



# Bulletin

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Issue 2/2019



Mainstream

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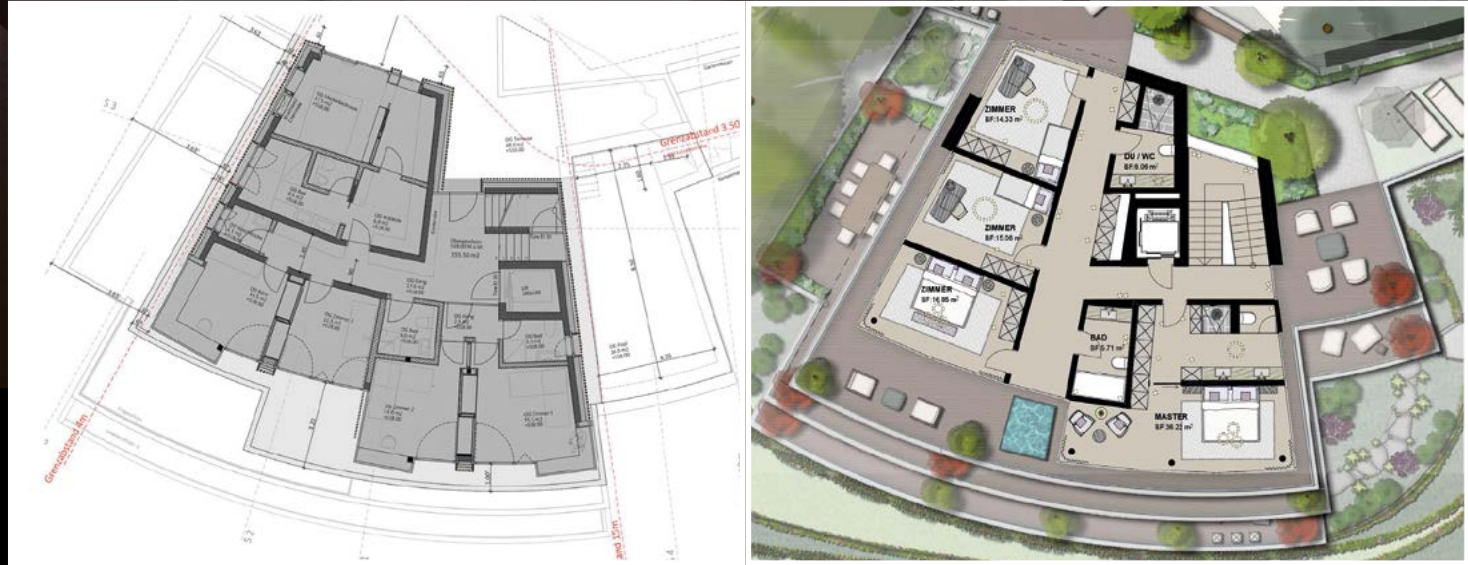
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# Constantly questioning

“The mainstream is always under attack,” computer pioneer Bill Gates once famously said. In a conversa-

tion with his longtime friend and competitor Steve Jobs, Gates was referring to the fact that the market leader is constantly being challenged. This has rarely been as true as it is today. We are living in a time when the old truths are being seriously questioned or refuted, not only in business, but also in politics and society at large.

Take, for example, Martin Cooper (90), who invented the mobile telephone for Motorola by thinking differently than his competitors at industry leader AT&T (p.10). An analysis by Oliver Adler, Credit Suisse’s Chief Economist Switzerland, reveals how mainstream thinking in the field of economics has steadily changed over time (p.50). Political scientist Yascha Mounk discusses the rise of populism into the political mainstream, as well as the challenges this poses for liberal democracies (p.46). It is also important to note that the mainstream always plays an important role in the commercial sector, since it constitutes the largest target group. In China, for example, a new and rapidly growing middle class is altering patterns of consumption – with global consequences (p.30).

Let’s take a look back: In this year’s first issue of Bulletin, we explored the importance of journalism in a steadily changing media landscape, and conducted a thought experiment. We asked you, our readers, to tell us what monetary price would accurately reflect the value of Bulletin. The survey, which sparked a great deal of interest, showed that a majority of our readers considered a hypothetical price of at least 10 Swiss francs to be appropriate. Many respondents also expressed their appreciation for Bulletin as a contribution by Credit Suisse to the public debate and as a high-quality, free publication. We are delighted that Bulletin is so highly regarded, and will continue to strive to live up to our readers’ expectations.

Happy reading!

Steven F. Althaus  
Head of  
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Contributors to this issue:

<sup>1</sup> Marisa Drew The CEO of Credit Suisse’s Impact Advisory & Finance Department, which was established in 2017, spoke with Javier Goyeneche, a Spanish entrepreneur who makes fashionable clothing out of plastic waste recovered from the ocean. Their conversation about partnerships, optimism and sustainability as the “new mainstream” can be found on page 22.

<sup>2</sup> Michael Radunski and <sup>3</sup> Anne-Sophie Heist Journalist Radunski lives in Beijing and writes for NZZ am Sonntag, among other publications. Photographer Heist reports from Shanghai for various international magazines and newspapers, including Condé Nast Traveller, Monocle and the Financial Times. Radunski and Heist accompanied a young Chinese woman on a shopping trip that took them to cafés, boutiques and other stores and revealed how global consumption is changing and how the online and offline worlds are increasingly converging. Page 30

<sup>4</sup> Hanna Wick, the 2014 “Science Journalist of the Year” and a former editor for NZZ and SRF, interviewed Dirk Helbing, a professor at the Swiss Federal Institute of Technology Zurich (ETH) who studies group behavior. A conversation between colleagues: Helbing and Wick are both physicists – and both are skilled at communicating with non-academics. First question: “Mr. Helbing, do you consider yourself part of the mainstream?” Page 58

The cover is taken from an art project called “Exactitudes.” More information can be found on page 6. The image shown here: 143. Annazaranina – Saint Petersburg 2013





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# A manifestation of beauty

The concept of average – the mainstream – was born in 1844, when Adolphe Quetelet, a Belgian statistician and astronomer, observed something that was as banal as it was profound: Human beings tend to be average.

68 %

14 %

2 %

*How did Quetelet come to that insight?* When comparing the height and chest circumference of 5,000 Scottish soldiers, he noticed something perplexing: Only a few of them had a very narrow or very broad chest, while a large number had an average chest size. More precisely, 68 percent were average in terms of chest circumference, 14 percent were above average and another 14 percent were below average, while those with truly massive or exceptionally puny chests accounted for 2 percent each. Plotted on a graph, the data produced a perfect bell curve. These findings were met with fierce opposition from the scientific community. However, inspired by the calculations of his friend Pierre Simon Laplace, a French mathematician, as well as by the work of German polymath Carl Friedrich Gauss (for whom the Gaussian distribution, another term for the bell curve, is named), Quetelet went on to examine other human traits. Whether he was looking at life expectancy, creativity or criminal behavior, the distribution was always the same. The extremes account for 4 percent, those who deviate somewhat from the norm make up 28 percent, and 68 percent of the population is within the average range.

We know today that what he observed is what we call the normal distribution. Under the laws of chance, the measures of many characteristics – in nature, the economy, physics – are scattered around an average, or mean. The fascinating thing about the bell curve is its generalizability. While there are many different laws of probability, most phenomena are normally distributed, with the largest number of variables within the mainstream.

Let's assume that a test is administered to 1,000 school classes. According to the laws of chance, the grades will be scattered around the mean – unless the students all cheat by copying from the same crib sheet, in which case the distribution will no longer be random.

So what can people today – entrepreneurs, for example – learn from Quetelet? The normal distribution is fundamental to business management, since it also applies to the demand for products, the durability of machine-produced parts and the number of sick days of a company's employees. On the other hand, if the number of sick days per employee is not normally distributed – assuming a sufficiently large number of employees – something is likely to be wrong with the data collection. What was actually a random distribution has probably been manually altered.

But 175 years ago, Quetelet took it a step further: He considered it not a weakness, but a manifestation of beauty that measures were clustered around the mean. In the middle of the distribution he identified the *homme moyen* (the “average man”), who embodied the average of all traits and thus, according to Quetelet, represented an ideal type. In other words, he saw the mainstream as the ultimate achievement. ■

Mikael Krogerus and Roman Tschäppeler are the authors of the international bestseller “The Decision Book: 50 Models for Strategic Thinking” and other books that provide accessible explanations of complex topics and models. They also write a column for the magazine section of the “Tages-Anzeiger” newspaper.

14 %

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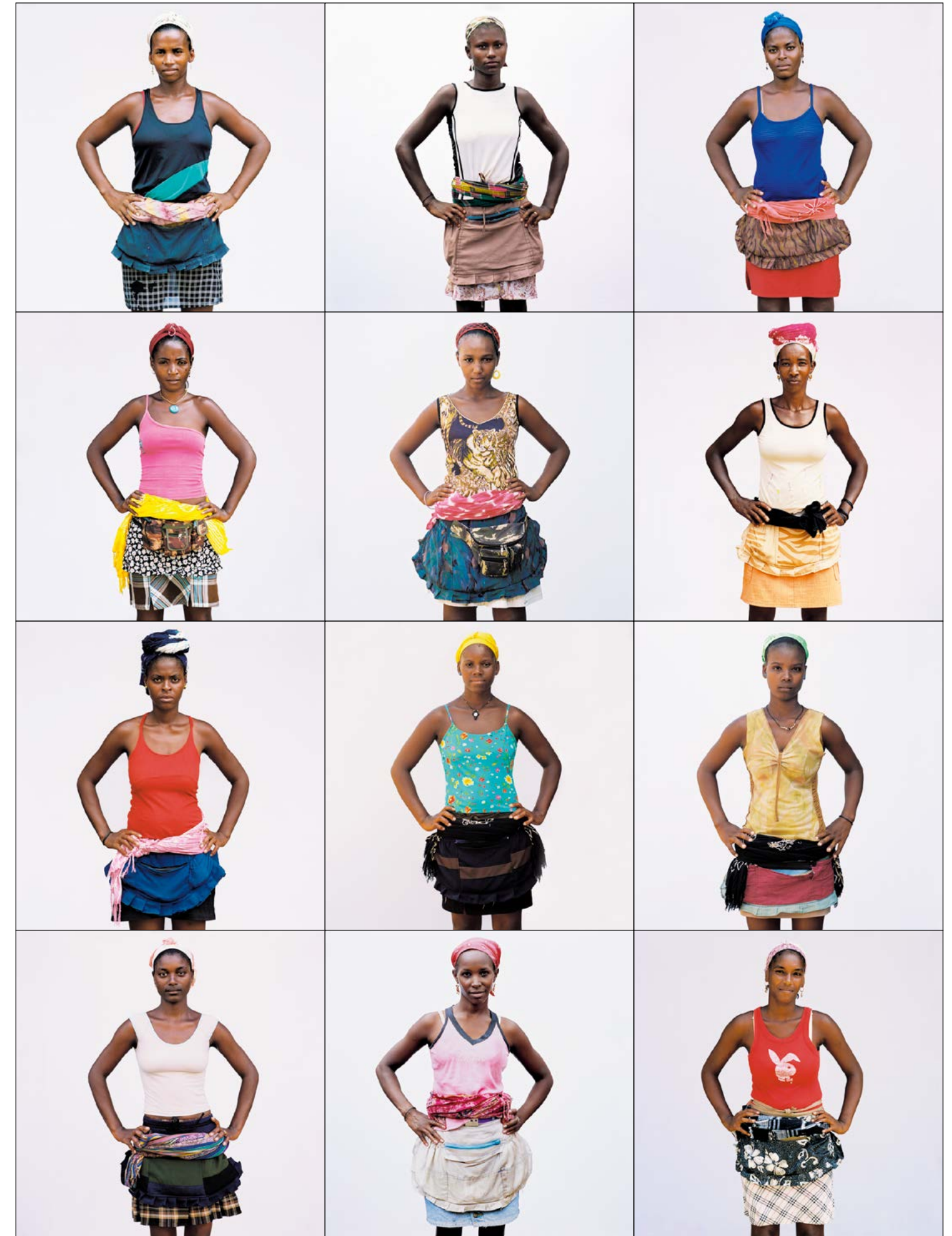
## Exactitudes

Everyone wants to be different, to be something special. But in actuality the opposite occurs – and we are all becoming more and more alike – which is what the Exactitudes series of photographs demonstrates. As one magazine aptly put it, the Dutch artistic duo of Ari Versluis and Ellie Uyttenbroek are “crushing any persisting dream you have of individuality.” Since 1994, the pair have been immersing themselves in everything from large social groups to the smallest subcultures and capturing the visual common denominator, the mainstream, whether girls on the beach in Brazil, espresso drinkers in Milan or vegetarians in Zurich. Ellie Uyttenbroek says, “It’s like being a policeman. You analyze people the minute they are in front of you. It can be very subtle.” Her secret: “Shoes reveal a lot.” In this issue, Bulletin is including 10 of the 167 Exactitudes.

Exactitudes









“Hi,

it's

Marty”





The world's first cellular telephone, 1983's Motorola DynaTac 8000x.



Martin Cooper (90) is considered the inventor of the modern cellular telephone. He grew up in Chicago and studied electrical engineering there. He then served as an officer on a submarine in the Korean War. He started working in the research department at Motorola in 1954, where he developed the cellular telephone, making the first call on April 3, 1973. He left the company later that year to found a number of technology companies together with his wife. He's been awarded the Prince of Asturias Award, among others, in recognition of his research. He lives with his wife in Del Mar, California.

# Martin Cooper, the father of the mobile phone, explains how he invented the device owned by two-thirds of the world's population.

Interview Simon Brunner and Michael Krobath  
Photos Serge Hoeltschi

Martin Cooper, you invented the cellular phone, but unlike the inventor of the telephone, Alexander Graham Bell, you haven't received much recognition. Do you find that frustrating?  
No, no, I can't complain. The world has treated me very well. I just finished a morning hike and now I'm back at my desk in Del Mar, looking out at the Pacific and the surfers. I do get enough recognition, and people still ask me for advice, because they think that I have some wisdom, some experience that might be useful to them.

Did your invention at least make you as rich as Bell?  
I agreed that the company would own my inventions when I was hired and sold them to the company for one dollar when I left. But that's totally okay. Motorola always treated me well, and I have earned more than enough in my life. Ideas are the most important thing. If I can think of something original, that's the most exciting thing that could happen.

Do you remember the very first phone call you made on a cellular telephone?

That was April 3, 1973. I stood on Sixth Avenue in New York holding the Motorola cellular phone, which weighed nearly a kilo at that time, dialed a number, and the amazing thing is that the call went through. The call went via a mobile radio station to a landline in a skyscraper in New York. Nobody pays attention to anybody else in New York, but people were standing and gawking at us because they had never seen anybody on the street with a telephone before.

Who did you call?  
Joel Engel, the head of the research department at AT&T, my rival. I said: "Hi Joel, it's Marty, Marty Cooper. I'm calling you from a cellular phone, on a real cellular phone, a personal, handheld, portable cellular phone." There was silence on the other end of the line. I think he was gritting his teeth. But we finished the phone call, and he was polite. To this day, Joel does not remember the phone call.

Why of all people did you choose to call your competitor?  
My team wanted to show the world that a small company like Motorola was able to develop this type of technology, since the telephone technology had been dominated by AT&T to that point. I had met up with a journalist and thought that maybe it would be a clever strategy if I made a call to my competitor on the device.

Did you realize at that time that it was a historical moment?  
No. I just thought: It works! And I was relieved. It wasn't until later that I understood that it was an important discovery.

What was your eureka moment when you came up with the idea for a cellular phone?  
I don't believe in the concept of the eureka moment. Innovation is the result of processes that slowly take form through observations. I was running the mobile radio business at Motorola, and especially the police and airport personnel were using the two-way radios at the time. That's when I observed that once people were connected, they could not give that up, and I realized how important personal connection is. Of course, it was already a possibility in the 1960s to have conversations while on the go. But telephones were either fixed in our homes or cars, or had very limited battery life. They were completely impractical. Our competitors from the AT&T Bell Laboratories were also working on cellular telephones at that time, and in 1969 they announced a new car phone. I knew right away – Bell was wrong.



In what way?  
Because for a hundred years, we had been trapped in our homes and our offices by wires. And now they wanted to tie us to our cars. That was not an improvement. The future was not car phones; the future was handheld phones. So we continued to develop that idea.

Is it true that you were inspired by the science fiction film series Star Trek?  
People talk about how we were imitating Captain Kirk and their communicators on Star Trek. That’s not true. We were imitating Dick Tracy from the comic strip. He was a private detective who wore a futuristic two-way wrist radio that also had video.

On September 21, 1983, ten years after your first phone call, the first commercial cellular phone in the world was released in the United States. What device was that?  
It was the Motorola DynaTac 8000x. It weighed 800 grams and was 33 centimeters long, almost as heavy as a free weight and longer than a ruler. It could store 30 telephone numbers and had a red LED display. That’s all that was possible. The battery lasted thirty minutes, and it took ten hours to charge.

What took it so long to be ready for the market?  
What took so long? Ten years from prototype to the store shelves is actually fast. We had to develop more than just the device – we needed to create the entire cellular network infrastructure, including base stations and switching centers. We also had to clear the legal hurdles, and we still had to fight the AT&T monopoly. Development cost us almost 100 million US dollars, and it was also being questioned internally.

What did the business plan look like?  
We were incredibly optimistic and predicted that there would be 200,000 cellular phones in New York in ten years. The phone cost nearly 4,000 US dollars – nearly 10,000 dollars in today’s dollars after inflation – and only the rich could afford it. Nevertheless, 300,000 Americans bought one within a year. But you know, today a city like New York has 10 or 15 million phones. More phones than inhabitants.

In the meantime, the cellular phone became the smartphone, and more than two-thirds of the 7.6 billion people in the world have a mobile device of some kind. How do you feel about the following: In everyday use, one sometimes wonders if your invention has improved our lives.  
I understand, and I’m happy to answer, but let me make one thing clear: The invention has had the greatest impact not in the West, but rather in the poorest countries in the world. The United Nations did a study and, 1.2 billion people moved out of severe poverty over a 20-year period. And the biggest influence was the cell phone. Because they were now economically networked. But the cell phone has also substantially contributed to education and medical care. A doctor in Mexico City can now diagnose somebody in a poor village remotely by using the camera in a cell phone. So these are the things that make my invention actually important.

On the other hand, there’s more and more talk about screen addiction, especially among children and young people. Do you ever regret your invention?  
That’s a serious problem and can have major consequences in extreme cases. I’m talking about not only addiction and isolation, but also people’s increasing rudeness and lack of consideration for others. But I’m confident that we’ll learn how to use these devices. Humanity has solved bigger problems than that.

How many hours a day do you use a smartphone?  
Less than an hour. I could live with checking my email only every couple of days. I really only need the device to be reachable in emergencies. And when I’m having an argument over dinner – something I like to do – it’s easy to use the phone to settle things and prove that I’m right.

How satisfied are you with the ongoing technical development of your invention? Honestly?  
I’m frustrated.

In what way?  
Cell phones today are not optimal. It starts with the hardware. Just think how impractical it is to put this plastic part up against your ear so that you can communicate. Everything is about megabytes and megapixels, but there’s nothing technologically revolutionary. It’s high time for the next innovation.

I’m confident that we’ll learn how to use these devices.

For example?  
The next invention is a phone that is there to be your servant, not the other way around. It should anticipate your needs. It should do these things without you even thinking about it. And it should make your life better. In the future, the phone will be replaced by a computer implant behind your ear. In the distant future, we won’t even have to talk. We’ll be able to communicate purely by thought. We’ll have our very own servers under our skin, which we’ll use to communicate with the rest of the world.

There’s been a lot written about 5G, the new wireless standard. How important is it?  
Honestly? I think it’s all hype.

Why is that?  
Because we have entirely different, much bigger, problems than a faster connection.

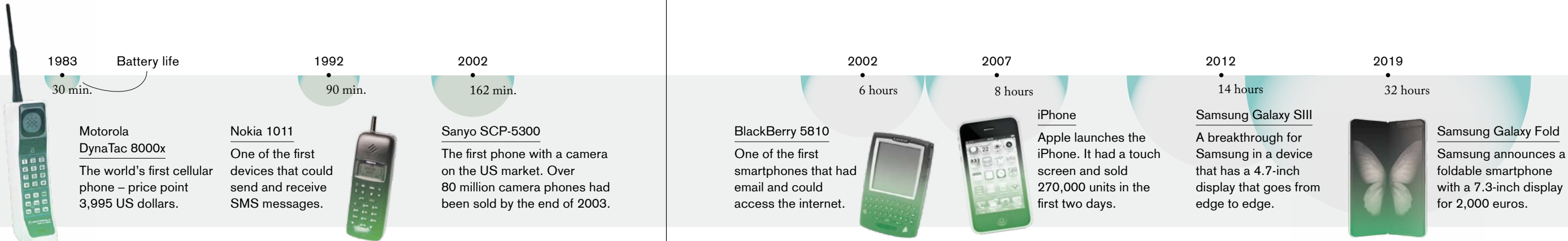
Are you thinking about batteries?  
Indeed. We haven’t gotten anywhere there. There are two bigger issues, however. Firstly, there’s not enough coverage. Lots of people in rural areas don’t have any signal – 14 percent of the US has no coverage at all. The second thing is that it’s still very expensive. Even in America, the poorest people cannot afford to have cell phones, which prevents them from getting information and services, and drastically reduces their chances of improving their situation.

Other than the cell phone, what would you say is the most important invention of the last century?  
No question – the internet...

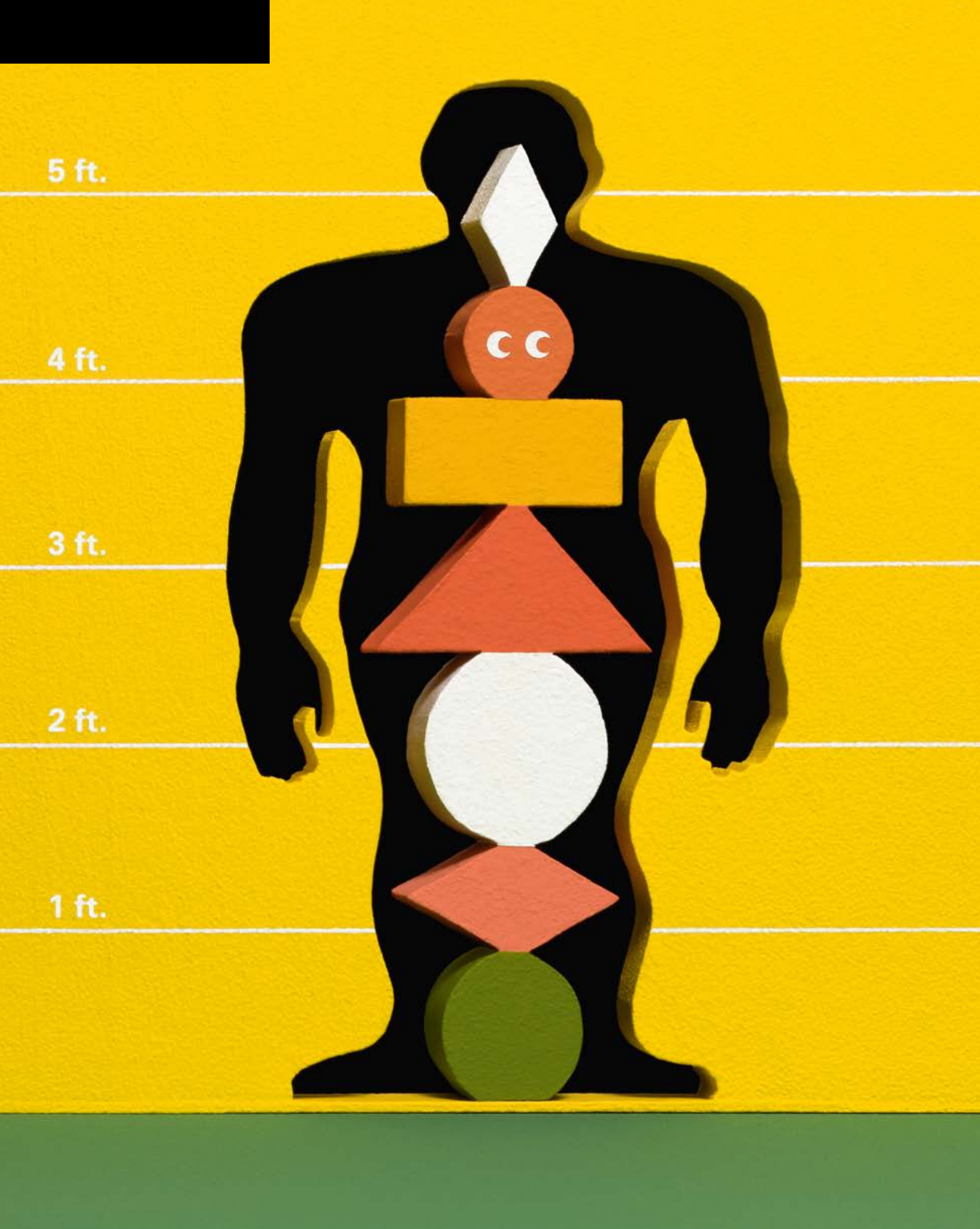
... which was invented in Switzerland.  
I’m aware of that. But these types of national vanities don’t interest me. The internet has made the world flatter and more just. The important thing is to get people educated enough to appreciate these inventions and do smart things with them instead of stupid things like, you know, wars and trade embargoes and the like.

You are turning 91 this year. What do you still want to achieve in life?  
I want to finish my book. Writing a book is very hard. I’ve written hundreds of articles, but writing a book takes discipline. And I was lucky to have married a younger woman. My wife is only 73, and she’s much smarter than I am. She’s created a number of successful businesses, and she just started working on a new one, which I’m helping with. But to answer your question, my biggest concern now is about staying engaged and staying physically fit. ■

Evolution of the cellular phone







# The end of average

Harvard professor Todd Rose is committed to eliminating standard selection processes in education and the work-place – because they’re a waste of valuable talent and money.

Text Steffan Heuer Illustrations Hudson Christie

At the end of the 1940s, the US Air Force had a serious problem. Too many of its pilots were losing control of their new fighter jets and crashing. The generals blamed human error. But the real root cause was very different. Air Force Lieutenant Gilbert Daniels analyzed the data on 4,063 pilots to find out what an average pilot needed to look like to best fit in a standard cockpit. Daniels sorted Air Force officers by ten criteria from height and chest circumference to arm length and made a shocking discovery: Not one of the pilots was “average.” The Air Force then took the logical next step and ordered that the cockpits be completely redesigned to include adjustable seats, foot pedals, and seatbelts.

This anecdote about a design fail can be found in the book “The End of Average”\* by Harvard professor Todd Rose, who issues this crushing verdict: “If you’ve designed a cockpit to fit the average pilot, you’ve actually designed it to fit no one.” Rose goes on to point out that the design changes the Air Force ordered include technologies that are standard in every car today. He has taken up the fight against the destructive effects of what he calls “the hidden tyranny of the average.” Rose heads the Laboratory for the Science of Individuality at Harvard.

**WE ARE MEASURED EVERY DAY** Rose argues that people cannot simply be lumped together. Like the pilots in the story above, every individual has different dimensions, strengths, and weaknesses and, therefore, there is no such thing as an average. And

the same thing that applies to the human body also applies to the human mind. Nevertheless, educational institutions and employers and even parents around the world still hold fast to the erroneous belief in “the average” when they grade, judge, categorize and sort their children, students, job applicants and employees based on fictitious norms.

Am I above-average? Is my child an above-average student? Is my employee introverted or extroverted? Every day, we are measured and judged on how close we come to or how far we deviate from hypothetical averages. The assumption that comparisons based on grades, scores, personality test results and performance reviews can possibly give us meaningful information about our potential is so deeply anchored in our consciousness that we don’t even question it. Todd Rose says that this assumption is spectacularly false, and he has set out to prove it scientifically.

Let’s take for example the misconception that people have inherent, persistent personality traits that are identifiable. The American psychologist Yuichi Shoda has been studying this question

since the 1980s. Shoda analyzed observations that had been recorded about the behaviors of hundreds of children at residential summer camps. The results showed that the children’s personality traits were context dependent. The children exhibited different – and even contradictory – personalities in different situations. For example, a child might be introverted in one situation but extroverted in another. Thus, scientists now talk about the context principle. Rose says that this principle also applies to employees. Context determines whether people will perform well in their jobs. Rose advises employers to change their processes for recruiting and promoting employees to match individual candidates with optimal contexts and performance profiles.

**DESTROYING TALENT** Rose’s approach is called design for the edges. What it means is that we have to accommodate the exceptions – what he refers to as jaggedness. We have to design for the 7-foot-tall man as well as the 6-foot tall woman, who will be unable to operate a machine because of their size; for the physics genius who can solve highly complex equations without pen or paper, but might fall behind in schoolwork due to being a weak reader. According to Rose, designing for the average destroys talent instead of fostering it. He says we need to change the way we think about talent, that we need to redesign our systems of education and work to accommodate as many exceptions – as much jaggedness – as possible if we want to make the most of people’s talents.

\*Todd Rose. “The End of Average. How We Succeed in a World that Values Sameness.” HarperOne, New York, 2016



**THE BEST EXAMPLE** Todd Rose is himself the best example of how there are always multiple pathways to success. Rose grew up in a Mormon family in rural Utah and admits that he was a terrible student. He dropped out of high school and, without a diploma, went from one low-paying job to another, from a bagel shop to a nursing home. When he was 20, he had a girlfriend and two young children and was living on public assistance. “One day my dad said to me: You’re not lazy. You just need to find something that really interests you.” Those words hit home. Rose completed his high-school equivalency diploma and enrolled in classes at his local college. The sense of accomplishment he gained there gave him the courage to apply to Harvard, where he not only earned his doctorate but inherited the new laboratory from its founder. Rose, now 44 years old, says he is living proof that judging people based on a few inflexible measures does society no good.

A number of institutions are already showing how we can tap into human potential more comprehensively and, therefore, better. “The technology already exists to nurture the potential of every single individual. We just have to use it,” says Rose, referring to digital tools that can adjust to each individual’s strengths and weaknesses, such as electronic textbooks that can be customized to each student’s reading level.

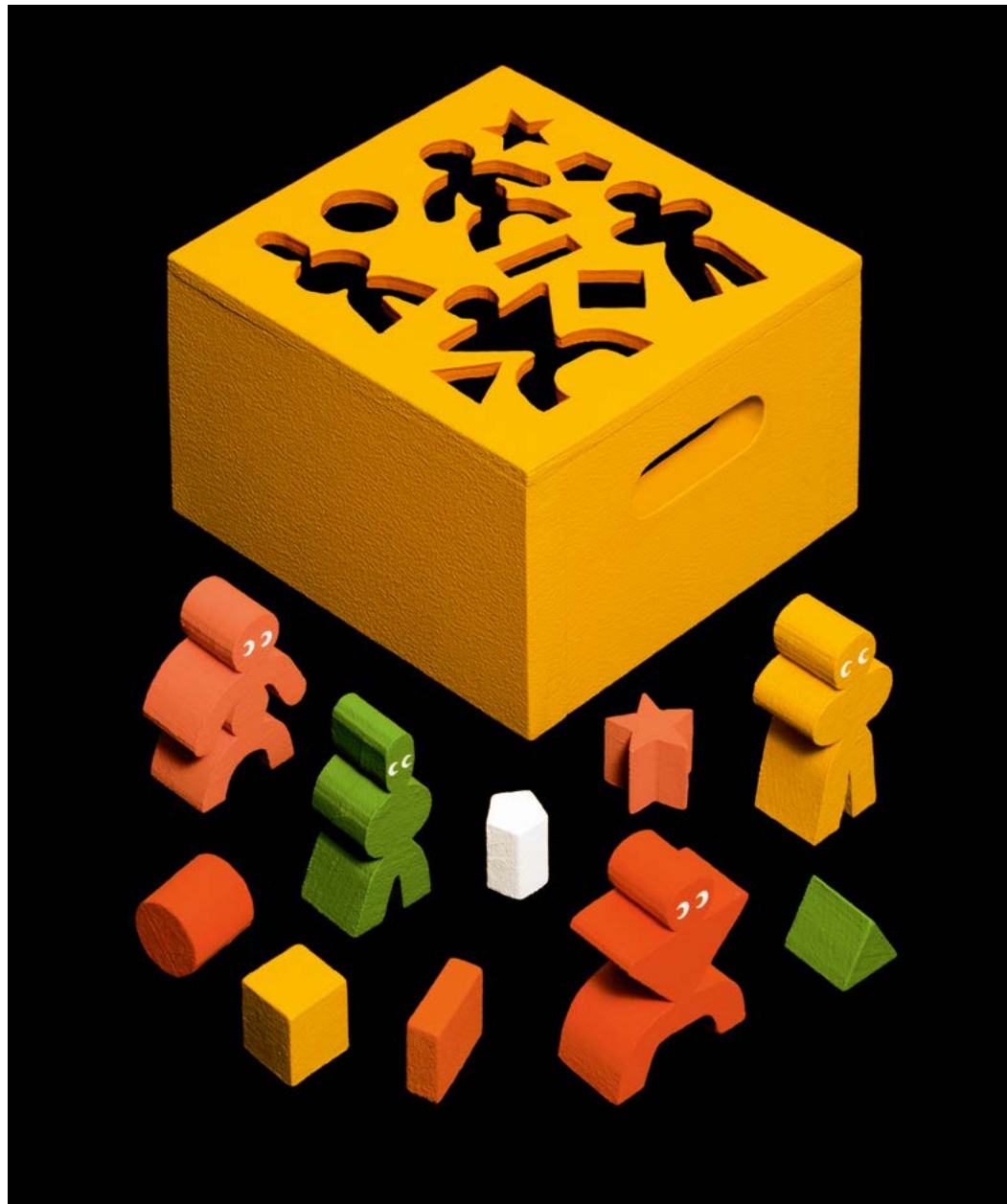
Internet giant Google is applying this approach to its recruiting efforts. The company has fundamentally changed its HR policy, and is now using millions of datasets instead of looking at grade point averages, test results, and what universities applicants attended – factors that usually tell an employer little about whether an applicant will be successful on the job. Former Google HR Director Laszlo Bock wrote a book entitled “Work Rules!” about this approach, which makes it possible to effectively examine some two million applications per year.

And then there is the Mastery Transcript Consortium (MTC), which was developed at a school in Ohio to replace the

standard high school transcript. More than 150 public and private high schools and elite universities have since joined the initiative, which aims to make the standard grading system obsolete. Instead of the traditional transcript, colleges and employers receive interactive profiles that explain an individual’s skills and abilities in detail.

“If you look at more than just grade point averages, you suddenly see important characteristics that we need in our connected world for working with technologies like artificial intelligence and robots,” says educational consultant Andrea Saveri in San Francisco. “How is my critical thinking, my ability to collaborate and work in a team – in other words, how are my social-emotional skills?” Saveri says that if you look only at grades to find the

If you look only  
at grades,  
you’re ignoring  
the new reality  
of work.



supposed best in a class and guide them into a static career, you are ignoring the new reality of work, in which people will hold a number of different jobs while continuing to learn new skills throughout their careers.

**GETTING HELP FROM HOLLYWOOD** The shift in thinking is moving too slowly for Todd Rose. So, alongside his professorship at Harvard he has established a think tank called Populace with an ambitious goal: to catalyze cultural and systemic change and bring about the end of average. Because the aim is to completely revolutionize the way we think, most of Populace’s 30 team members are located in Los Angeles rather than at Harvard and stay in regular contact with the entertainment industry. “Academia is not the best place from which to take on problems like this,” says Rose about the proximity to Hollywood. “We want to disseminate our ideas widely, include them in films and TV series, to make them more familiar, less threatening to people.”

Rose is optimistic about the end of average. “Grades will disappear. It’s already happening. Rankings make sense if it’s about choosing one applicant out of many. But there’s no reason to constantly measure individuals against each other.” ■

Steffan Heuer is a technology journalist and US correspondent for the business magazine “brand eins.” He also writes non-fiction books. He lives in San Francisco.

## From IQ to EQ

**IQ** – short for intelligence quotient – was developed by German psychologist William Stern. A professor at the University of Breslau, Stern described what later became known as the IQ test in his book “The Psychological Methods of Testing Intelligence,” which was first published in German in 1912.

Stern’s terminology became widely accepted and is still used today, despite the inherent risks of pressing a rigid, prescribed framework of tests onto complex individuals to obtain a single number that will lie either above or below a supposed average – and ultimately put entire groups of people at a distinct disadvantage. That is not to say that intelligence testing has no merit. It does, for instance, for determining a prospective pilot’s abstract-thinking or problem-solving skills before being entrusted with human lives.

### SUSCEPTIBLE TO MANIPULATION, NOT ALWAYS MEANINGFUL

Apart from IQ testing, companies have for decades used a number of tests to try to determine whether an applicant will be able to perform and fit into a company’s culture. Two such personality tests are the Big Five personality model (also known as the five-factor model and the OCEAN model) and – particularly in the United States – the Myers-Briggs Type Indicator (MBTI). Both tests are known to be easily manipulated and of little real value. In the mid-1990s, psychologist Daniel Goleman launched a counter-movement, which had everyone talking about EQ as a measure of emotional intelligence. According to Goleman, emotional intelligence is an individual’s ability to recognize, name and regulate his or her own feelings and those of others. A person who has empathy – that is, who can sense others’ feelings and how they see things – will experience more satisfaction at work and in their private life, and will be a better leader.

Although many academics have criticized Goleman’s model as imprecise popular science, more and more schools and companies are paying attention to social-emotional skills. A growing number of schools in the United States are trying to find a middle way between grades and empathy. Instead of using purely quantitative assessments, they are asking even elementary school students to orally assess their own ability to concentrate, collaborate and resolve conflict. The students present their self-assessments to their teachers and parents and then compare them with the teachers’ assessment – no comparison is made with classmates. This process is very similar to the modern performance review used at workplaces, in which workers measure their success against their own expectations and observations and are able to set realistic goals.





25. Grannies – Rotterdam 1998



112. Sapeurs – Paris 2008





Javier Goyeneche (49) is from Madrid and founded fashion company Ecoalf in 2012. Its products are manufactured from recycled materials. Spanish newspaper El Pais called him the guru of recycled fashion. A fashion and sustainability expert, Goyeneche was a panelist on the topic of “the Blue Economy” at the Credit Suisse Asian Investment Conference in Hong Kong in March 2019.

# “There is no planet B”

Ecoalf, founded by Javier Goyeneche, makes clothing from plastic bottles and used fishing nets that looks so great you would never know it came from waste in the ocean. Could sustainable fashion become mainstream?

Interview Marisa Drew, CEO of the Impact Advisory and Finance department, Credit Suisse Photos James Rajotte



Ecoalf recycles six different materials. Pictured: processed plastic at various stages.



J

Javier Goyeneche, according to a recent study, there will be more plastic than fish in the ocean by 2050. What can we do to prevent this?

First of all, we have to invest in education. People need to understand how dire the situation is, and they need information. When we go into schools and tell the children about what we're doing, they get it right away. People sometimes ask, "What kind of planet do we want to leave to our children?" but the real question is: "What kind of children do we want to leave to our planet?"

Only 9 percent of the approximately 6,300 megatons of plastic waste are recycled in the world today. How can we improve this and become more active? Governments certainly play a very important role, together with the consumers themselves. After all, they're the ones who are throwing plastic bottles into the ocean – they don't get there on their own. And corporations bear responsibility as well. They should do more to promote the circular economy. *[Editor's note: The circular economy aims to make the most of existing resources while using as few new resources as possible.]*

Which recycling strategies actually work best?

It's probably a combination of all of the approaches. But certainly, collecting plastic that's been discarded is the least promising strategy – it should be prevented from even getting on the ground or into the ocean in the first place.

You've done this laborious work yourself, with fishermen in Spain and Thailand. How did that come about? One day a fisherman took me with him out to sea, and I saw that the net was full of garbage when it was hauled in. It was clear to me that something had to be done. I convinced fishermen on the east coast of Spain to take a waste bin with them and collect garbage from nets. We started with only three fishermen, and now 3,000 of them pull more than 400 tons of trash out of the ocean every year.

And you launched a similar program in Thailand?

Yes, we worked with the government to start a three-year program. It's important to be clear, though: This is not a Spanish problem or a Thai problem, it is a worldwide problem. There is plastic in Mexico, the US, Colombia, Greece, Indonesia, China – everywhere. Either we deny the problem until it's too late, or we take action now.

How did you end up starting your company Ecoalf, which makes stylish clothing from recycled materials? I started a fashion company in 1995, which I sold in 2008. After that, I wasn't really interested in the fashion business anymore. I wanted to get involved in sustainability. For two years I searched fruitlessly for a suitable project in Spain. Then I decided to create something myself by combining fashion – an industry I'm versed in – with sustainability. My son Alfredo was born around then, so I called the new company Ecoalf.

What a wonderful legacy. Help us understand the Ecoalf business model a little better: Which raw materials do you use to make clothing?

We recycle six different materials. Many people are not aware of how many different quality levels of plastic there are. Fishing nets, for example, are made from Nylon 6.6, the highest quality. They require only seven chemical steps to be turned from a raw material into a piece of clothing. Petroleum, for comparison, requires 17 steps to get to that state. For a down jacket, we need approximately 80 plastic bottles. Also, we work with a company in Taiwan that collects used coffee grounds, dries them and mixes them

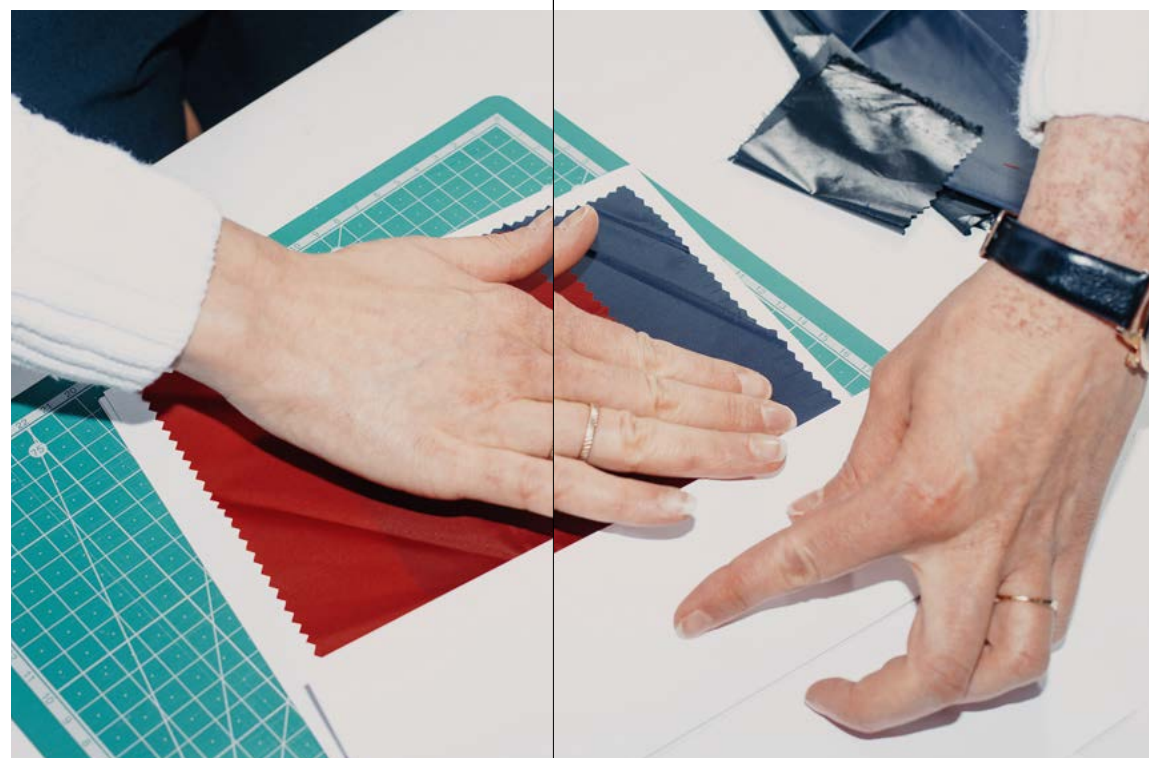
with plastic. This mix has excellent characteristics and doesn't need many chemicals. The resulting fabric is odor resistant, quick drying, and sun protective. We invest a great deal in cotton recycling, because cotton production is not very sustainable due to the tremendous amount of water required. Finally, we recycle normal wool and make flip-flops out of used truck tires.

Ecoalf reached the break-even point in just its fourth year of operation. What other goals does the company have? This year we want to make a significant profit for the first time. The start-up costs for Ecoalf were higher than those of a normal fashion company. Recycling wasn't considered cool yet, and people told me that I was crazy. It took some time for consumers to understand that Ecoalf is an innovative fashion-tech company. Another problem is that sustainable products tend to be expensive. Because we didn't want to provide an excuse for consumers in the form of high prices, we positioned our products as mid-market – with correspondingly thin margins for us. We have to sell a high volume of products to make money. And that takes time.

Years ago, the New York Times called the LOHAS (lifestyle of health and sustain-



1



2



1, 2 Fitting clothes at the Ecoalf design studio in Madrid, where new garments are developed.

3 A coat at the Ecoalf flagship store in Madrid, manufactured using 40-percent recycled nylon made from old fishing nets.

3





“Good design is a basic requirement; telling a story comes next,” says Ecoalf founder Goyeneche. Pictured: a designer in Madrid.

The age of plastic

Global plastic production (in millions of tons, or megatons):  
1950: 2  
2015: 380

Growth rate of plastic production:  
8.4 percent (more than twice as fast as the gross world product).

8 percent of oil extracted is used to make plastic – more than for the global aviation industry.

Scientists predict that there will be more plastic than fish in the ocean by 2050.

Of the 6,300 megatons of plastic waste accumulated in the world by 2015, 9 percent has been recycled, 12 percent has been burned, and 79 percent has ended up in landfills or the environment.

These numbers are taken from the Credit Suisse report “The age of plastic: at a tipping point”.

ability) market “the biggest market you’ve never heard of.” Is sustainability the new mainstream in fashion?

I don’t know if I’d say that. But it’s important to me that sustainability is here to stay. More and more people are realizing that we can’t keep living as if we’ve got a spare planet. The conditions are ripe for sustainable fashion to break through. Today’s sustainable products look great, and they have the same technical properties as non-recycled materials.

Which selling point is more important: the sustainability or the design?

No consumer is ever going to say, “I love your story, which is why I wear your swimsuit, even though it doesn’t fit very well and only looks OK.” Good design is a basic requirement; telling a story comes next. We speak to the heart in our shops. We show videos about how our clothes are made and invite speakers to talk about sustainability and innovation.

In financial circles, there is a lot of focus on impact investing, which means investments that – along with financial

returns – strive for positive social/ environmental benefits. Ecoalf fits into this category. I think it’s very important for investors to find ways to both make a profit and create a positive effect when they invest money. Credit Suisse is doing some truly pioneering work in this area. All companies need money to develop, and for those that make sustainability a central component of their strategy and face the associated challenges, it is important that there are opportunities for investors to engage in long-term, targeted investing in a sustainable way.

Goal 17 of the UN’s Sustainable Development Goals centers on strengthening partnerships. How important are cooperation agreements with other companies to you? They are a key part of our company culture and the fastest way to grow. That’s been in our DNA from the beginning. We want to work with people who are like-minded. That’s also how we met a year ago.

Exactly, that was at the first Credit Suisse Impact Roundtable in Lisbon that centered on marine conservation and the Blue Economy, aiming to create investment opportunities in this space. We were impressed by Ecoalf right from the start. It was such a great event – connecting thought leaders, entrepreneurs and investors from around the world. And at this conference we actually got to know an important investor, who is helping us to drive Ecoalf further.

Although you are often confronted with the negative side of this world, you like to underscore how optimistic you are about the future. What is it that gives you hope? I believe there is a good chance of saving the world. Environmental activists tell me that in field tests they have been able to restore 90 percent of sea life within five years. We should remain optimistic while also getting to work immediately. There is no alternative, no Planet B. ■

# Are you average?

## Our lives in numbers

Text Sara Carnazzi Weber Illustrations Klaus Kremmerz

### Work

#### Less time at work in affluent countries

Per capita annual hours worked, per capita income <sup>1</sup>

Cambodia	2,510 hrs.	3,124 dollars
USA	1,765 hrs.	51,922 dollars
Switzerland	1,568 hrs.	57,218 dollars
Luxembourg	1,502 hrs.	93,655 dollars

Average hours worked per week in Switzerland  
41.7 hours



Gross annual household income in Switzerland

CHF 120,396  
Global mean 9,733 dollars <sup>2</sup>



#### Easy tax

Tax return: amount of time corporations need each year to file taxes

United Arab Emirates	12 hrs.
Switzerland	63 hrs.
Brazil	1,958 hrs.

The global average is 237 hours, down from 302 hours in 2005.

#### Where women and men are equal

Median income: Wage differential between men and women according to the OECD

Costa Rica	1.8%
OECD	13.8%
Switzerland	14.8%
South Korea	36.7%

#### The journey is not the destination

Average daily commute time

Israel	97 min.
United Arab Emirates	96 min.
India	91 min.
Switzerland	69 min.
Average (52 countries)	69 min.
Japan	39 min.

#### Automobiles over trains

Transportation: How do the Swiss get to work?

Automobile	52%
Rail	17%
Local public transportation	14%
Motorized two-wheeled vehicle	2%
Bicycle (incl. e-bikes)	7%
On foot	9%

Sources: OECD, Swiss Federal Statistical Office, Dalia Research, Gallup, Feenstra et al., World Bank.  
<sup>1</sup> Per capita income with purchasing power parity, in constant 2011 international dollars; <sup>2</sup> Value for Switzerland and for the world not from the same survey.



# Leisure, consumption and family

## We sun worshippers

Swiss citizens who have used a tanning facility at least once \_\_\_\_\_ 38%  
 People who do so regularly \_\_\_\_\_ 8%  
 Annual new cases of skin cancer (melanoma) per 100,000 residents \_\_\_\_\_ 25\*

\* peak value among 40 countries

## Hiking is the miller's passion...

Favorite recreational activities among the Swiss

1. Hiking, picnics and day trips
2. Spending time with friends and acquaintances
3. Village, district and club festivals
4. Large, traditional festivals
5. Visiting the zoo

## Ready for some island time!

Favorite summer vacation destinations for the Swiss

1. Crete
2. Mallorca
3. Kos

## People of Ticino are the Americans of Switzerland

Time spent watching television per person per day

German-speaking Switzerland \_\_\_\_\_ 121 min.  
 Suisse Romande \_\_\_\_\_ 139 min.  
 Italian-speaking Switzerland \_\_\_\_\_ 163 min.

USA: 238 minutes (2017), down from 270 minutes in 2013.<sup>1</sup>

## The largest and smallest ecological footprint

Annual CO<sub>2</sub> output per capita (within national borders)

1. Qatar \_\_\_\_\_ 30.8 t  
 10. USA \_\_\_\_\_ 15.0 t  
 24. Germany \_\_\_\_\_ 8.9 t  
 57. Switzerland \_\_\_\_\_ 4.5 t  
 141. Democratic Republic of Congo \_\_\_\_\_ <0.1 t

Municipal waste per person per year in Switzerland  
 720 kg

## Quality and good value for money

Automobile sales in Switzerland by model (January – March 2019)

1. Škoda Octavia \_\_\_\_\_ 2,361
2. VW Golf \_\_\_\_\_ 1,681
3. VW Tiguan \_\_\_\_\_ 1,511

## Inequality in the home

Division of household chores for couples in Switzerland

Men \_\_\_\_\_ 3%  
 Women \_\_\_\_\_ 74%  
 Both partners together \_\_\_\_\_ 21%  
 Others \_\_\_\_\_ 2%

## Living in Switzerland (and in Japan)

Household size in Switzerland \_\_\_\_\_ 2.2 people  
 Average rent \_\_\_\_\_ CHF 1,322  
 Living space per person \_\_\_\_\_ 45 m<sup>2</sup>

The Japanese Ministry of Land, Infrastructure, Transport and Tourism recommends that each Japanese should have 25 m<sup>2</sup> of living space for a "healthy and culturally fulfilling life."<sup>1</sup>

## Weight gain on the rise

The percentage of Swiss people who are obese has doubled since 1992.

Men \_\_\_\_\_ from 6% to 12%  
 Women \_\_\_\_\_ from 5% to 10%

In Chile, 48% of people see themselves as overweight. A scientific study estimated the ratio at 74%.<sup>1</sup>

## Welcome, new baby!

Average number of births per woman

Nigeria \_\_\_\_\_ 7.2 children  
 Switzerland \_\_\_\_\_ 1.5 children  
 Hong Kong \_\_\_\_\_ 1.2 children

The global average has fallen in the last 50 years from 5.0 (1966) to 2.4 (2016).

## I can't do this anymore

Since 2000, divorce figures (number of divorces per 1,000 people) have remained constant at 2.1 in OECD countries and in Switzerland. Many countries where divorce was previously almost unheard of have experienced a sharp increase in the same time period:

Armenia \_\_\_\_\_ from 0.4 to 1.2  
 Vietnam \_\_\_\_\_ from 0.2 to 2  
 China \_\_\_\_\_ from 1 to 2.7  
 Kazakhstan \_\_\_\_\_ from 1.8 to 3

## I do (but not right now)

Average age for getting married in Switzerland

Men \_\_\_\_\_ 32.0 years  
 Women \_\_\_\_\_ 29.9 years  
 Average length of marriage at the time of divorce \_\_\_\_\_ 15.1 years

## Cat paradise

Number of pets in Switzerland

Cats \_\_\_\_\_ 1,634,240  
 Dogs \_\_\_\_\_ 505,740  
 Small furry animals \_\_\_\_\_ 252,540

Sara Carnazzi Weber is head of Swiss Sector and Regional Analysis at Credit Suisse.



Shopping at the department store of the future:  
Mao Yueweng, a 32-year-old barista from Beijing.



# The world of consumption in China





The end of the fitting room:  
Mao Yueweng is standing in front  
of an interactive screen – a virtual  
fitting room.



China's new middle class, numbering  
some 400 million people, will  
fundamentally change global trade.  
What are these people buying?  
How do they approach consumption?  
We accompany a young Chinese  
woman as she goes shopping – and  
catch a glimpse of our own future.

Text Michael Radunski Photos Anne-Sophie Heist

Mao Yueweng can't decide: Should she buy the pink Nike top, the red Adidas pullover, or perhaps the black Asics t-shirt? Shopping for clothes usually means running back and forth between racks of merchandise, the mirror and the fitting room. But here, at the Beijing store of the Swiss sporting goods manufacturer Intersport, things are quite different. With its 1,300 square meters of retail space, the store is dominated by the internet, artificial intelligence and augmented reality.

Yueweng, 32, stands in front of a full-length interactive screen showing her face and body. With a casual movement of her hand, another outfit appears on her digital image. The top she is considering is first pink, then black, then red; its sleeves are long, then short. At first it is fitted, then looser. Coordinating shorts and pants are displayed on the right side of the screen. Yueweng could use her white iPhone to scan the tiny QR code beneath the images to learn more about each item of clothing. But she's already finding it difficult to make up her mind.

Chinese brands are on the move: Luckin Coffee opened 525 locations in just four months.



Yueweng is part of China's much-cited middle class, the roughly 400 million people who, thanks to China's rapid ascent, are becoming increasingly wealthy and thus have more and more opportunities for consumption. Over the coming years, their purchasing behavior will transform the world's retail trade. About ten years ago, according to McKinsey, China accounted for less than 1 percent of the world's online business. Today that share has increased to 42 percent. The US market research firm Forrester expects e-commerce in China to grow by approximately 8.5 percent every year. Experts are predicting a volume of about 1.8 trillion dollars for 2022 – as much as the markets in the United States, Europe and Japan combined. Foreign products are particularly popular among Chinese customers. In 2017, 67 percent of online shoppers in China ordered US or European goods. Yueweng's iPhone was among them.

**AN IPHONE AND GOOD COFFEE** Yueweng comes from China's southeastern province of Fujian, and moved to the nation's capital after completing her schooling. She is an only child, a reflection of China's decades-long one-child policy. Her parents, whom she visits once a year, wouldn't understand her new life, she says. After working at a number of odd jobs, Yueweng is now a barista at a trendy café near Wangfujing, a well-known shopping street. She shares an apartment with four other young women. "I don't need much," says Yueweng. "My iPhone and good coffee." And today she needs a new casual top.

Yueweng is still standing in front of the interactive screen, but instead of switching back and forth between various articles of clothing, she is trying out new hairdos on her digital image. After she is finished, she walks up the stairs to the store's second floor, where the next interactive attraction awaits. An enormous video screen, equipped with a camera and sensors, invites Yueweng to act the part of a basketball player. Wearing her Chinese-made Feiyue sneakers, she immediately jumps in the air and simulates a layup, then raises an imaginary trophy in the air.

Just as she leaves the virtual basketball court her iPhone beeps, notifying her that a short animated video about her two-minute career as a basketball player has arrived. "In our store, shopping is supposed to be about more than just finding and paying for merchandise," says Robin Trebbe, head of Intersport's business in China and Asia. The idea is for customers to relax and have an experience.



It's an effective approach for Yueweng, who eventually chooses the pink top.

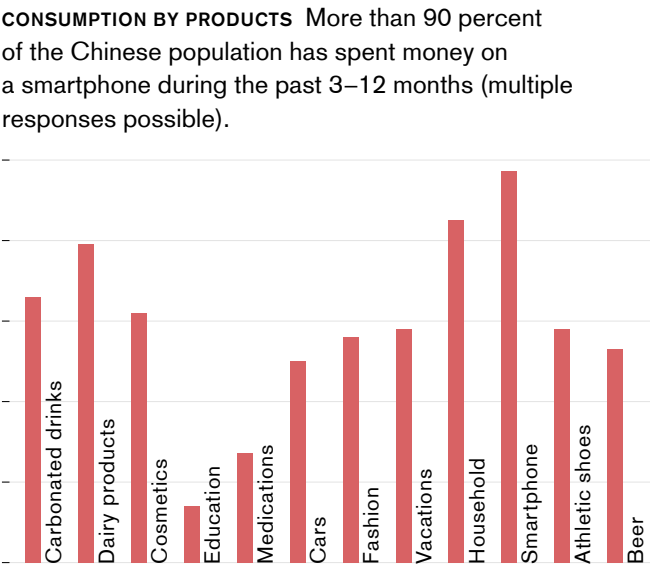
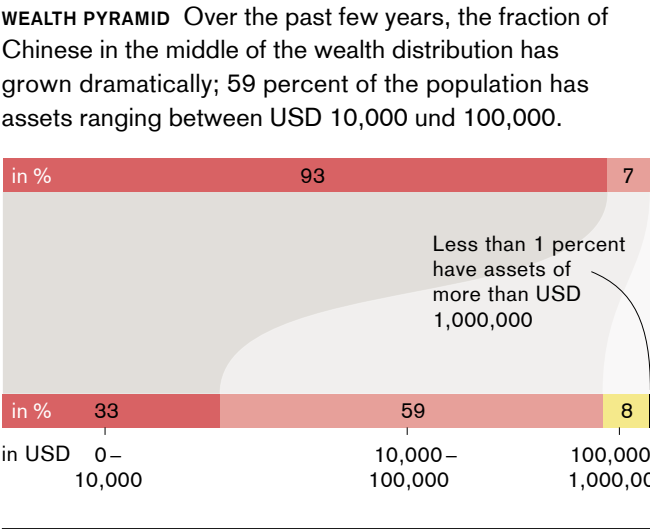
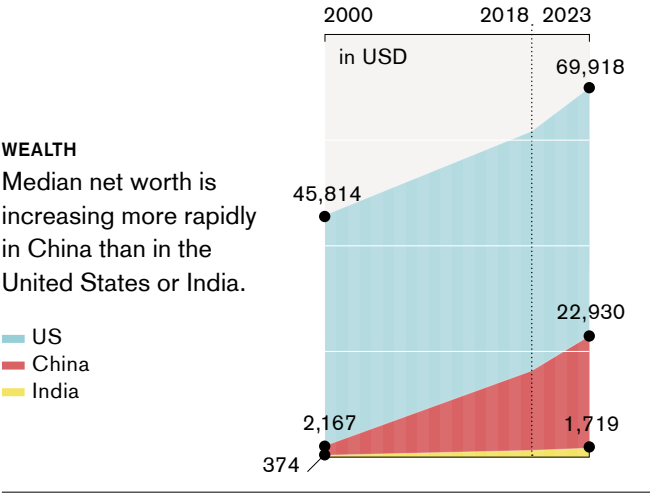
The response to Intersport's strategy of merging online and offline (O2O) has been very positive, says Trebbe. "For China and the Chinese, it's all about digital technology." E-commerce accounts for approximately half of all sales revenues in China, as compared with just 10 percent in Europe. Payment is different, too. While cash and credit cards are still the most common methods of payment in Europe, Yueweng and her compatriots are more likely to pull out their smartphones and use services like Alipay or WePay to pay online. "Considerably less than 10 percent of customers in our stores still pay in cash," says Trebbe.

**MERGING ONLINE AND OFFLINE** After her basketball interlude, Yueweng needs to hurry. Her shift at the café starts at 2 p.m., and friends are coming for dinner later on. There's no time to cook. "But we Chinese attach great importance to food," says Yueweng. "Everything has to be fresh."

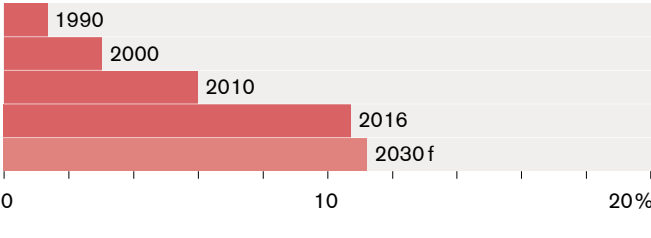
She heads straight for the nearby Hema supermarket. At first, it all seems quite ordinary. The market is very clean and well organized; there are counters with fresh meat and fish as well as shelves displaying products from all over the world. However, Hema is in fact something special. The chain is backed by the Chinese internet giant Alibaba – whose founder, Jack Ma, is seeking to do nothing less than revolutionize everyday consumption. The things that the Intersport store is cautiously introducing are part of Hema's fundamental business model: O2O – a complete merger of the online and offline worlds.

You will search in vain for traditional check-out counters at a Hema store. Customers scan the items' barcodes, then pay using their smartphones. If you have the Hema app on your smartphone – that is, if you are a registered customer – you also have the option of paying via a facial scan at a terminal near the exit, using a service called "Smile to Pay." Whether bookstores, cafés or supermarkets, more and more stores in China are offering this technology. It saves time, an advantage that Yueweng, too, appreciates. Even going to the store is

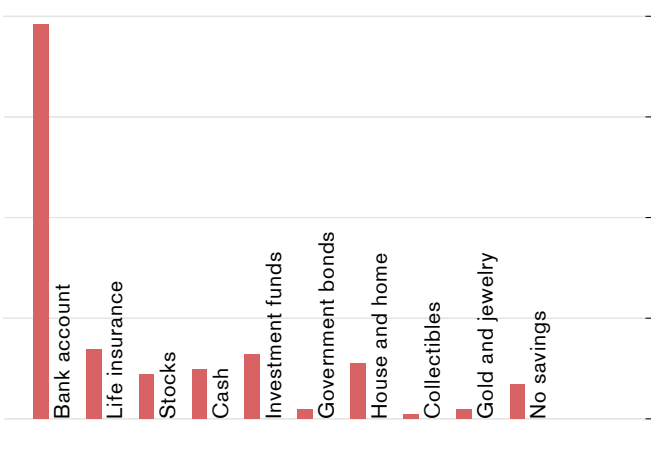
# Consumption in China: An increase in wealth, a decline in beer consumption



**SHARE OF GLOBAL CONSUMPTION** China accounts for more than 10 percent of global consumption, and that share is growing.

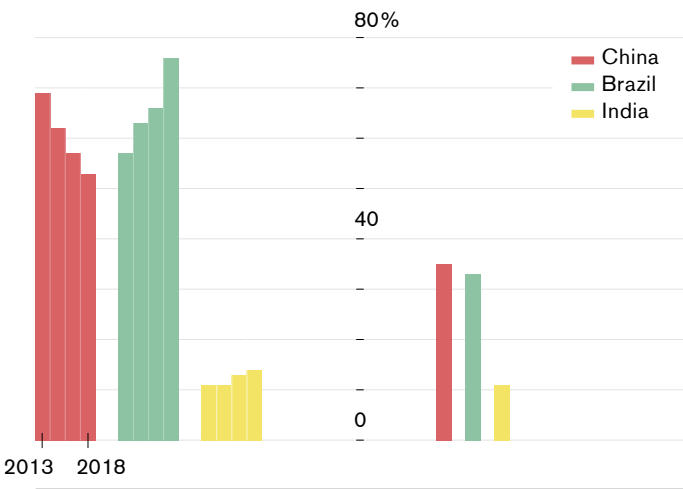


**SAVINGS** Nearly 80 percent of Chinese people deposit their savings in a bank account (multiple responses possible).



**BEER CONSUMPTION** In China, beer consumption is declining among 18- to 29-year-olds, while it is increasing in Brazil and India.

**CIGARETTE CONSUMPTION** More 18- to 29-year-olds in China smoke than in Brazil or India.



The graphs are taken from the 2019 Credit Suisse Emerging Consumer Survey, which can be downloaded at [credit-suisse.com/researchinstitute](https://credit-suisse.com/researchinstitute)

Sources: 2018 Credit Suisse Global Wealth Report, 2019 Credit Suisse Emerging Consumer Survey, World Bank

something she finds inconvenient. But Hema has an answer for that as well. An app allows customers to order any of Hema's products online for delivery to their homes within 30 minutes.

**DIGITAL-FIRST CONSUMERS** "The O2O business model will transform the retail trade," Jeffrey Towson believes. "Not only in China, but worldwide. But here things are moving ahead at warp speed." Towson, an e-commerce expert, refers to China's customers as "digital-first consumers" – consumers who do everything online. The first thing they do in the morning, and the last at night, is to reach for their smartphones. There are about 800 million internet users in the People's Republic, and every day 455 million of them pay for something online. In 2016, the Chinese were already using their smartphones to make transactions worth 5.5 trillion dollars – roughly 50 times the volume of such transactions in the United States, according to the Shanghai consulting firm iResearch.

Nearly everything now happens online in China. Whether it's shopping, ordering a taxi, renting a bicycle, learning a language, buying tickets – it is all handled by smartphone. And in contrast to the US and Europe, topics such as data protection and privacy are hardly an issue here. Everything is registered, from personal information, preferences and hobbies, to purchasing and eating habits, to information about friends, acquaintances and work colleagues. And China has simply skipped certain stages of development. The Chinese have smartphones rather than PCs, and they pay online rather than using a credit card. "All of this makes it much easier to communicate mobile offers to customers," Towson explains. The companies' strategies are simple: "Use your smartphone." The Chinese start-up Luckin Coffee is a good example.

As Yueweng strolls through the aisles of the supermarket, she decides that she would like a cup of coffee, so she opens the Luckin Coffee app. "I really like hand-brewed coffee, but that's not an option right now, at the supermarket," she says. Coffee, unlike tea, is quite new in China, a fashionable trend. It's a steadily growing industry that



has so far been dominated by the US coffee chain Starbucks. With more than 3,300 locations throughout China and about five million customers every week, Starbucks controls nearly 75 percent of the Chinese coffee market.

But now there is also the Chinese start-up Luckin Coffee, and it is growing at a breathtaking rate of speed, opening 525 locations within just four months – two or three new cafés every day. The company raised over 200 million dollars in an initial round of investments. Experts note that Luckin achieved the status of a “unicorn” – a start-up company worth more than a billion dollars – some time ago. Whereas Starbucks emphasizes prestigious locations, Luckin Coffee focuses on digital convenience, offering mobile payment options and delivering orders in a matter of minutes.

Luckin Coffee is also benefiting from another trend: More and more Chinese people prefer to buy domestic brands, and new start-ups are being created nearly every day. Nike and Adidas are competing against Li-Ning and Anta in the sporting goods sector; it's Apple versus Huawei and Xiaomi in smartphones; and there was a lengthy period of competition between Uber and Didi Chuxing in the transportation sector before Uber announced that it was pulling out of China.

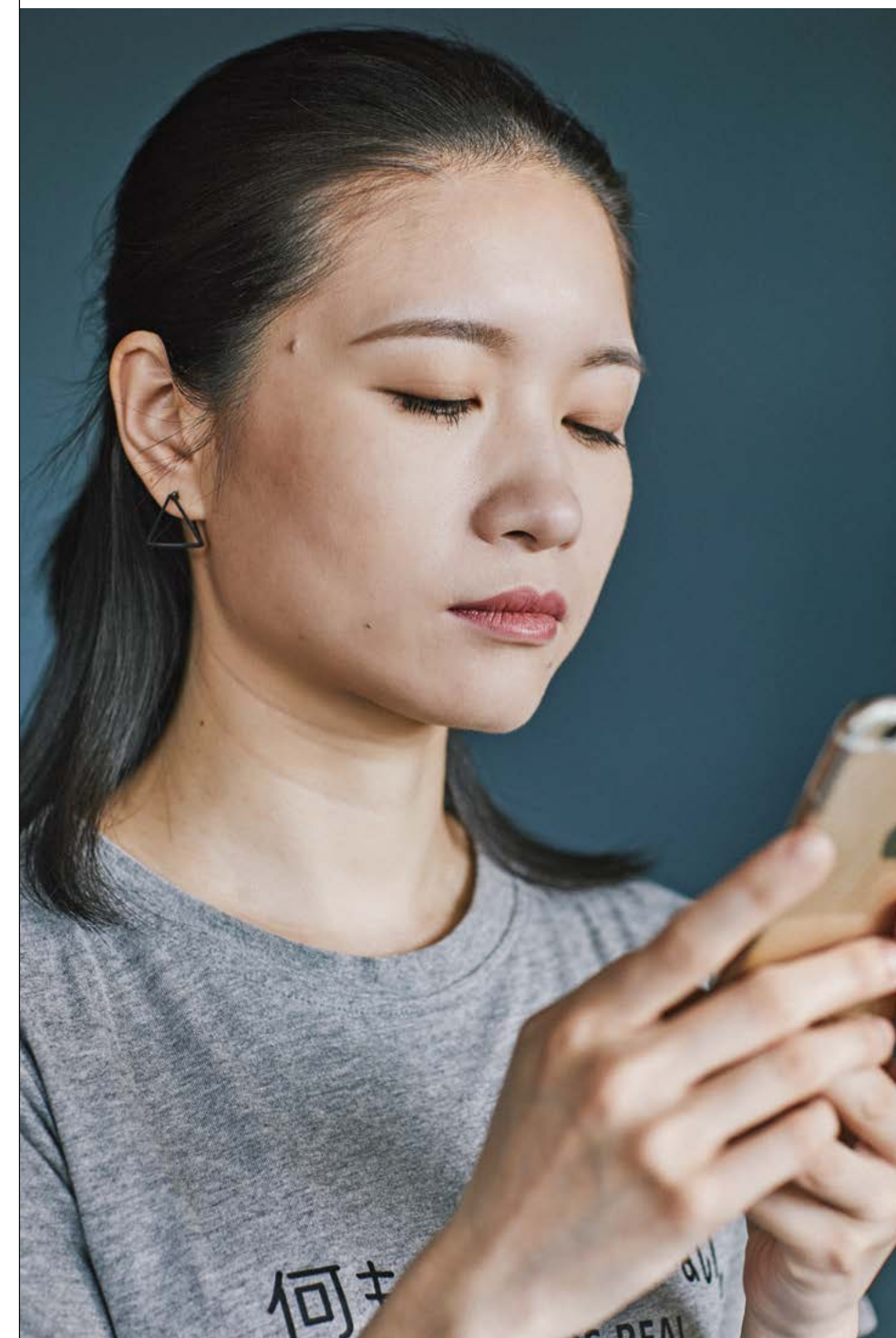
Western manufacturers need to prepare for a more competitive environment. The time is long past when a label like “Made in Switzerland” and brand names like Apple and Starbucks were enough to attract Chinese

customers. Fortunately, at the National People's Congress in May the Chinese government introduced a new investment law that will make it easier for foreign companies to gain access to the Chinese market.

#### FROM A LUXURY GOOD TO A PRODUCT FOR THE MASSES

Yueweng has ordered a Luckin flat white. A message tells her that her coffee will arrive in 20 minutes. And instead of the 35 Yuan (CHF 5.20) she would have to pay at Starbucks, Luckin Coffee charges just 22 Yuan (CHF 3.30) – to be paid virtually, of course, via Alipay or the Luckin “coffee wallet,” the company's own online payment service. The company's online presence, rapid delivery service and lower prices are attracting its own customer base, Towson explains. “Luckin is transforming what was perceived to be a luxury product into a product for the masses, thereby expanding the sales market.” Several years ago, the Chinese electronics manufacturers Huawei and Xiaomi took a similar approach to compete against Apple's iPhone.

Smartphones are the key to a bicycle: Mao Yueweng enters a QR code to unlock a rental bike.



“Online to offline” (O2O): The smartphone is an integral part of the shopping experience.

Meanwhile, Yueweng is selecting the ingredients for the dinner with her friends. In the fruit and vegetable section, the products are already pre-cut and packaged. Occasionally she scans a barcode with her smartphone to learn more about the product's manufacturer and for recipe suggestions. Once she has chosen the side dishes, she moves on to the fish counter. Lobsters, shrimp and various kinds of fish are swimming in dozens of water tanks. Just as Yueweng is about to order, a young man wearing a motorcycle helmet suddenly approaches and hands her a tan bag displaying the Luckin Coffee logo.

Western  
manufacturers  
need to prepare  
for a more  
competitive  
environment.

Only 17 minutes after placing her order, she is sipping her hot flat white. Then she turns her attention back to the shrimp tank. Here, too, everything goes very quickly. Her order: enough for six people, seared, delivery to her home address at a specific time tonight.

Back on the street, Yueweng is once again preoccupied with her smartphone. Her shift is about to begin, and it will take her 10 minutes to get to work. All she needs now is a bicycle. Bicycles, too, are an O2O business sector with fierce competition on the provider side. The orange and silver bikes belong to Mobike, the bright yellow ones are from OfO, and the blue bikes belong to the transportation company Didi Chuxing. Millions of these bicycles can be found on China's streets. Yueweng finds a blue one. What she does next comes as no surprise: She pulls out her smartphone and scans the QR code on the rear fender. The lock springs open and Yueweng jumps on the saddle, then disappears into Beijing's traffic. ■

Michael Radunski is a journalist who lives in Beijing. He reports for the newspaper NZZ am Sonntag.



# The middle way

What is mainstream anyway? An attempt at taking stock, acknowledging the temperate power of the middle and calling for more ardent moral courage in our society.

Text Otfried Höffe

be prescriptive, providing a model that others should follow, a notion of excellence, an ideal.

“Normal” is an example of this duality of meaning. It can indicate the rule, the expectation, the norm. Norms and standards exist in almost every aspect of life. Logical norms govern consistent, coherent thought, scientific norms govern methodical discovery, legal norms govern our coexistence and moral norms govern appropriate personal and social behavior.

In other cases, for instance in weights and measures, norms are a matter of practicality, determined by national or international standards. The International Organization for Standardization (ISO) develops and publishes standards “that can be used consistently to ensure that materials, products, processes and services are fit for their purpose.” However, in many areas there is no organized body setting standards – so those norms are, at best, empirically derived averages.

Or, as the second meaning of “normal” suggests, widely held attitudes and common behaviors constitute the norm. Thus, movements or views that are held by only a few people or groups are considered nonconformist, and their followers are deemed outsiders, contrarians or the like. But these views become mainstream or centrist once they acquire a certain critical mass of followers.

So, is the *via aurea* – the golden mean – the greatest virtue? Or is the moderate stance rightfully frowned upon because it lacks spirit and passion? When we talk about courage with respect to the golden mean, it isn’t about leveling out extreme positions. The middle way is not so much the path that is equidistant between two extremes but rather the attainment of a quality or state of excellence or completeness. According to

Aristotle, the great advocate of the golden mean, courage is a state of excellence attained by achieving equilibrium among internal and external forces – it is an attitude that can be described with superlatives such as “the best,” “ultimate” or “exquisite.”

Courage is overcoming pain and fear, liberating oneself from cowardice but at the same time not acting rashly and rushing blindly into danger. A courageous person, then, remains composed enough to think wisely in the face of danger and take appropriate action without fear.

**OPPORTUNISM VS. CONVICTION** Courage is following one’s convictions even if it means being deemed an outsider and no longer part of the mainstream. But how can we recognize the difference between someone posing as an outsider simply to get attention (and, with sufficient rhetorical and media savvy, likely succeeding) and someone acting on their convictions? The former – who, if we want to polemicize, we can call “media opportunists” – will change positions as soon as it is expedient and will, of course, espouse the new opinions with great fervor and volume. In contrast, the latter do not just stand by their convictions but are willing to make sacrifices for them.

**THE PULL OF THE MAINSTREAM** Whether in the media or in politics – do we really have to second guess the majority on everything? Certainly, we should exercise care, caution and circumspection. Let’s consider two other phenomena in more detail. The first is swarm in-

telligence, a concept that has recently garnered much attention. The ultimate example is a flock of birds, which would not be able to do what it needs to do – for instance, migrate over long distances – without considerable quasi-intelligent behavior. Swarm intelligence essentially depends on three rules of conduct:

1) Always move toward the center of the swarm to ensure that the swarm doesn’t drift apart. 2) Move away if someone gets too close to you to avoid collision. 3) Move in the same direction as your neighbor.

Studies on the possible presence of swarm intelligence among humans point to two major risks. The first is anonymity. People can behave differently – and generally be more combative – online than they would in real life or, say, in a letter to the editor of a newspaper.

The second risk is mob mentality. When a large number of users vehemently espouse a certain opinion, even people who may have held differing opinions or convictions can be pulled in.

What can we conclude from all of these observations? If the majority feels, thinks, writes or does something it can’t be wrong. However, just because something isn’t mainstream doesn’t necessarily mean that it’s not right or true. In today’s increasingly polarized world, in which extreme viewpoints seek to dominate public opinion, it is wise to use common sense and keep certain truisms in mind. Most people around the world hold opinions that fall somewhere in the middle. The biggest market – and average intelligence – settles in the center. And an enlightened majority is generally able to find good solutions. ■

Just because something isn’t mainstream doesn’t necessarily mean that it’s not right or true.

Otfried Höffe is Professor Emeritus of Philosophy and Director of the Research Center for Political Philosophy at the University of Tübingen and honorary professor at the Hubei University of Technology in Wuhan and Tsinghua University in Beijing, China, and author of several books. His most recent book, on the art of growing old and living well, is currently available only in German under the title “Die hohe Kunst des Alterns. Kleine Philosophie des guten Lebens” (C.H. Beck).





# “The avant-garde originates outside the limits of understanding”

Today avant-garde, tomorrow mainstream. Where is architecture headed? A journey into the future of building with Hani Rashid, a visionary thinker and one of the most important theoreticians in the field of digital architecture.

Interview David Staretz  
Photo Federico Ciamei

Hani Rashid, let's start our journey into the future with a look at the hearth, which dates back to prehistoric times and marks the beginning of architecture – in other words, let's talk about the kitchen. This is where human beings have always felt most at home. What might the kitchen of the future look like?

You're right, the basic idea of architecture no doubt originated somewhere in the far-distant past, at a fire pit. This place of warmth, food and comfort, providing protection from the elements, must have led to the idea of architecture as the “fundamental character of dwelling,” to borrow a phrase from the philosopher Martin Heidegger. Today open kitchens are ubiquitous; in addition to providing a place to cook, they serve as a dining room and center of conversation. The kitchens of the future will be driven by universal technological features that will continue to transform and reconfigure them, as well as listening to the residents and responding to their changing domestic needs. So yes, in the future we will once again gather around the hearth, but it will be a smart, high-tech hearth.

As a person who is constantly exploring the limits of the feasible, you're accustomed to working with avant-garde materials. What does the future of construction materials look like?

People are taking two approaches. First is the current trend toward stronger, more affordable and more versatile synthetic materials – increasingly relying on nanotechnology to achieve greater rigidity and develop better adhesives, paving the way for revolutionary structures. The other approach emphasizes organic, sustainable materials, such as those derived from mushrooms or microorganisms. The construct of organic systems – which are characterized by growth and decay – poses major challenges to our thinking as architects. Of course, the visions of architects are confronted with the deeply rooted traditions of a global construction industry that tends to be conservative and focused on economics.

Cement production is responsible for nearly 8 percent of global carbon emissions. A team of researchers at Graz



University of Technology has developed an “eco-concrete” that produces 30 percent less carbon dioxide and consumes 15 percent less energy. Will such environmentally conscious materials have an impact on future construction projects?

Absolutely. I’m also thinking, in this context, of advances in glass technology that are making it possible to convert solar energy directly into power. As I noted, however, all of these things are subject to the laws of supply and demand. Architects are not in a position to make decisions, but we can influence our clients – and hope that they will respond with openness and understanding.

From pistols to pizza, there are few things that can’t be produced with the help of a 3D printer. Apparently entire houses have been manufactured using a printer. What does that mean for architecture? Multidimensional printing, combined with high-tech materials and new types of construction, could trigger the biggest revolution in our industry. It has the potential to produce a paradigm shift, much as the introduction of one-point perspective into the world of painting did during the Renaissance. That brought about a radical change in our perceptions of space and time. For instance, we may be able to print wall elements whose translucency changes in the course of printing – allowing us to depart from the wall/window paradigm that has remained unchanged since the beginning of the industrial revolution. If we combine this with integrated power generation and other technological innovations, we will be able to create truly revolutionary building exteriors.

Visions notwithstanding, certain requirements still have to be met when a struc-

ture is designed and built, for example with respect to cleaning. In the United Arab Emirates, sand can be a major problem with photovoltaic glass. What solutions can you envision?

In a word: robots! While designing the Yas Hotel in Abu Dhabi, we discovered a newly developed glass surface that literally repels dirt. It would be even more efficient, in my view, to use microrobots programmed to travel across glass surfaces. So my prediction is this: Microrobots will be used to buff self-cleaning glass that is coated with transparent solar cells. And if I might continue to fantasize, I’d predict that chemical processes within the glass, controlled by artificial intelligence, will regulate the amount of shade when the glass is exposed to direct sunlight.

Elevators, the main arteries of a skyscraper, are reaching their physical limits. How realistic are the new cable-free designs that various companies are developing – electromagnetically powered capsules that transport people through curved tubes from the street to the building’s hallways?

I’m enthusiastic about these new approaches to mobility. These new elevators can transport people, but also goods, waste materials and entire building components. This is something we’re working on, specifically at the Urban Futures Lab that I direct at the University of Applied Arts in Vienna. We believe that these systems, coupled with artificial intelligence, will have an enormous impact on our work as architects. In the 19th century, the Otis elevator played a critical role in the construction of skyscrapers. *[Editor’s note: Elisha Graves Otis, a mechanic, created a steel spring to prevent elevators from falling if their cables broke. This made it possible to*

*install elevators in taller buildings.]* We find ourselves at a similar juncture today.

Avant-garde buildings often seem amorphous and – if you’ll excuse the term – “theoretical.” The average person may wonder whether it’s possible to pursue a traditional lifestyle in such an extraordinary building. Those of us who work at a magazine have a saying that “the best design is the design that you can’t see.” Does that apply to contemporary architecture as well?

I imagine it’s true that architecture is best when you don’t understand its form and spatial characteristics, and when you don’t question the theory that lies behind it. Yes, I would agree with that. When people try to understand radical theoretical architecture, they make the mistake of attempting to categorize and comprehend it – its theory, its logic, its mathematical underpinnings, its significance. The truly avant-garde remains outside the limits of our understanding. When people see a result, a building, a simulation or a design, they respond in terms of what they understand; they don’t view it as ambiguous, or as something to be investigated or discovered. And that’s why we, as modern architects, are the targets of criticism. Our “field experiments” are subject to constant scrutiny – unlike the works of artists or other creative types. Of course, when you’re an architect working at the leading edge, you need to internalize these problems.

With all of the new shapes, materials and surfaces available for buildings, will further accommodations be made to suit the human body and its needs – for security and comfort, for example – or will people have to adapt more and more to a new kind of



The Yas Hotel in Abu Dhabi, designed by Hani Rashid’s New York-based architectural firm Asymptote, opened in 2009.

“streamlined” lifestyle and to incessant online communications? Regrettably, I suspect that the latter will be the case. It’s interesting that we have adjusted to automation and digitalization in every aspect of our lives; we prefer our smartphones to personal interactions, we use the internet and social media instead of looking at things in the real world, and on and on. We seem to be very good at adapting to technology, but unfortunately technology is not adapting to us.

It reminds me of the Wilhelmine era, the *Gründerzeit*, a period of economic expansion in the 19th century. On the surface, everything seemed to be consistent: fashion, architecture, carriages and automobiles, buildings. It was all designed in the same style, with a surprising degree of harmony. Are we moving toward a similar kind of formal unity today?

No, that’s more or less impossible, and to be honest, it’s not what we should be wishing for. What we need to understand is this: We are becoming increasingly isolated in society, as we limit ourselves to a certain environment, adhere to familiar belief systems and in many respects cultivate polarized, insular thinking. As we’ve had to recognize throughout the world, this is highly problematic from a political perspective. We need to find a way to address these highly sensitive issues – in our cities and daily lives, and in terms of our longings, preferences and goals. Adopting the thinking of the *Gründerzeit* would

automatically lead to an authoritarian system – with the unfortunate consequences that we are seeing in countries that have gone down that path. For my part, I am hoping for a future of nuance, diversity and differences. My focus is on the human needs that will always exist, taken into account in every aspect of architectural design. ■

Multidimensional printing has the potential to trigger a revolution in architecture, much like the introduction of one-point perspective in the world of painting.





136. Uomo Espresso – Milan 2011



18. Mohawks – Rotterdam 1998



# “A fateful time for liberal democracy”

For political scientist Yascha Mounk, it is clear that populism has moved into the mainstream and is undermining the political system from the inside. How did this happen?

Interview Michael Kroboth

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Yascha Mounk, a number of democratic countries are currently experiencing a wave of populism. Is this just a passing phenomenon, or is it the new political mainstream?

Every country along the historical border of the Iron Curtain, from Poland to Slovakia, Austria, Hungary, and on down to Italy, is now either governed by right-wing populists or has a coalition that includes them. Populists are now in power in the world's four largest democracies – the US, Brazil, India, and Indonesia. So the answer is clear: Populism has become mainstream.

How is this possible? It has not even been three decades since the collapse of Communism and the oft-cited “end of history” – the final triumph of liberal democracy – was viewed as a plausible scenario. In my view, there are three main drivers behind the rise of populism. First, there is no longer a basic level of trust in the political process, as many people now find it difficult to achieve economic progress. Second is the anger toward immigrants and refugees, toward those with different

views and those who look different. We have not, in many places, made the transition from a monoethnic and monocultural society to a multiethnic one. And third is the rise of social media, which makes the spread of radical views and political mobilization easier. These three developments have combined in an explosive cocktail.

Dissatisfaction with established politics is one thing. But where did this new anger and radicalism come from? Globalization and technological advancements have made many people feel that they no longer have control over their own lives and that their country is no longer in control of its own destiny. This is perfectly expressed in the pro-Brexit slogan: “Take back control.”

Mistrust of elites could also be viewed as a healthy reflex, as evidence of a functioning democracy, as part of the system of checks and balances against the powerful. It is a positive when citizens view the economic and political elite critically. When they ensure that their interests are

1 Demonstration against the Alternative für Deutschland (AfD) at the Brandenburg Gate in Berlin in May 2018.

2 Supporters celebrating the victory of Brazilian President Jair Bolsonaro in Rio de Janeiro in October 2018.



## It is problematic when citizens no longer believe that politics has anything to offer them.

taken into account and safeguarded, and when they vote governments out of power if they aren't. But it is problematic when citizens become so cynical that they no longer believe that politics has anything to offer them. When their attitude is: "Well, I don't entirely believe the populists will solve all my problems, but at least they're shaking the elites up and openly saying that everyone is just looking out for their own interests, so they are, too." This is where the populist view becomes destructive and dangerous.

According to Harvard economist Dani Rodrik, it is not primarily the poor and those with little education who are revolting, but those threatened with decline. Are we witnessing an uprising by a middle class that is disappointed with liberalism? Yes. According to studies, discontent is primarily felt by those living in more rural regions, where the economy has faltered and there is a somewhat older population structure. In other words, people who have good reason to fear that not only they themselves, but also their families, friends and neighbors are being left behind as a result of globalization. Another frightening finding in my research is how skeptical many millennials are of democracy. Among Americans who were born in the 1930s and 1940s, for example, more than two-thirds say it is very important to live in a democracy; among those who were born since 1980, the figure is less than one-third.

### Why?

First, there has been an incredible decline in knowledge. Many people can no longer answer basic questions about democracy. Second, there is less understanding of the importance of our political system for peace. The idea that the reemergence of authoritarian politicians can lead to disaster is difficult to comprehend, especially for those who no longer hear stories about the war from their grandparents.

Is the success of populism among young people also due in part to the increasing turbulence on the labor market as a result of digitalization?

Automation is a source of fear, of course. In the US alone, more than three million truck drivers would lose their jobs if autonomous mobility were to become a reality. At the same time, I am skeptical about whether automation is currently having a significant impact. In fact, unemployment in the US and Northern and Central Europe is relatively low, and we are seeing no signs of massive job losses at the moment.

Are zero-percent interest rates, or even ones in negative territory, fueling populism because an increasing number of people are worried about whether their savings and pensions will be sufficient in old age? I don't think this is a major factor because a large portion of the population has virtually no savings. To me, a more important source of frustration lies in extremely high rents and housing costs – especially in cities. Such costs mean that even young people with good incomes cannot achieve the standard of living that their parents enjoy because they must spend a significant portion of their salary on housing.

Studies show that, on average, men are more receptive to populism than women. Why?

There are two reasons for this. First, because men tend to respond more to the aggressive rhetoric of populism. In addition, social scientists Noam Gidron and Peter Hall have shown that people who experience a loss of social status are especially receptive to populism. They believe that many men in recent decades subjectively think that they have lost status due to advances in gender equality.

Why does right-wing populism increase in some countries, while others see a rise in left-wing populism?

As I've already noted, there are economic, cultural and technological reasons for the current surge in populism. The latter aspect – the rise of social media – manifests itself in just about the same way everywhere. The first two factors, however, vary from place to place. In countries such as Greece, Spain and Venezuela, where the economic crisis has been especially difficult and persistent, left-wing populists are fairly strong. In countries where the economy and employment situation are more stable, but where there is a high level of immigration and rapid changes in gender relationships, such as in Northern and Central Europe and the US, right-wing populists tend to be stronger.

Italy, by contrast, is governed by a coalition of the left-wing Five Star Movement and the right-wing Northern League. How is this possible?

This is a striking case and illustrates the importance of the populist component. At first glance, the two parties do not have much in common ideologically. So the question is how they can govern together. The answer is that attacks on democratic institutions and the claim by populist parties that they alone speak for the people allows them to overcome this left-right contradiction. This example demonstrates that the risk to democracy comes from populists on both sides. And it shows what happens when the political establishment remains so mired in its views until a majority decides it wants radical change, and nearly two-thirds of the population vote for populists.

In your new book, you discuss how mainstream parties should respond to populists. What is your answer – integrate them or marginalize them?

Experience in Turkey, Venezuela, Hungary and other countries shows that populists, once in power, do not keep their promises and that their proposed solutions do not work. Working with them is irresponsible and threatens democracy. The only way to defend the democratic system in the long term is to demonstrate that politicians are now capable of taking citizens seriously and solving their problems.

What does that mean in concrete terms? Democratic norms and institutions must be defended against populists without fall-

ing into the trap of simply defending the status quo. A moderate policy of change must be offered and a broad coalition formed against populists, one that defends the independence of the justice system and the press, that strengthens participation in political processes, and that combats social inequality.

Do you share the view of political scientist Francis Fukuyama [see *Bulletin* 1/2018], who compares the current situation to the 1930s?

This comparison is complicated because populism differs from fascism in one very important respect: It is not totalitarian. But it is dangerous because it pretends to be a friend of democracy and undermines the political system from the inside. But I agree with the statement in the sense that our liberal democracy is going through an especially fateful time. We are seeing how much approval of these ideals depends on the extent to which they provide people with a good life.

What makes you confident?

People still want to live in a free and a self-determined manner and have a voice in the political process. In this respect, I am neither optimistic nor pessimistic, but rather resolute. We need to get out of our personal comfort zones and become politically involved in an effort to preserve democracy. ■



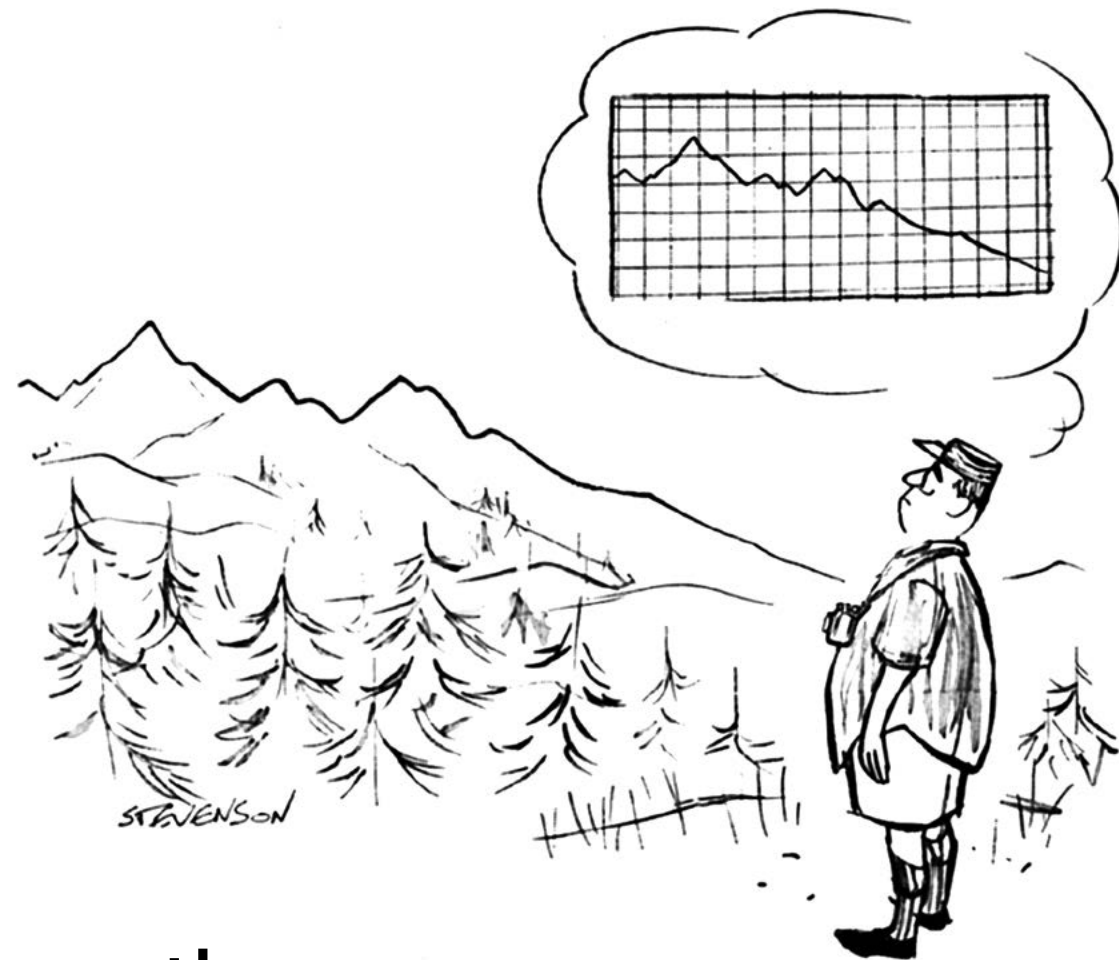
Yascha Mounk (36) is a historian and political scientist and teaches at Johns Hopkins University in Baltimore, Maryland. In his latest book, "The People vs. Democracy: Why Our Freedom Is in Danger and How to Save It," he looks at global populism. As a journalist, he writes for, among other publications, The New York Times, The Wall Street Journal and Foreign Affairs. He grew up in Germany as the son of a physicist and a conductor. He is now a US citizen.

Coalition of populists in Italy: Luigi Di Maio of the Five Star Movement (left) and Matteo Salvini of the Northern League in February 2019.





# Does the world need more free markets?



The world is changing, and economists are grappling with new challenges – including high debt levels, low interest rates and mistrust of globalization. A brief history of the dialectic of the economic mainstream.

Text Oliver Adler

Since the earliest days of what we can call the study of economics, scholars have debated which conditions are most conducive to enhancing the common good. Mainstream opinion has swung back and forth between two main positions – on one hand, those who want to demonstrate why and where “the market” has failed, and how political interventions might correct its failings; and on the other, those who call for liberalization and complain about market restrictions and their apparent costs. Fluctuation between these two positions can be understood as a reaction to economic, social and political developments.

The fundamental debate over how to promote national prosperity began in the 16th century. The response of the then-dominant mercantilist mainstream was to impose tariffs, which sought to reduce imports and encourage exports, thereby strengthening domestic production and enhancing prosperity. Mercantilists regarded the size of a country’s trade surplus and the extent of its gold reserves as key measures of economic success. At the same time, this approach gave absolutist rulers the means to cover their growing military expenditures, bringing the economic mainstream in sync with the interests of political elites.

The founders of classical economic theory, Adam Smith (1723–1790) and David Ricardo (1772–1823), recognized that limiting imports and protecting domestic producers could hurt the

economy. Ricardo especially opposed protective tariffs for British agriculture because these weakened overall economic growth. Protectionism diverted resources from more productive industrial sectors, which held a comparative advantage in international trade. David Hume (1711–1776) had already argued against mercantilism from a macroeconomic perspective, because the desire to increase gold inflows (in modern terms: the accumulation of foreign currency reserves at a fixed exchange rate) could lead the Bank of England to create too much money and thereby heighten inflation. The rapid, global rise of English industrial capitalism seemed to affirm the new philosophy.

**ENTER THE WELFARE STATE** The classical liberal mainstream remained largely unchallenged into the early 20th century, likely because the fast-growing middle class profited from the accelerated economic development. In addition, the gradual strengthening of government regulations, and other measures that helped the working class, eased the negative distributional effects of rapid industrialization. This seemed to be sufficient to prevent the anti-capitalist theories of Karl Marx (1818–1883) from entering the mainstream in Western Europe or the English-speaking world. But after multiple financial and economic crises showed that simple rules to stabilize the capitalist system no longer sufficed, around the turn of the century rising nations like the United States and Germany established central banks to whom a monopoly on money creation was granted and which helped to stabilize their national economies through flexible monetary



*“The little pig with the portfolio of straw and the little pig with the portfolio of sticks were swallowed up, but the little pig with the portfolio of bricks withstood the dip in the market.”*



policy. Since then, a hallmark of the economic mainstream has been the conviction that the monetary system should not be left to the free market.

**RISE OF KEYNESIANISM** The catastrophe of two world wars and the intervening economic depression led to a dramatic break with the classical liberal mainstream. John Maynard Keynes (1883–1946) believed that centrally coordinated interventions, especially on the macroeconomic level, were essential for stable markets. In his view, his famous example of a market failure – the paradox of saving – had to be countered through specific state intervention. He argued that active monetary policy alone was insufficient. Combating weak demand also required expansionary fiscal policy, preferably greater state spending. In many cases, the measures would pay for themselves because stronger growth would increase tax revenue.

Keynes also called for sharply limiting market forces within the international financial system. States were to administer these forces together, adjusting exchange rates as needed when larger financial imbalances arose; the system's only fixed anchor was to be the gold standard for the US dollar. Finally, in response to the negative consequences of insisting that Germany pay back its debts after World War I, Keynes argued for rapidly restructuring and forgiving the debt of insolvent states. These macroeconomic recommendations were complemented by others that concerned the banking system. Strict regulation of banks would prevent a disastrous Great Depression from happening again. The rapid recovery of the global economy in the two decades following World War II propelled Keynes's theories into the accepted mainstream.

**THE NEOLIBERAL TURN** The dominance of Keynesianism came to an end in the late 1960s. The main reason for this was the sharp increase in inflation – a consequence of overly expansionary US fiscal policy for financing the Vietnam War and the ambitious social programs of President Lyndon B. Johnson (1908–1973). In addition, this expansion increasingly undermined the gold standard for the US dollar, which President Richard Nixon (1913–1994) formally rescinded in 1971. The US loss of control over Middle Eastern oil producers ultimately increased global inflationary pressures, resulting in the “stagflation” crisis of the 1970s.

This led to another distinct turning point in the economic mainstream. The monetarism and neoliberalism of Milton Friedman (1912–2006) and others gained influence. Ronald Reagan (1911–2004) and Margaret Thatcher (1925–2013) contributed to the renaissance of economic liberalism



*“She’s out stimulating the economy – can I take a message?”*

by opposing interventionist economic policy. After 1979, US Federal Reserve Chairman Paul Volcker (born 1927) brought inflation down quickly by decisively raising interest rates. During the 1980s and early 1990s, neoliberalism spread around the world and spurred the liberalization of global financial flows.

**CRISES IN EMERGING MARKETS** The triumph of neoliberalism did not go completely unchecked. In particular, the 1980s and 1990s brought serious financial crises to Latin America and Southeast Asia. These crises raised doubts as to whether uncontrolled international financial flows were in fact appropriate for emerging markets. These crisis experiences informed the limits that China especially continues to place on the movement of international capital today.

However, neoliberalism prevailed in most industrialized countries. A representative example is the decision by the US Congress in 1999 to repeal the 1933 Glass-Steagall Act, which had separated the activities of commercial and investment banks. Even tremendous bubbles and setbacks in equity markets – especially the dramatic dot-com bubble of the late 1990s – did not shake confidence in free markets. The opposite may even have been true, since each of the setbacks was quickly overcome.

**GOLDILOCKS ECONOMY** Mostly non-inflationary growth after 2001 – the “Goldilocks” economy – clearly seemed to support the arguments of the neoliberal mainstream. Precisely because there were only minimal market interventions,

the global economy seemed to be developing optimally. Representatives of the mainstream argued that steady and rule-bound monetary policy, not anti-cyclical Keynesian fiscal policy, was the central reason for stable, non-inflationary growth. Another hallmark of the mainstream was the central bank, which was supposed to act independently for the optimal implementation of its policies. In fact, more and more central banks in industrialized and developing countries did become more independent in the 1990s and after, alongside traditionally independent institutions like the Swiss National Bank. This seemed to be a central, and perhaps even sufficient, prerequisite for economic stability. In retrospect, there may have been an altogether different reason for the remarkably stable development during these years – China’s admission to the World Trade Organization and its rapid rise as the dominant producer of inexpensive goods for consumers in the Goldilocks economies.

**THE TURNING POINT OF 2008** As we know, the golden era ended with a rude awakening in 2008. An insufficiently regulated financial system (which the mainstream had largely overlooked) had sharply inflated the balance sheets of banks and other financial institutions in the years before the crisis. As the prices of assets – and especially securitized mortgages – began to fall, this inflated financial system turned out to be extremely fragile. The resulting banking crisis developed into a deep, global recession.

Some countries loosened their fiscal policies to combat the recession, but most economists and politicians opposed excessive fiscal easing because of high government debt. Instead, they espoused increasingly radical monetary policy measures to combat the recession and the resulting risk of deflation. In addition to massive purchases of government bonds and other securities (quantitative easing), central banks turned to negative interest rates for the first time in history. The basic idea was to discourage investors from holding on to large cash reserves. Instead, they were supposed to increase consumption. The central banks granted credit to other banks at zero interest, while the banks also had to pay interest on their existing balances. All this was supposed to motivate them to continue lending.

Economists continue to debate the effectiveness of these monetary policy measures, some of which remain in place today. But it’s impossible to know what might have happened without them, since there is no way to conduct controlled experiments. However, both the economic mainstream and the public seem to have gradually come to terms with the phenomenon of negative interest rates – not least because most economists understand that declining interest rates are primarily caused by the high level of savings in aging and slow-growing economies, and that central banks are merely adjusting their interest rates to reflect this development. The more pressing question is what tools will remain for central banks if the global economy falls back into recession. Influential economists like Kenneth Rogoff (born 1953) argue that, in this case, interest rates will have to decline even

The economic mainstream seems to have come to terms with the phenomenon of negative interest rates.

further, in other words still deeper into negative territory. This would, in turn, mean that a reversion to cash holdings would have to be forbidden, or else prevented through taxation.

**PROTECTIONISM MAKES A COMEBACK** In such a situation, it is conceivable that the economy – as Keynes argued – could fall into a liquidity trap, where sinking interest rates drive consumers to save even more. This could lead to a revival of more extreme proposals to stimulate the economy, such as central banks financing public expenditures directly and on a large scale. Such proposals are already making the rounds in left-leaning circles in the US, under the label of “modern monetary theory.” This would challenge the great taboo of interfering with central banks’ political independence, which the economic mainstream has thus far upheld. After years of inflation that has remained below central bank targets, the world could conceivably lapse into a new phase of monetary instability and inflation.

Politicians are challenging the economic mainstream not only with respect to the framing of monetary and fiscal policy. The widening of the income and wealth gap in countries like the US since the financial crisis has heightened protectionist tendencies. The promise of restoring the economy, companies and workers to their (former) “greatness” by imposing tariffs on competitors’ products bears an uncanny resemblance to 16th-century mercantilism. Although economists are unlikely to rally behind this new credo, the geopolitical situation could certainly lead to further reaction against free trade. It remains to be seen whether the leading nations in



a multipolar world can agree upon rules that are necessary to renew and implement free trade.

Here, too, China could play a key role. Thanks to its neomercantilist policies, the Middle Kingdom has been tremendously successful in catching up to the developed countries. Massive investments have enabled state-of-the-art infrastructure and industry; knowledge transfer has proceeded rapidly, with foreign competitors kept at a distance. But now there are growing doubts as to whether this economic model is the right one to keep expanding Chinese prosperity. Greater liberalization in the domestic market would allow the private sector to play a larger role. Since this would disrupt established economic interests, it remains to be seen whether this will happen. In the meantime, industrialized countries should not revert to crude protectionism. Instead, the mainstream should embrace new – and empirically supported – microeconomic findings, which demonstrate that targeted (and “smart”) interventions in the labor market, health and education sectors, and environmental policy can clearly increase productivity and prosperity. In all cases, this will require political changes that respond to economic circumstances, and that will sometimes help the old – and sometimes the new – mainstream to thrive.

We remain hopeful that the economy will give rise to a new mainstream that relies on the power of markets to foster prosperity, and that this mainstream will seek to correct situations where markets fail and result in great inequality. Unfortunately, it is questionable whether current political trends will support such rational (non-ideological) solutions. ■

Oliver Adler is Chief Economist Switzerland at Credit Suisse.

# Loans with the help of satellite images

How does a corn farmer in East Africa prove his creditworthiness? A start-up has come up with a solution for connecting remote regions to the rest of the world. The only requirement? A mobile phone.

Text Simon Brunner

“Show me your credit rating and I’ll tell you who you are,” is the unwritten rule of the economic mainstream: If a global company, a small village shop, a home buyer or even an entire country wants to borrow money, they must first provide proof of their assets and income. But how can a farmer in rural Kenya provide reliable financial information when such information depends in large part on his harvest?

Apollo Agriculture, a start-up founded in Nairobi in 2016, wants to solve this problem with the help of remote sensing technology and data science. Apollo uses machine learning models to build credit profiles for their customers, using alternative data sources. This includes inferences from satellite imagery of customers’ fields, as well as self-reported and behavioral data gathered during the customer enrollment process. Apollo then provides approved customers with a package of farm inputs,

advice and insurance, on credit that is customized to the size of their farms. This means that farmers in the Kenyan city of Nakuru, for example, can access the quality seed and fertilizer they need to increase their yields, and are protected in case of drought.

Co-founder and CEO Eli Pollak has ambitious plans: “Our business is helping small-scale farmers make more money on their farms. We see fantastic opportunities to help farmers expand and achieve higher returns, including higher profitability crops, more crop diversification, irrigation and access to markets.”

Accion Venture Lab As part of its Financial Inclusion Initiative, Credit Suisse supports Venture Lab, the seed-stage investment arm of Accion, an NGO and pioneer in the area of financial inclusion. Venture Lab provides start-up capital and support to innovative start-ups that facilitate, improve and reduce the cost of access to financial services for people living in poverty. Apollo Agriculture is part of Accion’s portfolio. [accion.org/venturelab](http://accion.org/venturelab)



Apollo Agriculture helps small African farmers expand.

## “Improving realities”

Laura Hemrika, what does Credit Suisse seek to achieve through its Corporate Citizenship activities? Through our work we seek to contribute to a more inclusive future where all people can both access the resources and develop the financial, entrepreneurial and other skills they need to thrive in the economy and society. We focus on the topics of financial inclusion, financial education and future skills, and partner with NGOs and social enterprises transforming the realities of thousands of people worldwide.

Why did Credit Suisse choose to support Accion’s Venture Lab? Venture Lab has a very successful approach to identifying innovative new financial inclusion business models and helping them reach scale. Thanks to their smaller size, presence on the

ground close to investees, and international team with deep experience in building financial inclusion and tech businesses, they are better placed to do so than we are, and are a great complement to our strengths. They provide early-stage investment capital – which can be difficult to obtain, especially for start-ups in emerging markets – and work closely with entrepreneurs to help build their companies. These companies are the future of financial inclusion, merging big data, new technology and new models to deliver financial services to new customer segments, especially low-income people in developing countries.

What support does Credit Suisse provide to help partners achieve sustained growth and impact? Our partners need not only capital but also expertise to grow and achieve a greater social impact. We therefore complement our grant funding with the knowledge and expertise of our employees through a number of employee engagement programs. Whenever valuable, we also try to connect our partners to other Credit Suisse resources, such as our clients and business colleagues, or to our other partners. Together we can achieve an even bigger impact. ■



Laura Hemrika is Global Head of Corporate Citizenship & Foundations at Credit Suisse. [credit-suisse.com/financialinclusion](http://credit-suisse.com/financialinclusion)






137. Veggies – Zurich 2012



154. United Americans – Amsterdam 2014





ETH researcher Dirk Helbing has made a name for himself with his work on mass phenomena. He is currently looking at the consequences of digitalization and how societies can become more resistant to crises.

Interview Hanna Wick

“When you  
have a new  
idea, at  
first you’re  
all alone”



D

Dirk Helbing, do you consider yourself part of the mainstream?  
No, I don't think so. There have been many times in my life when I've gone off in new directions. It started with my thesis, which was about the flow of pedestrian traffic – an unusual choice for a physicist at that time. Later on I studied traffic dynamics, and today my team is working on digital methods that can be used in sociology. The Swiss Federal Institute of Technology (ETH) also expects us to be innovative, and genuine innovation always challenges the mainstream.

Are you saying that pioneers have to set out on their own to explore new territory?  
At first, you're usually isolated when you have a new idea. People ignore you. And when you have some initial success, they view your idea as a potential threat. They make fun of you, or openly attack you. It's only when the breakthrough comes that everyone says, "I knew it all along." As an innovator, you have to be able to swim against the tide if you want to reach your goal. And you have to understand the mainstream.

In the research world, it can be very useful to conform to the mainstream. That's where most of the research money is, and it's easier to move up in your career. Haven't you ever done that?  
Oh yes, I've often divided my work into two parts – that is, I've continued to work on projects that were going well so that I would have the freedom to work on new ideas that would prove successful only years later. Young scientists have little opportunity to do radically new things. They have fixed-term contracts, and they lack financial security. They need to publish and be cited by their colleagues as frequently as possible. It's easier if you're in an established field – in other words, if you're part of the mainstream.

Does this pose a problem for science?  
The mainstream is essential. We need integrative forces to ensure cohesion. But unconventional thinkers are equally essential. The scientific world needs them all: visionaries, contrarians and contemplative types – in the right proportions. Recently I've had the impression that there are too few unconventional thinkers. There's a great deal of pressure to join the mainstream. This is problematic, at a time when we have to acknowledge that our current economic and social system is unsustainable and will be unable to meet the needs of the future. A lack of sustainability and climate change – these are the things we're dealing with. We can't simply continue on as in the past. We need to explore different paths and find the courage to try new things. It's clear to me that our society finds this very difficult.

"Mainstream" is a group phenomenon. When and how do individuals become a group?  
It begins with just two or three people, that's when you start to see collective behavior. Every group has an identity, and that, in turn, influences each individual. It's a self-reinforcing feedback loop.

Communities encourage collective behavior. In your research, you model such collective systems with the help of computers. But how is that possible – to model so many different people? We're not like gas particles that all look the same. That's true, but unlike psychologists and market researchers, we're not attempting

to understand individuals. We're interested in finding out what happens collectively. And we can do that with approximations. Take, for example, a large crowd. When people are packed in so tightly that they are touching one another, even small movements can produce a domino effect. It's dangerous; people might fall. This is something we can model. Another example is traffic congestion, which can take very different forms: stop-and-go traffic, traffic back-ups following an accident, or a traffic jam caused by a detour. All of these are collective phenomena that we can model. People who study congestion are frequently able to guess what has led to a traffic jam when they are still several kilometers away from the actual cause.

Do you do that – play that guessing game?  
Of course. But I actually try to avoid being in a car. It gets on my nerves, since I have a tendency to be impatient. For the most part I take public transportation.

Your research has also looked at ways to break up a traffic jam. What have you found?  
In complex systems like traffic, it all depends on how individual elements in the system, in this case cars, interact with one another. If we make minor changes, for example by using intelligent driver-assistance systems, we can produce a different kind of collective behavior – freely flowing traffic rather than congestion. Things will be quite different in the future with self-driving cars.

When people talk about group phenomena, they often use the term "swarm intelligence." Do you find that to be a useful concept?  
Yes, the fascinating phenomenon of flocks of birds is one example of swarm intelligence. There's no "lead bird" that tells the



Dirk Helbing (54) is a physicist, but that description does not do justice to his work as a researcher. He is also a digital expert, a specialist in innovation, a social critic – and thus also very popular with the media. Helbing grew up in southern Germany. Today he works primarily at the Swiss Federal Institute of Technology Zurich, where he is a professor of computational social science.

others how to fly; instead, each bird simply responds to its surroundings. It's amazing. Why aren't birds constantly colliding with one another, falling in large numbers from the sky? If airplanes flew so close together, I doubt that anyone would be willing to get on a flight. We simply wouldn't trust air traffic controllers to handle the situation safely. Similar instances of "swarming" can be found in schools of fish, ant colonies and swarms of bees. These are all highly complex, socially organized communities.

It sounds like you use the term swarm intelligence only in connection with animals. Yes. In the case of human beings, I prefer to talk about collective intelligence. After all, there are numerous things that distinguish a human from an ant or a bird – particularly when it comes to complex problems that require multiple perspectives. And that's why we humans are still superior to the artificial intelligence (AI) that exists today.

Is that true?  
We know, for example, that Facebook and Google are unable to solve the problem of "fake news" using AI. That's why they've decided to refer people to Wikipedia. And what is Wikipedia? It's us, human beings – it's our collective intelligence.

Another topic that your research has focused a great deal of attention on is big data. Where does that stand today?  
Following the initial hype, we've entered into a phase of disillusionment. We're realizing that some lofty ideas are impractical. With big data, what you're basically doing is extracting data from tables and dumping it into a big container, a "data lake," and then using sophisticated computer programs to try to extract valuable information and figure out how it all fits together.

Are you saying that this doesn't work?  
Not always, at any rate. Often you find only random patterns. Here's one example: At a programming competition, one of the participating teams found that orange cars break down less frequently than other cars. The developers drew that conclusion from an unstructured data set. As a physicist, I have to say that it doesn't make sense. Such bogus insights are typical of big data. Google, too, has fallen into traps like that. An example is Google Flu Trends, an online service that was supposed to predict flu outbreaks by sifting through users' search queries looking for terms like "fever" and "cough." But the results were inaccurate, and the service has since been taken offline.

The more data you have, the more patterns you think you see. Precisely. And even if you have actually identified a meaningful pattern, based on the data, it's not necessarily possible to turn it into a socially advantageous business model. If you lower insurance rates for people who eat more salad and less meat, for instance, a likely side effect would be that women and men would be charged different rates, and so would Jews, Christians and Muslims – because they differ in their eating habits. As a result, big data would cause unintentional discrimination.

When it comes to big data, we have entered into a phase of disillusionment.



More than 10 years ago, the US magazine “Wired” announced that theories and hypotheses were no longer needed, since computers were now capable of drawing conclusions on their own. In other words, big data was eliminating the need for traditional research. Has that proved to be true?

No, I don’t think so. In many cases we have no idea how computers reach their conclusions. So big data isn’t as useful for science as we used to think.

Through your opinion pieces and interviews, you have played a very active role in the public debate about the consequences of digitalization. Why? My role has indeed changed somewhat, and it’s not always fun. We are just learning about the side effects of new technologies, and I believe that as scientists, we bear a certain responsibility for educating the public and policymakers, and for what happens in society. If we fail to share relevant knowledge with the public, we are ultimately complicit when things go wrong or disasters occur.

Climate action is one of your concerns. What do you think about the new mass movement of young people who are taking to the streets to demand action on climate change?

On the one hand, it’s finally capturing the attention of policymakers and the public. But on the other, there is a danger that it may lead to “climate totalitarianism” – as long as nothing is said about the concrete steps that need to be taken to address climate change. I fear that it may encourage centralized digital surveillance, with information being collected about how much you drive your car, how often you fly, how much yogurt you have in your

refrigerator. I worry that efforts might be made to measure exactly what resources each individual consumes, assigning a point score. Those who fail to toe the line would lose points. Independent citizens would once again be at the mercy of the state. Critical and unconventional thinkers would be punished. In China, people who have a low “citizen score” are apparently no longer permitted to take express trains. That seems absurd. But climate strikes increase pressure on politicians to take rapid action. These are times when I worry, wondering how they can be kept from making the wrong decisions.

As we began our conversation, you said that we need to transform our economic and social system. What did you mean by that? Our current system is unsustainable. We have a problem with digitalization and sustainability, among other things. Populists want us to retreat. But that’s not going to work. Going forward is the only option that can save us. We need to do more experimenting, test more regional solutions, learn more from one another. All of these things make a society more resilient, and that’s the right approach in an era when surprises and crises are inevitable. One possibility is to organize a kind of “city Olympics.” Every few years, cities could try to outdo each other in reducing climate change, increasing energy efficiency and promoting sustainability. A jury would then compile a list of the best solutions. It would be freely available for everyone to use, since it would be paid for by tax revenues.

You proposed the idea of a city competition a few years ago. Has it proved successful?

Yes, the response has been positive. In the United States, Bloomberg Philanthropies has launched its American Cities Climate Challenge. The European Investment Bank has announced a competition as well, and environmental organizations are also taking action. For our part, we are working with partners such as Swissnex and Climate-KIC to promote the Climathon. The first Climate City Cup will take place this summer. ■

Artist, engineer and natural philosopher – Leonardo da Vinci was a universal genius. On the 500th anniversary of da Vinci’s death, his biographer explains that da Vinci was also a subversive outsider who could just as easily have been burned at the stake.

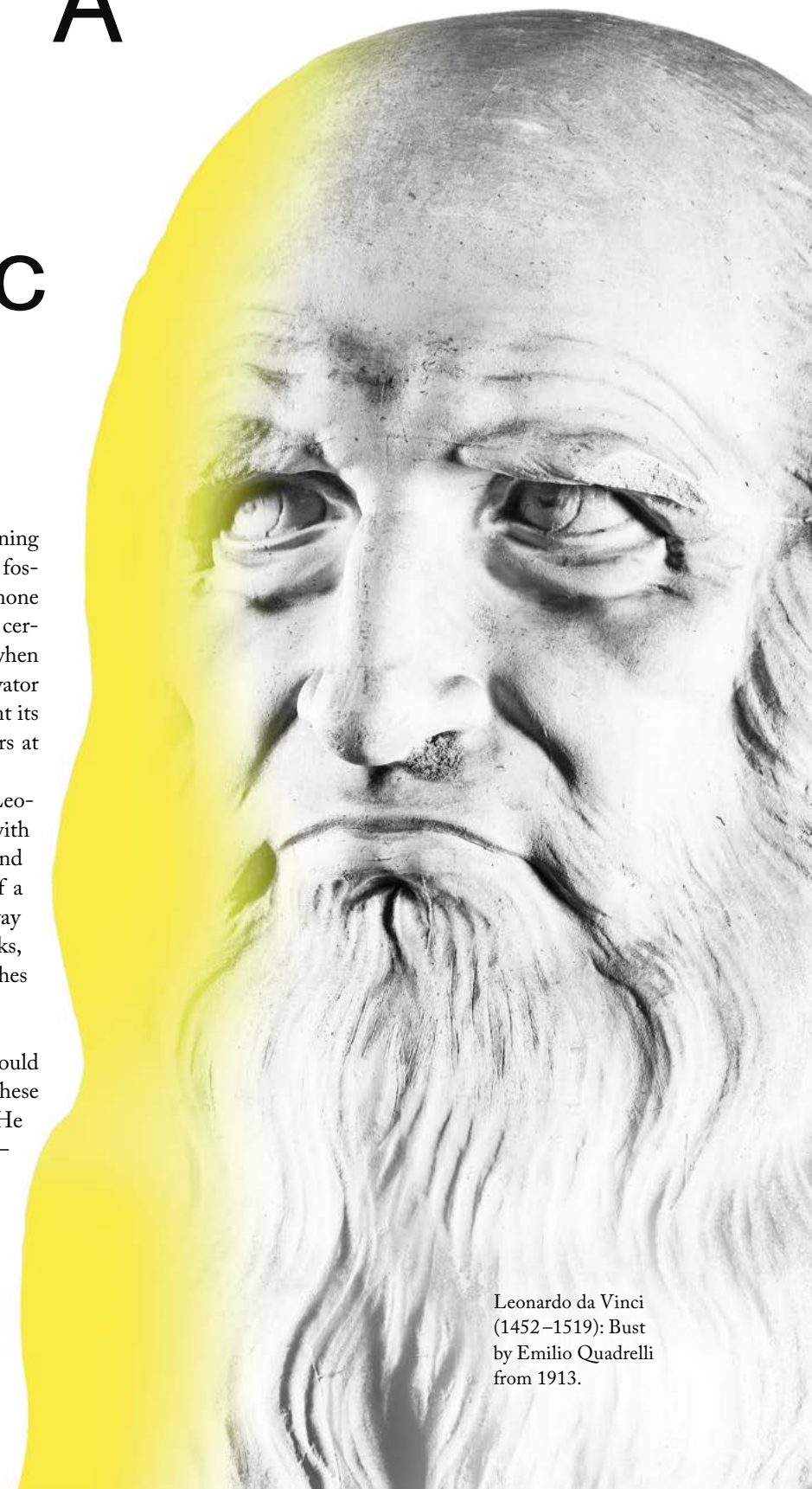
Text Volker Reinhardt

# A full-fledged heretic

In November 1994, the 18-page Codex Leicester, containing rather unremarkable sketches on optics, water flows, and fossils, was sold at auction for 30.8 million US dollars to none other than Bill Gates, who likely hoped to document a certain lineage of spirit. It was apparently quite a bargain, when one considers that an unsubstantiated claim that the “Salvator Mundi” was painted by Leonardo’s own hand recently sent its price soaring to a record-breaking 450 million US dollars at auction.

Upon his death 500 years ago, on May 2, 1519, Leonardo bequeathed his entire collection of notebooks – with thousands of drawings – to his young secretary and friend Francesco Melzi, who took loving care of them for half a century, until his son Orazio ill-advisedly gave them away to artists and kings. Had Orazio held onto those notebooks, the Melzi family would most certainly be in the upper reaches on Forbes’ list of billionaires.

**DEEPLY DISFAVORED** All indications are that Leonardo would have been quite amused and pleased by all the hype these days. He had a dispassionate approach to money himself. He needed it to live comfortably, but he didn’t chase wealth – unlike his younger competitor, Michelangelo Buonarroti, who left behind an enormous real estate empire when he died. Leonardo was known to turn down one lucrative commission after another from wealthy would-be



Leonardo da Vinci (1452–1519): Bust by Emilio Quadrelli from 1913.

We need to do more experimenting,  
test more regional solutions, learn more  
from one another.



patrons and often didn't even complete works that had been commissioned. To him, personal autonomy was more important than material wealth, no matter how great.

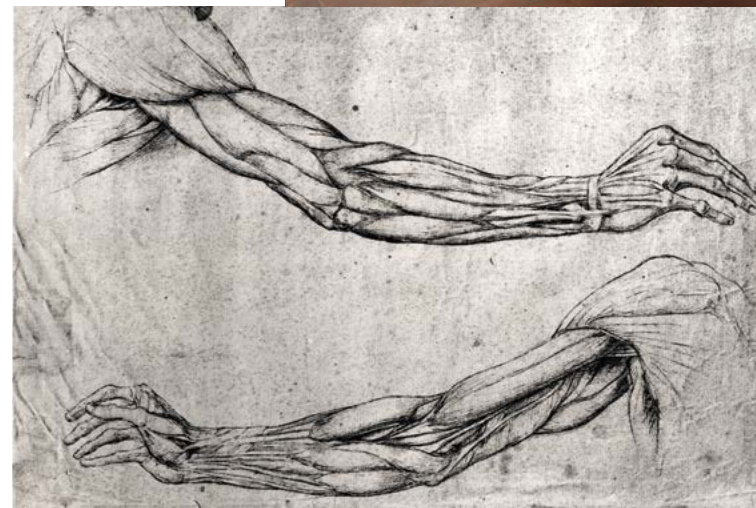
Nor did he share other core values of his contemporaries. Born out of wedlock, he was always at a severe disadvantage to his notary father's legitimate offspring – first and foremost in that he was not given a classical, humanist education and was therefore denied the opportunity to learn Latin, which was the language of academic discourse at the time. In other words, Leonardo was a sort of boy Cinderella but, like in the fairy tale, he had other resources.

He never did forgive the many slights of his upbringing. While family was supremely important to people in the past, it meant nothing to him. Likewise, he held the erudite humanists and their love of words in deep disdain and let them know it. One might say he was a prophet of today's media-driven society: Leonardo recognized that people are governed by their feelings and that those feelings are influenced by images. He understood that a good painter could become the master of other people's minds.

**DISSECTED MORE THAN 30 CADAVERS** Leonardo saw painting as exploration. The forms in which nature manifests itself became clear and comprehensible to him when he drew them. Painting was practical natural philosophy. And to him, that was the highest occupation of the human mind. But the intellectuals of the time didn't agree. To them, there was no need to study nature. The classical Greek philosopher Aristotle had already written all there was to know about it (which wasn't much). But for Leonardo, nature was an unexplored universe and life was a continuous journey of discovery – of untamed waters, of birds' nesting grounds, of bats' caves and flight. He even went so far as to measure the speed at which mollusks move in the sea shallows in order to disprove the Biblical theory of the Great Flood. As he explained, there is no way they could have crawled to the tops of the Apennine Mountains where their fossils are found in the forty days and forty nights that the flood lasted. In other words, the mollusks proved that the world was much older than the 6,000 years that theologians had calculated.

That was not the only time he contradicted the teachings of the Christian church. Leonardo examined the questions "Where did life come from, and how did it end?" with particular intensity. He dissected more than thirty cadavers – with a nonchalance that he took pride in – in order to see, draw

2



3



Photos: Cenacolo di Santa Maria delle Grazie (Cenacolo Vinciano), Milan, Lombardy, Italy / Mondadori Portfolio / Electa / Antonio Quattrone / Bridgeman Images; Louvre, Paris, France / Bridgeman Images; akq-images



1 Legendary mural: "The Last Supper" in the monastery Santa Maria delle Grazie in Milan.

2 Explorer of human anatomy: drawing by da Vinci, Louvre, Paris.

3 His late masterpiece: The painting "The Virgin and Child with St. Anne" is currently on display at the Louvre in Paris.

and understand their anatomy. The most important result of his bold scalpel expeditions (which, incidentally he preferred to undertake by cover of night) was that humans are but one of countless products of nature and that humans die just as animals do. Death of the body was also the death of the mind and the soul. People are matter and nothing more.

**HUMANS AS BEASTS** But people are highly organized matter. During their lifetime, an exceptionally gifted person – in this case Leonardo himself – is capable of using careful observation to discover the laws of nature, unlock some of her secrets, and put them to use in ingenious devices and machines. Leonardo's drawings of flying machines bear witness to his unique ability to take systems he observed in nature and reproduce them in innovations that seem to point to a distant future – into the 20th century. However, they also shared one major obstacle: There was no way to power the machines. Leonardo realized that a person could never create enough power to lift off the ground. Thus, many of the inventions that we consider pioneering or high-tech innovations are really bitter reflections on the incurable hubris of humans, who subjugate nature in the cruelest of ways and torture their neighbor wherever and however they can. Leonardo expressed his deep disdain for people's unbounded potential for (self-)destruction in the unfinished mural "The Battle of Anghiari" in Florence, which literally disintegrated soon after. Today, only sketches and copies of the painting remain. At the heart of the mural, a furious tangle of men and horses depicts people's grim fever to maim, mangle, and destroy; humans are cruel to humans, animals and plants alike.

Leonardo da Vinci painted Christian themes in a non-Christian spirit and inoculated them with non-Christian messages. In The Last Supper, painted in the monastery Santa Maria delle Grazie in Milan, Leonardo's Jesus is a mild-tempered, gracious leader who has just been basely betrayed

and sold out by one of his disciples. It is nothing more than a very earthly tragedy. In "The Virgin and Child with St. Anne," Leonardo's Jesus is a mischievous, careless boy twisting the throat of an innocent lamb against the admonishments of his mother and grandmother.

**NO VOICE WITHOUT A BODY** Leonardo lived in flagrant opposition to the values of his time. He sought to be an enigma. By carefully cultivating a mystique, he clearly distanced himself not only from the humanists and their verbosity and obsession with the ancient world, but also from the astrologers, alchemists and mages of his time, whom he viewed as charlatans exploiting people's fascination with the supernatural in order to relieve them of their money or possessions. Leonardo made it clear in his notebooks that he did not believe apparitions could be real because there can be no movement or voice without a body. Again, all living things are matter.

His convictions made Leonardo a full-blown heretic in the eyes of his pious contemporaries. Had he published his ideas just fifty years later, the Inquisition would have pounced on him like they did the great cosmological theorist Giordano Bruno (1548–1600), who was the first to promulgate the idea that the universe is infinite, housing a plurality of worlds, and, like Leonardo, that nature is eternal and not created. Bruno was burned at the stake in Rome in February 1600. Leonardo suffered no such fate. However, his image has been blurred and distorted by countless myths starting in the 20th century. It is our task now to restore his image within its historical context, with his dichotomy of unprecedented independence and connectedness. ■

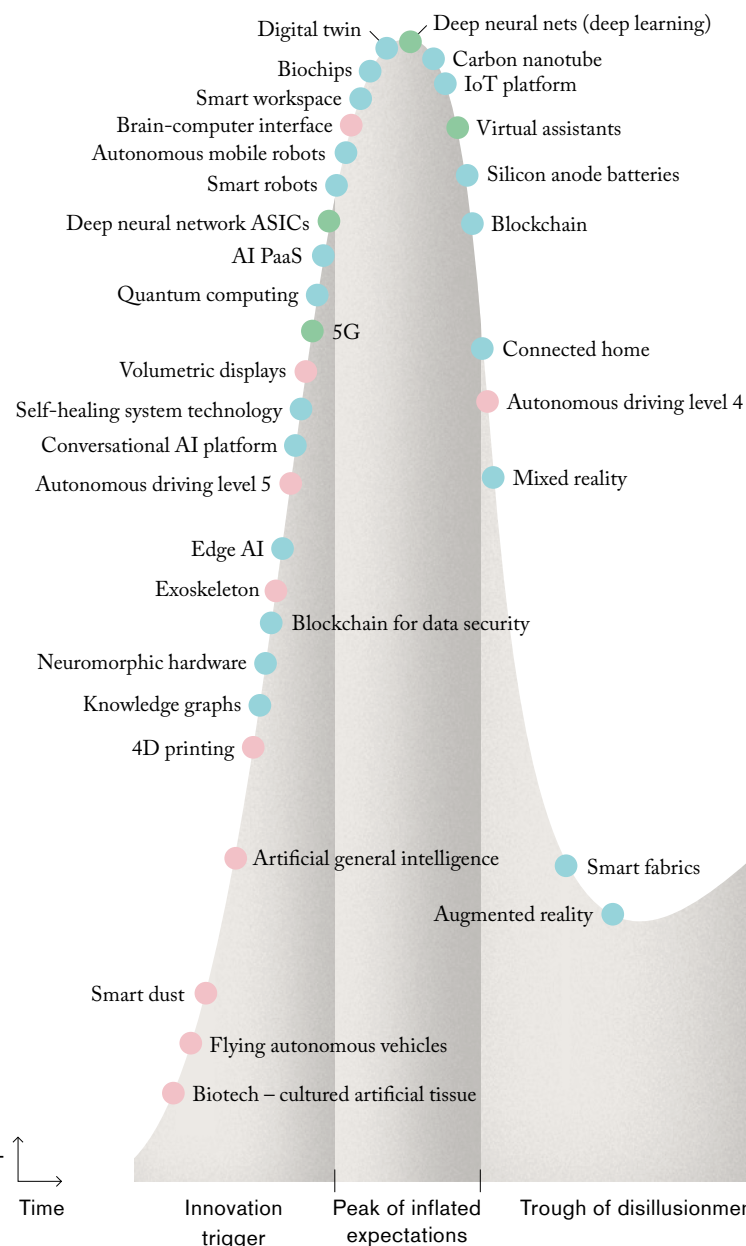
Volker Reinhardt is a professor of Modern History at the University of Freiburg (CH) and is among the world's leading Renaissance scholars. In 2018, he published a biography of Leonardo da Vinci (C.H. Beck) based on the universal genius's notebooks, which paints him in a new light as an outsider who dared to be different (NZZ).



How is #mainstream discussed on Twitter?  
Is there a formula for producing hit singles?  
What does MLIA mean? What is the  
best-selling IKEA product? On the many  
aspects of the average.

Compiled by the editorial team

# The



## The tech temperature curve

Since 1995, market research company Gartner has published its “Hype Cycle,” a sort of temperature curve for emerging technologies that shows expectations for new applications over time and divides them into five phases (see chart).

Plateau will be reached in:  
● 2–5 years ● 5–10 years ● more than 10 years

Source: Gartner, Michael Mullany (Icon Ventures), 2018

# 10 portfolio



## Another way to say normal

Citoyen lambda refers to the average citizen in French. Why? Because the letter “lambda” is the eleventh one in the Greek alphabet and therefore almost in the middle.

Otto Normalverbraucher is the protagonist in the 1948 German film “Berlin Ballad” – a reference to food ration cards, which were stamped with the words: “For ordinary consumers.” This referred to people with the average needs of the population as a whole.

MLIA is an abbreviation used by the social media generation and stands for “my life is average.” When people use the abbreviation MLIA, they are expressing how routine they believe their own lives are. Example: “I swallowed a watermelon seed. A watermelon did not grow in my stomach. MLIA.”

Färdigtuggat (chewed up) refers to an average idea in Swedish. A very normal person is called a “medelsvensson” (an “average Svensson”), a reference to a common surname.

08/15 means something very normal in German. The term comes from the MG 08/15 machine gun used during the First World War. It is not clear if it refers to the repetitive training required to shoot the weapon or its low quality.

Plain vanilla is the most popular ice cream flavor in the US and synonym for “nothing special.”

Normaalne is what Estonians say to refer to something that is neither terrible nor excellent.

Middle of the road was used in the US in the 19th century to refer to a tactic of saying nothing concrete. Nowadays, dull and repetitive music is also referred to as middle of the road, sometimes using the abbreviation MOR.

פרווה (pronounced PAR-VE) stems from kosher rules and in Israel refers to food that contains neither milk nor meat as well as anything that has little character. Many languages have similar terms, such as “*noch vlees noch vis*” (in Dutch) or “*ni chair ni poisson*” (in French). This expression, which means “*neither fish nor fowl*,” was, according to legend, used to mock people who could not choose between Catholicism (which involved abstaining from meat) and Protestantism (which involved no fasting).





#afd  
#fakenews  
#iota

The social media analysis and monitoring platform Talkwalker conducted an exclusive study for Bulletin on the use of the hashtag #mainstream on Twitter. The group concluded that the hashtag #mainstream is primarily used in industrialized and English-speaking regions, and that nearly two-thirds of posts that use the hashtag #mainstream are written by men. The hashtag #mainstream is used a relatively constant 1,400 times weekly. The hashtag #mainstream is often used in combination with media topics (#fakeNews, #CNN, #Reporter), politics (#Trump, #AfD, #Merkel-mussweg (“Merkel must go”), #Macron, #Renzi) and technology (#blockchain, #Vanywhere, #iota).

Source: Talkwalker is a social listening tool that was used to measure the hashtag #mainstream on Twitter; all opinions expressed are independent of Talkwalker. [talkwalker.com/en](http://talkwalker.com/en)

$$\text{Score} = (w_1 \times f_1) + (w_2 \times f_2) + \dots + (w_{23} \times f_{23})$$

## The hit formula

Researchers at the University of Bristol have analyzed top 40 hit singles over the last 50 years and developed a formula to determine whether a song will be popular or not. The 23 criteria that were investigated (f in the equation above) include, among others, tempo, harmonic profile, beat variations and danceability. The formula weights each criterion (w in the equation), modifying over time – with the weightings being adjusted, depending on what hits came before.

## The capitals of “normal”

### ► US: Peoria

This city of 115,000 in Illinois is located in the middle of the US and is used as a metaphor for middle American life. When a project manager at a marketing company comes up with a new idea, someone is sure to ask, “Will it play in Peoria?”

### ► England: Didcot

Located an hour and a half west of London and named the “most normal town in England” by the BBC, Didcot, according to statistics, represents the English average. Experts included obvious indicators in their analysis, such as age, employment status and income, but – in the Brexit era – they also included the England-specific variable “Euro-skepticism.”

### ► Australia: Hahndorf

Founded in 1839 by Prussian Lutheran immigrants, Hahndorf, located in South Australia, represents the national average,

according to an analysis by a population statistics website. Hahndorf – the name of the town comes from the captain who commanded the ship that took the German emigrants to Australia – is a suburb of Adelaide, half urban, half rural and its population is very heterogeneous. It has some tourism and some agriculture, but it is mainly a place to live. A typical Australian city.

### ► Germany: Hassloch

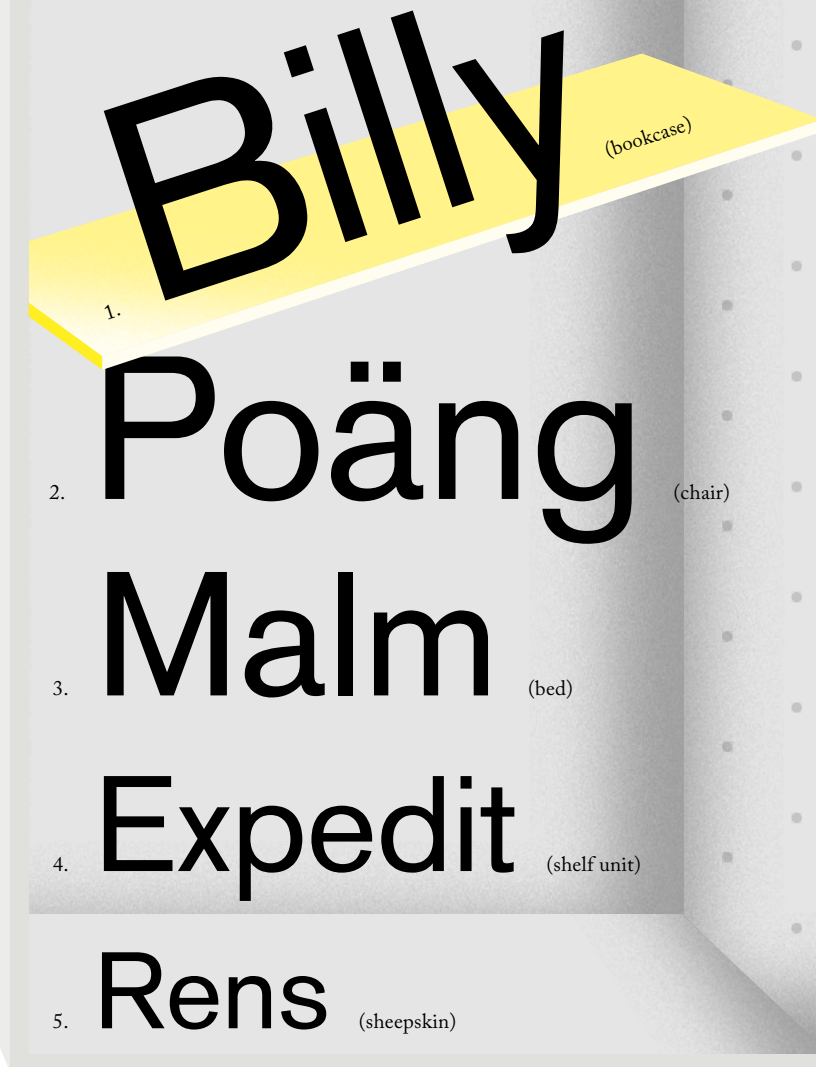
The age and social structure of this town, located not far from Mannheim, represents the German average. The German newspaper “Tageszeitung” writes: “Because it is so ordinary and because it had cable TV early on, Hassloch has served as a test market representing the wider German society for consumer researchers since 1986.”

### ► Switzerland: Langenthal

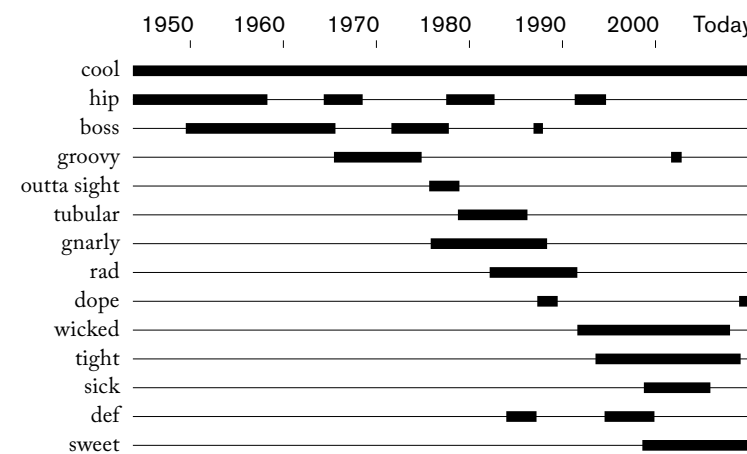
The “Berner Zeitung” newspaper calls it the “classic cliché”: “When residents of Langenthal tell outsiders where they live, they often hear: Ah, in the capital of the average.” Where does this reputation come from? The “Berner Zeitung” notes, “In the 1970s, when market researchers were trying to determine the preferences of the average Swiss they allegedly found them in Langenthal.” People in Langenthal do not seem particularly proud of their reputation for being average; instead, they prefer to use the phrase “Little Venice” to describe their town.

## Storage space for everyone

The biggest selling products at IKEA



## Forever cool



Every generation has its own terms for describing what is “cool.” These slang expressions are themselves subject to trends, and just like clothing fashions, there are cycles and revivals. Exception: The word “cool” was considered cool before 1950 and still is today, well beyond the English-speaking world.



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A TO B, THINK OF ME!”

KOJO, CEO OF KOJO’S BIKES



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Bulletin 1/2019  
“Crucial questions for a changing world”

**New ways of thinking**  
I always look forward to each new issue of Bulletin. The topics are up to date, well researched and provide a ray of hope in a time when some dark scenarios are spreading through journalism. The interviews with prominent figures from the worlds of business, ecology, society and many other areas demonstrate new approaches and ways of thinking that are sometimes diametrically opposed to mainstream opinions in newspapers. I’m very thankful for these new (to me) and varied approaches. I hope that Bulletin can continue in this way for a long time to come. Orlando Müller, Baden-Dättwil

**A reader for over half a century**  
I have been a regular subscriber to Bulletin for over 50 years. It is – and this is coming from a graphic designer – one of the most appealing and interesting magazines out there today, both in design and content. Orio Galli (born in 1941), Caslano

**Read and re-read**  
The best issue in years. I’ve read and re-read the articles and have some thoughts on the various issues. Why don’t the newspapers and other forms of media present these articles in detail to the general public? We must concern ourselves with these questions and answers. Anton Hürzeler, Lenzburg

**No typos or printing errors**  
You’ve received some well-deserved praise and recognition. Issue 1/2019 is another outstanding one. But has anyone ever expressed admiration for the fact that they have never been able to find any typos or printing errors? This is a testament to the great care and professionalism you put into Bulletin. Wolfgang Krug, Zurich

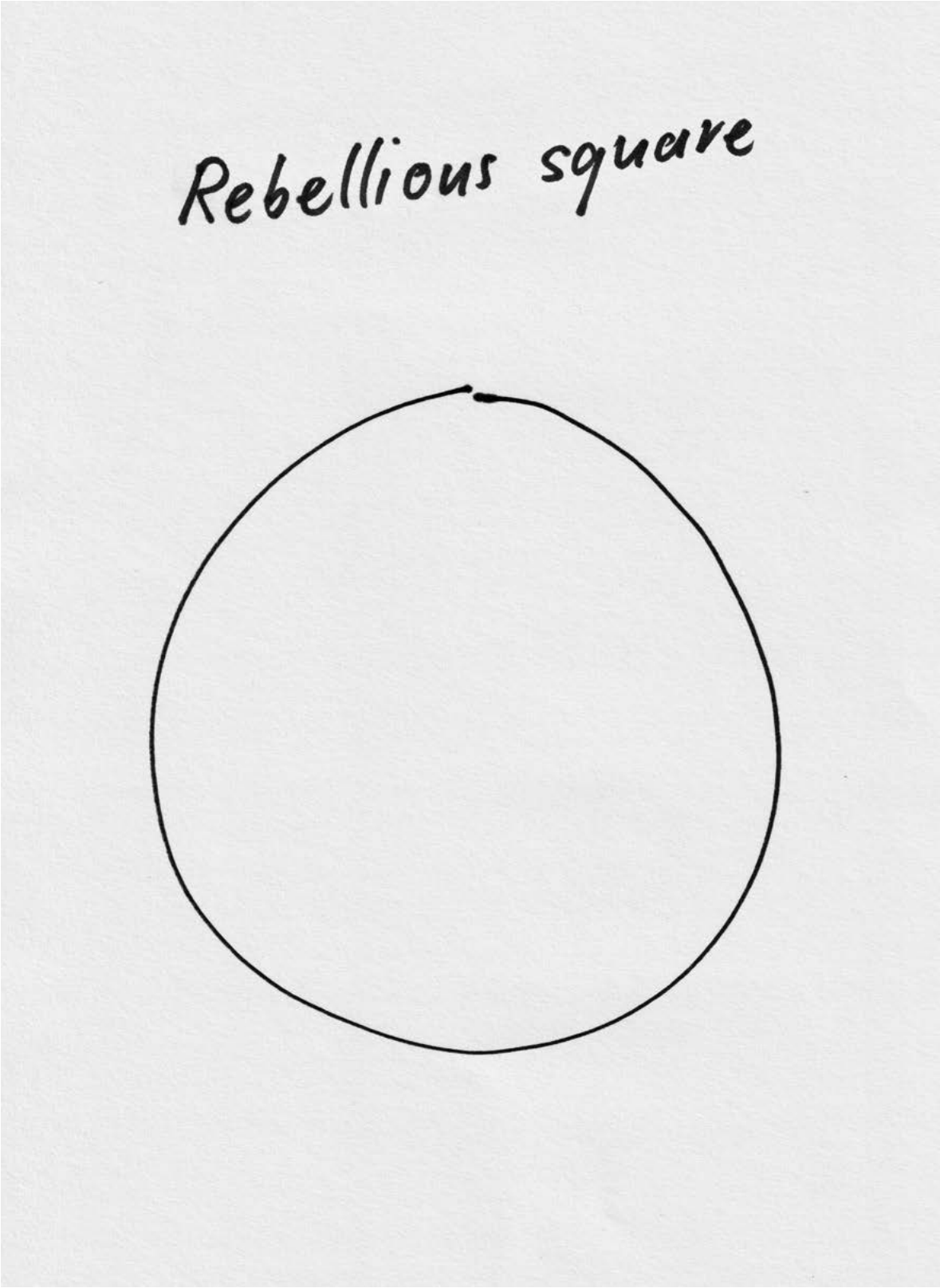
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Beni Bischof is a multi-award-winning artist from eastern Switzerland. His aim is to bring humor to art, and he sees himself as part of the court jester tradition. His stylistic devices are trenchant drawings and absurd collages.



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