BRUNSWICK REVIEW

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The Predictions Issue

A UN **TECH CZAR** On the Risk of Failing to Share Data

Facebook's **WORKSPACE** On the Future of Your Own

How **PIRELLI** Anticipates Curves Ahead

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After 150 Years of Predicting, **SWISS RE** Says it's No Easier

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MANAGING EDITOR Carlton Wilkinson
ART DIRECTOR Frank Tagariello
DEPUTY EDITOR Edward Stephens
CONTENT PRODUCTION MANAGER Laura Templer
PRINT PRODUCTION MerchantCantos
PRINTED BY CPI Colour
COVER ILLUSTRATION Edmon De Haro

FEEDBACK *feedbackreview@brunswickgroup.com*

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SIR ALAN PARKER

CHAIRMAN,
BRUNSWICK GROUP

"I HAVE NEVER WORKED IN SUCH UNCERTAIN TIMES." That's a phrase we hear from business leaders all over the world. But boards and management cannot wait for a quieter, more predictable world – decisions have to be made and followed through on, even if the only certainty seems to be uncertainty.

That leaves us with the question: What view of the future can you rely on – at a micro or a macro level? This is the overarching concern that is at the heart of this "Predictions" issue of the Brunswick Review.

Like our clients, everything we do has an element of situation assessment and then prediction built in. In recent years, this has only become harder. We get out of bed expecting the unexpected, with vastly more data available and more views and voices on everything than ever before. But if this complicates decisions, it also exponentially multiplies the options.

For the first step, assessment, there are a number of specific things we can do. For example, understanding the ebb and flow of geopolitics is increasingly important. At Brunswick, we've developed extraordinary firepower with our Geopolitical team of Bob Zoellick, Pascal Lamy, Lord Powell and George Yeo. They bring their combined experience and perspective to bear for our clients in all sectors.

Likewise, we can interrogate issues through our research teams within Brunswick Insight, to help define problems, design solutions and evaluate impacts for all of the organizations we work with.

But as helpful as those abilities are, specific predictions are another matter. Dynamics and likely outcomes are unique to each case; it is up to those leaders to think through the risks and decide on a course of action. Then, to paraphrase Lady Macbeth, they have to "screw their courage to the sticking point."

To make judgments in the midst of fast-moving complexity requires changes in the way we work. Information and ideas have to flow faster and more effectively; silos are the enemy and sustaining multiple and often conflicting stakeholder views becomes crucial. Echo chambers are impediments; outside voices are often valuable.

Organizational intelligence has to be joined up to maintain constructive real-time relationships with a full range of stakeholders. Shareholders, employees, board members, media, the public, regulators – these can't be thought of as isolated groups. That means that isolated teams for public and internal communications, IR or regulatory affairs, are now not just inefficient, they are dangerous. To add another layer of complexity, companies are now being asked to take strong and public positions on all sorts of contentious social concerns that were not previously seen as in their domain. Fast-changing public attitudes often drive these issues. We have to plot their trajectories to plan effectively.

At Brunswick, we decided a long time ago to be a "one firm firm," not to separate profit centers or divisions. A client team can be highly focused, but can also call on all of the expertise around the Group for any client anywhere in the world. Taking advantage of this natural diversity – top experts in widely separated centers of excellence – is a crucial advantage.

The world has never been so fast, and it is only going to get faster. The potential for uncertainty will tend to increase. Agility and resilience play an increasingly large role in successful execution. Great leadership requires clarity of purpose, good planning and support, both internal and external. However clear the strategy, there will be in-course corrections and unforeseen challenges in abundance – those trusted relationships are what will carry the day.

All of those arguments are made in this magazine, in the words of business leaders, outside experts, clients and team members. It is rigorous thinking and a diversity of opinions that reflect our daily work at Brunswick toward one goal: to help our clients create the right mix of agility and smart decision-making internally and a good store of reputational capital externally to deliver the resilience needed to navigate these extraordinary times. ◆

CEO OF THE AMERICAS

NIKHIL (NIK) DEOGUN was named CEO of the Americas and US Senior Partner of Brunswick.

Mr. Deogun comes to Brunswick from CNBC, where he served as Editor in Chief and Senior Vice President, Business News. Mr. Deogun was responsible for all editorial content for daily live news programming, working closely with anchors, reporters and producers, as well as CNBC's network specials and documentaries.

Previously at The Wall Street Journal, Mr. Deogun excelled as an M&A reporter, thrived as the editor in charge of covering entertainment, publishing, advertising, consumer goods, fashion and retail, then, during the financial crisis, ran coverage of Wall Street, banking, hedge funds, private equity and mutual funds. He also served as deputy bureau chief in Washington, D.C., where he oversaw regulatory and investigative coverage for the paper. He ended his Journal career as Deputy Managing Editor in charge of financial and international coverage.

"Nik has reported on the most competitive of business activities, mergers and acquisitions; led coverage of consumer giants like Coke and Pepsi; leapt into guidance of political and regulatory coverage, and taken brilliant charge of video reporting when he had practically zero experience with it," says Paul Steiger, ProPublica founder and formerly managing editor of The Wall Street Journal. "Whether it's advising leaders in a crisis or building a team adept at avoiding them, I'd want Nik on my side."

At Brunswick, Mr. Deogun will advise clients on a range of critical business issues, spanning the financial, commercial, M&A and political spheres. He will be based in New York and report to CEO Neal Wolin.

Mr. Deogun grew up in India. He graduated *summa cum laude* from Muskingum University in Ohio. He received a master's degree from the University of Missouri School of Journalism. Nik is married and has two children.

PHOTOGRAPH: TOP, DAVID REES

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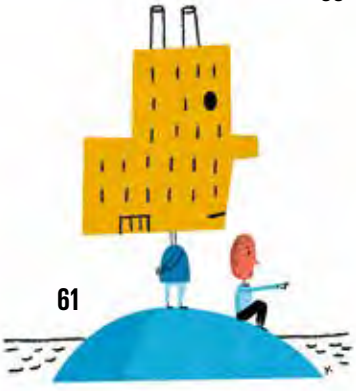
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SPOTLIGHT

Sharing insights from Brunswick colleagues around the world on a medley of topics

ILLUSTRATION: DAVID PLUNKERT

WTO Predictions

Brunswick's Pascal Lamy defends multilateralism.

Mounting trade tensions following the Brexit vote and the election of US President Donald Trump have intensified demand for the thoughts of Pascal Lamy, former Director-General of the World Trade Organization from 2005 until 2013 and EU Commissioner for Trade 1999 to 2004. Now a Principal at Brunswick Geopolitical, Mr. Lamy has argued in the media for the importance of multilateral trade while also calling for WTO reform. This essay is derived from a speech in June at the WTO and an interview he gave this spring to Le Monde. These notes are his personal views.

Since the 1947 creation of the General Agreement on Tariffs and Trade (GATT), which in 1994 morphed into the World Trade Organization, the number of member countries has grown to exceed 160. This illustrates that the human race's preferred option for building international trading rules is the multilateral track. That should remain the case. The multilateral track is fairer given that it encompasses a wide diversity of strong and weak, big and small economies. It is more efficient as it provides a stable and predictable environment to a maximum number of operators. Under its WTO version, it is more resilient because it is organized to deliver what is expected from a regulatory system: negotiate the rules, monitor their implementation and settle disputes when they arise.

Now, for the first time in 60 years, this overall consensus in favor of trade multilateralism is under attack. Donald Trump, who was elected US president on a protectionist platform, has argued that the WTO system does not work for US interests, and that the US would be better served by bilateral deals, in particular with China. His evidence for this argument is the deficit in the US trade balance. Under President Trump, Washington has launched a series of protectionist initiatives and, in a disconcerting move, he refused to sign the statement from the June G7 meeting in Canada.

Of course, there is a coherence behind these reality-TV-style methods that he has applied to international politics. His objective is to win the mid-term elections next November, which are crucial

for him. Without a doubt, he must therefore maintain his popularity amongst the 35 percent-plus of Americans who support him. He is not alone. Elsewhere in the world, political forces are also pushing an anti-globalization, my-community-first backlash.

To some extent, this is not surprising. I have always advocated for harnessed globalization; I have never talked about happy globalization. Globalization is efficient because it is painful – more for the weak than the strong. It is up to social policies to address the consequences.

In the European Union, 45 percent of what is produced is redistributed. In the United States and Great Britain, social protection is much lower. This partly explains the victory of President Trump and Brexit. The risks of de-globalization will keep increasing if domestic welfare systems do not modernize, allowing political pressures to keep growing.

Will these pressures toward economic nationalism result in a de-globalization that would impact the global business model of multinationals? My overall answer is a qualified "no."

The interpenetration of technologies and production systems is so substantial that the cost of de-globalization would now be very high. As for the EU, it should continue, along with a vast majority of WTO members, to defend a multilateral, more open, rules-based trading system. Multilateralism and open trade is where EU values and EU interests intersect.

It is possible that the integration of the major world economies will slow down, but I do not see it going backward. In any case, the rest of the world may be getting organized to bypass President Trump. To everyone's surprise, Japan took up the torch of the Trans-Pacific Free Trade Treaty after the United States withdrew. The Paris climate agreement continues its life without the US, but with California. And the American Congress has not said its last word.

The first article of the US Constitution states that the responsibility for trade treaties lies with Congress. The United States is shooting itself in the foot by raising aluminum and steel tariffs and penalizing activities that it uses substantially, like the automobile and construction industries. As for the idea that the trade deficit would weaken the US, it is as if the privilege of the dollar did not exist. But the US economy is doing well, and the effects of protectionism are being felt only slowly.

Even so, it is crucial to note that the US stance, excessive and erratic as it may be, is not 100 percent unfounded. The WTO system has not been significantly changed in the last 25 years. It suffers from serious flaws:

- Some of the rules of trade remain unbalanced against developing countries, mostly in the area of agriculture. OECD countries pay as much as the rest of the world to support their farmers.
- On the other side, some principles have to be readjusted in order to factor in the new strength of emerging countries. Of particular need for adjustment is the "special and differential treatment" principle, according to which all developing countries benefit from flexibilities which are not available to developed countries.
- Some of the WTO disciplines remain too weak to properly level the playing field in an international economy that has globalized rapidly in recent decades, subsidies being a case in point.
- The relative importance of obstacles to trade is changing because of factors such as e-commerce and non-tariff measures. Hence there is a necessity to adapt.
- The negotiating process has become excruciatingly complex as the WTO membership has expanded to more than 160 countries.

To address these various weaknesses and to consolidate the multilateral system, the EU should launch, together with China, a major initiative to update the multilateral rules book and modernize the organization. The main objective should be to unlock the negotiating process, which can only happen on the basis of a multipurpose proposal so that all members could see their advantage in negotiating a new, broad-ranging package. Such a package should include a thorough review of the basic principle that has underpinned the WTO: the reciprocity between developed countries and "special and differential treatment" in favor of poorer countries.

Whereas this principle made sense a few decades ago, the emergence of major developing countries, starting with China, has created a new "in between" class, which needs to be recognized and organized. Unless it is done, the negotiating process will remain clogged by a US-China impasse, as long as China remains a rich country with many poor in the eyes of the US, and a poor country with many rich in the eyes of China.

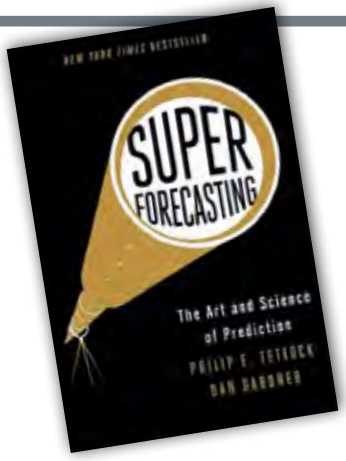
The way to resolve this contradiction would be to agree on a new graduation principle according to which the asymmetry in market access between rich and poor countries would be progressively reduced as the GNP-per-head difference between them narrows. Such systems already exist elsewhere in the international arena, such as the United Nations and the World Bank. ◆

REAL MAGIC

Humans have always revered magical seers who could predict the future. Even today, we may distrust magic, but we still love a prediction, especially in fast-moving arenas like technology and digital communications. The predictable result is a flood of forecasts that can be difficult to wade through.

For the last five years, I've produced with my friend James Whatley an annual forecast of key trends in digital marketing and communications. We found too many existing reports unsatisfactory. To address our concerns we committed to three principles.

First, ground every prediction in hard data. Second, include actionable recommendations with each prediction. This insistence on the concrete connects our ideas to practical issues that can be addressed and, we hope, contributes to our accuracy. Third, revisit the previous years' predictions so that readers can judge our reliability.



Our track record – admittedly the product of self-evaluation – has been pretty good. And although we didn't realize it, our frustrations had driven us to a methodology backed by science.

Professor Phillip Tetlock has made a thorough study of forecasting, collecting and analyzing predictions from 20,000 people. He finds that practicality, respect for nuance and firm rooting in data are among the most important factors in accurate predictions. Mr. Tetlock also suggests that forecasters get better with practice, but only when they take time to reflect.

But he warns not to be overly committed to a big idea. Too much focus on just one thing – a philosophy, topic or genre – is the biggest driver of confirmation bias. The best forecasters, Mr. Tetlock concludes, are generalists with working knowledge across several topics and possessing strong opinions, loosely held.

Those findings aren't magic; they are rooted in solid behavioral science. But they give us the comfort of knowing that with the right methodology, the seers might still walk among us. ◆

Marshall Manson is a Brunswick Partner in London.

ANIMAL Predictors

Paul the Octopus

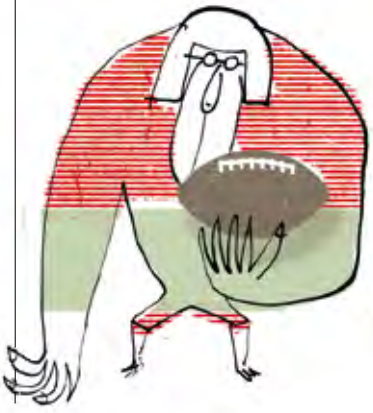
Ahead of the European football championship in 2008, somebody at the Sea Life Centre in Oberhausen, Germany, sensed predictive powers in a resident Octopus named Paul. Two boxes of food were placed in front of Paul, one with the German flag, the other, the opponent's. Paul chose Germany in six games, two of which Germany lost. Two years later, he went 8-0 in the 2010 World Cup, including "predicting" Germany's semi-final loss to Spain and Spain's victory in the final versus the Netherlands. Paul died about four months later.

Oscar the Reaper Cat

Oscar, a therapy cat at Steere House Nursing and Rehabilitation Center in the US city of Providence, Rhode Island, shows special affection for patients about to die. After Oscar "predicted" 25 deaths, caretakers at the hospital started calling the families of patients that Oscar graced with his attention. He seems to have foreseen more than 100 deaths, earning a feature story in the New England Journal of Medicine.

Eli the Superbowl Aficionado

Presented with two papier-mâché football helmets representing opponents in an upcoming Super Bowl, Eli the orangutan, a resident of Utah's Hogle Zoo, would choose one to bang around. Starting in 2007, the team's helmet he chose won the big game seven consecutive years. Eli died in 2014. His daughter Acara incorrectly predicted the Patriots would win last season's Super Bowl, dashing hopes she would inherit her father's gift.



Stock-Picking Monkeys

A Princeton economist wrote in 1973, "a blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by the experts." To sort of test that theory, The Wall Street Journal for 14 years ran a contest between human dart throwers and Wall Street experts. After 142 contests, the pros won, racking up an average 10.2 percent six-month investment gain over the dart throwers' 3.5 percent.

Sonny the Sheep

New Zealander Sonny Wool correctly "predicted" all of his home team's matches in the 2011 Rugby World Cup. Sonny would choose between two boxes of hay, decorated with team flags. Described as anti-social around other sheep but a lover of human company, Sonny developed a fetish for rugby balls. After the 2011 games, he lost his touch. He retired after receiving death threats for incorrectly predicting an Ireland win over New Zealand.

ILLUSTRATIONS: SERGE BLOCH

DARK SOCIAL

Twitter data is the tip of the iceberg – but is more data an answer to anything?

"Dark social," a term coined in 2012 by Alexis C. Madrigal of The Atlantic, conjures up images of a virtual dystopia. Actually, Mr. Madrigal was using it to refer to the phenomenon of people arriving at his publication by clicking on digitally shared links that couldn't be tracked.

Fast forward to today and, as well as the sharing of links, millions of conversations are happening behind closed doors every day in social media platforms around the world such as Facebook Messenger, WhatsApp, LINE and WeChat. Between them, those platforms boast over 3 billion users.

One of the reasons Twitter has become the go-to reference point for journalists, not to mention communications and marketing specialists, is that its data is publicly available. With over 330 million active users, it allows organizations to gain an immediate sense of what is happening as it unfolds in Twitter's major markets like the US, UK or the UAE.

What's being said on Twitter, however, pales in comparison to what goes on in those closed platforms. Some estimates suggest that 80 percent of all social conversation is inaccessible. With access to that data, would it have been possible to predict Brexit or the outcome of the US elections?

And in today's digital world outside of social media, there's a lot more additional data available from the apps, websites, digital tools and services already available to organizations.

But is more data really the answer? The truth is, data is not synonymous with insight or actionable intelligence. Either of those require going beyond the numbers. And that means putting the effort into compiling a complete picture of what stakeholders think and what they are feeling, not just doing.

The way to achieve that insight is by combining and utilizing the strengths of different sources and data collection methodologies – be it news media, devices, focus groups, surveys or interviews.

It's the only real way to shine a light in a dark data world. ◆

***Jonny Stark,** a Brunswick Partner, leads the firm's digital offering in Asia.*

Piercing the VEIL

The business need for seers has never been greater, says Brunswick's Rob Webb.

"Madame Sosostris, famous clairvoyante, had a bad cold, nevertheless is known to be the wisest woman in Europe, with a wicked pack of cards" – at least according to T.S. Eliot in *The Wasteland*. Madame represents the always dark fascination and respect given to fortune tellers by audiences full of apprehension for the future.

Today's clairvoyants face more skepticism, yet the job remains a mainstream activity – for corporations perhaps even more than individuals.

"Hold to the now, the here, through which all future plunges to the past" is the contrary advice James Joyce counsels in *Ulysses*. But that's not enough for the modern company board. They need to know what happens next.

Some predictions are easy: the sunrise, old age, the need to pay taxes. Others, less so: the warming of the oceans, the rising of the Chinese middle class. Yet another group, still more uncertain, belongs to the futurists.

The agricultural revolution yielded to the rise of the industrial revolution, which gave way to the rise of the bureaucrats and the birth of the modern city; these now in turn are giving way to the data scientists. Bill Gates advised us not to be rude to nerds, because we will end up working for one; he was and remains prescient.

The companies that survive are those that not only predict the future with accuracy, but also have the courage and resources to back their predictions. Richard Branson and the hyperloop or Elon Musk on electric cars are well-known examples. Every entrepreneur and workaday CEO now needs perspective on what their market and customer base will look like in a few years' time. For the airline industry, my own heartland, CEOs must take a view about what the next aircraft will be, and whether "small and frequent" beats "big and occasional." For the food industry, what is the future for sugar? Salt? Lettuce? To what question did vaping turn out to be the answer?

The past is a well from which we draw future strength. The present, always with us, is not enough. The future can no longer be the preserve of boffins, academics or research departments. To be sure of survival, accurate prediction and the courage to implement are now necessary items in the toolkit of any modern board.

A wrong bet can lead to a setback. No bet at all can lead to extinction. ◆

***Rob Webb QC** is a Brunswick Senior Adviser based in London.*

ILLUSTRATION: TOP, DAVID PLUNKERT. IMAGE LEFT, WIKIMEDIA COMMONS

Changes in Hong Kong and the UK improve the corporate governance landscape.

RULES of the HIGH ROAD

Globally, corporate failures, governance weaknesses and the emergence of conduct risk during and since the financial crisis of 2008 have damaged trust and prompted calls for stricter regulation. Recent changes in the UK and Hong Kong corporate governance codes are in part a response to these pressures and seek to push the corporate world toward greater transparency and integrity.

The UK led the development of corporate governance practices with the Cadbury Report in 1992 and significant improvements in governance have been seen since then. The July 2018 Update to the UK Corporate Governance Code aims to create a simpler and clearer set of principles to promote long-term stability and success for a greater range of stakeholders. Key changes include:

- Broadening the definition of governance. An effective and entrepreneurial board should be in place whose mission is to promote long-term sustainable success, generating value for shareholders and contributing to wider society.
- Emphasizing that the board should establish the company's purpose, values and strategy, and satisfy itself that its culture is aligned with those plans.
- Improving the quality of relationships with a wider range of stakeholders. The annual report should describe how the interests of all have been considered in board decision making.
- Engaging meaningfully with the workers through a formal workforce advisory panel, a director or designated non-executive director appointed from the workforce.
- Emphasizing the necessity for a high-quality board with an appropriate combination of executive and non-executive independent directors to ensure constructive challenge, with no one director dominating the decision making.
- Focusing on diversity, length of tenure of the board as a whole and effective board refreshment including the need for higher-quality external board evaluations as well as nomination committee responsibility for more effective succession planning.
- More demanding criteria for remuneration practices including clearer reporting on remuneration, how it delivers company strategy, long-term success and alignment with workforce remuneration.

Hong Kong also started its governance journey in 1992 and published its Code on Corporate Governance Practices in 2005 in place of the previous non-mandatory approach. Last month, the Hong Kong Stock Exchange published the results of its latest consultations on the Code and related Listing Rules.

The changes are a welcome improvement to address concerns around director independence and board diversity. Among improvements bringing Hong Kong more into alignment with the UK:

- Strengthening the transparency and accountability of the board and nomination committee on election of directors, including Independent Non-Executive Directors (INEDs), who may be overstretched. The new code requires explanation for how an INED with seven or more directorships could devote sufficient time to the job.
- Improving transparency of INEDs' relationships with companies, particularly factors affecting independence. These include extending the cooling off period where an INED is a former adviser, audit partner or has a material interest in the company; taking into account immediate family relationships; as well as considering INEDs' cross-directorships.
- Promoting board diversity, including gender diversity, by requiring companies to have a diversity policy and to disclose the policy in the corporate governance report.
- Requiring greater dividend policy transparency by disclosing it in the annual report.

While gaps remain between the two markets with regard to code and practice, these changes should help to improve investor and community confidence in corporate leadership. At a minimum, governance practices help protect against material risk and failure. The greater value, however, comes through underpinning a long-term investment focus that benefits investors, customers, employees and the community. ◆

Jane McAloon is a Senior Adviser for Brunswick and former President of Governance at BHP Billiton.

ILLUSTRATION: JAMES YANG

AFRICA & the Promise of AI

The coming population boom could provide benefits.

Africa may need a Hari Seldon.

Isaac Asimov's science fiction classic *Foundation* series introduced the character of Hari Seldon, the developer of "psychohistory," an algorithmic sociology he uses to predict the Galactic Empire's future, using what we would now call big data.

Africa's data needs examining. Its much-hyped population explosion is a looming threat. By about 2050, at current trends, almost one in three humans will be African. This may not present the same catastrophic climate implications posed by China and India. But over the next 20 to 70 years the continent will be unignorably significant.

There is reason to be hopeful. Economic and social development is increasing, if not exponentially then at least by leaps. Between 2010-17, 27 million Africans gained access to new electricity connections, with that many again expected in just the two years from 2018 to 2020. Even more are benefiting from improved access to transport and financial services. With such structural changes,

BETWEEN 2010-17,

27

MILLION AFRICANS GAINED ACCESS TO NEW ELECTRICITY CONNECTIONS.

the population boom could return a so-called demographic dividend: economic benefits as the pool of workers increases and the proportion of dependents declines. Greater consumption, production and investment could drive growth upward and increase per capita income fourfold.

But the inverse risk is immense. According to the IMF, Africa will need to create 18-20 million more jobs a year for the next quarter century to keep up with its growing population.

Africa's embrace of technology sets it apart from other continents, with an explosion in early adoption in many sectors, including the world's biggest 3-D printer at the Centre for Scientific and Industrial Research in South Africa. But the overall effect on employment is difficult to predict.

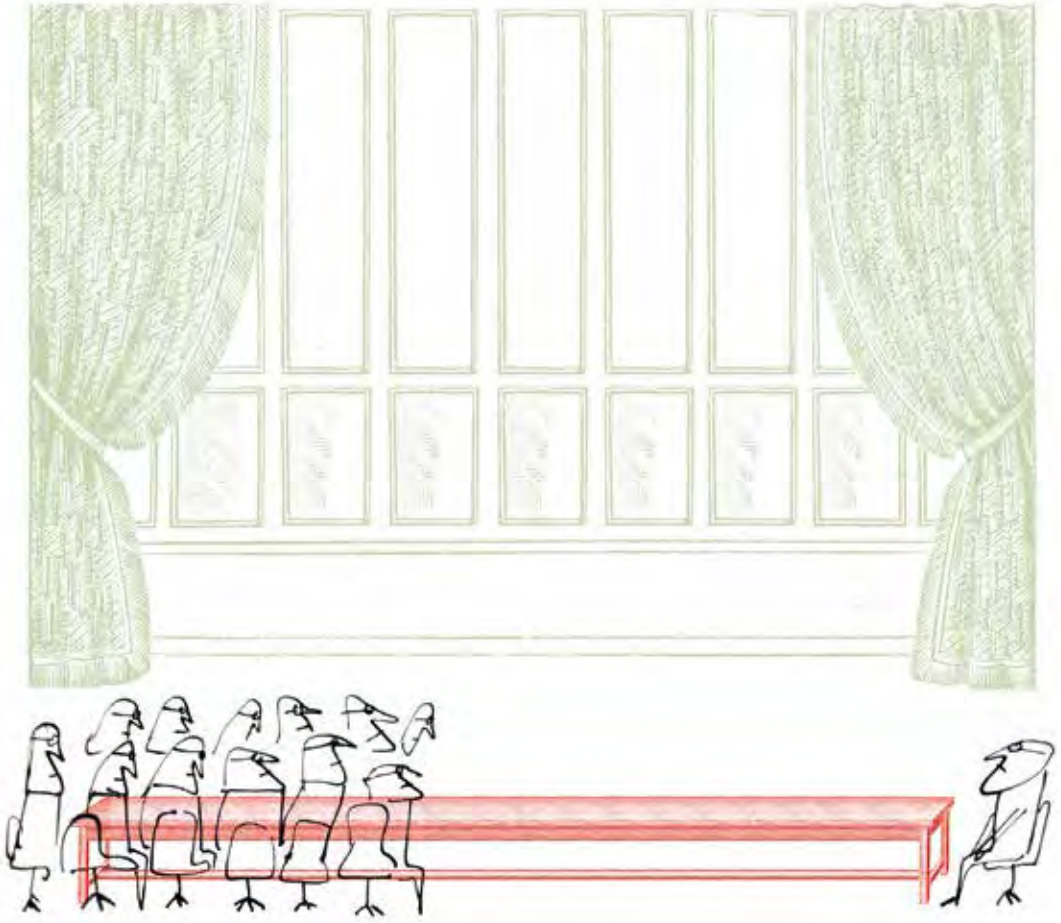
The Fourth Industrial Revolution could bring increased productivity in agricultural and services sectors. Challenges include poor levels of the STEM skills necessary for the digital economy and the risks that robotics poses in traditional manufacturing.

Stanford Social Innovation Review argues that AI has the potential to bring myriad positive changes in sectors such as healthcare and finance, bridging the gap between physical infrastructure inadequacies and consumer demands, while freeing up more time for skilled labor and increased labor productivity. These types of "intelligent machinery and processes present a rare opportunity for economic transformation," SSIR writes.

Of course, the problem is we have absolutely no idea what is actually going to happen. This isn't Asimov's fictional *Foundation*. Blending big data with sociology cannot yet eliminate the futility of such a prediction.

Governments, NGOs and business interests in Africa might do well instead to recall a quote from another *Foundation* series character: "To succeed, planning alone is insufficient. One must improvise as well." ◆

***Itumeleng Mahabane** is a Partner in Brunswick's Johannesburg office.*



A Rare Breed: The Communications Board Member

There are more living ex-Presidents of the Swiss Confederation (18) than there are Chief Communications Officers serving on boards of S&P 500 companies today (16).

Recently published research by executive search firm Spencer Stuart estimates that of the 5,473 board seats at S&P 500 companies, less than 0.3 percent are occupied by top communications professionals.

The near-complete absence of communications professionals from the boardroom seems difficult to reconcile given how many companies stress the critical importance of building trust, safeguarding their reputation, and connecting with their stakeholders – areas where communications plays a driving role. The field is talked about as business-critical, yet its leaders are all but excluded from the boardrooms of big businesses.

Part of the challenge, according to Spencer Stuart, is a dearth of vacant seats. S&P 500 boards appointed 397 new independent directors in 2017, the largest number in more than a decade – yet still a paltry turnover rate of 7 percent. That same year, almost half of S&P 500 boards (48 percent) didn't appoint a single new member.

16

NUMBER of CHIEF COMMUNICATIONS OFFICERS serving on boards of S&P 500 companies today.

And the reason these hard-to-come-by seats aren't being filled by Chief Communications Officers, according to the report's authors, is "the belief that communication skills – while valuable in their own right – aren't enough on their own to contribute significantly to a board's larger mandate." That's why most boards look for – and ultimately hire – the high-level leadership experience and strong financial acumen associated with CEOs, CFOs and COOs.

But here's some consolation: A separate Spencer Stuart study found that a majority of global CCOs (64 percent) report directly to a company's President or CEO. ◆

***Alex Yankus** is a Director based in New York.*

ILLUSTRATION: SERGE BLOCH

PREDICTIONS

IT HAS BEEN A DIFFICULT FEW YEARS FOR POLITICAL POLLSTERS. Virtually all failed to foresee Donald Trump's presidential victory and most failed to project the success of the U.K. Brexit campaign and the outcome of national elections in France, Italy and Malaysia (see our story on Page 21). • In polling, there is little room for error – a point exemplified by Hillary Clinton, who won the popular vote (as predicted) yet lost the election. However, in this issue of the Brunswick Review, Britain's Sir John Curtice (Page 27) – a consistently accurate pollster – offers some valuable perspective for business. He notes that if a new product forecasted to grab a 25 percent market share in fact gains only 22 percent, that doesn't doom it to failure. In business, success can be a matter of degree. But in politics, as in sports, it is winner take all. • At a time of global warming, growing income inequality, and dizzying rates of technological change, leaders of business and government need both better and more forecasting in order to try to anticipate the future before trying to shape it. • Enhancing our predictive abilities is a commodity that several business leaders have described as the "new oil." They are referring, of course, to data. Added to models that employ complex algorithms, data can provide a remarkably accurate portrait of what we will do or want – or what will happen next in the natural world. That such information can be shared, sold or stolen for nefarious uses is well known. But as Robert Kirkpatrick, Director of the UN's Global Pulse Team explains (Page 14), data can also be analyzed and shared to improve and save lives around the world. • One theme of this edition is that predictive analytics – the technology that, for example, enables Amazon and Netflix to make personalized recommendations – will become mandatory for companies of every kind. Another dominant theme is that technology will never fully displace human instinct, intellect or collaboration. When asked to explain how reinsurer Swiss Re (Page 48) has prospered by predicting risk for 150 years, a top executive describes the company as "a university with a balance sheet." On the shores of Lake Geneva, Swiss Re convenes "great minds" from industry, government, think tanks, consultancies and academia to provide human insight and judgment to help it develop an informed view of the future.

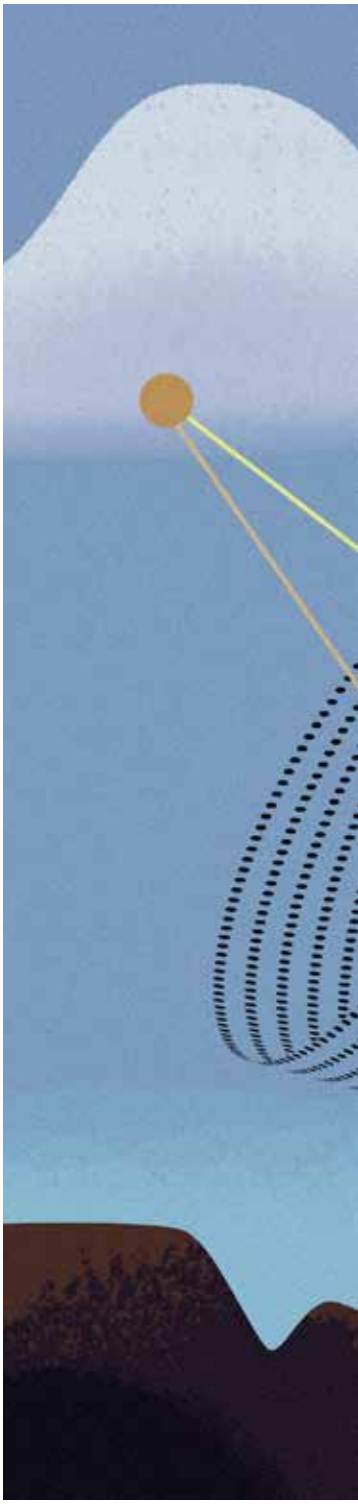
This edition, we hope, will inform yours.

NEAL WOLIN, CHIEF EXECUTIVE OFFICER

ILLUSTRATION: EDMON DE HARO

THE HUMAN COST OF DATA UNSHARED

A data entrepreneur inside the UN, **ROBERT KIRKPATRICK** talks to Brunswick's **BEATRIZ GARCIA.**



At a time of scandals involving misuse of data, Robert Kirkpatrick offers a prediction that many might find surprising. As Director of the United Nations Global Pulse team, Mr. Kirkpatrick believes that data scandals in the future might involve the failure of companies and governments to share and use public data for the good of mankind. The United Nations created Global Pulse in 2009 to bring the power of data-based prediction to policy making, rather than relying solely on surveys and statistics. Since then, Global Pulse has worked with the UN and governments to construct big data solutions to humanitarian problems.

Mr. Kirkpatrick, formerly a founder of the Humanitarian Systems Team at Microsoft and CTO of a nonprofit public health spinoff of Google, has seen his UN team expand from a few employees to 75, with offices in New York; Kampala, Uganda; and Jakarta, Indonesia. Brunswick's Beatriz Garcia spoke with Mr. Kirkpatrick about how far his team has come, and his dreams for it moving forward.

Five years ago, would you have predicted the kind of growth you've had?

I'm a pathological optimist, so probably. But in the early days of this project, there was huge skepticism about all of it. You know: You'll never get companies to share their data, you'll never be able to protect privacy, the data won't yield insights relevant to policymakers, data scientists won't want to work for the UN, and even if it does work, governments will refuse to use it. All of that has proven not to be the case.

What has been Global Pulse's biggest success thus far?

We have played a seminal role in the creation of a global movement around finding safe and responsible ways to use big data and artificial intelligence for the public good.

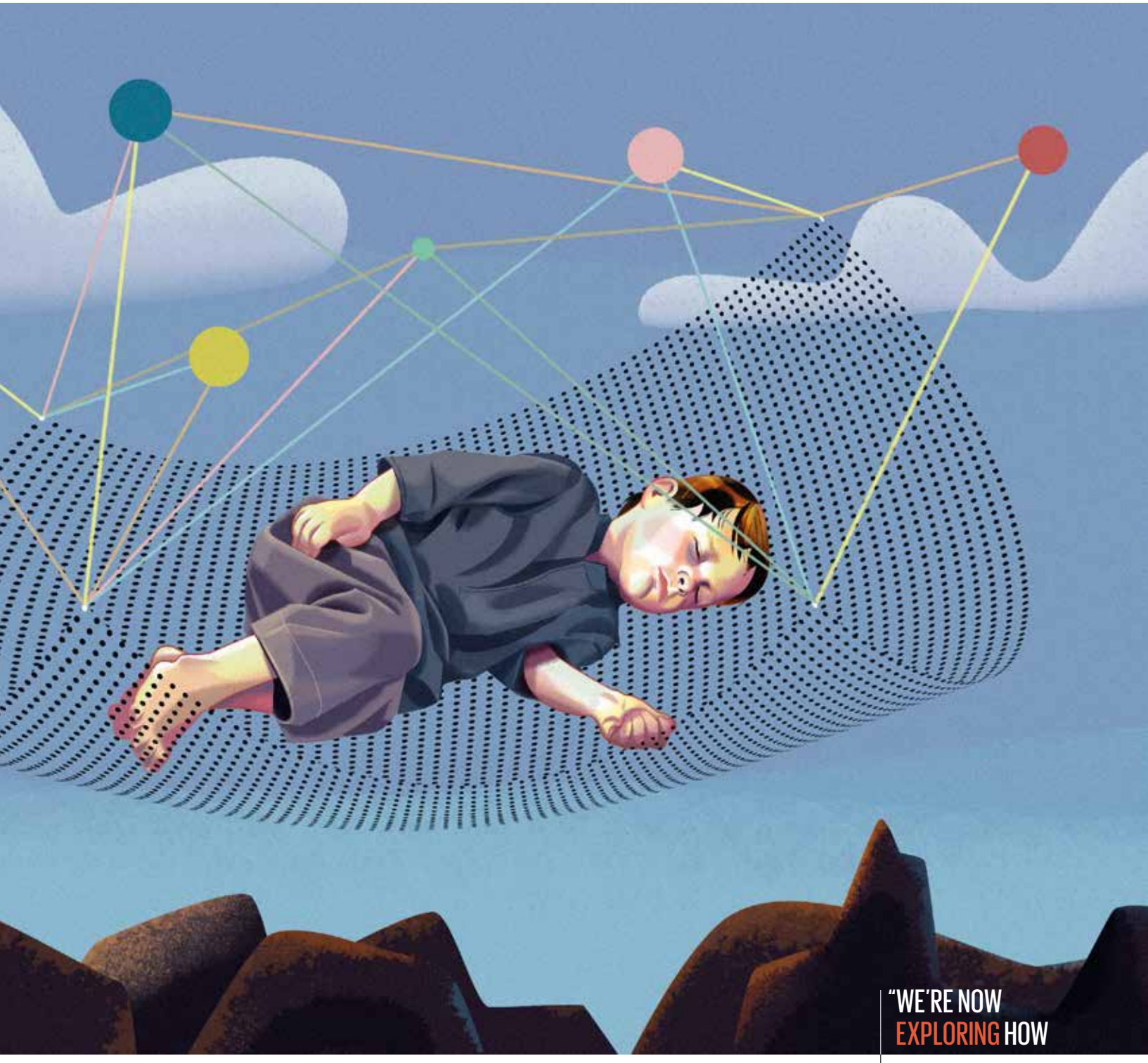
Some eight and a half years into this, we can say that governments now take it for granted that these data have the potential to improve public services, early warning systems and crisis response.

We have companies actively seeking ways to put the big data they collect to work for the public good. We have regulators who've spent years focused on privacy and the risks of misuse suddenly recognizing a whole other set of risks associated with not using this data.

On the whole, has industry cooperated?

The mobile industry is the furthest ahead on this – we're working not only with mobile operators around the world, but also with their industry trade organization, the GSM Association.

In 2017, the Association established an explicit strategy around putting anonymized mobile big data



"WE'RE NOW EXPLORING HOW TO COMBINE RETAIL TRANSACTIONS WITH OTHER DATA TO PREDICT RATES OF NON-COMMUNICABLE DISEASES."

to work for the public good. There are currently 19 mobile operators who are committed to the GSMA's program on big data for social good. They call it BD4SG. And it includes not only developing and piloting analytics solutions for response to natural disasters and disease outbreaks, but also development of data aggregation and anonymization standards, as well as an ethical code of conduct for data handling and use.

This is exciting for us because it shows how data philanthropy could work at an industry-wide scale rather than with just one partner at a time. We think GSMA's approach should serve as a model for other industries with untapped, high-potential data, such as financial services, retail, e-commerce, transportation, manufacturing, agriculture, pharma and others.

Mobile is important because so many more people around the world these days are able to afford

mobile phones. There's a $40 Android smartphone now. And even basic-feature phone users produce a ton of real-time data, including for poor communities who don't regularly access the internet. Subscribers move through cities and across national borders, sending and receiving calls and messages, topping off their airtime credit and transferring mobile money. You can take the data produced, aggregate and anonymize it at appropriate levels to protect privacy, and still be able to essentially create real-time information on patterns of mobility and the economic activity of populations in places where you would be lucky to get survey or census data more than once every few years.

Mobility information has incredible predictive power. You can see through the use of this data how many people have been displaced by a natural disaster, hour by hour, and where they're gathering in need of assistance. You can see when they're migrating across borders in unusual numbers in response to the impacts of climate change, economic opportunity or conflict.

When you combine mobility with other data such as rainfall and laboratory diagnostics, you can build epidemiological models that predict the time and location of outbreaks of diseases like cholera, dengue, seasonal influenza, malaria, even Ebola, allowing public health departments to improve prevention measures. With a risk map of malaria, you know where to distribute mosquito nets, alert clinics and restock drug supplies in pharmacies.

It turns out that how people consume mobile services has very powerful predictive value. We've seen in Uganda that you can generate a nearly perfect proxy for the Multidimensional Poverty Index, which is a standard measure of poverty assessed periodically through the national census, simply by looking at the weekly amounts people pay on prepaid services.

Across much of Africa and the developing world, people prepay for mobile services using scratch cards, where you can buy a dollar's worth or 10 dollars' worth of airtime credit. Variables related to airtime consumption, it turns out, predict both overall household consumption and food consumption with close to 90 percent accuracy – an indication of the important role that access to mobile services plays in the lives of rich and poor alike. Because mobile money is spreading all over the developing world now, and people are using text message-based services to buy and sell goods, being able to spot a 10 percent drop every week in a community's average airtime spending allows you to predict that they are going to be under severe economic stress in the near future. Knowing this, you can better target cash transfers, school feeding programs or other social protections that prevent harm from happening in the first place.

"WE ENDED UP LEADING DEVELOPMENT OF GUIDELINES ON BIG DATA PRIVACY, DATA PROTECTION AND ETHICS THAT HAVE NOW BEEN ADOPTED BY 32 UN AGENCIES."

Outside of mobile, are corporations seizing the opportunity?

They're starting to. We've used anonymized debit card transactions to measure the impacts of a natural disaster and how long it takes different communities to recover. We've developed an algorithm that uses marine traffic data and deep learning to detect refugee rescues by commercial vessels in the Mediterranean. We're using Twitter to map xenophobic speech about refugees along migration routes across Europe. We're now exploring how to combine retail transactions with other data to predict rates of non-communicable diseases.

For a company to do this, though, is not without risk. There's reputational risk and there's regulatory risk. And businesses are still quite hesitant. Customers are understandably uneasy about who is doing what with their data, and there's no regulatory playbook for anonymization, sharing and usage of the most relevant data sets.

What I can tell you is that companies find the UN a pretty good sandbox for exploring the opportunities. We have international mandates from the very governments that regulate them, not only around supporting progress toward the Sustainable Development Goals and more effective humanitarian action, but also around human rights – which includes privacy. Inaction isn't an option for us. We genuinely have to find ways to use this data for good, and we have to do it with a first-do-no-harm approach.

What we see today is companies around the world in different industries experimenting with this. It's piecemeal. It's very spotty. It's still fairly embryonic, outside of the mobile industry – a few banks, a few grocery store chains, logistics companies.

It will take leadership to move this forward. If we can get five or 10 of the top financial services providers in the world to join a global alliance to look at this, for example, I think others in the industry would follow. Because at the end of the day, this is about giving back to your customers in a way they didn't even know was possible – in ways that can change lives and save lives.

There's actually a business case for doing this. If you offer services in a developing country, for example, and a drought causes affected communities to have to sell their assets, curtail their use of services, and even migrate elsewhere, there goes your market.

What if it turns out that changing patterns in how they use your services show up in your data warehouse six months before the real hardship begins? Insights from your business data could have been used to help your current and future customers cope with the impacts of that drought.

There's a sense in which you are actually creating business risk by failing to ensure that insights from your data are used to inform policies that boost the resilience of your market.

In addition to the CEO, whose ear do you seek at any large corporation – the CIO?

It's still all about the CEO, and here's why. Companies have their corporate responsibility and philanthropic activities. They have their legal and privacy responsibilities. And then they have teams of data scientists doing analytics around marketing, operations and product development. They think of all those as completely separate. The idea that this most sensitive data that's the core of your business, and your best competitive asset, could be processed in a secure and privacy-preserving way that has a huge positive impact on society and doesn't open you up to an attack by your competition is completely disruptive. Until the CEO has that sort of *a-ha!* moment, nothing else can be set in motion. CEOs are the only ones who can make the call. Once they do, everybody in the company gets so fired up. It's inspiring. They don't want to just provide access to data, they want to share their knowledge and the tools they have developed to analyze the data. It's a serious boost for morale, recruitment, retention. But the CEO has to be the starting point.

"YOU HAVE TO BALANCE THE RISK OF MISUSE OF BIG DATA AGAINST THE RISK OF MISSED USE."

ILLUSTRATIONS: NIGEL BUCHANAN

Does the public know about lost opportunities involving use of data?

The average person on the street has no idea how much data they produce. They still don't understand how it's being bought and sold and used for everything from national security purposes to profiting companies they've never heard of. They do know they are largely in the dark, and that they have little say in the matter, and they aren't too happy about it. Trust is at a low point.

And the last thing they could possibly know about their data is that there's also an opportunity cost they've been paying every day by not having it used in ways that could impact the health of their families and their communities. The public awareness aspect of this is something that we are very keen to take on.

Do the data privacy scandals of the last year affect your argument for socially beneficial data sharing?

With Cambridge Analytica and the evolution of the European legal landscape around privacy, the issue is back in the news.

A big part of our work here at Global Pulse is actually about privacy. Given the nature of the work we do, we ended up leading development of guidelines on big data privacy, data protection and ethics that have now been adopted by 32 UN agencies. We founded and co-chair the UN's Privacy Policy Group, which is working to develop the first set of privacy principles for the entire UN system.

People used to say that big data is the new oil. I think it's actually a bit like nuclear energy. It's turned into yet another extractive industry. It's expensive to work with. Many of its benefits aren't reaching those who stand to gain the most. And in its raw form – mixed with your personal information – this stuff is dangerous. It can leak, and it can contaminate. But if you have the science to understand it, and the engineering needed to store and process it safely, you can power a whole new ap-

proach to early warning, disaster response and crisis resilience. That's game-changing.

We recognize that existing privacy laws don't adequately (anywhere in the world) protect people from the unique risks posed by big data. This stuff is difficult to anonymize. We don't think this is simply about more regulation, though. We need to rethink how we manage risks. There are ethical obligations to consider. How can we better protect data privacy without stifling the data innovation needed to help vulnerable people, learn to live sustainably and create a more prosperous future for everyone?

Here at the UN, Secretary-General António Guterres has just appointed a new high-level panel on digital cooperation that's pulled together everybody from privacy experts, policy experts, world leaders, technology experts and ethicists to begin looking for a new way forward. I can tell you that right up to the highest levels of this institution, people are looking at the opportunities to transform society with responsible uses of artificial intelligence, and they are thinking about the types of ethical and legal frameworks needed to prevent harm.

Everybody's excited about the new business models for Silicon Valley, while worrying about people in the US or Europe losing jobs to automation. We also need to be thinking what AI and automation in agriculture and healthcare could do to eliminate hunger and disease in the poorest countries, though, and we need to address the likely impacts of massive job losses in fragile, conflict-prone states.

How do you respond to the argument that sharing data is inconsistent with the protection of privacy?

There's a growing recognition of a paradox. If we focus only on privacy, then we don't innovate and find ways to use the data. You have to balance the risk of misuse against the risk of missed use. The opportunity cost of not using this data for the public good is really quite high. We are incurring it every day, and everywhere, largely unbeknownst to anyone.

As citizens become aware that the data they produce has all of this potential to increase the efficiency, effectiveness and accountability of government, you're going to see political pressure on policymakers not only to better protect people against privacy risks but also to ensure that whenever this data can be safely and responsibly used for the public good, it is. There has to be accountability around non-use, not just accountability around misuse.

Public good applications of predictive analytics won't ever achieve scale and sustainability, though, if we view this opportunity purely through the lens of philanthropic incentives. Yes, at the extreme humanitarian end of the spectrum, real-time mobility data can help you find people after an earthquake. But nearer to the middle, you find plenty of opportunities to serve the public good with solid businesses cases for public sector markets: knowing how people move through a city can help municipal government improve transportation systems, assess the dynamics of tourism, determine the locations for new schools or hospitals, and estimate pollution exposure. And at the other end, you have purely commercial business models, like deciding where to build a new store.

Have you witnessed indignation over the missed use of data?

A few years ago, at a World Economic Forum event, I was running a breakout session with about 15 CEOs. I raised the scenario of a hypothetical industrial accident in which a toxic plume of smoke was drifting toward suburban neighborhoods, and I asked them, "OK, who has data produced by their business model that could help first responders save lives?"

The CEO of a large insurance company raised his hand and said, "We know where all the people in wheelchairs are and all the people with asthma. For that matter, we know where all the elderly people are, and all the children."

The initial response was along the lines of, "Wow. So you could help get those people out first?" Then someone else said, "What about privacy?"

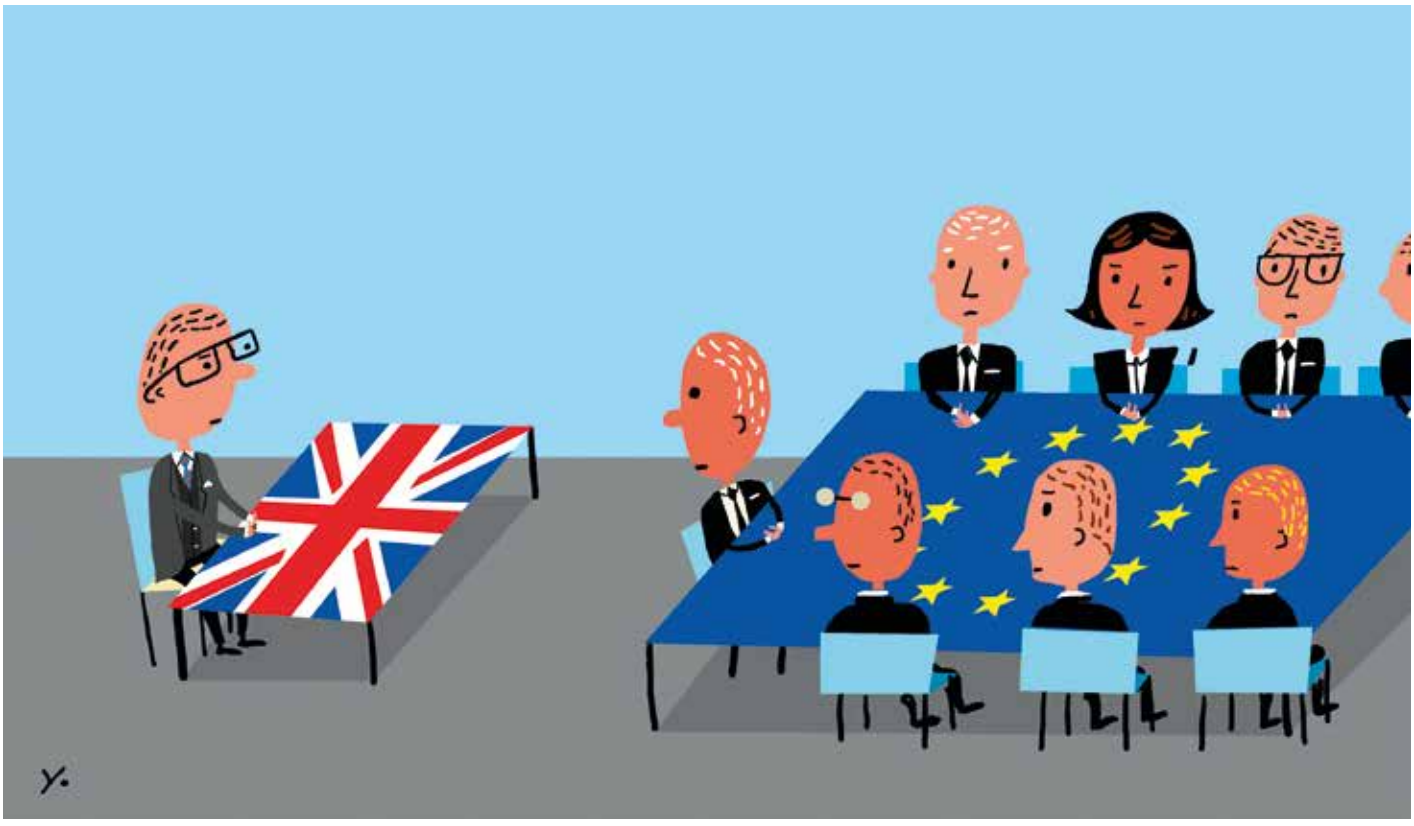
So they started brainstorming and soon came up with the idea of a mobile app that shows some houses as red, others as orange, others as yellow. It wouldn't disclose why houses are red. The firemen don't need to know your medical condition. They just need to know to go to the red houses first, then the orange, etc. They could get the most vulnerable members of the community out of harm's way first, without compromising privacy.

Initially, everyone was nodding and saying, "Yeah. That could work!" Then there was this pause. And they started asking, "Wait a minute: Firemen don't already have that information? They just start at one end of the street?"

And then they got angry. Once they realized that there was life-saving information out there that wasn't being used, even though privacy could be protected, the moral dilemma collapsed, leaving in its place a situation clearly unacceptable, as if one had walked into a hospital with tuberculosis, only to be denied access to antibiotics. ◆

"THE OPPORTUNITY COST OF NOT USING THIS DATA FOR THE PUBLIC GOOD IS REALLY QUITE HIGH. WE ARE INCURRING IT EVERY DAY, AND EVERYWHERE, LARGELY UNBEKNOWNST TO ANYONE."

BEATRIZ GARCIA is a Director in Brunswick's New York office. She specializes in global media relations, reputation and brand management, with a focus on financial services.



JONATHAN FAULL, Partner and Chair of European Public Affairs for Brunswick, describes the likely fallout from the current Brexit confusion.

The BREAKS

THE UNITED KINGDOM'S INTERNAL AND INTERnational politics will continue to be dominated by the country's relations with the rest of Europe for the foreseeable future.

Surely, some might say, a country with such a rich past, proud democratic traditions and stable institutions, having overcome far greater challenges, will be able to sort out Brexit, turn the page and write a new chapter in its remarkable history.

While I am confident that the UK will remain an important player in world affairs, it will nevertheless remain divided about its relationship with the organization at the heart of modern Europe, and that division will bedevil British politics and diplomacy for a long time to come.

HOW EXCEPTIONAL ARE THE BRITISH?

There may be reason for Britain to see itself as an exception to the EU's homogeneity. Having served as Britain's most senior official at the EU, I think it is true that the EU has a significance in the politics, identity and self-esteem of other EU countries which it does not have in Britain. It is often said that the British interest in European integration, outside a small circle of true believers, is and always was transactional, commercial, perhaps geopolitical, but never emotional or passionate. It is also certainly true that many of the British complaints about the EU are shared by other member states. Nevertheless, when one looks at the others, one sees that:

- Former dictatorships of right and left see the EU as a democratic bulwark and a certificate of modernity.
- Former Soviet or Warsaw Pact countries see the EU as part of their new international identity and protection against Russia.
- Former colonies see the EU as a strong symbol of independence and international identity.
- Former occupying or occupied countries see the EU as a peace and reconciliation project.
- Countries tied to the EU economy for a large part of their trade and prosperity want to be in the meeting rooms where EU economic decisions are made.
- Countries that do not want the continent of Europe to be dominated by a single country see the EU as the best way to achieve that (they include Germa-

ILLUSTRATION: JAMES YANG

ny and France and used to include the UK).

- Countries sharing the euro as their currency or aspiring to do so will want to keep it and participate in the making of monetary policy in the ECB. The thought of abandoning the euro, re-establishing a revalued or devalued national currency and re-denominating everything is a major incentive to cleave to the status quo.

The UK fits into none of these categories. All the other 27 fit into one or more of them, from Portugal to Poland and from the Baltic Republics to the Island States in the Mediterranean.

As is well known, Britain's electoral system engenders large, broad-based political parties, "broad churches" with members of different views peering out from inside their capacious tents.

Ever since the European integration process started in the 1950s, the main national political parties and public opinion have been divided and found it difficult to set out a clear, consensual path for future relations.

The EU is built on rules and its institutions see it as their role to promote and defend those rules. This can seem dogmatic and stubborn to the British, who are rightly proud of their flexible unwritten constitution which has been honed and polished down the ages.

But dig a little deeper and one sees that these positions are frequently little more than complacent stereotypes. The EU system has accommodated great changes and challenges in its short lifetime. It has grown from six members to 28. The European Economic Area was created to deal with the failure to secure popular support for EU membership in Norway, Iceland and Liechtenstein, while even more acrobatic politics and lawyering were necessary to cope with Switzerland. Meanwhile, within the EU itself, a baroque system of opt-outs, opt-ins and special arrangements for member states has been created. The UK was a major beneficiary of this system, as the February 2016 agreement in the European Council made clear, recognizing "that the United Kingdom, in the light of the specific situation it has under the Treaties, is not committed to further political integration into the European Union."

The much-vaunted flexibility of the British constitution has been tested repeatedly in recent years. Brexit has revealed to the world, and perhaps to the British themselves, difficulties created by asymmetrical devolution, the complex system of governance in Northern Ireland and uncertainty as to the respective roles of the Crown, the Government, the two Houses of Parliament and the Judiciary in important aspects of contemporary affairs.

It should not surprise anyone that the negotiations between two parties with complex constitutional mixtures of dogma and pragmatism have proven difficult.

At the time of writing, it is likely that the United Kingdom's departure from the European Union will be based on an agreement which falls short of fully resolving medium- and long-term issues in the relationship between the two.

This does not mean that the status quo will prevail. Just as there will be no return to the Obama years in the US after Trump, whose election victory – like the Brexit referendum result – reflects a trend in world politics as much as it creates one, both the UK and the EU will be affected by the former's departure from the latter and both will be influenced by developments in the rest of the world.

Globalization is entering a new phase. Trade, investment and competition policies are likely to be used in a more directive way to guide and correct what are seen as imbalances and create or defend local champions, facilities and technologies. Large countries or blocs of countries will have the scale and strength to deliver such redirected policies, or to think they can. This will create considerable problems for small and medium-sized industrial countries outside trading blocs. For the corporate world, new challenges await as the world's main trading countries or blocs jockey for position.

In conclusion, the UK is divided on its view of the European Union and its main political parties are unsurprisingly split too, as they have been since the 1950s. The negotiation to withdraw from the EU has also failed to unite the country and the parties. The most likely outcome of the negotiations is an agreement unlikely to satisfy hardliners on either side and certain to contain provisions requiring future actions and negotiations which will continue to be difficult. Every passing year will see claims about money, disputes about regulation and judicial pronouncements and friction at borders, whether physical or virtual.

Hardline Europhobes will be hoping that, once the UK has left, the separation from the EU and all its ways will take hold as the new reality. Their Europhile counterparts will be hoping that the rising generation will count the cost of being outside the EU and press to return to it or at least to forge a closer relationship with it. The real question is how the broad center of British opinion reacts to the changes that leaving will bring about. My not very surprising prediction is that this process will take time and poison British politics for decades. ◆

MY NOT VERY SURPRISING PREDICTION IS THAT THIS PROCESS WILL TAKE TIME AND POISON BRITISH POLITICS FOR DECADES.

JONATHAN FAULL
is Chair of European Public Affairs, based in Brunswick's Brussels office, and a former Director-General of the European Commission.

A VOTE for change against all odds

A simple grassroots campaign caught fire, ousted Malaysia's entrenched ruling party and unified the nation, says Brunswick's **SUSAN HO**.

Since Malaysia gained independence from Britain in 1957, its politics have been dominated by Barisan National, a coalition that includes three large political parties representing the Malays, Chinese and Indians. Najib Razak, the leader of the party and Prime Minister, had survived international criticism about his alleged role in the corruption scandal around the state-owned investment fund 1MDB. His re-election seemed assured.

Then May 9 2018 happened. The opposition party led by Dr. Mahathir Mohamad defeated Barisan National in a peaceful and historic process of democracy in action. Euphoria spread across Malaysia. A public holiday was declared and social media was ripe with the celebrations of jubilant voters.

The victory defied predictions. Dr. M., who had served as Prime Minister from 1981 to 2003, was a retired politician in his tenth decade of life. He celebrated his 93rd birthday on July 10, making him the oldest-serving state leader in the world.

Past elections had favored the status quo and the same outcome seemed likely this time. The incumbent government reportedly had improved its odds through gerrymandering, racial politics, dirty tactics disqualifying votes and pressure on individuals and organizations. One of the most popular ambassadors for Malaysia, AirAsia, had publicly supported the incumbent. Its founder, CEO Tony Fernandez, later released a video apologizing to Malaysians.

As a Malaysian native, I learned a powerful lesson a month later, from Marina Mahathir, the eldest daughter of Dr. M. What changed the outcome of the elections was what she called "the citizen initiative." It was a simple campaign devised by the opposition team to persuade citizens, one at a time, that it would actually be possible to oust a party that had been in power for 61 years. Skepticism was deep among voters; in the previous election, the ruling party had held on to power even despite losing the popular vote.

Through that effort, the impossible became possible. Building on a common belief that change was finally needed in government, an effective campaign educated people about their actions and what they could do. This simple movement mobilized an avalanche of action by individuals and organizations.

In Petaling Jaya, a suburb of the capital city Kuala Lumpur, a pastor encouraged his congregation to exercise their rights. Elsewhere other local religious leaders did the same. Volunteers held sessions to educate citizens about voting, whatever their choice. As the ruling party exploited racial and religious divides, the opposition put aside differences.

Car pools were organized to share transport with those returning to their voting constituencies, and strangers became friends. Airlines offered discounted rates and provided additional flights for citizens returning to vote. Some companies gave days off to employees who had to travel.

Even my 80-year-old mother and elderly relatives turned out to vote! Turnout reached about 82 percent – compared with about 56 percent in the 2016 US presidential election. PACAs (polling agents and counting agents) were mobilized at different voting stations during Election Day to ensure the right process was followed by government officials.

Weeks later, those who voted proudly displayed fingers still discolored from electoral ink. No amount of soap could wash off the indelible mark of a vote that counted. One by one, they had planted a seed of hope for a "new" Malaysia. ◆

Supporters await the swearing in of Dr. Mahathir Mohamad on May 10, the day after his election as Prime Minister. At right, the 92-year-old victor Dr. Mohamad addresses a press conference the same day.

SUSAN HO is a Partner with Brunswick and the head of the firm's Hong Kong office.

PHOTOGRAPHS: RIGHT, MANAN VATSYAYANA/AFP/GETTY IMAGES; TOP RIGHT, ULET IFANSASTI/GETTY IMAGES

DILBERT ON TRUMP

SCOTT ADAMS, creator of the iconic "Dilbert" cartoon, called Donald Trump's victory when the candidate was seen as more punchline than presidential. He talks with Brunswick's **EMILY LIBRESCO.**

Scott Adams has been the foremost commentator on the American workplace for the last three decades. Or rather, Dilbert, Dogbert, Pointy-Haired Boss and a cast of other cubicle-cramped characters have been. As the author of the widely syndicated comic strip "Dilbert," which will celebrate its 30th anniversary in 2019, Mr. Adams has depicted with dry humor and now-iconic figures the pedantic tribulations of the American workplace and its exhausted stewards.

While Mr. Adams is known first and foremost for "Dilbert," his pursuits are wide-ranging. He has trained in hypnosis, written several best-selling books, invented a high-nutrition vegan microwavable burrito dubbed the "Dilberito," and produced an app called WhenHub, which connects laypeople to self-proclaimed experts in various subjects, with transactions paid in an Adams-created cryptocurrency called "When."

But Mr. Adams entered a whole new realm of notoriety when, in 2015, he predicted that Donald Trump would secure the GOP candidacy and ultimately the United States presidency, long before the outcome was an even remotely legitimate possibility.

Mr. Adams attributes that foresight to his expertise in persuasion. He saw in Mr. Trump a set of skills perfectly honed to persuade an unsuspecting public largely unconcerned with facts.

Mr. Adams, who is active on Twitter, discusses daily news and the Trump administration's various moves through Periscope, a live video streaming app. Thousands (20,000 to 30,000 per day) tune in to hear what Mr. Adams might predict next. The musician Kanye West has been known to watch and retweet Mr. Adams' Periscope videos.

Though Mr. Adams says he has no political party affiliation and describes himself as "politically left" of Bernie Sanders, his staunch defense of Trump's persuasive skills has cost Adams some of his left-leaning following – and by his own estimates about 40 percent of his income as a speaker. That didn't stop Mr. Adams from visiting Mr. Trump in the Oval Office in August. The T-shirt-loving cartoonist even bought a suit for the occasion.

Mr. Adams' latest book is best-seller *Win Bigly: Persuasion in a World Where Facts Don't Matter*. It analyzes Mr. Trump's powers

PHOTOGRAPH: FREDRIK BRODEN

Scott Adams with a cutout of his famous cartoon creation, and Snickers, his dog.

of persuasion and offers instruction on how to communicate more effectively.

Brunswick spoke with Mr. Adams about how he predicted what few saw coming, and how Mr. Trump's approach might be useful to business leaders, whether or not they want to admit it.

What was it you saw in President Trump early on that so many others missed?

What I noticed right away is Trump had more persuasive tools at his disposal than most politicians. They all think they're persuading, but they tend to persuade with pretty ordinary techniques. Trump not only had more skills, he had a higher risk profile. There are tools he would use that nobody else would consider because they couldn't take the heat. Have you heard of *The Power of Positive Thinking*?

Yes.

Norman Vincent Peale published it in 1952 and it sold tens of millions of copies. When I was a kid, that was the big book about how to get ahead and how to think your way into a better place. And Norman Vincent Peale was the Trump family pastor.

Growing up, Trump sat in the pew and got to listen to the most persuasive person of his generation – Norman Vincent Peale was so persuasive, in fact, that he was accused of being a hypnotist.

But there were other things about Trump's skill set that I saw that you just didn't see with other politicians. For instance, he likes to focus on simple visual images. He's got the Make America Great Again hat. He's also got the wall. Even without a photo, everybody could imagine their own wall. It's visual even without the picture. But then he added the pictures and it became even more visual.

Trump makes us think "past the sale." When he says, "The wall will be 30 feet tall" and he visits the prototypes, he makes you think about what kind of wall it will be. That's thinking past, "Will there even be a wall?" It's simple and basic. But it's something that politicians don't do. And he's uniquely consistent in using these tactics. He didn't just get lucky.

People who don't understand persuasion look for other reasons he succeeded. They'll say he just picked the right topics or pandered to his base. But I would argue that he knew how to pick the right topics; that's part of the technique. There were lots of things he could have chosen. And every candidate had the same topics available to them. But he's the only one who chose the topics that had the most energy.

He knows that people are somewhat irrational about the facts. They understand energy better than the facts. So he made sure he had the highest and the right energy. You remember when Saturday Night Live had Trump and Clinton on at different times?

"PEOPLE WHO DON'T UNDERSTAND PERSUASION LOOK FOR OTHER REASONS [TRUMP] SUCCEEDED. THEY'LL SAY HE JUST PICKED THE RIGHT TOPICS OR PANDERED TO HIS BASE."

Right.

The biggest challenge Trump had in 2016 was getting people to imagine him as president. It just seemed so implausible. So he approved an "SNL" skit where he was shown as the president in the Oval Office. There were jokes around that – most of them at his expense – but they faded. And now you remember the image. He fixed his, "You can't imagine me as president" problem by providing a memorable image. Hillary also approved her skit, which showed her as a customer in a bar. She had already said how much she liked to drink, and she was running against the first non-drinking president of all time. Wrong choice of image and wrong energy.

In your book, you mention that President Trump employs "the big ask."

When he's negotiating, he asks for something so unreasonable that you shake your head and say, "I can't even believe he's asking for that. He's asking to deport 14 million people who have been living here as good citizens." And then when he got into office, as I predicted, he dropped the extreme perspective, even though he's still tough on immigration.

Those things would have seemed extreme, but he created a frame in which they seem more reasonable. Now, in my opinion, he never meant to deport 14 million people. It was just a framing technique that got him into office and allowed him some more flexibility. He's done his same technique where he goes big, and then he backs off, and he still wins.

Could President Trump win re-election?

The reason that question can't be answered is if the news about the treatment of children along the border had happened a week before the election, it's a different thing than if it happens now.

I think everything surrounding Russia will be shown to be overblown, meaning Trump himself will not suffer any fallout. In all likelihood the economy's going to be great, and North Korea will be going in the right direction, though full denuclearization could take years. It's entirely possible too that Trump can cause something good to happen in the Middle East, the other gigantic wildcard. Partly because he's lucky to be in the right place at the right time, and partly because he's the deal maker.

If he gets the Middle East, the economy, and North Korea in good shape, I don't know how he loses.

How has social media influenced persuasion?
I've argued that power in this era could be defined by the size of the platform multiplied by how persuasive the person using it is. When you've got 50-some million Twitter followers, as the President does, and a full toolbox of persuasion, this is what you get. You don't have to like it. But Trump moves things like nobody's ever moved anything. And it's because of those two elements.

There used to be a limit to your audience regardless of how persuasive you were. Those days are over. I think Twitter will remain a dominant platform because of the density of reporters. Even if most of the public is on Facebook, ultimately Facebook echoes the media. Influencers on Twitter influence the media, and the media influence other social networks. Then it feeds back to the people. Influential individuals now have a kind of power that is unprecedented.

PHOTOGRAPH: COURTESY OF SCOTT ADAMS

Above, a Dilbert comic strip that typifies Adams' humor, parodying the absurd, illogical nature of modern working life. The first Dilbert comic strip was published in April 1989. Almost three decades later, the comic remains widely syndicated, appearing in 2,000 newspapers worldwide across 65 countries. Below, Mr. Adams was a guest of President Trump, shown here in the Oval Office.

"THE SINGLE HIGHEST FORM OF PERSUASION IN THE CORPORATE SETTING IS WHAT I CALL THE 'HIGH-GROUND MANEUVER.'"

What techniques can business leaders learn from President Trump, even if begrudgingly?
The biggest lesson is the way our visual sense dominates. You saw that clearly with the photos of detained children in the US being kept in cages. As soon as those images emerged, that debate was over.

The other lessons are simplicity and repetition. The president does these so well that early on people imagined he was mentally deficient. The experts in the campaign would say, "My God, he's speaking in a sixth grade vocabulary and he just keeps repeating himself." I was the first to say, "You're totally missing the story. This is grade-A nuclear persuasion." The question is, why aren't the other candidates doing it?

The president also frames issues well. He controls focus and energy. He'll take the energy off of the thing that his critics want to talk about and put it on to the thing that he wants. The first time I saw him do it, and the moment I realized something was going on, was during the first Republican debate in August 2015 – the Rosie O'Donnell moment.

That was when Megyn Kelly asked Mr. Trump about the insulting names he had called women?
Right. That question would have ended any normal politician. They would either apologize and be dead, or deny it and they'd be dead.

Trump found path number three. He interrupted Kelly and claimed he'd said all those things "only about Rosie O'Donnell." And what he did was he took all the energy away from the question and moved it to an answer that wasn't even related to the question really. It was a joke.

Because "only Rosie O'Donnell" was a visual response and she already had a lot of negative feeling among his base – who were the only ones he was talking to during the primaries – that became the headline the next day. It was outrageous. And then he went on to say something about how he doesn't

like political correctness, which inoculated him for the rest of his campaign. Once he said, "I'm the guy who doesn't respect political correctness," then every time he acted like that guy, he was just being consistent with what he promised.

How could this tactic be applied appropriately in a business setting?

Well, you can move the energy to the positive thing. It doesn't matter where you move it. It just has to be emotional and capture our imagination.

But the single highest form of persuasion in the corporate setting is what I call the "high-ground maneuver." It involves getting out of the weeds where people can't agree and taking it to a higher level where people have to follow you to that level; they'd feel foolish if they stayed in the weeds.

Steve Jobs was the king of this. Do you remember "antennagate"? It was in 2010, when the iPhone 4 was having reception issues.

Imagine you're making a product that's meant to be held in the hand. And the only time it won't work was when you held it in your hand. I'm simplifying it a bit, but it could not have been a worse flaw. Apple was getting killed on it.

Jobs solved that entire problem, ended it in fact, with only a few sentences.

He used the high-ground maneuver. And I know it was an intentional move because I wrote a blog post about it. According to Walter Isaacson's biography, apparently Jobs passed my blog post around to his staff to show them what he had done.

Instead of saying, "It's not that bad," which would be in the weeds, or, "Just get over it," Jobs took it up a level and said, "All smartphones have problems." And then he proposed a reasonable solution. The next day, all the stories were about the problems facing smartphones in general, rather than the problem specific to Apple.

"HE DID ALL THAT WITH ONE FRICKIN' SENTENCE, WHICH IS WHY HE WAS STEVE JOBS AND WE'RE NOT."

EMILY LIBRESCO is an Account Researcher. She is based in Brunswick's New York office.

Everyone wanted smartphones, and once they realized that all smartphones had problems, Apple was innoculated.

He did all that with one frickin' sentence, which is why he was Steve Jobs and we're not.

Do you believe the workplace has become more humane since you started drawing Dilbert?

Some things are clearly better. More people can work at home. Family-leave policies seem to be improving. Things are much better in terms of gender equality and diversity.

But I would say – and it's an observation that could be biased by selective data – when I was younger, I didn't know of anybody who was suffering from the problems that are almost universal now. And technology is a big part of that. It's designed to spike certain parts of our brain. That's why we're sort of exhausted, frustrated and having all kinds of feelings that our poorly evolved human brains are not designed to handle.

If you take that unhealthy headspace and combine it with fairly unhealthy physical situations – either in cubicles or open floors, which are just bad in different ways – then I'm not really sure.

Do you see business taking more responsibility for social issues, such as climate change, income inequality or gun control?

Companies have to balance their fiduciary responsibilities and the fact that they should be good citizens of the world. Most companies will stay away from commenting on topics they can stay away from. But they absolutely have to satisfy their employees.

In this day and age, companies need to be as inclusive and as diverse as they can be, partially because they don't have any choice, and partially because it's just smart business. ◆

THE POLLSTER WHO WON The Election

SIR JOHN CURTICE tells Brunswick's **RUAN TREMAYNE** why calling elections is a greater challenge than predicting the success of a new product.

In 2017, British Prime Minister Theresa May called for a general election in the hope of strengthening her party's control of Parliament. During the two-month campaign, pollsters predicted that Mrs. May's Conservative Party would maintain a majority, perhaps even add to its 17-seat advantage against the Labour Party.

Inside the BBC's election-night studio, expectations of a Conservative victory persisted late into the night among pundits and politicians – with the stubborn exception of Sir John Curtice. A Professor of Politics at the University of Strathclyde, Dr. Curtice insisted that his own exit polls showed that Conservatives would lose their majority – as indeed they did. "Prof John Curtice: The Man Who Won the Election," blared a headline in The Guardian.

At a time of waning faith in political pollsters – who failed to foresee the results of that election, the 2016 US presidential campaign and the UK's 2016 Brexit vote – Dr. Curtice remains a keen defender of the profession and the art of calculated predictions. A knight of the realm and internet cult hero thanks to a long history of accurate and counterintuitive predictions on the BBC, Dr. Curtice said in an interview with the Brunswick Review that calling elections is more exacting than predicting the success of a new product.

"If a supermarket launched a new product and were told that if it followed a certain method then the product would take 25 percent of the market, and in the end it gets 22 percent, you would probably think that it was money well spent," said Dr. Curtice. "On the other hand, if I do an opinion poll and say the Tories are going to get 36 percent [of votes] and they end up getting 33 percent, you are going to say that is lousy."

Far from beating his own chest, Sir John defends the pre-2017 election polls, noting their success in showing that while "Theresa May was becoming less popular, (Labour Leader) Jeremy Corbyn was becoming more popular."

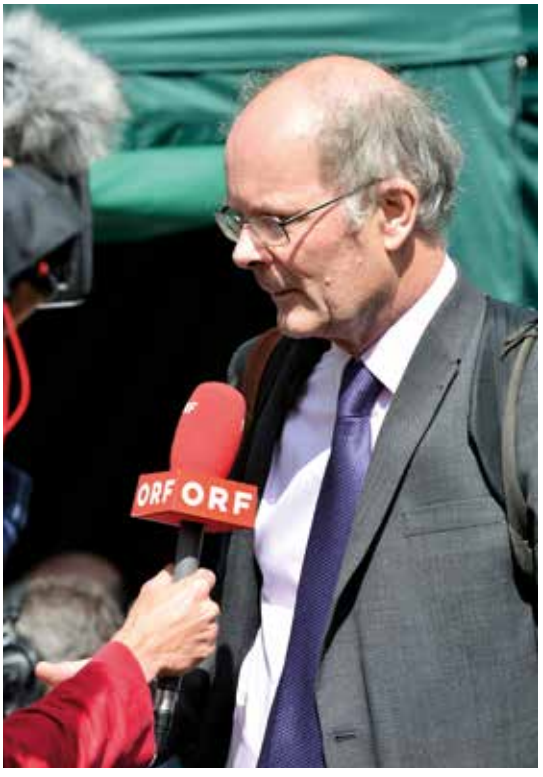
Dr. Curtice goes on to say that a defining characteristic of politics in Britain (and increasingly elsewhere) is an ever-growing distrust of politicians. Among other causes of that skepticism, he cites the Labour government in 2004 stating that the enlargement of the EU would not lead to a particularly large increase in immigration to the UK, and Conservative David Cameron's unfulfilled pledge in 2010 to reduce immigration to the tens of thousands.

So, what are his predictions for the coming months? As you might expect, Dr. Curtice is wary of making broad predictions. He prefers the data behind exit polls. "Probability is much more sensible than predictions," he says. "None of us can predict the future, but what we can do is to try and give an understanding of the probabilities and of the risks."

One such probability, or possibility, that Sir John thinks is receiving insufficient consideration is that of a second EU referendum – Brexit Revisited.

"There has been relatively little discussion of a second EU referendum," he says. "The prime minister may well decide that her safest get-out-of-jail card is to call another referendum. At the moment, we tend to associate the idea of a second referendum with the remainers. But why do we have referendums in this country? To solve party splits. The Conservative Party has already held one referendum on the EU in order to solve a party split. Why not hold another one? That's not a prediction, just something to have in the back of your head!" ◆

RUAN TREMAYNE is an Account Director in Brunswick's London office.



Sir John Curtice, an academic who is arguably Britain's most esteemed pollster, says that there's less magic than mathematics to sound political predictions.

PHOTOGRAPH: MATTHEW CHATTLE / ALAMY STOCK PHOTO

Old-School Journalism & Presidential Predictions

Journalist and author **SALENA ZITO** explains to Brunswick's **MIKE KREMPASKY** how "shoe-leather journalism" allowed her to see what sophisticated polling had missed about Donald Trump.

In September of 2016, as part of a downsizing at the daily Pittsburgh Tribune-Review, where she had worked more than a decade, Salena Zito took a buyout. Cast amid the swelling ranks of out-of-work journalists, Ms. Zito had one advantage: That July, she had written a column predicting that Donald Trump would win the upcoming US election. When that well-researched and highly counterintuitive forecast proved to be accurate, demand surged for Ms. Zito's talents as a journalist. She now writes a weekly column for the New York Post, near-daily articles for the Washington Examiner and serves as a regular contributor to CNN. A book contract she received after the election resulted in the publication this spring of *The Great Revolt: Inside the Populist Coalition Reshaping American Politics*. Her coauthor was Republican strategist Brad Todd.

Ms. Zito's recent success illustrates the career-making potential of a prescient prediction. It also shows the limits of journalistic analysis of voting data, and of observing America from Washington. A lifelong resident of Pittsburgh, Ms. Zito covered the 2016 campaign from the living rooms of voters all across Pennsylvania, a crucial swing state. In an interview in July with Brunswick Partner Mike Krempasky, Ms. Zito explains how she foresaw what so many pundits missed in 2016, and looks ahead to the November mid-term elections.

On what basis were you able to call the 2016 election for Trump several months in advance?

In July of 2016, I drove through all 67 counties of Pennsylvania and found a couple of things that were surprising. One was the number of Trump signs. It wasn't only the number of signs, but that they were homemade. That's a different level of intensity. I saw houses painted with Trump on the side. I saw barns, I saw a horse with Trump painted on its side. Also, these signs were in areas that weren't traditionally Republican, that had no business of showing this much enthusiasm for Trump. Other journalists didn't see it because they weren't visiting those counties.

A couple of things other journalists had been missing in my state, leading up to that drive: Pennsylvania, since 1996, since Bill Clinton's second election, had become more Republican in every presidential race. Typically, analysts just look at the result, not what's changing. They say, "Pennsylvania's blue. Next." But in 1996, Bill Clinton won the state with 28 of the 67 counties. By 2012, Barack Obama won 13. Also, since 2006, I'd observed that the Democrats who were winning elections were moderate, pro-life, pro-gun, fiscally conservative, pro-military Democrats.

In 2016 I identified 10 counties that needed only 2,000 more votes than they gave Mitt Romney to go for Trump. My research suggested that those counties were going to flip. And if they flipped, it didn't matter what happened in Philadelphia. It didn't matter if Hillary Clinton hit Obama's numbers, it didn't matter if she exceeded them. Which, by the way, she did. I said that if these 10 counties flipped, Trump's going to win Pennsylvania by about 40,000 votes. I was off by 5,000. And I also believed that if Pennsylvania went for Trump, so would North Carolina, Florida, Wisconsin, Michigan, Iowa and Ohio. Why? Pennsylvania is five points more Democrat than all of those states. So in July of 2016, I essentially said, "This race is over, nobody knows it yet."

Did it help that the area you were researching was your home state?

If you were sitting at home watching this 2016 election cycle on the national networks, what you tended to see in 2016 was the same sort of clip on every channel. You would see two or three awful Trump

PHOTOGRAPH: JUSTIN MERRIMAN/AMERICAN REPORTAGE

supporters, and seven lines that Trump said that were absolutely ridiculous. And you said, "This is never going to happen, because his people are crazy, and so is he." But that coverage came from national reporters who flew in and arrived at rallies 10 minutes before Trump took the stage. And your natural instinct as a reporter is to interview the oddities who stand out. The angry loudmouths.

But I've always lived in Pittsburgh, the Paris of Appalachia. The Scottish-Irish side of my family has been in Pennsylvania since 1638. That gave me a unique perspective. When I cover politics, I don't fly. I only take back roads. I stay in a bed and breakfast. That's why I had a different take. Not because I like him, not because I wanted him to win, but because I would arrive in a town a couple days before a rally, get to know the people and go with them to a rally five hours before it began. They're with their family, they're playing music, they bring food and the soccer chairs that they use when they go to see their kids and their grandchildren play a sport. And it's a real sense of community. For the most part, the people there are happy. They're not angry. They're excited.

How quickly did your star rise after the election?
The day after the election, I was walking to the bakery next door to my house – because I had no job to go to – and I got a call from CNN asking me to appear on the Jake Tapper show. When I asked what the segment was going to be about, they said, "Oh, the segment's on you. You're the only journalist that knew Trump was going to win. And you stuck to it, despite all of the crap you took. And by the way, we'd like to hire you as a contributor." Within the next 24 hours, the New York Post gave me a weekly column, and the Washington Examiner hired me as a staff reporter. And I had a book deal within three months. Now I also teach at Harvard. I take a class out and basically do with them what I do as a journalist – embed them in different communities, so they can see something outside of Manhattan and Los Angeles.

There seems to be a growing belief among journalists and political analysts that if they can just get more data, they can get to the answer. But it seems like what you proved is that data may actually interfere with your ability to make predictions.
You can't just crunch numbers and predict behavior. Voting is a behavior. In the primaries, Donald Trump blew up the Republican Party, and when he did that, he blew up the predictions about who people would vote for based on who they voted for last time. Yet even then, a lot of pollsters made the assumption that voters were going to do the same thing in 2016 they did in 2012.

Pollsters forgot the human element, that people change their minds. Voters' lives change, their families change, their work changes. And that changes how they vote. The other thing is, data can't detect emotion. It can't understand why people voted for Barack Obama in the first place. The pollsters believed it was party identity. In fact, Barack Obama was more of a unicorn. It's not that people shifted left and believed in the politics that he espoused, but they liked the idea of someone different, someone they hoped would be good for the country.

How do journalists use Twitter without it skewing their perspective on the world?
I think only something like 16 percent of Americans had signed up for Twitter, and only 40 percent of them have ever tweeted. It's an echo chamber. I try to use it as a way to share photos and stories. But when you communicate with someone on Twitter, you aren't watching their facial expressions. You aren't conducting an in-depth interview.

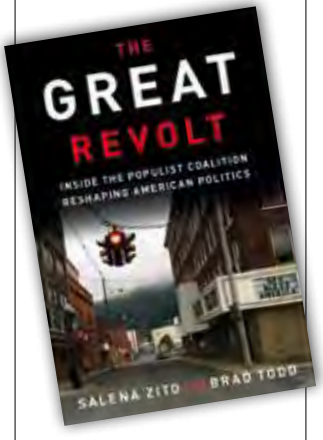
Do you have a sense as to what's going to happen nationally in the mid-term elections?
My job always has me out on the ground. I just had a story last week from Bucks County, a suburban district that the experts are saying the Republican Brian Fitzpatrick is going to lose. I was like, "No, he's not." I interviewed a bunch of suburban Democratic women who hate Trump but who like Fitzpatrick, and are able to separate the two men, and will be voting for Fitzpatrick. So I still think we're not doing enough good shoe-leather journalism to understand this country.

As for the national picture, I'm not convinced that there's a blue wave for the Democrats. It doesn't mean it won't happen, I just haven't seen it yet. I think the challenge for Democrats is the emergence of the sort of socialist wing of the party. They face the challenge of, "Will Never Trumpers and moderates come out and support socialist platforms?"

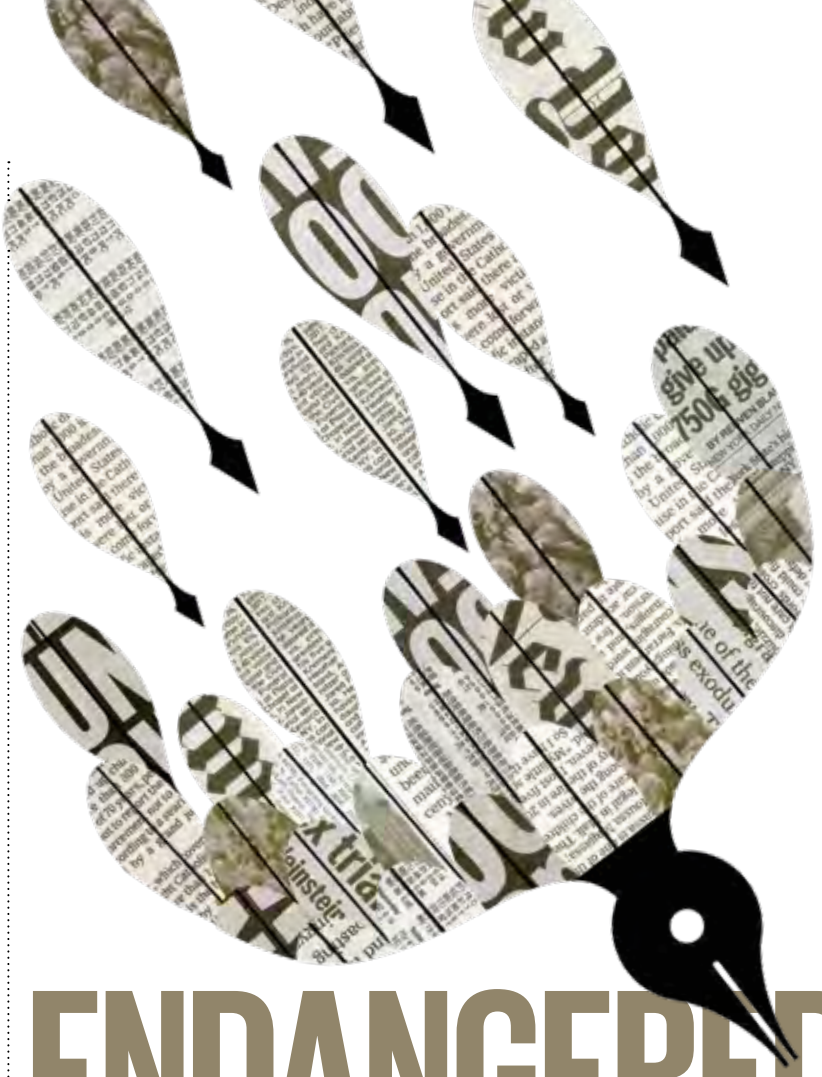
At this moment, the Trump coalition is intact. This modern populist movement isn't what you saw in the 1930s. This is a healthy skepticism of all things big. Big government, big media, big sport. Big institutions have lost the trust of these voters. Donald Trump did not cause this. He's just the result of it. And my profession keeps focusing on him, and still continues to ignore the people who put him in office, and why. ◆

7 KINDS of TRUMP VOTERS

In their book, "THE GREAT REVOLT: Inside the Populist Coalition Reshaping American Politics," Salena Zito and Brad Todd grouped Trump voters into seven archetypes, including: Red-Blooded and Blue-Collared, adults in labor or hourly positions who had faced job loss; and Silent Suburban Moms, women who didn't broadcast their support but voted for Mr. Trump out of concern for security.



MIKE KREMPASKY is Partner and Head of Brunswick's Digital specialty, based in Washington, DC.



ENDANGERED SPECIES

KYLE POPE of the Columbia Journalism Review compares the "death spiral" of local newspapers to a public health crisis. Brunswick's **KEVIN HELLIKER** reports.

ILLUSTRATION: MELINDA BECK

In early 2018, a sports physician named Larry Nassar was sentenced for up to 175 years for sexually molesting minors. Reports of his crimes against Olympic and Michigan State University athletes led to the resignation of the entire USA Gymnastics board and the MSU president.

Kyle Pope, editor and publisher of the nonprofit Columbia Journalism Review, loves pointing out that the uncovering of Mr. Nassar's decades-long series of crimes began with a story in the Indianapolis Star. A veteran journalist whose résumé includes a long stint at The Wall Street Journal, Mr. Pope believes that touting the public benefits of local newspapers is the surest way to steer them out of "a death spiral."

"It's hard to build a business around people having compassion for journalists losing their jobs," he says. "Jobs are being lost in lots of professions. We have to move the discussion away from us and toward the effects on democracy if local news goes away.

"Two recent reports illustrate that value. One shows that the spread of viruses is much faster in communities without a local news infrastructure. With no reporting, you don't know it's out there, and you may not know to go see the pediatrician if your kid gets sick. The other study found that if there's not an active newspaper looking over the city manager's shoulder, public financing winds up costing more. You may not care about journalism, but you probably care that your kid doesn't get a smart screen in their school because the city manager is siphoning money. You probably care if you're buying a house on a lake that is contaminated from a plant upstream that a local newspaper has found out by testing the water."

The number of daily newspapers in the US has fallen below 1,300 from nearly 1,800 in 1970. The survivors are shrinking in size and subscriber numbers. The New York Times, The Washington Post and The Wall Street Journal replaced some revenue from disappearing print ads with digital subscriptions. That's proven to be a tougher transition for local papers, partly because they were slower to develop first-class digital versions, and also because a multiplicity of municipalities and school districts in any one metropolitan area makes it difficult for a local paper to be consistently relevant to all readers.

Speaking to Brunswick the day after the New York Daily News announced the layoff of half its newsroom, Mr. Pope said, "I don't think we've hit bottom. This is the journalistic equivalent of a public health crisis that is spiraling out of control. The longer these local news outlets are starved, the worse they get. When I ask people around the country why they aren't supporting their local paper, they say, 'Have you read my local paper?' That's not a knock against the journalists at those papers, because they're doing really heroic work, but they've just been cut to the point where it's really hard for them to produce a product that their readership really needs."

In two years running the CJR, Mr. Pope has attended many conferences on how to save newspapers. "There are lots of ideas, but no answers," he says.

The nonprofit model that propelled ProPublica to prominence offers some hope. Might health foundations pay for a reporter to cover medical issues? Might governments offer taxpayers the option of making a tax-free contribution to local news?

"I think that there has to be some institutional support. I don't think it's likely you're going to see most of these papers standing on their own two feet." ◆

KEVIN HELLIKER, a Pulitzer-Prize-winning journalist, is Editor-in-Chief of the Brunswick Review.

The Good News about NEWS ECONOMICS

Brunswick's **KIM FLETCHER** sees a healthy focus on the quality of journalism emerging from the sinking fortunes of print media.

British journalists tended not to think too much about the economics of the newspaper industry, first because that demanded numeracy, second because it interfered with stories. They relied on a simple model: Someone else worried about the money, they spent it.

These days they think about the economics a lot, for they are not sure how long they will continue to have jobs. Readers and advertisers – the two traditional sources of revenue – are disappearing. In the last 30 years, circulation of the tabloid Sun, for example, has fallen from almost 4 million copies a day to fewer than 1.5 million. In the last 10 years, the digital giants Google and Facebook have run away with most of the advertising.

Recent years have been a frustrating story of trying new stuff – free websites, subscription websites, hybrid websites, commercial data collection, reader merchandise – and cost-cutting.

The encouraging news is that, faced with the final curtain, traditionally brutish British newspapers seem to have resolved to find time for good works, even to kindle a little joy. They know the internet will kill them – at least in hard copy form – but until then they are eager to make each day count.

They have realized that, in rediscovering and proving the public utility of journalism, they might prolong their lives.

To that end, we've seen more investigative journalism, exposing such things as questionable commercial activities by web giants, police failures to investigate predatory sexual behavior, corruption in international sport and lechery in the London financial sector.

These have been real stories, painstakingly researched, clearly presented and eagerly read. They have raised internal morale, stimulated readership and fulfilled the important watchdog role of the press. Amid the polarization of politics over Brexit in the UK – mirroring passions about Donald Trump in the US – there is some attraction to objective investigation, independently sourced. In an age when so much "news" is pumped through internet channels free of charge, papers can charge for stories that are exclusive and original.

Perhaps it is this sense of public good that continues to attract bright young people; perhaps it is the continued promise of mischief. It certainly isn't the money.

As the newspaper industry declines, the number of schools and colleges teaching journalism rises. In the academic year just ended, more than 1,300 young people enrolled on courses at universities, training centers and news agencies accredited by the National Council for the Training of Journalists (NCTJ), an organization that examines basic skills.

In a recent survey, the NCTJ found 82 percent working full or part time within a year of finishing studying journalism at school (compared with 70 percent of those who had studied something else) with almost a third of them in newspapers.

This is encouraging to those who believe journalism matters, but the money is less so: the young journalists surveyed were paid an average of £17,500 – some £2,500 less than the starters in other industries – and had substantial student debt. There's a danger that only the middle classes, subsidized by their parents, can afford to be journalists. If it is to understand everything that is going on, this is an industry that needs reporters from minority ethnic and working-class backgrounds.

Local papers struggle now to find the resources to cover the councils and courts that should be in the public eye. The young reporters I meet seem to find the joy and mischief of previous generations, but they no longer see the kind of career ladder that made journalism comparable with teaching or other public service roles. No one who has fallen for the magic of print, been touched by Hollywood homages such as "All the President's Men," "Spotlight" and "The Post," should ever want to leave, but it's hard to plan a life in an industry that really doesn't know where the money is coming from. ◆

KIM FLETCHER is a Partner in Brunswick's London office, and a former Editorial Director of the Telegraph group. He is currently Editor of the British Journalism Review.

ILLUSTRATION: MELINDA BECK

HAIL A COPTER

Volocopter CEO **FLORIAN REUTER** is betting on a highway in the sky. He tells Brunswick's **FELIX MORLOCK** about the future of the flying taxi.

Flying taxis? The concept seems far-fetched until you remember laughing initially at the idea of self-driving cars. In fact, the technology needed to place passengers on lightweight drones already exists.

Dubai has been running a pilot project to use drones as flying taxis since late 2017. Volocopter, a German tech startup devoted to building air taxis, was chosen to develop the technology. Volocopter's investors include Intel, which is contributing technological expertise, as well as Daimler, which owns 11 percent of the new company and has experience in manufacturing at large scale. Last year, Volocopter had a successful autonomous test flight, launched by Dubai's Crown Prince Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum.

The main body of a Volocopter looks like a helicopter. But on top it has a rotor ring with 18 propellers to give it lift and keep it stable, rather than a single rotor. Classed as an ultralight craft in Germany, it looks like an oversized hobby drone but has space enough for two passengers. It has been granted a pro-

In September 2017, an unmanned Volocopter flew for eight minutes in Dubai – the first demonstration of an autonomous air taxi in an urban area. The towers of the JW Marriott Marquis, one of the world's tallest hotels, are in the background.

visional certificate of airworthiness by German aviation authorities.

Safety is paramount for the drone's designers. More than one backup is in place for every critical component. A ballistic rocket-fired parachute is also aboard in the event of an emergency. The battery-powered aircraft can travel for up to 27 minutes at a speed of 70 kilometers per hour on one charge. Battery performance is sure to improve further down the line. And with smart infrastructure in place to enable a quick battery swap, the Volocopter can be powered up and ready to lift off right after it lands.

Volocopter isn't the only company seeking to develop air taxis in response to traffic jams. But no actual competition will exist until the various players overcome not only the technological challenges inherent in constructing the aircraft, but also the regulatory and infrastructure measures that are required for the service to take flight.

Costs will come down per Volocopter once production has scaled up to thousands of aircraft every year. Volocopter has already prepared a concept for

"IT IS MUCH EASIER TO PROVIDE A SAFE ENVIRONMENT IN THE AIR THAN ON THE GROUND."

the infrastructure: a network of rooftop "Volo-Hubs" where up to 1,000 passengers could board and disembark on personal flying taxis every hour. That translates to 10,000 passengers per station per day.

Volocopter CEO Florian Reuter is an eager advocate for the fledgling industry. He spoke to Brunswick about the role he hopes his company can play.

Tell us about Volocopter's origins and how you came to join the company.

The Volocopter story starts with Stephan Wolf and Alexander Zosel. Stephan Wolf's background is in industry software development.

Alex Zosel is a serial entrepreneur and aviator. He was a paraglider and is licensed to fly gyrocopters. That made him our designated pilot for the first Volocopter. He's a big guy. Those maiden flights were all the more impressive with his 130-kilo payload.

Around 2010, the two saw more and more toy drones taking to the skies. Stephan Wolf liked their ease of use and started thinking about scaling this concept up to a larger manned aircraft.

They made the most of drone technology's classic features such as distributed electric propulsion, and found a way to build an incredible level of redundancy into the system. They built the first Volocopter, the VC1, famously known as the flying yoga ball. Our video about its maiden flight went viral with more than 20 million views on YouTube. NASA called us and the Australia's Civil Aviation Safety Authority published a rave review in their safety bulletin.

Flying high on this euphoria, Stephan and Alex sought and received €2 million funding from the German Ministry of Economic Affairs. This gave them the financial clout to reach out to potential partners in a bid to build a serious aircraft. That plan panned out rather quickly – by 2013, they had developed the first VC200 prototype. Today's structure looks quite similar, but its inner workings are a lot more advanced.

In late 2013, Stephan and Alex set out to raise half a million euros on the German crowd-funding platform Seedmatch. They had it within 2.5 hours. Reaching their extended target of €1.2 million on the third day, they froze the offer for the time being.

Volocopter was an R&D project, and before our founders gave up their full-time jobs they knew it would need to become a serious company with professional structures. So they went looking for someone with experience in setting up a startup.

After studying industrial engineering and several years in management consulting, I joined Siemens in Munich, where my job was to commercialize new technologies. Part of that was getting startups off the ground and translating technology into products.

Eventually I realized that what I really wanted was to join a startup. That's just when Volocopter came knocking. The idea of an electric helicopter – a drone scaled up for humans – that clicked with me. If I was going to put my heart and soul into a startup, it would have to pursue something as exciting as this.

On January 1 2015 I joined the company as the third managing director and fifth employee. Our headcount is now fast approaching the 100 mark.

Is Volocopter part of a larger effort to transform mobility in society?

New alliances and new competitive situations are emerging in rail, road and air transportation. Everyone who has anything to do with transportation – and we're talking about a lot of industry sectors here – is nervous. They all need to get their bearings, face up to a new reality and figure out what role they're going to play in it. These changes are mostly tech-driven. Digitalization, for instance, is one trend that is engendering new business models.

Another driver is the autonomous vehicle. Then there's ever smaller and more powerful electronic circuitry. The same goes for batteries. The technology is out there, and we're at a tipping point for big changes in transportation and aviation.

We'll soon see new ways of flying, with great innovations to come, particularly in inner-city aviation. Volocopter is spearheading this development. Every type of carrier will have a different mission in terms of long, medium and short distances and the number of runs. The best aviation concepts will rise to the top for each application. We focus completely on short distances with a highly redundant model. For that mission, our concept is the most convincing.

We're gearing up to take on a completely new form of transportation with Volocopters serving the inner city area. Our brand of mobility, particularly in urban aviation, will have a lot more in common with the fast-changing car industry than with the traditional aviation industry. That's why Daimler is our partner. They know how to develop cars and manufacture at large scale unlike anything aviation has ever seen. Innovation cycles, regular facelifts, new product variants and the like are all part of this.

At the same time, we're also doing business in the highly regulated aviation industry. We are prepared to deal with regulations that may only be slightly amended; after all, it is human life we are talking about. It's a balancing act. We're shaping up to make this work and preparing for a world where airborne

Volocopter CEO Florian Reuter, left, attributes the company's promise to the vision of its founders, including Alexander Zosel, shown below airborne in a company prototype.

urban transportation is part of everyday life and a smart supplement to other means of transport.

Why do we need air taxis if self-driving cars are just around the corner?

We believe autonomous vehicles will use legacy infrastructure more efficiently. Existing roads will probably be able to handle more vehicles per hour with preset speeds and clearly defined distances between cars that put an end to stop-and-go traffic. If autonomous vehicles are safer, cheaper and let you work on the go, they are going to be very popular. Parents can send their children to and from dance class without leaving the house. Older people with limited freedom of movement will be far more mobile.

This is why we expect demand for transportation services to actually increase. Vehicles will make more efficient use of the infrastructure, but the number of miles that each vehicle travels will also increase dramatically. This increase may actually outstrip efficiency savings. Rather than reduce congestion, it may exacerbate traffic problems. Populations and urbanization are also on the rise, so alternative transportation concepts are very much in demand.

Do you think we'll see taxis in the air before autonomous cars hit the road?

It's going to take some time before air taxis are rolled out *en masse*. We can realistically expect to see the first air taxis on commercial routes around the same time or even earlier than autonomous vehicles on commercial routes.

You can reserve a certain amount of space in the air because you don't have to make allowances for non-cooperating participants. It is much easier to provide a safe environment in the air than on the ground. We expect to offer the first commercial routes soon after the first testing and demo routes are up. However, it is a completely new means of transport and it will certainly be a while before it becomes an everyday thing for the masses.

How many passengers will flying taxis have to carry before they become affordable for the general public?

It's less about passenger numbers and more about production numbers. The Volocopter's structure is all carbon. That material is relatively hard to work with. BMW's all-electric car i3 goes to show that it is possible to mass manufacture a carbon vehicle, but costs are still very high. They're even higher for aviation specifications. We will have to build many Volocopters to eventually arrive at manufacturing costs comparable to those for an automobile. But that's entirely conceivable. The battery is also an operating cost driver. Its performance and acquisition costs are not such a big concern. But batteries' lifecycles are short, so we need many of them to keep a Volocopter operating. If we manage to tackle both of these issues, I can see us offering air taxis at a cost comparable to that of a taxi today.

What are the biggest challenges for Volocopters and air taxis in general?

We have the aircraft and the technology to create a minimum viable product; that is, the first iteration of

PHOTOGRAPHS: COURTESY OF VOLOCOPTER

an air taxi. You need infrastructure to operate an air taxi – designated landing sites, charging points, newly regulated airspace and next-generation air traffic management. We're conducting test flights regularly. We're part of projects and have alliances with the leading players in this arena. The technical issues are mostly resolved, but the individual countries have to agree to a standard.

We will need low-latency, high-bandwidth 5G to operate autonomous fleets of Volocopters, especially when this offering takes off in a big way. We also want to afford our passengers the opportunity to enjoy a seamless digital experience; that is, to chat, watch Netflix and write an email in the Volocopter. Today's telecommunication networks aren't designed for that. Transmission towers are aimed to provide terrestrial service. They have to be aligned horizontally to also provide coverage in the lower airspace.

What about air traffic control for air taxis?
Passenger drones will operate in lower level airspace, up to 1,000 feet or 300 meters. Will they fly in the same zones as smaller drones or will they operate in designated air corridors? Various proposals are on the table, but I expect that there will be a central entity that allocates 4D trajectories. It will assign coordinates in which a flying object may move within certain timeframes.

There are wonderful concepts like highway-in-the-sky displays that present an augmented reality tunnel for the pilot or autonomous aircraft to fly through. It stays green when I'm in my timeframe, but turns red when I'm lagging behind. It gives a very precise flight path to follow. Additionally, I expect there will be autonomous capabilities to detect and fly around obstacles. Drones of a certain size will have to have fully fledged sense-and-avoid capability.

What are the next steps on the way to the air taxi?
We are now building a small series of Volocopters to demonstrate capabilities next year, like we did last year in Dubai. We want to regularly stage these demo shows and test air traffic management, landing, take-off and other infrastructure. We want to fly in an urban setting, and are preparing for the commercial launch of the first routes in 2020–21.

Now it's time to do our homework so we can get on with demos for next year. We have a fully trained business development team in place and we're talking to cities around the world. Instead of just responding to cities that are reaching out to us, we're reaching out to cities that we feel would are best suitable for air taxis. For the first time, we have all the resources we need to address all interested partners.

What kind of political support do you need?
The political world discovered this topic only recently; now some German politicians are big backers. This deserves support for what it can become – an export-oriented business in the tradition of our successful automobile companies. Our aircraft have to be prepared to deploy worldwide. Wherever the regulatory door opens, we want to be there, ready to step in. Dubai and Singapore have made the greatest progress. It takes longer to set the stage in Germany, but we're heading in the right direction.

I would be pleased if policymakers realized what a huge opportunity this is to build a new industry, and I'd be even more delighted if they started thinking about how to speed up development and commercialization.

This is a key competitive advantage. For example, if we were able to set up a closed airspace for testing with 5G infrastructure, but without a lot regulatory red tape, we could really make fast progress.

Do you need more capital and how are you going to get it?
We raised €30 million in our last round of financing. That was huge for us, but we still need more risk capital to commercialize our offering. As a venture capital finance startup, you are always fundraising. Air taxis are an unfamiliar business for investors. None can say "been there, done that," so we have to talk to each prospect individually about risk potential. We expect to make a move in the months ahead. And an IPO is definitely a prospect. We're preparing mentally for that scenario. But these are very turbulent times. It remains to be seen what the world will look like in three or five years.

Are you worried about emerging competition?
Air taxis have become a hot topic. Our design is a key advantage. It ensures safety always comes first. We're also the industry benchmark for lowest noise. Those are two issues consumers really care about.

Right now we're a classic venture capital-financed operation, but we also have two real heavyweights on board in our investors Daimler and Intel. We expect to find other sponsors who are excited about this topic and can see that we are in the pole position. With all that going for us, there's no reason to fear the competition. On the contrary, the more serious players we have in the market, the easier it will become to raise awareness for urban air taxis. ◆

"OUR AIRCRAFT HAVE TO BE PREPARED TO DEPLOY WORLDWIDE. WHEREVER THE REGULATORY DOOR OPENS, WE WANT TO BE THERE, READY TO STEP IN."

FELIX MORLOCK is a Director with Brunswick, based in Frankfurt am Main, Germany.

PUNK INTERNET

INGO RÜBE, founder and CEO of BOTlabs, sees open source as a vehicle to help shape the next stage of the internet.

Berlin has undergone a metamorphosis from historical capital to a hip startup hotspot, a magnet for tech freaks around the world. Ingo Rübe is one. A punk rocker in the city in his youth, he earned a degree in information technology and became first a Director at Axel Springer and later CTO at Burda, a big-name publishing house. He is a fan of cool tech, and drives a Porsche with a hybrid engine. In jeans, sports coats and big glasses, he is cool but not conspicuous.

Recently, Mr. Rübe founded BOTlabs, his latest project in cooperation with Burda. The future of the internet, he feels, is more democratic, enabled by blockchain and open-source technology. Burda, in turn, recognizes that it has benefited from Mr. Rübe's expertise and vision and has absolute faith in the project, in which it holds a minority stake.

Prediction always involves risk. Are you a gambler at heart?

No, not at all. I just look at the facts and trends and put them together. Some developments can be forecast with remarkable accuracy this way. Hardly anyone believed me in the late '80s when I told my punk friends that they will all end up with an email address in 10 years' time.

You were a punk?

Yes, indeed. Berlin in the '80s. Clubs, concerts – alcohol as well. A long time ago. I still go to punk concerts, but only now and then.

How did you come to be an early champion of open source?

Open source is actually a lot like knowledge. In the digital society, fundamental software is like education – it has to be accessible to everyone free of charge. This not only ensures equal opportunities, it also provides a lot of protection for companies' investments in innovation.

Today, 95 percent of all business server systems run on the open-source operating system Linux. Web servers and database systems are similar. Look at HTTP [hypertext transfer protocol – a set of standards that serve as the foundation for the World Wide Web]. Without HTTP, there would no e-commerce, no social networks and not even news on the internet. Around 80 percent of the 11,000 jobs at Burda would never have been created without open-source technology. If HTTP's inventor Tim Berners-Lee had charged a one-cent licensing fee for every visit to a website, the World Wide Web and the millions of jobs that are connected to it would never have been created.

You convinced Burda to adopt the open-source content management system Thunder. What was the reasoning there?

Burda had hundreds of content management systems for hundreds of websites. That was very wasteful. My job was to clean up this mess. We did not want to end up being dependent on a single vendor

ILLUSTRATION: THOMAS FUCHS

so, with open source, we sought to create a community of publishers to jointly develop the system.

Burda sites switched over in record time with minimal costs. Three years later, hundreds of publishers use Thunder. A vibrant community was born, and Burda is benefiting without having to pay licensing fees. What's more, Burda has become a very attractive employer for technologists and has gained a lot of credibility and standing in the market.

Was there stiff resistance by more tradition-minded publishers?

Let me put it this way: For a long time, venerable publishing houses found it very hard to see digitalization as an opportunity. To stand out in the crowd of competitors, they were keen to develop a content management system of their own. But ultimately, publishers set themselves apart with content and reader retention. Fundamental technology should really be shared. No publisher builds a power station to run its websites. But to answer your question: It takes a lot of time and a lot of persuasion.

Now you're predicting blockchain will be the internet's next evolutionary stage. Why?

In its inception, the internet was a network for researchers. There were no plans to commercialize it. When that started to happen in the mid-1990s, the internet lacked key search, identity, payment and other such services – in internet-speak those are called "protocols." Businesses emerged to fill that void at the application level. Today these companies are the world's most valuable enterprises and have attained a mind-boggling dominance. The internet's current structure favors this monopolization. Efforts to get a handle on the problem of these entrenched and unassailable internet companies have been largely ineffective because this is a technical issue rather than a business, legal or political problem.

How will blockchain technology revolutionize the Internet?

Blockchains will enable an organizational reboot of the internet at the technical level. We can use them to create open-source protocols that can do so much more than what the current internet does. With blockchain technology, we can send money at the protocol level, prove identities beyond any doubt, and order taxis or pizza without the help of an intermediary. This way, the internet gets the elements that it has always lacked, piece by piece.

What we failed to consider with the existing internet was that some vendors would accumulate vast silos of data with no incentive to share them. Blockchain technology will create these necessary incentives. This will culminate in a newly democratized internet.

"OUR CONCEPT IS IN FACT BASED ON FREEDOM. WE DON'T AIM TO MAKE MONEY WITH IT DIRECTLY. WE WANT TO BE THE ENABLERS OF A NEW ECONOMY."

What exactly will your new startup provide?

We want to develop a blockchain-based protocol that gives the power over personal data back to the individual. I believe personal data belongs to the individual user and not in the hands of monopolistic companies. Everyone should be able to decide for themselves if they wish to divulge data and when they want it back. The structure of BOTlabs as a company gives us the freedom to explore entirely new avenues without a commitment to constantly report or answer to special business demands.

A strong desire for freedom would appear to be a recurring theme in your life.

That's a little too melodramatic. But our concept is in fact based on freedom. We don't aim to make money with it directly; we want to be the enablers of a new economy. Anyone with a good idea for applications is welcome to use this protocol, be it a company or government. We aim to develop a standard that can be accepted in Germany, in Europe, and around the world. That's our vision. The more participants, the faster we will achieve our undoubtedly ambitious goal.

Can you make easy money with this?

Let me be perfectly clear here: No, you can't, at least not if you take it seriously and want to be taken seriously. We plan a cryptocurrency to reward service and good behavior in our ecosystem. We will retain around 10 percent of the total amount of money in circulation from the start, so we will benefit as the ecosystem grows and its value rises.

Your minority shareholder is not demanding a fast return?

No, smart managers at Burda realized that blockchain is an opportunity; you can either take it or let it pass you by. Europeans snoozed and lost out on the commercial internet's development. Now they have the chance to spearhead the movement and design the blockchain internet.

Are you confident this prediction will be as accurate as the last one?

With my email prediction, I had no direct influence on the outcome. This time I will be working hard to make my prediction come true. ◆

DR. JOACHIM PETER is a Director in Brunswick's Berlin office, specializing in Public Affairs.

ILLUSTRATION: NIGEL BUCHANAN

SOCIAL MEDIA AS A WEAPON

Best-selling author **PETER SINGER** talks with Brunswick's **SIOBHAN GORMAN** about winning the increasingly crowded and contentious war for attention.

What do ISIS and Taylor Swift have in common?

According to author and digital-security strategist Peter Singer, both the terrorist organization and pop star are fighting for your attention online and employing similar tactics to try and win it.

ISIS kicked off its 2014 invasion of Mosul with the hashtag, "#AllEyesonISIS." More recently, the terror group posted photos of its members holding cute cats in an effort to make them more relatable – tactics familiar to most celebrities and online marketers around the world.

These online battles, the rules governing them, and their real-world impact are the focus of Mr. Singer's latest book, *LikeWar*, which he coauthored with Emerson T. Brooking, at the time a research fellow with the Council of Foreign Relations.

"A generation ago people talked about the emergence of cyber war, the hacking of networks. A 'LikeWar' is the flip side: the hacking of people and ideas on those networks. Power in this conflict is the command of attention," says Mr. Singer, who in addition to his writing is also a strategist and Senior Fellow at the New America Foundation.

Pretty much everyone who posts online – from governments to marketers to reality TV stars – is a combatant in this fight for virality, according to Mr. Singer. Triumph in a "LikeWar" and you command attention to your product or propaganda or per-

sonality. Lose and you cede control of the spotlight and the agenda.

Mr. Singer recently spoke with Brunswick's Siobhan Gorman about the trends he's seeing in LikeWars around the world, and what companies can do to avoid being on the losing end.

What were you most surprised by in researching *LikeWar*?

One of the more interesting characters in the book was at one time voted TV's greatest villain: Spencer Pratt, a reality TV star on MTV's "The Hills." He's basically one of these people who became famous almost for nothing.

But what Pratt figured out really early was the power of narrative, which allowed him to become famous through, as he put it, "manipulating the media."

In the same week, I interviewed both Pratt and the person at the US State Department who's in charge of the US government's efforts to battle ISIS online. And Pratt, this California bro who's talking about how to manipulate the media to get attention, understood more of what was playing out online than the person at the State Department.

How much have online conflicts changed the rules in the last few years?

First, the internet has left adolescence. It's only just now starting to flex its muscles and deal with some of its responsibilities. The structure of the network changes how these battles play out. So, it's this contest of both psychological but also algorithmic manipulation. What you see go across your screen on social media is not always decided by you. The rule makers of this global fight are a handful of Silicon Valley engineers.

Another aspect of it is that social media has effectively rendered secrets of any consequence almost impossible to keep. As one CIA person put it to us, "secrets now come with a half-life." Virality matters more than veracity; the truth doesn't always win out. In fact, the truth can be buried underneath a sea of lies and likes.

And the last part is that we're all part of it. All of our decisions as individuals shape which side gets attention, and therefore which side wins out.

But you highlight that this is playing out differently in China.

Exactly. There are two different models shaping the internet, and shaping people's behavior through the internet, playing out in the West and in China. Essentially, internet activity in China is all combined. Look at WeChat, which is used for everything from social media to mobile payment; it's Amazon meets Facebook meets Pizza Hut delivery. And you combine that with an authoritarian government that's had a multi-decade plan for building out surveillance, and you get the social credit system, which is like Orwellian surveillance crossed with marketing.

"SPENCER PRATT, A REALITY TV STAR... UNDERSTOOD MORE OF WHAT WAS PLAYING OUT ONLINE THAN THE PERSON AT THE STATE DEPARTMENT."

The social credit system allows both companies and the government to mine and combine all the different points of information that an online citizen in China reveals of themselves, and then use that to create a single score – think of it as your financial credit score of your "trustworthiness."

For example, if you buy diapers your score goes up, because that indicates you're a parent and a good parent. If you play video games for longer than an hour your score goes down because you're wasting time online. And it's all networked. Your friends and family know your score.

It creates a soft form of collective censorship; if your brother posts something that's critical of the government, you're the one who goes to him and says, "Knock it off 'cause you're hurting my score." And you do that because the score has real consequences. Already it's being used for everything from seating on trains and job applications to online dating. Your score literally shapes your romantic prospects.

So, you have this massive global competition between Chinese tech companies and other global tech companies not only for access to markets, but also for whose vision of the internet is going to win out.

How can companies win a "LikeWar"?

Everyone's wondering: What are the best ways to drive your message out there and have it triumph over others? The best companies I've seen create a narrative, have a story and have emotion – in particular, they have emotion that provokes a reaction of some kind.

It's all about planned authenticity. That sounds like a contradiction, but it's about acting in ways that are genuine, but are also tailored because you're aware that the world is watching you.

A good comparison here is Wendy's versus Hillary Clinton. Wendy's is a hamburger chain – not a real person – but it acts and comes across as "authentic" online and has developed a massive following. They're funny, irreverent.

Yet Hillary Clinton – a very real person – never felt very authentic in her online messaging. And

that's because it involved a large number of people – by one account, 11 different people – all weighing in on what should be tweeted out.

Inundation and experimentation are also key. Throwing not just one message out there, but massive amounts of them. Treating each message as both a kind of weapon, but also an experiment that allows you to then learn, refine, do it again, do it again, do it again.

How do you measure and gauge battles online now? Is it just volume?

It all depends on what your battle is, what your end goal is. Is it driving sales? Is it getting people to vote for you, to show up to your conference?

This is what the US gets wrong about Russian propaganda and its disinformation campaigns. We think they're designed to make people love or trust a government. From its very start back in the 1920s, the goal of propaganda coming from the Soviet Union, and today Russia, has been instead to make you distrust – distrust everything, disbelieve everything. And we can see it's been incredibly effective for them.

How effective have disinformation campaigns actually been in the US? What can be done?

One of the scariest and maybe saddest things we discovered is that the US is now the story that other nations point to as the example of what you don't want to have happen.

There's no silver bullet, of course. But one example was something called the Active Measures Working Group, a Cold War organization that brought together the intelligence community, diplomats and communicators to identify incoming KGB disinformation campaigns and then develop responses to them. We're dealing with the modern, way more effective online version of something similar, and we haven't got anything like that.

There are also digital literacy programs. I find it stunning that the US supports education programs to help citizens and kids in Ukraine learn about what to do and how to think about online disinformation, but we don't do that for our own students.

What can people like you or me do?

First, we need to recognize that we're a part of the battle. In fact, we're a target of most of the battles. And we need to better understand how the platforms work that we use all the time. A majority of people actually still don't understand how social media companies make money.

"FIRST, WE NEED TO RECOGNIZE THAT WE'RE A PART OF THE BATTLE. IN FACT, WE'RE A TARGET OF MOST OF THE BATTLES."

The other is to seek out the truth. How do we do that? And the best way is to remember the ancient parable of the blind man and the elephant – don't just rely on one source, pull from multiple different sources. That's been proven in a series of academic studies as the best way to find the facts online. It's not exactly new, but it's effective.

Where will the next online war be fought?

The cell phone in your pocket, or if we're being futuristic, the augmented reality glasses that you wear as you walk down the street. It'll come from the keepsake videos that you play on them.

If you want to know what comes next in the internet there have always been two places to go: university research labs and the porn industry. That's been the case with webcams, chat rooms and so on.

What we're seeing playing out now are called "deep fakes," which use artificial intelligence to create hyper-realistic videos and images. There's also "madcoms," which are hyper-realistic chat bots that make it seem like you're talking to another person online. Combine the two, and the voices, the images, the information that we'll increasingly see online might be fake, but hyper-realistic.

The tools that militaries and tech companies are using to fight back against the AI-created deep fakes are other AI. So, the future of online conflict looks like it'll be two AIs battling back and forth.

Let me give you a historic parallel, because we've been dealing with these issues for a very long time. The first newspaper came when a German printer figured out a way to monetize his press's downtime by publishing a weekly collection of news and advice. And in publishing the first newspaper, he created an entire industry, a new profession that sold information itself. And it created a market for something that had never before existed – but in creating that market, truth has often fallen by the wayside.

One of the very first newspapers in America about a century later was called the New England Courant. It published a series of letters by a woman named Mrs. Silence Do-good. The actual writer of the letters was a 16-year-old apprentice at the newspaper named Benjamin Franklin, making him the founding father of fake news in America. In some sense it's always been there, using deception and marketing to persuade people to your view. ◆

SIOBHAN GORMAN is a Partner in Brunswick's Washington, DC office, specializing in crisis, cybersecurity, public affairs and media relations.

The Artificial RECRUITER

Seedlink's **RINA JOOSTEN-RABOU** says the power of AI can create happier workers. **ANNE BARK** reports.

It doesn't take much courage or brilliance to predict that artificial intelligence will play a large role in the future of recruiting. Already, about a third of companies are using some element of AI in their hiring processes, and popping up to serve that market is a growing field of startups such as Hirevue, Mya and Seedlink Tech.

A better question is how dramatically a tight job market in the US and elsewhere will accelerate the growth of AI-enhanced recruiting. The internet has made it easier to apply for jobs, but that development has swamped recruiters with too many applications to process at human speed, especially when crucial openings need to be filled. The result can be disgruntlement among job seekers whose applications never received a personal response, and wrong hires by recruiters who, unable to quickly distinguish the best candidates from among a vast field, may lean on biases toward, for instance, graduates from particular colleges.

What AI can do at nearly the speed of light is separate the most serious candidates from those with a fetish for job seeking, identify those with the most potential and further distinguish those with the particular skills, qualities and desires for the job at hand. It can also issue to each rejected candidate a response that includes a personal detail and, if appropriate, an encouragement to apply again for possible different openings.

Still to be determined is which approach will prove most effective and popular. Does the AI-driven video interview provide data and nuance that written programs can't replicate? Or does video favor theatrical extroverts – who aren't ideal for every job – while possibly perpetuating recruiters' physical-appearance biases? Might programs that analyze applicants' written responses prove adept at identifying solid candidates, while excluding possibly great ones that don't fit a particular profile? If young swimmers with Olympic potential were selected based on the efficiency of their strokes, then Janet Evans – with her unorthodox style – might never have won four Olympic gold medals.

Proponents of AI-enhanced recruiting stress that computers will not replace in-person interviews, that hiring decisions will always be made by humans and that digital interviewing greatly expands the field of potential candidates. Perhaps most importantly, they say, AI-enhanced recruiting identifies candidates who would have been overlooked in the conventional process, and who turn out to be extraordinary employees.

Rina Joosten-Rabou, a co-founder and top executive of Seedlink, a Shanghai- and Amsterdam-based firm that is currently expanding to the US, spoke to us about the growing power of technology to create unforeseen opportunities for businesses and their prospective employees.

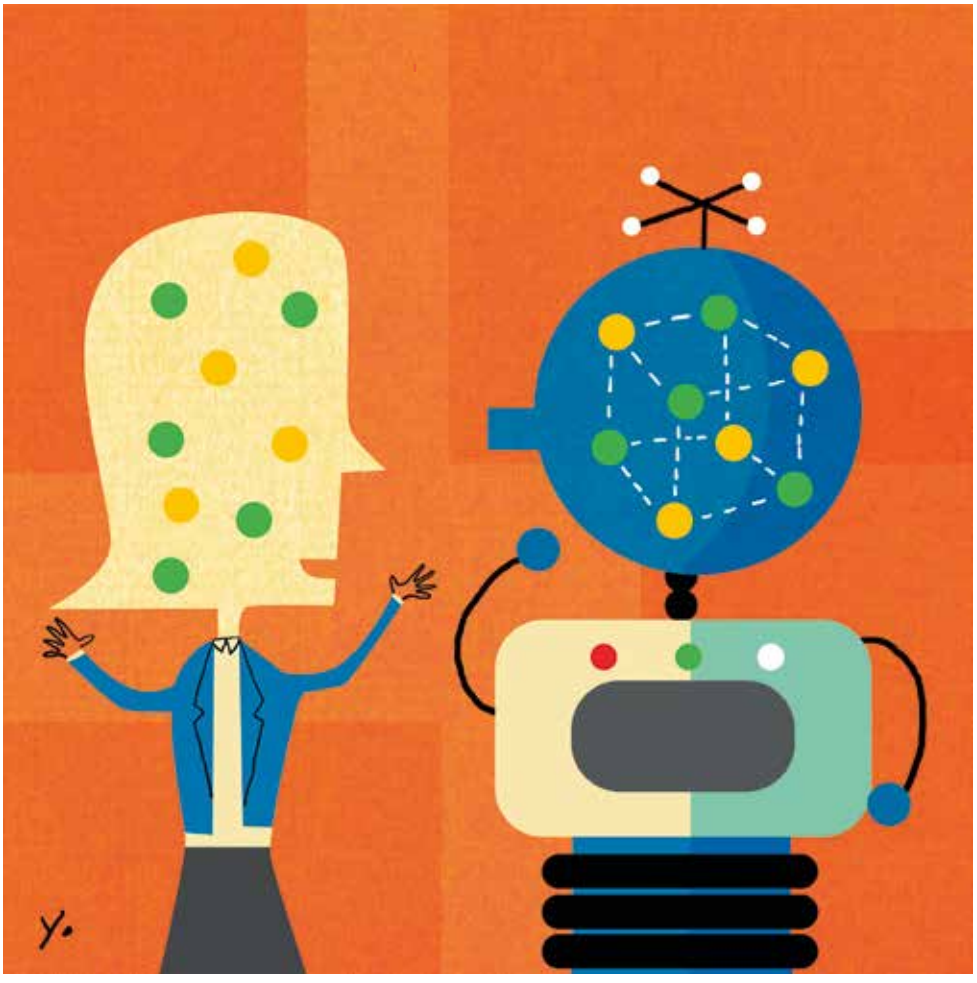


ILLUSTRATION: JAMES YANG

Though we're talking by phone, I feel as though I know you because I watched your TedX talk.
Ha! But don't let your brain fool you.

What do you mean?
Our language correlates with our personality traits, our personal preferences and our behaviors. So basically our language is a mirror of ourselves, right? And most of us are prone to affirmation bias, to preferring people who remind us of ourselves.

Our brains make these judgments very quickly. Men determine in six seconds, and women in 12 seconds, whether they like a person or not. During the hour of conversation that follows, the brain is only trying to confirm that first impression. As humans, we are very limited in how we look at the world.

AI can resolve that?
Computationally, you can build up large libraries of language data, far larger than any human brain, and with that data you can predict behavior and performance far more accurately than could any human brain. As I said in a PwC white paper last year, our application makes hiring 10 times faster, increases retention by 25 percent and 25 percent more applicants are interviewed.

Is PwC an investor in Seedlink?
No, it is a client of ours. And we are a PwC technology partner.

How does Seedlink work?
For example, L'Oréal, the French cosmetics company, has been with us since the beginning of our existence. If we want to understand what leads to great sales performance within L'Oréal, then we collect natural language data from people who have been successful over time in sales within L'Oréal. Using the algorithms we've built, we can learn what it is that these successful people have in common, and build a model against which to compare recruits. Right now, we need around 50 employees to create a successful model for a client.

How does that work from the candidate's perspective?
Once you apply, you would receive an invitation for what we call a digital interview, which is sent to you either through mobile or laptop. And you open that digital interview, and you're asked, let's say, three open-ended questions to which there is no right or wrong answer. For example, would you choose to live in the future or the past? We would need about a hundred words for your response. We've found this to be especially popular with Millennials. For them, a CV is just a piece of paper. But if they can actually share their thoughts through these questions, then they've contributed something significant.

"OUR APPLICATION MAKES HIRING 10 TIMES FASTER, AND INCREASES RETENTION BY 25 PERCENT."

RINA JOOSTEN-RABOU
co-founder, Seedlink

This model can identify candidates who otherwise might have been overlooked?
Absolutely. One example is a young woman in China named Laurel Sun. Out of 33,000 applications, her answers to the questions scored sixth. Based on that score, she was interviewed, and in the end she got hired by L'Oréal. She's now one of their highest-performing employees in e-commerce – with no e-commerce background at all. And L'Oréal has said that under its previous system, it probably wouldn't have hired her. She didn't come from a top-tier university. And she hadn't done an internship with a L'Oréal competitor.

That PwC white paper talks about HR applications of AI far beyond recruiting.
We can very much help people within a company find the ideal role for themselves, where they will thrive beyond their own expectations. If we can help companies make the ideal use out of their existing employees, all the way up to the senior level, that will accelerate growth and performance.

We also have predictive models that can help with customer service. Whether we're working with candidates or employees, we might pose the scenario where a customer comes in to shop and wants to buy a gift for a friend, but hasn't decided yet. How do you go about helping this person so that he leaves the shop happy?

Is it true that AI-enhanced applications offer improved feedback to applicants?
Historically many applicants did not hear back. Or they would get a standard email that said, "Thank you very much for your application." But that's not what I want as a candidate. As a candidate, I would like to know, "OK, can you give me some insights on why I wasn't the right fit?"

We can offer helpful feedback, and we can offer it more or less instantly, instead of in a few weeks. My goal really is to see if we can offer this technology to everyone out there, so that we can help them find the jobs where they would thrive, and where they would be a great fit. ◆

ANNE BARK is a Director in Brunswick's Shanghai office. Additional reporting by **EMMA COLE**, Recruitment Manager in Brunswick's London office.

WORKPLACE by FACEBOOK on the FUTURE of Yours

SIMON CROSS, Product Manager of Workplace by Facebook, describes the six principles that will allow businesses to succeed in a future fraught with rapid change and uncertainty.

ILLUSTRATION: CRAIG FRAZIER

Amid universal unease and unprecedented global challenges, business leaders everywhere are asking, "How do I build a resilient organization?"

Empowered customers switch brands in a second. Competition and category disruption can come out of the blue from startups. Product commoditization and technological change happen at breathtaking speed.

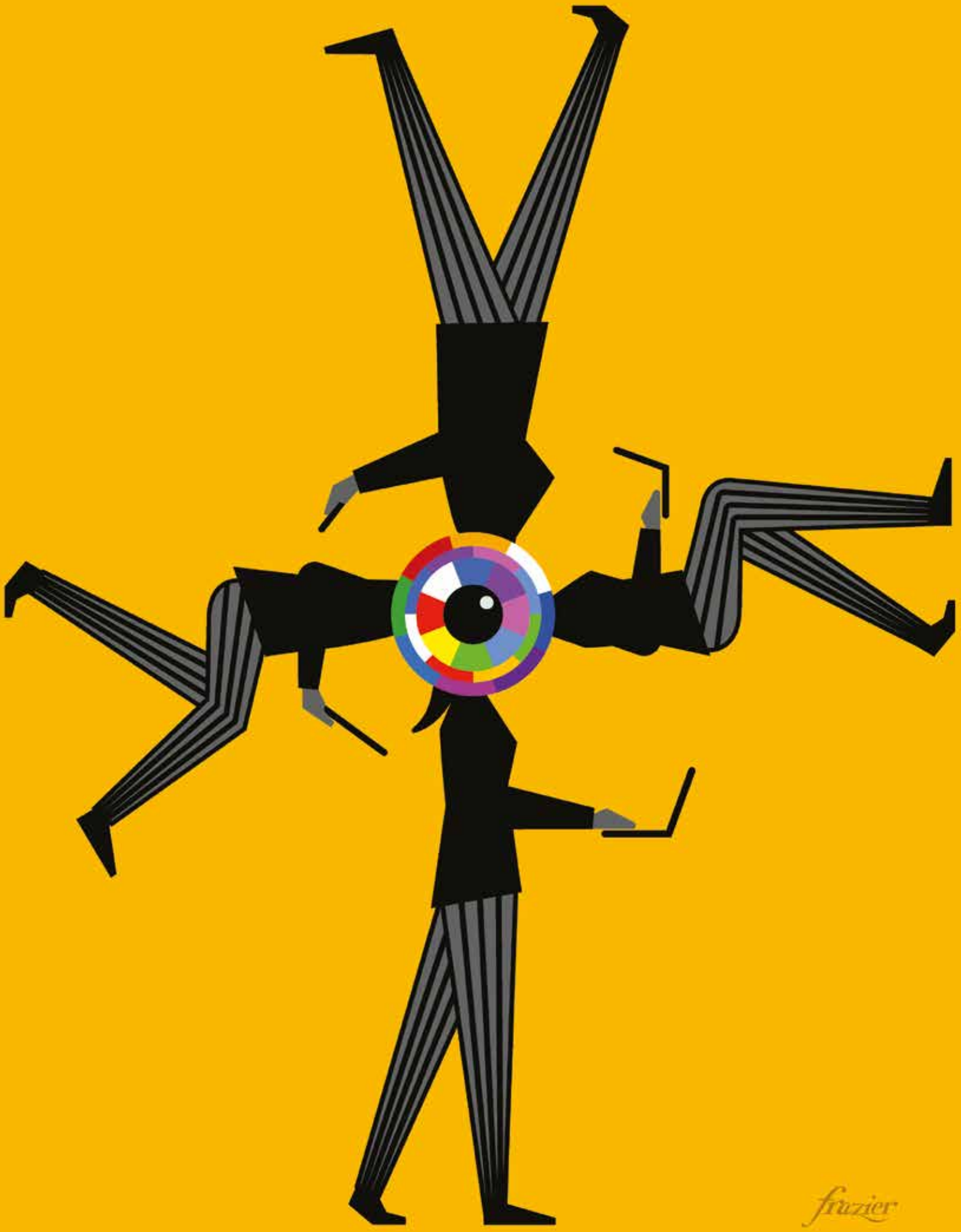
At Workplace, we've been thinking long and hard about the future, and we've identified six attributes we believe will be at the heart of successful organizations. One factor that unites all six: people.

Many businesses assume that the future of work will be rooted in technology. And it's true that technology – from cloud-based software to AI, 5G and the Internet of Things – will play an important role. But when we at Workplace think about the future of work, we're doing it through the lens of people. More important than technology will be our ability to unlock human potential by putting the needs and expectations of people at the heart of all we do.

One reason technology alone won't create future-proofed organizations is that much of what we use at work today is rooted in the past. Look at email. Over three-quarters of companies think email is ineffective for communications. But it's still the most ubiquitous tool in most offices – despite some strange properties.

Like the "Cc" line. "Cc" stands for "carbon copy," which refers to a type of inked stock placed between sheets of paper that responded to the pressure of writing or typing, producing copies. You could stick the copies in a box, have your secretary pick them up, and circulate them around the office.

Carbon paper was invented in 1801. So what's it doing in the modern workplace? It's there because the tools we use today trace back to the 1970s, when pioneering computer scientists built the earliest pro-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42 PERCENT
of Gen Y-ers believe companies should always adopt the latest technologies irrespective of cost.

53 PERCENT
say they'd be more likely to accept a job if the employer used the same technologies they do.

45 PERCENT
believe the most important cultural factor of a workplace is that everyone is heard and their opinion respected.

They are willing to take a pay cut of $7,600 on average for an improved quality of work life.

ductivity software for the personal computing era. They took the world they knew, a world of ink and printing and out-trays, and they made digital representations that we carry with us today.

But while we've been typing our professional thoughts into digital representations of paper, the communication-and-connection tools that people use in their personal lives have undergone some well-publicized changes. A new generation has grown up with Facebook, WhatsApp, Instagram and Messenger, not just email. They've grown up with mobile, not just PCs. They've grown up with video, emojis, and Reaction GIFs, not just text.

They've grown up in a world more open and connected and faster moving than any we've ever known. As they enter the workforce, they won't just demand tools and technology as sharp as what they use in their personal life – they have a completely different expectation of work itself. They expect to be able to connect and communicate with anyone in their organization without having to seek permission. They expect to have a voice and be heard.

And here's the thing: By 2020, this younger generation will account for 35 percent of the global workforce. Your workforce. Any attempt to understand what the future of work will look like has to begin with the needs, expectations, even the demands of this younger generation.

1: OPEN BY DEFAULT

The average Gen Y-er juggles four different social media accounts. Young people share more of their lives than previous generations could have imagined. They see instant access as a right – one that might mean access to things like media and games, but also to information and corporate hierarchies.

Young people expect the workplace to be *open by default* – 81 percent say they'd choose an employer that values open communication over one that offers perks like free food and gym memberships.

Open by default is our first principle for the future of business. Not only does being open help break down organizational silos and boundaries, providing quicker access to needed information, it also better connects us to our mission and our co-workers.

At Facebook, we've seen this first hand. Back in 2010, like many others, we ran on email, IRC and distribution lists. We thought this was great. Nothing seemed to be broken so nobody thought to fix it.

Then in 2011, one enterprising engineer had the idea of creating Facebook Groups accessible only to others inside the company. This was a new idea – and it changed everything for us.

Almost overnight, Facebook moved from a closed culture of email threads and one-on-one conversations to a radically open culture of transparency.

Consider what happens when a senior manager uses an email memo to communicate to his or her team. Who in their right mind would hit "Reply All" to that note? No one. It would probably be career suicide. What message does that send to employees? It says, "Do not reply." Do not share your ideas. Do not share your voice.

That same memo posted to a Group on Facebook – and now on Workplace – has a little box below it that says, "Write a comment." Or, even easier, it has a "Like" button: the most simple and universal method of engagement we've ever known. It invites you by default to be heard, to share, to have a voice.

Why does this matter? Nearly 85 percent of Gen Y-ers say they'd feel more confident if they could have more frequent conversations with their managers. Also, 62 percent of people say their perception of a company improves if an employer responds to both positive and negative feedback online.

So Facebook started using Facebook to build Facebook. The result was an incredible acceleration of the speed at which the company moved. We make smarter decisions faster. Teams collaborate more easily. Senior management communicate more transparently. Even as we grew to 1,000 then 10,000 and soon 40,000 employees, that open-by-default nature continued to allow us to think and act with the speed of a much smaller company.

2: MOBILE FIRST

Also inherent to the future generation of workers is the concept of *mobile first*.

Sixty-one percent of all time spent online in the UK happens on a mobile device (versus 71 percent in the US and 91 percent in Indonesia); mobile penetration is at 85 percent in Europe, 84 percent in the US and 67 percent in Asia Pacific. The next billion people to come online in Africa will probably never set eyes on a desktop PC.

The next generation of workers will be tied to phones, not desks. In fact 88 percent of highly engaged employees say they can choose where to work depending on what they're doing. That means we need to design experiences that are incredibly simple to perform on the go. Workplace Chat, for instance, makes instant text, voice and video communications totally intuitive whether you're in the office, the factory or the field.

Mobile-first instant messaging tools are increasingly essential to getting work done – 45 percent of

SOURCES: DELOITTE / ROBERT WALTERS / FIDELITY / PEW RESEARCH / 15FIVE / TRINET AND WAKEFIELD RESEARCH / GLASSDOOR / STEELCASE / REPORTLINKER / RANDSTAD / DIMENSIONAL RESEARCH / OOYALA / LINKEDIN / COMSCORE

ILLUSTRATION: CRAIG FRAZIER

employees say that instant messaging in the workplace helps increase productivity; 49 percent say it helps increase collaboration.

Younger employees are social animals. They want to work closely with others, and this collaborative impulse can fuel innovation and growth. Thirty-eight percent of Gen Y-ers and Gen Zs say their best work happens in environments that enable collaboration. Yet 71 percent say they face challenges using their company's collaboration tools. That's why using Facebook's own tools as a foundation was such a win for us – like millions of other users, our workers were already with these platforms.

While keeping people at the center of everything we do, we're also conscious of building a next-generation IT platform. That means integration of people with automation tools.

Over 100,000 bots were built in the first year after Facebook opened Messenger to developers in 2016 – everything from customer service automation to media outlets sharing headlines, weather updates or football scores. Bots have taken what used to be tricky, time-consuming or just boring tasks on mobile and made them lightweight, interactive and fun.

SO FACEBOOK STARTED USING FACEBOOK TO BUILD FACEBOOK. THE RESULT WAS AN INCREDIBLE ACCELERATION OF THE SPEED AT WHICH THE COMPANY MOVED.

Bots in groups are great for sharing information among teams in different countries or time zones. Bots in chat can facilitate real-time interaction among groups or for specific individuals. For instance, a chat bot can be used to send important reminders or notifications to someone based on an upcoming event like an interview or a meeting.

3: EXPRESSIVE

The third principle is the shift toward *expressive communications*. The mobile revolution has gone hand in hand with a giant shift in the way people communicate. In recent years, we've moved from the written world of email to a multimodal world where video, text, emojis, photos and GIFs all have a role to play.

When Facebook's News Feed launched in 2006 it was dominated by text-based status updates creating a wall of words. Now Facebook is the biggest photo-sharing platform in the world.

In the last couple of years, the explosive rise of mobile video has led to a more fundamental change. Mobile now accounts for 50 percent of all digital video plays in North America, 54 percent in EMEA, 56 percent in Latin America and 61 percent in Asia. Year-on-year, the amount of video uploaded to Facebook has tripled; time watching video on Instagram has increased 150 percent.

Video is the language of the mobile era and live video is transforming the landscape. One in every five videos on Facebook today is a Live video, which allows virtually anybody in the world to share what they're doing in an immediate, authentic way.

Enthusiasm is similarly high in Workplace, with senior leaders using Live to reach an entire company for town halls, weekly business updates or breaking news. At least one CEO broadcasts Live from a morning jog. Meanwhile, Group Video chat, allowing up to 50 members of a team to communicate face to face, is also proving popular.

4: INTEGRATED

The fourth principle we've identified is the expectation that the tools we use for work will be *integrated*, not isolated. Enterprise software is exploding. The average marketing department in a large organization already uses over 90 different apps to get work done. But at the same time, we are witnessing a critical failure of innovation.

Think about it. Two years ago if you wanted to order food or play music or check the traffic, you went into separate apps on your phone. Today, if you have the right technology, you just ask and it happens.

Gradually, we're peeling away the layers. Refining and distilling, ridding ourselves of superfluous apps and devices until only the most powerful and necessary remain. We're in the middle of a profound moment of convergence in consumer technology.

But the workplace is going the opposite way. It's splintering into dozens of different parts that exist in isolated gardens. Reconsider those 90 marketing cloud services. Far from getting better, faster, and easier, the workplace is becoming more atomized, complex and unwieldy. It doesn't have to be.

Yes, people are always going to want to use multiple tools to get work done. But it's important that those tools work together so we enable flexibility rather than locking people into a walled garden. There's nothing worse than the realization that you can't access a link or file from somebody on a different team because the software they're using isn't compatible with your own, as can often be the case with legacy IT systems.

As one our of our six principles, this compatibility is at the heart of Workplace. In 2017 we announced integrations with some of the world's leading cloud services – from OneDrive, Office 365 and G Suite to Box, Dropbox, Salesforce and Okta – to make it easier than ever to share and discover documents in Workplace.

In 2018, we've accelerated this focus, launching an Integrations Directory with over 50 popular enterprise tools so organizations can work faster. This includes best-in-class SaaS apps like Jira, Zoom, Sharepoint, ADP and ServiceNow. So we can confidently say that Workplace works #bettertogether with the leading apps and service providers in the industry.

5: CONNECTED

The fifth principle we've identified is the expectation that the workplace of the future will be *connected*. In fact, in the workplace of the future, everybody will be connected to everybody.

Today, communication inside companies is often restricted to people who have an email address and a computer. But we know that this desktop-based way of working no longer reflects reality for millions of people around the world.

It's estimated that by 2020, 50 percent of the US workforce will be freelancers with no fixed "place" of work; 40 percent of Gen Y-ers say they'd take a pay cut if they could travel the world while working. As we noted earlier, 88 percent of highly engaged employees are already able to choose where to work depending on what they're doing. In addition, there are millions of people working not in wired offices but in factories, shop floors, out in the field, even at sea.

With mobile, we finally have the power to connect everybody across an organization. The beauty of platforms like Workplace is that the same product that works for the globe-traveling CEO works for the marketing team back at HQ, the regional team in a satellite office, and the on-the-move buyer, salesperson and field agent.

By connecting companies from top to bottom we can transform culture. According to Deloitte, 69 percent of C-level executives say company culture – especially transparency in internal communications – is critical to realizing their vision and mission.

We can also connect teams across different companies. Multi-Company Groups dramatically increases the speed and ease of collaboration between media agencies and their clients, between lease holders and facilities managers, between Groups of every kind that form from different companies for a common purpose.

6: PERSONALIZED

The final principle we've identified is the expectation that information in the workplace of the future will be *personalized*. This matters more than ever as the volume and the velocity of information hitting employees accelerates daily. The need to make sense of information quickly and prioritize it effectively is going to be a critical competitive skill.

The "everything, everywhere, anytime" culture of mobile means we now have access to an almost infinite quantity of news, films, games, books, music and more at the touch of a button. Yet the time we have to consume it remains the same.

Facebook's well-known solution is the News Feed. News Feed is essentially a personalized newspaper. Facebook uses an algorithm based on a series of signals derived from people's real behavior. Signals include the friends that you follow, the family you're connected to and the pages, brands or things that you identify with a "like." The aggregate of all these influences and connections is known as the Social Graph.

At Workplace, we're building the Work Graph in the same way that Facebook built the Social Graph. Eventually, we'll use contextual signals like the connections between people and teams, the documents you download, the messages you reply to and even the meetings you attend to understand not just what you do but who you are at work. ◆

THE AVERAGE MARKETING DEPARTMENT IN A LARGE ORGANIZATION ALREADY USES OVER 90 DIFFERENT APPS TO GET WORK DONE. BUT AT THE SAME TIME, WE ARE WITNESSING A CRITICAL FAILURE OF INNOVATION.

SIMON CROSS is an engineer and Product Manager for Workplace by Facebook. He has also mentored startups and hosted hackathons for Facebook, the BBC and other organizations.

A History of a Better Tomorrow

Swiss Re relied on big data before the term was invented. Executive **ROBERT BURR** talks to Brunswick's **DAVID ASHTON.**

"When I meet people, I don't say that I work in reinsurance," says Swiss Re's Robert Burr. "I tell them that I work for a company that is predicting tomorrow."

As Head of Client Markets for Swiss Re's Life & Health business in Asia, Mr. Burr does in fact work in reinsurance. But if insurance is complex, reinsurance is more so. So Mr. Burr distills the business of Swiss Re to its essence: It makes predictions. Using its balance sheet as a financial backstop to underwrite risk for the world's largest insurers and governments, Swiss Re forecasts the likelihood of everything from floods and pandemics to future life expectancy. Swiss Re is good, very good, at making predictions, as evidenced by 150 years of financial success.

But do not assume that technology has made its mission easier. Proliferating data hasn't narrowed the element of uncertainty in the calculations made to predict future outcomes. "The world is getting more complex and unpredictable, technology is transforming our world and, in doing so, creating new risk areas for societies," says Mr. Burr.

He believes that the protection Swiss Re offers extends beyond its clients to society at large. Swiss Re is driven by the objective of "making societies more resilient," he says. From data sources around the world, the company's deep bench of experts in virtually every scientific field formulates models of the future and puts a price tag on risks, incentivizing society to prepare for and manage disasters in advance, he says.

When it comes to natural disasters, Swiss Re's work goes beyond calculating the likelihood of future catastrophe based on time-series trends – it involves deep research and insight into the environmental factors behind such events.

One example: The company's researchers have been working with a nature conservancy to study coral reefs' underestimated role in protecting coastal areas against storms and floods.

Among the most fundamental projections Swiss Re makes are those that involve the implications of medical and technological advances for human health and longevity – and for insurers.

"The risk areas of tomorrow have shifted as medical advances have led to earlier and more accurate diagnosis of critical illnesses like cancer," Mr. Burr says. "We are now seeing a much bigger focus on chronic disease and mental health issues as emerging areas of risk, as our bodies seemingly outlast our brains.

"A child born today can expect to live to 100 and beyond," he adds. "That has major implications for how societies organize themselves and for how individuals prepare financially. We should be celebrating that people are living longer but if we don't do what needs to be done to prepare for longevity, in particular how society funds longer lives, then this success could turn into a major disaster."

Swiss Re is also studying emerging risk areas such as cyber risk and autonomous driving. "How do we insure against cyber issues – who is the victim of a cyber crime and what is the value of the thing that they have lost? These are not simple questions.

ILLUSTRATION: THOMAS FUCHS

Similarly, who should be responsible when a driverless car crashes into a lamppost – the car owner, the manufacturer or the lamppost?

"We have a lot of smart people who run scenarios and try to understand how different outcomes will impact society. Our job is to close societies' protection gaps – and it is an honorable purpose. Our ability to do so is dependent on us understanding these risks, knowing what we don't know," Mr. Burr says.

What stands behind the forecasts and risk calculations that Swiss Re makes is complex and sophisticated. The Swiss Re formula combines research, data, human expertise and a culture of collaboration and intellectualism.

"We have expertise that spans disciplines – from economists to data scientists to actuarial scientists," Mr. Burr says. "We employ Chief Medical Officers in every region to stay on top of disease and medical trends, and we employ some of the leading experts in new areas like autonomous driving and blockchain."

In short, he says, "We are a knowledge company."

The research and analysis produced by Swiss Re not only underpins the thinking and calculations of the insurance industry, it has become a go-to source of expertise for media, academics and governments. And that's across a broad range of topics: In the first half of 2018, Swiss Re research touched on subjects ranging from genomics and combustible cladding to cryptocurrency and VR/AR.

"I often describe us as being like a university with a balance sheet," says Mr. Burr.

Much of the company's thinking happens on the banks of Lake Geneva at the Swiss Re Centre for Global Dialogue – a venue where clients, governments, industry organizations, think tanks and others convene around key risk areas impacting society. "The Swiss Re Institute sees us gather together great minds to discuss items of great importance. Collaboration is very important to us – we are smarter together with our partners than we are alone."

The company's partnerships are diverse. A venture between the Swiss Re Institute and Johns Hopkins University School of Advanced International Studies is exploring how extreme weather and other natural catastrophes are evolving in America's Pacific Northwest. A partnership with University of St. Gallen is studying German consumers' insurance-purchasing behavior and a project with the IBM Institute is examining demand for cyber insurance.

Swiss Re also partners with a number of tech startups in Silicon Valley and around the world to leverage technology in solving societal problems.

"WE HAVE A LOT OF SMART PEOPLE WHO RUN SCENARIOS AND TRY TO UNDERSTAND HOW DIFFERENT OUTCOMES WILL IMPACT SOCIETY. OUR JOB IS TO CLOSE SOCIETIES' PROTECTION GAPS – AND IT IS AN HONORABLE PURPOSE."

One result is App in the Air, which provides real-time flight delay insurance. Then there is Cuvva, which offers pay-as-you-go car insurance, and Quilt, which provides renter's insurance to protect tenants from lease expiry or contract breach.

These partnerships with the newest generation of knowledge companies provide an interesting point of comparison.

For Swiss Re, "it is not about 'innovation at speed.' We take a longer-term and thoughtful approach as we are considering fewer but more strategic and larger topics. We accept that the answers are not instant and may evolve over time, whereas Silicon Valley may have an answer today and a different answer tomorrow. But both are complementary as different questions require different approaches to the application of knowledge."

At the heart of how Swiss Re makes its predictions is data – a fact that is far from new for this company. "We could make a strong case for being the world's first 'big data' company, more than a century before the term even existed," says Mr. Burr.

Swiss Re employs more than 1,000 data scientists in places as diverse as Bangalore and Bratislava. Making sense of the proliferating data available to them is key.

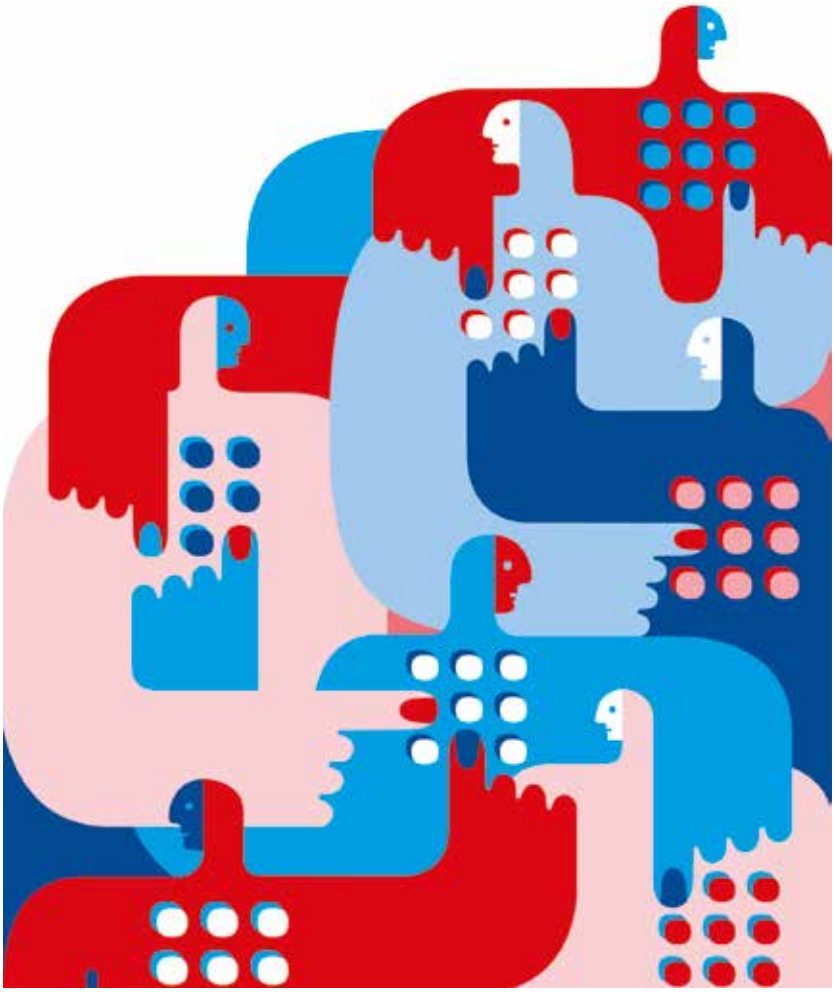
"Data on its own is meaningless – it requires intelligent analysis to convert it into knowledge and insight," Mr. Burr says. "We need to be creative with the data. Where we don't have data on a topic or an area of risk, it's about having the skills to think laterally and find where similar data does exist and settling upon a smart way to apply it."

Data and machines are not necessarily reducing the demands on people in Swiss Re's business.

"We keep hearing about how data and technology will replace people and how before long we will all spend our time relaxing on a beach while the machines take care of everything," Mr. Burr says. "Yet at the same time we are all faced with a reality where we are all living busier and busier lives. These two themes are difficult to reconcile."

In an increasingly complex landscape, Swiss Re is unlikely to always be right, but the greater concern is the risk in society that sits uninsured. "Our business is not about whether we get the predictions right or wrong. We expect to pay out on policies. Our bigger concern is the areas of societal risk that go uninsured, where no calculation is made, and where there is no backstop." ◆

DAVID ASHTON is a Director and leads Brunswick Insight in Asia, the firm's research department. He is based in Hong Kong.



COMPLEXITY at WORK

Old approaches to strategy and organization can't help in uncertain times, says Brunswick's **RONALD SCHRANZ**.

There is a scientific culprit that gets the blame for why in many cases it is hard or even impossible to make predictions. The bad guy is complexity.

In its fashionable usage, "complex" is a vague way to refer to anything complicated or difficult. But it has a more precise scientific definition. To a scientist, a system is complex if it is composed of numerous elements that are interconnected with feedback loops. Each element can influence the behavior of all other elements. Such systems show "complex" or "emergent" behavior that may include enormous dynamic contours with dramatic shifts.

The reason is the non-linear, circular causality. With neither outside influence nor a central controller (managers should take note), complex systems tend to organize themselves automatically and at times can act in strange and chaotic ways. Patterns are considered phases. Transitions between phases are particularly unstable and sensitive to even small changes. On the largest scale, hurricanes, networks of rivers and clusters of galaxies are all phases of complex systems.

Complexity science and chaos theory are close relatives. Logically, the emergent, complex behavior can be hard or impossible to predict, especially during a phase change. Take a stampede of cows, or a bank run: the high number of interconnected group members – cattle or bank clients – produce feedback loops of increasing panic to create a brainless dynamic. The same is true for coordinated movement within flocks and swarms: neighbor behaves like neighbor behaves like neighbor...

When you understand the basic concept, you see complex systems at work everywhere, in the trends of nature and human society. Complexity is a fundamental principle, an omnipresent phenomenon governing this universe, all life and every organic process. It is the force behind all development, change and disruption, becoming and decay. Human systems – from a couple and a family to a state, politics, the economy, the stock market or the internet – are complex by nature as our brains and minds are the most complex systems in this universe.

Disputes in society and politics, for instance, where populations are polarized and behave "irrationally," paradoxically and unpredictably, are actually acting according to a known phenomenon: groups competing for limited resources always divide into a crowd and an anti-crowd.

Of course, the unpredictability breeds uncertainty; decisions need to be made under increasingly unclear and unstable conditions. There is nothing we can do about this except deal with the consequences, accepting the limits. Prediction becomes problematic at best – at worst, pure guesswork.

For business however, the big stumbling blocks are not unpredictability and uncertainty themselves, but that we try to solve problems with traditional mindsets and methods: looking for full information where none is present; trying to solve com-

ILLUSTRATION: MELINDA BECK

plex problems with linear, hierarchical, directive approaches; merely scaling that old linear thinking into more "complicatedness" (more of the same). These make the problems and damages worse.

However, complexity itself can offer us a little help. Complex systems can assist us in analyzing complex situations and processes, toward developing a new, circular and holistic understanding. But even more importantly, we can use the power of complex systems to shape organizations and strategies. By embracing complexity, we can prepare for complex problems before they arrive.

Give a system sufficient autonomy, structure it with interconnections and feedback loops, and steer it by context – providing purpose, goals, rules and model behavior. Like magic, the system will act in an intelligent way, adapting to quickly changing, unpredictable circumstances, thriving while oscillating in an area between balance and chaos.

Strategy itself is often treated as something linear, step-by-step and separate from execution. In complex conditions, that approach becomes dysfunctional and dangerous. Instead, we need a flowing process with feedback loops from each activity to the previous ones, including experiences from executing the strategy. This creates a living strategy – constantly adapting, learning and hopefully improving its effectiveness.

For organizations, hierarchical or top-down models threaten to fail as size and complicatedness meet complexity. Taking advantage of complexity is the next stage of business evolution. While not invoking complexity directly, Brian Robertson's *Holacracy* or Frederic Laloux's *Reinventing Organizations* offer stepping stones in this direction, notably the inclusion of feedback and transparency and more horizontal alternatives to linear top-down management.

The new structure should feature wide-open communication channels and strong feedback loops that allow for autonomous decisions based on context. In addition, team composition should be highly flexible and management should see its role as a servant, setting up the conditions and facilitating the best solutions in each case. These changes can feel like a loss of control for old-fashioned managers, but they are the only promising path under current circumstances.

The principle of complex systems with interconnected elements working together to solve problems is the standard approach for emergency units, including first responders, medical intensive care and industrial incident units as well as corporate crisis management teams. These groups are empowered to self-manage in unpredictable situations within a range of predefined skills and roles. The potential of such complex organization becomes very visible when addressing dramatic situations, saving lives and controlling damage.

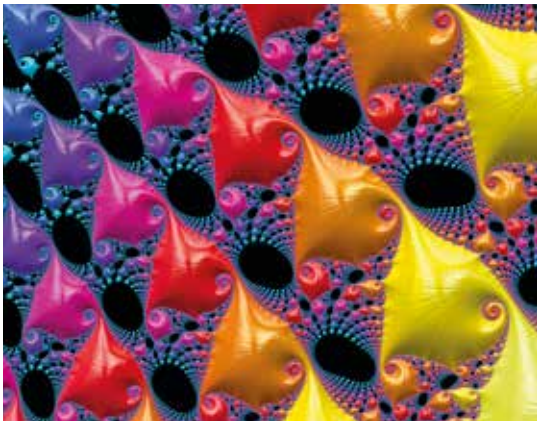
STRATEGY IS OFTEN TREATED AS SOMETHING LINEAR, STEP-BY-STEP AND SEPARATE FROM EXECUTION. IN COMPLEX CONDITIONS, THAT APPROACH BECOMES DYSFUNCTIONAL AND DANGEROUS.

In unpredictable situations, complexity becomes the good guy. But it requires letting go of the idea of responses geared toward a static, mechanical, stable and predictable world, and replacing it with a dynamic-organic view. Complexity in the problem requires complexity in the solution.

Redefining leadership for our time means creating systems of good people and steering by context, letting a good future emerge. Much better than trying to predict the unpredictable. ◆

RONALD SCHRANZ is a Partner and Head of Brunswick's office in Vienna. He is a former journalist, social researcher and political spokesperson, and pursues an interest in applied complexity science and philosophy.

BEAUTY IN REPETITION



IT MAY SEEM COUNTER-intuitive, but a wise application of chaos and self-organizing systems can produce wondrous feats of organization.

In 1975, frustrated that geometry couldn't describe natural forms like a coastline or a tree, French mathematician and IBM researcher Benoit Mandlebrot founded a new discipline, in which self-replication is used to model naturalistic shapes of elaborate beauty.

"Clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightning travel in a straight line," Dr. Mandlebrot later wrote in *The Fractal Geometry of Nature*. He coined the term "fractal" to describe forms that unfolded in the fractions that lay in between the three dimensions of traditional lines, planes and cubes.

The concept of fractional dimensions may be abstruse, but fractals themselves are fundamentally simple: a repeating algorithm creates a complex form with many layers of scale. Such forms exhibit "self-similarity," where small details replicate the shape of the larger structure.

As an oak tree grows, for example, it divides into branches; the branches repeat the pattern, which is then echoed in the veins of the leaves. Each smaller part resembles the whole.

In the computer graphic at left, an algorithm creates seashell-like shapes that are replicated in smaller and smaller details. This process, called a cascade, creates fine, crystal-like edges around a pattern of large holes, places the algorithm never fills in.

Chaos theory, complexity and fractals are all closely related, as they all rely on repeating structures ("iteration") that inform and change the ongoing process ("feedback loops"). Clouds, crowds, snowflakes, forests, market movements and weather patterns are all examples of such systems.

PHOTOGRAPH: TIM BIRD

"If Data Is Like Oil, Then PREDICTIVE MODELS Are Like Engines"

In 1693, over a decade before he predicted the appearance of a comet that still carries his name, Edmond Halley used population data to create a life table. It was, essentially, a formula that predicted how long someone would live and, therefore, what the price of their government-sponsored annuity should be.

It was one of the world's earliest predictive models, generating recommendations powered by pen, paper and a slew of manual computations that a modern mathematician described as "quite tedious."

Predictive models still forecast life expectancy and price insurance policies today, but otherwise bear scant resemblance to their 17th century ancestor.

Today's models are digital and automated, translating terabytes of data into real-time predictions and recommendations. Leading businesses in most every industry have embedded these models into their operations, with some seeing billions of dollars added to their bottom lines as a result.

"Models are the currency, the ammunition, that's going to separate the next generation of winners and losers in business," says Nick Elprin, CEO of Domino Data Lab, a company whose software allows businesses to build, test and deploy their own predictive models at scale. "And the truth is, predictive models are already creating that separation."

Predictive models power the suggestions that pop up as you search for shows on Netflix or as you check out on Amazon; they update the routes of your Uber or Lyft rides. Maersk, the world's largest container shipping company, is applying models to make its global operations and supply chains more efficient, while Coca-Cola uses models to analyze how factors such as weather patterns and crop yields will affect the profitability of certain orange juice recipes.

Bryan Schreier, a partner at Sequoia Capital and Director at Domino Data Lab, noted in a Forbes op-ed that, "the CEOs of Applied Materials, Dropbox, Electronic Arts, Tencent and Vodafone all extolled the virtues of data science models" in 2018 earnings calls. Mr. Schreier's message to other CEOs: "model or die."

Yet for all their power and unrealized potential, predictive models are still widely misunderstood, often spoken of as if synonymous with a handful of other tech terms: machine learning, data science, AI, software and data.

Predictive models are special kinds of algorithms that use data to generate predictions – like how long somebody will live – or recommendations – like how much an annuity should cost. These models are built by data scientists, and often powered by artificial intelligence and machine learning. So while predictive models use software and data, "they're fundamentally different from software or data, and they need to be thought of and managed differently as well," says Mr. Elprin, who holds both an undergraduate and

Domino Data Lab CEO **NICK ELPRIN** speaks with Brunswick's **SHAHED LARSON.**

ILLUSTRATION: THOMAS FUCHS

Master's degree from Harvard in computer science.

A Domino Data Lab whitepaper used the metaphor: "If data is like oil, then models are like engines. Models make things happen. They initiate action. They can predict things before they happen more accurately than humans." Earlier this year, Steve Cohen, founder and CEO of the quantitative hedge fund Point72, wrote a Wall Street Journal op-ed with Domino co-founder Matthew Granade, in which the pair went a step further, arguing that "models will run the world."

Mr. Elprin co-founded Domino Data Lab with Chris Yang and Matthew Granade in 2013, after nearly a decade building tools and technology for quantitative investors at Bridgewater Associates. The young company has offices in Chicago, San Francisco, Bengaluru, New York and London, and its clients include Tesla, Dell, Allstate and Gap. After a recent $40 million round of Series D funding led by venture capital titan Sequoia and the tech-focused hedge fund Coatue Management, the privately held Domino has been valued at more than $250 million.

At Domino's San Francisco office, Brunswick's Shahed Larson spoke with Mr. Elprin about the threat that predictive models pose to companies that fail to embed them, and he explained why managing these models is an "organizational capability," not simply a technical skill.

Another topic that arose: how often Domino Data Lab is confused with the American pizza chain Domino's. "It doesn't happen as often as you'd expect," Mr. Elprin said. "Maybe once every few months. Though we did have one support ticket asking how long it would take us to prepare a large order."

Just how difficult is it to convey the importance of predictive models to leaders who don't fully understand the technology?

With executives, I focus on the existential threat they're facing if they don't find a way to become model-driven; by "model-driven" I mean getting predictive models running the core parts of their business, automating more of the decisions being made.

You look at Netflix, which has this amazing recommendation model that its executives have said is worth more than $1 billion a year. Or Amazon, where Jeff Bezos wrote in his 2016 shareholder letter that machine learning has been powering thousands of processes and decisions they make across their business, everything from fraud to product recommendations to inventory management.

"MODELS ARE THE CURRENCY, THE AMMUNITION, THAT'S GOING TO SEPARATE THE NEXT GENERATION OF WINNERS AND LOSERS IN BUSINESS."

What about leaders who say, "That's great for them, but we're not a tech company?"

Most of our customers aren't actually tech companies. Allstate is a customer, for instance. The whole insurance industry is based around predicting the probability that someone you're insuring is going to file claims; if you can use models to better do that, you're going to become more profitable.

Some insurance firms are also using models to improve customer experience. If you get into a car accident, for example, you can take a picture of the damage on your phone, submit it and have a model predict the damage instead of waiting for a claims adjustor to come out into the field. That obviously saves money for the insurance company and saves time for the customer.

Monsanto is another customer of ours and they're using models to better predict which new seed types and crop strains will be most effective. They're also building field-plotting models for farmers, which recommend the best places to plant crops, looking at factors like soil composition, field topology and weather patterns.

To give you just one other example: A lead scientist at Bristol-Myers Squibb, another client, talked recently at our annual event, Rev, about applying data science for immunotherapy research they're doing for cancer treatment, and how they discover new correlates between immune cells and cancer genetics to drive immunotherapy breakthroughs.

So it's happening everywhere. It's not just tech companies. We have entered the next era of computing. If you aren't figuring out how to put models at the heart of your business, you're going to get surpassed by competitors who are.

And if you want to turn yourself into a model-driven business, you need to think about building that as an organizational capability.

An organizational capability?

Absolutely. Changes across people, process, and technology. A big misconception is you can hire data scientists, give them access to data and then all of a sudden you'll build great models to run your business.

During the e-commerce wave, it wasn't enough for a company to hire people with the title of webmaster and think, "Now we're an e-commerce business." You had to fundamentally rewire and reorganize how the business worked. Webmasters were a necessary ingredient, but by themselves they were nowhere near enough.

That's the same kind of thinking needed for predictive models: Finding ways to get different parts of

the business working together and aligned on how to put predictive models at the heart of the work that is being done.

But can software solve an organizational problem of that size?

Think of other organizational capabilities – sales, marketing, HR. To handle those capabilities at scale, you need a product that records all the work being done, that allows people to share information, to collaborate. A sales organization can't scale without a CRM [customer relationship management] tool like Salesforce.

Software like that helps ensure people are reusing each other's work instead of wasting time reinventing the wheel; it lessens key-person risk.

Predictive models need the same organization-wide focus and tools. If three data scientists leave, do you lose all their work, or can other people pick up and start working on it again? Are people able to build on work that's already being done? Are people from four different offices able to collaborate on the same projects, share lessons?

What types of problems will predictive models be tackling in the next decade?

There's an irony asking me to make predictions based on gut instincts and intuition. [Laughs]

What's state of the art when it comes to computing power, what algorithms and models are being used for – it's all moving so fast that it's tough to speculate. But I think in five years – and it's already happening in some cases – businesses will view models as their core intellectual property. They'll be what the executive suite and CEOs want to have cataloged and indexed. They'll be asking, "Which of these models are driving how much value?" or "Which of these models have been updated most recently?"

You're seeing some of that already?

Absolutely. Especially in some of the financial services and asset management firms. The models used to make investment decisions and recommendations are the engines of those businesses – there's no way to manage the business without managing the models. The models are what create value.

Do you remember the first model that you built?

I'm pretty sure it was during high school. I was taking a class on environmental science. I built a little predictive app that would look at things like where you lived, the size of your house, and would predict your energy bill. It was pretty basic.

"A BIG MISCONCEPTION IS YOU CAN HIRE DATA SCIENTISTS, GIVE THEM ACCESS TO DATA, AND THEN ALL OF A SUDDEN YOU'LL BUILD GREAT MODELS TO RUN YOUR BUSINESS."

What could business leaders do today to help their companies become more model-driven?

I don't know if there's one universal quick win. But there is a way to figure out what the quick win is for your company: Get your executive team together and have them define their priorities, then bring in someone with a data science background. Make it a real, collaborative conversation. Give the data science team a mandate, challenge them to find some way of attacking one of these in a certain time frame, as opposed to going off and doing a moonshot project that could take two years and who knows if it'll pay off or not.

Has your experience been that the age-stereotype holds true: older executives are more skeptical of, or resistant to, models?

I haven't seen that. Maybe there's a selection bias; we're generally talking to CEOs who appreciate the importance of the technology to their business. Now, whether they understand exactly what the details are and how to operationalize it – that varies.

But I don't have experience with executives who are that caricature of, "What are these computers?" [Laughs]

Are people resistant to the idea of models replacing human intuition?

In some cases. There's definitely a perception that people whose job it is to make decisions will have their authority taken away from them. I'm not talking about the "robots taking all our jobs" dystopia, but imagine you're a claims analyst and there's a proposal that a model is going to determine whether a claim is fraudulent or not.

A great approach we've seen is for companies to gradually phase into a model-driven approach. Initially, they may use models to make a recommendation to the human – but it's still the human's call.

Over time, that lets the organization build confidence. How is the model doing? Is it doing the same things the human would do? Is it performing better? Worse? If it's faring worse, then they ask the employee: "What did we miss in building the model? What do we need to add?" Employees feel like their expertise is valuable; they're helping to guide the development of the model.

And then, over time, everyone gets comfortable with becoming model-driven. ◆

SHAHED LARSON is a Partner in Brunswick's New York office, specializing in litigation, crisis, and M&A, with significant experience in the consumer and tech sectors.

AHEAD of the CURVE

MANY AROUND THE WORLD FIRST BECAME CONSCIOUS OF ITALIAN tire manufacturer Pirelli in 1994, when they saw an ad featuring Olympic runner Carl Lewis in a pair of red high heels. Captioned "Power is nothing without control," the popular image became the launch platform for a global ad campaign featuring Mr. Lewis. In addition to associating its high-performance products, proven in Formula 1 races, with the achievements of a gold medalist, the message is seen now as gracefully embracing a message of lifestyle inclusion, well before such concerns were *di moda*. • Pursuit of innovation in response to real world culture is, in fact, a constant theme in Pirelli's history and continues to be a part of its outlook. We spoke to Executive Vice Chairman and CEO Marco Tronchetti Provera about the company's latest efforts to get ahead of the trends in the auto industry and global business. • Giovanni Battista Pirelli founded G.B. Pirelli & Co. in Milan in 1872 to produce elastic items from natural rubber, or *caoutchouc*, which originated in Latin America. His rubber tires for carriages appeared in 1885 and for velocipedes (early bicycles) in the early 1890s. In 1901, he began making car tires and involved the company in auto racing. As it expanded its operations around the world, the company was able to build on the knowledge it gained from racing to refine its products, and add its own designs of radial and low-profile tires. • The pursuit of innovation led to investments in robotics and broadband systems, reshaping manufacturing and opening new doors for the company's product development. In 2017, it introduced its first intelligent tire, a chip technology embedded under the tread of a Pirelli tire that can relay critical data to an app about the state of the product, the road and the driver. Side by side with that technology, the company boosted the visual appeal of its tires with different durable colors striped on to the sidewalls. • The company has also reinvented itself, with major reorganizations in the 1990s and again in the 2000s. In recent years, it has expanded in China, Russia, Mexico and Argentina.

ILLUSTRATION: VIKTOR KOEN

Italian tire maker Pirelli calls itself a "145-year-old startup." CEO **MARCO TRONCHETTI PROVERA** talks to Brunswick's **ALESSANDRO IOZZIA** and **LIDIA FORNASIERO** about the company's flair for design, and its ongoing tradition of innovation and reinvention.

In 2015, as part of an agreement with ChemChina, Pirelli reorganized to focus on its high-end consumer tire business, separating from its industrial tire business. The restructuring required first de-listing its shares and then re-listing in 2017.

The deal with Chinese investors rocked Italian stakeholders. But management control of the company, and hence the company's culture, remains firmly with the Italians, Mr. Provera says. Instead of a takeover, he sees the China deal as part of a continuing plan to expand by exporting Pirelli style and "know-how" to new markets.

"IF YOU'RE NOT INVOLVED IN SOCIETY AND YOU'RE NOT CURIOUS ABOUT THE FUTURE OF CULTURE, OF INFORMATION, YOU WILL LOSE LEADERSHIP."

Pirelli let a Chinese investor gain a controlling stake as a part of a partnership that then saw the Chinese reduce their position to under 50 percent. That may be a first for an Italian company.

Yes, that was part of the agreement from the beginning. The Russian investors decreased their stake too. The deal supports the development of the industrial segment (Truck and Agro) on one side, where the Chinese own huge plants but lack adequate technical know-how, and, on the other, it allows us complete autonomy in developing the consumer segment, while setting up very clear governance. We wanted to demonstrate to the market that Pirelli isn't being taken over by the Chinese, as has happened with other companies, but would remain independent and headquartered in Italy. To change that or to transfer technology to third parties would require 90 percent of the shareholders' votes – all of this with the support of the Chinese strategic shareholder.

The Chinese believe in Pirelli's management. They demonstrated that by appointing Filippo Maria Grasso, a Pirelli manager, as the new CEO of China National Tire & Rubber Corporation [CNRC], the holding company for their tire businesses. China recognizes that it needs Pirelli's know-how, its track record of success, to help development into China.

All our agreements were designed to safeguard Pirelli's culture and were written in the original contract. We tried to explain this to the public from the beginning but it took a little time to convince them!

Was it difficult meeting the expectations of Chinese shareholders, given the differences between the two cultures?

Not at all. We've found that negotiations go well if everything is clear from Day One. We were already coming from an experience with Russian shareholders, where we set up a plan to develop plants in Russia, so we were able to use that model, tailored to China. Pirelli's history makes this easier. Pirelli's family has always had a minority stake, while maintaining control of management. Pirelli was an early example of venture capitalism at the end of the 19th century – a group of what we would today call "angel investors" trusted Giovanni Battista Pirelli to run the company. Today, with a board of mostly independent directors, management retains responsibility for all strategic choices. The Chinese clearly see the benefit of that.

In the last three years, Pirelli shifted from a wide range of tires to targeting the high-end car market. Can you tell us about that move?

The transformation has actually been going on for a lot longer. Pirelli was the smallest among the big tire producers and already in the '90s had shifted its focus to high-end products and technologies, still a niche market at the time. Beginning in the 2000s, the automotive industry as a whole began a transformation – old ways of doing business had to change.

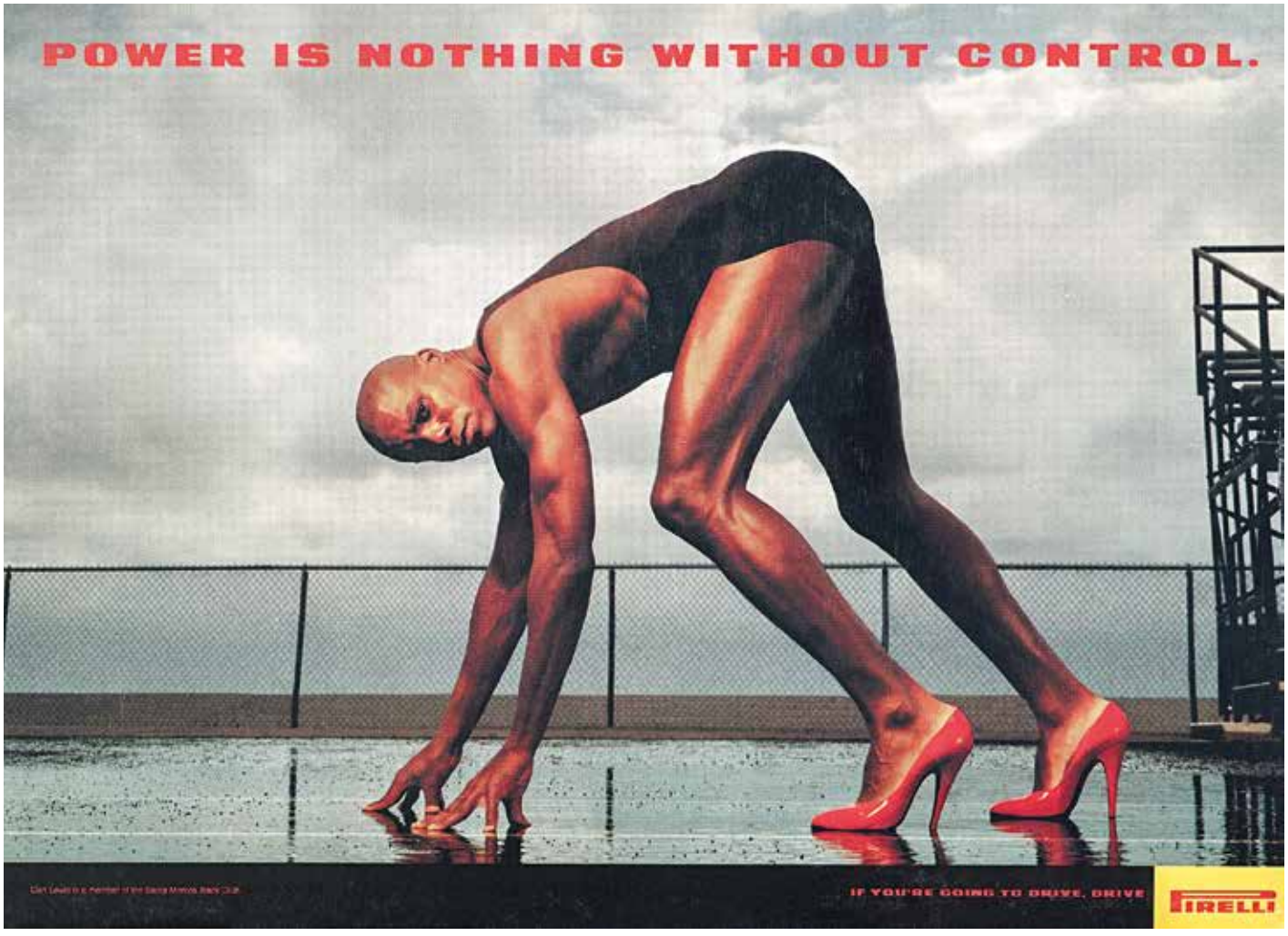
In 2007, Pirelli started closing plants that could not be converted and building new plants dedicated to our Premium and Prestige tire lines. We ramped up investments and hiring to increase our capacity in R&D and opened collaborations with suppliers and universities to accelerate this process. Five new plants have been built, in Italy, Mexico, Russia, Romania and China, all dedicated to the Premium and Prestige segment. These are long-term transformational processes, but very good results are already coming.

Was there one moment when the way you talked about the company to the market changed?

We started in 2008. That was probably the worst year to do that because the market was believing in nothing at all at the time. Let's say we encountered a certain skepticism. But gradually, we demonstrated that we were able to reach the targets we had fixed.

The Premium segment grew at twice the rate of the standard segment. We increased our market share from 10 to 20 percent – even more in the Prestige segment, the highest segment, which supplies original equipment for Ferrari, Maserati, Porsche, McLaren, Aston Martin, Lamborghini, Bentley, etc. Our market share went from 20 to 50 percent globally.

The industry was changing, the high-end market was growing, but we were outperforming the market and were able to reach the positioning we have today. It takes several years for new technology and products to gain access to the market, so these processes take a long time to work out. Knowing that, our narrative started way before the products themselves began to appear.



For the IPO in 2017, your slogan became "Invest in a 145-year-old startup." How did that come about? How did you share it?

We are continuously under transformation. A company must reinvent itself incessantly. That's even more true today with digital technologies. So, when Maurizio Abet (Pirelli's Senior Vice President for Communication) came to me with several proposals for slogans, I immediately opted for that one. We were spinning off the industrial part to allow the consumer business to focus fully on the high-end segment, so it seemed to have immediate resonance. We were also in a moment of digital transformation. That's still going on and affects all processes, from corporate activity to new product development, to manufacturing. We are becoming a different Pirelli.

How did that tie in with your historic narrative?

Innovation is in our DNA, a curiosity for the future. You see it in the beginning of the 20th century with Giovanni Battista Pirelli exploring what could be done with natural rubber. From there, the first cables were born, then the tires, with the same extreme attention over time to culture and society.

We believe society grows best when industry and culture drive on a common road. For that kind of harmonic development, you need an integration of entrepreneurship and culture, of business and society. When we build a plant, we build it for the decades to come, so being part of the social fabric is critical. In the last two decades we've entered five new countries. Our integration includes everything from supporting local healthcare structures to building cultural links, sponsoring exhibitions or music. If you're not involved in society and you're not curious about the future of culture, of information, you will lose leadership. Leadership is a nonstop journey; if you think you're arrived, it's the beginning of your fall.

The 1994 ad above uses an Annie Leibovitz photo of Olympic Gold Medalist Carl Lewis. Pirelli's Annual Report, below, includes the stories of five innovative Italian craftsmen, with 3D animations and illustrations by Italian artist Emiliano Ponzi.

Can you tell us about the latest innovations, the use of color on tires for instance?

I love cars and I'm passionate about our products, but on its own, the tire lacks sex appeal. It's functional. Black and round. So, the first challenge was to give it

IMAGES: COURTESY OF PIRELLI

ALESSANDRO IOZZIA is a Partner and Head of Brunwick's Milan office. **LIDIA FORNASIERO** is a Director with the firm, also based in Milan.

visual appeal. That's why we launched colored tires. We are now working on a new version for next year.

The second challenge was to make the tire talk, which we've worked on over the last 20 years. Thanks to our work in racing (we are not only in Formula 1, but in more than 450 car and motorcycle championships), we've learned to perceive nuances that can project the potential winners during a race. They can see the quality of the driver, the quality of the vehicle, the state of the ground, all by looking at the tires. Through connected cars, this information can benefit everyone.

Are you concerned that connected cars can bombard the driver with information?

It's true, but where everything else in the car is already connected, the only thing that wasn't was the tire. And the tire is critical. It's the only junction point between the vehicle and the ground. We have put together tire specialists, vehicle dynamics engineers, and electronic and data engineers to create algorithms that can provide information that serves both safety and performance.

So one of the next slogans will be "we give voice to the road"?

We give a voice to the tire! It was silent, black and round, now its colorful and talks. And talks very punctually. It's very specific.

Pirelli's flair for design has been a crucial component of its communications style, probably most evident in the famous Pirelli Calendar.

Design is an important way to communicate to the more sophisticated part of the market, to give a product appeal, to differentiate it. For international audiences especially, design gives our brand that Italian touch. Our Pirelli Design team is developing products – like high-performance skis – that reach beyond our market but further the Pirelli name with their beauty and appeal. These involve collaborations with artists, designers and engineers outside the company. The skis, for instance, were a collaboration with the Blossom workshop in the famous Italian skiing area of Val Chiavenna. But that design sensibility is clear even in our Annual Report. That became something different, creative, innovative, using different types of digital communication, using artists to express our values.

We're pursuing a path that started with the greatest graphic designers in the history of arts. That path led directly to Carl Lewis as a symbol of the slogan "Power is nothing without control." That image will remain with Pirelli for a lifetime. It's so strong.

And it brings people closer to a product that might otherwise be anonymous. Everyone has tires, but it's not necessary to know anything about them. I'm pretty sure you don't know the brand of tires you have on your car, but in the future you will.

The Carl Lewis image was controversial at the time. Was it a deliberate step toward inclusion?

Pirelli supports inclusion, of course. Pirelli was the first Italian multinational in the early 20th century, and we're still growing abroad. We embrace different cultures. That's just part of who we are.

Could you say in one word what Pirelli represents? And why?

Pirelli is … I would say, Pirelli is curiosity for the future, fascination for the future. But also we are the strength of our heritage, made by its tradition and its values. These are, in my mind, the priorities if you want to last over time. ◆

RIDING IN STYLE

BEGUN IN 1964 AS A marketing tool, the Pirelli Calendar has become a cultural institution in its own right. With few breaks, it has been published yearly, for a total of 45 editions, each with artistic photos of models – originally entirely female. Iman, Naomi Campbell, Cindy Crawford, Kate Moss and Gisele Bündchen have all appeared, along with some celebrities: in 1998, Bono, John Malkovich, B.B. King and Sonny Rollins; in 2007, Sophia Loren, Penélope Cruz and Naomi Watts.

Beyond the high-fashion design trends, The Cal, as it is known, has kept pace with the culture in other important ways. In 1968, photographer Harry Peccinotti took inspiration from the poetry of Elizabeth Barrett Browning, Allen Ginsberg and Pierre de Ronsard. In 1972 Sarah Moon became the first woman to shoot the Calendar, paving the way for others including Annie Leibovitz, who was the artist in 2000. For her second turn in 2016, Ms. Leibovitz broke The Cal's longstanding tradition of overt sexuality, instead taking simple portraits of strong women, reflective of shifting perceptions of women in society.

In 2018, British photographer Tim Walker used Lewis Carroll's *Alice's Adventures in Wonderland* and, for the first time, an all-black cast, including the model Slick Woods, pictured above, alongside celebrities such as Gambian women's rights activist Jaha Dukureh, Mexican-Kenyan actress Lupita Nyong'o, US rap star Sean "Diddy" Combs and actress/comedian Whoopi Goldberg.

The images for 2019 have been shot by Scottish-born Albert Watson, photographer for 100 Vogue and 40 Rolling Stone covers. The new Calendar will be unveiled December 2018 in Milan.

For all its popularity and influence, the Pirelli Calendar is hard to find. Only a limited number of copies are printed, and then distributed to a select list of fortunate recipients.

PHOTOGRAPH: TIM WALKER

CUT THE CRAP

Powerful voices in advertising decry a decline in quality. MerchantCantos' **MATT SHEPHERD-SMITH** outlines a way forward.

THE ECONOMIC TIMES DESCRIBES ADVERTISING as "messages paid for by those who send them to inform or influence people who receive them." Under that description, corporate communications is a form of advertising. And advertising is once again under the spotlight, not because of digital changing the landscape, but rather quality, or lack thereof. Perhaps the biggest ad-budget holder in the world, Marc Pritchard, Chief Brand Officer at P&G, said recently, "The past few years in advertising have seen an exponential increase in crap."

The obvious question is "Why?" I would suggest four reasons.

First is the mistake of thinking that business and brand are different. Any brand you can think of is a business, its reputation driven by brand behavior. Our perception of any brand is driven by every touch point it has with us. Reputation is everything, and everything is reputation. Too rarely do clients and agencies sweat every detail concerning their brand.

A brand is not a logo, or a set of guidelines. A brand is a person's gut feeling about your product, your service or your organization. This gut feeling matters because people make decisions for emotional as well as rational reasons. Many brands are good at appealing either to heart or mind, but not many are good at both. Either they lean too heavily on the rational side by providing too much information, overwhelming if not boring their audience, or their emotional-side effort is melodramatic, creating cynicism or incredulity. Only when both sides work together do you start to get a brand with charisma, a rare and precious thing, one for which people think there is no substitute.

The second reason for the increase in crap is that clients and agencies have become lazy around the importance of the brief. Briefs have become "to do" lists that overlook important business and brand challenges. Too often we don't stop to figure out what it is we are looking to achieve. Why are we assuming at the outset that we know what will work best? Instead of rushing headlong into execution, pause for intelligent consideration. It is worth the investment in time.

The third reason is the need for insight. A lack of sound insight produces generic content – and what's generic is invisible. So why bother?

Insight comes from knowing your brand, from asking what you want your audience to think, feel and do as a result of your communications. When Pope Julius II asked Michelangelo to paint the ceiling of the Sistine Chapel, the artist asked "Why?" The Pope replied, "Because the ceiling is cracked and needs a coat of paint." Now there's a brief lacking insight. So Michelangelo asked what the Pope wanted his subjects to think and feel upon entering the chapel. Pope Julius said he wanted people to experience a sense of divine inspiration when looking towards heaven. "There is your insight," said Michelangelo. "And so I will not just paint the ceiling, I will create a masterpiece for the greater glory of God, as an inspiration to His people." Or words to that effect. For 500 years, I would suggest, that particular insight has proven to be a worthwhile pause for consideration.

The fourth reason is the medium. Technology makes it easy to reach your audience, but hard to get their attention. Creating standout content is difficult, especially for display on a hand-held screen. Ask yourself if you're seeking to inform or communicate. Information is giving out, communication getting through. The latter – getting through – must be the goal, because it registers your message and increases the likelihood of meeting your objective. Doing so in small digital formats is an art that's often overlooked. ◆

MATT SHEPHERD-SMITH is CEO of MerchantCantos, Brunswick's creative design agency, based in London.

ILLUSTRATION: JAMES YANG

SECRETS OF INDIAN RETAILING

KUNAAL KUMAR, founder of "the Whole Foods of India," tells the Brunswick Review about the charms and eccentricities of that market.

As a business and social luminary in New Delhi, Kunaal Kumar makes regular appearances in Indian media. But don't bother searching online for those articles, because India remains in love with print. Even India's editions of Harper's Bazaar and Hello Magazine – both of which have run stories on Mr. Kumar – haven't created online editions.

Yet Mr. Kumar's own success reflects a growing taste in India for the dining if not the reading habits of the West. The chain of food stores he runs, Modern Bazaar, has been dubbed the Whole Foods of India. The vast majority of items he sells are imported. Sales of organic foods are skyrocketing. And his company offers online purchasing.

In an interview with Mr. Kumar's favorite journalist, Brunswick intern Vedika Kumar, a New York University student who happens to be his daughter, Mr. Kumar shares his vision of the economic and gastronomical future of his nation.

What is the story of your company, and where does it stand now in the retail landscape of India?

My father started a department store in 1971, the first semblance of a global supermarket in northern India. I joined him in 1991 after finishing my degree in electrical engineering. Modern Bazaar was one of the only supermarkets that provided imported products in the '80s and '90s. We were doing exceptionally well, but a fire wiped out the supermarket in 2004. After the store burned down completely, my father decided to retire and instructed me to go find my own path in life.

I knew that food and retail had enormous scope to keep growing, so I decided to restart his business with the same branding but with a new vision.

Today, around 15 years after this setback, I have eight outlets across Delhi and India's national capital region and have a strong presence and brand name in the food retail industry of the country, able to deliver any products you would find in a supermarket in the US or UK.

What were some of the obstacles you faced as you resurrected the business from the ashes?

I started small by taking out some loans and investing my personal savings into the business. Eventually I started a tiny supermarket where the old one was, trying to imbue the same customer service expertise and food quality principles that made my father's supermarket do well. We started an in-house bakery, had a wide selection of imported goods, and started rebuilding our customer base. Our goal was that a consumer should be able to walk to the supermarket and get everything they need and want under one roof. I started this store in 2005.

In the next two years, I bought out the property adjacent to my existing supermarket and expanded. Slowly and steadily I turned this small 1,000 square foot flagship supermarket into 6,000 square feet – and applied the same business principles to open as large or larger supermarkets in eight locations in India's capital region.

Do imported products play a big part in your business model?

While imported goods are what gave us a distinguishable presence in food retail, an Indian household cannot just be run on products from the outside world. So today, each supermarket has around 25,000 different products which are a mix of Indian staples, imported items and house-made products.

You're one of the only sellers in India to have physical storefronts but also online sales. Do you think the future for Indian retailing is online?

A few years ago I saw a few food vendors come into the retail industry that were online only. They would buy their products from us and deliver them according to orders they received online.

I realized if this continued I would lose the competitive advantage I have, so we launched a mobile app and an online delivery system in addition to our physical supermarkets – a service not offered by many Indian retailers yet. The online ordering is still just 5 percent of our business, but it is a growing trend and essential to incorporate in the Indian business model today.

are aware of what's going in the rest of the world and want to match it. No matter how much people are earning, from the working class to the rich elite, everyone wants to live more luxuriously.

If a company wants to expand into India or build a business in India, what are some of the challenges to keep in mind?

The complicated nature of our government policies can be hard to comprehend. Our core government policies are stable, but the secondary or peripheral ones that mostly affect businesses keep evolving. Indian tax compliance is complex and often baffles new entrants in the market; we just had a fundamental change in our tax system that has been confusing for so many companies to deal with. Understanding the work culture is also essential. The Indian workforce is hardworking and wants to excel professionally but needs added motivation to get there.

Living in the US after growing up in India, I've realized that there is an unsaid way of doing things back home. Would you agree? How would you characterize that?

I've been in this area for so long, I don't know any other way, so I don't have the perspective of an outsider. But if someone wants to open a new business in India or expand an existing one, it is better to partner with people who already have expertise here.

The challenges foreign entrants will face are still very much worth the effort. India is stereotypically known as the land of opportunity, and I can say from experience it lives up to that title. ◆

What are your thoughts about Walmart's recent acquisition of Flipkart, one of the biggest Indian online retail companies?

For items like clothes, books, electronics – the stuff Flipkart sells – the market demand is already high for online opportunities. With food, consumers still like physically visiting supermarkets so they can see products. They are concerned with quality, as in India's climate it is not easy to preserve the freshness of perishable items. In the West, consumers rest assured that what they order online is what will get delivered to them, but that confidence is lacking in India.

We are still developing our methods. Once quality control is established, online food retail will pick up. For example, Big Basket is an India-wide online only food supermarket chain and they are doing very well – it is the best execution of online food retail in India, but they still don't have physical storefronts. We are the best physical providers in our area, but they have the online game figured out.

Where do you think the opportunities lie in India?

India is a promising market for many reasons. Our population is huge, we're making money and we want more out of life. For all industries, and especially retail, the market is filled with so much demand. Everyone wants to upgrade their life. People

Kunaal Kumar, top, rebuilt his father's store, Modern Bazaar, after a fire destroyed it. He then expanded the business into a chain of eight supermarkets with both a physical and an online presence. Above, inside one of Mr. Kumar's stores.

VEDIKA KUMAR, a New York University student, interned in Brunswick's New York office.

PHOTOGRAPHS: COURTESY OF KUNAAL KUMAR

THIRD CULTURE

Like people, companies at home in multiple cultures are better able to handle the challenges of a global business community, says Brunswick's **GINNY WILMERDING.**

Many of us doing business internationally, especially expatriate families with children, are familiar with the term "Third Culture Kids" or "TCKs." "Third culture" is a term first coined by sociologists Ruth Hill Useem and John Useem in the 1950s. The pair traveled to India to study the lives of Americans who lived and worked there as foreign service officers, missionaries, aid workers, business people, educators and journalists, and also observed how they interacted with other expatriates.

They called the culture from which the adults came the first culture (e.g., American), and the host culture where the family lived the second culture (e.g., Indian). The third culture is the blend of both, experienced by non-native residents who are internationally mobile. That lifestyle can't be completely described either by where they're from or where they live. Children in such a "third culture" travel back and forth between places and experience reality differently than those who don't, according to Ruth Van Reken and David C. Pollock who wrote the definitive book *Third Culture Kids*. Former President Barack Obama (born to an American mother and Kenyan father, raised partly in Indonesia) and US founding father Alexander Hamilton (born in Nevis to a half British, half French mother and a Scottish father, came to America for education as a teenager) are both examples of TCKs.

Ms. Van Reken has written about the pros and cons of people who live as expatriates – on the positive side, they may have increased confidence and adaptability; negatives can include feelings of rootlessness and confused loyalties. But one of the most intriguing things she has documented is that a TCK growing up as an expatriate in one country feels a profound empathetic connection to a TCK who holds a different passport and lived somewhere else. Many adults who have lived and worked in other countries for years will say the same. Research and anecdotes show that completely diverse and culturally different people feel a powerful pull to others who have had a similar third culture experience.

These people can see across borders. They tend to be very unconscious of skin color and race, and their experience defines their sense of identity and their world view. What they have in common, having lived internationally, is far more important than the differences between specific countries or cultures.

Even the sense of dislocation can bind TCKs from different backgrounds, says David Gruppo, a Google Fellow in New York who spent most of his youth in South America. He found that he shared with other TCKs from the US a lack of knowledge about, for instance, American football. Later, in the professional world, Mr. Gruppo served a long stint as Bank of Tokyo-Mitsubishi's head of Latin American corporate and investment banking; his multi-cultural experience provided an enormous advantage. He loved meetings involving a multiplicity of languages.

TCKs are more flexible, he says, because "when you live in different places you're fine with doing things in different ways. Social cultures are often opposite in one country versus another. So you're less inclined to tell someone from a different culture, 'You're doing it wrong.' No, they're doing it differently."

BUSINESS BETWEEN WORLDS

What are the lessons for companies? So many multinationals are global by the numbers, but struggle to build a healthy and unified global culture among their managers.

We've all seen the failures: Western expatriates who don't always respect or assimilate into Eastern cultures, and vice versa. People and companies in a foreign place who create division instead of collaboration. But the successes are inspiring: a cohesive third culture can power companies forward in a globalized world and give them an edge over peers.

If we believe that globalization is unstoppable and a force for good, what does that mean for global corporate culture? Here are some thoughts on what aspiring "third culture companies" can do to build an authentic global culture in their firms:

COMPANIES are Built for the Future

• Hire TCKs into leadership positions. TCKs tend to be open-minded, flexible and mobile.

• Hire foreign nationals at home, where they can learn the corporate culture, and then go abroad to be carriers of a diverse culture, either in their country of origin or somewhere else.

• Hire "home country" nationals who are already overseas (they are likely to be TCKs already).

• Build a robust secondment and rotation program. Encourage everyone of a certain level in the company to seek one or more global assignments. Remind those with families that good schools and housing solutions do exist, and global mobility is not only possible but rewarding.

• Be tolerant of imperfect English, and respect the talent of and daily demands shouldered by multilingual employees. Even if English is the corporate *lingua franca*, you can't survive globally without highly proficient speakers and writers of foreign languages. Treasure them.

• Encourage all of your employees to experience being a minority somewhere, for some length of time. There's great value in moving beyond the comfort of one's own ethnic group, and in learning how to blend in and feel comfortable despite being different.

• Invest in bringing your diverse employees together. Save enough travel budget for some form of global meetings, task forces and team building that can bring diverse people together. In these, they can discover what binds them and also may suddenly realize that their home country perspective is limiting.

• Help the adventurous reassimilate. Living and working abroad and then returning to one's home office can be profoundly disorienting and lonely. Support the returnees, too.

What happens when a company embraces global diversity and ensures its global employees experience multiculturalism up close and personal can be magic. For many, diversity is no longer an obligatory panel discussion, but becomes a treasured part of daily life and learning. That is the secret sauce for the successful international company of the future. ◆

GINNY WILMERDING, an American third culture adult who has spent a cumulative 15 years in Asia, is a Partner in Brunswick's Hong Kong office.

ILLUSTRATION: MELINDA BECK

HEALTHCARE ORACLE

RICHARD EVANS tells Brunswick's **RAUL DAMAS** about the process of prediction that made him a top healthcare analyst.

"Duh." THAT WAS THE RESPONSE from a normally articulate senior editor at a respected publication. He'd asked me to recommend a healthcare expert who could clarify a complex policy issue, and I'd asked if he'd already spoken to Richard Evans, co-founder of the investment research firm SSR Health.

"Duh."

Translation: "Of course I've spoken to Richard Evans. What kind of journalist would I be if I hadn't?"

Given Dr. Evans' influence on the policy debate and media coverage surrounding the US healthcare industry, it was a reasonable response. For 20 years, Dr. Evans has consistently produced high-quality, insight-filled research and bet-the-house predictions on one of the most dynamic, byzantine and fiercely debated industrial sectors.

A graduate of Yale University School of Management, he also holds a degree in veterinary medicine and worked as Vice President for pharmaceutical and diagnostics giant Roche before becoming an analyst for Sanford C. Bernstein, where he was ranked No. 1 by both Bloomberg and Institutional Investor for his US pharmaceuticals coverage. His book, *Health and Capital,* was published in 2009, the same year he co-founded SSR.

What sets Dr. Evans apart from his peers is how often he has accurately foretold outcomes that few considered probable or even possible: the failure of the Affordable Care Act to reach its insurance enrollment targets; the downfall of Valeant Pharmaceuticals; the over-reliance of pharmaceutical companies on price increases; the precise way that Amazon would enter the drug supply chain. These are but a few of the high-stakes calls Dr. Evans got right and almost everyone else got wrong.

He is used to occupying lonely terrain, holding unconventional and unpopular opinions, to the benefit of his clients. He spoke to Brunswick about the rigor behind his predictions and the important role of humility.

People refer to you as a research analyst, but your track record for accurate prediction implies a wider purview. How would you describe what you do?

On my first day at Bernstein, my boss Marc Mayer said to me, "Where there is controversy, there you must be." I've followed that rule ever since. We try to predict the outcome of controversies that are relevant to our clients, typically money managers, investors or leaders of pharmaceutical companies, wholesalers, pharmacy benefit managers or hospitals. The controversies we seek can take various forms – political, economic or pricing-related, just to name a few. We're not trying to create controversies. In healthcare, the controversies tend to be easy to find. [Laughs]

How do you define controversy?

You could soften it by saying "uncertainty" – an uncertainty about which people care a lot and on which people hold competing views. Disagreement makes a market. It creates a buyer and a seller, a bull and a bear. That creates capital market interest and a receptive audience for our research.

At the risk of revealing trade secrets, what is your process for predicting the outcome of a controversy?

Our process begins with a simple question: "Why guess?" It seems a little silly, because predicting by its very nature is a guess, but it doesn't have to be a random or unstructured guess.

So, the first thing we do is establish an analytical framework, and the first step in that is what we call context. We ask whether this or something like this has happened before. That requires an intensive process of researching data sources over the last couple of decades, to find a pattern. Every time this has happened, what was the outcome? That context gives you a default probability and allows you to evaluate your current prediction.

Aren't your competitors doing the same thing?

In the corporate world and on Wall Street, you just don't have the luxury of time. At SSR, we're able to choose a controversy, clear the decks and think about nothing but that controversy for a week or two or four.

Of course, there's anxiety that goes with that, because if you don't produce something at the end, you don't get paid.

What's your next step?

The next steps are about avoiding bias. First, don't fall in love with your own data. We know from behavioral research that people overweight information they gather relative to information gathered by others. To avoid that, we try to find peer-reviewed research that speaks to the controversy we're considering before we gather our own information.

What other mistake do we need to avoid?

Wishing for your preferred outcome. You may want a certain drug approved or an election outcome. Be cognizant of that bias and make sure that you're not tilting your analysis toward it. It's a classic human behavioral trap. Stay aware of it and fight it.

As an experienced healthcare specialist, does knowing the system so well make it difficult to assess it objectively?

Experience in the industry you're analyzing is a very good thing, particularly in healthcare because its terminology is incredibly dense and the economics are unique. It's the quantum physics of the economic world; everything you've learned to that point goes out the window. In healthcare economics, everything is an exception, nothing's a rule.

"IF YOU'RE GOING TO GIVE PEOPLE A CHOICE, THEN YOU HAVE TO ANALYZE HOW PEOPLE MIGHT MAKE THAT CHOICE. YOU HAVE TO REMAIN OBJECTIVE AND FIND OUT WHAT PEOPLE'S ATTITUDES ACTUALLY ARE."

ILLUSTRATION: THOMAS FUCHS

Thinking back to implementation of the Affordable Care Act, health policy circles got pretty much everything wrong. You, however, saw correctly that the government enrollment predictions were overly optimistic. What led you to that belief?

Well, we didn't exactly cover ourselves in glory with ACA predictions, because we said the act wouldn't pass! After that, though, we focused on a framework we called "Camry or Coverage." Specifically, we looked at the net cost of buying healthcare insurance for the average family. When you distill that into a kitchen table comparison, buying healthcare costs these families as much as the payments on a Toyota Camry. We then looked at available elasticity data, and it convinced us that people would prefer the Camry more frequently than generally expected.

And you were right. What errors did the enrollment bulls make?

Look, I believe everyone should be insured, but if you're going to give people a choice, then you have to analyze how people might make that choice. You have to remain objective and find out what people's attitudes actually are. And when you do that, you realize there's a lot of ambivalence at the margin about being insured. I think people ignored that because they'd fallen in love with their own data and because the data they aggregated showed their preferred outcome. It's those same two classic emotional traps.

You don't really advertise being right about these important events. Why is that?

I've been wrong plenty of times. Really, really wrong. The media will judge you on one prediction, but your clients judge you on the entire body of evidence.

There was another great comment that I heard early in my career: "If you survive your first prediction, your clients will stick with you. If you get the first one wrong, you're going down the elevator shaft." [Laughs]

But when you get one right, you might start thinking, "You know, there is just something about us that's special." You can't do that. Remain humble. Remember the mistakes.

I honestly think that's the hardest part of forecasting – avoiding the emotional traps. ◆

RAUL DAMAS is a Partner in Brunswick's New York office. He specializes in corporate reputation and crisis management, with a focus on the healthcare industry.

OLD INVESTOR, New Data

ANITA SCOTT interviews Schroders executives **MARK AINSWORTH** and **BEN WICKS** on the growing role of the firm's Data Insights Unit in fund management.

Mergers and acquisitions create some of the biggest challenges that institutional investors face. No matter how practical and potentially rewarding it appears at the outset, the number of variables and possible outcomes around a typical deal can unnerve even the most seasoned fund managers.

The primary way to counteract the turbulence and uncertainty that arises in M&A is through the collection and careful analysis of data, benchmarked against a firm set of metrics that nonetheless molds to suit the situation.

Schroders is a global investment manager, founded in 1804. Schroders' Data Insights Unit was established in October 2014, bringing together data scientists, consultants and engineers to work alongside traditional investment managers. Schroders believes that data science offers a huge opportunity for active fund managers and that the injection of new methods of data analysis into existing investment processes will enhance long-term alpha generation and generate sustainably differentiated returns.

Brunswick talked to Mark Ainsworth, Head of Data Insights and Ben Wicks, Head of Research Innovation, about how data works in the deal landscape.

Is the data that you gather and analyze helpful in making decisions involving mergers or IPOs?

BW: Yes. A large retailer in Brazil was doing an IPO, and we conducted a very rapid analysis on the level of local competition it faced. We were able to show what percentage of its stores faced local competition today versus a year ago, versus the year before that, and so on. Our information – all of it publicly available but requiring specialist skills to gather and analyze efficiently – tipped us toward not investing in the IPO.

Or let's say a large retailer says, "We can get to 2,500 stores by 2022." Is that a reasonable number or a gross exaggeration? Something we can do very effectively is to take a country and analyze how many locations, realistically, are available to a franchise, based on inputs about whether that franchise belongs in shopping centers or high streets or where the local competitors are that they're targeting. Once we all agree on the inputs, we can run it through and say, "Yes, you can see two and a half thousand locations." Or maybe we can't find that. Then we have reason to doubt the overall prospects.

Weren't you able to provide some insight into the Ladbrokes/Coral acquisition?

MA: At that time Schroders actually owned a large position in Ladbrokes. So when the merger was announced, we needed to know fast what to think of it. One of the key gaps in knowledge was how many stores UK regulators would allow them to keep post-merger, because they were both large players in the market. Together they had about 4,000 stores. The key criterion for regulators is the effect on local competition.

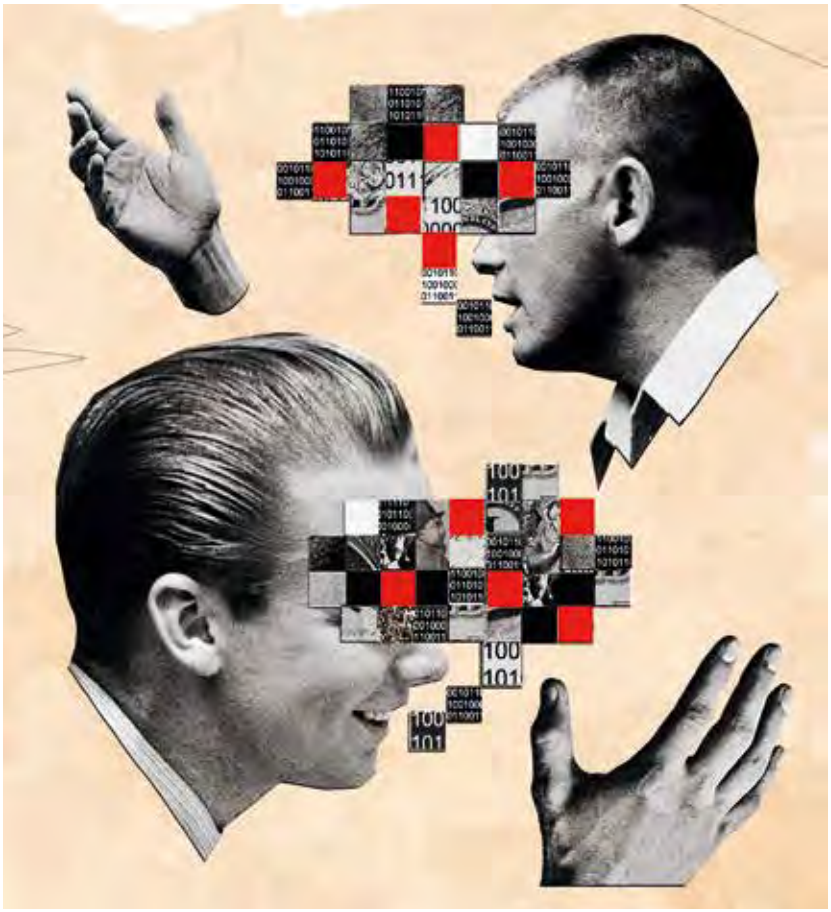
The range of estimates out there for how many stores would have to be divested was between 100 and 1,800. In fairly short order, we were able to find the locations of all the betting shops in the country, and the proximity of shops that UK regulators would likely allow. Calculating the distance of every betting shop to every other betting shop in the country involved about 73 million calculations, far beyond what is feasible on Excel.

Using publicly available data, we concluded Ladbrokes would have to divest about 400 stores, out of 4,000. So the combined company would be 10 percent smaller than before. That's information – with logically derived precision – that other investors didn't have. About a year later, the authorities came out with initial estimates of how many stores they would be required to sell, and their number was between 350 and 400 stores.

We have more recently worked on modeling the impact of further regulation in the gaming sector, such as limits on the use of slot machines, with similar success, as well as the potential for deregulation of sports betting in the US.

How do you ensure that you're really ahead of the game and you're getting those insights that no one else gets?

BW: First, we have roles that include solely hunting for data. And that is done not just by waiting for people to offer to sell us data, but for instance attending a pharmaceuticals conference and thinking about what data sets pharmaceutical companies are using to help track their own business against competitors.



Then we think about whether we should approach third parties about analyzing that data.

But the second thing is just knowing how to search that data for interesting insights. It's like looking for a needle in a haystack.

You need to do this work both proactively and reactively. You need coders and data scientists who can know how to look for significant changes in that data set. They can create algorithms that can provide alerts for any pattern shifts. But the actual significance of these for share prices is hard to assess for a data scientist alone.

Which brings me to my last point. If you've got a huge data set like that and you're trying to code something to provide insights that matter to fund managers, you're going to need to understand what specifically interests fund managers at any given time.

We have a dedicated Engagement Manager whose function is to marry the demand for insight with the supply of data and figure out where those two things meet. Any competitor that's not doing all three of those things – scouting for data, knowing how to handle huge data, and having a person who understands both the investor and the data – is not going to do as well as we are.

"THROUGHOUT MY CAREER, IT'S BEEN ABOUT TAKING DATA AND HELPING PEOPLE TO MAKE SENSE OF IT SO THEY CAN MAKE A BETTER DECISION."

MARK AINSWORTH
Head of Data Insights for Schroders

MA: The classic data scientist has three key skill sets. First, strong skills in math and statistics. Second is technology knowledge – the ability to think algorithmically and to write code, because we're working with very large data sets, using complex algorithms. The third is domain knowledge. You need to know the kind of domain which the data is about.

By having all three of those things in one person's head, you speed up the process. If you need to have a mathematician and a programmer and a business person working together, it's very hard to get the value quickly.

Before I joined Schroders I was at Telefónica in their Smart Steps Initiative, a big data project, taking 10 billion rows of data generated every day by phones connecting to cell towers, and then turning that data set into products and services that provided insights to companies. They might range from retailers trying to work out which parts of a city are most busy and what sorts of people are there, or transport companies in the process of bidding for a rail franchise and trying to understand the kinds of people who are traveling between two points.

Throughout my career, it's been about taking data and helping people to make sense of it so they can make a better decision. And that's exactly what the mission is for the Data Insights Unit at Schroders. The decision makers here are the analysts and the fund managers.

Does every hedge fund manager have an equivalent of your unit?

MA: Yes, quite a lot do, though almost all of them have only been established in the last two years. A core strategy of a lot of hedge funds is to use this data for short-term insights. These large data sets can allow you to anticipate that a company may report lower results than the market is expecting. And a hedge fund can make money from that.

But that is not an investment strategy that our analysts and fund managers use at all. They're much more focused on a good repository of clients' money for the next two years, maybe even five years. And as far as we can tell, we're very unusual in that focus.

BW: Success, for us, is giving fund managers more conviction in the differentiated views that they are paid to form. If we can reduce the level of uncertainty in their thought processes, then the fund manager should be able to take bigger active positions and generate greater returns for no greater risk. ◆

ANITA SCOTT is a Brunswick Partner in London, specializing in corporate reputation and financial services.

ILLUSTRATION: LINCOLN AGNEW

MAGIC

WAND

Globe-trotting orchestra leader **XIAN ZHANG** talks to Brunswick's **CARLTON WILKINSON** about culture, commitment and leadership in music.

She started playing piano at 3 years old and was a star conductor at 19. But it wasn't until she was almost 30 that Xian Zhang felt music might be "something serious."

"I didn't really feel like it was something that I had to decide," she says.

Now an international orchestra leader, she sees her history as almost predestined. Her parents were her first teachers; she learned quickly, on a piano her father had assembled out of spare parts.

At 11, she left home in Dandong, China to study music at an elite boarding school associated with the Central Conservatory of Music in Beijing. In 1992, at the age of 19, she found herself in the limelight when, at the last minute, her teacher asked her to lead a production of Mozart's "The Marriage of Figaro" at the China National Opera. Ms. Zhang calls the moment "my surprising debut" – as much a surprise to herself, it seems, as to the orchestra and audience. But success followed her over the next decade and, in 2005, New York Philharmonic Director Lorin Maazel appointed her Associate Conductor of the world-leading ensemble. If her destiny seemed prescribed before, at that point it became inescapable.

"I would have loved to be an architect," she says. "But that would have been impossible because I left home at such a young age to pursue music."

Yet being locked into her profession early seems to have only inflamed a passion for music that has guided her since childhood. Today, she maintains a demanding schedule of professional engagements that has her traveling between Europe and the US many times a year, along with regular return trips to China.

In 2016, Ms. Zhang took over as Music Director of the New Jersey Symphony Orchestra, the first woman in the group's 96-year history. She is also Principal Guest Conductor of the BBC National Orchestra and Chorus of Wales and will lead the ensemble on an international tour of China in the 2018-19 season. And she still visits Italy to lead her old group, the Orchestra Sinfonica di Milano Giuseppe Verdi.

She lives in New Jersey with her husband Lei Yang, a writer, and their two boys, balancing time between family, the NJSO and international engagements.

In concert, a conductor becomes the embodiment of each piece. She must be fully aware of every marking on the score, must know each individual part as well as the musicians themselves, and the whole as well as the composer. That means long hours of detailed preparation for rehearsals and concerts.

Musical interpretation is a delicate, complex affair, nuanced almost beyond belief. A thousand details go by in each measure. The conductor must always be

"WITH GESTURES, YOU SHOULD LET THE MUSIC LEAD YOU. I'M NOT ONE OF THOSE CONDUCTORS WHO PRACTICES WITH A MIRROR."

conscious of the overall structure and thinking several bars ahead, to lead the musicians effectively toward a common goal. The musicians themselves are each tugging at that interpretation, listening to their fellows and participating in her vision but also fulfilling their own. The result is a living sound, a creation that yields surprises with each new performance.

"Every concert is different," Ms. Zhang says. "That's part of the amazing thing about doing live performances. There is this part that you cannot predict."

How did you decide to become a conductor?

That was by accident, really. [Laughs] I was always a pianist. But at the conservatory, my piano teacher didn't like the size of my hands. He thought I wouldn't be able to develop the power that I needed. At the same time, I had a conducting teacher who was a lady, so I became a conducting major.

In my life, over and over I was somehow pushed to pursue this career. I guess that's what you would call a "calling." I didn't feel that was something I was doing myself. It almost felt like something external or some higher force that was guiding me.

But it's not so unusual. Many conductors I know were put into this position where we had to lead. Even the very famous conductors – von Karajan to Toscanini. Many people were pushed into this by accident. That's your luck or your fortune that strikes and it just happens.

Is there a conductor who influenced your style?

I really, really love Carlos Kleiber, the German conductor. Studying and just starting out, watching him was like watching a god. There's a video of him doing Beethoven's Symphony No. 4 that was really inspiring. Every time I watch it, still, I realize new things that he's doing that are fantastic. It's unbelievable, the level of artistry.

What do you think separates a good conductor from a great one?

The conductor is the architect of the world of the piece, whatever piece it is. The conductor needs to shape it. To plan and design it with the things that you can learn or imagine from looking at the score. Especially when it's a new piece, a premiere, it's like building something almost out of thin air. We build it out of the pages of the score.

A great conductor would make the piece speak and allow the orchestra to understand all the little details easily. A great conductor would be able to inspire the audience, inspire and influence the players, in rehearsals as well as concerts.

Do your conducting gestures come naturally or is that something you had to work on?

With gestures, you should let the music lead you. I'm not one of those conductors who practices with a mirror. I did that to learn the basics, when I was 17 or 18, when I first started. The teacher would say, "Look in a mirror and look what are doing with your head! Don't do this and try that." But since then, I try not to think about it. You just know how to communicate with the orchestra. Sometimes, in certain difficult passages, I'll think of a technical solution that I need to do to make it clear and to make it work.

Reviewers, myself included, often comment on the physical energy you display when you conduct. I sometimes have the illusion you could fly off the podium like a superhero.

[Laughs] That's not me, that's the music. At least I feel that's the music propelling me to do that. When I see a score, I imagine the sound – there are times, if I don't think the orchestra is giving me enough, when I might give a little more to get the sound I expect. But mostly it's the music itself.

You were the first woman to hold a titled role at a BBC orchestra and the first to be Music Director of the New Jersey Symphony Orchestra. Why do you think there are so few women conductors? There are plenty of women in classical music.

But not in the old days! It took some time for these women musicians to establish careers, to start to be famous. It's the same with conductors, we just need more time for them to emerge.

You don't decide to be a conductor when you're 3 years old. And it takes years of training to become a good one. If a class of students has only one or two girls, the chance that they'll succeed will be even less. So we need to foster that.

I believe I'm doing that myself, in coaching and mentoring. There are some women I've met over the years and I've tried to help them and advise them. It's just a matter of time. Give us another 10 years, you'll see. In the last five years it's changed quite a lot.

How do you cope with all the traveling?

Human beings are really designed to stay in one place. [Laughs] I have to be careful to balance the rest I need around work. It's physically demanding. I came back from China not quite a week ago. I'm barely adjusted from jet lag – a 12-hour time difference – and I'm leaving for Italy in two days – again, a six-hour difference. That can make you not function as well as you would normally.

Do you have to prepare your scores on the plane?
I prepare scores everywhere. On the plane, in the lounge, the airport, the hotel room, anywhere. And I can sleep anywhere, just sitting somewhere.

As long as you give me a light, I can study – with a phone or an iPad, you don't even need a light. You just open the PDF and there it is. It's a matter of concentration and pressure. If you really have to get it done, you will get it done. There's no other way out.

Musicians who are serious about their work, we set a very high standard for ourselves. We're self-critical. It's tough. We're hard on ourselves. But many times we are successful because of that, because we nag ourselves really hard.

What does a typical day look like for you?
If I'm with my family in New Jersey, I'm up around 3:30 or 4 a.m. – that's normal. I do my work very early. Then the family wakes up and I'm back to reality and have breakfast and then head to rehearsal.

When I'm traveling, I have a set of timetables according to the country I am in. Let's say I'm going to Italy tomorrow and I land there in the morning. I'll ask the orchestra to schedule rehearsal for the afternoon or evening so I can sleep in the morning when in America it's still night.

In China, if I get there in the afternoon, I would be just dead. That's after midnight in the US. So I go to bed immediately and wake up in the middle of the night there. But then I have hours to study before breakfast. Then I go to rehearsal until around 3:30. Then I go back to the hotel and sleep again and then midnight, I wake up. It sounds crazy, but it works!

Above, Xian Zhang acknowledges the audience applause with the New Jersey Symphony Orchestra. The conductor also regularly appears with groups in the UK, Italy and China.

CARLTON WILKINSON is Managing Editor of the Brunswick Review, based in New York. He holds a Ph.D. in music and is a culture writer in New Jersey specializing in classical music.

It seems like there's a kind of fever for classical music in China, where in the West, ensembles are often struggling to keep audiences.
In China, classical music is considered elite or chic. In America it's considered uncool. Of course, we try to make it cool, we try to imagine ways to attract younger audiences. But you can't fight the overall thinking. In Asia, it's a sign of the family-values culture and a hallmark of a good education. That opens a big door for us to attract more of an audience.

I was in Hangzhou in March with the cellist Jian Wang doing the Schumann Cello Concerto – a good piece, but not a hugely popular one. There must have been 500 kids, maybe 10 years old, with their parents. After the concert, they all lined up to meet us. We had to sign programs and take photos for like an hour.

They crave classical music because the economy is growing quickly and people feel like they have enough money to do something else that will benefit their children. We don't see that happen very often outside Asia. Either we're not doing enough, or the parents are not considering us as an option. They will go to sports more often than going to a concert. In China, parents will take their children to concerts every night, but to play soccer maybe once a month.

As a young musician, I felt like I was fighting against a basketball culture. I don't think I've ever been to a professional basketball game. Ever.
Right! And people think we're a little bit – what's the word? Nerdy? I don't even know what baseball is. The Yankees? I just don't really care about them. People think we're weird. ◆

PHOTOGRAPHS: FRED STUCKER

THE NEW DAVIDS &

Communication and connection will determine the future of retail — not a company's size or age, Traub CEO **MORTIMER SINGER** tells Brunswick's **BLAKE SONNENSHEIN.**

"THE LINES ARE STARTING TO BLUR," SAYS Mortimer Singer, CEO of the retail consumer advisory firm Traub. "It's not about old versus young, big versus small, online or offline. Across the board, it's brands that are seen as authentic, as embracing and embodying a set of values, and communicating directly with global consumers that are succeeding today. And they'll be the ones that will win over the long term. This is true even for the incumbents, and maybe especially the incumbents, because they have the infrastructure and customer base already in place."

Traub, whose clients include clothing companies such as Naadam Cashmere and Knot Standard, the skincare and cosmetics firm Borghese, the luxury brand Lalique and the premium candy and chocolate line Sugarpova, published a 2017 report highlighting a group of smaller, often overlooked businesses "founded, launched, and nurtured entirely online."

Collectively, these businesses posed an economic challenge to the Goliaths of retail, the report argued. But more importantly, Traub believed they embodied and exemplified what the future of successful retail would look like – both as a mindset and a business model. These companies showed how data-driven operations and candid, frequent, creative communications could build a brand and cultivate loyalty among a new, critically important wave of younger consumers. Traub called these digital-first businesses "The New Davids."

While the "David" and "Goliath" labels suggest a fatal outcome for big businesses, in a recent conversation at Traub's office in Midtown Manhattan, Mr. Singer shared a more optimistic outlook. Yes, the Davids engage more naturally with Millennials, but we're seeing Goliaths take note, adjusting the way they market their brands, communicate and operate their businesses – changes that have seen some established names outpace their younger counterparts.

In its latest report, Traub identified more than 200 Davids. They span the fashion, beauty, accessories and wellness industries and create a range of niche products. BarkBox sends dog treats and toys to your home each month. Brooklinen sells premium bedding. Beardbrand sells beard oil, mustache wax, and combs. Everlane brings "radical transparency" to online clothing, sharing videos and stories of the factories where the pieces are made.

While concentrated in the US and Europe, these Davids represent a global trend. Among the 200 were a custom women's wear business from Australia, a lingerie retailer from Israel and a beauty business founded by a Nigerian entrepreneur. Most Davids are private companies, making their collective size difficult to estimate precisely. However, the razor subscription service Dollar Shave Club, one of the 200 Davids, was purchased by Unilever in 2016 for a reported $1 billion (the deal's terms weren't disclosed), and a year later Blue Apron, a meal-kit delivery business and another David, raised $300 million in its IPO. Traub conservatively estimates that each David generates at least $10 million in sales, putting the Davids' collective annual sales at $2 billion – and, based on the effects of their pricing models, Traub estimates the Davids take more than $4 billion out of traditional retail channels each year.

While these digital-first companies are tiny by big-name standards – Walmart had a 2017 revenue of almost $500 billion, with more than $10 billion in online sales – the Davids are growing steadily in size and number – as is online retail itself, where Davids prove especially effective and savvy. Less than 10 percent of purchases in the US are online, and most every projection has that figure increasing steadily and sharply.

Part of the Davids' appeal, according to Mr. Singer, is their niche focus. "They are able to offer luxury or similarly high-quality products at lower, wholesale prices, and are seen as great value. There's also perceived expertise in just focusing on glasses, or mattresses, or water bottles."

Alongside niche products, the new Davids, unencumbered by the restrictions that often come with legacy decisions, scale and global breadth, are able to bring a fresh approach to marketing and communications, engaging more directly with greater frequency, transparency and creativity. Their authenticity reads as refreshing. Many use slang to explain their products and policies. The dialogue, whether

RETAIL GOLIATHS

in advertisements or asking for feedback, feels unscripted, unconventional.

This communications style is not a tactic as much as a core engine of their business: "They've merged content with commerce, finding ways to create human, raw connections – they put out videos and stories that stay with you, that you talk about," Mr. Singer says. "The old mindset was: a product company creates products, and a media company creates content. But the idea of having an outside agency create all your video content is dated. So is the idea of having to rely on third-party influencers. Companies need to be acting like vloggers – amassing content from which they might be able to mine something for a story or an idea; becoming their own influencers, writing their own stories.

"And it's not doing it once a season. It's daily, weekly. Repetition is reputation. So being consistent with content first and foremost. And then velocity. If you think of a brand campaign 10 years ago, you had to do one every season. Now you have to create continually; which means you have to have something fresh to talk about. It's almost as if these digital-first brands are commentators on the world. They're using the pulse of today, not waiting to try and predict what's going to happen tomorrow. In some ways, to use 21st century terminology, it's a reality show. It's bringing radical transparency.

"Chubbies, for instance, is a men's bathing suit company. They're kind of 'brotastic,' and they create hilarious content, a lot of it featuring their own employees, like their CMO. It's not only funny but also creates huge loyalty – you get a sense they're letting you see behind the scenes, and that they're being 'real' with you. As a result, Chubbies sells a lot of shorts and bathing suits.

THE DAVIDS EMBODY AND EXEMPLIFY WHAT THE FUTURE OF SUCCESSFUL RETAIL COULD LOOK LIKE – BOTH AS A MINDSET AND A BUSINESS MODEL.

ILLUSTRATION: NATE KITCH

"Dollar Shave Club was an early adopter of this technique. Their 'Why Dollar Shave Club' video made their business. Kylie Cosmetics' sales exceeded $420 million in its first 18 months. That was driven by the content that Kylie Jenner put forward. This convergence of content and commerce is only going to become more pronounced."

Scan the landscape, Mr. Singer says, and you'll find some Goliaths not only following suit, but creating their own communication style, making them competitive and even a step ahead of the smaller, more nimble upstarts they're supposed to be trailing.

"Gucci applied the tenets of digital-native brands to their business, and look what it's done for their sales, their business – they jumped by something like 60 percent year-on-year." Mr. Singer also highlights Gucci's recent stances on social issues, and its creation of a "shadow committee" of Millennials, a group of under-30 employees who speak directly to Marco Bizzarri, Gucci's CEO.

Another brand Mr. Singer mentions is the 160-year-old department store chain Macy's. He praised the company's recent acquisition of Story, a small retail company that "blends magazine storytelling with shopping," as Mr. Singer describes it, as well as Macy's investment in b8ta, another experimental retail business. "These could rub off on employees and customers in so many positive ways," Mr. Singer says. "They've also done things like allow 200 associates to monetize themselves online – so if an associate posts a link to a Macy's item, and then their followers use that link to buy a product, the associate receives a commission. I commend Macy's for it – it's trying something different, being open to change, experimenting."

But the tutelage is two-way. While Goliaths learn how to use content to drive commerce and change the way customers experience their products, Davids are realizing the value of the brick-and-mortar stores they were predicted to make obsolete.

"Digital-first companies are realizing that rent and SEO [search engine optimization] are the same thing – they help you acquire customers," Mr. Singer says. "So these companies have woken up to the idea that the cost of acquisition (CAC) isn't limited to marketing on Facebook or Google; it can also be embodied in rent. The catchphrase right now is 'rent is the new CAC.' But of course rent has been the CAC for millennia. Not everyone wants to shop online – people do go shopping. Imagine that? We're social animals."

True to their digital roots, the Davids have used data to improve this old-school practice. "They cross-correlate where their customers live, where they work, along with a host of other data points, so they have a more targeted idea of where to put their stores. And they're also taking shorter leases – the 10-year lease is nowhere near as prevalent as it used to be."

Predictions about the future of retail often focus on the battle between online-only and brick-and-mortar, or apps versus storefronts. But perhaps this is the wrong lens through which to look at the future – tomorrow's retail success stories will be defined by the best of both.

Mr. Singer predicts that a brand's ability to converse and connect, to have opinions and take stances, to be seen as cool, trustworthy and transparent, to create content that people actually care about – these will determine a brand's fate with Millennials and the next generation of consumers. And these qualities can rest within Davids or Goliaths.

But are Millennials really that different of a consumer than their parents or grandparents were? Does retail really need to adjust, as it never has before, to win the respect and business of this new generation?

"People have said to me, 'Look at the '60s and '70s; they were the "Millennials" of that generation.' Well, yes, but they couldn't communicate to each other the way Millennials can today. They couldn't be heard at scale, or start a movement, the way that someone with a voice can today.

"That's why teenage students from Parkland, Florida, whose classmates were shot and murdered, capture global attention: because they have a megaphone unlike any other generation in history; companies of all shapes and sizes need to take note if they want to be relevant and resonant.

"Earlier this year, we interviewed Gucci CEO Marco Bizzarri at the Traub Lecture at the Harvard Business School. He was asked if Gucci's million-dollar donation in support of the Florida students who marched for gun control was a marketing ploy. And his response was a firm 'No.' Bizzarri said that he explained the donation across the company, and to his customers, by saying: First, Gucci had lost two members of their staff in the Orlando shooting a year-and-a-half ago, so the issue was personal to their immediate and larger Gucci family. And second, if he, Bizzarri, is trying to teach young people in the company to speak up to power, what better symbol of standing up to power to support than children standing up to the American government?

"An audience member asked as a follow-up: 'So going forward, does that mean that companies should take a stand?' And his response was, 'Well, who else is?'" ◆

"COMPANIES NEED TO BE ACTING LIKE VLOGGERS – AMASSING CONTENT FROM WHICH THEY MIGHT BE ABLE TO MINE SOMETHING FOR A STORY OR AN IDEA; BECOMING THEIR OWN INFLUENCERS, WRITING THEIR OWN STORIES."

MORTIMER SINGER
CEO, Traub

BLAKE SONNENSHEIN is a Partner in Brunswick's New York office, specializing in both the consumer and private equity sectors.

PHOTOGRAPH: COURTESY OF MARVIN TRAUB ASSOCIATES

VISIONS OF TOMORROW

Knowledge and relationships – not predictions – are the windows to the future, author and entrepreneur **ROSS DAWSON** tells Brunswick's **CARLTON WILKINSON.**

A FUTURIST IS NOT A FORTUNE TELLER. Ross Dawson, a futurist, helps businesses face the demands that an endless chain of tomorrows always brings. His job, he says, is not soothsayer, but trusted adviser.

"People ask me, 'how do you become a futurist?'" Mr. Dawson says. "My usual response is, 'You claim you are, and people either believe you or they don't.'"

The trick behind that, he adds, is that you have to have already established credibility. The second of his four books, *Living Networks*, anticipated Facebook and the rise of social media. "That helped," he says.

Based in his native Australia, he earned his university degree in physics and went to work first in computer sales and later in equity and capital markets with Merrill Lynch and Thomson Financial. Even as a student, he was interested in what was then termed "futurology." At those jobs, he learned how society works in technology, business and finance. To that, he added important training in scenario planning.

Mr. Dawson is the founder of professional services and publishing firm Advanced Human Technologies, and two professional platforms, the Future Exploration Network and the Future of Media Summit. He is in demand as a media commentator, guest speaker and corporate adviser.

The future, he says, is being written today in the relationships businesses are building. He talks to us about his profession, the challenges of rapid social and technological change, and the lessons learned from his own worst prediction.

How do you define the role of futurist?

Someone who helps people and organizations think about the future, so they can act better today. One project I'm working on is a taxonomy of futures studies and how futurists think, to explain the many different approaches. But that's how I define it.

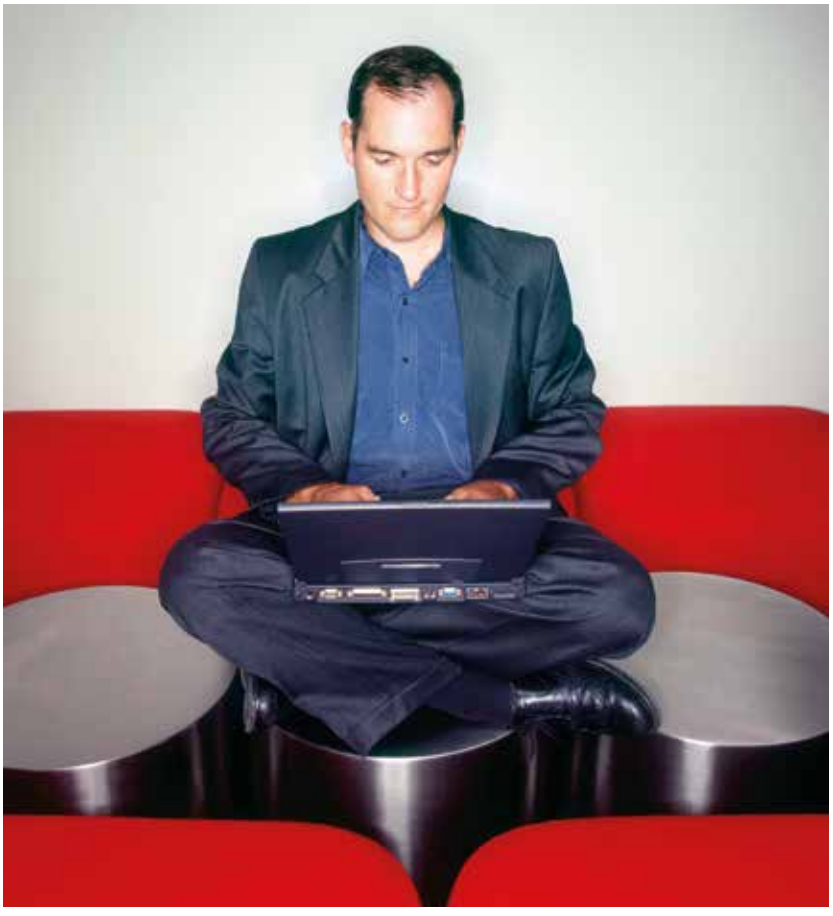
I don't believe that predictions are useful. In fact, they can sometimes have negative value. If you hang your hat on a prediction, you're likely not looking out for changes that are coming that will prove it wrong. So all the thinking that goes behind that prediction is lost. The reason to think about the future is to work out how we can shape it to create the world we want. The future is made by people.

What's the purpose of your published list of the world's top female futurists – 167 so far, from all over the world?

We need diverse perspectives. If all the perspectives on the future happen to be white, male and not so young, that's a problem. If you are in Bangladesh, you're going to have a different perspective on the world than if you're from New York. And there are extraordinary people out there.

The emerging economies are interesting here, in that they're not participating in the world of the past, but in the world that's coming.

Absolutely. There's a lot of discussion in Africa about leapfrogging. You're not tied to the old technology, the way to do things. You can leap ahead because you don't have anything to hold you back. Some places are going straight to mobile without having fixed lines. Kenya and other countries are arriving at more advanced payment structures than Australia, with



PHOTOGRAPH: COURTESY OF ROSS DAWSON

the US being way, way behind in terms of payments. They are creating the future.

In your speaking engagements with corporations, what is your message?

The only valid intent of speaking is that you change people, particularly how they think about or frame the future.

An organization has inertia. It has history. It has specific ways of working. Governance, for example, the highest level of responsibility for the organization, has to be able to manage risks to ultimately have a sustainable organization, to grow and create value over the long term. Yet governance is often more focused on risk of action than opportunity or the risk of inaction. So how do you frame the idea of change in a way that allows you to create the structures to allow the organization to transform itself?

You wrote that knowledge and relationships together are at the heart of the economy today. Why is that?

That was framed around professional service firms. Essentially you need to be able to make a client more knowledgeable. Greater knowledge means greater capabilities. You're able to make better decisions. In a knowledge-based relationship, the client is different as a result of your interaction. You're not just providing a black-box service.

Some of the largest organizations on the planet are those most open to innovation from beyond the organization itself – the US Department of Defense, Procter & Gamble, Boeing. They have literally hundreds of thousands of extraordinarily talented people inside their organizations, but they realize they must look outside the organization to get the talent they need.

We are seeing more of this shift to an economy based on this network of relationships. Technology has commoditized many interactions, but that is shifting the work of value creation toward these high-value collaborative relationships. Those relationships require trust.

Your book *Getting Results from Crowds* tackles that growing aspect of collaboration.

Globally, there are 3.7 billion users of internet-enabled mobile devices. That includes extraordinarily talented people, a global talent economy. *Getting Results from Crowds* looks at the many ways in which we can tap an entire world of talent. It is a very pragmatic book, trying to provide specific instructions for how to do this well.

How will that affect the future of the workplace?

We have dehumanized work for many decades. We have put work into boxes. This is your job description – and that's it. You've got a title in a box. And that's where you sit until you get promoted, or shifted.

That is not going to give us highly responsible, fluid organizations, responsive to the world around them. We need a more humanistic thing that looks at the capabilities of the individual – to tap the full breadth of experience, perspective, insights. With that, you can, in real time, match expertise or experience or relationships within the organization to the challenge or the opportunity as it emerges, creating a more fluid environment and a better response.

Automation is the other piece of this – the real impact of artificial intelligence on white-collar roles. Rather than saying, "Well, let's replace a human with a machine," we can focus on, "What are the unique capabilities of humans that we can use and that can be supported by machines?"

A culture of experimentation is also needed and is difficult in large organizations because sometimes experiments fail. This comes back to governance – how you encourage responsible risk taking, so that you're not just covering your ass all the time.

You've said you're not in the business of predictions, but do you have a prediction you're particularly proud of?

Well, let me tell you a prediction I got wrong. It's arguably my best-known attempt. It's been seen probably 10 million times and reported on in newspapers in 30 countries around the world.

In 2010, I created the Newspaper Extinction Timeline. I gave a year when news on paper would become insignificant in different countries around the world. I was pretty bold in my first one: the US in 2017. I'm pretty clearly wrong at this point.

I was wrong too, I think, on the back end, in predicting how long news on paper would remain significant in countries such as Russia or Brazil or Nigeria. Those are going to be gone a lot earlier than I said in the timeline.

This is where I say, "All right. Well, I don't believe in predictions." But the idea was to be able to provoke people to think about that. You can say, "I agree" or "I disagree." But if you disagree, then you have to articulate why you disagree – what's your reasoning? At the time, the CEO of the International News Media Association, Earl Wilkinson, wrote a blog post saying essentially, if Ross has helped us to think a bit more about what might be coming, then he's done us a service. ◆

"IF YOU HANG YOUR HAT ON A PREDICTION, YOU'RE LIKELY NOT LOOKING OUT FOR CHANGES THAT ARE COMING THAT WILL PROVE IT WRONG."

CARLTON WILKINSON is Managing Editor of the Brunswick Review.

A boy in the London Hamleys toy store holds a "Once Upon a Time Princess Rose" Peppa Pig toy, which sings when you hold its hands.

PHOTOGRAPH: ROB STOTHARD/GETTY IMAGES

The British cartoon swine is a global star. Just don't call her the next Winnie the Pooh, says Brunswick's **KEVIN HELLIKER.**

Suddenly PEPPA, World-Famous Pig

I PREDICT THAT YOU'LL SOON HEAR ABOUT PEPPA Pig, if you haven't already. That name is gaining force with such speed that you might even hear mention of it in a professional setting, for instance during that coffee-and-fruit-fueled social exchange that precedes board meetings. Among 5-year-olds, "Peppa Pig" mentions are so common that their parents increasingly can't help bringing the conversation into the office, as I can attest. My 4-year-old's case of Peppa fever had me a little worried until I canvassed other parents in Brunswick's New York office. Among this crowd, I discovered, Peppa is a celebrity on the order of Beyoncé or LeBron James.

Launched in 2004 by a London animation studio called Astley Baker Davies, Peppa is a cartoon girl, a talking, cycling, laughing, sometimes conniving girl who happens to be a pig, her sentences punctuated by piggy-like snorts. She lives with her mother and father and little brother, all snort-prone fellow pigs, in human-like circumstances. They have a house, a television and an automobile (an early criticism of the show, quickly addressed, was that Peppa didn't wear a seatbelt).

Her friends are fellow mammals given to barking and bahhhing, according to species. Episodes, each about five minutes long, typically involve the ordinary rites of childhood, especially those experienced playing outdoors. They marvel at their reflections in a mud puddle, prompting Peppa's father to try explaining the science behind mirrors – until he sees he's boring the kids, gives up and calls the phenomenon "magic." A staple of the show is that in the final scene all the characters on screen fall on their backs laughing. That's the overriding message of the show: Life is funny.

As inevitably as popularity spawns controversy, Peppa has drawn scrutiny. On parenting blogs, some writers have questioned whether Peppa, prone as she is to mischief, is the ideal role model. She certainly isn't as reverent as Barney, the purple dinosaur who ruled the kingdom of toddlers when my 24-year-old was a child. But Peppa is far less irreverent than Angelica, the tyrannical star of Nick's "Rugrats."

In China, Peppa became a symbol of rebellion for the so-called "gangster" culture, prompting the removal of some 30,000 Peppa videos from a popular app. But children there can still stream it – and do they ever. Online, everything Peppa is going viral in Asia, and in-store Peppa merchandise is hard to keep stocked. Increasingly there are Peppa sightings at theme parks.

In New York, meanwhile, my daughter now wears Peppa pajamas, purchased from The Gap. Is there any better evidence that the piglet who first charmed British toddlers has conquered the world?

Peppa airs on Channel 5 in the UK and on Nick Jr. in the US. Here in New York, my daughter watches it exclusively on YouTube where, if allowed, she would consume a dozen episodes consecutively.

In my office, I asked aloud what seemed like a reasonable question: Is Peppa the successor to that other British-accented cartoon animal, Winnie the Pooh?

"It's not even a contest," retorted my colleague Edward Stephens, clearly indignant. He spends a lot of time with his nieces and nephews, so he has seen and heard quite enough of Peppa. "Peppa is constantly yelling. Winnie is wise and loyal (if bizarrely clad in a shirt without pants) and softspoken. His friends – Tigger, Eeyore, Kanga – have depth too."

But what does Edward know? He's 31 years old. ◆

KEVIN HELLIKER, a Pulitzer-Prize-winning journalist, is Editor-in-Chief of the Brunswick Review.

On April 9, former Washington Post Chairman **DON GRAHAM** posted a long note on Facebook, just ahead of the congressional appearance of Facebook Chief Executive Mark Zuckerberg. The context of the post was the ongoing debate about social media and data privacy. But no knowledge of that issue is required to appreciate the story told here of an inter-generational friendship, one that developed between Mr. Graham and a 20-year-old college student named Mark Zuckerberg. This post is reprinted with the permission of Mr. Graham, now the Chairman of Graham Holdings Company.

Don Graham

Meet Mark Zuckerberg

This week's hearings are a serious time for Facebook and for Mark Zuckerberg. I assume that everyone reading this has questions about the role technology companies have come to play in our lives. You certainly should.

I want to talk to a different group: those who have come to believe that Mark Zuckerberg is himself a bad person. People like the very important Senator I sat next to some years ago who said a home-state nonprofit executive had told him she knew that "Zuckerberg is a creep." Or people who believe that Mark is more interested in profits than in the interests of the people who use Facebook.

I know I can't persuade you, but I would like to tell you otherwise. Watching him close up, I came to believe he is someone of great decency and good character. In a most unfavorable setting, what he says to members of Congress will be, within the limits of legal advice and courtesy, what he believes. And if he says that Facebook will do something, the company will do it (or at least, will try as hard as it can).

Criticism of Facebook policies turned into personal attacks on CEO Mark Zuckerberg following the much-publicized use of user data by shady external firm Cambridge Analytica. Above, Mr. Zuckerberg appears before a congressional committee in April.

I met the 20-year-old Mark Zuckerberg in January, 2005. Facebook was nine months old and I had never seen the site—it was only open to college students.

The youngest of my four children was two years older than Mark; through my kids and their friends, I had an extensive experience of shy, awkward 20-year olds. Mark was, by a mile, the shyest, most awkward 20-year-old I had ever met.

When I asked a question, there was sometimes a long, long pause before he answered. I wondered: had I somehow offended him? Did he not hear?

Actually, he was thinking. I'm from Washington, where opinions are on the tip of people's tongues. Listening—and thinking before answering--wasn't something I was used to seeing.

I had been at Harvard exactly 40 years before Mark and spent most of my time on the newspaper there. When Mark told me 95% of Harvard students were on Facebook, I said "There goes the Crimson"—

PHOTOGRAPH: YASIN OZTURK/ANADOLU AGENCY/GETTY IMAGES

Facebook would be a better advertising medium, so the newspaper would lose its revenues.

Mark, wiser than I, laughed and said yes, Facebook could pause and pick up some ad revenue in Cambridge, Massachusetts. But it was much, much more important to reach other colleges before similar products could arise there and get entrenched. Users before revenue.

We talked a little bit about Facebook as a business. The future tech titan did not then know the difference between revenues and profits.

Like many, many people before and since, I offered to invest in Facebook. Mark considered it for some weeks, and chose to go with a much higher offer. When he called to tell me, he said he was having a "moral dilemma" because he worried he had been too encouraging in our earlier conversations. I was disappointed but quite impressed by the maturity with which he handled the matter—pretty good for a 20-year old.

Two years later, I was in Palo Alto and called on Mark. We met at his apartment, in which there were four pieces of furniture: a mattress (on the floor), a kitchen table and two wooden chairs. It was about at this time that Mark turned down a billion-dollar offer for Facebook. I noted that he wasn't letting success go to his head.

In 2008, at least one large public company was trying to hire the 38-year-old Sheryl Sandberg, a Silicon Valley star who was responsible for much of the ad revenue at Google. Sheryl, who literally knew the top people at every big advertiser in the world, could have gone to work at any company in media, and could have run many of them.

A reasonably astute judge of character, she chose to go to work for a 23-year-old. That she is still there speaks greatly to Facebook's success, but also to Mark's decency. The team they have put together—brilliant, optimistic, young—have worked together a long time.

In those days, the caricature of Mark came from the movie The Social Network—quite a cruel movie about a 26-year old, even a very successful one. The movie takes the premise that Mark invented Facebook to get dates with girls and to get into a snobby Harvard "final club." The movie begins and ends with women calling him an asshole.

A guy like that could date a lot of models and movie stars if he became a billionaire, right? Since I first knew him (a few months after the time shown in the movie), Mark has been together with Priscilla Chan, his sophomore-year girlfriend. After graduating, Priscilla became a teacher in Palo Alto. Today she is a pediatrician, the founder of a great and innovative school in East Palo Alto, and the co-leader of the Chan Zuckerberg Initiative (the entity she and Mark founded to give away 99% of their net worth). She is smart, impressive, humble, and kind. She and Mark married five years ago and have two daughters.

I served on the board of Facebook for six years, retiring at the mandatory age of 70 in 2015. I don't believe it violates board privacy to say: I was a constant prod for more investment in advertising staff and products. I thought the early Facebook advertising products were hideous. I wasn't alone. I was pushing against Mark, whose priority was always growth and the best experience for users, not revenue. He is as long-term minded as the best CEO's.

> "When I asked a question, there was sometimes a long, long pause before he answered. I wondered: had I somehow offended him? Did he not hear? Actually, he was thinking."

It is true that Mark and Facebook seem destined to be at the center of an unending series of controversies. One of the biggest I witnessed close-up surrounded Facebook's 2012 IPO. After months of build-up and excitement about the offering, NASDAQ's systems crashed because so many people wanted to buy stock. More seriously, in subsequent quarters, Facebook's ad revenue lagged because the company had been slow in adapting to its users' rapid shift to mobile devices. Facebook had no mobile advertising products. Had the company properly informed investors about this problem?

Others solved the lawsuits; Mark solved the problem. He took some of Facebook's most-respected developers and assigned them to mobile ads. And he and the team rewrote the mobile app from the ground up, knowing that users had to have a good experience before the ads would work. Facebook's mobile audience, and its revenues, exploded.

And this is his pattern. When daunting challenges arise at Facebook, Mark still listens and still thinks. He worked his way through a long, long list of product and privacy challenges, all of which aroused people greatly at the time, most of which you have now forgotten (your Facebook page, and its "news feed" aroused enormous controversy when first created).

Today the charges against Mark and Facebook are graver still. Did Russian ads and posts of false news sway the 2016 election (If you believe this, I REALLY want to talk to you)? Why was Cambridge Analytica permitted to make off with so much user data? Does Facebook tilt us towards polarization and political intransigence? There's much more. Slowly and patiently, Mark, Sheryl and their team will make Facebook much better. Should they have acted sooner? Of course. Do they understand how angry many of their users are? I would bet a lot that the answer is yes. Watch the changes they will make.

We don't allow public hangings or bear-baiting in the United States any more. Congressional hearings like this one, with lots of Senators badgering an unpopular CEO, are a substitute. For some Senators—not all—the idea is to ask the nastiest, most hostile questions, thereby earning the prize: time on television. The witness's replies won't get much air time.

Those of us in the audience, might take a tip from the still-young man (he's 33) behind the witness table.

Listen.

Like Comment Share

AMONG **97 COMMENTS** WAS THIS:

SHERYL SANDBERG Don, you were the reference check I did on Mark before joining Facebook. Thank you for your wise counsel then and ever since.

Critical moment

In 1965, Gordon Moore, later a co-founder of chipmaker Intel, observed that at the rate transistors were shrinking, the number that would fit on to a circuit board would double every year for the foreseeable future, while manufacturing costs would continue to fall. His paper, published in the journal Electronics in April of that year, had the mundane title "Cramming More Components on to Integrated Circuits."

The technology "will lead to such wonders as home computers … automatic controls for automobiles, and personal portable communications equipment," Mr. Moore wrote. The first wave, he predicted, would be an increase from 64 transistors on a single chip in 1965 to 65,000 in 10 years. In 1975, his estimate was proven eerily accurate: A chip manufactured that year could hold 65,536. At that point, he adjusted the estimate to a doubling every two years.

And there it has remained to this day, far longer and more accurately than even Mr. Moore expected. Known as Moore's Law, the trend has held the tech industry in thrall for over half a century, becoming the *de facto* metronome of the digital revolution. Every time your smartphone needs to be retired in favor of a newer one, you are feeling its effects.

Doubling the chip density at that rate pushes computing power upward on an exponential curve and sets a critical benchmark for digital innovation. The drumbeat of Moore's Law allows tech companies to anticipate changes and develop functions to exploit them, effectively coordinating the entire industry and permitting a fast, efficient pace of innovation.

To illustrate the boldness of Mr. Moore's prediction, in 1965, the state of the art in consumer tech was the Olivetti Programma 101, a calculator that could be programmed using magnetic cards – arguably the world's first desktop computer. Over 40,000 were sold, at a price of about $3,200 each (over $25,000 today). The device could do basic functions including square roots, but also some logical operations, printing out the results on paper rolls like a cash register. NASA used it for calculations involved in the Moon-landing Apollo 11 project.

Today, a standard issue iPhone 8 has billions of transistors on a single chip. It costs under $1,000 and can do all of those boring functions while simultaneously tracking your health, streaming episodes of "Game of Thrones" and texting photos of food.

However, as Mr. Moore himself observed, "no exponential is forever." Eventually, transistor sizes will reach a point where the tools used to create them physically can't get any smaller. The chip industry has been warning for years that we are near that critical juncture and it hopes that system architecture overhauls can keep the effects of Moore's Law on track.

But where there's life, there's hope. New silicon and carbon nanotube research promise even smaller transistors. Meanwhile, waiting in the wings, the weird world of quantum computing could abandon transistors completely, propelling growth while making Moore's Law obsolete.

One way or another, we are rapidly closing in on a new inflection point. The future beyond will have to compete with the explosive pace Mr. Moore helped set in motion 53 years ago. ◆

CARLTON WILKINSON is Managing Editor of the Brunswick Review, in New York.

MOORE'S LAW
APRIL 1965

Office workers in 1966 calculate numbers on the newly released Olivetti Programma 101. Billed as the world's first desktop computer, the device was released in 1965, the same year Intel co-founder Gordon Moore first articulated the chip-miniaturization trend that came to be known as Moore's Law.

PHOTOGRAPH: ULLSTEIN BILD VIA GETTY IMAGES

Brunswick Group OFFICES

ABU DHABI
Office 506
Park Rotana Office Complex
Twofour54
PO Box 77800
Abu Dhabi
United Arab Emirates
T: +971 2 234 4600
F: +971 2 245 1401
uaeoffice@brunswickgroup.com

BEIJING
2605 Twin Towers (East)
B12 Jianguomenwai Avenue
Beijing, 100022
People's Republic of China
T: +86 10 5960 8600
beijingoffice@brunswickgroup.com

BERLIN
Taubenstraße 20-22
10117 Berlin
Germany
T: +49 30 2067 3360
F: +49 30 2067 3366
berlinoffice@brunswickgroup.com

BRUSSELS
Avenue des Arts 27
1040 Brussels
Belgium
T: +32 2 235 6510
F: +32 2 235 6522
brusselsoffice@brunswickgroup.com

CHICAGO
300 North LaSalle Street
Suite 2260
Chicago, IL 60654
USA
T: +1 312 800 8120
chicagooffice@brunswickgroup.com

DALLAS
200 Crescent Court
Suite 1850
Dallas, TX 75201
USA
T: +1 214 254 3790
F: +1 214 254 3791
dallasoffice@brunswickgroup.com

DUBAI
Level 5
Gate Village Building 10
PO Box 506691
Dubai International
Financial Centre
Dubai
United Arab Emirates
T: +971 4 446 6270
F: +971 4 560 9601
uaeoffice@brunswickgroup.com

FRANKFURT
Thurn-und-Taxis-Platz 6
60313 Frankfurt am Main
Germany
T: +49 69 2400 5510
F: +49 69 2400 5555
frankfurtoffice@brunswickgroup.com

HONG KONG
12/F Dina House
11 Duddell Street, Central
Hong Kong SAR
T: +852 3512 5000
F: +852 2259 9008
hongkongoffice@brunswickgroup.com

JOHANNESBURG
23 Fricker Road
Illovo Boulevard, Illovo
Johannesburg
South Africa
T: +27 11 502 7300
F: +27 11 268 5747
johannesburgoffice@brunswickgroup.co.za

LONDON
16 Lincoln's Inn Fields
London WC2A 3ED
United Kingdom
T: +44 20 7404 5959
F: +44 20 7831 2823
londonoffice@brunswickgroup.com

MILAN
Via Solferino, 7
20121 Milan
Italy
T: +39 02 9288 6200
F: +39 02 9288 6214
milanoffice@brunswickgroup.com

MUMBAI
The Capital
814, 8th Floor
C-70, G Block, Bandra Kurla Complex
Bandra East
Mumbai 400 051
India
T: +91 22 61358500
mumbaioffice@brunswickgroup.com

MUNICH
Widenmayerstraße 16
80538 Munich
Germany
T: +49 89 809 90 250
F: +49 89 809 90 2555
munichoffice@brunswickgroup.com

NEW YORK
245 Park Avenue
14th Floor
New York, NY 10167
USA
T: +1 212 333 3810
F: +1 212 333 3811
newyorkoffice@brunswickgroup.com

PARIS
69 Boulevard Haussmann, 6th Floor
75008 Paris
France
T: +33 1 53 96 83 83
F: +33 1 53 96 83 96
parisoffice@brunswickgroup.com

SAN FRANCISCO
One Bush Street
Suite 1400
San Francisco, CA 94104
USA
T: +1 415 671 7676
F: +1 415 671 7677
sanfranciscooffice@brunswickgroup.com

SÃO PAULO
Avenida Dr. Cardoso de Melo
1.340 - Sala 101
Vila Olímpia
São Paulo SP
Brasil 04548-004
T: +55 11 3076 7620
saopauloffice@brunswickgroup.com

SHANGHAI
Room 2907,
United Plaza
1468 Nan Jing Road West
Jing'an District
Shanghai 200040
People's Republic of China
T: +86 21 6039 6388
shanghaioffice@brunswickgroup.com

SINGAPORE
6 Battery Road
#16-06 Singapore 049909
T: +65 6426 8188
F: +65 6426 8199
singaporeoffice@brunswickgroup.com

STOCKHOLM
Fourth Floor
Birger Jarlsgatan 15
111 45 Stockholm
Sweden
T: +46 8 410 32 180
F: +46 8 611 00 56
stockholmoffice@brunswickgroup.com

VIENNA
Concordia Haus
Bankgasse 8
1010 Vienna
Austria
T: +43 1 907 65 10
F: +43 1 907 65 10 40
viennaoffice@brunswickgroup.com

WASHINGTON, DC
600 Massachusetts Avenue, NW
Suite 350
Washington, DC 20001
USA
T: +1 202 393 7337
F: +1 202 898 1588
washingtonoffice@brunswickgroup.com

Brunswick Group COMPANIES

BRUNSWICK ARTS
16 Lincoln's Inn Fields
London WC2A 3ED
United Kingdom
T: +44 20 7404 5959
brunswickarts@brunswickgroup.com
www.brunswickarts.com

MERCHANTCANTOS
16 Lincoln's Inn Fields
London WC2A 3ED
United Kingdom
T: +44 20 7242 1336
F: +44 20 7936 7788
office@merchantcantos.com
www.merchantcantos.com

THE LINCOLN CENTRE
18 Lincoln's Inn Fields
London WC2A 3ED
United Kingdom
T: +44 20 7936 1300
F: +44 20 7396 3535
info@thelincolncentre.co.uk
www.thelincolncentre.co.uk

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