

CATALYST

DENVER MUSEUM OF NATURE & SCIENCE MAGAZINE
SPRING 2017

INSIDE ///

VIKINGS: BEYOND THE LEGEND
DREAM BIG 3D IN IMAX
GIRLS AND SCIENCE



From the Academy Award® Nominated Producers of **EVEREST** and **THE LIVING SEA**

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DREAM BIG

ENGINEERING OUR WORLD
3D



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Narrated by **JEFF BRIDGES**

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Dear Members,

The past three years have been particularly exciting at the Museum. Since the new wing opened, we have greatly increased opportunities to welcome many more new and old friends to our expanded space, exhibitions, and programs. But we haven't



only been considering what's going on inside our walls. The Museum is committed to listening and envisioning how to become most relevant in today's Colorado.

The Denver metro area is one of the most dynamic places in which to live these days, and our diverse communities have much to offer to make our beloved state a vibrant place to work and play. In the past, museums tended to develop experiences they thought *should* interest the public. We continue to actively hold conversations with our community to envision fresh possibilities for the future, some of which have come to fruition and some that are yet to be imagined.

Our collaborations in recent years have developed into very popular events, including Día del Niño and Girls and Science, both coming again this spring. The Museum has spilled out into the community at Cherry Creek Shopping Center, where hundreds of thousands of children and their families are delighting in the *Dinosaur Gulch* exhibit. We are also excited to announce that the Museum is busy working on brand-new hands-on experiences to take to schools. Using feedback and data from teachers, students, and school administrators, these opportunities are being designed to actively spark students' wonder, curiosity, and imagination and inspire them to take on challenges now and in their futures. You'll be hearing more about this in the coming months.

In 2016, the Museum served nearly 1.9 million people. These individuals from all walks of life engaged with us both onsite and offsite. Throughout our 116-year history, no matter what's going on in the world, the Museum has been open to everyone to offer enjoyment and enlightenment. We are so grateful to be a place where for an hour or all day, people of all ages and interests can ignite their passion for science.

Members, I am especially thankful for the relationship you have with us and look forward to working together to ensure our thriving institution positively impacts our community and our world.

George Sparks
President and CEO
president@dmns.org

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Join Our Community:



ON THE COVER

From the education collections

Norse helmet,
replica PA-2972

Hand forged using traditional
blacksmithing techniques
by Darrell Markewitz of
Wareham Forge in Canada



Rick Wricker



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MWH GLOBAL now part of **STANTEC**

BE INSPIRED BY WOMEN IN SCIENCE!

Where: Denver Museum of Nature & Science,
2001 Colorado Blvd., Denver, CO 80205

When: Saturday, March 4, 2017, 9 a.m.–6 p.m.

Tickets: This event is included in the price of
Museum admission.

Ages 3–18: \$4 general Museum admission

Members: Free

SNAP Access: Free, just show your EBT card at Ticketing

Military (current, reservist, and National Guard members): Free

Organized Youth Groups: Free, with advance reservations
at 303.370.6000

Scholarships Available*

What: The Denver Museum of Nature & Science and CBS4 are excited to host the third annual Girls & Science event. Come explore a variety of Science Clubhouses, where girls (and boys!) and their families will meet women scientists and experience the many diverse opportunities a future in science, technology, engineering, art, and math can bring. This day is all about igniting a passion for science—so try it on, test it out, and play!



www.dmns.org/girlsandscience

**Free admission is available for families that need financial assistance to attend this event. Please call 303.370.6000 in advance or see a Museum ticketing agent on March 4 for information.*



HEAVENS ABOVE

The Big and Little Dippers, fixtures of the northern sky, swing around the north star Polaris once a day, or actually every 23 hours and 56 minutes. The seven stars that comprise the Big Dipper (Ursa Major) will soon begin “springing up” in the sky and can be used to find and remember many of the stars and constellations of the season.

Starting with the two outer stars of the Big Dipper’s bowl, a line drawn from Merak up to Dubhe always points to Polaris. A line between the two inner stars, Megrez up to Phad, points to the constellation Leo the Lion and the bright star Regulus. Regulus marks the bottom of the sickle-shaped pattern of stars that form Leo’s head and mane. A triangle of stars to the left of the sickle represent Leo’s hindquarters. By early April, Regulus is well up in the southeast an hour after sunset.

Three stars, Alioth, Mizar, and Alkaid, mark the curved handle of the Dipper. Following this curve leads to the constellation Boötes, a long, kite-shaped collection of stars, the brightest of which is Arcturus. This red giant star is 37 light-years away and is the brightest star in the northern celestial hemisphere. It passes high overhead on late spring evenings. From Arcturus, look on to Spica, the brightest star in the constellation Virgo. This blue-white first-magnitude star is 250 light-years away. Spica rises in the east-southeast as the sunset glow fades in mid-April and is visible most of the night. Two months later it climbs to its highest point to the south in early evening. By the end of August, Spica can be viewed only briefly in the west-southwestern sky as darkness falls. Find out more about the spring sky @ dmns.org/heavensabove.

CALLING ALL TEENS WHO LOVE SCIENCE

Do you know a teen who's curious about a career in a science-related field? Teen Science Scholars offers students who are entering their junior or senior year of high school an opportunity to work with professionals in the Research and Collections Division. The scholars get to discover their full potential, explore their passion for science, and experience real science at its best. They also develop a peer network of students from across metro Denver and beyond. At the end of the summer, the scholars present an overview of their work at a special symposium.

More than 160 teens have participated in the program since 2007. The scholars have gone on to study science at such universities as MIT, Duke, and University of Denver. Applicants must demonstrate an interest in and commitment to pursuing a science-related career. Teens from groups underrepresented in the sciences are highly encouraged to apply. Applications are due by Wednesday, March 15. Find out more @ dmns.org/sciencescholars.

BUILD A MUSEUM FAVORITE

The Museum is partnering with the Denver Public Library on their annual LEGO contest. From April 8 to 15, LEGO fans of all ages are invited to go to their branch libraries to build creations inspired by the *Vikings* exhibition and Museum favorites. Prizes include Museum passes and other fun stuff! Find out more @ denverlibrary.org or your local branch.



DÍA DEL NIÑO IS FUN FOR EVERYONE

The Museum is pleased to continue its partnership with the Mexican Cultural Center and the Consulate General of Mexico to present the fourth annual Día del Niño celebration on Sunday, April 30. This SCFD Community Free Day has become one of the most popular events at the Museum! Enjoy music and dance performances by local community groups as well as special crafts and other science and nature activities.



GEM CARVINGS GET SPECIAL TREATMENT

The Museum welcomed Russian conservators Vadim Iakovlev and Nikolay Maresev, and their translator Svetlana Buylina, all from the Kremlin Museum in Moscow, for two weeks in January to work on the Konovalenko gem carvings. The Russian team examined, cleaned, and repaired all 20 of the sculptures displayed on Level 3 as well as a few in local private collections. In the photo, Iakovlev stabilizes *Bosom Pals*. The Museum has the largest public display of Vasily Konovalenko's work outside of Moscow.

PARDON OUR DUST

We are remodeling the north lobby! The new configuration will be completed in March, offering members and guests three new lanes to choose from for admission.

- Good to Go!: Present your membership card or print-at-home tickets, then directly enter the Museum.
- Ticketing Agent: Purchase tickets for IMAX, Planetarium, or special exhibitions; pick up tickets; or receive members services for renewals and tickets, then directly enter the Museum.

- Self-Serve Ticketing: Purchase IMAX, Planetarium, or special exhibition tickets on electronic kiosks, credit card only, then directly enter the Museum.

This new entry process allows you to start enjoying your Museum experience sooner and with greater ease. Roving ambassadors will be available to assist you when you visit.

VIKINGS

BEYOND THE LEGEND

THE VIKINGS ARE COMING!

Wanderer, warrior, friend, or foe? Who were the Vikings really? A myth-busting exhibition that has captivated more than a million people around the world opens at the Museum on Friday, March 10.

Vikings: Beyond the Legend lays to waste to the one-dimensional stereotype of bearded barbarians with horned helmets. Guests will marvel instead at a culture of surprising refinement, complexity, and achievement, inspired by a supernatural world inhabited by Thor, Odin and Freyja, and other gods, goddesses, and giants. The exhibition sets the story straight using artifacts and hands-on activities to reveal glimpses into family and community, religion and rituals, travel and trade, aristocracy and slavery, and the significant role of women.

These fresh insights revealed through archaeological discoveries show why the Vikings will always capture imaginations of all ages.

Highlights include

- two replica boats, named *Arby* and *Eik Sande*, meticulously re-created using Viking processes and materials of the time. The originals were used for local travel, along the coasts and on rivers.
- a “ghost ship” represented by a sculpture of 219 hanging iron rivets from an authentic aristocratic burial ship. All the wood from the boat disintegrated, leaving only the rivets situated in the ground.
- striking examples of the work of highly skilled craftspeople who creatively used textiles, wood, metal, bone, leather, glass, and ceramics to create pieces for domestic life, ornamentation, and battle.
- activities about everyday life, traditional clothing, the rune alphabet, authentic Viking games, and Norse mythology, and a chance to find out just how heavy those Viking swords really were.
- the oldest known Scandinavian crucifix—illustrating the transition between Old Norse religious practices and Christianity.
- the Museum’s historical enactors, who set the stage and bring the Viking Age to life.

Major support from **ICELANDAIR** 



Vikings: Beyond the Legend is a joint venture between and produced by the Swedish History Museum in Sweden and MuseumsPartner in Austria.

JUST THE FACTS

Here is a sneak peek of what you will discover in the new exhibition.

Viking is not a nationality. Between 750 and 1100 CE, the area now known as Denmark, Norway, and Sweden was inhabited by a mix of societies that had much in common but were not unified under one governing or belief system. They used the term “viking” to describe a trade expedition or a raid but did not use the word to describe themselves as a people. Over time, archaeologists and historians have come to refer to them as Vikings.

Vikings were warriors, but they were also farmers. Most Vikings carried scythes, not swords. While many did sail the seas and raid and trade with distant societies, most worked on farms tending to livestock or sowing crops to provide for their families. During their travels, they embraced trade with other nations, and many Vikings assimilated into the areas they initially raided.

Vikings cared about their appearance. Vikings were fastidious about their hygiene and appearance. Objects, fabric, and even human remains show they liked to wash up, dress up, and adorn themselves with

valuable embellishments. Significant numbers of Viking artifacts include combs, ear spoons, tweezers, and other grooming supplies.

Viking women had power. Norse women were both highly regarded and feared. Depending on their social status, Viking women could inherit property, request a divorce, and reclaim their dowries if their marriages ended. Aristocratic women were said to have special powers and believed to be able to predict and alter destiny, much like goddesses and mythical creatures.

Where are the horns? Although horned helmets have come to symbolize the Viking Age, this is historically inaccurate. The Romantic Age popularized the stereotypical Viking when one of the villains in Wagner’s opera *The Ring Cycle* wore a horned helmet. Artifacts show no evidence of horns. Viking helmets appeared on carvings, picture stones, tapestries, and other objects, and closer inspection has revealed that what appear to be horns were actually depictions of the heads of birds.

MEMBERS TIPS

Vikings: Beyond the Legend will be open March 10–August 13. Members Preview Day is Thursday, March 9. Find out more @ dmns.org/memberevents.

Members receive the best price on tickets. Timed tickets are required. Book your print-at-home tickets @ dmns.org/vikings and avoid a handling fee. An audio guide is available for an additional fee.

Reservations are also available at 303.370.6000 (daily, 9–5). There is a \$2 fee per ticket by phone. Afternoon is the best time to call.

Weekday late afternoons and weekend early mornings tend to be less busy in our temporary exhibitions. School groups generally visit during weekday mornings. Spring Break 2017 in metro Denver is March 27–31.

Giving Club members can access their “anytime” tickets electronically through their ecard or online Museum account. Your complimentary guest tickets may be upgraded for admission to *Vikings*.

Find out more about the exhibition and related programs @ dmns.org/vikings.

Below: Box brooch; FID 120461; bronze, gold, and silver; hoard find, Krasse, Guldrupe, Gotland, Sweden. © SHM 6387



WHO OWNS THE PAST?

BY CHIP COLWELL, PhD

In early 1991, two curators were driving south along I-25. In the back seat were six living gods. Joyce Herold and Bob Pickering were headed for Santa Fe. There they would meet religious leaders from the Zuni Tribe who wanted their War Gods, which take the form of wooden carvings, returned. It would be the first repatriation by the Denver Museum of Nature & Science.

“Repatriation” derives from the Latin *repatriatus*, meaning to go home again. In the last several decades, repatriation has become a global controversy as communities and nations struggle to reclaim their stolen heritage from museums and private collections. The debates are now familiar, if not often well understood: the ancient Parthenon Marbles in the British Museum claimed by Greece, the priceless Machu Picchu artifacts at Yale returned to Peru, and art looted by the Nazis claimed by the descendants of Holocaust victims. Throughout the United States similar disputes have developed as hundreds of tribes have confronted 1,500 museums over the fate of 200,000 Native American skeletons and 1 million grave goods and sacred objects.

In recent years, I have studied this great flow of material from museums back to their sources to understand both what has been lost and what has been gained. In a new book, *Plundered Skulls and Stolen Spirits*, I illuminate how repatriation has become an imperfect but necessary tool to resolve the collision of worldviews between scientists and Native Americans—to decide the nature of the sacred and the destiny of souls.

The modern museum was built on the collection of curious, rare, and important objects from nature and societies around the world. These objects were often excavated, purchased, or traded. Most of them have advanced scientific knowledge and helped museum visitors gain an appreciation for the world’s wondrous diversity. However, some objects were collected in a way that violated traditional customs and beliefs; some were even stolen.

For more than a century, Native Americans protested the most egregious collectors. In 1869, for instance, a U.S. Army surgeon aimed to collect heads of Pawnee warriors after a skirmish. “I had already obtained for the [Army Medical Museum] the skull of one of the Pawnees, killed in the fight,” the surgeon wrote, “and would have had all had it not been that immediately after the engagement, the Indians lurked about their dead and watched them so closely that the guide

I sent out was unable to secure but one.” Another early example: in 1938, Hidatsa elders convinced New York’s Museum of the American Indian to return a pilfered sacred bundle so that rain would fall again in North Dakota.

Native American claims only gained traction in the road leading from the civil rights movement. In 1978, the Zuni Tribe became the first to systematically seek the return of a cultural object. Every year, Zuni priests carve two *Ahayu:da* (War Gods) into life from wood and ritually place them on open air shrines to protect the Zuni people. Starting in the late 1800s, War Gods started to disappear, taken by anthropologists and collectors.

One of the first places Zuni tracked the War Gods was the Denver Art Museum. After a year of intense negotiations, DAM released two War Gods to the tribe in 1979. But War Gods were in dozens of museums. Our Museum had six, but administrators, as at most museums, fretted over how returning objects would violate their public trust responsibilities. They feared Native claims would empty storage shelves.

In 1990, Congress passed the federal Native American Graves Protection and Repatriation Act (NAGPRA), establishing a process to return sacred objects and human remains from museums. The next year, Joyce and Bob returned the six War Gods to the Zuni during a brief private ceremony.

In the last 26 years—after a very intentional process involving hundreds of calls, letters, and meetings with nearly 800 tribal communities—the Museum has returned 100 sets of human remains, 300 funerary objects, and 200 sacred and communally owned objects. We have returned everything from a single tooth to the magnificent Killer Whale Flotilla Robe owned by the Tlingit clan in Alaska. Although this is a substantial number, the fear of an empty museum was overblown. Less than 1 percent of the Museum’s anthropology collections have been repatriated, although more items are subject to the law.

Repatriation, though, is not about what is lost because so much is gained. My research took me to Oklahoma where I spoke with Cheyenne and Arapaho elders who reburied a scalp taken during

the Sand Creek Massacre, giving them the chance to heal the wounds of history. In New Mexico, I saw the shrine where 106 War Gods now live on. I have seen how our Native Sciences Program—in which we offer internships, fellowships, college scholarships, and a monthly film series partnership—proves the Museum’s relevancy in the age of repatriation.

I have learned that museums do great work by preserving the objects that document humanity’s legacy. But we must care as deeply about the people whose cultures infuse those objects with meaning. Native Americans do not only have a past. They also have a future.

DISCOVER MORE

Dr. Chip Colwell is senior curator of anthropology and NAGPRA officer in the Department of Anthropology. Find out more @ dmns.org/science/museum-scientists.

Colwell’s new book, *Plundered Skulls and Stolen Spirits: Inside the Fight to Reclaim Native America’s Culture*, published by University of Chicago Press, is available through your favorite bookseller or in the Museum Shop where members receive a 10 percent discount.

Colwell will discuss his book during a lecture and book signing on Thursday, March 23. Tickets @ dmns.org/afterhours.

Find out more about the free monthly Indigenous Film series @ dmns.org/adults.



Above: Members of the Tlingit Killer Whale Clan in Alaska commemorate the 1997 repatriation of an object held by the Museum’s anthropology collections. Facing page: In this formal portrait, Charlie Jones, known as Chief Shakes VII, wears a Killer Whale Flotilla Robe held and repatriated by the Museum (P421-237, © Alaska State Library, Dora M. Sweeney Photo Collection).



MARSHALL ISLANDS NAVIGATION CHART

BY STEPHEN NASH, PhD

How did we ever get along without high-tech navigational aids, such as the Global Positioning System? GPS units became common in cars and on phones in just the last 15 years or so. I remember when a road trip required a stop at the local AAA office to gather route maps, and well-traveled road warriors had at least one dog-eared copy of a Rand McNally Road Atlas in their cars. Those days are gone for many, and I miss them.

Of course, for millennia humans had to find their way without sophisticated technology. As you will see in the new temporary exhibition *Vikings: Beyond the Legend*, these roving Scandinavians relied on information about routes, tidal currents, and other vital details passed among generations rather than on instruments or sophisticated navigational calculations. They also were master ship builders, which primarily contributed to their ability to so widely expand their reach.

You also now have an opportunity to see one of the more fascinating objects in the Museum's anthropology collections, which challenged my own preconceived notions. It is a "stick chart" documenting the greater Marshall Islands region in the South Pacific. The navigation chart (A926.1) is newly displayed in South Pacific and Australia Hall.

Located about 2,500 miles southwest of Hawaii and 1,900 miles northeast of Papua New Guinea, the greater Marshall Islands region includes 29 coral atolls and five coral islands scattered along two parallel chains that stretch from northwest to southeast in lines roughly 500 miles long. At sea level, and to the uninitiated, the area seems a confusing mix of terribly small islands dispersed across large, dangerous expanses of open ocean.

Known locally as a *rebbelib*, this arrangement of bamboo sticks and cowrie shells appears haphazard, but the sticks represent ocean currents, wind patterns, and wave swells well-known to Marshallese navigators. The cowrie shells represent island groups.

Even more remarkable than the object is the apprenticeship and testing required to become a fully sanctioned *ri-meto*, or navigator, in Marshallese society. After years of practice, an apprentice is blindfolded and taken by canoe to a remote, undisclosed part of the ocean, far from visible land. He is told to lie down in the bottom of the canoe. His blindfold is removed, and he's able to see only the sky above. He stays there, motionless, literally feeling his way across the currents and swells. The canoe acts as an extension of his body, amplifying the maritime signals as they reverberate across its wooden planks and crossbeams. His job is

to determine his location by comparing the influx of tactile data to his cognitive map. Once oriented, he's allowed to rise and sail to where he thinks land should be. Either he makes landfall or he doesn't.

Anthropologist Joseph Genz recently documented the efficacy of this technique through controlled experiments, but proof also exists in the archaeological record. Archaeologists have determined that even the most remote Pacific islands were inhabited by human beings long before the advent of modern navigational techniques. Australia, the island continent, was inhabited more than 50,000 years ago, despite never being connected to Southeast Asia by a land bridge, not even during the peak of the last ice age. Humans got to Australia by crossing miles and miles of open water in some kind of seaworthy vessel.

Humans inhabited Easter Island by about 400 CE. Located 2,300 miles west of Chile and more than 2,500 miles east of Tahiti, the island is arguably the most remote place on Earth. How did people get there?

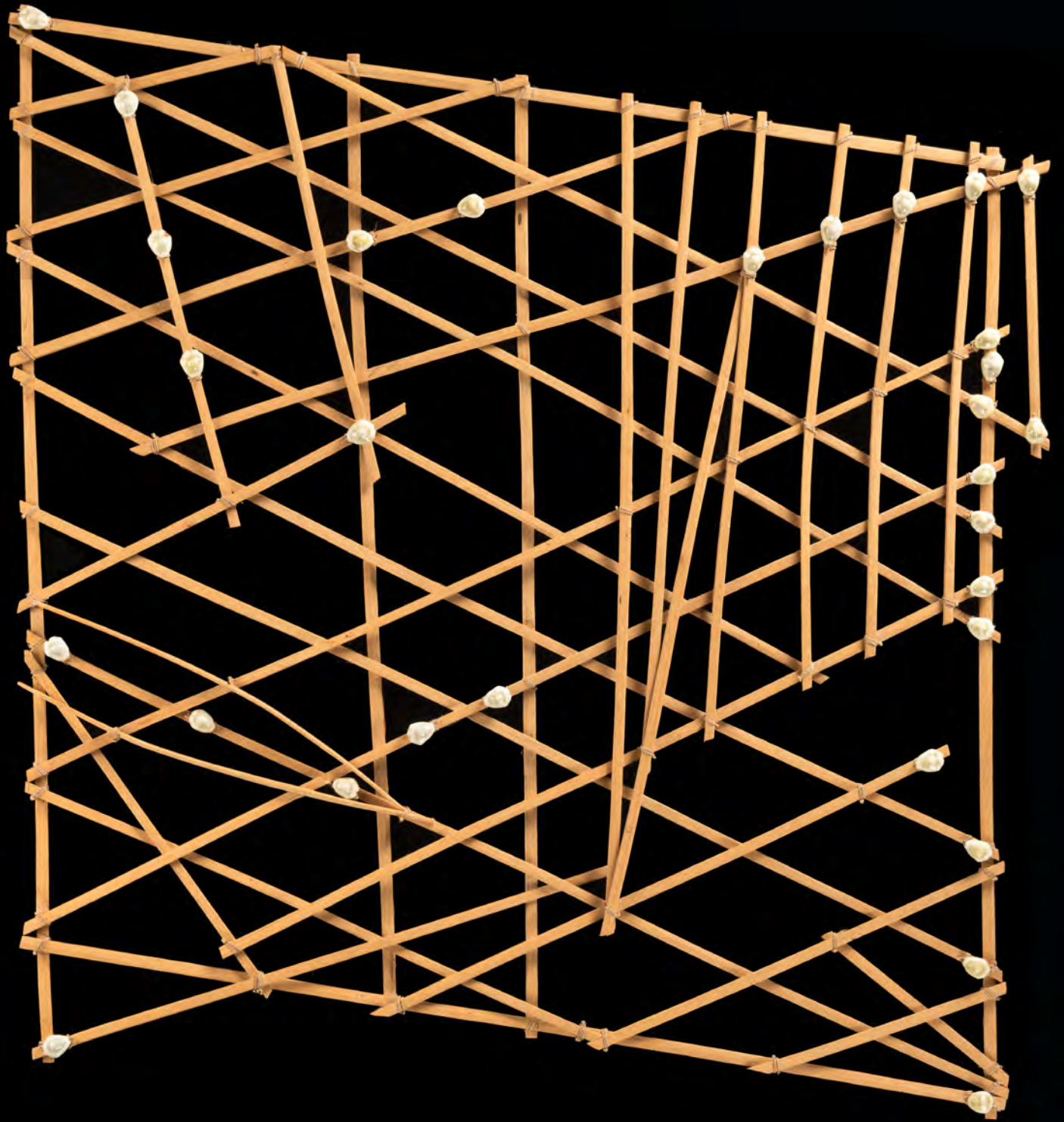
They almost certainly made use of celestial navigation techniques, but they also likely used objects such as stick charts to document the regional geography.

The next time Siri says you missed a turn, be grateful that you're not blindfolded in the bottom of a canoe. Enjoy the trip!

DISCOVER MORE

Dr. Steve Nash is curator of archaeology and chair of the Department of Anthropology. Find out more @ dmns.org/nashlab. This article is a revised version of a blog that originally appeared at sapiens.org, an online magazine dedicated to publishing anthropology's most relevant news and research.

Next time you're in the Museum, drop by two new exhibit cases in South Pacific and Australia Hall on Level 2. Dozens of specimens and artifacts from the zoology and anthropology collections, including the navigation chart, are on display, telling the rich story of this beautiful part of the world.



PLAN NOW FOR AN ENDURING FUTURE

Since its founding, vital community and individual support has allowed the Museum to grow into a thriving institution. By planning now for the future, you have the opportunity to ensure that the Museum's mission endures for generations to come. There are many options for creating a planned gift that will meet your needs while supporting the Museum. Find downloadable brochures and a free Estate Planning Kit to help you get started or evaluate your current plan @ dmns.planmylegacy.org.



Donate your used car, boat, motorcycle, truck, or RV to the Museum and support your favorite cultural institution while receiving a tax deduction. The Museum is partnering with Cars Helping Charities to give you the opportunity to quickly and easily donate a vehicle in any condition. Find out more or schedule a pickup @ dmns.org/give/vehicle-donation or 866.697.0697.

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Your employer might be one of 10,000 companies that matches employee donations to nonprofits such as the Museum. See your personnel office for more information and forms.

Please join us and support the Museum's signature fundraising event,

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THE ROCK COLLECTION

FRIDAY 06 • 09 • 2017

6:30 ^P/_M

Cocktails and
silent auction

8:00 ^P/_M

Dinner

9:30 ^P/_M

Flash Cadillac
rock'n'roll performance

9:30 ^P/_M — **1:00** ^A/_M

AFTER DARK SOIREE

Hosted by the Museum's Young Professionals Entertainment, dancing, cocktails, and dessert

Black tie • Valet parking

For more information visit

dmns.org/mad

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DIAMONDS REALLY ARE FOREVER

BY JAMES HAGADORN, PhD

Our Museum has the largest collection of diamonds of any museum in the world. Donated by the late Paul Seel, thousands of these minute crystals are stowed in a secluded area behind a diorama and will soon be moving to their new home in the Avenir Collections Center. But unlike diamonds that end up on rings, these have astounding stories to tell.

Diamonds are birthed deep within Earth, congealing from hot fluids under high pressure and temperature. They blast to the surface in super-volcanic eruptions, like the ones that formed the ring-shape diamond deposits along the Colorado-Wyoming state line. Diamonds are the hardest mineral, so when the rocks that contain them are worn down by the elements, the diamonds remain behind. They become concentrated in river gravels and dune sands, just like placer gold nuggets. Such diamonds can persist on the surface for billions of years, making them the ultimate time capsules from eons ago.

Mr. Seel was a hobbyist collector and avocational mineralogist who acquired surface diamonds by the thousands, as well as ones mined below ground. He built his collection by traveling, trading, buying, and befriending diamond dealers the world over. He would meet with them and sort through thousands of stones, just to find a couple worth keeping. He had a special eye; instead of looking for the everyday crystals that jewelers might facet, he sought out the ugly ducklings and oddballs. These were the crystals that had holes like Swiss cheese, atypical shapes like triangles or cubes, unusual colors like purple or lime green, or contained microscopic blebs of liquid or other unknown gunk.

New analytical techniques are available that allow us to identify this gunk and understand how these weird crystals formed. As a result, the Museum's diamond specimens are quickly becoming a treasure trove of untold scientific information.

The first efforts to mine these specimens for new knowledge was published in the journal *Lithos*. Jim Hurlbut, longtime department associate in Earth Sciences, and I worked with a team of Canadian "diamondologists" to examine a portion of the Seel collection to decipher how an unusual chunk of Africa formed, and how it survived a harrowing bumper-car journey of tectonic collisions and volcanic eruptions.

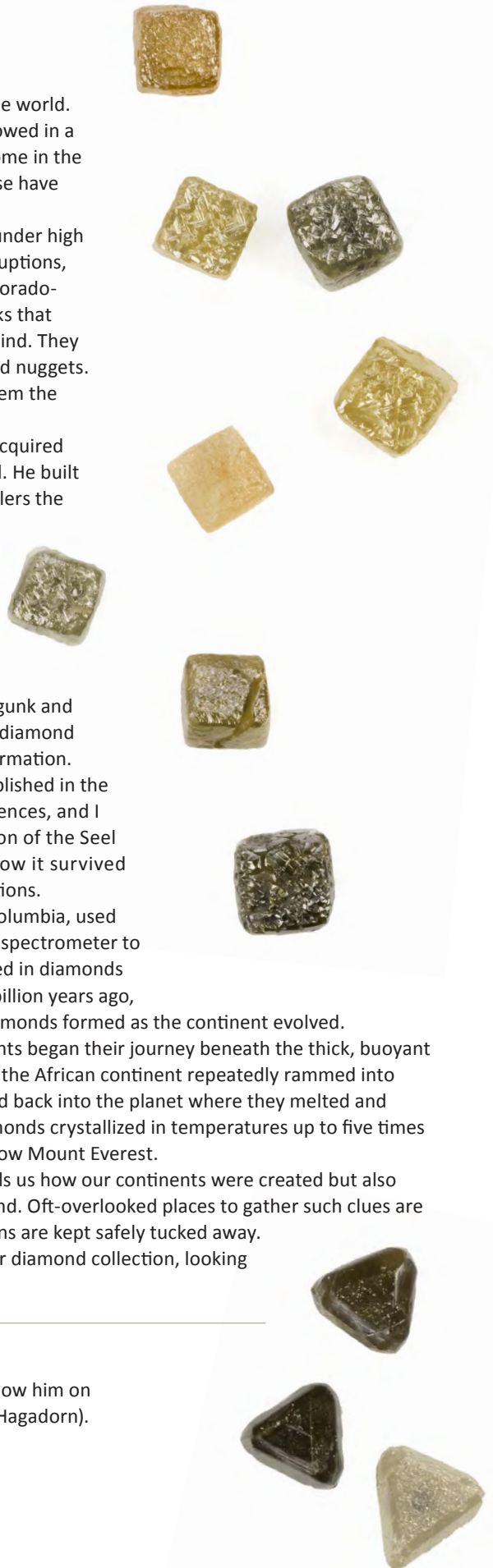
The team, led by student Chuck Kosman of the University of British Columbia, used an electron microprobe, infrared spectrometer, and secondary ion mass spectrometer to analyze the chemistry of microscopic contaminants, or inclusions, trapped in diamonds from the Democratic Republic of the Congo. The inclusions, formed 3.5 billion years ago, permitted us to reconstruct the region's tectonic history because the diamonds formed as the continent evolved.

In this case, the Congo diamonds grew as thinner continental fragments began their journey beneath the thick, buoyant continental crust of central Africa. Like a bull in a china shop, this part of the African continent repeatedly rammed into smaller and thinner continent fragments, forcing them to slide downward back into the planet where they melted and triggered formation of diamonds. Scorching conditions ensued, and diamonds crystallized in temperatures up to five times as hot as your oven (about 2500°F) and pressure 10 times that found below Mount Everest.

Knowing how and where diamonds like these are formed not only tells us how our continents were created but also informs our ability to predict where future diamond deposits can be found. Oft-overlooked places to gather such clues are museum collections, where thousands of diamonds from remote locations are kept safely tucked away. Since this research was published, other scientists have begun to visit our diamond collection, looking to discover new pearls of information from these very old crystals.

DISCOVER MORE

Dr. James Hagadorn is the Tim and Kathryn Ryan Curator of Geology. Follow him on Instagram ([jwhagadorn](#)), Twitter ([@JamesWHagadorn](#)), or Facebook ([JWHagadorn](#)). Read the findings @ www.sciencedirect.com.



IMPORTANT INFORMATION ABOUT YOUR CARD

We recently upgraded our technology systems, and as a result all members need an updated card. If you currently have a plastic card that says MEMBER on the front (dinosaur side), you must choose one of two options per named member:

- If you would like to continue using a plastic card, please see an agent at Ticketing in the main lobby for assistance or scan your existing card at a Self-Serve kiosk to print a new card.

- If you'd prefer to carry one less card in your wallet, download our free eCard app through your app store. You'll enjoy the convenience of sharing your passes and many other benefits through your smartphone.

Members tip: Update your membership card before popular events such as Girls and Science on March 4 and proceed directly to the ticket taker!



MEMBERS APPRECIATION DAY Sunday, May 7

Enjoy these special discounts just for you!

- 20% off on select items* in the Museum Shop
- 20% off in the T-Rex Cafe and Grab & Go
- 10% off gift memberships
- 50% off IMAX and Planetarium tickets

*Extra 10% discount does not apply to DVDs, CDs, and books. Special offers are valid in person only and must be used on May 7, 2017, and are not redeemable over the phone or online.

GET THE MOST FROM YOUR MEMBERSHIP

- Visit anytime for free 364 days a year!
- Read the monthly eNews with members-only news, tips, and special offers. Not receiving eNews or advance notifications? Send your email address to members@dmns.org.
- Keep your membership current with Auto-Renew, an easy automatic renewal process. Enroll @ 303.370.6306 (daily, 9–5) and get a free gift. Your expiration date is printed on the mail label on the back of this magazine.
- Add another adult to your membership for just \$50. This is a great option for nannies and grandparents, and the add-on member enjoys many benefits! Not valid on Individual level memberships.
- Visit 350 science centers and museums using your free admission through the ASTC Passport Program. Free admission begins outside a 90-mile radius of Denver and your residence. Find out more @ astc.org/passport.
- Upgrade to the Family Plus level or higher and enjoy free admission at the Fort Collins Museum of Discovery.

THANK YOU FOR YOUR SUPPORT!

Your membership helps us provide outstanding science education programs, exhibitions, and research.

GIFT CARDS ARE A FUN GIFT FOR MOM

Looking for a unique Mother's Day gift? Let her choose her own adventure with a Museum gift card! The cards may be redeemed for admission tickets, programs and lectures, memberships, and in the shops operated by the Museum. The cards are available in amounts from \$25 to \$250, and they never expire. You may purchase a gift card onsite at the Members Lane, online at dmns.org, or by phone at 303.370.6000.



WE'RE HERE FOR YOU

- 303.370.6306 (daily, 9–5)
- members@dmns.org
- www.dmns.org/members
- Members Lane at Ticketing



FUN BENEFITS, VITAL SUPPORT: GET THE MOST OUT OF MEMBERSHIP

Every level of membership offers great benefits and supports the Museum's commitment to inspiring and serving our community. When you upgrade to the Giving Club, you will increase your support and enjoy the Museum even more.



Curator level and above members receive many additional exclusive events and benefits!

- Free tickets to surcharged exhibitions, including *Vikings: Beyond the Legend*.
- Free IMAX and Planetarium tickets to use yourself or share with others.
- IMAX Family Night, Wednesday, July 19, with complimentary snacks and activities.
- Behind-the-Scenes Night, Thursday, October 12, to meet Museum scientists, explore treasures not on public display, and enjoy fun snacks and cash bar.
- One free add-on member, perfect for a nanny or grandparent. A \$50 value!
- Free general admission to the Fort Collins Museum of Discovery, in addition to 350 science centers and museums around the country.

Upgrade and start enjoying these benefits today @ dmns.org/givingclub, and enter promo code US17-GCUPGCAT. It is easier and more affordable than ever to become a Giving Club member with monthly installments of as little as \$25 per month! Details @ 303.370.6306.

DISCOVER

ADULTS | CHILDREN | FAMILIES | TEENS

SPRING 2017





MARCH 16: TIME TRAVEL

Rewind for a journey through eras long past, then fast-forward into future epochs on an exploration of time. Hop through decades of Museum mysteries, figure out what makes the atomic clock tick, and debate the scientific plausibility of pop culture time travel before sipping a timeless cocktail at the bar.

APRIL 20: CANNABIS

Heighten your knowledge of cannabis, the most famous of plants. Find out about its genetic diversity and its connection to one of our favorite beverages—beer! While there won't be any of this botanical wonder at the event, you will consume plenty of mind-expanding knowledge. Be cool, please: The Museum is a non-smoking, non-vaping, non-edibles facility.

MAY 18: ENJOY THE SCENERY

Experience extraordinary locales right within the walls of the Museum! Sketch the view from the top of a 14er, or trudge along an arctic landscape with a pack of wolves. Learn how zoologists and artists brought these wildly realistic wildlife scenes to life. How do you get a polar bear to pose or a cheetah to cheese it up?

BUY TICKETS AT DMNS.ORG/SCIENCELOUNGE
\$13 MUSEUM MEMBER, \$15 NONMEMBER

MEDIA SPONSORS

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[THE DENVER MAGAZINE]

Westword

SPRING 2017

EXHIBITIONS

Vikings: Beyond the Legend

March 10–August 13 • Phipps Gallery • special ticket required
Fresh insights revealed through new archaeological discoveries and more than 500 treasures show why the Vikings will always capture our imagination.

Nature's Amazing Machines

June 16–January 1 • Anschutz Gallery
Discover how a giraffe's heart pumps blood up its long neck, how a toucan stays cool in the jungle, how insects breathe without lungs, and other marvels of natural engineering.

Ultimate Dinosaurs

October 6–January 15 • Phipps Gallery
Meet *T. rex*'s biggest, baddest, newest members of the family! Go beyond the familiar dinosaurs and see some of the most spectacular fossils unearthed in recent years.

PHIPPS IMAX 3D THEATER • Now showing

Dream Big 3D: Engineering Our World

Extreme Weather 3D

Wild Africa 3D

GATES PLANETARIUM • Now showing

Black Holes: The Other Side of Infinity

Cosmic Journey

Destination Solar System

One World, One Sky: Big Bird's Adventure

ADMISSION

Museum admission is free for members every day! Members receive discount tickets for *Vikings: Beyond the Legend*.

| | MUSEUM | IMAX | PLANETARIUM |
|----------------------------|--------|------|-------------|
| Adult member | FREE | \$7 | \$5 |
| Senior member (65+) | FREE | \$6 | \$4 |
| Child/Junior member (3–18) | FREE | \$6 | \$4 |


The Museum is open daily 9 a.m.–5 p.m. with extended hours at various times.

Dates, times, prices, and schedules subject to change.



Find more ways to discover @ dmns.org.

Cover: 10th-century trefoil brooch, replica, PA-2950, from the education collections

MARCH 2017

| SUN | MON | TUE | WED | THU | FRI | SAT |
|---------------------------------|--|-----|---------------------------------|--|---------------------------|-----------------------|
| | | | Invertebrate Paleontology, p. 8 | Science of Beer and Food, p. 5 | | Girls and Science Day |
| <i>Discover more @ dmns.org</i> | | | 1 | 2 | 3 | 4 |
| | | | Indigenous Films, p. 5 | Vikings members preview | Vikings opens | |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Daylight saving time begins | SCFD Community Free Day  | | | Science Lounge, inside cover | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| | Discovery Zone Fun, p. 11 Spring equinox | | | Plundered Skulls and Stolen Spirits, p. 5 Engineers for Families, p. 11 | The Last Question, p. 6 | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Spring Break Camp, p. 11 | | | | | | |
| | | | 60 Minutes in Space, p. 6 | Bird Walk, p. 9 | Viking Bash for 21+, p. 6 | |
| 26 | 27 | 28 | 29 | 30 | 31 | |

APRIL 2017

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----|---|---------------------------------------|--|--|-----|---|
| | | | | | | 1 |
| 2 | 3 | 4 | Evening to "Dream Big," p. 6 | Vikings members only (21+) | 7 | 8 |
| 9 | SCFD Community Free Day  SCFD Scientific & Cultural EXPLORING & DISCOVERING GETTING HANDED BY POSSIBLE | Rivers of the Front Range, p. 8 | Indigenous Films, p. 5 | Digital Earth, p. 7 Bird Walk, p. 9 | 14 | Geology Rocks!, p. 11 15 |
| 16 | Discovery Zone Fun, p. 11 | Vikings members only | 19 | Science Lounge, inside cover | 21 | 22 |
| 23 | SCFD Community Free Day (Día del Niño)  SCFD Scientific & Cultural EXPLORING & DISCOVERING GETTING HANDED BY POSSIBLE | Geography of People, p. 8 | 60 Minutes in Space, p. 6 Vikings North Atlantic Saga, p. 7 | 27 | 28 | Dissection Connections, p. 11 29 |
| 30 | 24 | 25 | 26 | 27 | 28 | 29 |

MAY 2017

| SUN | MON | TUE | WED | THU | FRI | SAT |
|-----------------------------|------------------------------|-----|--|-----------------------------------|----------------------------------|-----|
| | | | | Carolyn Finney, p. 7 | | |
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| Members Appreciation Day | | | Indigenous Films, p. 5 Digital Earth, p. 7 | Digital Camera course, p. 9 | Family Viking Feast, p. 11 | |
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| | Discovery Zone Fun, p. 11 | | | Science Lounge, inside cover | | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
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| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| | | | 60 Minutes in Space, p. 6 | | | |
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A F T E R H U R S

AT THE MUSEUM

Encounter new ideas, cutting-edge science, and captivating individuals.



The Science of Beer and Food

Love beer and food? So do we, but the science behind why we find certain pairings so satisfying isn't clear. Participate in real research led by curator and taste expert Nicole Garneau and her partners from the American Society of Brewing Chemists, the Brewers Association at CraftBeer.com, and the Cicerone Certification Program. You and your fellow beer

lovers, citizen scientists, and foodies will enjoy specifically designed beer and food tastings while your feedback helps to crack the beer pairing code. Includes beer tastings and dinner.

Thursday, March 2 • 6:30 p.m. • \$38 member, \$43 nonmember • ages 21+

Indigenous Films

The Museum is pleased to partner with the International Institute for Indigenous Resource Management and the Denver American Indian Commission to present Indigenous Films, a monthly series. Join us for a variety of offerings, from documentaries to feature films and youth film showcases, and participate in a discussion with members of the Denver American Indian Commission and other special guests. Concessions available for purchase. Film titles at dmns.org/learn/adults.

Wednesdays, March 8, April 12, May 10 • Phipps Theater • 6:30 p.m. • free

Plundered Skulls and Stolen Spirits

Five decades ago, Native American leaders launched a crusade against museums to reclaim their sacred objects and to rebury their kin. The repatriation controversy has grown in recent years as hundreds of tribes have used a landmark federal law to recover their looted heritage from American museums across the United States. *Plundered Skulls and Stolen Spirits*, a new book by Chip Colwell, senior curator of anthropology, is an unflinching insider's view of the tangled debate over who owns the past. Colwell will share his personal journey to understand how repatriation has transformed both museums and tribes, along with the stories of four objects from the Museum and how they were created, collected, and returned to their sources. These tales reveal the complicated process that involves not merely obeying the law but negotiating the thin lines between identity and morality, spirituality and politics.



Thursday, March 23 • 7 p.m. • Ricketson Auditorium • \$8 member, \$10 nonmember • book sale & signing

Isaac Asimov's The Last Question

In 1979, the Museum produced *The Last Question*, a planetarium show based on a short story by acclaimed science fiction writer Isaac Asimov and narrated by the legendary Leonard Nimoy. The story takes place in 2061 and begins with a simple question posed to a computer. Now you can experience the cerebral tale as never before during this totally-out-there event that combines visual elements digitized from the original glass slides, Nimoy's voiceover, and today's advanced planetarium technology. Swing by the cash bar before the show, and view items from the Museum archives, including objects related to Asimov and Nimoy. Ka Chun Yu, curator of space science, will lead a Q&A after the program. No late admittance.

Friday, March 24 • 6:30 or 8:30 p.m. • \$12 member, \$15 nonmember • cash bar

60 Minutes in Space

Go "behind the stories" with space scientists who will use the best images and animation available to help you understand new developments in space exploration. No reservations required; seating is first come, first served.

Wednesdays, March 29, April 26, May 31 • 7 p.m. • Gates Planetarium • free

Viking Bash

Revel, imbibe, bust myths, see replica ships, and explore a Viking camp with the local Fjellborg Viking Reenactor Society, including wild steel weapon combat! Travel to distant lands and times in the temporary exhibition, *Vikings: Beyond the Legend*. Costumes are encouraged! Please register for a timed ticket to the exhibition between 7:10 and 8:30 p.m. Ticket also includes one drink and appetizers.

Friday, March 31 • 7–10:30 p.m. • \$38 member, \$43 nonmember • ages 21+



An Evening to "Dream Big"

Join Greg MacGillivray, producer and director of some of the most successful giant screen documentaries, as he shares stories from his latest film, *Dream Big 3D: Engineering Our World*. This dynamic new IMAX experience takes you around the world to explore engineering marvels both large and small, ancient and modern. From the Great Wall of China to the high-tech Shanghai Tower, from underwater robots to solar powered cars, you will see how human ingenuity pushes the limits of innovation and inspires the great minds of tomorrow.

Wednesday, April 5 • 7 p.m. • Phipps IMAX Theater
• \$12 member, \$15 nonmember

Digital Earth: Pompeii

Travel alongside Wayne Lorenz of Wright Water Engineers and follow the path of the ancient aqueduct that served Pompeii and the Naples Bay area. Lorenz has studied ancient Roman water supplies for nine years and will share his panoramic photos of these awe-inspiring features. Start in the Apennine Mountains from the Dragon's Mouth to see the springs tapped by the Romans. Then fly along the alignment of the Augustan (Serino) Aqueduct, focusing on focal points of Lorenz's scientific research along the way, including Pompeii and its water systems. End up in the large Piscina Mirabilis storage reservoir, which served the western Roman naval fleet with potable water.



Thursday, April 13 • 7 p.m. • Gates Planetarium • \$8 member, \$10 nonmember

Vikings: The North Atlantic Saga

Take an in-depth look at the dramatic Viking expansion across the North Atlantic from 850 to 1000 CE with William Fitzhugh, of the Smithsonian Institution, as he corrects popular beliefs about the so-called Vikings of North America using new archaeological evidence from arctic and subarctic regions. Fitzhugh will also highlight the likely causes of the western Norse colonies' failure and whether these implications may impact future arctic exploration.

Wednesday, April 26 • 7 p.m. • Phipps Theater • \$12 member, \$15 nonmember

Black Faces, White Spaces: A Conversation with Carolyn Finney

In the compelling debut book *Black Faces, White Spaces*, Carolyn Finney explores why African Americans are so underrepresented when it comes to interest in nature, outdoor recreation, and environmentalism. Finney argues that the legacies of slavery, Jim Crow, and racial violence have shaped cultural understandings of the "great outdoors" and determined who should and can have access to natural spaces. As a member of the U.S. National Parks Advisory Board and a cultural geographer at the University of Kentucky, Finney is at the forefront of a movement to understand how people negotiate their relationship to the environment. During this evening of impactful discussion, Finney will address how art, science, and popular culture create frameworks for engagement among individuals, communities, and organizations to nurture healthy relationships between humans and the environment. This is the second George McJunkin Lecture, in honor of the African American cowboy whose discovery of ancient bison bones in Folsom, New Mexico, helped make archaeological history.

Thursday, May 4 • 7 p.m. • Ricketson Auditorium • \$8 member, \$10 nonmember

Digital Earth: Iceland and Greenland

Follow the footsteps of early Viking explorers and settlers from the comfort of a Gates Planetarium seat. We often think the Vikings misnamed Greenland and Iceland, but did they? Discover how changes in geology and climate influenced the destiny of these early voyagers.

Wednesday, May 10 • 7 p.m. • \$8 member, \$10 nonmember • Gates Planetarium

COURSES

Invertebrate Paleontology II: Mesozoic and Cenozoic

The modern groups of abundant invertebrates arose from the ashes of the Permian-Triassic extinction. Mollusks, crustaceans, and echinoids became dominant and remain so today. With research associate Emmett Evanoff as your guide, examine the fossil groups that were most significant during this second stage of invertebrate history.

Wednesdays, March 1–29 (no class 3/15) • 6:30–9 p.m. • \$110 member, \$140 nonmember



Rivers of the Front Range Through Time and Space

Explore the ancient and modern rivers of the Front Range. Ancient rivers deposited the bedrock aquifers that we rely on for drinking water in Douglas County. More recently, gold nuggets and flakes flowed from the veins of the mountains to the placer mines of the plains, and today floods continue to modify our landscape. Two field trips will present an opportunity to examine the ancient and modern rivers and their sediments, with a special focus on the pebbles and what they tell us about the geology of each river's headwaters.

Tuesdays, April 11 & 18 • 6:30–8:30 p.m. • field trips: Saturdays, April 15 & 22 • \$150 member, \$180 nonmember

The Geography of People

Using the state-of-the-art visualization technology of Science on a Sphere in *Space Odyssey*, explore patterns of human settlements and the forces that influence the lives of people around our globe. Geologist Bob Reynolds will examine Earth's geological framework and how it influences our human habitat. Humans have spread across the entire globe and our population grows daily. Though we strain our resource base, innovation and education have the potential to mitigate many challenges, and wise planning will help future generations lead more secure lives.

Tuesdays, April 25 & May 2 • 6:30–8:30 p.m. • \$20 member, \$25 nonmember

Beyond the Basics: Capturing Nature with a Digital Camera

Have you recently acquired a new digital camera? Or have you been making photos for a while and want to create more powerful images? Photographer Bob Dean will show you how to take captivating images of the natural world. Review the basics, explore additional concepts, and delve into the art of getting exactly the image you want. A half-day field trip will be devoted to practicing your technique, followed by Dean providing a "painless" critique of your work at the final class. For more about Dean, visit viewsofnaturephoto.com.

Thursdays, May 11–25 • 6:30–8:30 p.m. • field trip: Saturday, May 20 • \$110 member, \$140 nonmember

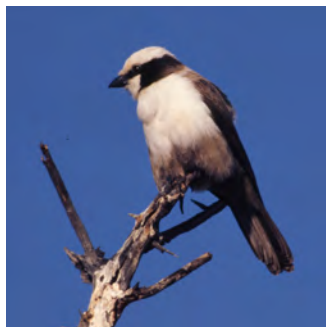
BIRD WALKS

Explore with expert bird guide Norm Lewis, Zoology Department associate.

Boulder

Boulder offers a wide variety of habitats that host wintering birds and early spring migrants. Visit lakes and reservoirs to see ducks, geese, grebes, loons, and more, perhaps including the evening “fly in” of thousands of gulls to the roosting area. Along Boulder Creek, look for dippers and wintering sparrows, and raptor sightings are possible throughout the area.

Thursday, March 30 • 7:30 a.m.–4:30 p.m. • \$27 member, \$35 nonmember



Early Spring Migrants

By April, birds are on the move, and almost anything is possible! Begin at Barr Lake State Park, to see nesting great horned owls and bald eagles. Waterfowl abounds, with great blue herons, grebes, diving ducks, and dabblers. Woodpeckers, chickadees, and nuthatches work the woodlands, and riparian brush hosts sparrows and finches. Move on to Denver International Airport, where the “airport loop” should have numerous raptors, with burrowing owls arriving as rough-legged hawks depart.

Thursday, April 13 • 7:30 a.m.–6 p.m. • \$27 member, \$35 nonmember

CANOE TRIPS

Paddle along scenic rivers while soaking in the sun and gaining new knowledge about geology, archaeology, astronomy, and dinosaurs.

Reservations and information: 720.283.0553 • CentennialCanoe.com

Ecosystem Interactions: Finding the Balance

Explore the interactions that occur every day in nature while canoeing the gorgeous canyons of the Gunnison River. With Museum educator and naturalist Tim Blesse as your guide, deepen your understanding of ecology and critical environmental resource issues. K–12 teachers may receive re-licensure credits. A daylong workshop at the Museum on June 10 is available to all trip participants and is required for the re-licensure credit. For adults 18+ only.

Friday–Sunday, June 16–18 • \$456 adult

Archaeology and Western History on the Gunnison River

Let the magical waters of the Gunnison River whisk you away through the high red sandstone canyon walls of the Colorado Plateau. Museum educator Jennifer Moss Logan shares stories of those who left their mark on the local landscape, from ancient native peoples to the colorful characters whose adventures brought them westward. For both the adventurer and historian at heart.

Friday–Sunday, July 14–16 • \$436 adult, \$406 child (6–12 years)



Stargazing by Canoe on the Colorado River

Embark on a memorable weekend with astronomer Dimitri Klebe as you revel in both earthbound scenery and the breathtaking skies above. Without the interference of city lights, learn about planets, constellations, and deep space. This is spectacular canyon country of the Colorado Plateau, including Ruby and Horsethief Canyons, where you will float past stands of shiny granite sculpted by water through the ages.

Saturday–Monday, July 22–24 • \$436 adult, \$406 child (6–12 years)

Dinosaurs by Canoe on the Colorado River

Experience fascinating rock formations from the age of the dinosaurs, and paddle your way along the Colorado River with educator Samantha Sands as your time travel guide. Camping along the river's banks and exploring a deep box canyon will leave you in awe of the immensity of geologic time.

Saturday–Monday, July 29–31 • \$436 adult, \$406 child (6–12 years)

Geology and Archaeology by Canoe on the Upper Gunnison River

With geologist Bob Reynolds, marvel at colorful sandstone walls hundreds of feet high and explore canyons and ancient rock art. During this five-day journey, canoe down this epic stretch of river, hike and explore the Dominguez Canyon Wilderness Area with waterfalls and petroglyphs, and camp along the river's edge.

Wednesday–Sunday, August 9–13 • \$691 adult, \$661 child (6–12 years)

PROGRAMS FOR FAMILIES AND CHILDREN

Discovery Zone Fun

Enjoy a special guest during your visit to the *Discovery Zone*.

Third Mondays • 10 a.m.–2 p.m. • free with general admission

March 20: Get to know some itty bitty bugs with friends from the Butterfly Pavilion.

April 17: Dissect seeds to see what's inside and start growing your own plants with Denver Urban Gardens.

May 15: Enjoy stories from around the world with Kenneth Grimes.

Family Fun: Engineers Night Out

Get your build on at this fun evening event! Let out your inner engineer by designing buildings, bridges, war machines, and more. Once you've built all you can, enjoy a special screening of *Dream Big 3D: Engineering Our World* in Phipps IMAX Theater.

Thursday, March 23 • 6–8 p.m. • member: \$20 adult, \$15 child • nonmember: \$25 adult, \$20 child

Spring Break Camp • Grades K–2 & 3–5

Looking for something amazing for your kids to do during school breaks? At the Museum, your child will experience fun and wonder, see IMAX films and Planetarium shows, and explore the marvels of the exhibitions. Early morning drop-off and late pickup options available.

Monday–Friday, March 27–31 • 9 a.m.–3:30 p.m. •

\$260 member, \$290 nonmember

Family Fun: Geology Rocks!

Your whole family will become deep time detectives as we explore rocks and minerals and the amazing stories they tell. Museum educators and scientists will help you crack the codes found inside the rocks that surround us.

Saturday, April 15 • 10 a.m.–noon • member: \$12 adult, \$8 child • nonmember: \$15 adult, \$10 child



Dissection Connections • Grades 2–9 with adult

The family that dissects together stays together! With a skilled Museum educator as your guide, observe the dissections of a sheep brain, lung, and heart, then try your hand with a scalpel as you learn about amazing body systems.

Saturday, April 29 • 10 a.m.–2 p.m. • \$40 member pair, \$50 nonmember pair

Family Viking Feast

Nordic fun awaits your family on this evening adventure to distant lands and ancient times! Explore the temporary exhibition *Vikings: Beyond the Legend*, feast as a family on tasty Viking fare, and try your hand at creating your own tools for navigation on epic sea journeys. Costumes encouraged!

Friday, May 12 • 6–8 p.m. • member: \$20 adult, \$15 child • nonmember: \$25 adult, \$20 child

RESERVATIONS AND GENERAL INFORMATION

303.370.6000, daily, 9 a.m.–5 p.m., or dmns.org

MEMBERSHIP OFFICE

303.370.6306 or members@dmns.org

RENEW YOUR MEMBERSHIP ONLINE

dmns.org/members

PRINT-AT-HOME TICKETS

Print-at-home tickets are available for exhibitions, IMAX and Planetarium shows, and lectures and programs, and there's no handling fee! When you arrive at the Museum, proceed directly to the Ticket Taker booth or to your program. Please always bring your membership card and photo ID when you visit the Museum. There is a \$2 handling fee per ticket for surcharged exhibitions reserved by phone.

E-CARD: BENEFITS AT YOUR FINGERTIPS

The free eCard app is so much more than just a convenient way to store your member number! You'll receive instant access to your members perks and benefits. Find out more @ dmns.org/ecard.

E-COMMUNICATIONS

Receive a monthly newsletter with updates and special offers as well as advance notices and other insider information when you share your e-mail address with us at members@dmns.org.

CONFIRMATION

For After Hours programs, classes, field trips, and programs for families and teens, you will receive a reminder e-mail with directions for entering the Museum and other details.

REFUND POLICY

Sales are final on all tickets unless the Museum cancels the event.

Published by the Denver Museum of Nature & Science © 2017

Hours, fees, and schedules are subject to change.

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USE YOUR MEMBERSHIP OFTEN! WE'RE OPEN 364 DAYS A YEAR!

Go Wild

IN THE MUSEUM SHOP!



MEMBERS SAVE 10% EVERYDAY



T-REX
CAFE

SALAD BAR, GRILL, KIDS MEALS – LEVEL 1
11 a.m.–2 p.m.

GRAB & GO SANDWICHES, SNACKS – LEVEL 1
COFFEE LAB – LEVEL 2
9 a.m.–5 p.m.

Proudly serving locally sourced Colorado products.



DENVER MUSEUM OF
NATURE & SCIENCE

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