

the
**Henry
Ford**

MAGAZINE
JUNE-DECEMBER 2018

Gain perspective.
Get inspired.
Make history.

THE
EAMES
ISSUE

PAGE 18

**How did one
couple's unique
perspective
on life and art
change the
everyday?**

HOLLYWOOD'S
JEANNINE OPPEWALL
TALKS EAMES, ART

CHARLES & RAY,
MASTERS AT PLAY

EAMES & THE GUEST-
HOST RELATIONSHIP



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The World of Charles and Ray Eames

**Special Exhibit U.S. Premiere
Through Sept. 3, 2018**

► **Henry Ford Museum
of American Innovation™**

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Exhibition curated and organised
by Barbican Centre, London

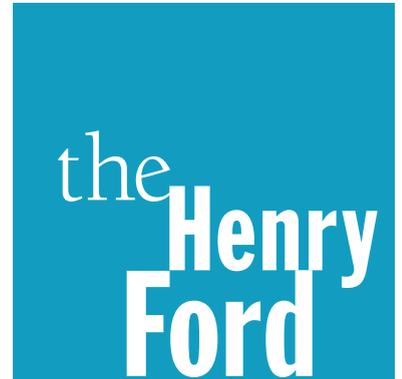
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CLOSE TO THE MUZZLE

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DON'T LET THE STANDARDS DOWN

Hollywood elite's Jeannine Oppewall shares an exclusive look back at her accidental entry into the Eames Office and its lasting effect on her and her film career

STAY, EXPLORE + SAVOR 65

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EAMES IN TOYLAND

The prolific design duo placed play at the center of their lives and their work

ON THE COVER

The opening scene of the 1977 nine-minute film *Powers of Ten* depicts two actors having an ordinary picnic in Chicago's Burnham Park. Produced by designers Charles and Ray Eames, the film, however, is anything but ordinary. Instead, it is a groundbreaking journey in understanding the power of perspective that takes us from Earth and back again at a rate of 10-to-the-tenth meters per second. Learn more about *Powers of Ten* on Page 18.

WATCH *Powers of Ten* in *The World of Charles and Ray Eames* exhibition in Henry Ford Museum of American Innovation through September 3 ►



DID YOU KNOW? /

Each slotted card in the House of Cards picture deck created by Charles and Ray Eames displays a different object from the animal, mineral and vegetable kingdoms. Designed to assemble structures both large and small, the cards celebrate the Eameses' appreciation for the uncommon beauty of common things.

HOUSE OF CARDS PHOTO BY BILL BOWEN

Gain perspective. Get inspired. Make history.

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, inventors and entrepreneurs. More than 1.8 million visitors annually experience its four venues: Henry Ford Museum of American Innovation,[™] Greenfield Village,[®] Ford Rouge Factory Tour and 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.

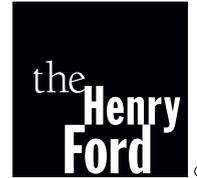
In 2014, The Henry Ford premiered its first-ever national television series, *The Henry Ford's Innovation Nation*, showcasing present-day change makers and The Henry Ford's artifacts and unique guest experiences. Hosted by news correspondent and humorist Mo Rocca, this weekly half-hour show won Emmy[®]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

For more information, please visit thehenryford.org.

Inside every person is the potential to change the world.

Let's give every single person the opportunity to realize his or her potential. The Henry Ford is building a one-of-a-kind platform using our Archive of American Innovation to unlock the most powerful resource on earth: the next generation. Help us grow the talent pipeline of tomorrow's innovators, inventors and entrepreneurs at thehenryford.org/support.

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Our contributors tell us.



KRISTEN GALLERNEAUX

Every morning for over a decade, I've used the same Chemex coffee maker. It was invented by Peter Schlumbohm in the early 1940s, and not much has changed about the design since. The glass beaker and its wood/leather handle somehow simultaneously reference "science lab chic" and "home."

Kristen Gallerneaux is the curator of communications and information technology at The Henry Ford. She frequently writes about the intersections of technology, sound culture, creativity and design. Her essay, "Squaring the Hypothetical Circle: Getting Around Mathematics," appears in the Barbican Center's catalog for *The World of Charles and Ray Eames* exhibition.

Don't Let the Standards Down, Page 26



JULIEN PACAUD

The mini synthesizer OP-1, by the Swedish brand Teenage Engineering. It is an incredibly appealing instrument, beautiful and strong. Its design makes you want to use it, play with it, first because it pleases the eyes. But it's also quite powerful, and they managed to include lots of functions in a very compact object that can be carried anywhere.

Julien Pacaud is a self-taught illustrator based in Paris. He was introduced to illustration after studying cinematography at the Louis-Lumière school. Shaped by the film world and television, he feeds a database of images that he gleans here and there to compose surrealist digital collages. Each of his compositions, combining retro imagery and futuristic forms, invites one to a temporal journey in an imaginary world. His clients include Nike, Swatch, *Popular Science*, *Dwell* and *Time*.

Close to the Muzzle, Page 18



JAMES HUGHES

Newspapers. There's no object I interact with on a daily basis that means more to me. Dependable, portable, foldable, familiar. Redesigns scare me. Apologies to the trees. And to my wife for the fingerprints.

James Hughes is a writer and editor based in Chicago. He has covered culture, filmmaking and more for *Slate* online magazine, the National Hockey League and Apple.

Close to the Muzzle, Page 18



KATHERINE WHITE

Jim Miller-Melberg's play sculptures. That ubiquitous concrete turtle — you know the one — can be found in public spaces all over the world, alongside his more abstract concrete towers and walls. They were easily mass-produced, affordable, weathered the elements well, and invited imaginative play and then withstood its demands. Miller-Melberg's play sculptures solved a problem with incredible elegance and grace.

Katherine White is an associate curator at The Henry Ford, where she has the good fortune to write about a variety of subjects, from early female aviators to iconic midcentury designers.

Eames in Toyland, Page 36



MELISSA MCFEETERS

The Mason jar. It may have a bad reputation as a kitschy, overused craft item, but as a kitchen tool it is simple, durable and versatile. I use them all the time.

Melissa McFeeters has created editorial illustrations for *Philadelphia* magazine, *foreignpolicy.com*, TED and *The Washington Post*. Her work has appeared in the *Communication Arts Illustration Annual* and the *Print Regional Design Annual*.

Ask + Answer, Page 8

In Henry Ford Museum of American Innovation, there is an exhibit containing a quote by Charles Eames: “Eventually everything connects — people, ideas, objects ... the quality of the connections is the key to quality per se.”

Charles and Ray Eames, two of the most influential designers of the 20th century, believed in the power of connection and collaboration, and some of their most important work stemmed from a solid link or association.

At The Henry Ford, we firmly believe in the power of connection — linking our visitors to the stories and authentic objects that will resonate most with them and perhaps even ignite a spark that will create change.

This summer, The Henry Ford is the place to connect further with the Eameses as we host *The World of Charles and Ray Eames*, a traveling exhibition which made its U.S. debut in Henry Ford Museum of American Innovation this May. This exhibit features more than 400 artifacts and showcases the couple’s influential work in architecture, furniture, graphic and product design, painting, drawing, film, sculpture, photography and more. In tandem, this issue of *The Henry Ford Magazine* also explores the wide-reaching influence of the Eameses, from their impact on areas ranging from art, industry, film and fun toys to their lasting effect on the diverse collection of individuals who were fortunate to work directly with them.

Among many things, Charles and Ray were famous for their abilities to connect and collaborate with like-minded individuals, including American inventor and futurist Buckminster Fuller and designer Alexander Girard. These relationships were very important and influential not only in the couple’s finished work but in the process by which they pursued or created something.

I do hope you visit us this year at The Henry Ford and connect with the people and ideas that will inspire you most.



PHOTO BY ROY RITCHIE

Patricia

**PATRICIA E. MOORADIAN,
PRESIDENT AND CEO**



DID YOU KNOW? /

The Henry Ford’s 1927 Ford Model T Touring Car, the fifteen-millionth Ford, was on view at the National Mall in Washington, D.C., during the 2018 Cars at the Capital in April. The Historic Vehicle Association, the annual event’s host, also selected our T for inclusion in its National Historic Vehicle Register. See this celebrated vehicle today in its permanent home in the Ford Motor Company Mack Avenue Plant in Greenfield Village.

PHOTOS COURTESY OF THE HISTORIC VEHICLE ASSOCIATION

The 14 Eamesian Parables

A curated collection of curious thoughts from designer couple Charles and Ray Eames that can help us all live better lives.



PHOTO COURTESY OF © 2018 EAMES OFFICE LLC EAMESOFFICE.COM

Start from a pure place

Work on things you believe in.

The guest-host experience

Put the person and their needs first before the ideology.

Iterate. Iterate. Iterate.

Seek as many iterations as possible so you gain more insight.

Powers of Ten thinking

Find value in looking at things from different scales.

Embrace the role of spectacle

Realize that direct experiences can be great teachers.

Design is a method of action

Always consider the process and problem solving rather than just the physical appearance.

The story of the Lota

Learn from traditional processes of the past to design objects and systems of the future.

There is no house style. Just a legacy of problems well solved.

Work heralded as stylish most likely did not include stylish on its list of goals.

The solution is the model of the problem

A good design is an expression of a problem solved.

After the age of information comes the age of choices

Having the information doesn't in itself solve problems. You must have the tools to understand, connect and interrogate that information.

Eames Design Diagram

Understand the client relationship — specifically, the importance of working within the overlap of the interests of the designer, the client and society.

The new covetables

Covetables today are material- or money-driven. What if we created new covetables that still cost something, but that something was effort or commitment?

Prepared spontaneity

Hard work and preparation permit a higher level of improvisation.

14 EAMESIAN PARABLES ARE DISTILLED FROM THE LIFE AND WORK OF CHARLES AND RAY EAMES BY AUTHOR EAMES DEMETRIOS FOR A SERIES OF LECTURES. TEXT FROM THE EAMESES OR BY EAMES DEMETRIOS, EXCEPT #9 BY BILL LACY. © EAMES OFFICE LLC.



Never delegate understanding

Make sure YOU understand the concept so the design can be a meaningful expression of that understanding.

The story behind The Henry Ford's Prototype Eames Fiberglass Chair is an example of this tenet. In the late 1940s, Charles Eames spent a day in the workshop of noted fiberglass fabricator/boat builder John Wills. Eames was trying to figure out if fiberglass was the answer to how he could manufacture a chair that would give "the best for the most for the least." Four decades later, this fiberglass test shell sitting on a trash can was discovered in Wills' workshop, helping solve the mystery behind Charles Eames' uncanny understanding of fiberglass and its properties.

SHOP

Purchase the 14 Eamesian Parables poster from the Eames Shop shop.eamesoffice.com

I think the key was there was this intense focus on problem solving. In gathering information and insight, Charles would spread the net very widely.

At that point, back in 1974, I was still a kid, so why would I be one of the senior consultants to *The World of Franklin and Jefferson* exhibit? Well, because Charles thought it would be an interesting idea to have people who were not the éminence grise sort of folks around — and to get a different perspective. And that's what made it so heady. As a person who was trained as a historian, it was really a good part of my visual education. Most of the time for *Franklin and Jefferson* I was working with Jeannine Oppewall (see story on Page 26), and Jehane Burns was very involved in the research and scriptwriting. Charles would pop in and out, and Ray would pop in and out. So it was a combination of being very systematic and a lot of serendipity at the same time.

ASK: I'm intrigued with your sensibilities — how they were fine-tuned by not just your crossing paths with Daniel Boorstin [historian and director of the National Museum of American History] but with your work with Charles as well.

ANSWER: They were both incredibly generous mentors, and I did try to learn something from them that could then be put to work in the world at the museum. Having the opportunity to work with them was extraordinarily important for me, and hopefully some of the positive aspects of that worked its way into The Henry Ford Museum and Greenfield Village.

Part of the thing — probably more from Charles than from Dan — was this idea that the act of putting together a major intellectual project and exhibition was an incredible collaborative learning idea. I still remember the work that Charles described for the National Aquarium — it was an act of discovery. A number of biologists said working with Charles on that was a revelation because they saw things in a broader context than in their own individual specialty. I think that's one of the advantages of being exposed to an environment like that.

ASK: You were able to see the unity in the totality, and in the ragged immensity of The Henry Ford, and it strikes me that someone like Charles would have too ... Do you know, did Charles ever visit the museum and village?

ANSWER: I would have to say he didn't. If he did visit, I think he would have been intrigued. After I came to the museum, probably in the middle 1980s, Ray came out for two or three visits. And she was entranced by the place. She would come out along with John Berry from Herman Miller, and I would charge the food service staff to come up with a picnic that would be acceptable to Ray Eames.

ASK: In *Fortune* magazine, Walter McQuade described Charles as "a working philosopher of things," and it strikes me that if you're a philosopher of things and you've got a bent

toward exhibits in museums, you have to trust that the paths you've provided are going to be readily explorable by your guests. It reminded me also that you always had a penchant for exhibits that didn't necessarily have a set path to them. I'm thinking of Henry Ford Museum exhibits like *Automobile in American Life* (1987) or *Made in America* (1992) — you could enter from a variety of directions but still find your way through. Is that an echo, do you think?

ANSWER: That is an echo. Frank Oppenheimer [physicist and founder of the Exploratorium] did an essay on visiting two exhibits that were up at the same time at the Museum of American History: *Nation of Nations* and *We the People*. One of the things that he commented was that *Nation of Nations* was like going through a tunnel of didacticism. There was one path, one way. You were beat in the head by one message. *We the People* was more loosely textured. You could come in from any direction. You put it together with your own experience in a different way than feeling like you were in a teaching machine. That was very much my intent, and that's really one of the things I tried to do at [The Henry Ford]. We used the kind of metaphor of pavilions within this great tent or world's fair — but with the idea that people are going to pick and choose, people are going to make choices that we can't control. So we have to allow the kind of learning that works best for them, as they find a pathway. An exhibition ought to be an exploration, not a treatment.

ASK: I remember reading a lot about the poor reception that the *Franklin and Jefferson* exhibition had at the Metropolitan Museum. There were folks who were disdainful of the fact that there was an old boot or a stuffed buffalo. That it seemed like it had more of a cabinet of curiosities approach — it wasn't an art-based approach. If you look at what art museums have subsequently been trying to do with their exhibition experiences, Charles and Ray had a really good idea in terms of texture and modulation.

ANSWER: I agree; in retrospect it was ahead of the curve. Part of the problem with *Franklin and Jefferson* was that the sponsors wanted it to have a huge attendance. The places that had the spaces and the attendance tended to be art museums. And some of the most humble objects were the most popular ones. Jeannine Oppewall still talks about the fact that in Poland the buffalo was an incredibly exotic artifact.

ASK: I found another nice quote. Esther McCoy [writer and architecture historian] said this: "Underneath everything he [Charles] did was the structure of an idea." And I guess I like to think of that as what we're doing here.

ANSWER: A very good peg to hang it on.

HAROLD K. SKRAMSTAD JR.

joined The Henry Ford as president in 1980. During his 16-year tenure, he stabilized and charted a new course for the institution, encouraging the use of its world-class collections to explore America's traditions of innovation, ingenuity and resourcefulness — a philosophical platform The Henry Ford continues to build upon today. Prior to joining The Henry Ford, Skramstad was director of the Chicago Historical Society, having spent his early career at the Smithsonian's National Museum of American History. His museum career was significantly enhanced by another experience — as a consultant on *The World of Franklin and Jefferson*, an exhibit created by the Eames Office that traveled internationally between 1975 and 1977.



Lunch at the Shop

AN AFFINITY FOR THE MIDDAY MEAL IS AUTHOR PETER MILLER'S MUSE FOR LUNCH AT THE SHOP, A BOOK MARC GREUTHER, CHIEF CURATOR AND SENIOR DIRECTOR OF HISTORICAL RESOURCES, RECOMMENDS AS GOOD FOOD FOR THOUGHT.

READ The story on Page 52 for a glimpse at how designers Charles and Ray Eames approached the midday meal in the office ►

What is lunch during the workweek? Perhaps a choice between cafeteria, local eatery or nearby market. Or something hurried at the desk — which is barely a lunch, more a lonely attempt to refuel while catching up, with crumbs in the keyboard for your trouble.

Peter Miller's *Lunch at the Shop* offers another way, a way that steers clear of retreading yesterday's dinner, overspending or missing lunch altogether. "You will not be bringing lunch from home — you will be bringing the parts for lunch from home."

This is not simply a rejigging of leftovers, although "stray parts" — the loose change of scant remainders from former meals — do find a place here.

This elegant volume presents a host of recipes, replete with asides and strategies, for creating truly fresh lunches for you *and* your colleagues — with little more than modest prep space, a microwave and a place to clean up. No need for a dual-fuel range or acre of granite counter here, just a little planning, time and care — and an appreciation of the value of coming together with co-workers over a meal before the plunge into the afternoon.

More from Marc Greuther

Other favorites of mine, in vaguely similar territory: For culinary brevity, glance at Edouard de Pomiane's *French Cooking in Ten Minutes*; for cooking creatively under constraint, try the late Roger Ebert's *The Pot and How to Use It*; for basic building blocks, Cal Peternell's gorgeous *Twelve Recipes* is a standout. A copy of Niki Segnit's *The Flavor Thesaurus* is a fun reference to have on hand, too. Bon appetit!

LUNCH AT THE SHOP PHOTO BY BLACK & STEIL

What are we reading + watching?



Katherine White
ASSOCIATE CURATOR,
DIGITAL CONTENT
The Henry Ford

Alexander Girard Color
by Gloria Fowler

A critic once remarked of mid-20th-century designer Alexander Girard that “he retains the eye of a child.” How fitting, then, for a children’s book to celebrate his iconic design.

Images of Girard’s colorful textiles and folk-art-inspired graphics are accompanied by pleasant rhyme in this short book. It is hard to say who enjoys it more — me or my toddler.

Meredith Long
SENIOR MANAGER OF
COLLECTIONS OPERATIONS
The Henry Ford

Wrestling with Moses:
How Jane Jacobs Took on
New York’s Master Builder
and Transformed the
American City
by Anthony Flint

I find people and the way they choose to live to be fascinating. There is a limitless arrangement of possibilities.

Flint’s telling of Jane Jacobs’ story and how she challenged 20th-century conventions of modernism got me thinking about systems in general and “the way systems seemed to self-organize to prosper” where humans are concerned. So much so that I decided to sign up for an online course about systems thinking so I could learn more.

Louise Beck
CONSERVATOR
The Henry Ford

The Vitra Schaudapot:
Architecture, Ideas, Objects
Editors: Mateo Kries, Viviane Stappmanns

What do you do when you have the estate of Charles and Ray Eames in storage?

If you’re the Vitra Design Museum, you add a new building to your campus that allows you to put some of your collection storage on display.

I picked up this book, published for the opening of the Schaudapot, because I’m interested in museum practices and new methods for display and visitor engagement. But I would also recommend it for anyone interested in design theory or furniture.

Plus, it’s a great glimpse into the Vitra, tiding me over until I make it to Germany to see it in person!



EVERYTHING EAMES

The Benson Ford Research Center has a more than modest selection of books, artifacts and archival collections that can help illuminate the processes, projects and products of illustrious designers Charles and Ray Eames. For help with access, write to research.center@thehenryford.org.

BOOKS

Connections: The Work of Charles and Ray Eames by Ralph Caplan, Charles Eames and Ray Eames

Doing Quality: A Modest Proposal for Honoring Charles Eames by Ralph Caplan

An Eames Primer by Eames Demetrios

The Story of the De Pree House Designed by Charles Eames by Max De Pree

Furniture from the Design Collection, the Museum of Modern Art, New York by Charles and Ray Eames

An Eames Anthology: Articles, Film Scripts, Interviews, Letters, Notes, Speeches by Charles and Ray Eames

The Eames Lounge Chair: An Icon of Modern Design by Martin Eidelberg
Charles and Ray Eames: Designers of the Twentieth Century by Pat Kirkham

The Story of Eames Furniture by Marilyn Neuhart with John Neuhart

Modern Classic: The Eames Plastic Chair and Collecting Eames: The JF Chen Collection by Daniel Ostroff

Eames Design by Ray Eames, John Neuhart and Marilyn Neuhart

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INNOVATION NATION

An Emmy Award-winning 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.

Mathematica **14**
Ideas in Action **16**

SEASON 4 EPISODE 101

NUMBERS IN PLAY

Principia mathematica – Latin for “principles of mathematics” — are at the core of Charles and Ray Eames’ interactive exhibition now at The Henry Ford

In 2017 while filming *Innovation Nation* segments on-site at The Henry Ford, show host Mo Rocca met up with The Henry Ford’s Marc Greuther, chief curator and senior director of historical resources, and Kristen Gallerneaux, curator of communications and information technology, to expound a bit on the permanent *Mathematica* exhibition now on the floor of Henry

Ford Museum of American Innovation.

Created in 1961, *Mathematica* is the brainchild of designers Charles and Ray Eames. The Henry Ford’s *Mathematica*, the third of three versions created by the Eameses, was first displayed in the IBM Pavilion at the 1964 New York World’s Fair and then at the Pacific Science Center in Seattle.

WATCH See the full episode thehenryford.org/innovation-nation/girls-who-code ▶

DID YOU KNOW? / *Mathematica* in Henry Ford Museum of American Innovation is on permanent display near the *Fully Furnished* exhibit and 1952 Wienermobile.



WHO WERE CHARLES AND RAY?

The *Mathematica* segment appearing on *The Henry Ford’s Innovation Nation* this spring wasn’t the first on which Charles and Ray Eames were a topic of discussion. In season 3, episode 72, The Henry Ford’s Marc Greuther and show host Mo Rocca sat down in the *Fully Furnished* exhibit in Henry Ford Museum of American Innovation to give audiences a quick peek at the multifaceted influence the Eameses have had on design, society and everyday life — and, of

course, chairs. Greuther also offered his more internal observations on how this dynamic husband-and-wife team truly complemented each other.

“While Charles was more outgoing, Ray had an amazing color memory and color sense,” shared Greuther. “It was a great partnership. Many people who worked closely with them talked about how they almost had a language of their own — unfinished sentences just sort of moving along in parallel because they knew one another’s skills and they knew how to work closely together.

“If you start to try and disentangle what each one of them brought, there comes a point where you just cannot.”

WATCH See the segment thehenryford.org/innovation-nation/eames ▶

PHOTO COURTESY OF © 2018 EAMES OFFICE LLC EAMESOFFICE.COM

Rocca ▶ Most people are kind of scared of math. It’s sort of the academic equivalent of going to the dentist. You’re like, “Oh, math.”

Greuther ▶ It’s a big subject. I think for Charles and Ray there was this notion that many mathematicians have fun with mathematics. For them, it wasn’t about taking on the fun as something to impose. Rather, they wanted to reach deep inside and find where that fun was and bring it out. They wanted to create a direct experience with mathematics. Not necessarily through numbers, but through phenomena, through things that actually happen and through things you can actually do.

Rocca ▶ Looking around the exhibit, I don’t see a single textbook.

Greuther ▶ No, what you see is a lot of color, a lot of graphics and, frankly, a good complement of buttons that you can push. Having been through this exhibit, even just briefly, there’s a real chance you’ll look at the world very, very differently. It’s about the underpinning of math that’s everywhere.

Rocca ▶ Thinking about the creation of this exhibit, it sounds like Charles and Ray must have loved a challenge.

Greuther ▶ Yes. A favorite quote of mine from Charles and Ray is “never delegate understanding.” The notion that there was an area of interest that could be really drilled into and that you can maybe work with good people who really knew the subject and then bring that to the surface. It was a challenge, a design challenge if you will, of applying what they knew about how to be good hosts and how to be good communicators, but working with people who really had the goods, people who knew the subject matter.

That’s one of the big tricks with *Mathematica*. It doesn’t pull any punches in the sense of dumbing things down or making it easy. It makes things apparent, but it does it in a way that’s totally approachable.

Gallerneaux ▶ And it does that through interactivity. You can come in here; you can push buttons; you can see things falling into place right before you. That gets back to Isaac Newton and the *Philosophiæ Naturalis Principia Mathematica*, which is a text Newton wrote back in the 1600s. Even then, he was thinking about how can we learn through action. With the *Mathematica* exhibit, the Eameses are overlapping Newton’s idea of learning through activity.

DID YOU KNOW? / *The Henry Ford’s Innovation Nation* received a silver honor from the Parents’ Choice Foundation in 2018. The silver honors are given to products that are designed to entertain and help children develop universally ethical attitudes and rigorous standards and skills.



▼ *Mathematica's Probability Machine* drops thousands of plastic balls along a grid of pegs, which settle into a bell curve.

“The true name of the exhibit is *Mathematica: A World of Numbers ... and Beyond*. It’s that ‘beyond’ part that *Mathematica* is really concerned with.”

— **Kristen Gallerneaux**

PHOTO BY BILL BOWEN

IDEAS IN ACTION

A sampling of cool inventions and crazy notions



▲ iWALKFree
PHOTO COURTESY OF IWALKFREE

PROBLEM:
Crutches cramping your style.

SOLUTION:
Score a synthetic stem.

MASTER YOUR MOBILITY

Nothing puts a hitch in your giddyup more than a malfunctioning foot. A trauma to the toes or lower leg usually means much misery connected to crutches. That's until Brad Hunter came along. After breaking his foot, he started researching ways to say goodbye to his malign mobility aid, stumbling upon a crafty Canadian farmer's wooden peg-leg brace. After a few prototypes, Hunter refined the design and built the iWALK 2.0, a hands-free, adjustable limb that fastens at the leg's top with a small platform at the knee. Made of aluminum alloy, thermoplastics, fabric and foam, it works with the wearer's body mechanics, so walking with an injury is as easy as it can be.

iwalk-free.com

WATCH thehenryford.org/innovation-nation/iwalk ▶

PROBLEM:
Late for important dates due to snooze button slapping.

SOLUTION:
Rise to the occasion.

TAKE A STAND

Most of us are satisfied to score a few more seconds of shut-eye by hitting the snooze button when the alarm clock sounds. But some of us can take the snooze button slapping to extremes, hitting it excessively. In an attempt to tackle his own button bad habit, Winson Tam decided to turn to his toes, creating a rug that is revolutionizing the way we wake up. His rubber-backed Ruggie has an alarm clock and sensors inside that require you to bail on the blankets and stand to stop the sound.

ruggie.co

WATCH thehenryford.org/innovation-nation/ruggie ▶



◀ Ruggie
PHOTO COURTESY OF RUGGIE.CO



▲ Skunklock
PHOTO COURTESY OF SKUNKLOCK

PROBLEM:
Someone trying to steal your cycle.

SOLUTION:
Stink-spray the thieves away.

FOUL SMELL FIGHTS FOUL PLAY

Bike thieves pack power tools these days, cutting through standard steel cycle locks in seconds. After repeatedly having his locked bike lifted, Sonoma, California, man Daniel Idzkowski set about engineering a top-secret solution with Swiss engineer Yves Perrenoud that gives those who steal a smelly surprise. At first glance, the duo's Skunklock looks just like any other bike lock, but beneath the steel is a hollow tube pressurized with a noxious chemical cocktail. When criminals make the cut, said offenders are doused with a nontoxic concentration so foul they lose focus.

skunklock.com

WATCH thehenryford.org/innovation-nation/skunklock ▶

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' block of educational programming called *CBS Dream Team... It's Epic*. Check your local listings.



NOW ON DVD
Innovation Nation
SEASON TWO

Seasons One and Two are available only at thehenryford.org/shop and The Henry Ford gift stores.

DRIVING



When it comes to honoring innovation, The Henry Ford is at the head of the class. We're inspired by and proud to support their effort to create exhibitions that idolize creative human thinking throughout history. Highlighting the connections between mathematics and design continues to challenge creativity in our communities and our industry.

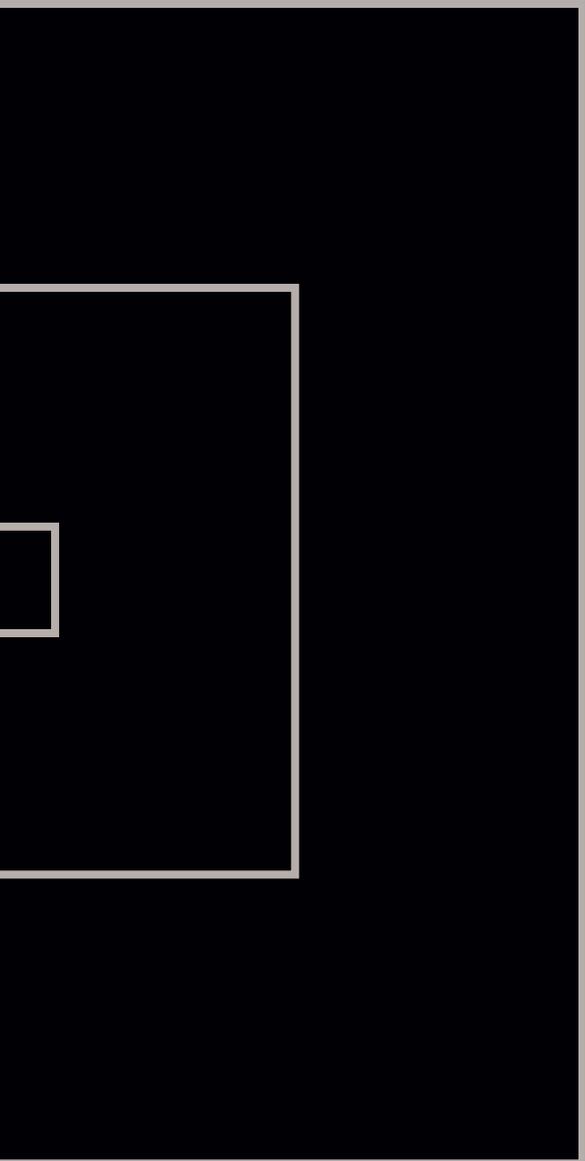
Lear is honored to join The Henry Ford as another force that is driving innovation.



WWW.LEAR.COM







Close to the Muzzle

Award-winning special-effects photographer Alex Funke credits the Eames Office for teaching him how to plan for everything and be ready to change anything

By James Hughes



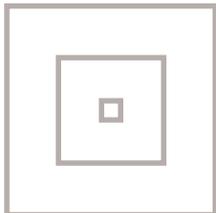
tour of the cinematic landscapes and other-worldly objects Alex Funke has photographed in miniature begins on the ocean floor of the 1989 spectacle *The Abyss*, where submersibles circle a sunken nuclear submarine.



MIGHTY IN MINIATURE

Alex Funke stands next to the Arri camera with a snorkel while shooting a scene of Minas Tirith on the 1/72 scale miniature for *The Lord of the Rings: The Return of the King*.

PHOTO COURTESY OF ALEX FUNKE



In 2017, we rise and surface at the Sepulveda Sea Wall, which prevents the polluted Pacific from swallowing the 405 freeway in the dystopian Los Angeles of *Blade Runner 2049*.

Leaving both Earth and Middle Earth behind — Funke headed the miniatures unit for the *Lord of the Rings* (LOTR) trilogy, which he considers “the culmination, the triumph of the miniature world” — we hitch a ride on a dropship from *Starship Troopers* to the surface of Mars, captured in rapturous, almost lustful detail for the mind-bending blockbuster *Total Recall*, earning Funke an Oscar in 1991, the first of several for visual effects.

Going beyond Mars, we enter the farthest reaches of space, a realm previously charted by Charles and Ray Eames in *Powers of Ten*, the 1977 documentary short photographed in painstaking, microscopic detail by Funke, then in his 30s, and now preserved for all time by the National Film Registry.

MODERN MEDIEVAL WORKSHOP

The experience of working on *Powers of Ten*, in which the viewer plummets from the edge of the universe into the galaxies lurking within our own bloodstreams, remains a career highlight for Funke, who worked for a decade at the Eames Office, located at 901 Washington Boulevard in Venice, California, roughly 100 miles from his hometown of Santa Barbara, where he was born in 1944.

In 1968, while working as a teacher’s assistant at UCLA, Funke was tipped off by Ken Nelson, a professor and freelance cameraman, that there was an opening for a cinematographer at the Eames Office, the workshop/art studio/design laboratory of designers Charles and Ray Eames. It was less of a job referral than a step through the looking glass.

“It was amazing because you walk into the Office and it was like a medieval workshop,” Funke said. “Every corner had someone doing something in it. Every corner had energy — people building and photographing and writing things. It was such a wonderful sense of intensity and enthusiasm.”

His job interview with Eames Office staffer David Olney was interrupted when Olney was whisked

away to solve a problem elsewhere. In the interim, Funke struck up a conversation with another staffer, Glen Fleck, about Éclair CM3 35mm cameras and discovered Fleck was a onetime representative for Éclair and had sold the cameras to the Air Force. Olney soon circled back and asked Funke if he could start the next day.

Immediately, Funke was steeped in projects ranging from cinematography on “joy films” — including *Tops*, a poetic study of ancient and plastic tops spinning to Elmer Bernstein’s music — to exhibitions commissioned by Westinghouse and IBM. Some projects were spur of the moment; others consumed years. All demanded constant collaboration.

“This was a family,” Funke shared. “Charles and Ray were so intimate and so close to each other. They were like one brain. The rest of the office was more of a family. We were all in the same boat with different kinds of oars. But we were all rowing in more or less the same direction.”

Staffers developed an awareness — an extra sense, perhaps a defense mechanism — that they could be drafted at any moment, particularly by Charles, to assist on a pressing problem or solve some mystery of the universe. Funke labeled this state of being “close to the muzzle.”

“If something popped into Charles’ head and you just happened to be walking by, he would say, ‘Come here a minute,’” Funke explained. “He would always defer to Ray in, for want of a better word, the artistic stuff.”

Funke fondly recalled Charles’ spontaneous decision to create a deck of cards as a congratulatory gift to recent Nobel Prize winners employed by IBM in 1973. All imagery on the cards was to be associated with Isaac Newton.

“This was probably the single most concentrated effort I ever saw in the time I was in the Office,” Funke said. “The deadline is approaching; the airplane to take the cards to New York is going to depart. It must’ve been 20 or 30 people [collaborating]. The office was empty except for this little hub where everyone was frantically gluing, polishing, edging, fastening, tying, putting ribbons on — it was wonderful. All different elements from many different hands.” ▶



▲ Alex Funke photographs the Hollerith tabulator in 8x10 format for an IBM computer exhibition around 1970. Herman Hollerith, a pioneer of modern automatic computation, founded a company that ultimately became IBM.

PHOTO COURTESY OF ALEX FUNKE

Staffers developed an awareness — an extra sense, perhaps a defense mechanism — that they could be drafted at any moment, particularly by Charles, to assist on a pressing problem or solve some mystery of the universe. [Alex] Funke labeled this state of being “close to the muzzle.”

CLOSE TO THE MUZZLE



DID YOU KNOW? /
Cosmic View: The Universe in 40 Jumps by Kees Boeke inspired Charles and Ray Eames to make a film investigating the relative size of things and the significance of adding a zero to any number — *Powers of Ten*.

DID YOU KNOW? /
In 1998, *Powers of Ten* was selected for preservation in the National Film Registry by the Library of Congress as being “culturally, historically or aesthetically significant.”



◀ *Powers of Ten* opens with this scene of a lakeside picnic in Chicago. It's described as being photographed from one meter away. Every 10 seconds as the film progresses, the camera pulls back to view the scene from 10 times farther away — on and on to the edges of the universe and then back again.

WATCH *Powers of Ten*, a documentary short by Charles and Ray Eames and photographed by Alex Funke, in *The World of Charles and Ray Eames* exhibition in Henry Ford Museum of American Innovation through September 3 ▶

IMPORTANCE OF SCALE
Alex Funke (at top) painstakingly photographs one of Charles and Ray Eames' most famous films, *Powers of Ten*, in microscopic detail.

PHOTOS COURTESY OF © 2018 EAMES OFFICE LLC
EAMESOFFICE.COM



ONLINE Visit the official website of Industrial Light & Magic (ILM), the leading international visual effects studio founded by George Lucas ilm.com ►

NEW FRONTIERS

By the end of the decade, with IBM under new management, large-scale commissions to the Eames Office had receded. "Everyone was feeling like some kind of magic had been lost," Funke said.

In 1978, while Funke was shooting footage for a film about German toy manufacturing, he received a call from John Dykstra, one of the founders of Industrial Light & Magic (ILM), who asked whether Funke would want to apply his skills to miniature photography for the television series *Battlestar Galactica*. Funke had consulted on lighting elements in architectural miniatures produced by the Eameses and had some experience as an amateur model builder. "I wasn't very good at it," he quipped. "I always had smears of glue all over."

Even though this was largely a new frontier, Funke decided to leave the oarsmen at the Eames Office and surround himself with starships. By 1979, he was shooting miniatures full time at the Universal Hartland VFX facility and special-effects departments on various Hollywood productions, supporting the visions of filmmakers like James Cameron and Paul Verhoeven.

SAME IDEA, NEW TOOLS

In 1999, at the request of director Peter Jackson, Funke moved to New Zealand to start up the miniatures unit for the LOTR films. The challenge was daunting — there were no stages, no facilities — though his training at the Eames Office, he said, instilled confidence.

"Charles would have never accepted the idea of not being able to do something because the facilities weren't built," Funke noted. "His approach was always, 'Get some C-clamps and let's build it.'"

Almost 20 years later, Funke remains entrenched at Jackson's Weta Workshop. Funke's most recent collaboration was consulting on a "fully immersive trench" for the

Great War Exhibition in Wellington, New Zealand, in which the ghosts of life-size World War I soldiers interact with spectators in an environment orchestrated by Jackson, down to rusty nails and the aroma of rations.

Jackson, whom Funke occasionally misidentifies as Charles, and vice versa — "They're so similar in many ways," he said — has inspired some of his best work. Funke, in fact, has earned two Oscars for his contributions to the LOTR franchise.

While the technology has evolved since his tenure at the Eames Office, Funke stresses that the need to achieve proper measurements and camera positions remains the same. While shooting *Powers of Ten*, he relied on Eames staffer Michael Wiener, a fellow Californian who apprenticed with Danish shipwrights as a teenager, to build the wooden track that steadied the camera as it was pulled back by a handwheel. On *Blade Runner 2049*, while Funke's camera coursed through 18 meters of miniature cityscapes, a laser was mounted on the rig to ensure each motion control pass reset to absolute zero. As Funke insisted, "All we've done is improve tools."

Whether spinning a top or lining up lasers, the Eames influence endures. When asked to encapsulate the philosophy of Charles and Ray, Funke laughed, unsure where to begin.

"Plan everything as best you can and be ready for changes," he said. "Be orderly on the set or in your house. But, at the moment when things are actually happening, don't worry about organization — worry about the shot. Worry about what's inside the frame. If the audience isn't going to see it, it doesn't matter. And never settle for second-best."

"Charles had an expression: 'The best you can do by next Tuesday is still a kind of best you can do,'" added Funke. "I've always come back to that mantra with my crews. 'OK, guys, there's going to be a lot of rough edges. But let's make them the best rough edges anyone has ever seen.'" ●



PHOTOS COURTESY OF © 2018 EAMES OFFICE LLC
EAMESOFFICE.COM

RESEARCH

The Newton Deck of Cards (above), a gift from the Eames Office to Nobel laureates in IBM's physics department in 1973. Made of images related to Sir Isaac Newton, the Eames project — concept to completion — took only four days ►



Ideas Run Deep

For his first assignment at the Eames Office in 1968, Alex Funke was told to document the Eameses' *Photography and the City* exhibition, which had recently concluded at the Smithsonian.

"They were making a film about the concept of the exhibit, which was that cities are shaped and defined by photography," Funke said.

It was his first time operating an animation camera, and he recalled laboring over footage of birds' nests. "The context of the bird's nest had to do with some smallest unit of habitation that you can think of. Really, a city is just a giant collection of birds' nests, a collection of very small entities assembled together by people in order to create a habitat. That was the amazing thing about work in the Eames Office — how deep some of the ideas were."

Years later, while working on effects shots of the drowned city of Denver in *Waterworld* (1995), filmed in 1/100th scale, Funke encountered

a situation of similar depth. His crew operated under the principle that, as water levels were rising, the Denver populace fled the land and moved onto rooftops. Shack cities sprouted atop every building. In a 2013 essay, Funke wrote, "All modelers love to build shacks, because they are the ultimate exercise in texture — broken boards, flattened petrol tins and corrugated iron, rusty pipes, flattened oil drums."

When asked about this odd connection between the Eameses and the inhabitants of *Waterworld*, Funke noted, "The shacks in shack cities in India or South America — it's tragic that people have to live that way — but they represent exactly the same idea as a bird's nest. You have to gather the materials just to survive and then begin to elaborate or improve the thing you've created."

A methodology so universal it applies even to an underwater Kevin Costner.

NURNIES, WIGGETS, GREEBLES

Special-effects photographer Alex Funke often stresses that the goal of miniature builders and shooters is to deliver the feeling of endless detail.

"If you have a surface of a technical object — a spaceship, a battleship — it's very hard to make a convincing flat surface," he explained. "If you can break that surface even a little bit with something that casts shadows or slightly breaks it up, suddenly it takes on a life of its own."

"Where are thousands of tiny details? In plastic model kits. You buy a kit and take out shapes and put them on the surface. Those are nurnies. They're things that break up a surface so that it has a worked-on texture."

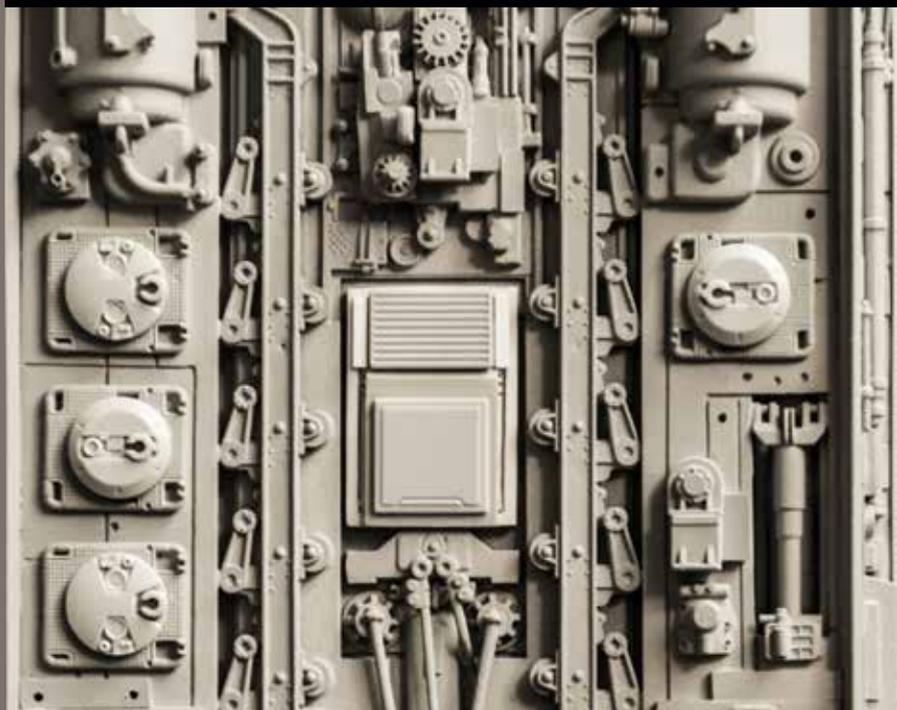
The term "nurnie" varies, depending on geography or which particular special-effects house is bandying about the term. For the pioneering model builders of *2001: A Space Odyssey*, they were wiggets; for *Star Wars*, they became greebles.

The multiplicity of spellings and discrepancies over nomenclature are dwarfed by modelers' preferences for which commercially available model kits produce the most useful donor parts. Some prefer kits from Japan, others stateside. And scale is another obvious, vexing variable.

Funke noted the highly detailed shapes that become the anchor winches of the Japanese battleship *Yamato* are a favorite source of nurnies.

Industrial Light & Magic model builder John Goodson said, "If I were on a desert island, I would want one of the Hasegawa Anzio Annie or Mörser Karl kits" — for making models of heavy World War II guns — which Goodson likened to a Swiss Army knife of useful parts.

While no single kit can be considered the holy grail, Funke maintains the importance of balance: Perfectly positioned and well-lit nurnies can create a powerful, convincing illusion, while an overabundance can leave a model spaceship resembling a "Victorian junk shop."



▲ Detail of a miniature in progress by award-winning photographer and model builder Dan Winters, which includes nurnies from a Mörser Karl kit.

PHOTO BY DAN WINTERS

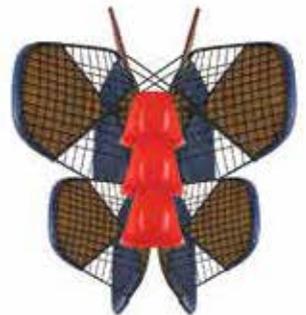
NEST PHOTOS BY MALERAPASO/GETTY IMAGES

Don't Let the Standards Down

Hollywood elite's Jeannine Oppewall shares an exclusive look back at her accidental entry into the Eames Office and its lasting effect on her and her film career

By Kristen Gallerneaux

ILLUSTRATION BY JULIE FRIEDMAN
CHAIRS COURTESY OF HERMAN MILLER



Today, Jeannine Oppewall is one of the most respected production designers in America, responsible for the sets of award-winning period films focusing on 20th-century America: *L.A. Confidential*, *Seabiscuit*, *The Good Shepherd*, *Wonder Boys* and *Catch Me If You Can* are among them.

When Oppewall first walked into the Eames Office at 901 Washington Boulevard in Venice, California, in the winter of 1970, it was to watch films with her former husband, Paul Schrader, who would eventually produce scripts for canonical films such as Martin Scorsese's *Taxi Driver* and *Raging Bull*. Schrader was on a writing assignment at the time for *Film Quarterly*. His eventual article, "A Poetry of Ideas," explored the aesthetics and ideas behind Eames short films. For Oppewall, watching films in the screening room at the Eames Office was a mainline into the heart of an organization that she had previously only studied in art history classes.

Happenstance might have brought Oppewall into the Eames Office that day, but when she emerged from the dim screening room into the bright lobby, it was personal courage that led her to ask the reception secretary, "You don't have any jobs here, do you?"

One simple question sparked a catalyst that would eventually lead Oppewall toward one of the most important mentorships of her life. The only hitch was Oppewall lacked a traditional design background and was told she would have to first speak with Charles Eames after he returned from photographing the Great Barrier Reef. When Eames got back to California, Oppewall showed up for an interview.

"Charles came around the corner and was singing this old song from back in the Jurassic era called *Jeannine, I Dream of Lilac Time*," recalled Oppewall. "The same song my mother used to sing to me.

I turned a million shades of red. I was ready to leave!"

Oppewall didn't leave, and rather than turn her down over a lack of formal design training, Eames took a chance and let her stay. "I think he felt bad that he had embarrassed me so terribly," she joked.

Her hiring came with one caveat. "Charles said to me, 'I can teach you to draw, but I can't teach you to see, and I can't teach you how to think.'" Oppewall took this as a challenge to dive in and learn on the fly. "Charles saw something in me that I had not yet seen in myself," she remembered.

Getting outside of one's comfort zone, taking risks and having an unquenchable curiosity — all of these attributes were called to task every day during Oppewall's seven-year tenure at the Eames Office. She had little to no experience in many of the tasks assigned to her. She read and prepared comments for Charles based on materials sent to him by the National Endowment for the Arts. She also kept the massive photographic slide and negative library in order, used by the Eames Office for reference and multimedia presentations. She worked on exhibition designs. Eventually, foreshadowing her own future, Oppewall began to work on the Eames films.

As The Henry Ford's curator of communications and information technology, I recently reached out to Oppewall to try and better understand Charles and Ray Eames' overarching legacy. She graciously granted me a candid conversation about how she was brought into the orbit of the Eames Office and how its gravitational pull has never really let her go. ▶



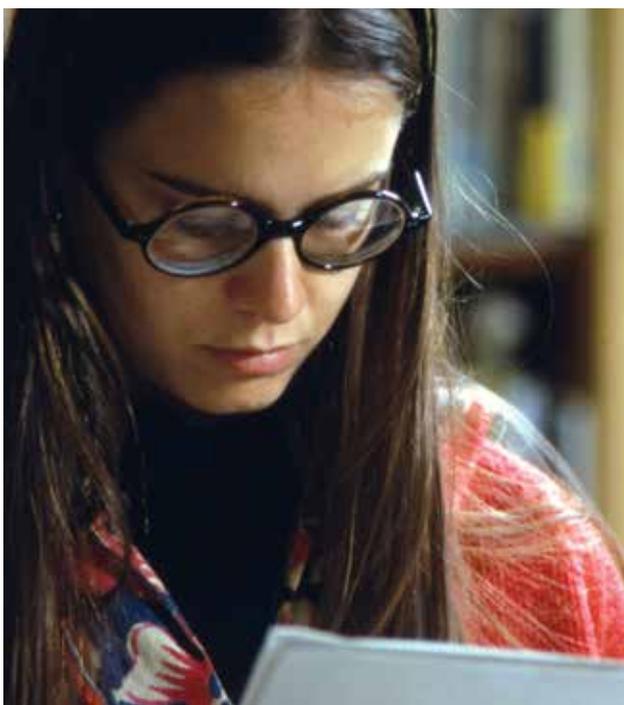
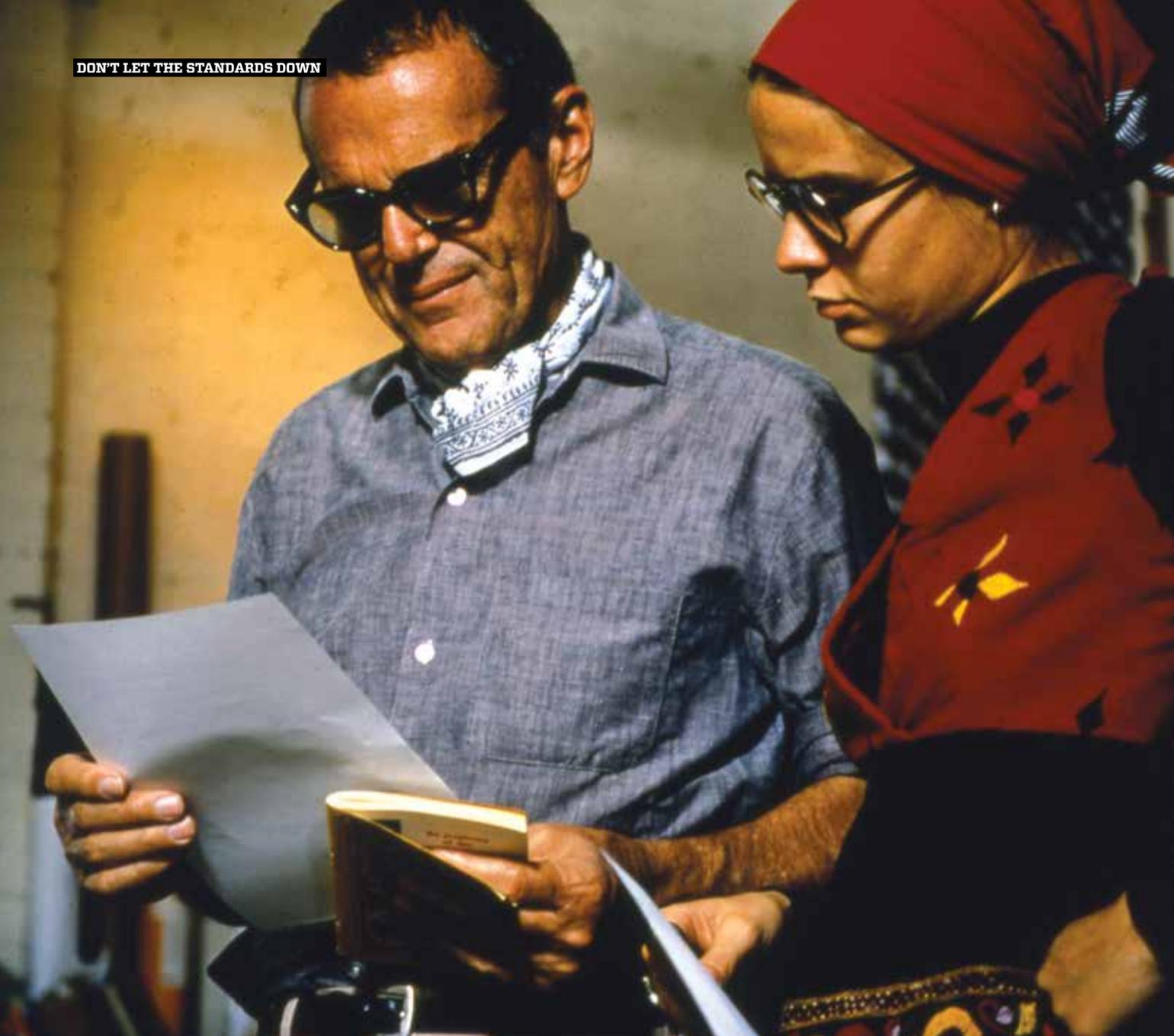
DID YOU KNOW? / Jeannine Oppewall imagined (in watercolors) and built the rustic Ridgewood House set for the 2003 film *Seabiscuit*, which starred actor Jeff Bridges. When Bridges saw the finished set, he told Oppewall he wanted to buy it and ship it to his personal property in Montana.

WATERCOLOR AND PHOTO COURTESY OF JEANNINE OPPEWALL

► Respected Hollywood production designer Jeannine Oppewall spent seven years under the tutelage of Charles and Ray Eames in the 1970s. She credits her curious nature, love of storytelling and ability to learn how to learn for making her well suited for the adventure.

PHOTO COURTESY OF THE ACADEMY OF MOTION PICTURE ARTS AND SCIENCES







Gallerneaux ▶ When did you first encounter the work of Charles and Ray Eames?

Oppewall ▶ Some of my education was at Calvin College in Grand Rapids, Michigan. I studied a lot of art history there, and we took a field trip in our Modern Contemporary Art & Architecture class to the Herman Miller furniture company in Zeeland, Michigan. When the door opened, I thought, “Oh, brave new world that has such furniture in it! This is for me!”

Gallerneaux ▶ Having had that kind of reaction, it must have been a special experience to visit the Eames Office in person. Do you recall which films you and Paul [Schrader] saw that day?

Oppewall ▶ I saw *Tops*, which was an architectural, personal film about the nature and meaning of being a spinning top. I also saw *Toccata for Toy Trains*.

Gallerneaux ▶ One thing that tends to happen today is that Eames has become a bit of a catchall for midcentury modern design. If you go on eBay and type “Eames,” you’re going to pull up a lot of things that are absolutely not attributable to Eames at all.

Oppewall ▶ Well, the name and the furniture became so strong and so iconic and so unforgettable, people use it as a shorthand way of speaking about that whole era of design.

Gallerneaux ▶ Have you used Eames or Herman Miller designs in your films? I spotted an Eames Shell Chair in *Wonder Boys* the last time I watched it.

Oppewall ▶ I’ve used a lot of Herman Miller midcentury furniture and Eames stuff — in as many films as it was appropriate. I even used George Nelson Bubble Lamps last year when I was designing the Academy of Motion Picture Arts

ONLINE Visit the Eames Office’s website for all things officially Eames eamesoffice.com ▶

LEARN HOW TO FLY

Although Jeannine Oppewall had little to no formal design experience, Charles Eames (top left) hired her the day they met and often put her on tasks outside her comfort zone. “Charles saw something in me that I had not yet seen in myself,” she said.

PHOTOS COURTESY OF
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DID YOU KNOW? /

The World of Charles and Ray Eames exhibition in Henry Ford Museum of American Innovation, which runs through September 3, features materials related to the Eameses’ touring exhibition, *The World of Franklin and Jefferson* (1975-77), including a film about its opening, brochure, catalog, poster and installation photographs.

and Sciences Governors Awards program. I have knowledge of and a feeling for that furniture, so I do like to put it on-set because every set that any production designer designs is personal.

Gallerneaux ▶ Before we get too far away from the Eames Office, at what point did you decide to leave? What drove that decision?

Oppewall ▶ The Office had finished traveling *The World of Franklin and Jefferson* exhibition and film. Money for exhibitions had dried up ... and there wasn’t a lot of new stuff coming into the Office. Charles was wanting to slow down a bit. I wanted to speed up a bit.

I started feeling restless, and I explained it to him in a very personal way. He always knew that I’d been interested in insects — butterflies, more specifically. I told him I had started thinking about leaving the Office and said, “The problem is I feel like a caterpillar that has filled up its skin, and I need to go rest for a while under some leaf, shed that skin and get a new skin so that I can grow into that on a new leaf.”

I think he found that metaphorically acceptable.

Gallerneaux ▶ It sounds like it was a great mentorship but you needed to move on with the next chapter of your life. Are there any philosophies or working styles from the Eames Office that you continue to apply to your work today?

Oppewall ▶ I can still hear Charles’ voice after I made the caterpillar speech: “Don’t. Let. The. Standards. Down.” And I hear that voice every time a Hollywood producer tries to tell me it doesn’t matter what it looks like because that’s all the money they have. I think, “Wait a minute. I came from the Eames Office! I can’t cause Charles to spin in his grave! It’s not acceptable!” ▶

DID YOU KNOW? /

George Nelson designed his Nelson Bubble Lamps in 1952, inspired by a set of silk-covered Swedish hanging lamps he wanted for his office. His first set of lamps used a translucent white plastic spray, a technique developed by the U.S. military.



NELSON BUBBLE LAMPS
COURTESY OF HERMAN MILLER



◀ Charles Eames at the Eames House in 1959.

© VITRA DESIGN MUSEUM
PHOTO: MONIQUE JACOT

THE MOTHER OF THE FUTURE

In the 1972 Eames-produced film *Cable: The Immediate Future*, Jeannine Oppewall sits at a desk in front of a sleek-looking keyboard and a wall-mounted television. The scene of domestic near-futurity is balanced out by vases of flowers and a cluttered corkboard containing a framed butterfly.

Oppewall, playing the “mother of the future,” responds to a note tacked on the board reading, “Buy new sprinkler tomorrow!” She uses the cable network in her “wired” home to sift through a vast digital catalog on the interactive screen. She eventually chooses a replacement sprinkler and pays for it using her electronic credit card. The screen flashes “Delivery Thursday.” Seem familiar?

I started feeling restless, and I explained it to him [Charles Eames] in a very personal way. He always knew that I'd been interested in insects — butterflies, more specifically. I told him I had started thinking about leaving the Office and said, “The problem is I feel like a caterpillar that has filled up its skin, and I need to go rest for a while under some leaf, shed that skin and get a new skin so that I can grow into that on a new leaf.”

— Jeannine Oppewall



PHOTO COURTESY OF
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Gallerneaux ▶ You left the Eames Office in 1976 or 1977 and went on to work in film. Did you immediately start into your production design career, or was there something that happened in the gap?

Oppewall ▶ I just left the Office. I didn't have a specific plan. I wrote a couple of articles for the *L.A. Times* and some other magazines. And I worked part-time at KPFK Radio in Los Angeles. Then Paul Schrader called and said he was going to be directing his first film [*Blue Collar*, 1978] and the production designer needed help and he couldn't afford anybody else. Would I be willing to come and work in the art department? I ran errands and learned on the hoof how film production worked.

The next time [Schrader] decided he was going to do another movie, he introduced me to his production designer, Paul Sylbert. He just happened to be one of the most famous, capable, talented production designers at the time. He was also a New York intellectual lost in Hollywood, so I got along with him very well. It was from him that I learned how to design sets for films.

I'm the luckiest girl on two feet. I had two of the best mentors possible. Also, I think people figured out that I knew how to see, how to think, how to talk — and I knew how to command respect when I spoke.

Gallerneaux ▶ Your background as a historian — I'm guessing this helps to maintain accuracy in the films that you design?

Oppewall ▶ The best kind of education to have to do what I do for a living is to have an addiction to fiction — to storytelling. To keep your levels of curiosity high, because every film project is both an exploration of yourself and your reaction to the story. The best thing you can do is to learn how to learn. It's also the most fun thing you can do. In that way, I was well suited for the Eames Office and was reasonably well suited for the film business as well.

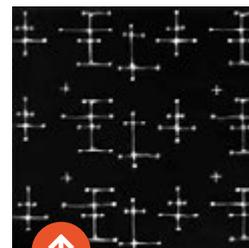
Gallerneaux ▶ In a lot of the films you've worked on, there are interior tensions that act out against architecture, things and landscapes. There are a lot of people working on a film set. How do you personally, as a production designer, think about how objects are allowed to amplify a storyline?

Oppewall ▶ Since I'm responsible for everything an actor walks through, picks up, touches, stands by and drives past, I tend to think about films as a necklace with different beads or pearls hung on it. Every environment in a film, ideally speaking, has to shed some light on the character and the story — it has to keep it all moving forward to one end. And that includes color arcs and stories. It includes trying to make sure, given the time restraint, that everything on the wall contributes somehow to the underlying meaning of the story.

Gallerneaux ▶ I'd like to come back to the butterflies. We all need sources of inspiration, and I'm guessing your interest in butterfly chasing is one of the ways you refresh your batteries when you need to get away from the film world?

Oppewall ▶ Yes. I'd call myself an amateur lepidopterist. Butterflies have the most brilliant color schemes imaginable. I'm not talking about strong or bright. I'm talking about real color theory, which you can see on their wings. It's a remarkable source of inspiration when you look at the design that nature has achieved. You realize that human design may be great, but perhaps the design of nature is better. We should all be paying more attention to it.

We've all got our heads up the tails of our computers. We don't really relate as much as we should to the outside, physical world. With design, you have to have a feeling for objects and the world, and try to convey that through what your work is to other people. I always feel, for me, that renewal consists of having another look at the natural world. Making sure you reach out and touch it once in a while. ●



DID YOU KNOW? / Eames creations are often spotted in TV shows and movies. In the 2017 film *The Boss Baby*, the blanket on Tim's bed is decorated with the EAMES DOT PATTERN.

PHOTOS COURTESY OF © 2018 EAMES OFFICE LLC EAMESOFFICE.COM

WATCH *Cable: The Immediate Future*, the Eames short documentary featuring Jeannine Oppewall as the "mother of the future" ▶

WATCH *Tops*, the Eames short film celebrating the ancient art and craft of topmaking and spinning eamesoffice.com/the-work/tops ▶

WATCH *Toccata for Toy Trains*, the Eames short film featuring vintage toy trains eamesoffice.com/the-work/toccata-for-toy-trains ▶

DID YOU KNOW? / Designed and first manufactured in 1954, Sori Yanagi's Butterfly Stool used the pressed plywood molding technique invented by Charles and Ray Eames.

BUTTERFLY STOOL © VITRA



DID YOU KNOW? / Lepidopterology is a branch of entomology concerning the scientific study of moths and butterflies.

Aviation History on Film

In the Steven Spielberg-directed film *Catch Me If You Can*, Jeannine Oppewall had to pay close attention to the history of aviation. The main character, played by Leonardo DiCaprio, is real-life teenage con artist Frank Abagnale Jr. Posing as a pilot for Pan American World Airways, Abagnale swindled the company out of millions of dollars using simple charm and a criminal talent for check forgery. A few artifacts from The Henry Ford's collections would have easily been at home on this movie's set.

The Flash Comic Book

In one scene, FBI agent Carl Hanratty realizes the pseudonym Abagnale is using, Barry Allen, is the name of The Flash, the comic book superhero. This discovery leads Hanratty to the realization that Abagnale is not a seasoned con artist but a teenager.

TWA Airplane Model

Another scene shows Abagnale soaking the decals off model airplanes. Abagnale removed the logo decals and applied them to paper to simulate corporate payroll checks.

Pan Am Styrofoam Coffee Cup, circa 1990

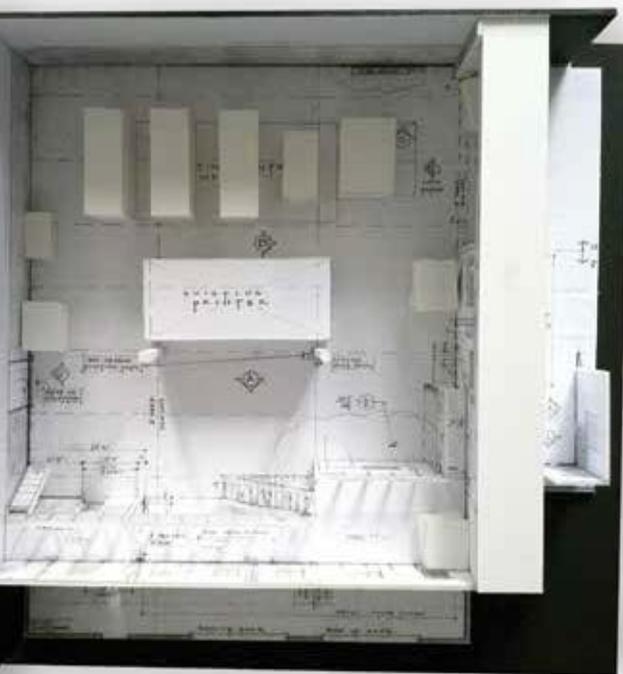
The Pan Am globe logo is an icon of 20th-century design created by Edward Barnes and Charles Forberg. The logo made its debut in 1958 and was in use until the company's closure in 1991. It appeared on everything from stylish tote bags to in-flight coffee cups. Its modern, simplistic aesthetics made it a memorable design.



SHOP

The Henry Ford's classic set of Pan Am collectibles and gifts giftshop.thehenryford.org ▶

FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION



◀ Paper model of the print shop from the film *Catch Me If You Can*.

PHOTO COURTESY OF JEANNINE OPPEWALL





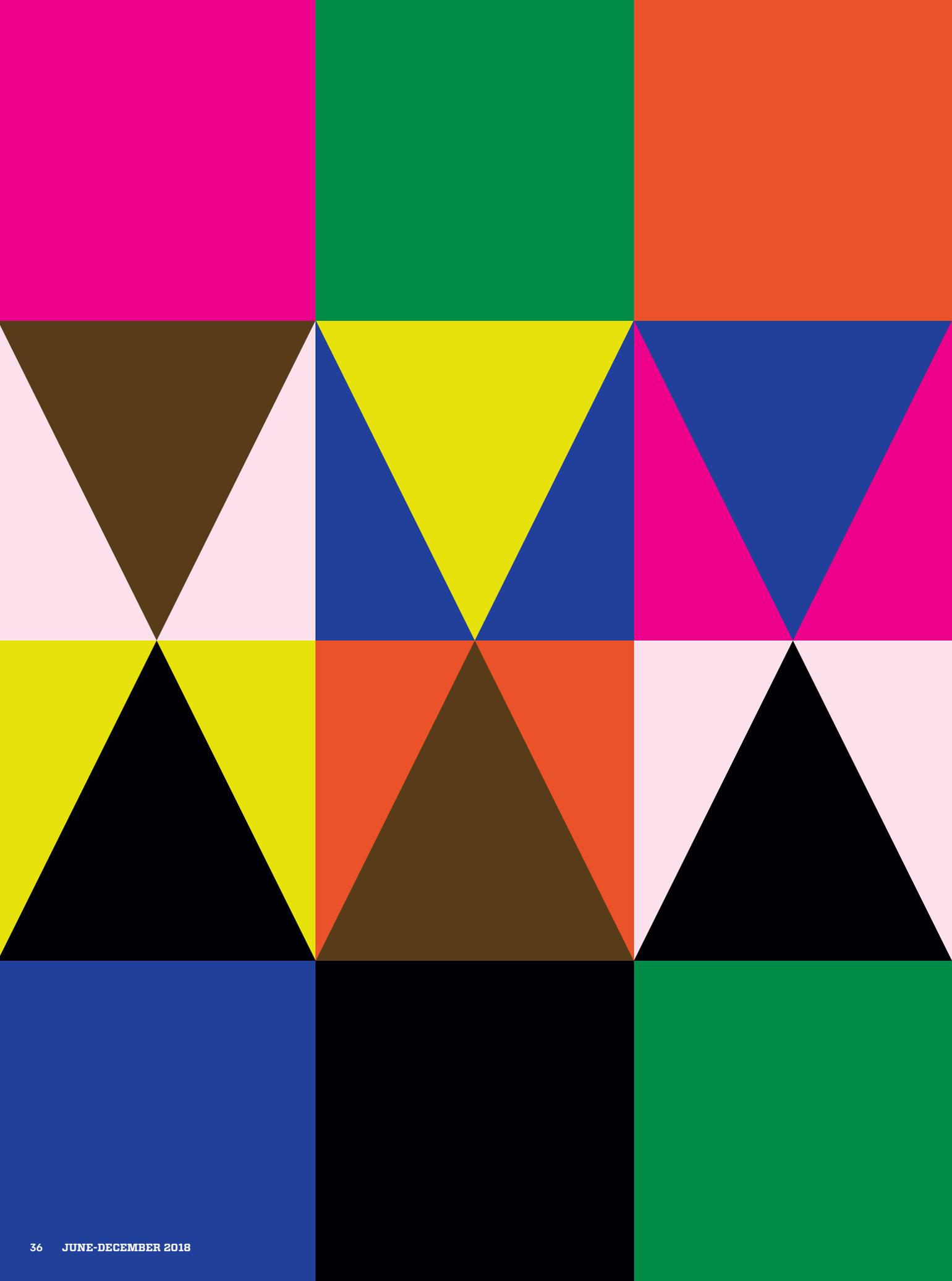
OUTDATED TECHNOLOGY

Many of the films Jeannine Oppewall has worked on as a production designer take place in the mid-to-late 20th century. *The Good Shepherd* moves between the late 1930s and 1960s, during the foundational years of the CIA. *Pleasantville* and *L.A. Confidential* take place in the 1950s, *Seabiscuit* during the Depression era.

Offices, police stations and living rooms are environments that require extremely close attention to detail in order to create a convincing scene. From believable clutter on desks to communication devices, every typewriter, clock, telephone and stapler must be era-appropriate. Actors, in turn, are asked to behave in a convincing way

around technology that might have been obsolete decades before they were born.

How and where do they find large quantities of obsolete devices? Oppewall explained: "There are specialty places in Hollywood where [old technology] is either kept or where the knowledge to find out more lives. Because there's always somebody, somewhere in the country, who is deeply interested — and more than you will ever be — in these oddball technologies. Always. Finding these people and learning from them can be a wonderful, crazy experience. I have a lot of respect for them. They're always very odd and interesting."



EAMES IN TOYLAND

The prolific
design duo
placed play at
the center of
their lives and
their work

By Katherine White

Charles and Ray Eames are arguably 20th-century America's leading designers, yet the stoicism we tend to project on the "greats" doesn't quite fit them.

Photographs often show the couple at play — wearing elaborate masks, posing beneath chair bases or at least sporting a playful glint in their eyes or mischievous smirk on their faces.

Toys, playfulness and fun also held an esteemed place at the Eames Office — their creative laboratory/work studio — as an undercurrent to their design process and overtly applied in the creation of toys and projects such as *Mathematica: A World of Numbers ... and Beyond* (see sidebar on Page 42).

Play, in its most basic concept and form, was central — perhaps even crucial — to the Eameses' work and success.

WHO SAYS PLEASURE ISN'T USEFUL?

The Eameses rejected the idea that pleasure and play were frivolous things to be put away into a box — literally or figuratively — until the work was done. Toys and playthings could be found wherever the two worked. Some of these toys had global origins and long histories in their respective cultures — toys like spinning tops,

masks, wooden figures and kites.

At their home, a paper mask might adorn a eucalyptus tree in the yard, dinner parties became picnics or performances and toys were prominently placed among the decorative assemblages of folk art and natural objects.

In the office, toys found their way into the Eameses' work, especially their films. *Day of the Dead* features the Mexican Día de los Muertos holiday with traditional marionettes and small figurines. Other films, such as *Parade* and *Toccata for Toy Trains*, showcase classic American toys and ephemera.

"The toy is one of the few areas in which man has consistently worked unembarrassed and in an unselfconscious way," wrote Charles Eames. "... In many ways the concepts and attitudes of modern art are foreign and strange to the very people whose lives should be enriched by it. The way may be through seeing a toy again — the toy does have a good chance of communicating because it will sometimes catch every human observer with his guard down." ▶

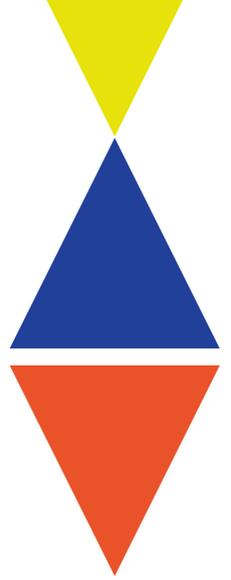


WATCH *Eames: The Architect and the Painter* (2011), directed by Jason Cohn and Bill Jersey ▶



TOYING AROUND

Charles and Ray Eames (at left) were known for having a deep passion for their work — and they always tried to have fun while doing it. Never taking themselves too seriously, they were often photographed wearing whimsical masks and were known to use them as props in exhibitions and theatrical skits with family and friends.



BOTTOM RIGHT INSTALLATION VIEW OF MASKS AND HEADPIECES FROM THE COLLECTION OF CHARLES AND RAY EAMES ©TRISTAN FEWINGS/GETTY IMAGES. THE WORLD OF CHARLES AND RAY EAMES IS CURATED AND ORGANISED BY BARBICAN CENTRE, LONDON, IN COLLABORATION WITH EAMES OFFICE AND SUPPORTED BY TERRA FOUNDATION.

A PRELUDE TO MORE

Toys and the concept of play became a foundational value at the Eames Office. Charles Eames even famously remarked, "Toys are not really as innocent as they look. Toys and games are the preludes to serious ideas."

In this spirit, the Eameses seamlessly blended play with hard work, often putting in 12-hour days, as did their staff. Harlan Moore, an employee of the Eames Office, once said, "To be involved with the Eameses wasn't a job, it was a commitment ... not only committing your [own] time, but you're committing your spouse's time and your family's time."

While acknowledging the hardship imposed by this schedule, the work was intriguing enough to make the long hours enjoyable. "We worked very hard at that — enjoying ourselves," Charles Eames has been quoted saying. "We didn't let anything interfere with what we were doing — our hard work. That in itself was a great pleasure."

The Eameses merged work and play so fluidly, in fact, that they regarded one as the other and, consequently, worked harder.

Max Underwood, a former staffer, explained that on an employee's initial day at the Eames Office, he or she was actually sent off to play, with the day's only directive being to interact with the Musical Tower, an approximately 15-foot-tall xylophone toy that lived in the Eames Office.

Reportedly, a person's interaction with the toy revealed much about their personality to their new

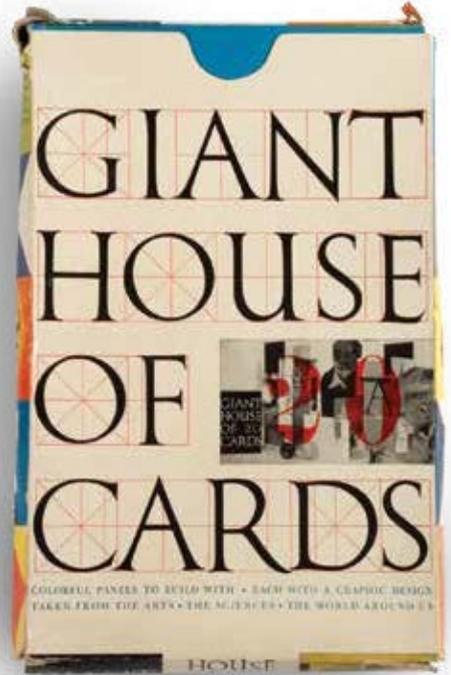
colleagues. Furthermore, this activity signaled a vast departure from any other workplace of the era. Not only did toys have a permanent presence there, but a new employee was taught that his or her work was to play in the most concrete sense.

INVITATION TO LEARN

Today, the significant role of play in learning is well understood. Play activates curiosity, which inspires a learn-by-doing mentality. In the Eames Office, this mentality was at the core of the design process.

Anecdotes also recall that Charles Eames required versatility and flexibility from each and every staff member. At times, for example, the furniture designer might be sent to the darkroom, the researcher assigned to be the cameraman for a film. Pushed outside comfort zones, the employee's approach to the matter at hand began to resemble the way a child approaches a new toy — questioning basic principles, testing limitations, deconstructing in order to rebuild. Approaches that benefit a versatile design process.

Toys were significant to the Eameses even simply as physical objects. In the beginning of the film *Toccata for Toy Trains*, Charles Eames explains that old toys "have a direct and unembarrassed manner that gives us a special kind of pleasure ... In a good old toy, there is apt to be nothing self-conscious about the use of materials. What is wood is wood, what is tin is tin and what is cast is beautifully cast." ▶



▲ The Giant House of Cards is a colossal version of Charles and Ray Eames' original picture card deck for building structures. This vintage set is from John Burton Tigrett, the toy's first manufacturer. The Eames Shop (shop.eamesoffice.com) now sells new, authentic versions so kids of all ages can build their structures to the sky (aka ceiling).

DID YOU KNOW? / *The World of Charles and Ray Eames* exhibition in Henry Ford Museum of American Innovation has the original mock-ups for the Eameses' House of Cards and Giant House of Cards, as well as *The Toy* and a molded plywood elephant. The exhibition runs through September 3.



The CIRCUS



▲ Still from the film *Clown Face*.

Last year, after 146 years in action, the Ringling Bros. and Barnum & Bailey Circus folded its tent for the last time.

The American traveling circus once fascinated crowds with trapeze acts, wild animals, magicians, jugglers and tightrope walkers — until the rise of the television in the mid-20th century began to lure the crowds away.

Charles and Ray Eames loved the circus, and it became the subject of their photography and films — but also a metaphor for their design process. The two even considered auditioning for a clown act during a financial bind

in the 1940s. When Charles Eames' daughter, Lucia, asked him what his profession was for a college application, he responded, "Clown."

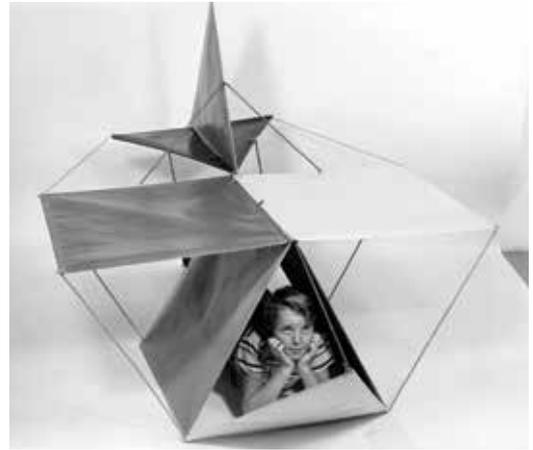
The circus pushes "the possible beyond the limit," explained Charles Eames. Where everyone involved has the same mission, but the "person flying on a high wire, or executing a balancing act, or being shot from a cannon must take his pleasure very, very seriously."

In the circus, as at the Eames Office, the synergy and success were not due to chance but were the result of a high level of dedication and preparation.

DID YOU KNOW? / Typography studio House Industries gave a shout out to Charles and Ray Eames and their infatuation with the circus, designing three elephantine numeral fonts as part of its Eames Century Modern set of letters and numbers.



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PLAY WITH PURPOSE

Ray Eames (left) has some fun with an early prototype of The Toy outside the Eames House in 1951. In 2017, after nearly 60 years of unavailability, The Toy (above) was reintroduced for sale in the Eames Shop (shop.eamesoffice.com). Meant to be enjoyed by people of all ages, The Toy is designed for “many colorful hours of fun for the whole family,” as the original instruction sheet states.



TOPS

Film became an extraordinarily effective way for Charles and Ray Eames to communicate ideas. They produced more than 125 films in their careers, ranging in length from one to 29 minutes. The topics of these films are wide ranging, covering subjects like scale in *Powers of Ten* and communications theory in *A Communications Primer*.

Perhaps among their film masterpieces, *Tops* exposes the essence of a spinning top. A multitude of tops from

around the world are shown, each exploring and celebrating what it means to be a top. Some are wooden, some are metal, some are very simple and others highly decorated, but all require the same basic components to function.

An Elmer Bernstein score accompanies the seven-plus minutes of spinning. Without a spoken word, the film communicates ideas of art and science, handicrafts and play, and affirms the universal nature of humans through the universality of the top.

▲ Still from the film *Tops*.

And this respect for the honest use of materials is present throughout their work in furniture, architecture and exhibit and product design.

In 1945, around the time Charles and Ray Eames created their first molded plywood chairs, they also designed molded plywood animals. These forms — seals, frogs, horses, bears and elephants — utilized the same molded plywood technology as the chairs and could be used as toys, furniture or both.

Throughout their careers, the Eameses continued to create toys, some mass-produced, some not. Colorful masks found their way into their films and photographs. Geometric panels, dowels and bright-colored pipe cleaners gave material to creativity in the mass-produced *The Toy*.

The House of Cards, probably the Eameses' most well-known toy, consisted of cardboard decks of cards that featured either patterns or pictures and slotted ends, allowing them to become a building material, moving seamlessly from the two dimensional to the three dimensional.

All of the toys produced by the Eameses are open-ended, with an invitation to learn. Without the user's imagination, they are static. With the user's active participation, they become extraordinarily dynamic.

THE POWER OF PLAY

Decades after their deaths, Charles and Ray Eames and their designs remain wildly successful and relevant. Among the many secrets to their success: Their ability to harness fun and capitalize on the generative power of play.

While playfulness is often quickly cast aside, commodified or separated in the quest for professional success, the Eameses placed play at the core of their lives and work. Playfulness was the lens through which they approached the world; it was a dominant personality trait, a work ethic, an undercurrent to the design process, as well as a means of inspiring and facilitating learning.

The Eameses' legacy teaches us that play should not be adjacent to our work but central to it. Perhaps reconsidering the role play holds in our work could be the key to our success, too. ●

“The Eameses were selective about the jobs and the clients they took on, not because they didn't need work, but because they understood that overlapping interest was vital. Without that mutual interest, lack of pleasure in the work would severely inhibit the design.”

— Katherine White, *The Henry Ford*



MATH MADE FUN



By the mid-1950s, the Eames Office had caught the eye of the IBM Corporation through its film *A Communications Primer*. So when the California Museum of Science and Industry in Los Angeles propositioned IBM to develop a mathematical exhibit, IBM turned to the Eames Office.

Charles Eames' take on it: For scientists, mathematics is truly fun. The exhibit needed to enable a regular person to discover that fun.

“There is a certain relationship between playfulness and art, and there is a relation between playfulness and science, too,” said Eames. “When we go from one extreme to another, play or playthings can form a transition or sort of decompression chamber — you need it to change intellectual levels without getting a stomachache.”

Charles and Ray Eames' *Mathematica: A World of Numbers ... and Beyond*, an exhibition recently installed in Henry Ford Museum of American Innovation, certainly embodies this concept, creating a bridge between interactive toys and sometimes-arduous abstract concepts.

It's a union of learning and play where poetic mathematical quotes hang above clattering machines, which look and sound like arcade games. A mathematical timeline fills

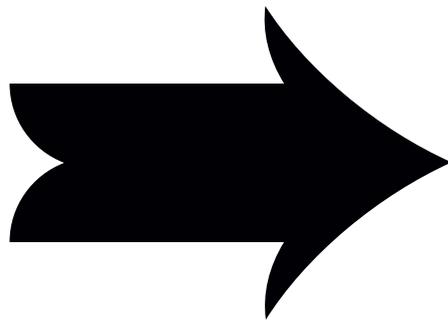
one wall — and sits next to a funhouse mirror. A red button releases a shiny metal ball — and then another and another — which circles, spiraling downward past an explanation of Johannes Kepler's laws of planetary motion, itself demonstrating them. The Probability Machine's 6,000 plastic balls clatter in the background, slowly creating a bell curve over and over again. A close-up photograph of a nautilus shell exposes the natural origins of the logarithmic spiral.

In their creation of *Mathematica*, the Eameses took mathematics and carnival-like fun and successfully fused playing with learning. Within the exhibit, the interactives encourage the participant to fully engage in the learn-by-doing process. The combination of text, graphics, film and games pushes the participant toward a complete understanding of a concept by exploring it from different angles and approaches. The playful undercurrent helps the participant to realize that hard work (or learning) and fun are not mutually exclusive concepts.

See story on Page 14 for more content related to *The Henry Ford's Mathematica exhibition* and Charles and Ray Eames' design philosophies.

WATCH

The Henry Ford's video *Mathematica* by Ray & Charles Eames thehenryford.org/mathematica/video ▶



EAMES ON THE FLOOR

The *Mathematica* exhibition is just one of the many Eames artifacts that call the exhibit floor of Henry Ford Museum of American Innovation their permanent home. Explore *The World of Charles and Ray Eames* exhibition through September 3, 2018, in The Gallery by General Motors, and then do a nearby search of the exhibit floor to see other creations of Charles and Ray Eames that are a part of The Henry Ford's collections.

1 The World of Charles and Ray Eames Exhibition

LOCATION:
The Gallery by General Motors

2 Prototype Eames Fiberglass Chair

LOCATION:
*The World of Charles and Ray Eames, The Gallery by General Motors**

3 Mathematica

4 Kiosk from IBM Pavilion at the 1964-65 New York World's Fair

LOCATION:
New Acquisitions Area

5 Exploded Eames Lounge Chair and Ottoman

LOCATION:
Fully Furnished

6 Eames Molded Plywood Leg Splint

7 Mold for Eames Fiberglass Armchair

8 Eames Molded Dining Chair with Wire Legs

9 Eames Molded Plywood Dining Chair

10 Eames Zenaloy Rocker

11 Eames Upholstered Wire Chair

12 Eames Molded Fiberglass Armchair on Swivel Base

13 Fiberglass Side Chair

14 Eames Molded Plywood Coffee Table

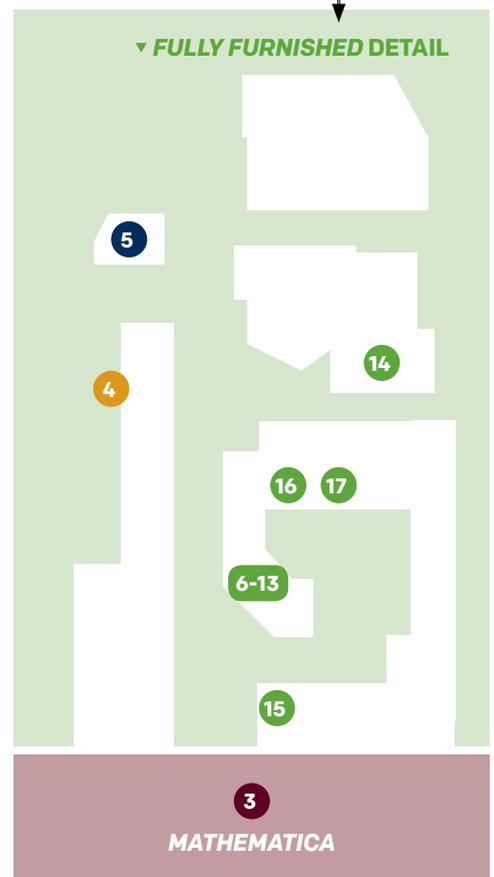
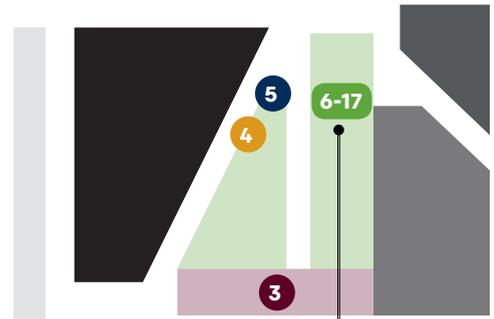
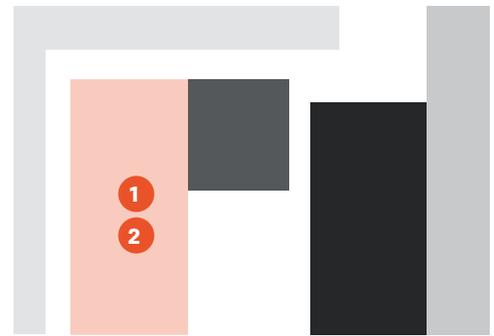
15 Eames Lounge Chair and Ottoman

16 Molded Plywood Folding Screen

17 Eames Molded Plywood Chair

LOCATION:
Fully Furnished

▼ HENRY FORD MUSEUM OF AMERICAN INNOVATION

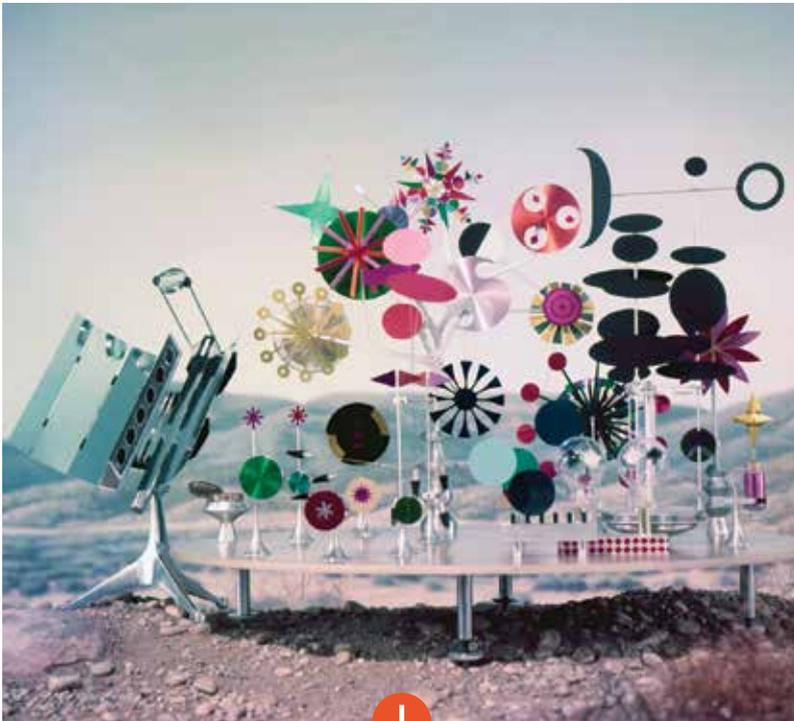


DID YOU KNOW? /

When Charles and Ray Eames took on what became *Mathematica*, they worked very closely with mathematician Ray Redheffer — not to get themselves off the hook so that they could just be exhibit designers, nor to try and become mathematicians, but to truly grasp the nature of mathematical phenomena and theories. They didn't just want an accounting: Their understanding of math, as non-mathematicians, could then carry over into all of the work on the exhibit. It could have integrity in the literal sense of the parts being connected to the whole.

MATHEMATICA PHOTOS
BY BILL BOWEN

***NOTE:** The Prototype Eames Fiberglass Chair is included in *The World of Charles and Ray Eames*. After the exhibition concludes its travels, the chair will return to its permanent location in the museum's *Fully Furnished* exhibit.



“Toys are not really as innocent as they look. Toys and games are the preludes to serious ideas.”

— Charles Eames

Much Ado About a Machine That Does Nothing

Charles and Ray Eames designed the Solar Do-Nothing Machine in 1957 as a kinetic aluminum structure. In layman’s terms, it was a toy powered by sunlight alone.

A solar collector collected sunlight, which powered motors, which turned wheels, moved pistons and made colors flash. Built in response to an invitation from the Aluminum Company of America to promote the use of aluminum in design and architecture, the machine’s purpose, according to the Eameses, was to be, not do.

Writer and editor Ben Cosgrove summed up the raw beauty of this whimsical whirligig’s “apparent pointlessness” in a 2014 article for Time.com: “... the Do-Nothing Machine actually performs a societal service far more valuable than that provided by, say, the average backhoe, senator or Kardashian. The Do-Nothing Machine, after all, at-once embodies and evokes the spirit of pure, unadulterated originality. Its lack of any specific, hierarchical function or purpose frees it from the burden of meeting expectations, while its intrinsic playfulness subtly challenges other inventors, engineers and designers to step up. If we could build this lovely, useless little device and power it with sunlight, the [Eameses] seemed to be saying, just imagine the magnificent, useful machines human beings could build if they really put their minds to it!”

DID YOU KNOW? /

In the 1990s, Eames Demetrios (Charles and Ray Eames’ grandson) discovered unedited footage of the Solar Do-Nothing Machine. See the video he created from this footage in *The World of Charles and Ray Eames* exhibition in Henry Ford Museum of American Innovation this summer.

DID YOU KNOW? /

Along with Charles and Ray Eames, a number of other designers, including Isamu Noguchi and Alexander Girard, were invited in 1957 by the Aluminum Company of America to participate in its challenge to use aluminum in design and architecture. Noguchi designed the sculptural Prismatic Table. Girard created a room divider with variable sizes, colors and storage options.

DID YOU KNOW? /

Charles and Ray Eames designed two prototype plywood elephants in 1945. While the toy never went into production during the Eameses’ lifetimes, it is now available in durable plastic for children to enjoy.

PLYWOOD ELEPHANT © VITRA



RESEARCH

The story behind the Eames Bird, which appeared in the iconic Eames Wire Chair & Bird advertisements and has stood in the center of Charles and Ray Eames’ living room for more than 50 years ►

READ

An Eames Primer by Eames Demetrios ►



Create Your Own Eames Elephant

Charles and Ray Eames liked to play around with plywood, molding it into a multitude of toys and useful things. Make and decorate your own miniature Eames Elephant and channel your more playful side.

MATERIALS

stiff paper,
construction paper
or poster board

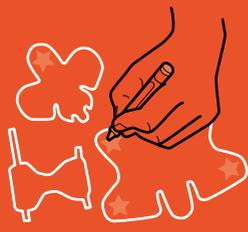
scissors

school glue or
glue stick

markers,
crayons, glitter
and/or sequins



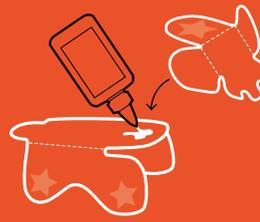
1 Print the template from the Eames Office on stiff paper and cut out the three forms. **TIP:** Trace and cut the forms on poster board for a sturdier elephant.



2 Decorate the head, body and base. Be creative!



3 Fold forms along dashed lines as shown.



4 Place generous dot of glue on larger end of body and attach head.



5 Turn your elephant upside down and glue tabs of base to the inside of each leg. Let dry. Turn over and admire your work.

ONLINE For the Eames Elephant template, visit eamesoffice.com/education/make-your-own-eames-elephant



Norman Rockwell (1894-1978), *The Right to Know*, 1968.
Illustration for *Look*, August 20, 1968. Private Collection.
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Explore ***Rockwell, Roosevelt & the Four Freedoms***. This internationally touring exhibition provides a rare opportunity to see Norman Rockwell's Four Freedoms paintings, in addition to other works by Rockwell and his contemporaries, alongside interactive digital displays and virtual-reality technology.

LIMITED-ENGAGEMENT EXHIBIT

ROCKWELL, ROOSEVELT & THE FOUR FREEDOMS

OCTOBER 13, 2018-JANUARY 13, 2019

Henry Ford Museum of American Innovation™

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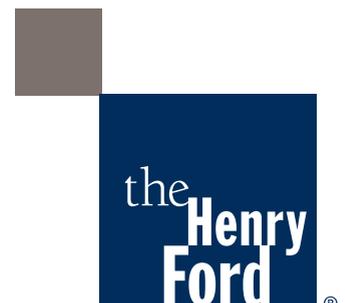
To learn more, visit thehenryford.org/fourfreedoms

Rockwell, Roosevelt & the Four Freedoms and its international tour are organized by the Norman Rockwell Museum, Stockbridge, MA. Leadership support for Rockwell, Roosevelt & the Four Freedoms is provided by Jay Alix, The Alix Foundation and the George Lucas Family Foundation.

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First Dibs on Ticket Sales

Maker Faire® Detroit on sale **May 30**

Hallowe'en in Greenfield Village on sale **August 8**

Hallowe'en Dining on sale **August 8**

Holiday Nights on sale **August 29**

Holiday Nights in Greenfield Village

Dinner Package at Eagle Tavern on sale **August 29**

Supper with Santa on sale **August 29**

Members Tree Lighting Ceremony on sale **September 26**

Key Dates to Remember

Throwback Thursday Nights **Select Thursdays****

Cinetopia International Film Festival is **June 8****

Eames Happy Hours are **June 15, July 19 and August 9**

Motor Muster is **June 16-17**

Salute to America is **June 30-July 1, 3 and 4****

Maker Faire® Detroit is **July 28-29****

The World of Charles and Ray Eames runs through **September 3**

Old Car Festival is **September 8-9**

Hallowe'en in Greenfield Village begins **October 12****

Rockwell, Roosevelt & the Four Freedoms opens **October 13**

Holiday Nights begins **November 30****

Member Appreciation Days

SEPTEMBER 20-21

NOVEMBER 17-19

Mark your calendar for these dates, when members receive a double discount (20%) off food, drinks and select in-store and online shopping purchases, free admission to Ford Rouge Factory Tour, plus exclusive experiences listed below.

SEPTEMBER 21*

Free Member Movie Night at the Giant Screen Experience

*Film and showtime will be announced at a later date.

NOVEMBER 19**

Join us for the exclusive annual Members Tree Lighting Ceremony in Henry Ford Museum of American Innovation.

**Additional fee required.

Holiday Nights ▶

PHOTO BY REAL INTEGRATED



Makers in Detroit

GE Digital's Detroit Hub, positioned between Detroit and Ann Arbor, is home to hundreds of the world's best Digital Technology professionals who are changing the way we work.



**GE Digital Detroit is proud to present this year's
Maker Faire Detroit at The Henry Ford**

Join us in Dearborn, MI July 28-29, 2018



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INSIDE THE HENRY FORD

The Henry Ford is three must-see attractions, 250 acres of unexpected and one awe-inspiring experience. Flip through the following pages to find out what's happening inside this mind-blowing cultural institution during the summer and fall.

Henry Ford Museum of American Innovation	50
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7 FACTS ABOUT THE 670/671

The careful dissection and exploded view of the Eames Lounge Chair and Ottoman is a museum exclusive

Ask

visitors to Henry Ford Museum of American Innovation about the artifacts that leave a lasting impression, and most likely the Exploded Eames Lounge Chair and Ottoman in the

Fully Furnished exhibit is a contender.

This sculpture, designed by Santa Fe-based artist and designer Vincent Faust, has been a part of The Henry Ford's collections since 2006. Faust created the installation using a Herman Miller-produced Lounge Chair (aka the 670) and Ottoman (aka the 671), which are the iconic creations of designers Charles and Ray Eames. Faust's piece is one of those stop-and-stare artifacts, giving visitors an exclusive look at the complex ways the dynamic couple made plywood, leather and aluminum mesh together to create one of furniture's most innovative yet classic designs.

The Eames Lounge Chair and Ottoman have been in continuous production since 1956. Here are seven statements worth knowing about the couple's timeless design.

- 1 Owners of authentic 670s can still get replacement parts from Herman Miller, regardless of the age of their chair.**
- 2 This design is in the permanent collection of more than 20 major museums throughout the United States and Europe.**
- 3 The base of the 670/671 was originally designed by the Eames Office as a contract table base.**
- 4 For the first 10 years of production, Herman Miller offered the chair in leather, fabric or Naugahyde, but Charles and Ray insisted the company add a note to the catalog recommending the premium "best aucht" leather.**
- 5 The cushions of the Eames Lounge Chair and Ottoman are not only symmetrical but interchangeable.**
- 6 The quality leathers used on the 670/671 will last indefinitely because sufficient oils are incorporated into the leather during tanning.**
- 7 The Eameses wanted the 670/671 to have "the warm receptive look of a well-used first baseman's mitt."**

ONLINE To see artist Vincent Faust's full portfolio of his work in sculpture, painting, set design and more, visit vincentfaust.com ▶

ONLINE For more information, hours and pricing for Henry Ford Museum of American Innovation, visit thehenryford.org/museum ▶



▲ The Eames Lounge Chair and Ottoman have been in continuous production for more than half a century. The exploded sculpture on display in Henry Ford Museum of American Innovation reveals the chair's elegant balance of materials, components, craftsmanship and mechanical production.

FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION



DID YOU KNOW? / When Charles Eames invited film producer and friend Julian Blaustein to come to the Eames Office, sit in a test Lounge Chair and read scripts, Blaustein ended up falling asleep as he sat. Blaustein was embarrassed. Charles was pleased.

DID YOU KNOW? / Herman Miller is one of two authorized manufacturers of Eames products. The other is Vitra.

DID YOU KNOW? / The Eames Lounge Chair and Ottoman have appeared on countless TV show and movie sets, from blockbuster films such as *Iron Man* and *Tron: Legacy* to popular TV shows like *Frasier* and *Gossip Girl*.



**FREE
TO MEMBERS**
The World of Charles and Ray Eames exhibition is free to members or with museum admission.

ENTER THEIR WORLD

Henry Ford Museum of American Innovation continues to host *The World of Charles and Ray Eames* exhibition through September 3, 2018. Don't miss this rare opportunity for a closer look at the careers of designers Charles and Ray Eames and the work produced through the Eames Office over more than four decades.

The exhibition features a diverse collection of the couple's pioneering projects, from architecture and furniture to films, multimedia installations and exhibitions. Eames artifacts from The Henry Ford collections, including informational and souvenir booklets, brochures and cards from the IBM Pavilion at the 1964 New York World's Fair, are also on special display within the exhibition.



The World of Charles and Ray Eames
Through September 3
Henry Ford Museum of American Innovation



SAVE THE DATES
Eames Happy Hours
in The Gallery by
General Motors
Henry Ford Museum of American Innovation
June 15, July 19, August 9
5-8 p.m.
Free for members
Visit thehenryford.org/eameshappyhour
for details.

INSTALLATION VIEW OF THE PROTOTYPE OF THE REVELL TOY HOUSE, 1959. BARBICAN ART GALLERY, LONDON. © TRISTAN FEWINGS/ GETTY IMAGES

GUEST-HOST

A relationship highly prized by designers Charles and Ray Eames translates to experiences in Greenfield Village

If

you had had the opportunity to visit the Eames Office in California in the 1950s, '60s and '70s, you would have been privy to how important the guest-host relationship was to its founders, Charles

and Ray Eames. The prolific designers believed that, whether you were building a chair, designing an award-winning museum exhibition or simply having lunch with your staff, a sense of this most basic human relationship was a must.

When it came to mealtime at the Eames Office, in fact, it was always a presentation — often an on-site open-air picnic or a curated kitchen-bound celebration with invited guests to help create the fullest possible immersion in the Eames Office culture and experience. So important was the work-time meal, a full-time cook was on the Eames Office's payroll.

"The Eameses understood the power of playing the host and the act of coming together for meals and conversation," said Marc Greuther, The Henry Ford's chief curator and senior director of historical resources, who added that the couple was also well known for their stylized "picnics in the meadows," a common practice on the grounds of their home in the Pacific Palisades neighborhood of Los Angeles.

DID YOU KNOW? /

The Eames Foundation hosts picnics in the meadows on the grounds of the historic Eames House, also known as Case Study House No. 8, located in the Pacific Palisades neighborhood of Los Angeles. Reservations required.

DID YOU KNOW? /

The Henry Ford offers picnic packages in Greenfield Village for groups of 150 or more. For more information, visit thehenryford.org/picnics or call Event Sales at 313.982.6220.

Similarly, Greenfield Village is also dedicated to nurturing the guest-host relationship not only through its artifacts, experiences, maker community and storytelling but through food. Presenters at both the Daggett Farmhouse and Firestone Farm, for example, prepare period-correct recipes daily for educational as well as entertainment purposes, bringing the history of 18th- and 19th-century eating to life for visitors. Guests can then purchase similar dishes with their meals at the village's on-site eateries such as Eagle Tavern and A Taste of History (see sidebar on Page 53).

"Food is an artifact, an immersive experience that we express in many different ways in Greenfield Village," said Lee Ward, director of food service and catering for The Henry Ford. "Our curators set the broad brushstrokes, making sure our message, menus and practices are historically and period accurate, while our programming team works directly with the presenters who are cooking the recipes every day to ensure our techniques are historically appropriate."

Families can also curate their own take on an Eames-style open-air meal in Greenfield Village, where ample picnic tables and grassy areas abound.

ONLINE

Discover hundreds of recipes by type and cookbooks by era in The Henry Ford's Historic Recipe Bank. Visit thehenryford.org/explore/recipes-and-cookbooks ▶

ONLINE

For more information, hours and pricing for Greenfield Village, visit thehenryford.org/village ▶

DAGGETT FARMHOUSE PHOTO
BY KMS PHOTOGRAPHY





▼ Presenters at Daggett Farmhouse prepare meals daily using methods and recipes the Daggett family would have been familiar with in the 1760s.

FOOD PLAYS ITS PART

Visit Firestone Farm in Greenfield Village this year, and you're likely to see presenters preparing roast chicken, succotash, potato salad and biscuits. The meal is cooked on the farmhouse's coal-fired stove exactly as it would have been in the late 1880s. The scene at Daggett Farmhouse is similar, with presenters dishing up a ham and sausage pie made on the hearth just as the Daggett family would have in the 1760s.

Today, visitors to Greenfield Village not only get to see and smell these recipes come to life as part of an interactive exhibit, they can also sample them on-site at A Taste of History restaurant. Four themed food stations (Daggett, Firestone, Sarah Jordan and Burbank Potato) now feature select dishes seen prepared daily at the farmhouses or that represent period-accurate recipes.

"Our restaurant menus in Greenfield Village are historically and seasonally inspired, carefully curated so visitors to Greenfield Village can experience food that tastes good and represents the time period, region and home," said Lee Ward, director of food service and catering for The Henry Ford.

Whether visitors decide to enjoy the succotash they saw served up at Firestone Farm, the chicken tenders from Mrs. Fisher's Southern Cooking — where all menu items are from or based on the first African-American cookbook from 1881 — or rotating seasonal specialties like the braised rabbit offered at Eagle Tavern, The Henry Ford's expert knowledge of food — its preparation, preservation and cooking methods — is one of the most distinguished and exclusive artifacts of the institution's vast collections.

MEMBER PERK

Receive 20% off food and drinks during Member Appreciation Days September 20-21 and November 17-19

SEEING THE NEED

Whether building a famous chair for the office or a front seat for a famous truck, knowing what's needed is paramount to the design

Design

for mass production. Walk through *The World of Charles and Ray Eames* exhibition in Henry Ford Museum of American Innovation this summer, and you'll get a sense that designers Charles and Ray Eames were a bit passionate about this concept, especially as they battled through the trial-and-error process of creating their iconic Eames chairs. They labored for hours, months, years over the constraints of materials, the uniformity of complex curves, comfort and the manufacturing process. The Eameses' mantra to create "the best for the most for the least" spilled over into each and every chair iteration until they found the right answers.

For those who experience the Ford Rouge Factory Tour, durability, comfort and design suited for mass production are certainly concepts seen in action as the Ford F-150 is built at the Dearborn Truck Plant. America's best-selling truck for more than 40 years and the best-selling vehicle for more than 35 years, the F-150 is the epitome of quality, durability and mass production at its finest.

Like the Eameses, Ford engineers have also spent hours, months and years perfecting how we sit in the F-150 as well as every other Ford vehicle model, experimenting with materials, comfort and a global manufacturing seat architecture.

"Many people think of Charles and Ray Eames as furniture people," said Cynthia Jones, general manager of Henry Ford Museum of American Innovation and the

Ford Rouge Factory Tour. "The 'furniture' in a F-150 is the seats."

Ford engineers, in fact, will tell you that there's honest science behind a vehicle's front-seat comfort, from the study of "H-points" (hip pivot points) and "hip-to-heel" dimensions to the scalability of back frame modules and cushions.

"Our seats are designed to hold people where they want to be held but without being restricting," said Dan Ferretti, Ford global seats senior technical leader. "For example, the side bolsters are tapered, which allows a driver to have better movement of their arms and legs. We also offer the availability of multi-contour massage seats on the F-150, which raised the bar for truck seat comfort."

Sit in the driver's seat of an F-150 built today at the Rouge Complex (or any other Ford vehicle for that matter), and no doubt you'll experience the care and commitment to good design and the overall design process. The truck's seat offers an array of comfort and convenience features, from heating and cooling to thigh extensions and lumbar support to help reduce muscle fatigue and promote blood flow on longer journeys.

"The plug-and-play design is really what sets this system apart," Ferretti said. "It enables the democratization of technology, so we're able to make more features available to more people."

Which circles right back to what Charles and Ray Eames were working toward when designing their furniture: building the "best for the most."



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

FACTORY TOUR PHOTO BY TEAM DETROIT; F-150 INTERIOR PHOTO COURTESY OF FORD MOTOR COMPANY



SINCERELY, CHARLES EAMES

There's a reason designers Charles and Ray Eames chose to drive Ford cars for decades: If it ain't broke, don't fix it. The clean lines, simple but durable leather interior and classic black color of a Ford convertible from the 1940s spoke to the couple's goals for good design. It was comfortable, a standard production model, stylish and fun.

Unfortunately, it was no longer available, replaced by more colorful, exciting styles of the 1950s. Not ones for flash over substance, the Eameses decided to go directly to the source to request what they no longer could find, writing a letter to Ford Motor Company's Henry Ford II in 1954 with their detailed product specs.

Here's what the Eameses' letter to Ford said:

"The following is what we could consider an anonymous model — one we would like to buy now:

Black convertible, natural top, minimum of advertising signs and symbols attached — preferably none.

The interior: simple neutral tan leather or good neutral color synthetic material — no two-tone — preferably matching tan paint on interior metal, but would accept black if that is standard."

Some sources say Ford did reply in kind with a vehicle that met the letter writers' requests.

DID YOU KNOW? /

Ford has taken cues from the office furniture and first-class air travel industries to design its front-seat architecture, which is applied to vehicles such as the 2018 F-150 Platinum Super Crew. You can see this F-150 model and several others being built at the Dearborn Truck Plant (inset at left) during the Ford Rouge Factory Tour.

HIDDEN BOUQUET

World's Fair kiosk is a secret showcase for wildflowers and whimsy inspired by Charles and Ray Eames

The

Henry Ford's kiosk from the 1964 New York World's Fair designed by Charles and Ray Eames was once part of the fair's IBM Pavilion. The kiosk was one among several brightly hued "little

theaters" — lighthearted counterpoints, pops of color — perched in a forest of technology, ideas and stylized steel trees. Underneath the kiosk canopies? Displays of computers, typewriters, calculators and pieces of the Eameses' *Mathematica* exhibition, located next to mechanical puppet shows and the multiscreen *Think* film experience.

Peer underneath the roof of The Henry Ford's kiosk on display in Henry Ford Museum of American Innovation, and you will discover a painted panel of a bouquet of wildflowers: sea rocket, a sunflower, daisies, a morning glory, coneflowers, Queen Anne's lace and milkweed. There might even be a sprig or two of goldenrod not yet in full bloom.

The panel is a hidden footnote that deserves its own array of footnotes. In 1962, the Herman Miller furniture company (producers of Eames-designed furniture) wanted to redesign its stock certificate. The company rang up the Eames Office and spoke with Ray Eames herself. Her concept for the certificate's background emblem soon found Herman Miller employees picking wildflowers from the fields in Zeeland, Michigan, where the company is headquartered.

DID YOU KNOW? /

Seven kiosks appeared in IBM's outdoor exhibition area at the 1964 New York World's Fair. The Henry Ford's Eames kiosk is the sole surviving example that was installed on the fairgrounds that year.

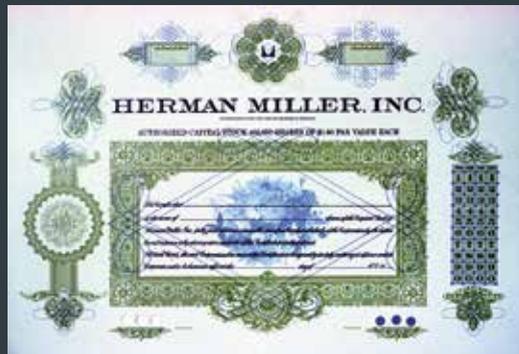
WATCH

Watch the videos about installing the Eames New York World's Fair kiosk in Henry Ford Museum of American Innovation [thehenryford.org/eames-kiosk/video](https://www.thehenryford.org/eames-kiosk/video) and [thehenryford.org/eames-kiosk-timelapse/video](https://www.thehenryford.org/eames-kiosk-timelapse/video) ▶

The flowers were packed on dry ice in a bucket and shipped to the Eameses in California, where Ray arranged them to be photographed by Charles. "We photographed them still in the bucket," Ray Eames has been noted saying, accounting for the bird's-eye view.

The color photograph was printed in black-and-white and translated into a line engraving — the process used to print stock certificates and bank notes at the time.

In 1964, the stock certificate image was revisited, hand-painted — engraving lines and all — in full color to be placed on the underside of the fair-bound kiosk.



▶ Created by Charles and Ray Eames, the floral imagery on the underside of the World's Fair kiosk (inset and at right) in Henry Ford Museum of American Innovation first appeared on a Herman Miller stock certificate (above).

PHOTO COURTESY OF
© 2018 EAMES OFFICE LLC
EAMESOFFICE.COM



KIOSK INSET PHOTO FROM THE HENRY FORD ARCHIVE OF AMERICAN INNOVATION; KIOSK DETAIL PHOTO BY RUDY RUZICKA



FLOWERS AND A FAIRY TALE

Stories of floral arrangements and Charles and Ray Eames go beyond the creation secretly sitting on the underside of the 1964 New York World's Fair kiosk in Henry Ford Museum of American Innovation. As another story goes, wildflowers from a field and the Eameses played a part in the pending marriage of friend and filmmaker Billy Wilder. He's the guy behind golden-era, legendary Hollywood films such as *Some Like It Hot* and *The Seven Year Itch*.

The tale as told by former Eames Office staffer Michael Glickman goes something like this: When traveling through Las Vegas with the Eameses, Wilder was inspired to marry his girlfriend, also along for the trip. "When they reached the wedding chapel," Glickman has been quoted, "Ray disappeared to return 10 minutes later with a bouquet made from wildflowers and weeds she had found behind the building — the familiar transformed into the marvelous."



► Ray Eames with flowers

PHOTO COURTESY OF
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EAMESOFFICE.COM

2018 Events

Celebrate.
Play.
Imagine.

ROCKWELL, ROOSEVELT & THE FOUR FREEDOMS

OCTOBER 13, 2018-JANUARY 13, 2019
Henry Ford Museum of American Innovation

Devoted to Norman Rockwell's iconic depictions of Franklin Delano Roosevelt's Four Freedoms — Freedom of Speech, Freedom of Worship, Freedom from Want and Freedom from Fear — this comprehensive traveling exhibition is the first of its kind.

It illuminates both the historic context in which FDR articulated the Four Freedoms and the role of Rockwell's paintings in bringing them to life for millions of people, in rallying the public behind the war effort and in changing the tenor of the times.

By telling the story of how Rockwell's work transformed a set of lofty political ideals into something that people could understand and relate to on a personal basis, the exhibition demonstrates the power of art to communicate ideas and inspire change. The paintings galvanized a national movement to support the war effort and helped to mold those ideas into the foundation of a national vision for a more just and peaceful postwar world.

In addition to Rockwell's celebrated paintings of the Four Freedoms,

the exhibition brings together numerous other examples of painting, illustration and more by both Rockwell and a broad range of his contemporaries — from J.C. Leyendecker and Mead Schaeffer to Ben Shahn, Dorothea Lange and Gordon Parks, among others — as well as historical documents, photographs, videos and artifacts; interactive digital displays; and immersive settings. Not just an exercise in looking back or Rockwell fanaticism, the exhibition also examines current-day ideals about freedom and societal issues through a jury-selected collection of works from contemporary artists who were asked to interpret the Four Freedoms' legacy using their preferred creative medium.

A rare opportunity for visitors to Henry Ford Museum of American Innovation, this exhibition shows how the Four Freedoms paintings were the first in a sequence of works spanning three decades in which Rockwell addressed significant social concerns, from civil rights to the nation's role and responsibilities at home and abroad.

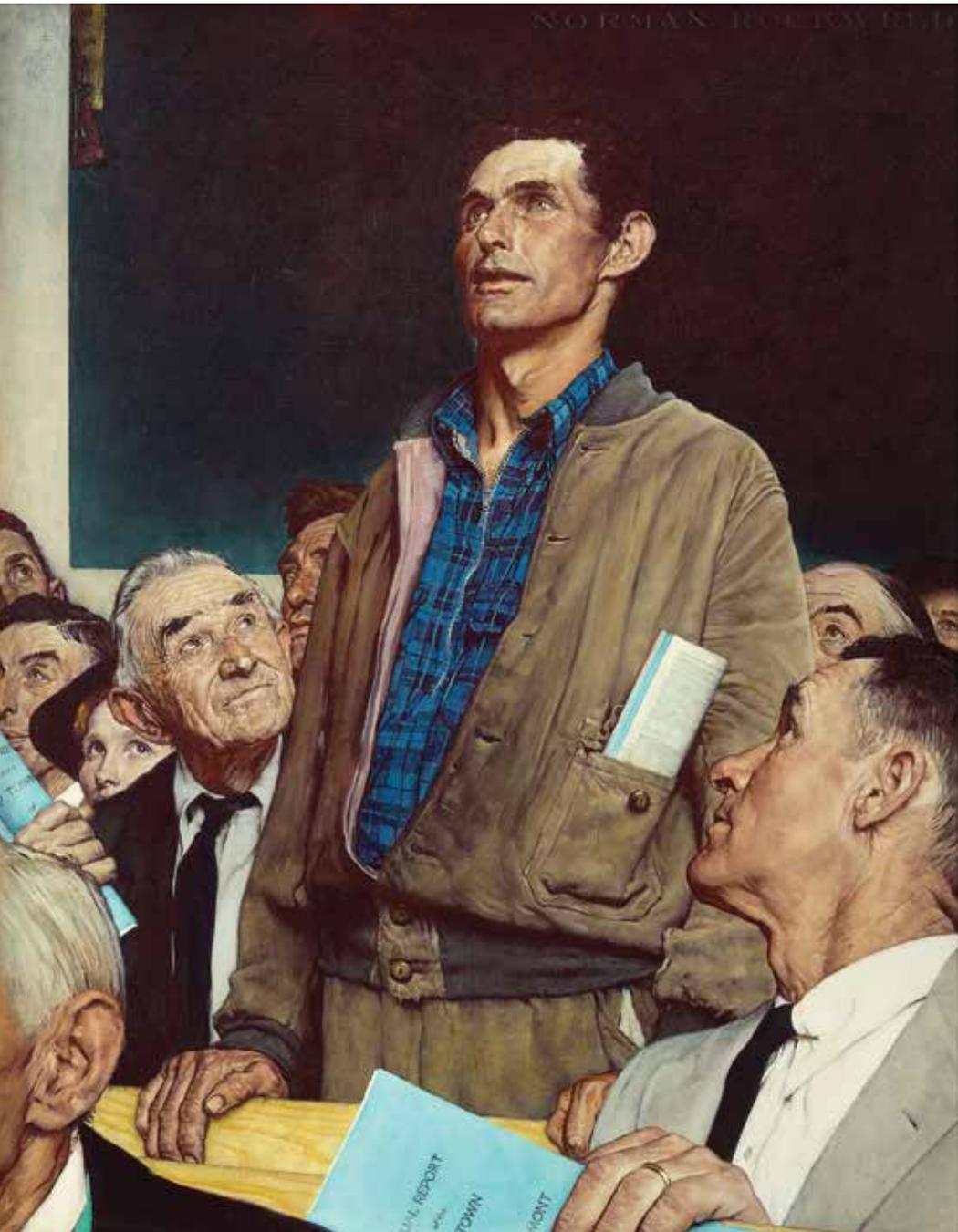
“What does freedom mean today?”

ORGANIZED BY NORMAN ROCKWELL MUSEUM,
STOCKBRIDGE, MA

ONLINE To learn more, visit
thehenryford.org/fourfreedoms ▶

**FREE
TO MEMBERS**

*Rockwell, Roosevelt & the
Four Freedoms is free to
members or with
museum admission.*



CLOCKWISE FROM LEFT:

NORMAN ROCKWELL (1894-1978), *FREEDOM OF SPEECH*, 1943. OIL ON CANVAS, 45 1/4" X 35 1/4". STORY ILLUSTRATION FOR *THE SATURDAY EVENING POST*, FEBRUARY 20, 1943. COLLECTION OF NORMAN ROCKWELL MUSEUM. ©SEPS: CURTIS LICENSING, INDIANAPOLIS, IN.

BENNY BING, *UNITED WE STAND*, 2017. ACRYLIC ON CANVAS. ALL RIGHTS RESERVED.

NORMAN ROCKWELL (1894-1978), *THE RIGHT TO KNOW*, 1968. OIL ON CANVAS, 29" X 54". ILLUSTRATION FOR *LOOK*, AUGUST 20, 1968. PRIVATE COLLECTION. ©NORMAN ROCKWELL FAMILY AGENCY. ALL RIGHTS RESERVED.

LEADERSHIP SUPPORT FOR ROCKWELL, ROOSEVELT & THE FOUR FREEDOMS IS PROVIDED BY JAY ALIX, THE ALIX FOUNDATION AND THE GEORGE LUCAS FAMILY FOUNDATION.

NATIONAL PRESENTING SPONSOR IS **TRAVELERS**

MEDIA SPONSORS:  AND THE NORMAN ROCKWELL FAMILY AGENCY.

2018 Events

YEAR-ROUND

PNC Tinkering for Tots Preschool Program

Second Monday of each month, 10 a.m.-noon
November-April: Museum
May-October: Village

Throwback Thursday Nights*

Select Thursdays, 7 p.m. (Giant Screen Experience)
thehenryford.org/TBT

Make Something: Saturdays

September-May, 10 a.m.-3 p.m.
Museum



EE BERGER

JUNE

The World of Charles and Ray Eames Exhibition

Running through September 3
Museum

The World of Charles and Ray Eames is curated and organised by Barbican Centre, London, in collaboration with Eames Office and supported by Terra Foundation.

National Invention Convention and Entrepreneurship Expo

June 1
Museum

Cinetopia International Film Festival*

June 8
Giant Screen Experience

National Get Outdoors Day

June 9
Village

Historic Base Ball Games

June 9-10, 16-17 and 23-24
Village

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

Artist in Residence

Laura Donefer
June 12-16
Village

Eames Happy Hour*

June 15 (Museum)

Motor Muster

June 16-17 (Open Saturday 'til 9 p.m.) (Village)

Sensory-Friendly Saturday*

June 23
Ford Rouge Factory Tour

Summer Camp*

June 25-29
The Henry Ford

Exhibition curated and organised by Barbican Centre, London

barbican

Collaborative Partner



Supported by

TERRA
FOUNDATION FOR AMERICAN ART



The World of Charles and Ray Eames Exhibition

Running through September 3

©TRISTAN FEWINGS/GETTY IMAGES. THE WORLD OF CHARLES AND RAY EAMES IS CURATED AND ORGANISED BY BARBICAN CENTRE, LONDON, IN COLLABORATION WITH EAMES OFFICE AND SUPPORTED BY TERRA FOUNDATION.

Annual Salute to America*

June 30 (Village)

JULY

The World of Charles and Ray Eames Exhibition

Running through September 3
Museum

Annual Salute to America*

July 1, 3 and 4 (Village)

Artist in Residence

Davide Salvatore
July 3-7
Village

Historic Base Ball Games

July 7-8, 14-15, 21-22 and 28-29
Village

Summer Camp*

July 9-13, 16-20, 23-27 and 30-August 3
The Henry Ford

Eames Happy Hour*

July 19 (Museum)

Maker Faire® Detroit*

July 28-29 (Open Saturday and Sunday 'til 6 p.m.) (The Henry Ford)
In collaboration with Maker Media.
Presented by GE Digital.

AUGUST

The World of Charles and Ray Eames Exhibition

Running through September 3
Museum

Summer Camp*

July 30-August 3 and August 6-10
The Henry Ford

Historic Base Ball Games

August 4-5 and 18-19
Village

Eames Happy Hour*

August 9 (Museum)

World Tournament of Historic Base Ball®

August 11-12
Village
Historic Base Ball in Greenfield Village is made possible through the generous support of Cynthia and Edsel B. Ford II.

National Aviation Day

August 19
Museum
Admission fee waived courtesy of Delta Air Lines.

SEPTEMBER

The World of Charles and Ray Eames Exhibition

Running through September 3
Museum

SEE AMERICA'S MUSICAL JOURNEY

MacGillivray Freeman Films' newest 3-D documentary, *America's Musical Journey*, is the latest in the feature lineup at The Henry Ford's Giant Screen Experience. It's a not-to-be-missed look at the unique diversity of cultures and creative innovation that characterize America — told completely through the story of its music. You'll see flash mob dancing and skydiving Elvis impersonators as well as jazz pianists and a teenage banjo prodigy. Narrated by actor Morgan Freeman.



PHOTO COURTESY OF MACGILLIVRAY FREEMAN FILMS, COPYRIGHT VISITTHEUSA.COM



68th Annual Old Car Festival

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

Artist in Residence

David Walters
September 11-15
Village



EE BERGER

Member Appreciation Days

September 20-21
The Henry Ford

Fall Flavor Weekend

September 29-30
Village
Presented by Beaumont Health.

Farmers Market

September 29
Village



BILL BOWEN

OCTOBER Fall Flavor Weekend

October 6-7
Village
Presented by Beaumont Health.

Farmers Market

October 6
Village

Hallowe'en in Greenfield Village*

October 12-14, 18-21 and 25-28 (Village
Presented by Meijer.

Hallowe'en in Greenfield Village Dinner Package at Eagle Tavern* (

October 12-13, 19-20 and 26-27
Village

Hallowe'en Fairy-Tale Feast Package at A Taste of History* (

October 12-14, 18-21 and 25-28
Village

Rockwell, Roosevelt & the Four Freedoms

October 13, 2018-
January 13, 2019
Museum
Organized by Norman Rockwell Museum.
Sponsored by The Travelers Companies, Inc.

NOVEMBER

Rockwell, Roosevelt & the Four Freedoms

Running through
January 13, 2019
Museum

Member Appreciation Days

November 17-19
The Henry Ford

Members 25th Annual Holiday Lighting Ceremony*

November 19 (Museum

Visits with Santa

November 23-
December 24
Museum

Holiday Nights in Greenfield Village*

November 30 (Village
Presented by Citizens Bank.



EE BERGER

Holiday Nights in Greenfield Village Dinner Package at Eagle Tavern*

November 30 (Village

Holiday Nights Happy Hour at the Pavilion*

November 30 (Village

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

November 30 (Village

DECEMBER

Rockwell, Roosevelt & the Four Freedoms

Running through
January 13, 2019
Museum

Visits with Santa

Running through
December 24
Museum

Holiday Nights in Greenfield Village*

December 1-2, 7-9, 13-16, 18-23 and 26-27 (Village
Presented by Citizens Bank.

Holiday Nights in Greenfield Village Dinner Package at Eagle Tavern*

December 1-2, 7-9, 13-16, 18-23 and 26-27 (Village

Holiday Nights Happy Hour at the Pavilion*

December 1-2, 7-9, 13-16, 18-23 and 26-27 (Village

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

December 1-2, 7-9, 13-16, 18-23 and 26-27* (Village
**Photos with Santa not available on December 26-27.*

2018 HOURS

Henry Ford Museum of American Innovation™
Open 7 days a week,
9:30 a.m.-5 p.m.

Greenfield Village®

Open to the public
April 14-October 28:
7 days a week,
9:30 a.m.-5 p.m.

October 29-November 25:

Open Friday-Sunday,
9:30 a.m.-5 p.m.

November 26-December 31:
Closed; open select evenings
in November and December

Giant Screen Experience

Open daily with extended hours

Ford Rouge Factory Tour

Open Monday-Saturday,
9:30 a.m.-5 p.m. Call for bus
times and seasonal hours.

Benson Ford Research Center®

Reading room open Monday-
Friday, 9:30 a.m.-5 p.m.

For the latest updates and more information on special events and programs, call 313.982.6001 or visit thehenryford.org.

All attractions closed
Thanksgiving and
Christmas days.

All programs and dates
are subject to change.

The Henry Ford is an independent nonprofit organization. We depend on ticket purchases, income from our stores and restaurants, and tax-deductible contributions and memberships for support.

*Additional fee and/
or advance reservation
required.

(Special evening hours
during these events.

ONLINE To learn more, visit thehenryford.org/americasmusicaljourney ▶

Follow the @America's Musical Journey Facebook page at [facebook.com/ericasmusicaljourney](https://www.facebook.com/americasmusicaljourney) and use the hashtag #AmericasMusicalJourney.

FREE
ADMISSION FOR
MEMBERS
to all traditional
(educational or
documentary) films.

Connect 3

Curators uncover curious connections between artifacts and ideas

→ Breaking Boundaries

Discover how a marine engine, Thomas Edison's Fort Myers laboratory and a record-setting race car connect to one another.



▲ J.H. PAINE & SON CO. MARINE ENGINE

In the late 1800s, builder James Paine rethinks the marine engine's architecture to alleviate access issues. His tidy design powers a mighty freight, mail and passenger steamer to perfection.

MAKE THE CONNECTION:

The steamer powered by the outside-the-box Paine engine was called Goldenrod.



▶ THOMAS EDISON'S FORT MYERS LABORATORY

When Edison was in this lab looking to relieve American industry's dependence on imported rubber in the 1920s, he experimented with extractions from a number of native plants to conjure up commercially viable alternatives.

MAKE THE CONNECTION:

The plant that proved most promising in Edison's pursuit of a rubber substitute — goldenrod.



▲ 1965 GOLDENROD LAND SPEED RACE CAR

When brothers Bob and Bill Summers challenged themselves to set a land speed record in 1965, they snubbed trendy rockets and jet engines, instead packing four traditional piston engines into their slender speedster.

MAKE THE CONNECTION:

The Summers brothers set a new wheel-driven world land speed record of 409.277 miles per hour with their sleek racer named Goldenrod.

“While it may seem only the name Goldenrod connects this engine, laboratory and race car ... each documents an attempt to push existing resources beyond their known limitations, demonstrating our ambition — and our ability — to break boundaries.”

— Saige Jedele, associate curator, The Henry Ford

WATCH The *Breaking Boundaries* Connect 3 video authored by Saige Jedele, associate curator at The Henry Ford thehenryford.org/breakingboundaries ▶

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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	69
	DoubleTree by Hilton Detroit-Dearborn	Dearborn	10	347	Indoor		16	12,000	74
	Edward Hotel & Convention Center	Dearborn	5	773	Indoor	•	30+	62,000	74
	Holiday Inn Southgate Banquet & Conference Center	Downriver (I-75 corridor)	15	160	Indoor		8	9,000	77
	The Henry, an Autograph Collection by Marriott	Dearborn	5	323	Indoor	• \$	14	26,000	72
	Sheraton Detroit Metro Airport	Airport (I-94)	15	359	Indoor	•	14	14,000	71
HISTORIC	The Dearborn Inn, a Marriott Hotel	Dearborn	3	229	Outdoor		17	17,000	79
LIMITED SERVICE	Comfort Inn & Suites - Allen Park	Dearborn (I-94 corridor)	10	163	Indoor		2 (15 each)		79
	Comfort Inn & Suites - Dearborn	Dearborn	4	116	Indoor		1	250	70
	Comfort Inn & Suites - Taylor	Dearborn (I-94 corridor)	10	78	Indoor		1 (15)		69
	Comfort Suites - Southgate	Downriver (I-75 corridor)	15	78	Indoor		1 (50)		73
	Country Inn & Suites - Dearborn	Dearborn	7	100	Indoor	•	1 (55)		70
	Courtyard by Marriott - Detroit Dearborn	Dearborn	10	147	Indoor		2	1,274	72
	Hampton Inn - Detroit/Dearborn	Dearborn	3	96	Indoor		0		71
	Hawthorn Suites by Wyndham	Detroit	10	128	Outdoor	• \$	0		77
	Holiday Inn Express & Suites - Southgate	Downriver (I-75 corridor)	15	114	Indoor		1	400	77
	Marriott TownePlace Suites - Dearborn	Dearborn		148	Outdoor	• \$	0		77
	Red Roof Inn - Detroit-Dearborn	Dearborn	7	111		•	0		71
Staybridge Suites - Dearborn	Dearborn	7	99	Indoor	• \$	1 (35)		71	
BED & BREAKFAST	York House Bed & Breakfast	Dearborn	10	3			0		78
CAMPING	Camp Dearborn	NW Oakland County	45	191	Outdoor		0		78
	Detroit Greenfield Campground/RV Park	I-94 corridor	20	212	On lake	•	Outdoor pavilion	600	78

*Drive time in minutes to The Henry Ford.

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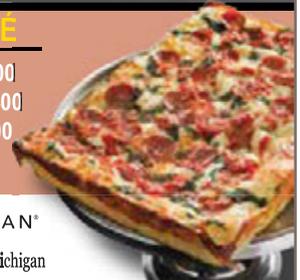
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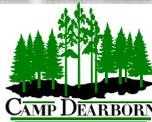
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A LOOK BACK

THE FIRST EAMES CHAIR IN MICHIGAN

The Eames molded plywood chair, known as the DCM (Dining Chair Metal) and nicknamed the “potato chip chair,” is one of the most recognizable pieces of 20th-century American furniture.

The design of these chairs emerged out of a strong sense of collaboration at the Eames Office and experimentation with modern production methods. From furniture to automobiles, the ideas behind the mass production of consumer goods — applied by designers Charles and Ray Eames and Henry Ford alike — are not too far removed from one another.

In 1946, Evans Products in California became the first company to produce Eames plywood furniture on a large scale. In 1949, the Herman Miller furniture company in Michigan purchased the manufacturing rights and equipment needed to make Eames chairs. Herman Miller continues to manufacture the DCM today, almost 70 years after it was created.



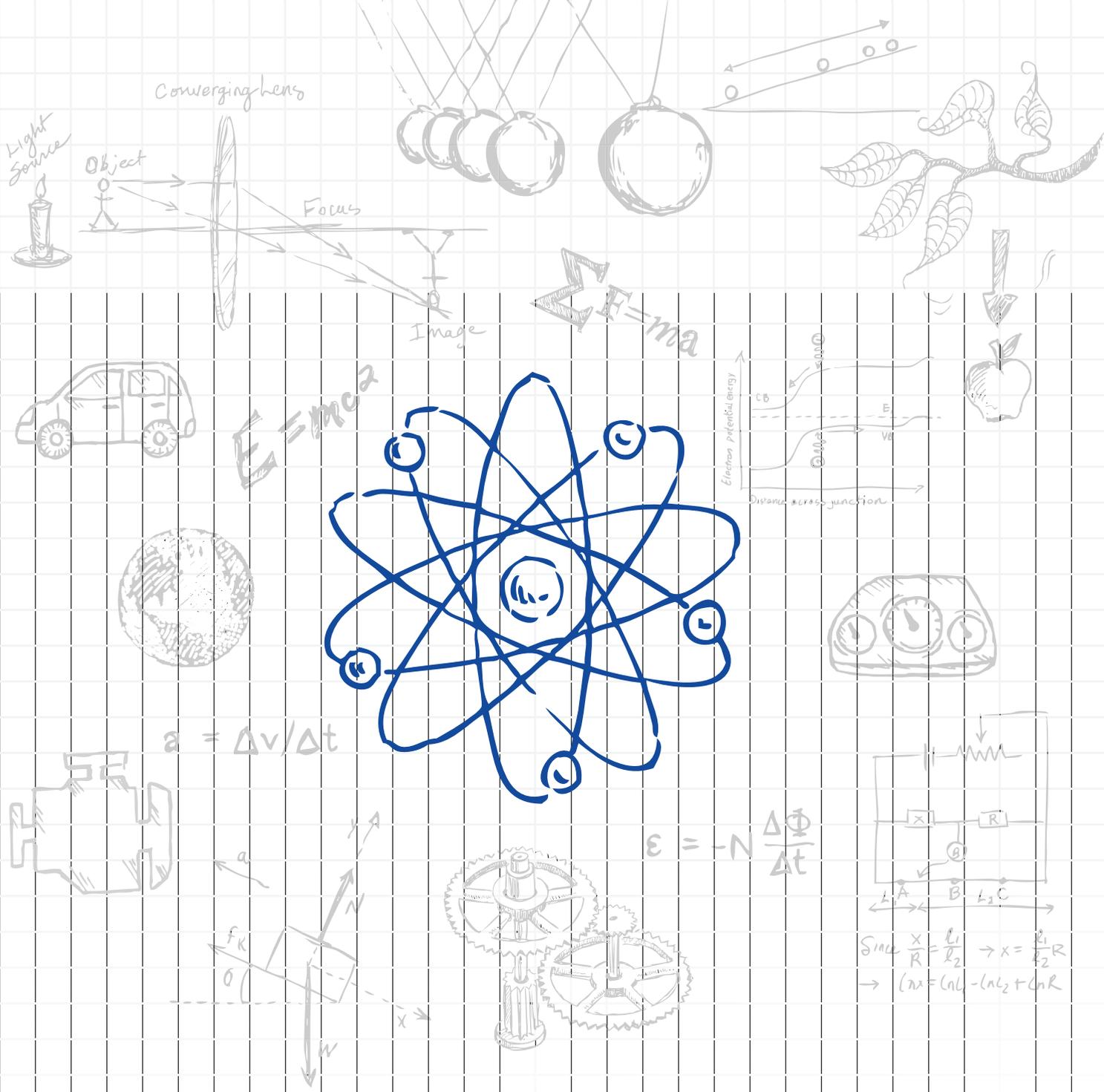
DID YOU KNOW? /

Charles and Ray Eames' early experiments with molded plywood chairs began in their Los Angeles apartment using a device they created called the “Kazam! Machine.”



◀ The plaque on the back of this particular DCM identifies it as the first molded plywood chair created at Herman Miller's manufacturing facilities in Zeeland, Michigan. It was later presented to D.J. De Pree, president of Herman Miller, in recognition of his 50 years of service to the company. The chair sat in De Pree's office for many years.

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