



Nautilus Education Program

"At a time when I'm searching for inspiration, I feel so lucky to have stumbled upon Nautilus. As a 19-year-old who is really trying to figure out how to positively impact the world around me as much as I can, it's very helpful to have some insightful direction."

e-mail from *Nautilus* reader, Kevin Kromarek

Nautilus Education is a new program to put the awesome stories of science into the hands of students and teachers, providing narrative content for the science classroom, and science-literate content for the literature classroom. For years, teachers have been using *Nautilus* in the classroom, and telling us how it provides the kind of quality science writing that they need to engage students.

The modern world has placed an unprecedented emphasis on science literacy. That's because science and technology are changing our world faster than almost any other force. But sci-tech stories are often stripped of their context and human relevance.

Nautilus has built an audience numbering in the millions by re-connecting science to our lives, and telling its stories with style, substance, and imagination.

For \$40 per school, *Nautilus* will provide a year-long print subscription to a school library or science classroom. We'll also give access to *Nautilus* Prime, our digital subscription service, to every student and teacher in the school. *Nautilus* is partnering with Rune (<https://www.secretrune.com>) to install their content annotation and sharing software within *Nautilus* and adapting that capability for teachers and students to share notes, comments and highlighted content on *Nautilus* within a monitored, closed social network that can contain regional, state and even district nodes. This will create multifaceted closed educational social networks around *Nautilus* content that will be instrumental in integrating *Nautilus* into school curriculum. We plan to have the network(s) live by the start of the fall school year.

Nautilus Education will help students rediscover the magic of science and story. At a time when our scientific and educational institutions are being tested, it's more important than ever to get today's best science writing directly into the hands of our students.



About *Nautilus*

Nautilus is a different kind of science magazine. Online, in print and in the classroom, *Nautilus* leverages deep, undiluted, narrative storytelling to bring science into the largest and most important conversations we are having today. After all, that is where modern science—which is so personal, pervasive and transformative—deserves to be.

To do this, we explore a single monthly theme from multiple perspectives drawn from the sciences, culture and philosophy. Individual pieces of content make clear the context and implications of new science, and monthly issues reveal surprising connections among different sciences and between science and culture. Add in sumptuous, bespoke illustrations from some of the world's best artists, video interviews and documentaries, graphic stories, photo essays, and interactive games, and the result is clear: The best narrative science magazine on the planet.

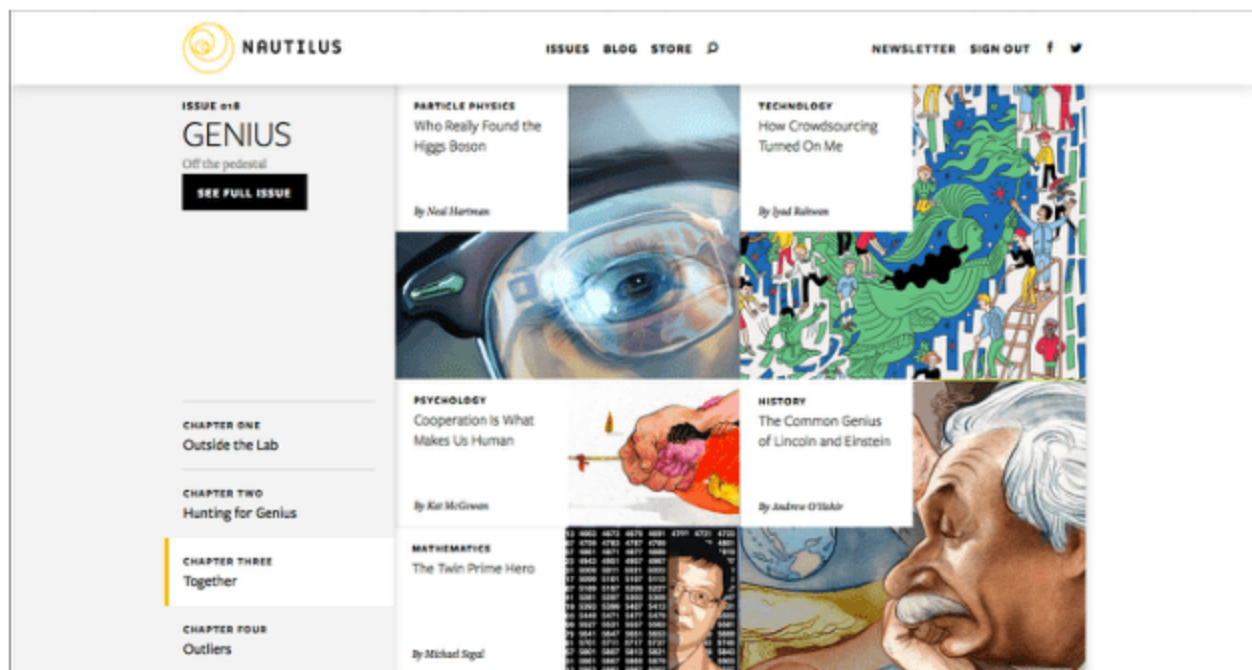
We stand apart in a popular science media market that is largely short, fast, and newsy. The value proposition for the average media consumer is that they should care about science because it is gee-whiz, or has some near-term practical implication. Which it is, and does. But there is a deeper reason to care about science: It is advancing age-old questions and stories, and changing how we understand ourselves. This richer involvement of the science reader requires a literary and nuanced presentation, and giving the audience the credit they deserve. The time to do this is now. There has never been a greater need for the public to understand science: It is changing our world faster and more profoundly than any other single force today, and is increasingly mixed into questions of global policy and competitiveness.

Into this gap between supply and demand steps *Nautilus*. We deliver the full depth and complexity of modern science to our reader with style and imagination. We challenge our readers, not just with deep and broad stories, but with imagining how those stories relate to each other. We provide compelling and unapologetically undiluted science narratives. We are a global brand for a new kind of literary science experience.

Nautilus Online Edition

Divided into three broad sections:

- “The Grid” – The lead, feature section for *Nautilus*. Each Thursday a new “chapter” is published on the monthly theme containing original articles, essays, videos, and interactive content.
- “Facts So Romantic” – The *Nautilus* blog, driving 25% of total traffic, delivers more news-focused, “webby” content from some of the nation’s top bloggers. New blogs are posted three-four times per week.
- *Nautilus* Channels – Vertical channels portals, focusing on specific scientific fields as well as the work of some of the world’s most important scientific institutions.





What *Nautilus* Education Provides for \$40 Per School

Nautilus Prime

Our premium digital subscription for students and faculty.

- Unlimited, ad-free access to *Nautilus* online.
- An archive of over 2,000 articles, interviews, videos, animations, and interactives, and thousands of original illustrations.
- Downloadable tablet versions of our print editions. All the content and design of our award-winning print magazine, in PDF format—perfect for reading on your tablet or desktop.
- Downloadable eBook versions of our online issues. We've made each monthly online issue into an eBook, compatible with most e-readers. Video and interactive content is excluded.

The Nautilus Print Edition

Combines our best online content with original essays, infographics, and art for school library or science classroom

- The print edition is published in vibrant color on high-quality paper in a 7X10 inch journal format.
- Published six times per year.
- *Nautilus* Channels print supplements. Special stand-alone print issues based on *Nautilus*' focused verticals.
- The *Nautilus* print edition, published in partnership with MIT Press, contains some of our best online content, brand new original contributions from the world's best thinkers, and gorgeous full-color, full-page art.



What Nautilus Readers Are Saying:

Why do you read Nautilus?

Nautilus audience survey

- "Frankly, it's smarter than most published pieces (Discover, Popsi, etc) and it's much more detailed."
- More original, thought provoking articles, clustered around themes.
- "Most distinct feature of Nautilus is its aesthetic appearance (both on web and in print). Nautilus is the best mixture of science and storytelling."
- "In depth, well written, leading voices, diversity in opinions."
- "Up through the Renaissance and the Enlightenment, all areas of study existed under the moniker of philosophy, including natural science. Nowadays, science writing has lost its sense of story because the straight facts have no room for wonder and awe, supposedly. Nautilus successfully blends story back into science, and it's wonderful to be a witness to that."
- "Its content- always fresh and insightful."
- "It's beautiful and elegant in every way!"
- "Much more thought-provoking, better storytelling, outstanding design. Visually stunning and surprising."
- "It's edgy and digs deeper than other media."
- "Nautilus is probably the most intelligent publication I read. Large scope, matches my personal interests almost perfectly. Nautilus covers science intelligently, with a very large scope."
- "Insightful and complex explanations. It's very in depth and brings together disparate ideas."

How is Nautilus different from other media you regularly read?

Nautilus audience survey

- "I read Nautilus because I like being amazed."
- "To keep informed and inspired."
- "Wonder and curiosity... A touch of wit."
- "No other content producer, be it news or otherwise, exists in that precarious balance between science, philosophy, and art/aesthetics. *Nautilus* doesn't sacrifice any of the three for the sake of that balance - all facets are fantastic. Furthermore, every article I read makes me more curious about the world and humanity's role within it. ■ say any publication that can do that is worth its salt."
- "Extremely interesting, thought provoking, cutting edge information otherwise unavailable in other magazines/media outlets."
- "It stimulates my brain."
- "To learn, to explore, and to feed a growing curiosity about the world we inhabit/create. I am drawn in by the art then stay for the science."



ISSUE 11

Light

Where does the story of life and light begin? Maybe with the fact that most life on Earth runs on sunlight, or that starlight may have set the direction in which all of Earth's biomolecules spiral. But, when most of us cannot see the Milky Way, and glowing screens have shifted our circadian rhythms, have we had too much light, and can we win darkness back?



ISSUE 10

Mergers & Acquisitions

Since the beginning, scientists have been dividing reality into increasingly smaller bits: atoms, quarks, proteins, genes. As the list of parts has multiplied, so have their possible interactions, making the boundaries around scientific disciplines increasingly porous. From polymers to parasites, and genes to galaxies, our world is replete with wheelers and dealers, and hosts more shotgun weddings than Las Vegas.



ISSUE 09

Time

Remember Ben Franklin's words: "you may delay, but time will not." On the other hand, some physicists are telling us that time may not exist to begin with. And anyway, since quantum mechanics is challenging causality itself, what impact could your actions possibly have? As we look deeper, time looks more elastic and less defined.



ISSUE 08

Home

They say that home is the place where they have to take you in. Is it? From stellar birth clusters and allergic adaption, to symbiotic evolution and our personal microbiome, Nature has its own definitions of home. And our own ideas are shifting: Our physical homes are under renovation, and what we do at home is changing. Home births, home schooling....homepage.



ISSUE 07

Waste

This issue tackles something we don't like to think about. But not only is waste everywhere on our land, in our oceans, and even in space—it is also useful. It drives innovation, creates wealth, teaches us about the past, and is a kind of currency in systems from biology to physics.



ISSUE 06

Secret Codes

There were hackers long before the denial-of-service attack. Life is a script written in carbon and transmitted faithfully between generations—sometimes. Other times, it is hacked by viruses, stolen by bacteria, or mutated by cosmic rays. Join us as we pull back the curtain on nature's information wars.



ISSUE 05

Fame

Why is “Honey Boo-Boo” a megastar? Fame can seem an empty category. But it also shows up everywhere. Daniel Dennett has described consciousness as the happy spoils of a competition among various representations of reality: “fame in the brain.” Is fame an important natural process, and our obsession with it inevitable?



ISSUE 04

The Unlikely

"What are the odds?" This is a surprisingly difficult, and loaded, question. Is the improbable event an indication of some hidden mechanism? Or is it just long odds? In this issue, we explore The Unlikely—from how to predict it, to how to live with what we couldn't predict.



ISSUE 03

In Transit

This issue is all about life in motion, from electrons in microchips to proteins in cells to ocean tankers to planets wandering the cosmos. Over and over we are surprised to find that "just getting there" is an integral part of our world, and something that defines it.



ISSUE 02

Uncertainty

Uncertainty is baked into our modern world. We explore how everything from quantum particles to humans themselves turn out to be undetermined in ways that upset expectations. Even mathematics itself—the language of logic—includes statements that can be proven to be neither true nor false.



ISSUE 01

What Makes You So Special

What's the biggest statement science has made about humans and our place in the universe in the past few hundred years? The answer suggested itself immediately: We've been told that we just aren't very important. This was a bit of a surprise. Where was this narrative of mediocrity coming from, and, more importantly, was it true? **READ ONLINE**



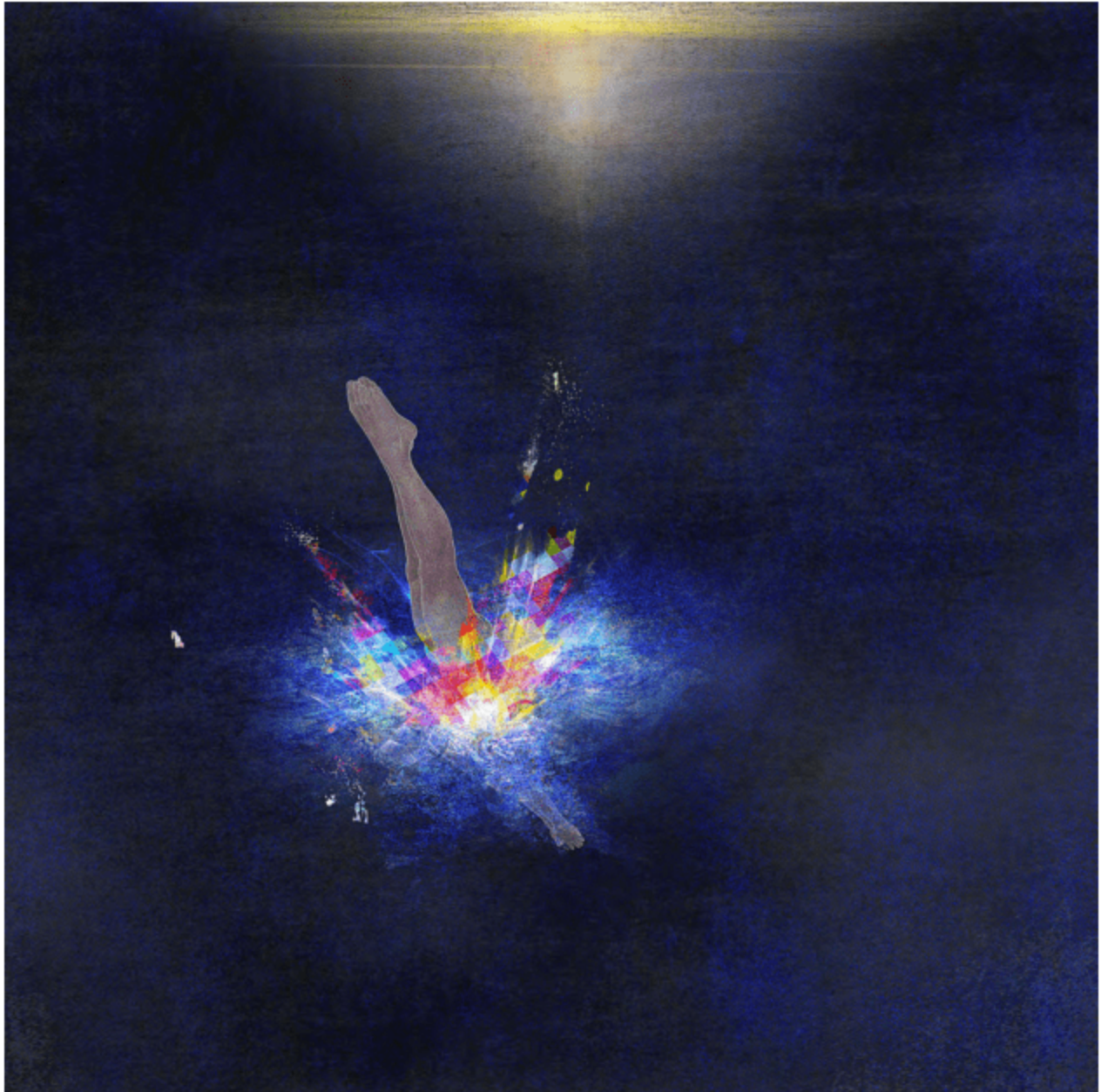
PREVIEW ISSUE

The Story of Nautilus

Behold the humble nautilus. We became interested in it here at *Nautilus* because, well, we stole its name. But also because (for a mollusk) it represents a remarkable intersection of science, math, myth, and culture. Since that is exactly the kind of intersection we love to write about, we decided to put together a little “teaser” issue all about it.



NAUTILUS



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Nautilus Issues Library



ISSUE 46

Balance

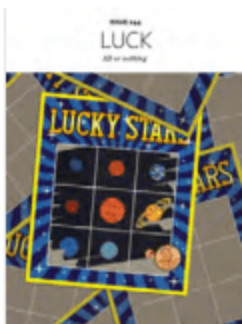
Peel back one balance, and you find another. In this issue, each balance leans against the next: mental against physical, evolutionary against ecological, one infinity against another. The web of balances that make up our world is intricate, full of tiny stable points and unexpected transitions.



ISSUE 45

Power

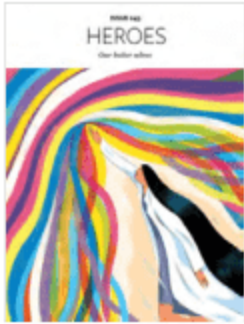
Problems of power resist solution. As other aspects of our lives have been entirely transformed for the better—the ability to communicate with each other, for example—just a little over a tenth of the world lives in a full democracy, and democratization has stalled or reversed in many parts of the world. Why is power a hard problem? Maybe because it is necessary but dangerous, intimate but foreign—a tangled externality, and possibly the very first one.



ISSUE 44

Luck

They say it's better to be lucky than good. But shouldn't statistics have put the idea of "being" lucky to bed? Or is luck really all about story, rather than statistics?



ISSUE 43

Heroes

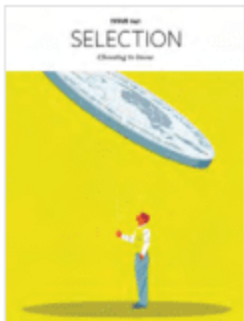
Where have all the real heroes gone? It's a refrain you find in articles on our celebrity culture, movie reviews wondering why modern superheroes need to be so flawed, and in our own private conversations.



ISSUE 42

Fakes

We are more concerned than ever with fakes, maybe because it's easier than ever to manufacture them. From fake diamonds to fake journals, we inhabit a space created by technology, complexity, and a fracturing of authority, and spend plenty of time making stuff up.



ISSUE 41

Selection

Even Mother Nature can seem reluctant to choose, keeping cats both dead and alive, and running up a large multiverse tab. By some accounts, there is no such thing as time, or events, which means that what we experience as choices are just mathematical solutions to distant boundary value problems.



ISSUE 40

Learning

Have you seen the videos of the crow solving an eight-stage puzzle? Or of Lee Sedol losing to DeepMind? Learning seems to extend everywhere from the mobile above an infant's crib to machines to, some argue, evolution and physical law. As we discover and build new learning systems, the biggest lessons may be about how we fit into the new landscape around us.

**ISSUE 39**

Sport

When we think of sports science and technology, the physics of a curveball might come to mind—the hardware. But there is also a high technology, of sorts, in the software of sport. Without it, would we understand sportsmanship, and what it means to love playing more than winning?

**ISSUE 38**

Noise

It's hard to imagine any signal coming from space that would be of no interest. Our modern definition of noise, as unwanted sound or signal, is a relatively recent one—the word used to mean strife, and nausea. Is the new meaning useful? Or does it encourage us to dismiss what we can't interpret?

**ISSUE 37**

Currents

There is a miles-long solitary wave trundling its way across an ocean right now. It will travel for days on end before dissipating its billions of joules of energy. From motes of methane pushed by distant starlight, to words smuggled out of a silent place, our world is full of unseen currents that carry and connect.

**ISSUE 36**

Aging

Aging may be the only universal process. Everything does it: living things, rocks, maybe even protons (we're not sure yet). Despite that—or because of it—we humans have long dreamed of conquering it.

**ISSUE 35**

Boundaries

If rules only exist to be broken, then so do boundaries. After all, a boundary is just a rule in space. Boundaries end up facilitating exchanges as much as blocking them, and some of the most productive activities happen in their vicinity.

**ISSUE 34**

Adaptation

Adaptation is hard—everywhere. Organisms responding to a changing environment may cycle through failed designs, or perish by evolving too slowly. A self-driving car moving down an unfamiliar road will suddenly try to take an imaginary exit. It's harder to make someone change their mind than it is to tell them they're right.

**ISSUE 33**

Attraction

Opposites attract. Or is it birds of a feather flock together? Our brains could be chaotic storms governed by strange attractors. Or is the chaos ungoverned, and less important than we think? When it comes to attraction, nothing is simple.

**ISSUE 32**

Space

Try imagining a universe without color, or time. Unusual, but possible to visualize. Now try imagining a universe without space. What does it look like? Without space, we seem not to be able to start.

**ISSUE 31**

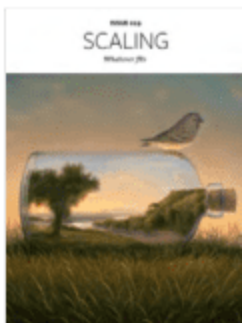
Stress

Stress is a complicated adversary. It is a silent killer, but a little bit is good for you. Pushing things and people past their usual boundaries has made the world the way it is, and naturally involves the unknown. Would we want it any other way?

**ISSUE 30**

Identity

Science has taken many of our putative identities and melted them together. But we are jealous of our human identities. Those, [redacted] like to think are different. [redacted] like to keep them intact and persistent. Given what we know, is that a fool's errand?

**ISSUE 29**

Scaling

How things become bigger or smaller reveals a lot about them. How big can a city get and still be a city? What about a classroom? Can a "theory of everything" describe our universe at all possible scales? "How much," we learn, is often just as important as "why" or "how."

**ISSUE 28**

2050

While the near future is a choice, the distant future is an institution. Governments and non-profits produce long-term forecasts by the thousands. Fortunes change hands based on corporate earnings expectations. People have constructed over 10,000 active time capsules. Despite all of this frenetic activity, the future is more often than not a surprise.

**ISSUE 27**

Dark Matter

While the cosmological version is the most famous, it is far from the only dark matter story in science. There are silent neurons, missing fossils, and nighttime animal migration; death and conception; algorithms both genetic and man-made. Seeing, it turns out, isn't the only path to believing.

**ISSUE 26**

Color

Envy is green, anger is red, and exoplanet artist renderings are usually swirly brown. Purple used to mean royal, until the chemists figured out how to make it cheaply. Blue is usually the last color to be introduced into a language. And for the philosopher? It's all qualia.

**ISSUE 25**

Water

What could we not know about water? As it turns out, plenty. It covers most of the Earth, but is regularly in short supply. It is intimately involved in the processes of life, but life on other planets may not need it. It is inscrutable and unpredictable, but we try to price it. The debates show no signs of ending.

**ISSUE 24**

Error

Nature is full of "mistakes," from improperly copied genes to animals deceiving each other. Even foundational physics has shed some of its air of mathematical inevitability, and wrestles with why we live in a universe that is "right" for life. Is there a "wrong" universe out there? And how does the scientist negotiate this hall of mirrors, and come out clutching the Truth?

**ISSUE 23**

Dominoes

One dreary Tuesday, Leó Szilárd took a walk. Crossing the street, he realized that nuclear reactions could be maintained by the neutrons they themselves produced. A self-sustaining nuclear reactor became a reality nine years later, and the bomb in another three. This issue, we watch dominoes fall in human lives, across the oceans and under cities. They even crash the stock market. The end result? It's hard to say—which is kind of the point.

**ISSUE 22**

Slow

Slow is good. That's the message of more than a dozen modern slowness movements, from slow fashion to slow food to slow church, most of which have sprung up in the last 20 years, and most of which point a steady finger at modernity. This issue is full of people chasing slow. Slow living, slow aging, slow science—the idea of slow has a hold on us.

**ISSUE 21**

Information

We're living in the information age. We've uncovered vast stores of information in our genes, generated even more, interpreted physical law in terms of information flow—and we're always on our phones. What is the difference between a fact and information? Does information need a consciousness to interpret it? Old notions of information, and our relationship to it, are being challenged like never before.



ISSUE 20

Creativity

While we sometimes consider creativity a hallmark of being human, it is not only a human trait. Crows can perform experiments and use induction; computers can evolve new algorithms that surprise their human programmers. Is creativity a mechanical and inanimate thing, so human creativity differs only in degree? Or is human creativity different, reflecting something special about us?



**DECEMBER 2014
SPECIAL ISSUE**

In Our Nature

Nature is “the phenomena of the physical world collectively ...as opposed to humans or human creations,” according to the *Oxford English Dictionary*. There’s us, and there’s our environment. Where the definition separates us from nature, the word itself reminds us how linked we are. Nature emerges not just as a backdrop, but as a character on stage with us, and one who can be remarkably human.



ISSUE 19

Illusions

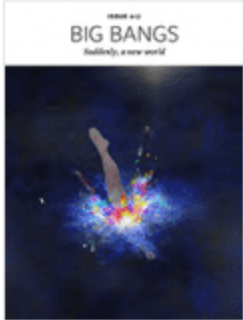
Long before David Blaine, there was the mimicry of the tiger moth—it avoids bats by emitting an ultrasonic signature similar to that of a noxious species. Long before that, some physicists say, an alien civilization launched an intricate simulation of reality, which we currently inhabit. Even if that hypothesis is false, don’t we entertain our own illusions every day, from free will to free markets?



ISSUE 18

Genius

Genius is a category that is both important and not well understood. Is genius accomplishment or talent? Social construct or hard fact? Derivative of intellect or something else? Restricted to humans? An evolutionary advantage, or a weed?



ISSUE 17

Big Bangs

Where do we start? Often, with a bang. Take our modern universe. It didn't grow slowly and linearly, but was instead a violent departure from what came before. Big Bangs like this aren't exclusive to cosmology: There are the sudden appearance of language and tool use, the Cambrian explosion in the diversity of life on Earth, and the sharp divergences of economic cycles.



ISSUE 16

Nothingness

Nothingness is a category that stands apart from all others, defying description and tracing the boundaries of our knowledge. Forever trying to banish it and explain it away, we are also endlessly fascinated with it. From virtual particles filling the vacuum, to the invention of zero, to Sartre's claim that nothingness lies at the heart of being, we've been thinking about nothingness for a while.



ISSUE 15

Turbulence

Is turbulence simply the breakdown of order? Or is it, in fact, order by another name? Cosmic winds, the human heartbeat, and financial markets all have it. What commonalities persist among all these examples? Can turbulence be controlled, and should we try?



ISSUE 14

Mutation

Mutations make us what we are, linking and blurring the harmful and the helpful. Even the most intricate biological mechanisms, with the most important functions, are already slipping into the future to do something else. In this issue, we trace the outlines of a world that is continually abandoning and inventing itself, often with our help, creating and destroying as it goes. [READ ONLINE](#)



ISSUE 13

Symmetry

Symmetry, on first glance a mere detail of arrangement, has unexpected powers, aesthetic, practical—even moral. We find it in physics, families, and the brain. As shorthand, it heightens our powers of observation, helping us recognize faces and calculate particle interactions. As organizing principle, it steers genes and galaxies. Scientists, long ago convinced that it is mixed into the truth of things, flock to it.



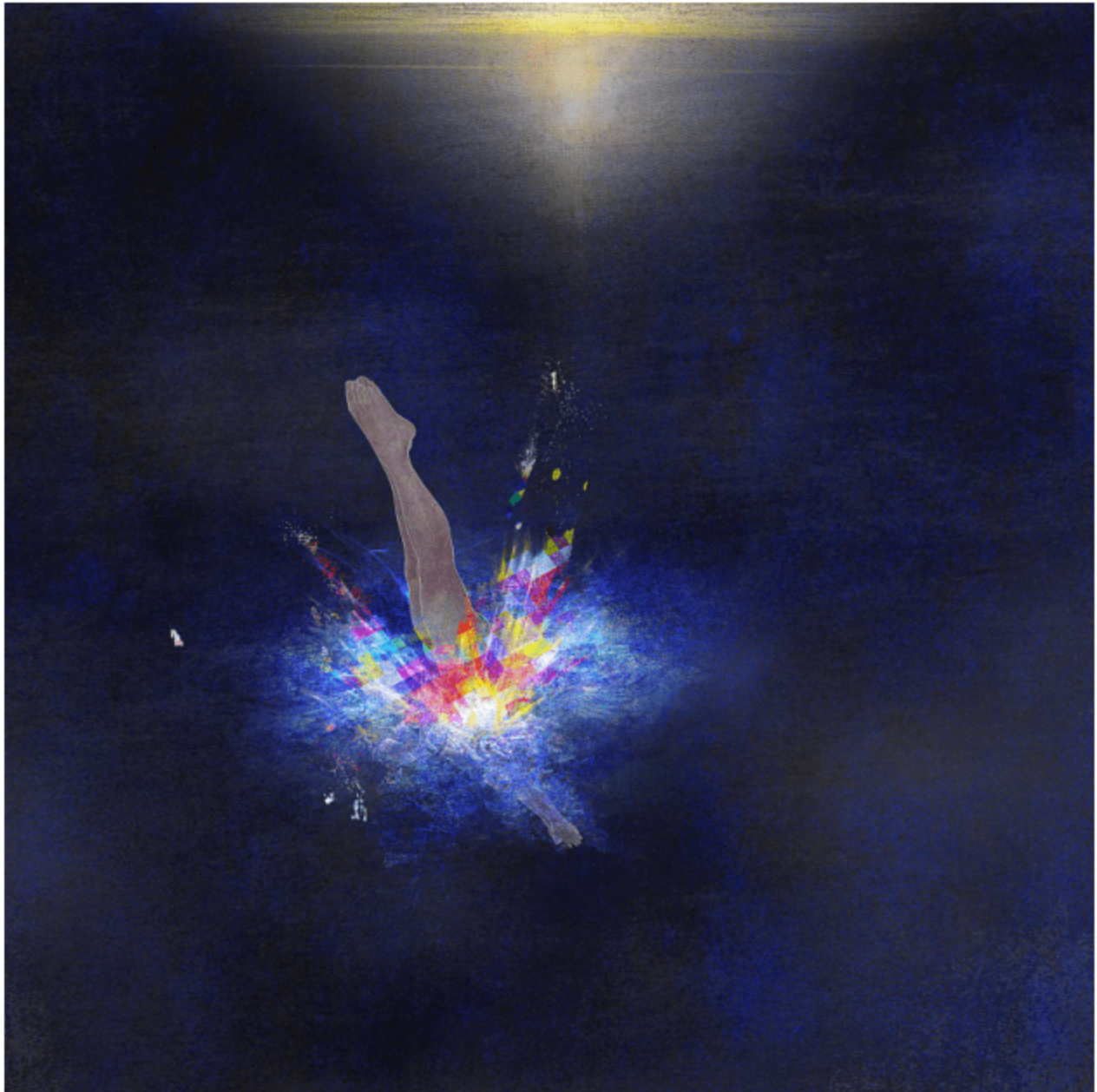
ISSUE 12

Feedback

This issue, we cast our gaze onto the feedback loops that regulate, control, and sometimes destabilize the world around us. We unearth them at every scale of space and time, from ants to continents, seconds to millions of years, human myths to the origins of life. Most surprising of all, we find a world carefully balanced between order and disorder, courtesy of one curious and powerful phenomenon.



NAUTILUS



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