GREEN GODDESS
blUEGAMET


SHATAMORE COLLEGE BULIETIN
1\%

HARVEST GOLL Prys are


"The aim of our sturlies is to prove that color is the most relative means of artistic expression, that we never really parceive what color is physically."

- Josef Albers, artist and author of Interaction of Color

DUING THE French Revolution, the presence-or absence-of red and blue on the cockades that adorne hats and jackets led to some gravely important actions. "And beheadings!" says Megan Brown, an assistant
professor of history at Swarthmore. Most famously, news that troops loyal to the royal famil, had stomped on tricolor cockades while sporting white monarchist ones led working-class Parisians to march by the thousands to Versailles in 1789. (White was associated with the House of Bourbon, while red and blue meant a Paris nection.)
"In the tricolor cockade-and flag-we see the merging of those colors," says Brown. "This should remind us that, at least in the early days of the Revolution, it was not evident that the king would be entirely excluded from future governance, let alone executed.
"We mark the passage of time not just by major breaks, but also by continuity", she adds. "Tracking colors, especially as they re used in symbols or rituals, is one way of seeing ho groups of people attempted to harness traditions." - KC

GARNET STRONG

Wearing the garnet ' S ' represents a strong culture," says Cameron Wiley '19, point guard from Atlanta
Being Garnet, for the athletes and scholars at Swarthmore, could reflect
the gemstone's symbolism of strength. The original Swarthmore colors were changed in 1888, when, as the Phoenix later related, "at a mass meeting of he students, pearl and maroon wer bolished, and after considerable chosen as the succeeding color." The Garnet's Wiley, an honors philosophy major and history minor was voted the tournament's Most that won the program's first Centennial Conference Championship, but his ransition to college athletics wasn't easy: A concussion his freshman year kept him sidelined for several months.
"It was a frustrating period," he says, see my goals come to fruition."
He attributes his eventual success to a willingness to ask for-and listen -advice ... and to be patient. After all, pressure.
"On our team, we have to hold each other accountable," says Wiley. "That's
where the period of growth comes." -KC
"Helping neighbors in need knows no boundaries,"
Ogden, who lends a hand however he can, in one case consoling a young sailor whose wife had just died. For his contributions, he received the Red Cross's Harriman well as Swarthmore's inaugural Arabella Carter Award for community service.
The inverse of the Swiss flag, the Red Cross symbol is one of the most recognized globally. Ogden has witnessed the
iconic emblem bringing expressions of relief and gratitu "I've seen this in action," he says, "from those whose lives were destroyed by hurricanes to U.S. servicemen and women in Kosovo to a cancer patient receiving life-prolonging Red Cross blood and families reunited after 9/11.
The simple act of helping people when they need it mostshowing love-remains Ogden's most powerful inspiration. compassionate individuals who do the most to provide relief." - KC
"Orange is not just a color to me but a movement to educate the public ahout the use of Agent Orange, and the legacy of the toxic substance for all who were unknowingly exposed to it,"
-Charles Bailey' $\mathbf{B 7}$, director emeritus of the Aspen Institute's Agent Orange in Vietnam Program and co-author of From Enemies to Partners: Vietnam, the U.S. and Agent Orange


0ANGE is a cheery antidote to the typically bland world of residential real estate", says
Eli Spevak' 93 , owner of Orange Splot in Portland, Ore. "It's an artistic statement of freedom."
Spevak's firm has been building affordable homes with a focus on sustainability for 15 years. He loves warm colors, gravitating toward them to boost his spirits, so
he plucked the name for his company from The Big Orange Splot by Daniel Pinkwater (note the colorful last name), "a awesome kid's book that shows how a subversive splash of color on an unsuspecting house can inspire and transform a street."
"Oran
"Orange has always been about going against conformity" he says. "T'd much rather have a city block with a mixture of aesthetics. Living in the Pacific Northwest is great, but the weather is often gray and dreary. Orange just makes me smile a little more." -KC

mere and
LLOW powder the
shade of a hard-boil egg yolk fills a small vial in Swarthmore's most colorful interdisciplinary lab where art and science intersect. Made combining potassium chromate turning it basic-the pigment exudes bright, cheerful hue when used in a painting.
At least, at first.
"Zinc yellow starts out a lemon color, then turns a greenish-brown over time," says Therese Ton'19, who researched and concocted the pigment as part of fall's Art, Chemistry and Conservation class, co-taught
by chemistry's Ginger Heck and art history's Patricia Reilly. One infamou example of zinc yellow in decline: the pointillist masterpiece $A$ Sunday the pointilist masterpiece A Sunday
atte by Georges Seurat, whose sunn easide hill has muddied over the pas 30 years.
Certain other properties made zinc
 notes: "It's known to be anti-corrosive so it was used as a primer on anythins
that covered metal-on the wheels of that covered metal-on the wheels of know yellow Ford Mustangs? That's the pigment. And if you mix it with black, you get Army green - the coating hey used on military vehicles." major black mark: "It's an antibacterial and nothing can grow on it, because it's really toxic. They didn't realize it at the me, but it's a huge carcinogen-and a orkers ot with lung cancel.
"So basically" To
pigment, as an industry, zinc yellow is ust not good." -ES

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## PSSST ... COLOR IS AN ILLUSION

Perception is a tool that helps us decode what we see, and color is just one means of interpreting that information, according to Frank Durgin, the Elizabeth and Sumner Hayward Professor of Psychology and director of the Swarthmore Visual Perception Lab, where sta to study spac perception.
"color as Isaac Newton noted, isn't really in the light," says Durgin. "Our experience is that we seem to simply see color, bu it's really much more like a construction of our minds."
By "our" Durgin means trichromats: humans (and a handful of other primates) who have three types of receptor cones in the "They are sensitive to overlapping distributions of long, medium, and short wavelengths of light all within a very narrow band of the electromagnetic spectrum," he says.
The colors we see can be understood as ratios of activity of
hese three cone receptor types. So, when short wavelengths are prevalent, we see blue.
Although it horrifies a color scientist to label them this way, you could say that the short, medium, and long correspond to blue, green, and red, respectively," Durgin says. "However, the light itself isn't colored-we just see it that way."
Then why can we organize colors into a wheel? "From these three types of sensors, our minds can construct only a three-dimensional representation," he says. "If our species had evolved to have more or fewer sensor types, our experience would be very different.'
How other animals see color is difficult to know, Durgin says: Most nonhumans have two cones versus three (some have 14), at them. We can't even be confident that each of us humans experience 'red' as the same color.' - KC

NKWASHING has Lori van Da
seeing red. "I was getting my car serviced," says Komen New Ensland, "and Susy Gere Komen New England, "and they wer
selling pink keychains and pink air fresheners-and none of the proceeds were going anywhere except into the pockets of people who made them. It's an unfortunate side effect of a cause being so closely connected to a founder Nancy Brinker to unify the organization and pay tribute to her late sister, Susan Komen, whose favorite color was pink.
"For a long time, people talked about pink and its association with breas
cancer as being about awarenesscancer as being about awarenes
taking breast cancer out of the shadows and saying it's something we can actually talk about," says van Dam
But awareness isn't enough, she But awareness isn't enough, she
adds: Even with pink's saturation especially during Breast Cancer Awareness Month (which Komen hopes to rebrand as "Breast Cancer Action Month"-44,00 people die of breast cancer annually in the U.S., wit lifetime.
"Which is why Komen launched "More than Pink," with a goal of halving the nation's breast cancer
mortality rate by 2026. On the local level, affiliates are working to increas access to care and reduce disparities in outcomes for women of color. For many patients and survivors, pink symbolizes hope, community, and
support-but it's important for pink to mean more than green.
"You can buy all manner of pink items that don't advance the cause, van Dam says. "The only time pink upsets me is when its on socks th don't go anywhere." - ES
"Since its cousin red is the color of war, I like to think that pink could become the hue of nonviolent battle, and that learning to embrace it may be a very small first step toward ending the war on women for good."
-Sarah Archer '00, "A Western Cultural History of Pink, from Madame de Pompadour to Pussy Hats"

67 HE IMPORTANCE of color varied a lot between different punk scenes," says George Hurchalla'88, who came of musical age in the torn-and-tattered hardcore era of the 1980s. "The initial New York scene was more about black, like the Ramones and their leather jackets. But the early 70 s.s glam-era influence in Lo
the notion of vibrant color in punk
Notably pink, he says, which was featured prominently on the covers of three all-time classic British punk albums. "The Sex Pistols' epic Never Mind the Bollocks had the band's name outlined in pink on a yellow cover," Hurchalla
notes. "The legendary Pink Flag was the first album of the band Wire. And on the cover of the Damned's classic third album, Machine Gun Etiquette, guitarist Captain Sensible is wearing a ludicrous pink feathered top over yellow feathered pants.
"Pink was the complete antithesis of a 'rock ' $n$ ' roll' color, which punk was trying to shake up," he adds. "It was vibrant, people-mainly men-a lot." -ES

COLOR AND CATARACTS
efore I had cataract surgery, I sought out several friends who'd had the procedure done. One or two mentioned that before surgery, their vision had become foggy, as hough they were looking through a ye I thought I was seeing colors just fine-was $I$ in for a surprise! I had the procedure done in both eyes, about a week apart, and was amazed at how color more intense than the remaining "bad" eye. It was easy to compare during that intervening week, and I kept covering one eye and then the other to see the difference, not really believing it. Colors the dark-pink, magenta, and yellow ranges.
There were some amusing side effects: Soon after the surgeries, I discovered hat some outfits I had assembled fo matched. And sometimes at stores, when I see pants and tops labeled with he same color, the items look a little off, particularly when the fabric is different. Thave read that people can perceive vision the real deal? What is "real"? -JULIE BUNCE ELFVING '65

Swarthmore College Bulletin / spRING 201

BrEEN FORESTS, emeralds, and limes,
OK. But green fire? Kathryn Riley ${ }^{\prime}$ '10, a visiting assistant professor at $S$ warthmore, urges her studen to study chemistry through an the causes of multicolored fire is one such experiment.
"Different metal ions added to the fire absorb energy as heat and the
emit energy as light with unique emit energy as light with unique
colors-for example copper produ beautiful green flame," says Riley. "The hottest part is the light-blue interior of a flame, with a temperature around 1,500 degrees Celsius."
Having embraced the liberal arts as a faculty member, she wanted to enable her students to view science through multiple lenses and created an Instagram where she posts fire-and
other elements-in all their scorching hues.
cToo often students see chemistry as equations and molecules on a page, she says, "but science is art-and it's colorful!" -KC
${ }^{6} \mathrm{I}_{\text {could chand dike animals that }}^{\text {ALW }}$ Ge '17, who collected and studied the nocturnal gray tree frog in Assistant Professor of Biology Alex Baugh's animal communication seminar. The frog's name is somewhat misleading Ge says.
g has a unique mottled pattern on their dorsal side that ranges from nearly completely black, to a light creamy color, passing through really gorgeous shades of green and
brown," she says. "The Latin name Hyla versicolor means they change
color, and in our experiment, we asked whether they changed color based on ambient temperature, backgroun
color, or both.
They discovered that the
darker backgrounds and at colder
emperatures, which means they sense, rocess, and appropriately respond to eir environments.
So the clever frogs-native to he eastern United States-use color-change to better match thei background. But why? Ge learned
that "cryptic coloration" could be an that cryptic coloration could be an visually hunting predators like birds. It could also be a mode to stay warm turingmos. emperatures.
Color is something I take in, take attentive to just by looking," says Ge. "At least to the human eye, tree frogs on trees or lichen are extremely mportant when it's cold and the fros an't escape predators very quicklyor at all." -KC

# "Redwood forests are quite dark and appear to have a muted color palette-different shades of green, and brighter colors in the form of flowers, mushrooms, and birds." 

-Alison Campbell '87, of California's Muir Woods National Monument
${ }^{66}$ G reen is the color of energy being captured and Nick Kanlinormed," explains Associate Professor of Biology plant responses t a plant molecular geneticist who focuses on One peculiar celebrity in his toasty greenhouse is the Amorphophallus titanum -common name corpse flowerwhose bloom can reach up to 8 feet tall, but takes up to 10 yea to get there.
Its leaves look green because cells in the leaves hold chloroplasts, dynamic little "molecular factories" whose job
is to trap the sun's light energy and turn it into sugar The ishlorophyll in the leaves absorbs deep-blue and red light, Kaplinsky says, making the plant appear green. In a showy last act when it finally blooms, the corpse flowe emits the sharp scent of rotting flesh-a trait designed over millennia to attract the flies that pollinate its flowers. - KC

## MAKE ROOM FOR COLOR

A dazzling collection of pigments will line one wall, and hundreds of barcoded pigment cards will be available for checkout in the latest addition to McCabe Library
Named for a matchbox couple, the new color-themed Frank ' 68 and Vera' 70 Brown Study Room will also offer-mobile physics demonstrations, including how to simulate a sunset, say assistan professors Logan Grider (art) and Tristan Smith (physics). As co-founders of Swarthmore's Chromatic Cabinet-a faculty staff discussion group exploring color from every possible interdisciplinary angle-Grider and Smith turned a serendipitous
conversation with the Browns last spring into a shared vision for this space, a newly designed seminar study room on McCabe's second floor.

The room has a sentimental history: When Frank and Vera first started dating 50 years ago, they spent many studious hours there, until one day, Frank suddenly interrupted the silence to ask Vera to marry him.
"After I said 'yes,
A lifetime later, the Ahere their journey stowns wanted to ensure the room headquarters-will always inspire Swarthmore students to mal memories as beautifully colored as their own
"Swarthmore is a very special place," they say. "It will always be in our hearts as the beginning of us." -KC

PIRPLE, historically a color of royalty an
nobility, took on a different meaning in the military, thanks to an act by Gen. Georg Washington during the Revolutiona
War. War.
"There's a wonderful line in his order creating the original Badge of
Military Merit:'The road to glory in Military Merit: ‘The road to glory in a patriot army and a free country is thus open to all," says Sean Barney version of the honor, the Purple Heart. "Washington chose this color of aristocracy for an award that was the first of its kind-expressly for enlisted men and noncommissioned officers. anyone could earn in this Army, it sent a broader message about what they were fighting for in the Revolution." And that egalitarian message lives on through today's Purple Heart-
"This is the only medal thatwhatever your rank, whatever race, whatever gender, documented or undocumented-if you bleed in service of your country, you receive it," Barne says. "Nobody can decide that
not going to favor you with it" To Barney-a Marine Corps vetera of the Iraq War who was seriously wounded by a sniper in 2006 (bit. ly/BarneyEssay)-the Purple Heart symbolizes a willingness to sacrifice meaningful in his current role as a Delaware public defender. "There are many lawyers in our office who could do better for themselves financially in anoth
area of practice," he says, "but they're committed to ensuring for all people that the rights we have in the Constitution-the rights the Founder fought for-are respected in th courts."-ES

${ }^{6} \mathrm{~W}_{\text {tree on campus'" }}$ Heads a ${ }^{\text {HY }}$. Swarthmore on college Faceebook post from 2015, soon after the dead weepins hemlock near Sharples was painted to honor its beauty and fragility. But it won't be there much longer:
The tree will be remoed this The tree will be removed this spring for safety reasons (as seen above,
beginning to fall apart) and to make way for a living replacement. "I was keen to paint the dead hemlock," says Josh Coceano of the
"Complex and contemplative,
Ultra Violet suggests the mysteries
of the cosmos, the intrigue of what
lies ahead, and the discoveries
beyond where we are now."
-Pantone Color Institute, on its 2018 Color of the Year

Scott Arboretum. "It had a great form was in a prominent place on campus, in the wild.
the are ase quick to discard things as they age, die, deteriorate," he adds. This is especially true in gardens: G rid of anything the looks less th perfect.
hird tree ird tree on campus to receive a colorful afterlife, following a Chinese
maackia painted blue in 2006 and a
ur oak painted red in 2010 "This time, orange and purple wer the two colors up for debate," says
Coceano, with Royal Purple becomin the winning hue. As a compromiseand for contrast-a couple hundred orange tulips were planted underneath.
"Purple has long been a symbol f cooperation and bipartisanship," coceano says. "Honestly, it's my favorite color in the garden. It engage
and blends at the same time",

IIIUE IS MUSICAL. As an instructor at Swarthmore, Andrew Hauze '04 has
twice performed George Gershwin's Rhapsody in Blue on piano along with the wind ensemble. "I suspect the title had special resonance for Gershwin, a brilliant amateur painter, whose work so abounds in blue notes - in which certain notes of the
Western scales are lowered for expressive effect-and the influence of African-American musical styles," Hauze says. "It's great fun to unpack its many musical influences and to encourage the students to dig in, trying to bring out the vernacular nuances of this many-layered work." devils" for centuries, the blues as a musical form emerged in the U.S. after the Civil War
"The expressive power of the blues now pervades so much of our culture, from the great torchbearers of the original style-such as Muddy Waters and B.B. King-to the rock and pop performers in their lives-such as the Beatles, the Rolling Stones, and Eric Clapton," says Hauze. "Musicians around the world now speak of blue notes, though this way of referencing the subtle inflections of blues musicians often oversimplifies a very nuanced practice."

## SOUND! COLOR! YaY!

Listening to music through the color lens-and breaking away from cultural symbolism - opened the mind of Jon Kriney cI found a much more complex emotional relationship to colo says Kriney, who disco eomplex emorional says Kriney, who discover
because of Joni Mitchell.
Although his crusade to curate colorful playlists (bitly/Kriney) hasn't quite connected with a large audience yet-the midnight to-2 a.m. shiff for the WSRN 91.5 FM show may have something to do with it, he laughs-it hasn't dampened his quest, either. "Doing this show has made me think about color in terms of not the emotions that are associated with it." -KC


66 'VE NEVER SEEN so many $^{\text {'Vif }}$ looking out over the Grand Bahama Bank," says Kathleen Moran Hanes '94 Scuba diving daily, she explored hidden pockets of the watery field site while researching the impact of green turtles beds. And so, her first children
Seagrass Dreams, surfaced.
A vibrant and beautiful introduction to counting, the picture book explores life within these important nursery ground
for conch, lobster, shrimp, and crabs. Hanes's favorite is the perfectly named bucktooth parrotfish, which wields its oversized teeth (really its mouth) to shred seagrass blad
white algae.
"Bucktooth parrotfish contain many of the colors of the rainbow and absolutely shimmer when the sunlight strikes them, says Hanes. "Each of the organisms seem to have its own colorful personality, burrowing into the sand to hide or a silvery barracuda menacingly surveying the scene."
Gentle gray dugongs (a relative of manatees) have a great appeal, too. remind me of cows grazing in a pasture," Hanes says.
All of this dizzying color is set against the backdrop of hardworking seagrass blades that slow
provide shelter.
"This creates a calm, protected place for juvenile organisms to hide and feed as they grow", she says. "T'm interested in all
of the organisms that make those colorful meadows their home."-KC

"The deep, rich color of chocolate reminds me of being happy on a cool evening by a warm fire." - Liz Stern, who has baked at least 70,000 cookies at Sharples since March 2016

## THERE'S MAGIC IN MIXING

Start with a little red, yellow, and blue, and what can you make? Orange, green, and purple, of course-but also turquoise and crimson and lime and marigold ...
"When my publisher asked me to write about color, my only guidance was that it also include tertiary colors," says Arielle North Olson '53, whose What Can You Do With Red, Yellow and
Blue? is her sixth children's book. "I could go in any direction I wanted, so I decided just to make it fun." Initially inspired by the hues of an old oil-paint
the opportunity to explore color in creative ways.
the opportunity to explore color in creative ways.
"I am fascinated with the brain condition synesthesia, which adds color to sights, sounds, and smells," she says. "I would love
to see India's Festival of Colors [Holi], when powdered paints and colored waters are thrown on happy celebrants. And wouldn't it be fun to eat enough brine shrimp and algae and carrots to see if we could become as colorful as flamingos?
Her newest publication, Where Shall We Go, Big Black Crow?, expands on her vibrant outlook. Co-written with her daughter and lift-the-flap fun to guide readers on a search for the bird's dinner. "Colors play such a vital role in attracting children to books," Olson says. "Our words might never be read if the illustrations
don't lure readers inside." -ES
$\mathbf{W}^{\text {ith the scope of ecocriticism }}$ Continually expanding, Sus Signe Morrison ' 81 proposes a palette. "What about 'brown studies'?" says Morrison, an English professor at Texas State University. "There are aspects of life beyond trees." Including some subjects routinely "We now basically have one attitud toward excrement: It's bad," says Morrison, who wrote Excrement in th Late Middle Ages after recognizing a era. "But in the Middle Ages, there was a huge spectrum of attitudesfrom very bad, where shit would be a metaphor for sin; to good, where it's a code for resurrection."
tereotype that medieval people
reveled in waste: Legal cases from that period pointed to sewage concerns, she says. Dung heaps, valued as fertilizer,
turned up in wills. Sure, iconic writers like Dante and Chaucer sometimes focused on feces (enough for Morrison to coin the term "fecopoetics") but, if anything, people then had a much more well-rounded take on what we leave behind.
"Traditionally, people wanted to repurpose things-including xcrement," says Morrison, who followed up her fecal-focused book with research on waste in general.
"We, of course, have become this society where we just throw things away. We set ourselves up as, 'We're cool. We're not like those medievals, hen in fact, we're just as dirty, if no worse-especially toward the planet -ES

BlACK-AND-WHITE in photography all the colors," says Ron Tarver, a visiting assistant professor of studio art Swarthmore who cut his teeth as a ewspaper photojournalist and earned 2012 Pulitzer as part of a Philadelphia Inquirer team. "You actually see the image--the composition, the message.
A truly beautiful black-and-white photograph, in my perspective, is a lot more difficult to make than a color one." Which is why Tarver introduces students to photography through a foundational course in black-and-white film.
For each assignment, students are given just two rolls of For each assignment, students are given just two rolls of each frame-a challenging task for a digital generation. By learning the importance of light and shadows, they become stronger photographers, period.
"When you shoot in black and white, you see in black and white," Tarver says. "With my fine-art photography, people you know, I didn't even see it in color-my brain had stripped it all away." - ES


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