Prada, on collection visuals. The relationship between these two — underscored in the skate-park-like Prada store in New York's SoHo neighborhood, which still impresses 15 years after it opened — has served as an example for many. Like Prada's clothes, Koolhaas' concepts remain interesting years, and even decades, after they are conceived.

Making things that last, not just structurally but also intellectually, is the greatest challenge for both architects and fashion designers. Perhaps the fact that clothing and buildings are both rooted in need first and desire second best explains why these two worlds cannot be uncoupled from one another. ●



IWAN BAAN



COURTESY, THE ESTATE OF R. BUCKMINSTER FULLER

DABBLING WITH THE DOME

FULLER'S ARCHITECTURAL INVENTION INSPIRES FAR MORE THAN JUST DESIGNERS OF DWELLINGS

Examine the seemingly misshapen heel of a Frances Valentine strappy sandal, and then take a closer look at photographic prints of geodesic domes in The Henry Ford Digital Collections. You should see some similarities. The dome's design is the brainchild of architect R. Buckminster Fuller, the invention that dominated his life and career and is undoubtedly an inspiration for the high-fashion footwear's design.

Fuller's geodesic dome encloses more space without intrusive supporting columns than any other structure and can efficiently distribute stress (which, when considering your shoes, isn't a bad characteristic for something you're putting all of your body weight on). Its design is based on Fuller's "synergetic geometry" and his revolutionary discoveries about balancing compression and tension forces in building.

According to the Buckminster Fuller Institute, there are more than 300,000 geodesic domes around the world today. They range from shelters in California and Africa to radar stations in remote locations. Drive by your local children's playground, and you will probably see some type of geodesic-domed structures as well. And that's not even counting the endless examples found in other less architecture-related fields, such as fashion and home decor. Next time you're at Ikea, give some extra examination to many of the lighting options hanging from the ceiling and ready for sale. Shop around on etsy.com, and scroll through the hundreds of vintage and modern-day dome-inspired ring, earring and pendant designs. There's even a high-fashion inflatable dress similar to those giant human hamster balls that are all the rage at street fairs and carnivals, geodesic in design and shape.

— Jennifer LaForce

ONLINE View a large selection of prints, photographs and other materials about Buckminster Fuller and his architectural structures in The Henry Ford's Digital Collections thehenryford.org/collections ▶

DID YOU KNOW? / Buckminster Fuller was known to experiment with wearing unconventional clothing early in his career, but he later adopted a more black-suit wardrobe so people wouldn't devalue his ideas due to his choice of dress.

DID YOU KNOW? / Buckminster Fuller designed his first commercial dome for Ford Motor Company at its headquarters in Dearborn, Michigan, in 1953.

Q1 CHAIR COURTESY OF ODES2 MEDIA; TABLE LAMP COURTESY OF JOSSANDMAIN.COM; EARRINGS FROM ETSY BY SHLOMIT OFIR; TERRARIUM COURTESY OF URBANOUTFITTERS.COM; ROSE GOLD GEODESIC BAND RING COURTESY OF BLOOMINGDALES.COM; GEODESIC CONCRETE PLANTER COURTESY OF 2MODERN.COM



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THE HENRY FORD





INSIDE THE HENRY FORD

The Henry Ford is 250 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.

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A STORY WOVEN OF CLOTH

One family's collection of stylish clothing tells a fascinating tale of American life

It's

human to want to leave a legacy — some small impact on the world that will outlive us. For the Roddis family of Wisconsin, that legacy comes partially in the form of generations' worth of

clothing, now a part of The Henry Ford Archive of American Innovation.

"What's absolutely wonderful about this collection is it's from one family and spans many decades and several generations," said Jeanine Head Miller, curator of domestic life for The Henry Ford. "Often, people don't save things to this degree — they get dispersed and their stories are lost."

The Roddis family was a successful middle-class family living in Marshfield, Wisconsin, from the 1890s to the 2010s. William H. Roddis moved to this small town from Milwaukee with his wife, Sara, and his son Hamilton and daughter Frances in 1894. There, he turned a struggling veneer business into the thriving Roddis Lumber and Veneer Company. His son Hamilton continued this success. And there, Hamilton Roddis and his wife, Catherine Prindle, raised a family of five daughters and one son.

Though living in a small town away from urban centers, the well-educated Roddis family was in touch with the larger world. The Roddis women loved stylish clothes and found ways to keep up with fashion. "Their closets held garments available in the stores of Milwaukee, Chicago, New York or Paris — as well as stylish garments made by Catherine," Miller said.

Though the family was prosperous, they didn't have an unlimited clothing budget, stocking their closets very wisely. "Their clothing was tasteful, beautifully designed and constructed, but not pretentious," Miller added.

Hamilton and Catherine's daughter Augusta played a key role in preserving the generations of the family's garments acquired by The Henry Ford, storing items in her family home's third-floor attic for decades.

Augusta Roddis died in 2011. The Henry Ford acquired her treasured collection in 2014. *American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family* goes on exhibit in the museum on November 5.

"Now that The Henry Ford is the custodian of the collection, it is our responsibility to preserve these garments for the future," said Fran Faile, textile conservator at The Henry Ford. "We do that by housing them in specialized storage areas, exhibiting them only for limited periods of time and ensuring that the materials used for display are safe for the delicate fabrics. We are committed to providing the best possible care for the artifacts entrusted to us."

Even the most delicate of repairs are considered carefully, she added.

"In the end, what the family appreciated about The Henry Ford was that we valued the context," noted Miller. "The garments are lovely and interesting to look at, yet they take us beyond, into broader stories of America. So the collection is about more than just fashion. It's about people — and the American experience spanning more than 130 years."

DID YOU KNOW? /

Talks between The Henry Ford and the Roddis family first began when a connection was made between the bodice of a garment (shown below) and a Detroit dress-maker named Barbara Hunt.



DID YOU KNOW? /

The mannequins displaying items from the Roddis collection are made of chemically inert materials and are modified as needed to provide support for the garments so that gravity and tension do not stress the materials.



SAVE THE DATE

Preview Reception

November 4, 2016

Be the first to see selected clothing, accessories, family photographs and printed materials of The Henry Ford's Roddis collection during the exclusive exhibit preview for *American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family*. For details and updates about this special event, visit thehenryford.org/AmericanStylePreview.



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

ONLINE Visit thehenryford.org/AmericanStyle ▶

ONLINE **WANT TO INDULGE IN AMERICAN LIVING?** Subscribe to THF OnLiving at thehenryford.org/enews ▶



**American Style and Spirit: 130 Years of Fashions
and Lives of an Entrepreneurial Family**
will be on exhibit in Henry Ford Museum,
November 5, 2016-April 2, 2017.



FROM THE HENRY FORD
ARCHIVE OF AMERICAN
INNOVATION™

A WARDROBE WORKSHOP

The on-site Clothing Studio ensures everyone at The Henry Ford is dressed their part

Visit

Greenfield Village and you can't help but notice the clothing. From the colonial-era linen garments worn by the Daggett Farmhouse staff as they go about their daily chores to the 1920s flapper-

style dresses donned by the village singers, or even the protective clothing worn by the pottery shop staff in the Liberty Craftworks district — all outfits in Greenfield Village are designed to add to the guest experience. In many cases, these tangible elements help accurately showcase the time period being interpreted.

"Clothing is such a big part of history," said Tracy Donohue, general manager of The Henry Ford's Clothing Studio, which creates most of The Henry Ford's reproduction apparel and textiles for daily programs as well as seasonal events. "It's a huge part of how we live even today. The period clothing we provide helps bring to life the stories we tell in the village and enhances the experience for our visitors."

The Clothing Studio is tucked away on the second floor of Lovett Hall. It provides clothing for nearly 800 people a year in accurate period garments, costumes and uniforms, and covers more than 250 years of fashion — from 1760 to the present day — making the studio one of the premier museum period clothing and costume shops in the country.

The scope and flow of work in the studio is immense, from outfitting staff and presenters for the everyday to clothing hundreds for extra seasonal programs such as Historic Base Ball, Hallowe'en and Holiday Nights. Work on the April opening of Greenfield Village, for example, begins before the Holiday Nights program ends in December, with the sewing of hundreds of stock garments and accessories in preparation

for hundreds of fitting sessions for new and current employees.

"When it comes to historic clothing, our goal is to create garments accurate to the period — what our research indicates people in that time and place wore," said Donohue. "For our group, planning for Hallowe'en is an especially fun challenge. We have more creative license with costumes for this event than we typically do with our daily period clothing."

For Hallowe'en in Greenfield Village, the studio staff researches new characters and can work on the design and development for more elaborate wearables for months. In addition to new costume creation, each year existing outfits are refreshed and/or reinvented. Last year, for example, the studio added the Queen of Hearts, Opera Clown and a number of other new characters to the Hallowe'en catalog. Plus, they freshened the look of the beloved dancing skeletons and the popular pirates.

Historic clothing, period photographs, prints, trade catalogs and magazines from the Archive of American Innovation provide a wealth of on-site resources to explore the styles, clothing construction and fabrics worn by people decades or centuries ago. Each year, Jeanine Head Miller, curator of domestic life, and Fran Faile, textile conservator, host the studio's talented staff for a field trip to the collections storage area for an up-close look at original clothing from a variety of time periods.

"Getting the details right really matters," Miller said. "Clothing is part of the powerful immersive experience we provide in Greenfield Village. Having people in accurate period clothing in the homes and the buildings helps our visitors understand and immerse themselves in the past, and think about how it connects to their own lives today."

Thousands of items are created, cared for and stored in The Henry Ford's Clothing Studio, from period-correct clothing and fanciful costumes to hand puppets and bat bags used during Historic Base Ball in Greenfield Village.

The Clothing Studio works year-round, outfitting staff and presenters for the everyday to dressing hundreds for extra seasonal programs. See the clothing spectacular during special events in Greenfield Village, including:



Motor Muster, June 18-19

Salute to America, June 30, July 1-3

Old Car Festival, September 10-11

Hallowe'en in Greenfield Village, October 14-16, 20-23 and 27-30

Holiday Nights in Greenfield Village, December 2-4, 9-11, 16-18, 20-23 and 26-30

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

DID YOU KNOW? / The Clothing Studio has a comprehensive computerized inventory management system, which tracks close to 50,000 items.

BILL BOWEN



WHAT THEY'RE WEARING UNDER THERE

At Greenfield Village, costume accuracy goes well beyond what's on the surface. Depending on the time period they're interpreting, women may also wear chemises, corsets and stays.

"Our presenters have a lot of pride in wearing the clothing and wearing it correctly," said Tracy Donohue, general manager of The Henry Ford's Clothing Studio.

While the undergarments function in the service of historic accuracy, corsets also provide back support and chemises help absorb sweat. Natural fibers in cotton fabrics breathe, so they're often cooler to wear than modern-day synthetic fabrics. And when the weather runs to extreme cold conditions, layers of period-appropriate outerwear help keep village staff warm. The staff at the Clothing Studio also sometimes turns to a few of today's tricks to keep staff comfortable. Wind- and water-resistant performance fabrications are often built into Hallowe'en costumes to offer a level of protection from outdoor elements.

"It can be 100 degrees in the summer and 10 degrees on a cold Holiday Night," Donohue said. "Our staff is out in the elements, and they still have to look amazing. We care about the look and overall visual appearance of the outfit, of course, but we also care about the person wearing it."



▲ Costumed presenters for Hallowe'en in Greenfield Village don both outer and under garments designed to keep them warm and dry.

DID YOU KNOW? / During each night of Hallowe'en, Clothing Studio staff are on call, checking on costumed presenters throughout the evening to ensure they look their best.

PAINT A BIGGER PICTURE

Fumes to Fuel program at Ford Rouge Complex strives to make process of adding color onto cars more environmentally friendly

Take

the Ford Rouge Factory Tour, and a number of sustainable, environmentally conscious manufacturing practices and processes jump out at you right away. You'll see the Dearborn Truck

Plant's massive living roof and purposeful use of natural light. You can even walk the surrounding outdoor sanctuary where birds nest, flowers bloom and honeybees flourish.

Other examples of the Ford Rouge Complex's commitment to minimize its environmental impact are not as readily available for public viewing — even on the tour — but that doesn't make them any less extraordinary. The Fumes to Fuel program was piloted at the Ford Rouge Complex in 2002, designed to find solutions to the environmental issues posed by the existence of solvents in automotive coatings.

"What really impresses me is Ford's continued commitment to tackle big issues and figure out new processes and ways of doing things that not only make it better for the product but also address air and water issues," said Cynthia Jones, general manager of the Ford Rouge Factory Tour. "Ford is pushing the paint industry to make paints better, and it is also pushing to make its own processes better."

Solvents in the paint used to coat vehicles wind up in the exhaust system, and what's left

is "nasty stuff," according to David Crompton, a senior environmental engineer at Ford Motor Company. "A lot of countries will not permit the discharge of it into the atmosphere," he added, "so our early work focused on developing ways of abating those solvents."

The Fumes to Fuel process, which has been refined over several years, pushes solvent-laden exhaust air through a carbon bed. The carbon removes the solvents from the exhaust, leaving behind clean exhaust that can be safely discharged into the atmosphere. The carbon is then swept with nitrogen, heating it up and removing the solvents. The carbon returns to the absorption stage, and the solvent-laden nitrogen is condensed into a liquid form.

The entire process ends up being more environmentally friendly than producing water-based coatings, because less energy is required and the potentially harmful solvents are abated.

"Some of our competitors chose water-based coatings," Crompton said. "We believe that solvent-born technology provides the best overall environmental performance because the technology requires less energy consumption, which translates into lower CO₂ emissions. It also allows lower facility and operating costs, so there's a smaller overall footprint."

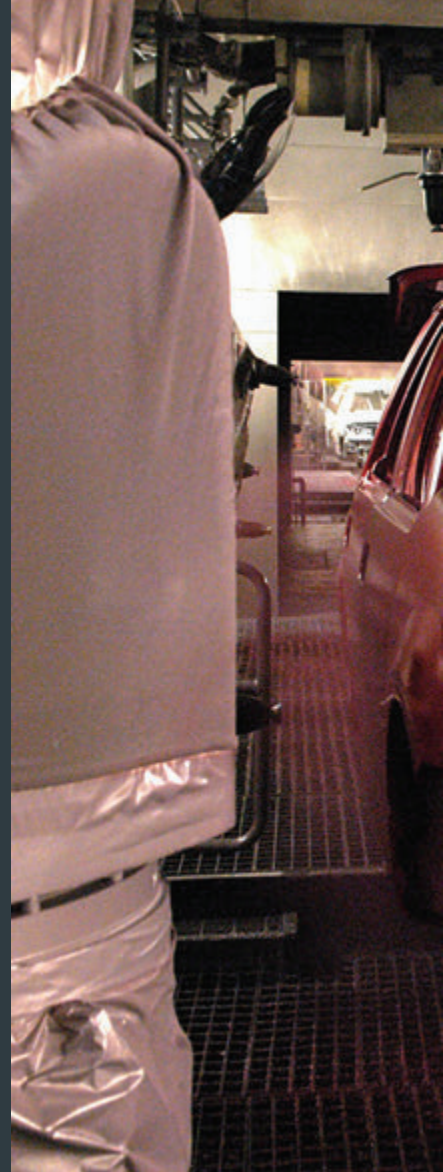
Another added benefit, the solvent-born coatings give Ford vehicles a best-in-class finish in terms of durability and chip and scratch resistance.

ONLINE For more information, hours and pricing for the Ford Rouge Factory Tour, visit thehenryford.org/rouge ▶

ONLINE INTO HOW CARS ARE MADE? Subscribe to THF OnWheels at thehenryford.org/enews ▶

DID YOU KNOW? /

The Ford Rouge Factory Tour's Manufacturing Innovation Theater received a 2016 Thea Award for outstanding achievement for a brand experience. The Thea awards program honors creative excellence in theme parks, museums and other attractions, and is considered one of the attraction industry's greatest honors.



▶ The paint and painting process in Ford automotive manufacturing plants are highly sophisticated. While workers once applied paint to a new vehicle, today the task is done robotically to ensure less overspray and a more uniform application.

FORD MOTOR COMPANY ARCHIVES



OFF THE FLOOR BLING

Several decades ago, Ford Motor Company and many other auto manufacturers used heavy lacquer paint on vehicles. Workers in full protective gear would spray the paint onto the vehicles, an imprecise process that led to overspray. Eventually, this overspray would accumulate and need to be scraped off the floors and walls.

“They were painting white cars, then yellow cars, then red cars, building layer upon layer of color,” said Cynthia Jones, general manager of the Ford Rouge Factory Tour. “So you can see how it could be beautiful. But when you scraped it off the floor and walls, it looked terrible — just this mass of paint goo.”

But to a creative eye, a mass of ugly paint goo can easily become the makings of something beautiful. Fordite, which is large chunks of the hardened paint layers, is now the inspiration for a line of jewelry selling like hot cakes at metro Detroit retailer The Detroit Mercantile Co. in the Eastern Market district.

“When we opened in 2012, we did a lot of blue-sky thinking about the things we wanted to have here, and one of them was Fordite jewelry,” said owner Robert Stenzel, whose great-grandfather migrated to Detroit to take a job with Ford. “We wanted to do stuff that delved a little deeper into Detroit and its identity, and Fordite was one of those things. I like to describe it as a distinctive regional semiprecious material.”

Stenzel looked for a Fordite vendor and then commissioned a local jeweler, Emily Saling, to make jewelry from it. “It was a hit from day one,” he stated. “We can’t keep enough in stock. I like to think we participated somehow in the revival of this distinctive regional material, but I think it would have happened anyway.”



DID YOU KNOW? /

You can purchase Fordite jewelry in The Henry Ford gift shops as well as online at thehenryford.org/shop.



FESTIVAL OF FILMS

The Henry Ford's new theater joins elite group of venues showing curated set of movies

Since

The Henry Ford Giant Screen Experience opened its doors this past April, visitors to the theater have been enjoying a slew of great films, from director Mike Slee's *Robots 3D* and MacGillivray Freeman's

National Parks Adventure to James Cameron's *DEEPSEA CHALLENGE 3D*. All of them are shown on a new high-gain MDI Premium HGA silver screen, using new Christie 4K digital projection as well as a new QSC Audio system with 5.1 channels of surround sound. Moviegoers tell us the larger, more comfortable seats aren't too shabby either.

This June, the film lineup at the Giant Screen Experience takes an even more interesting and eclectic turn as The Henry Ford joins — for the first time — an exclusive group of southeastern Michigan venues as part of the highly rated Cinetopia International Film Festival, June 3-12.

Now in its fifth year, Cinetopia 2016 will host more than 100 screenings of films over the

festival's 10-day run at theaters and institutions in Detroit, Dearborn and Ann Arbor. It will feature the best feature-length dramas, comedies and documentaries from the world's best film festivals, including Sundance, Cannes, Venice and Toronto.

What's great about a film festival is that along with seeing the films, you can expect the opportunity to participate in after-show discussions, Q&A sessions with directors and actors, and other related events. It's a truly interactive cinematic experience.

The complete, curated list of films, along with the whens and where they are showing during the festival, is available online at cinetopiafestival.org. Among other festival activities, The Henry Ford Giant Screen Experience is hosting the Detroit-area premiere of Werner Herzog's documentary *Lo and Behold, Reveries of the Connected World* and Johnnie To's 3-D musical *Office*.

Individual film tickets and festival passes are available through the Cinetopia Film Festival. Visit cinetopiafestival.org for the complete film lineup, venue locations and to purchase tickets.

▼ This summer, visitors to The Henry Ford Giant Screen Experience can see a remastered edition of the 1964 film *A Hard Day's Night*, starring (from left) Paul, George, Ringo and John, better known as the English rock sensation the Beatles.

A HARD DAY'S NIGHT IMAGE COURTESY OF JANUS FILMS



Cinetopia International Film Festival SAVE THE DATES June 3-12

ONLINE visit cinetopiafestival.org ►

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

The Giant Screen Experience is no longer an IMAX® Theatre.

DID YOU KNOW? /

The Cinetopia festival programming is selected by a team that includes Indiewire influencer Russ Collins from the Michigan Theater and the Detroit Film Theatre's national "dean" of art house programming Elliot Wilhelm.

DID YOU KNOW? /

The Michigan Theater, a nonprofit center for fine film and the performing arts in Ann Arbor, Michigan, is the home of the Cinetopia International Film Festival.



FILMS TO FILL YOUR DAYS

While the Cinetopia International Film Festival only lasts for 10 days in June, the lineup of movies gracing The Henry Ford Giant Screen Experience this summer and beyond is long as well as entertaining and educational.

A HARD DAY'S NIGHT

Made in 1964, this film immerses you in a day in the life of the Beatles at the height of Beatlemania. It's been reformatted and remastered for the Giant Screen Experience. See the film and then complement it with a visit inside Henry Ford Museum to see *The Magical History Tour: A Beatles Memorabilia Exhibition* (in the museum through September 18).

"People who love the Beatles look for and love this film," Amy Louise Liedel, senior director of guest operations for The Henry Ford, said of *A Hard Day's Night*. "We will have an excellent, high-quality presentation, with the film reformatted from the original negative to 4K digital and remastered for sound in 5.1 channels."

MORE MOVIES

Other great films and popular documentaries playing this year at the Giant Screen Experience include:

Dark Universe 3D
James Cameron's DEEPSEA CHALLENGE 3D
Living in the Age of Airplanes
National Parks Adventure 3D
Robots 3D

Members of The Henry Ford receive free admission to all traditional documentary films and discounted admission to classic and feature-length films. See thehenryford.org for showtimes and ticket pricing.

LABEL OF AN AVIATOR

Apparel bearing the name of Amelia Earhart is one of the earliest examples of pairing fame with fashion

The

Olsen twins. Justin Timberlake. Jessica Simpson. Jennifer Lopez. Today, there's an eclectic mix of musicians, actors and Hollywood personalities that have leveraged their

fame to launch successful fashion lines.

More than 80 years ago, famed female aviator Amelia Earhart was one of the first to put her name to a clothing label. The garments — with simple lines and midrange prices — were inspired by Earhart's interest in functional clothing for active living.

According to Jeanine Head Miller, curator of domestic life at The Henry Ford, Earhart, celebrated for her refusal to be bound by gender norms as well as her accomplishment as the first woman to fly solo across the Atlantic, became admired for her stylish appearance, from her sporty haircut to her modern, comfortable clothing.

When one of Earhart's blouses still bearing her spare, modern label (emblazoned with her

signature and a red airplane in flight) was put up for auction, The Henry Ford was more than interested in its possible acquisition.

"When I saw the blouse, I was intrigued," said Miller. "I thought this is so right for The Henry Ford because of its connection to the stories we tell of early aviation."

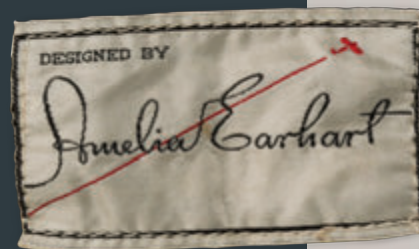
Miller's further research on the clothing line also showed that garments bearing Earhart's label are quite scarce. Unfortunately, the clothing line was not long-lived; it was sold at Macy's in New York and at a few department stores in other major cities for a short time. Even so, its significance in fashion's storybook remains.

"What's interesting is that she was the first celebrity to have a clothing line," stated Miller. "Her clothes followed fashions of the time — most weren't really original or avant-garde, but do mirror Amelia's desire for unencumbered, simple and sporty clothing."

It was Earhart's name and image that were the true selling points.

DID YOU KNOW? /

Amelia Earhart's foray into fashion design was motivated by her need to finance her aviation activities. She also endorsed a range of consumer products in the same quest.



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

ONLINE **LIKE TO CREATE THINGS?** Subscribe to **THF OnMaking** at thehenryford.org/enews ▶

FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION™

▼ This blouse was part of the clothing line launched by aviator Amelia Earhart in 1934 — one of the first examples of celebrity-inspired fashion.



WILLA'S BLOUSE

Willa Wright Nicodemus was an outdoorsy woman who grew up on a Missouri farm and later moved to Chicago, where she worked as a clerk in a brokerage office.

In 1932, Willa, 47, married Edwin Nicodemus, a retired banker and lawyer. The couple enjoyed adventure and travel, fishing in Canada, cruising the Yukon River in Alaska and touring Nevada and the Colorado River.

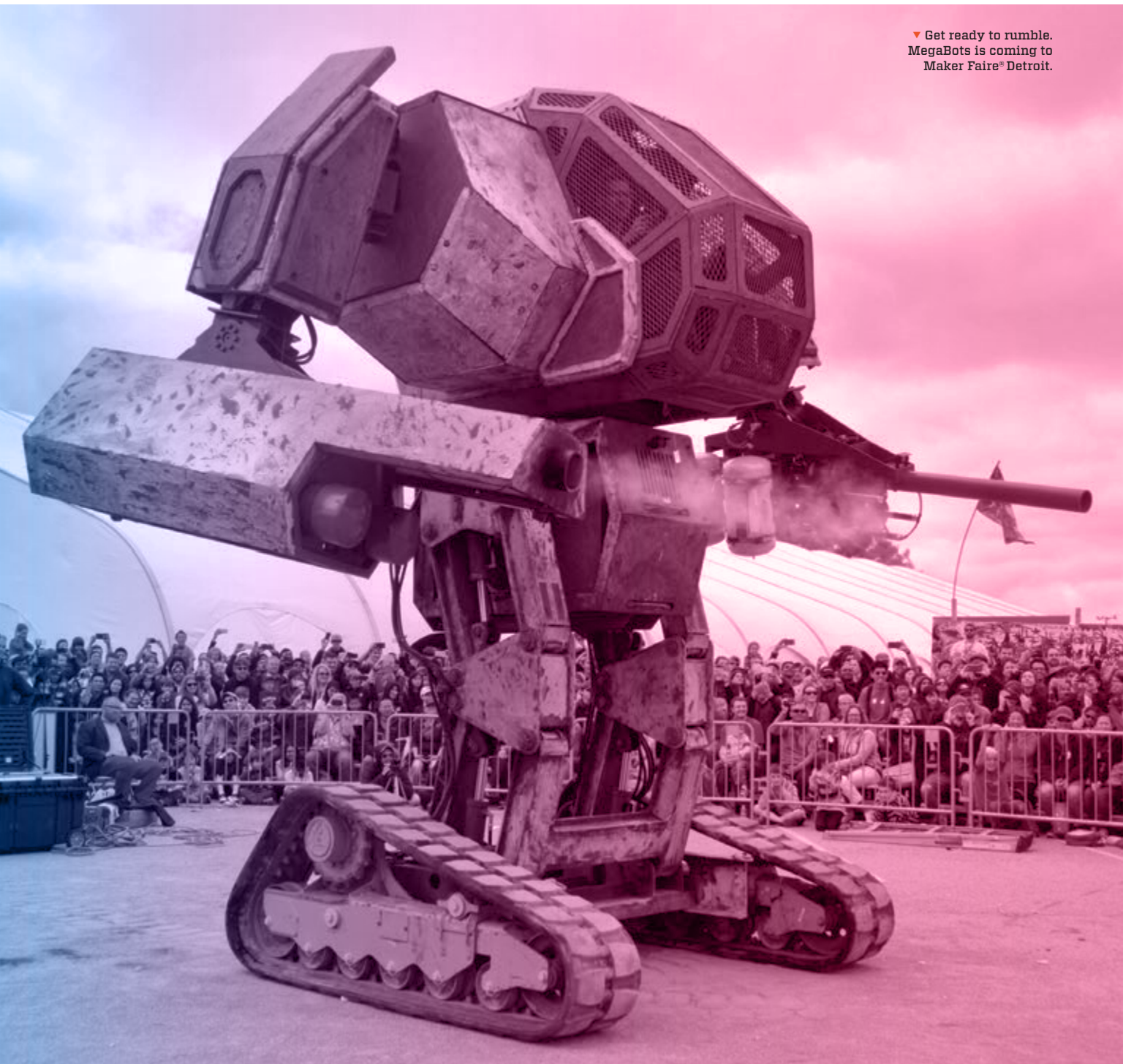
Somewhere during her travels, Nicodemus purchased a blouse, one designed for the female who appreciated an active lifestyle.

That blouse is the Amelia Earhart-designed garment now in The Henry Ford's collection.

2016 Events

Celebrate.
Play.
Imagine.

▼ Get ready to rumble.
MegaBots is coming to
Maker Faire® Detroit.



S.N. JACOBSON

MAKER FAIRE® DETROIT

JULY 30-31

THE HENRY FORD

The Henry Ford always goes big when it comes to hosting Maker Faire Detroit. 2016 promises to be no different. In fact, it might actually go just a bit bigger than ever before.

The call for makers went out at the beginning of April, and the number and scope of innovators answering The Henry Ford's summon didn't disappoint. Visitors to the event can expect some old favorites to be on the scene, such as Maker Works' Great Maker Race and Cirque Amongus, as well as lots of opportunities to do some hands-on innovating and buy DIY things. But the big story for Maker Faire 2016 (and we add extra emphasis on the word "big") is the locked-down appearance of MegaBots, said Shauna Wilson, senior manager of national events for The Henry Ford.

If you're not familiar with MegaBots, it's an American company that makes 15-foot-tall, internally piloted humanoid robots that fire cannonball-sized paintballs at speeds of more than 120 miles per hour. MegaBots made quite the media splash last year when it challenged Japan to a giant robot duel and Japan accepted. (The date and locale of the historic duel against Kuratas, Japan's 9,000-pound robot, are still to be determined.)

Matt Oehrlein, one of the co-founders of MegaBots and a longtime fan and participant on the Maker Faire circuit, shared a few secrets about what his team will be bringing to Maker Faire Detroit. "Visitors can expect to see the six-ton, 15-foot-tall MegaBots Mark II that challenged Japan to a robot duel," he said. "We'll be testing the weapon system of Mark II on a scrap vehicle in The Henry Ford's parking lot."

After weapon tests are completed, Oehrlein promises there will be plenty of meet-and-greet ops with the MegaBots team and the Mark II. "Autographs and group selfies are welcome, too," he added.

The Henry Ford's Wilson and Oehrlein agree that the matchup of The Henry Ford, Maker Faire Detroit and MegaBots is a no-brainer. Noted Oehrlein, "The Henry Ford gives a historical look at innovation over time, and we believe MegaBots represents innovation of today. It will be amazing for people to come to Maker Faire Detroit, walk through The Henry Ford and see innovation over the years, and then come outside and witness a six-ton robotic beast representing today's advancements in technology. We are so excited to be a part of this story."



MEGABOTS INC.

DID YOU KNOW? /
The MegaBot Mark II made its debut at the San Mateo Maker Faire in 2015.

ONLINE visit thehenryford.org/makerfaire ►

2016 Events

YEAR-ROUND

Macy's 2nd Mondays Children's Program

(10 a.m.-noon)
June 13,
July 11, August 8,
September 12,
October 10
Greenfield Village

November 14,
December 12
Henry Ford Museum

Thursday Night Flick*

(Monthly, 2nd Thursday, 7 p.m.)
July 14, August 11,
September 8, October 13,
November 10,
December 8 (Giant Screen Experience

Tinker. Hack. Invent. Saturdays

(10 a.m.-3 p.m.)
Every Saturday
Henry Ford Museum

JUNE

The Magical History Tour: A Beatles Memorabilia Exhibition*

Running through September 18
Henry Ford Museum
Exhibition developed by Exhibits Development Group in collaboration with Peter Miniaci & Associates
Presented by Meijer

Outdoor Living Lab Tour*

Running through October 8
Ford Rouge Factory Tour

Cinetopia International Film Festival*

June 3-12 (Giant Screen Experience

Historic Base Ball Games

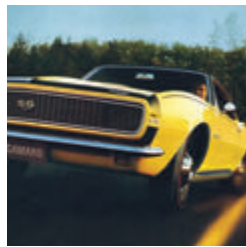
June 11-12, 18-19 and 25-26
Greenfield Village
Historic Base Ball in Greenfield Village is made possible through the generous support of Cynthia and Edsel B. Ford II

National Get Outdoors Day

June 11
Greenfield Village

Motor Muster

June 18-19 (Open Saturday 'til 9 p.m.) (Greenfield Village



FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION™

Summer Camp*

June 27-July 1,
July 11-15, July 18-22,
July 25-29, August 1-5
and August 8-12
The Henry Ford

Annual Salute to America*

June 30, July 1-3 (Greenfield Village

JULY

The Magical History Tour: A Beatles Memorabilia Exhibition*

Running through September 18
Henry Ford Museum

Annual Salute to America*

July 1-3 (Greenfield Village



THE MOST EXHAUSTIVE BEATLES EXHIBITION EVER ASSEMBLED, featuring instruments, clothing, rare original photos, handwritten lyrics and many never-before-displayed artifacts. *The Magical History Tour: A Beatles Memorabilia Exhibition* is on display through September 18 in Henry Ford Museum.



EXHIBITION DEVELOPED BY EXHIBITS DEVELOPMENT GROUP IN COLLABORATION WITH PETER MINIACI & ASSOCIATES

Historic Base Ball Games

July 2-3, 9-10, 16-17, 23-24 and 30-31
Greenfield Village

Maker Faire® Detroit*

July 30-31 (Open Saturday and Sunday 'til 6 p.m.) (The Henry Ford
In collaboration with Maker Media

AUGUST

The Magical History Tour: A Beatles Memorabilia Exhibition*

Running through September 18
Henry Ford Museum

Historic Base Ball Games

August 6-7, 13-14 and 20-21
Greenfield Village

World Tournament of Historic Base Ball*

August 13-14
Greenfield Village
Historic Base Ball in Greenfield Village is made possible through the generous support of Cynthia and Edsel B. Ford II



KMS PHOTOGRAPHY

SEPTEMBER

The Magical History Tour: A Beatles Memorabilia Exhibition*

Running through September 18
Henry Ford Museum

66th Annual Old Car Festival

September 10-11 (Open Saturday 'til 9 p.m.) (Greenfield Village

Fall Flavor Weekend

September 24-25
Greenfield Village

Farmers Market

September 24
Greenfield Village

OCTOBER

Fall Flavor Weekend

October 1-2
Greenfield Village

Farmers Market

October 1
Greenfield Village

Hallowe'en in Greenfield Village*

October 14-16, 20-23 and 27-30 (Greenfield Village

Hallowe'en in Greenfield Village Dinner Package*

October 14-15, 20-22 and 27-29 (Greenfield Village

WANT MORE? STAY CONNECTED WITH THE HENRY FORD. FOLLOW, TWEET, SHARE, WATCH. ▶



visit thehenryford.org

NOVEMBER

American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family Preview*

November 4 (Henry Ford Museum

American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family

November 5, 2016-April 2, 2017 Henry Ford Museum

Member Appreciation Days

November 18-21 The Henry Ford

Members 23rd Annual Holiday Lighting Ceremony*

November 21 (Henry Ford Museum Presented by DFCU Financial

Holidays in Henry Ford Museum

November 25, 2016-January 1, 2017 Henry Ford Museum

DECEMBER

American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family

Running through April 2, 2017 Henry Ford Museum

Holidays in Henry Ford Museum

Running through January 1, 2017 Henry Ford Museum

Holiday Nights in Greenfield Village*

December 2-4, 9-11, 16-18, 20-23, 26-30 (Greenfield Village

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

December 2-4, 9-11, 16-18 and 20-23 (Greenfield Village

Holiday Nights in Greenfield Village Dinner Package at Eagle Tavern*

December 2-4, 9-11, 16-18, 20-23 and 26-30 (Greenfield Village

▶ Dior dress, circa 1959, on display at *American Style and Spirit: 130 Years of Fashions and Lives of an Entrepreneurial Family*, November 5, 2016-April 2, 2017 in Henry Ford Museum.



▲ The spirit of the season rings throughout Greenfield Village during Holiday Nights, December 2-4, 9-11, 16-18, 20-23 and 26-30.

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

BEST VALUE! Members receive free admission to Henry Ford Museum, Greenfield Village, free documentary and traditional films at the Giant Screen Experience, plus, exclusive discounts.

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

visit thehenryford.org
call 313.982.6001

Connect **3**

Curators uncover curious connections between artifacts and ideas

→ GUIDED CREATIVITY



◀ TRAIL BLAZING NO. 8 ZEPPELIN ERECTOR SET, 1929

A.C. Gilbert introduced erector sets in 1913, inspired by watching workers erect an electrical system along a railroad line.

MAKE THE CONNECTION:

Prefabricated pieces and manufactured mini-motors give mechanically inclined kids the materials and know-how to create their own masterpiece.

“While this erector set, quilt kit and Trip-Tik blaze a trail and provide a prescribed path to follow, they also leave room to wander off the beaten path and use one’s creativity.”

— Jeanine Head Miller, curator of domestic life, The Henry Ford



AMERICAN GLORY QUILT CIRCA 1961

Quilt kits gave those who liked to sew but didn’t necessarily possess a designer mindset a predetermined pattern to work from. The American Glory quilt was made from a kit produced by Paragon.

▶ MAKE THE CONNECTION:

A prescribed design and pre-stamped fabric eliminate the need for big design decisions but still give the quilt maker the freedom to express him/herself.



▶ TRIPTIK MAP FOR DETROIT, MICHIGAN, TO FORT LAUDERDALE, FLORIDA 1951-1952

AAA’s iconic planning guide provided travelers with destination directions, points of interest and a list of services and accommodations available along the way.

MAKE THE CONNECTION:

A customized travel plan removes the uncertainty of the open road but still leaves room for spontaneous adventure and creating your own path.

WATCH The Guided Creativity Connect 3 video narrated by Jeanine Head Miller, curator of domestic life at The Henry Ford thehenryford.org/explore/stories-of-innovation/connect3/guided-creativity ▶



STAY, EXPLORE + SAVOR

You don't have to wonder where you might stay while you explore The Henry Ford. All you need to know about available lodging options — including hotel names, locations and contact information — is right here.

CALL CENTER:

313.982.6001 or
800.835.5237.

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online at thehenryford.org.
Discount tickets
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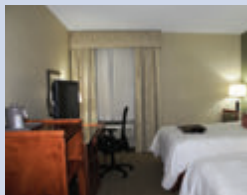
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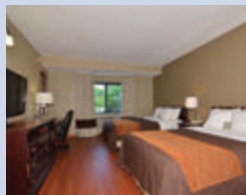
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HISTORIC



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Accommodations at a Glance

HOTEL	LOCATION AREA	DRIVE TIME*	SLEEPING ROOMS	POOL	PETS	MEETING ROOMS	MEETING SPACE (sq. ft.)	AD ON PAGE	
FULL SERVICE	Best Western Greenfield Inn	Dearborn (I-94 corridor)	10	209	Indoor	•	4	1,047	65
	Comfort Inn Metro Airport	Airport (I-94)	15	123			(1) 70	830	75
	Crowne Plaza Detroit Downtown Riverfront	Downtown Detroit	15	367	Indoor		11	10,000	67
	DoubleTree by Hilton Detroit-Dearborn	Dearborn	10	347	Indoor		16	12,000	70
	Edward Village Michigan	Dearborn	5	773	Indoor	•	30+	62,000	70
	Holiday Inn Southgate Banquet & Conference Center	Downriver (I-75 corridor)	15	160	Indoor		8	9,000	75
	The Henry, an Autograph Collection by Marriott	Dearborn	5	323	Indoor	• \$	14	26,000	68
	Sheraton Detroit Metro Airport	Airport (I-94)	15	359	Indoor	•	14	14,000	67
	Westin Hotel Southfield/Detroit	South Oakland County	15	338	Indoor	•	25	24,732	74
HISTORIC	The Dearborn Inn, a Marriott Hotel	Dearborn	3	229	Outdoor		17	17,000	64
	The Westin Book Cadillac	Downtown Detroit	15	453	Indoor/Spa	•	13	26,000	72
LIMITED SERVICE	Comfort Inn & Suites - Dearborn	Dearborn	4	116	Indoor		1	250	66
	Comfort Inn & Suites - Taylor	Dearborn (I-94 corridor)	10	78	Indoor		1 (15)		65
	Comfort Suites - Southgate	Downriver (I-75 corridor)	15	78	Indoor		1 (50)		64
	Country Inn & Suites - Dearborn	Dearborn	7	100	Indoor	•	1 (55)		66
	Courtyard by Marriott - Detroit Dearborn	Dearborn	10	147	Indoor		2	1,274	68
	Hampton Inn - Detroit/Southgate	Downriver (I-75 corridor)	15	114	Indoor		5	1,340	67
	Hawthorn Suites by Wyndham	Detroit	10	128	Outdoor	• \$	0		74
	Marriott TownePlace Suites - Livonia	I-275 corridor	20	94	Outdoor	• \$	0		72
	Quality Inn	Dearborn (I-94 corridor)	10	163	Indoor		2 (15 each)		77
	Red Roof Inn - Detroit-Dearborn	Dearborn	7	111		•	0		67
	Staybridge Suites - Dearborn	Dearborn	7	99	Indoor	• \$	(1) 35		73
BED & BREAKFAST	Bishop-Brighton Bed & Breakfast	Downriver	20	3			1	350	74
	York House Bed & Breakfast	Dearborn	10	3			0		74
CAMPING	Camp Dearborn	NW Oakland County	45	191	Outdoor		0		74
	Detroit Greenfield Campground/RV Park	I-94 corridor	20	212	On lake	•	Outdoor pavilion	600	74

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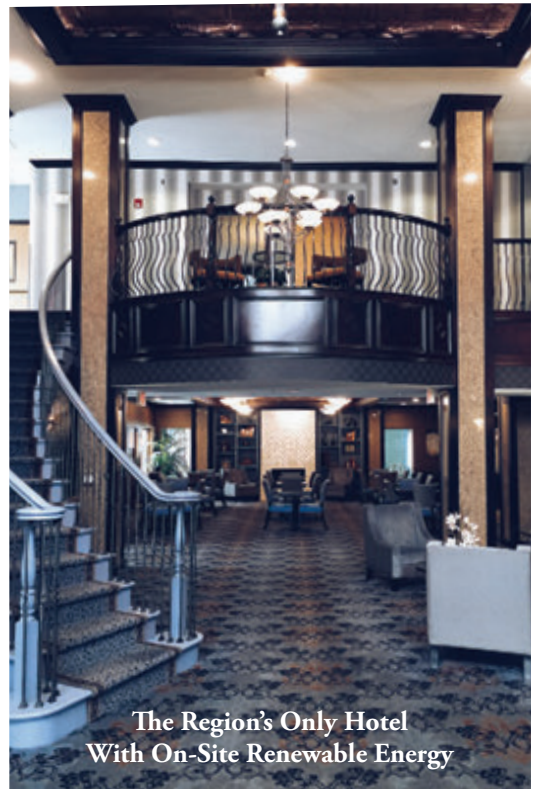
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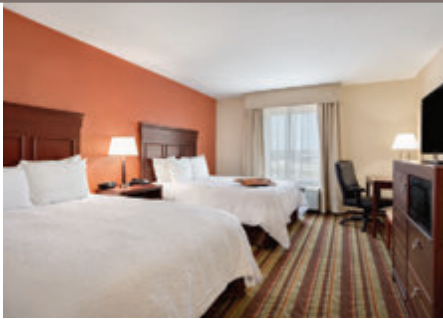
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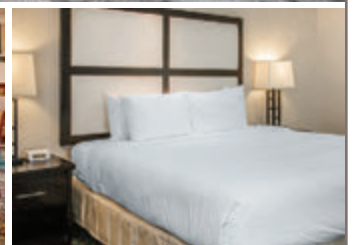
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A LOOK BACK

THE SOUPER DRESS

No, this little number isn't a masterpiece from Mr. Warhol, but the iconic artist was surely the inspiration for its recognizable print. Back in the mid to late '60s, disposable apparel made of paper was all the rage, and everyone was doing it, from paper towel producers and pie makers to Hallmark and the Campbell Soup Company. For a couple of Campbell's veggie soup labels and one buck, you could mail order the Souper Dress. Too long? Just get your scissors and cut. Needs mending? Just grab the transparent tape, and pull, tear and repair. Stubborn stain? Just throw the dress away, tuck another dollar in an envelope and mail away for your next fashion fix. By 1968, the paper fashion fad had fizzled, and the polyester leisure suit was next in line to pop.

DID YOU KNOW? /

Most paper dresses made in the '60s were actually 93 percent cellulose and 7 percent nylon.

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