# wireframe

**juggle the overload**

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Digital Information

Digital
Information

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# Editorial

The way of receiving information seems to have definitely changed. Every day, from every medium, we are bombarded and subject to a series of contents, images, input of every kind and type that almost seem to chase us, bump into us during our days. What all this overload generates in us, often and willingly, is a great discomfort, a great confusion. Who should we listen to? By what criterion do we agree with one or the other opinion? Which information is more truthful? How to discern what is true from what is not? Every day we have mainly two possibilities: either we choose to get away from all this information because it is too much and unmanageable, or we have the possibility to get involved by trying to outline a method, to find a way, a way to be able to orient ourselves more easily in all this abundance of content that overwhelms us every day. Or simply find a way not to succumb to all this myriad of content and information. Easy? Difficult? First of all, you have to get involved in order not to sink into it.

If we could imagine the world of information and media content through an image, let's imagine a great sea, in which, willingly or not, we find ourselves having to navigate. But let's not imagine a calm sea; let's imagine it rather in a storm, where we could be thrown to the left and right without having a foothold to hook onto. How can we save ourselves? We need a lighthouse, we need something that does (or at least helps us to do) order; we need something that makes us understand the way out of it (save ourselves); we need a lifebuoy, to hang on to precisely so as not to drown.

All this bewilderment, if we think about it, is possible to experience it even now in whatever condition we find ourselves in, in our days marked by different and often conflicting opinions and information, in all the media storm in which we find ourselves sailing (or shipwrecked?).

What we need, then, is a method, a personal compass through which we can orient ourselves in this vastness of content, opinions, information in every area and place.

This confusion to which man is subject is not limited only to the field of digital information, but if we pay attention we find this kind of discomfort in other areas of digital information: from digital advertisiment to digital gaming; from digital entrateinment to digital relationships.

What is proposed in these pages is not a form to solve that discomfort coming from an overload of information or to be able to bear it without succumbing, but a method that outlines page after page. An attempt to bring everything to an order and calm in order to mature a critical and stable judgment. In fact, the very structure of the magazine, in the order of the presentation of its contents and sections, illustrates a method for building a critical point of view on reality. Each article is like a piece, a small line that collaborates to form a Wireframe, a solid and rigorous framework on which it is possible to build and build. This skeleton constitutes the foundation on which it is possible to try to have a clarity; a tool to orient oneself in all this sea of information.

Starting from the awareness of the problem, in this case of digital information, Wireframe proposes virtuous cases of men who, faced with an overload, have managed to change it into something positive, to exploit it and live with it.

The same young editorial crew here proposes what she herself first of all tries to live in order not to suffocate in this storm of information: what is needed is therefore to find her own way, to find her own Wireframe, her own framework on which to build, in such a big world where otherwise it would be easy to get lost.

## WHAT WE NEED, THEN, IS A METHOD, A PERSONAL COMPASS THROUGH WHICH WE CAN ORIENT OURSELVES IN THIS VASTNESS OF CONTENT, OPINIONS, INFORMATION IN EVERY AREA AND PLACE.

Welcome to a new world, where all things move in every direction at a standstill.

Fake news can affect elections and show discord in everyday life. Five strategies to help us unravel the web between true and false.

Post-truth consists in the objectivity of data becoming commonplace and in the supremacy of emotional speeches.

In the last year alone, more than two trillion pictures have been uploaded online. The consequences can be worrying.

What happens if you study and show the oscillating nature of political opinions on social media?

How and why is Google able to create a hierarchy among all its countless contents?

If the data does not exist, you do not exist.

Look how many miles we shake in a year. And you, how much did you scroll?

How much do we know? Where? Who knows more?

Our brain is unable to elute and retain more than five stimuli. What happens if you have a memory overload?

A quiz to try to recognize what is fake news from what is not

Search

Safari

Mail

Contacts

Calendar

Reminders

Notes

Maps

Messages

FaceTime

Photo Booth

Photos

iTunes

iBooks

App Store

Preview
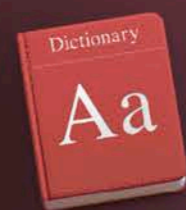
Dictionary

Calculator

Other

Siri

Mission Control
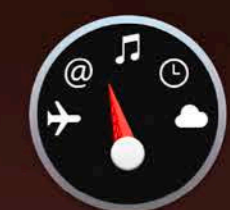
Dashboard

System Preferences

Google Chrome

Adobe Ph...p CC 2017

Skype

Adobe Lightroom
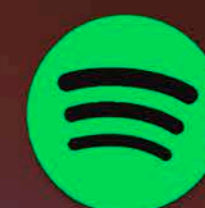
Spotify

Napkin

Steam

Adobe Illu...r CC 2017

Adobe Bridge CC 2017

Scrivener

Origin

Install ma...igh Sierra

Discord

# PERMA-FLUX: a new state of mind

## WE LIVE IN AN AGE OF UNCERTAINTY. THE CONSTANT FLOW OF COMMODITIES, TECHNOLOGIES AND EVEN IDEAS THAT MAKE UP OUR GLOBAL MARKETS HAS SNOWBALLED, OVER TIME, CREATING A MAMMOTH, MULTI-DIRECTIONAL DISCOURSE IN WHICH OUR COLLECTIVE EXPERIENCE OF CHANGE IS FORTIFIED BY A COLLECTIVE FEELING OF CHAOS AND ANXIETY.

REPORT BY
**SUPERIMPOSE**
**creative agency**

GRAPHICS
**SUPERIMPOSE**
**creative agency**

We live in an age of uncertainty. The constant flow of commodities, technologies and even ideas that make up our global markets has snowballed, over time, creating a mammoth, multi-directional discourse in which our collective experience of change is fortified by a collective feeling of chaos and anxiety. This, in essence, is PERMA-FLUX.

The impact of PERMA-FLUX is significant. So significant, it's forced an evolution in how we understand the world. We question our realities. Then we question our feelings towards our particular realities. Then we question whether our feelings towards our realities corresponds with everyone else's questions about their own individual realities — individual realities which at some point,

presumably, come together to form a reality that we experience collectively.

As uncertainty increases, it becomes more difficult to predict the future. No wonder, then, that our current era can feel so short-sighted, extending scarcely a week or two into the past and future at any time. The faster time moves, the harder it is to locate yourself within the current moment. 24-hour cable news and 'always-on' digital media have turned the present moment into something that engulfs us. Constantly. Over and over. This type of change – ongoing, non-linear and exponential – completely disrupts the structures that informed and helped to create 20th century society. And how we adapt to them will, in turn, determine our ability to prosper as individuals and as communities in the 21st.

HERE ARE SOME PICTURES OF THE PERMAFLUX COLLECTIVE.
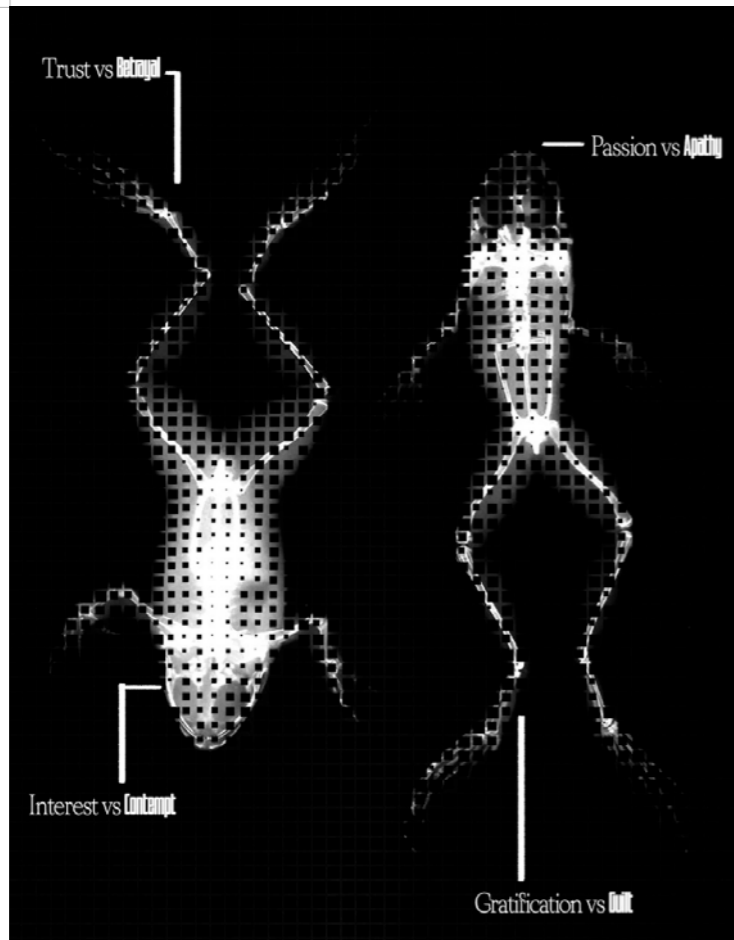


Trust vs Betrayal

Passion vs Apathy

Interest vs Contempt

Gratification vs Guilt

24-HOUR CABLE NEWS AND 'ALWAYS-ON' DIGITAL MEDIA HAVE TURNED THE PRESENT MOMENT INTO SOMETHING THAT ENGULFS US. CONSTANTLY. OVER AND OVER. THIS TYPE OF CHANGE – ONGOING, NON-LINEAR AND EXPONENTIAL – COMPLETELY DISRUPTS THE STRUCTURES THAT INFORMED AND HELPED TO CREATE 20TH CENTURY SOCIETY.

Realities.
PERMA-FLUX is framed by three realities:

1. Universal Reality  Human interconnectivity, in tandem with the global market exchange of commodities, technologies and ideas has created a new reality in which previously localised systems such as economics, politics and even music transcend from local and national schemas to the global – the Universal reality.

2. Cultural Reality Amidst this gradual homogenisation, we each maintain elements of distinctive mental programming that we share with others in society. Though these distinctions have historically manifested along lines such as race, nation, ethnicity, gender and sexual identity, the advent of the Internet and digital culture has facilitated the creation of infinite new 'cultural realities'.

3. Individual Reality  The core of the apple, Individual reality comprises those subconscious specificities that structure our reactions to cultural and universal reality. As each current enacts its push-and-pull on our lives, their impact is registered in changes to our individual realities.

In recent years, cultural and universal reality has been allowed to thrive at the expense of the stability of individual reality. Yet understanding our individual realities and how they interact with one another is crucial to determining our collective future. First, however, we have to accept that many of the feelings we experience as were traverse these three dimensions may never be fully known or understood, nor separated from the observer or individual.

In a complex and ambiguous reality, our long-term success rests on our ability to navigate PERMA-FLUX with patience, creativity, and empathy.

Pre-Internet, the structure of these realities and their influence was easier to map out. We lived in a world (univer-

sal reality) full of clearly-defined commodities and industries to trade with and through. Our home nation created the framework (cultural reality) for living through politics and local cultural forces. And for the most part, our feelings (individual reality) had little recourse to enact change upon the former two.

In the post-Internet age, things get a bit more complicated.

Our universal reality comprises a world which is, by most measures, dying, and a global economy that now includes data, derivatives, algorithms, and countless other opaque digital products that are constantly bought and sold, bought and sold, each time vanishing back into the economic ether.

Cultural realities have shifted, though not entirely, onto the digital plane, where we are now constantly creating new communities based on the media we consume, the stores we shop in, the mailing lists we receive in our inboxes, even the subreddits we subscribe to and the celebrities who have blocked us on Twitter.

Furthermore, political unrest across huge segments of the globe means that the notion of cultural reality in a purely geological sense is questionable (what's the cultural reality of Raqqa, Syria, for example?) and even if such a question could be meaningfully answered, for how long will that answer be accurate before the forces of individual and universal reality throw it once more into uncertainty? Individual reality, meanwhile, has arguably risen to prominence, but typically in lacklustre and oft-troubling ways; collated into charts and graphs so fast-fashion brands can sell you algorithmically-designed t-shirts on Facebook, or translated into data so that your dislike of baked beans can be leveraged to sway your vote in an upcoming election.

What does this mean? In short, it's a double-edged sword. We exist across digital and physical spheres, and we exist differently within each of these spheres. New technologies and systems are susceptible to, even explicitly designed for, our newly-empowered individual realities. The Internet has radically altered our realities beyond our capacity to fully understand them, and the question of whether this will create utopia or tyranny depends on how quickly we come to terms with this fact.

PRE-INTERNET, THE STRUCTURE OF THESE REALITIES AND THEIR INFLUENCE WAS EASIER TO MAP OUT. WE LIVED IN A WORLD (UNIVERSAL REALITY) FULL OF CLEARLY-DEFINED COMMODITIES AND INDUSTRIES TO TRADE WITH AND THROUGH.



Individual.

Binding levels of Reality.
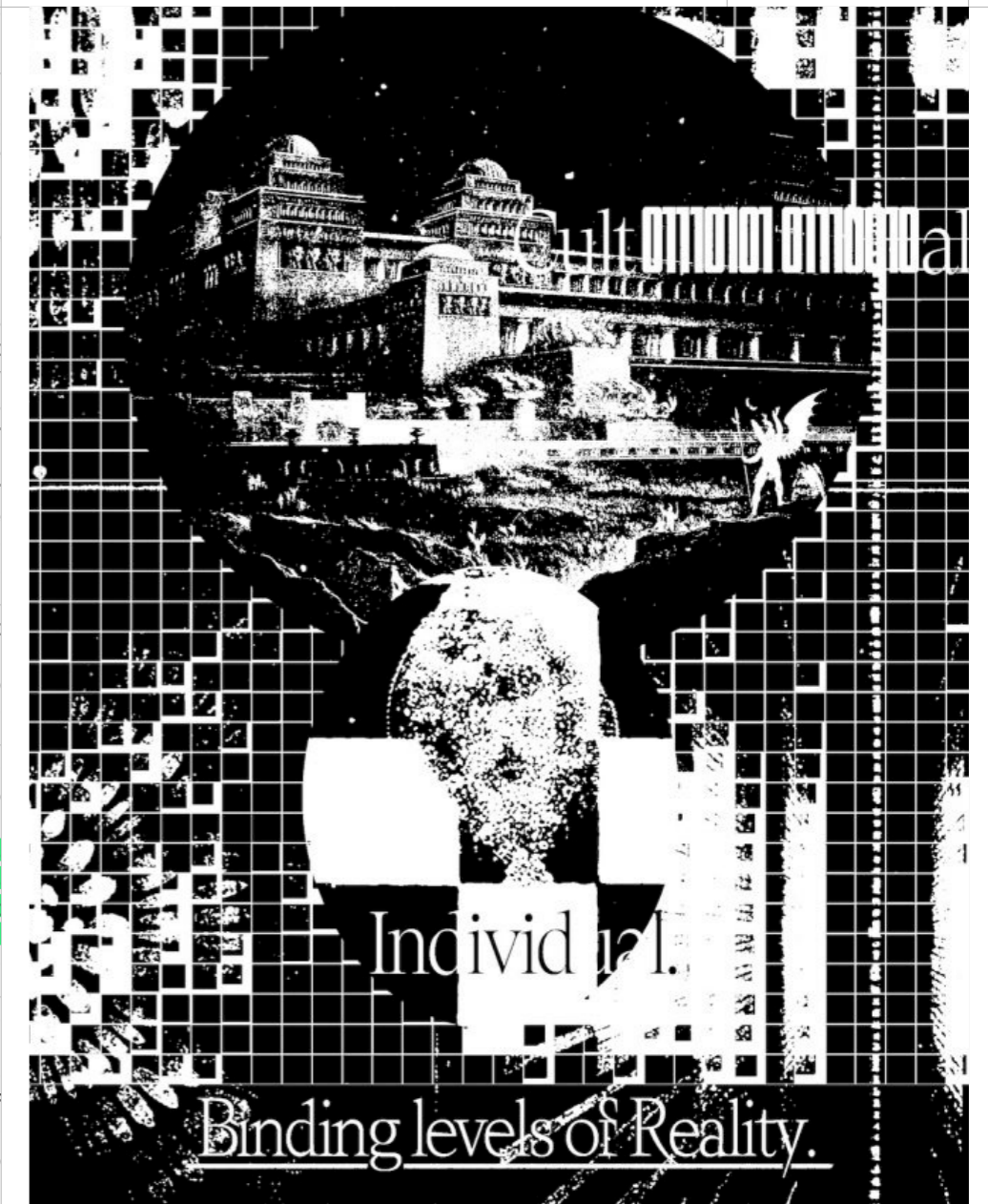
Emotions.
Over the years, numerous theories and models have been formulated in attempts to classify human emotions. The current model of interest, the 'Wheel of Emotions' developed by Robert Plutchik in the 1980s, comprises 8 primary emotions arranged in a wheel, surrounded by a further 16 secondary and tertiary emotions; for example, the primary emotion of rage is followed by anger, and then annoyance. As the wheel branches off, the

relationship between each emotion can be visualised. Plutchik then breaks down a wide array of human feelings into neighboring 'petals' on his wheel of emotions. Love, for example, is identified as a combination of joy and trust, while shame is made from fear and disgust.

PERMA-FLUX requires us to understand the power of emotions and their impact on our realities. Through our work tracking and dissecting consumer shifts and cultural connections, new, opposing emotions have arisen that we believe are having a lasting impact on society. Building on Plutchik's wheel, these 'new' oppositional emotions are a consequence of the post-Internet world; a clear distinction from previous theories and thinking. Our model evolves the theory of opposites, surfacing conflicting emotions that now co-exist.

1. Trust/Betrayal: In a post-truth world, we are increasingly sceptical of new information, and there is an increasing demand for more transparent and ethical practices. Facebook is working harder than ever to convince us to trust them with our private data, but only because they've spent so many years betraying that trust. Our desire to live harmoniously with the digital powerhouses with whom we are sharing evermore personal information and feelings is met with near-continuous betrayal. And still, we don't leave.

2. Passion/Apathy: *Clickbait media* is now the name of the game. Every article you read, every news broadcast you watch, whether from *Fox News*, *MSNBC* or the *BBC*, has been crafted to elicit an emotional response. They reveal how passionate we are about a subject, which is always a lot, because the messaging tells us that we should be. We expend huge amounts of energy trying to stay plugged in and passionate, becoming overloaded with information and burnt out with the bludgeoning of daily affairs. Such a predictably chaotic and chaotically predictable approach to the news media production could only ever lead to one thing for its consumers – burnout, followed by apathy. Every news story is a bombshell, same as the day before, and the day before, and the day before.

3. Interest/Contempt: Consumer culture tells us that we are naturally drawn towards people and commodities that represent an 'ideal', but as 'perfection' becomes more accessible, the more we are forced to question the truth in reality. Crisp, airbrushed images of cell phones and chicken sandwiches sell us ideals that could never be matched by their real-life counterparts. Pore-perfect renderings of digital 'supermodels' thrust us into the uncanny valley. When our vision and our intuition fail to align, our interest is led down a path to contempt. After all, the first iPhone changed the entire world, but that latest one looks pretty disappointing, doesn't it?

4. Gratification/Guilt: We know we have less than two decades to radically change our consumption to reverse climate change. But we live in a world where social currency is traded on the brands you buy, the clothes you wear, and exclusivity. Our desire for the scarcity that creates desirable commodities could leave us with a society defined by scarcity of food, water, energy and land. The pursuit of gratification leads to, and is often already coupled with, the guilt of the consequences of that same pursuit. We want out of the game so we can save the planet, but saving the planet might leave us shut out of the game.

# When you alter the flow of information through society, you alter the society itself.

# In a complex and ambiguous reality, our long-term success rests on our ability to navigate PERMA-FLUX with patience, creativity, and empathy.
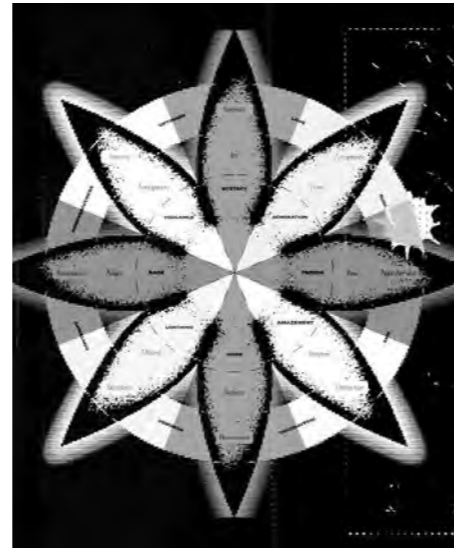


**Drivers.**
The way that our environment shapes our behaviour often extends beyond our ability to perceive it. What has become clear is that everything we do and believe is formed by the technologies we build and use. Combined with the communication breakthroughs of

the late-twentieth century, the message is clear: When you alter the flow of information through society, you alter the society itself. We have identified five key drivers which we believe have the largest impact upon PERMA-FLUX and how it manifests in the current era:

**1. Democracy of Information:**
The digital revolution shattered existing models for the exchange of knowledge and information. Where the previous cost for acquiring knowledge encompassed books, library visits, higher-education costs and more, the rise of the Internet and affordable digital technology means the barrier to entry is significantly lower than even 10 years ago. Where factual disputes were once settled by academics and those party to particular channels of information, now they're decided by citations from Google and Wikipedia, a web of references with no beginning or end, by the people, for the people.

**2. Media Landscapes:**
What this represents is a transition from information scarcity to information abundance. Mainstream media, a structure which held, and continues to hold, immense influence over communities, is transforming on many fronts from a passive delivery and consumption system to a non-stop, hyperlinked, interactive broadcast of reactive (and often reactionary) news. As social media networks continue to be the only 'tool' with which we can engage this new paradigm, the landscape of the networks prevails; content is shared and consumed dependent upon each user's groups, subscriptions and alignments. The transient nature of each platform, with content flying past at breakneck speed, lends itself to the rinse-and-repeat nature of 24-hour news cycles. We've lost perspective, becoming more shaped by the nature of the media than the content itself.

**3. New Economies:**
The creation, dispersal and globalisation of new digital economies has had a greater impact in 30 years than the Industrial Revolution, a process that took almost a century. This rapid, disruptive change is one of the origins of increasing complexity, unpredictability and chaos. If iron, coal and steam were the fuel of the Industrial Revolution, the fuel of the digital revolution is data.The plurality of tech and digital media companies' profitability comes from their ability to algorithmically organise the wealth of data they collect about us into information that can be used to sell us commodities. For many of these companies, the creation of perfect consumer subjects is the explicit end goal.

**4. Urbanisation:**
In the globalised economy, the city has superseded the nation in importance in international trade, immigration and cultural exchange. Globalisation and the homogenisation it brings with it has not entirely obliterated geography so much as it has reformed cities as the vital centres of influence structures. Furthermore, it could be said that many cities share more in common with one another than they do with their nation-states. They share the same systems, host the same events, have the same artistic institutions, offer the same services commodities, and in turn create the same lifestyles. Residents from completely different places now live in the same cultural realities as urban, 'urbanised' subjects.

**5. Climate Change:**
In October 2018, the UN IPCC released a landmark report stating urgent and unprecedented changes are needed over the next 12 years to limit climate change catastrophe. The severity of changing weather patterns and increasing natural disasters has created a new term, 'solastalgia', describing the mental, existential distress or feeling of loss caused by environmental changes that affect our environment. Witnessing the direct effects of climate change has created within us a ticking time-bomb of anxiety.



# THE INTERNET HAS RADICALLY ALTERED OUR REALITIES BEYOND OUR CAPACITY TO FULLY UNDERSTAND THEM, AND THE QUESTION OF WHETHER THIS WILL CREATE UTOPIA OR TYRANNY DEPENDS ON HOW QUICKLY WE COME TO TERMS WITH THIS FACT.

a) Democracy of Information

c) Climate Change

b) Media Landscapes

d) Urbanisation

e) New Economies

WE'RE BEGINNING
TO QUESTION WHETHER
WHAT WE'RE TOLD
IS THE TRUTH, AND IF NOT,
WHETHER WE, THE PEOPLE,
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AND IF NOT, WHETHER
SUCH A THING AS TRUTH
EXISTS AT ALL.
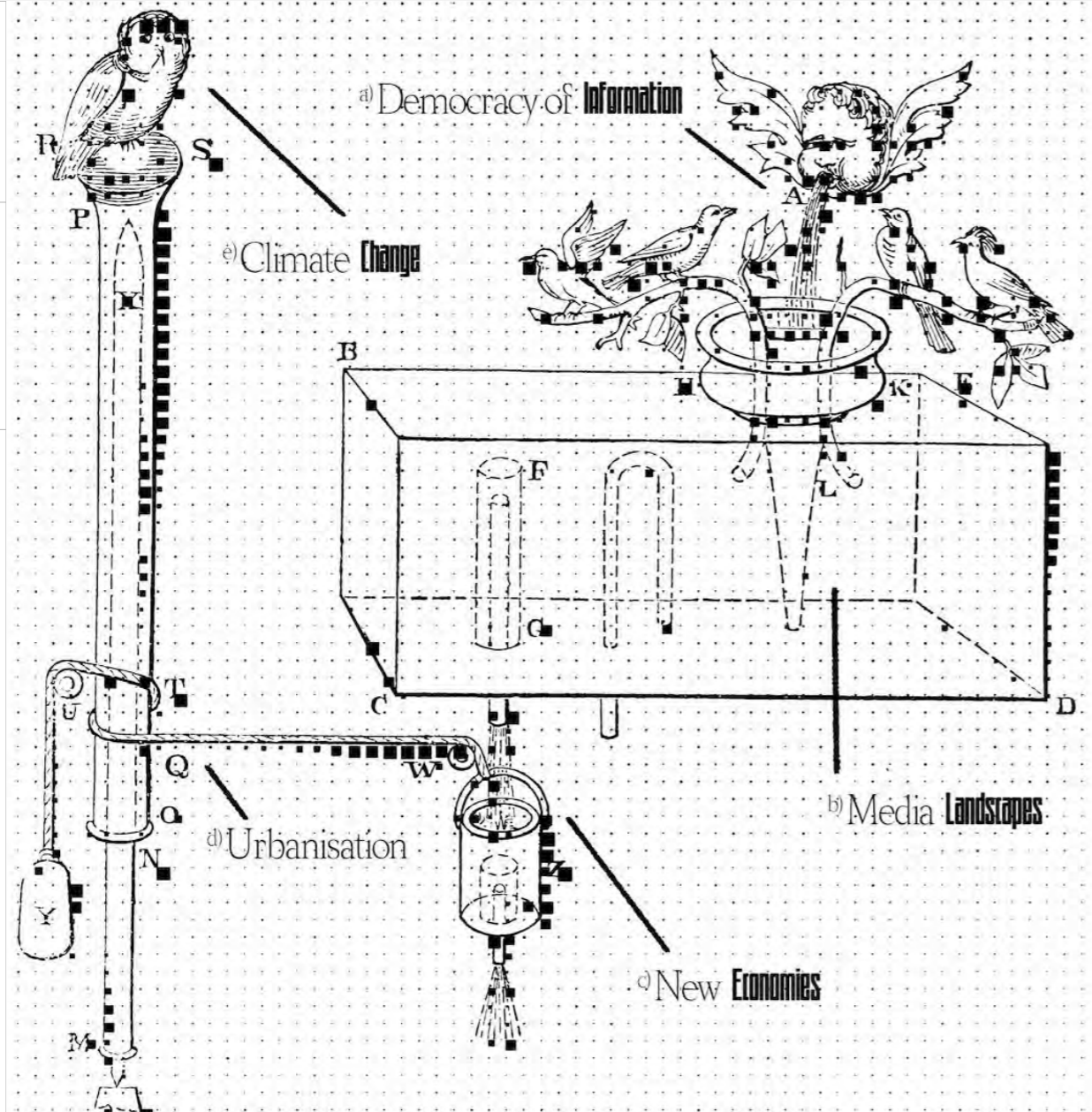
**Conclusion.**
Picture a whirlpool. At the whirlpool's edge, the water appears to move pretty slowly. As you move toward the centre, however, the current gets much faster, and more chaotic. Similarly, the acceleration of change affects us all, wherever we are. Though those of us who live in urban centres might experience PERMA-FLUX with more intensity, those currents are present in rural and suburban communities also. And though they might appear to move more slowly, they're still moving toward the centre.

In 2019, anyone over the age of 18 has experienced PERMA-FLUX. In many ways, it's a concept that was defined by the events of 18 years ago. September 11th, 2001 was, in many ways, the event that marked the beginning of the new era, a time when information necessarily had to be in flux, where the enemy could be in one country today, another tomorrow, maybe even living next door to you. Smartphones, fibre-optic cable, cloud storage and the Internet of Things only amplified this cultural shift.

Now, in the aftermath of numerous significant historical and political milestones, we're beginning to question whether what we're told is the truth, and if not, whether we, the people, could find that truth, and if not, whether such a thing as truth exists at all. But we also understand that our engagements with the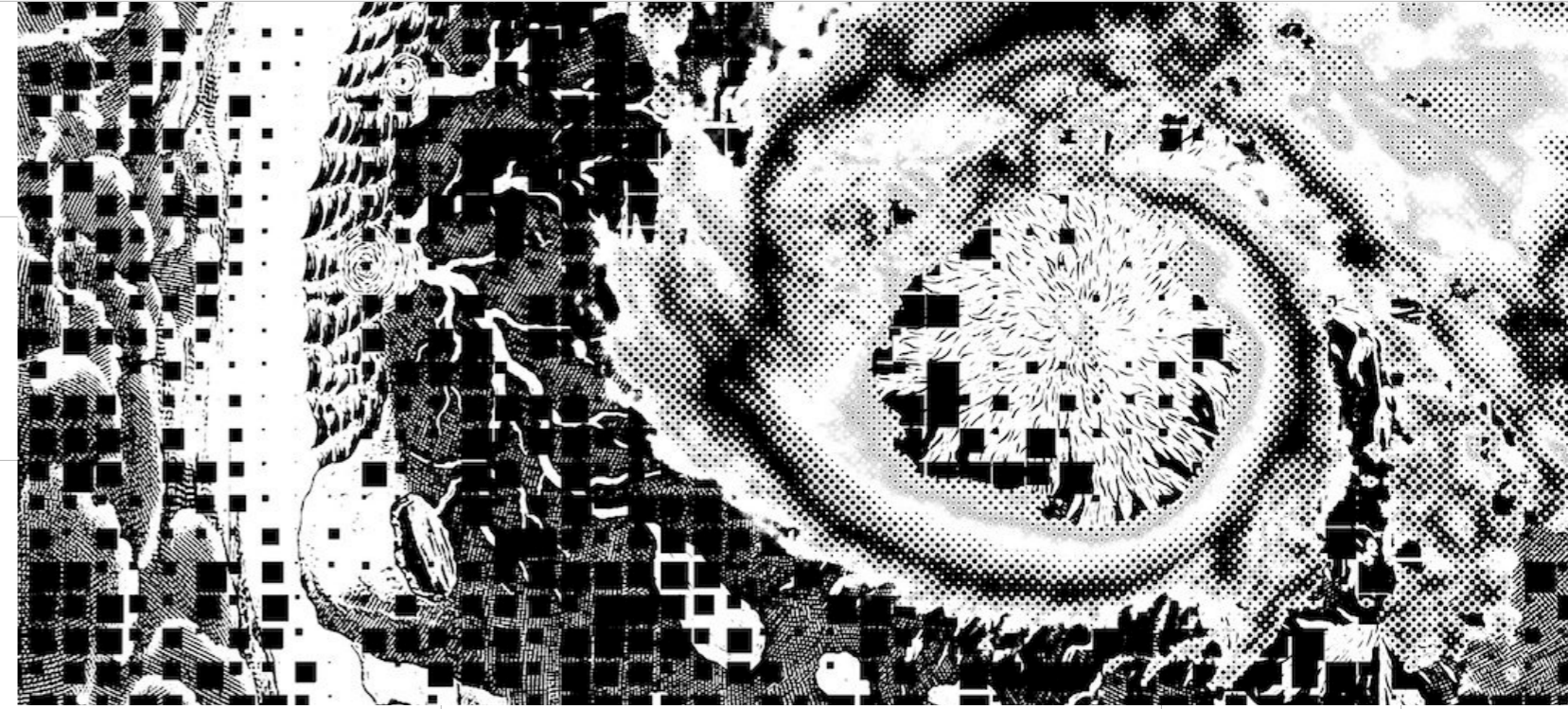 world as individuals affect us as collectives, and vice-versa. We have a shared understanding of the power of emotions and media, how the latter has sought to manipulate the former, and how we might begin to overcome that stranglehold.

If we are to continue to thrive whilst living in PERMA-FLUX, we must reassert and re-establish our control whilst accepting and embracing our lack of the very same. Go with the PERMA-FLUX. Lean into it. In an increasingly porous reality, your emotions might be the only North Star we have, so learn to use them as a guide. Emotional intelligence is the most valuable skill for the future. By acknowledging this, we can start to have a conversation about how we can use it to shape our future. Awakening to PERMA-FLUX is like Morpheus' little red pill in *The Matrix*. Once you've seen it, you can't un-see it. You can, however, seek to understand what creates and contributes to PERMA-FLUX, so that you may begin to reassert control over your individual, cultural and universal realities. Permanence, put simply, is not viable. Change can come from anywhere. Contradiction and chaos is here to stay. So get confortable.

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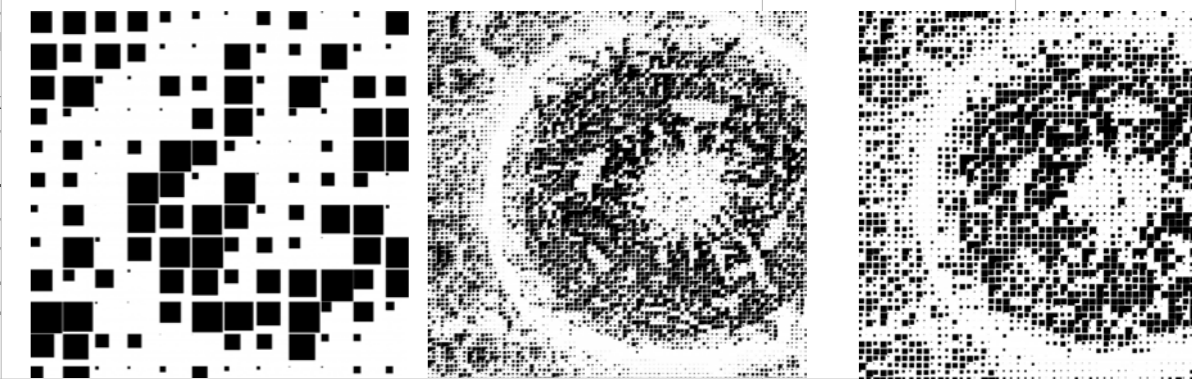
ALIENWARE
The gaming computer with
incredibly real graphics.

This picture was not taken in the city of New York.
It's a screenshot from Wizard88's Alienware computer.

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# How we can protect truth

FAKE NEWS CAN SWAY ELECTIONS, TANK ECONOMIES AND SOW DISCORD IN EVERYDAY LIFE. SINAN ARAL HELP US UNWEAVE THE TANGLED WEB BETWEEN TRUE AND FALSE.
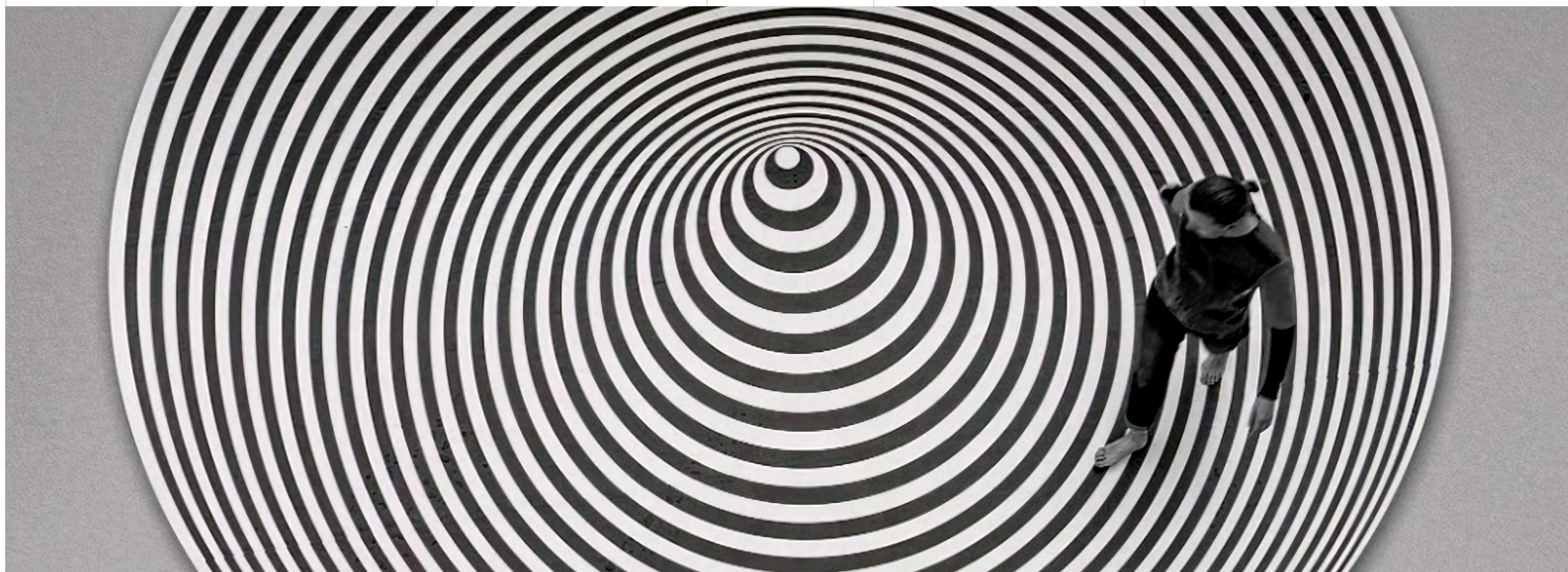


Sinan Aral is the David Austin professor of management at MIT and a founding partner at Manifest Capital. He was formerly the chief scientist at SocialAmp (until its sale to Merkle in 2012) and at Humin (until its sale to Tinder in 2016). He serves on the advisory boards of the Alan Turing Institute, the British National Institute for Data Science in London, the Centre for Responsible Media Technology and Innovation in Bergen, Norway and C6 Bank, one of the first all-digital banks of Brazil. He has also worked closely with Facebook, Twitter, WeChat, Yahoo, AirBnB, Jet.com, Microsoft, IBM, Intel, Cisco, Oracle and SAP on understanding social media and big data analytics.

TEXT
**Sinan Aral**

ART
**Marina Apollonio**

# in the age of misinformation

# WHY? WHY DOES FALSE NEWS TRAVEL SO MUCH FURTHER, FASTER, DEEPER AND MORE BROADLY THAN THE TRUTH?

On April 23 of 2013, the Associated Press put out the following tweet on Twitter. It said, "*Breaking news*: Two explosions at the White House and Barack Obama has been injured." This tweet was retweeted 4,000 times in less than five minutes, and it went viral thereafter.

Now, this tweet wasn't real news put out by the Associated Press. In fact it was false news, or fake news, that was propagated by Syrian hackers that had infiltrated the Associated Press Twitter handle. Their purpose was to disrupt society, but they disrupted much more. Because automated trading algorithms immediately seized on the sentiment on this tweet, and began trading based on the potential that the president of the United States had been injured or killed in this explosion. And as they started tweeting, they immediately sent the stock market crashing, wiping out 140 billion dollars in equity value in a single day.

Robert Mueller, special counsel prosecutor in the United States, issued indictments against three Russian companies and 13 Russian individuals on a conspiracy to defraud the United States by meddling in the 2016 presidential election. And what this indictment tells as a story is the story of the Internet Research Agency, the shadowy arm of the Kremlin on social media. During the presidential election alone, the Internet Agency's efforts reached 126 million people on Facebook in the United States, issued three million individual tweets and 43 hours' worth of YouTube content. All of which was fake -- misinformation designed to sow discord in the US presidential election.

A recent study by Oxford University showed that in the recent Swedish elections, one third of all of the information spreading on social media about the election was fake or misinformation.

In addition, these types of social-media misinformation campaigns can spread what has been called "genocidal propaganda," for instance against the Rohingya in Burma, triggering mob killings in India.

We studied fake news and began studying it before it was a popular term. And we recently published the largest-ever longitudinal study of the spread of fake news online on the cover of *Science* in March of this year. We studied all of the verified true and false news stories that ever spread on Twitter, from its inception in 2006 to 2017. And when we studied this information, we studied verified news stories that were verified by six independent fact-checking organizations. So we knew which stories were true and which stories were false.

We can measure their diffusion, the speed of their diffusion, the depth and breadth of their diffusion, how many people become entangled in this information cascade and so on. And what we did in this paper was we compared the spread of true news to the spread of false news. And here's what we found that false news diffused further, faster, deeper and more broadly than the truth in every category of information that we studied, sometimes by an order of magnitude. And in fact, false political news was the most viral. It diffused further, faster, deeper and more broadly than any other type of false news. When we saw this, we were at once worried but also curious. Why? Why does false news travel so much further, faster, deeper and more broadly than the truth?

The first hypothesis that we came up with was, "Well, maybe people who spread false news have more followers or follow more people, or tweet more often, or maybe they're more often 'verified' users of Twitter, with more credibility, or maybe they've been on Twitter longer." So we checked each one of these in turn. And what we found was exactly the opposite. False-news spreaders had fewer followers, followed fewer people, were less active, less often "verified" and had been on Twitter for a shorter period of time. And yet, false news was 70 percent more likely to be retweeted than the truth, controlling for all of these and many other factors.

So we had to come up with other explanations. And we devised what we called a "novelty hypothesis." So if you read the literature, it is well known that human attention is drawn to novelty, things that are new in the environment. And if you read the sociology literature, you know that we like to share novel information. It makes us seem like we have access to inside information, and we gain in status by spreading this kind of information.

## False news exhibited significantly more surprise and disgust in the replies to false tweets.

So what we did was we measured the novelty of an incoming true or false tweet, compared to the corpus of what that individual had seen in the 60 days prior on Twitter. But that wasn't enough, because we thought to ourselves, "Well, maybe false news is more novel in an information-theoretic sense, but maybe people don't perceive it as more novel."

So to understand people's perceptions of false news, we looked at the information and the sentiment contained in the replies to true and false tweets. And what we found was that across a bunch of different measures of sentiment -- surprise, disgust, fear, sadness, anticipation, joy and trust -- false news exhibited significantly more surprise and disgust in the replies to false tweets. And true news exhibited significantly more anticipation, joy and trust in reply to true tweets. The surprise corroborates our novelty hypothesis. This is new and surprising, and so we're more likely to share it. At the same time, there was congressional testimony in front of both houses of Congress in the United States, looking at the role of bots in the spread of misinformation. So we looked at this too -- we used multiple sophisticated

bot-detection algorithms to find the bots in our data and to pull them out. So we pulled them out, we put them back in and we compared what happens to our measurement. And what we found was that, yes indeed, bots were accelerating the spread of false news online, but they were accelerating the spread of true news at approximately the same rate. Which means bots are not responsible for the differential diffusion of truth and falsity online. We can't abdicate that responsibility, because we, humans, are responsible for that spread.

Now, everything that I have told you so far, unfortunately for all of us, is the good news.

The reason is because it's about to get a whole lot worse. And two specific technologies are going to make it worse. We are going to see the rise of a tremendous wave of synthetic media. Fake video, fake audio that is very convincing to the human eye. And this will powered by two technologies.

The first of these is known as "generative adversarial networks." This is a machine-learning model with two networks: a discriminator, whose job it is to determine whether something is true or false, and a generator, whose job it is to generate synthetic media. So the synthetic generator generates synthetic video or audio, and the discriminator tries to tell, "Is this real or is this fake?" And in fact, it is the job of the generator to maximize the likelihood that it will fool the discriminator into thinking the synthetic video and audio that it is creating is actually true. Imagine a machine in a hyperloop, trying to get better and better at fooling us.

This, combined with the second technology, which is essentially the democratization of artificial intelligence to the people, the ability for anyone, without any background in artificial intelligence or machine learning, to deploy these kinds of algorithms to generate synthetic media makes it ultimately so much easier to create videos.

The White House issued a false, doctored video of a journalist interacting with an intern who was trying to take his microphone. They removed frames from this video in order to make his actions seem more punchy. And when videographers and stuntmen and women were interviewed about this type of technique, they said, "Yes, we use this in the movies all the time to make our punches and kicks look more choppy and more aggressive." They then put out this video and partly used it as justification to revoke Jim Acosta, the reporter's, press pass from

# THEIR PURPOSE WAS TO DISRUPT SOCIETY, BUT THEY DISRUPTED MUCH MORE.

the White House. And *CNN* had to sue to have that press pass reinstated.

There are about five different paths that I can think of that we can follow to try and address some of these very difficult problems today. Each one of them has promise, but each one of them has its own challenges. The first one is labeling. Think about it this way: when you go to the grocery store to buy food to consume, it's extensively labeled. You know how many calories it has, how much fat it contains -- and yet when we consume information, we have no labels whatsoever. What is contained in this information? Is the source credible? Where is this information gathered from? We have none of that information when we are consuming information. That is a potential avenue, but it comes with its challenges. For instance, who gets to decide, in society, what's true and what's false? Is it the governments? Is it Facebook? Is it an independent consortium of fact-checkers? And who's checking the fact-checkers?

Another potential avenue is incentives. We know that during the US presidential election there was a wave of misinformation that came from Macedonia that didn't have any political motive but instead had an economic motive. And this economic motive existed, because false news travels so much farther, faster and more deeply than the truth, and you can earn advertising dollars as you garner eyeballs and attention with this type of information. But if we can depress the spread of this information, perhaps it would reduce the economic incentive to produce it at all in the first place.

Third, we can think about regulation, and certainly, we should think about this option. In the United States, currently, we are exploring what might happen if Facebook and others are regulated. While we should consider things like regulating political speech, labeling the fact that it's political speech, making sure foreign actors can't fund political speech, it also has its own dangers. For instance, Malaysia just instituted a six-year prison sentence for anyone found spreading misinformation. And in authoritarian regimes, these kinds of policies can be used to suppress minority opinions and to continue to extend repression.

The fourth possible option is transparency. We want to know how do Facebook's algorithms work. How does the data combine with the algorithms to produce the outcomes that we see? We want them to open the kimono and show us exactly the inner workings of how Facebook is working. And if we want to know social media's effect on society, we need scientists, researchers and others to have access to this kind of information. But at the same time, we are asking Facebook to lock everything down, to keep all of the data secure.

So, Facebook and the other social media platforms are facing what I call a transparency paradox. We are asking them, at the same time, to be open and transparent and, simultaneously secure. This is a very difficult needle to thread, but they will need to thread this needle if we are to achieve the prom-

ise of social technologies while avoiding their peril.

The final thing that we could think about is algorithms and machine learning. Technology devised to root out and understand fake news, how it spreads, and to try and dampen its flow. Humans have to be in the loop of this technology, because we can never escape that underlying any technological solution or approach is a fundamental ethical and philosophical question about how do we define truth and falsity, to whom do we give the power to define truth and falsity and which opinions are legitimate, which type of speech should be allowed and so on. Technology is not a solution for that. Ethics and philosophy is a solution for that.

Nearly every theory of human decision making, human cooperation and human coordination has some sense of the truth at its core. But with the rise of fake news, the rise of fake video, the rise of fake audio, we are teetering on the brink of the end of reality, where we cannot tell what is real from what is fake. And that's potentially incredibly dangerous.

We have to be vigilant in defending the truth against misinformation. With our technologies, with our policies and, perhaps most importantly, with our own individual responsibilities, decisions, behaviors and actions.misinfor.

WE CAN MEASURE THEIR DIFFUSION, THE SPEED OF THEIR DIFFUSION,THE DEPTH AND BREADTH OF THEIR DIFFUSION, HOW MANY PEOPLE BECOME ENTANGLED IN THIS INFORMATION CASCADE AND SO ON.

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| R180 0019 Benign Freckles | R180 0020 Copper Pipe | R180 0021 Bunson Burner Orange | R180 0022 Toffee Rainbow | R180 0023 Grilled Corduroy | R180 0024 Caramelized Caramel |
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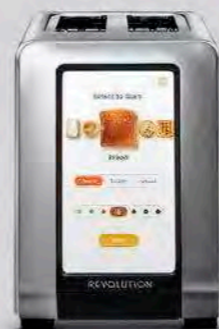
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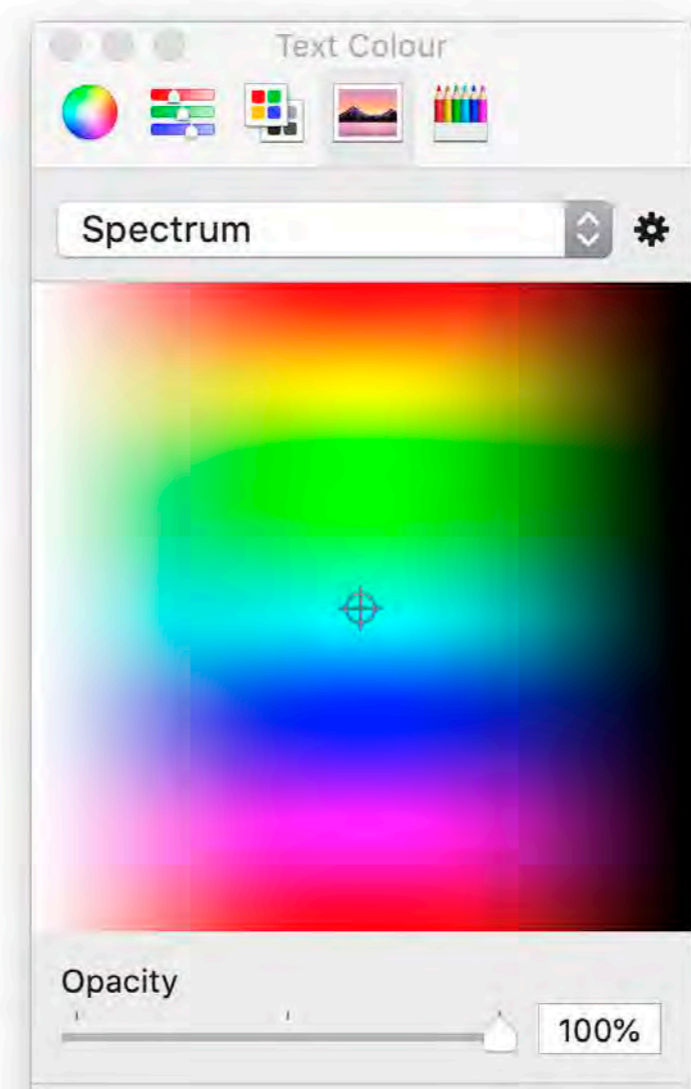
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# Living in a post-truth era

TEXT
**José Zarzalejos**

PHOTOGRAPHY
**Max Pinckers**

Since August 2016, before the start of the U.S. presidential election debates and up to the eve of voting day, checking platforms were busy performing what is referred to as "fact-checking". They counted up to 217 untruths in the candidates speeches and statements—79 percent of which were attributed to Donald Trump and 21 percent to Hillary Clinton. Univision News' Data Unit in Miami determined that, a week prior to the presidential election, for every lie told by the Democrat candidate, the Republican candidate told four. Journalist Borja Echeverría systematically and comprehensively provides the statistics in the latest edition (January 2017) of *Cuadernos de Periodistas*. He is currently the Managing Editor of Univision Digital News, which is based in Florida. Borja has become a reference in the sector of communication and journalism by calling for a relatively new activity to fight against fake news, alternative truths and hoaxes. All of these concepts take refuge under the semantic umbrella of post- truth. However, fact-checking would be the antidote against the word—better described as a concept—that the *Oxford Dictionary* has considered as 2016's newest and most utilized expression.

Post-truth is not synonymous with lying; however, it describes a situation where, when creating or manipulating public opinion, the objective facts have less influence than emotions and personal beliefs. Post-truth consists in the relativization of truth, in the objectivity of data becoming commonplace and in the supremacy of emotional speeches.

It is far from being a new phenomenon. Ralph Keyes had already written about it in 2004 in the book, *Dishonesty and Deception in Contemporary Life*; as well as by Luis Meyer in *Ethic magazine* in February this year ("Don't call it post-truth, call it post-journalism"). His colleague Eric Alterman conclusively defined it as a "political weapon of disinformation". This author quotes Noam Chomsky who, avoiding the term post-truth, developed a famous list: *10 Manipulation Strategies*. This includes emotionally softening massage techniques, aiming at short-circuiting citizens' critical and analytical senses.

**POST-TRUTH IS NOT JUST A PRACTICE THAT DEVELOPS IN THE POLITICAL ARENA. IT ALSO DANGEROUSLY AND ARBITRARILY DEVELOPS IN ADVERTISING AND IN THE CORPORATE ENVIRONMENT**

*AMERICA'S POST-TRUTH ERA, CAPTURED BY THE PHOTOGRAPHER MAX PINCKERS.*

< 36                                                                                                37 >

# POST-TRUTH IS NOT SYNONYMOUS WITH LYING.

## HOWEVER, IT DESCRIBES A SITUATION WHERE, WHEN CREATING PUBLIC OPINION, THE OBJECTIVE FACTS HAVELESS INFLUENCE THAN EMOTIONS AND PERSONAL BELIEFS. POST-TRUTH CONSISTS IN THE RELATIVIZATION OF TRUTH, IN THE OBJECTIVITY OF DATA BECOMING COMMONPLACE AND IN THE SUPREMACY OF EMOTIONAL SPEECHES.



US PRESIDENT-ELECT DONALD TRUMP USED SOCIAL MEDIA PROFUSELY DURING HIS ELECTORAL CAMPAIGN.

Confusion over reality, management of conspiracy tactics to arouse suspicion or hostility in social groups, victimhood and political mythomania, are all instruments of mass persuasion that date back to ancient times. In the 20th century, they caused the worst disasters—two of them being genuine catastrophes in human history: Nazism and Stalinism.

The Protocols of the Elders of Zion—a fable against Judaism written during the last era of Tsarist Russia— became one of the most groundless levers used Univision News' Data Unit in Miami, determined that, a week prior to the presidential election, for every lie told by the Democrat candidate, the Republican candidate told four by Hitler in the interwar period to introduce anti- Semitism in Germany and other European countries. We are still paying for it. In reality, all political movements that discredit the conventional ruling classes and liberal representative democracies, draw upon elements that are more sentimental than rational. Not only do they exploit unrest, but they also decisively contribute to creating and magnifying it.

Populism nowadays—as it always has—plays more to emotional persuasions than to the criteria of rationality and truth. Rigor and populism are contradictory concepts.

## UNIVISION NEWS' DATA UNIT IN MIAMI, DETERMINED THAT, A WEEK PRIOR TO THE PRESIDENTIAL ELECTION, FOR EVERY LIE TOLD BY THE DEMOCRAT CANDIDATE, THE REPUBLICAN CANDIDATE TOLD FOUR

Nevertheless, there has been a confluence of circumstances which has given rise to widespread concern: the truth does not triumph and depictions that are not compatible with it—or do not even come close—do triumph and, furthermore, go unpunished. As the writer Adolfo Muñoz affirms (*El País*, February 2, 2017) "political hoaxes triumph because they have the necessary qualities to do so, turning into what Richard Dawkins refers to as "memes." A meme is a unit of viral knowledge devised by an author who disseminates it regardless of whether it is true or not. We live in a universe of memes and we lack the criteria to distinguish true from false, certain from probable, definite from ambiguous. And we ask ourselves increasingly unsettling questions: is Photoshop, for example, a post-truth technique? Is decontextualization a falsifying device? Can an insult be considered as a mere description? Are cinema's special effects, for example, or virtual reality experiences, an attack on the integrity of truth as we have understood it up to now?

These are relevant questions because populist trends re

# And we ask ourselves increasingly unsettling questions: is Photoshop a post-truth technique? Is decontextualization a falsifying device? Can an insult be considered as a mere description? Are special effects or virtual reality experiences, an attack on the integrity of truth as we have understood it up to now?

quire that power be obtained as an end in itself, regardless of the methods used. The British have decided to leave the European Union believing—or accepting as true—affirmations that are false or probable at best. Similarly, Americans have given credence to gross untruths because with them, they have challenged the power of the ruling classes, bringing them down. This theory is also by Luis Meyer.

Indeed, in politics, lies or half-truths are resources that have always been handled with aplomb. But now, the response to the political and economic status quo has been to introduce sentimental and emotional elements, with their false messages carrying a sweeping force. A master of these new techniques is the American Steve Bannon—one-time director of the news portal Breitbart News, spokesperson for the All-Right extremists. Bannon inspired the rupture in the conventional paradigm that reigned in American politics—in Western politics. He has been building a huge bubble of tension and hostility, creating the energy needed by a politician such as Trump to become completely unpredictable. This is the reason why the public culture of the most developed democracies' political systems was turned on its head.

Post-truth is not just a practice that develops in the political arena. It also dangerously and arbitrarily develops in advertising and in the corporate environment. Communications of large companies—especially in strategic sectors such as energy and finance—should review their protocols of action. Their communications should not only involve—neither chiefly, perhaps—transmitting knowledge, but also dissipating hoaxes, alternative versions, rumors and, sometimes, blatant untruths. Politics and business—in reality, the entire society—have lost a defense mechanism against post-truth: journalistic intermediation.

Few reflections are more appropriate in this respect than that written by Katharine Viner, published in The Guardian on July 12, 2016, entitled "What is the truth? Reflections on the state of journalism today." This writer maintains that the transition from paper to digital media has never been solely a technological question. True: it has essentially been a question of a loss of professional ethics, the abandonment of truth-telling, the acceptance of lies and rumors into the information circuit. Technology, with the obliteration of journalistic intermediation, has demoralized the journalistic narrative and has blurred the attributes that once gave it the role of social supervision as a barometer of truth.

From now on, new communications and new journalism will focus not so much on storytelling, but rather on verifi-

cation. This is because the former can already be done by citizens using the extensive choice of technology available, whereas the latter cannot be done by them. Systematic fact-checking will be done using some of the many platforms that already exist (tenfold in the United States). Borja Echevarría reminds us that one the most recent Gallup polls showed daunting figures for the mass media: only 32 percent of those interviewed still trust them. The only way to envisage future journalism and corporate communications consists in checking data and the premise of statements, and in informative proactivity to detect untruths, to destroy them and to deprive them from gaining any standing. In other words, journalism on the one hand, and ethical communication on the other hand, should go back and rescue the true story, restrain sentimentalism, subdue and contour the worst instincts and proclaim the superiority of intelligence over viscerality. This is what fact-checking is all about.

## CONFUSION OVER REALITY, MANAGEMENT OF CONSPIRACY TACTICS TO AROUSE SUSPICION OR HOSTILITY IN SOCIAL GROUPS, VICTIMHOOD AND POLITICAL MYTHOMANIA, ARE ALL INSTRUMENTS OF MASS PERSUASION THAT DATE BACK TO ANCIENT TIMES.
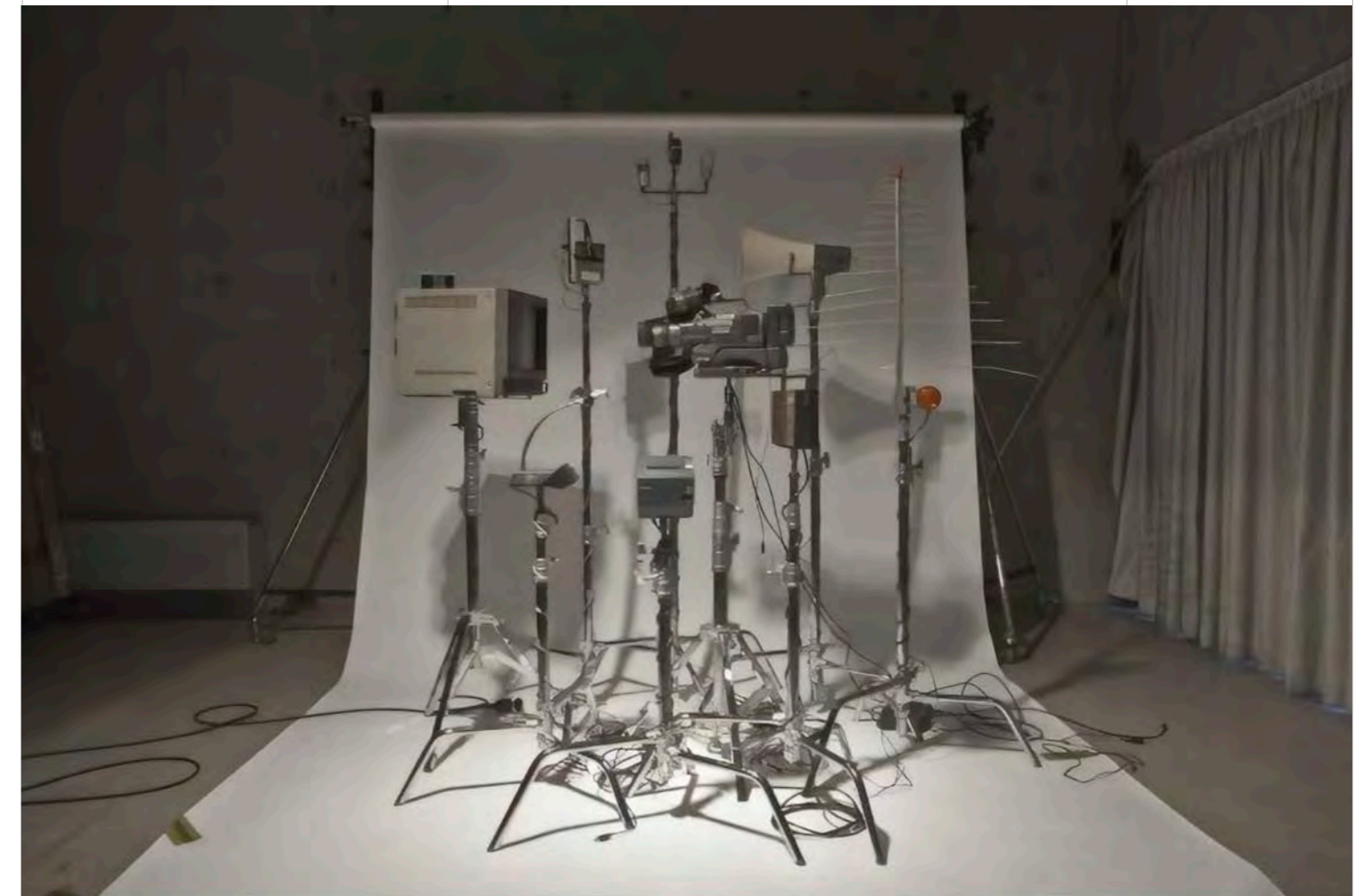
IN THE LAST YEAR ALONE, MORE THAN TWO TRILLION PICTURES HAVE BEEN UPLOADED ONLINE.THE CONSEQUENCES CAN BE WORRYING.

# What are we gonna do with all these images?

TEXT
**Giorgio Fontana**

PHOTO
*IL Magazine*

**Image overload.**
Getting on the plane, a girl in front of me suddenly turns around and photographs the desolation of Malpensa airport. Her iPhone processes that fragment of reality and turns it into an ordered series of pixels. On the last step I ask myself: why did she want such an image? You could have searched for "Milano Malpensa" on Flickr or Google Images and obtained an equivalent one. Above all, he could have avoided photographing such an insignificant glimpse of reality. But he didn't. Why not? First of all because it would not have documented his present, his being there in that instant; and then because he could. As Neil Postman writes in his seminal *Technopoly* ("Vintage Books 1993"): Everything will look like an image to someone holding a camera. Everything is now replicable (and tends to be replicated) by anyone, because everyone has what they need in their pocket.
According to a 2015 report by Magisto shared by Gigaom, every smartphone owner takes about 5 pictures a day (and, more importantly, keeps an average of 630 of them in memory). But the

# PHOTOGRAPHS ALTER AND EXPAND OUR NOTIONS OF WHAT IS WORTH LOOKING AT AND WHAT WE HAVE THE RIGHT TO OBSERVE.

numbers can increase very quickly.

Social networks are full of them, and are becoming more and more oriented to their management and sharing.

But what are we really going to do with all these images? After the more general information overload, we seem to be in the middle of an image overload: as Peter Hand says in *Ubiquitous Photography* (London: Polity, 2012), photographic practice has become "radically pervasive" in all the domains of contemporary society. The concern about such overabundance is not a recent thing: already five years ago Tim Wu proposed on Slate a slow photography movement on the tracks of the parallel one of food. Reduce the number of shots, rediscover the lost photographic experience. Naturally, this attitude is in danger of quickly becoming moralistic and losing sight of critical analysis: a bit of nostalgia for the times gone by, a bit of generic common sense. Below, instead, I will try to collect some secular considerations about the mass of digital photographs we deal with every day.

## Visual communication.

In the book cited, Martin Hand highlights a fundamental aspect: the photo has become primarily a personal communication tool. To its original documentary or artistic nature there is an evident performative layer superimposed: in every shot it seems now implicit a possible recipient. I take a photograph, the place, and tag who is portrayed there or who might be interested in it. More: I can respond to a written message with an image (perhaps edited, or which in turn contains text). The expression of a selfie responds very well to digital "How's it going?", just as the reproduction of an urban detail is an eloquent response to "Where are you?".

In borderline cases, communication contracts on itself: perhaps the girl who photographed the runway at Malpensa airport did not send that image to anyone. She simply obeyed to a widespread impulse. Documenting is no longer a means of producing content aimed at a specific audience - be it the relatives during the old, tremendous slide ritual, or the readers of a photo reportage. It becomes first of all a testimony of being there, even if nobody is directly listening: because it potentially is, always.

In her famous, splendid essay "In Plato's cave" (in *Sulla fotografia*, Einaudi), Susan Sontag said:
Photographs alter and expand our notions of what is worth looking at and what we have the right to observe.

Now this right has extended to everything; not so much because each subject is worthy of being reproduced, but because each reproduction is closely linked to the subject that is being taken. It certifies its existence: it is not a matter of the past, of what was and I want to remember, but of the present.

## Huge databases vs. disappearing photos.

This is understandable. But why keep all these images, since we take an infinity of them? Do we really need to keep every single shot in the cloud, from the pasta plate to the metropolitan landscape to the three hundred holiday photos? (Of course, if you just change the question, the answer is much easier. The persistence of content doesn't serve us as much as the platforms that keep it: to make money).

In an article published on February 10 in The *New Republic*, the Rhetoric of Photography teacher Rebecca MacMillan discussed the difficulty for her students to manage so much content; the inability to decide what to keep and what to discard, in front of services that allow you to keep practically everything. She offered them to take pictures for a week using only a disposable camera. The result was "liberating".

Again, I wouldn't want all this to be mistaken for an ode to scarcity that automatically produces value. But it is true that today every picture (like every word) lives besieged by an exorbitant amount of similar objects: it flows away, is besieged by the next one, it gets lost in a continuous stream of distraction. There is, however, a way to rediscover meaning even in times of absolute abundance. A virtuous example is Snapchat. This instant messaging service allows you to send videos and photos that will not last over time: users can set their own maximum limit (up to 10 seconds, except for stories that last for 24 hours). It's no coincidence that the company's logo is a small ghost: and it's no coincidence, I think, that it's experiencing a phase of great growth.

The promise to erase forever the contents from the company's servers seems little thing, but in reality it's a Copernican revolution. It contains a new ethics of images: deciding which are simple consumables and communication materials, and which we really want

to keep. The former - the vast majority, come on - will disappear as they deserve, along with the need to manage them: the others will find a sort of necessity. Of value, precisely. Which brings us to one final question.

## The lost aura.

In an essay a few years ago entitled *The Faux-Vintage Photo*, the sociologist Nathan Jurgenson pointed out how the diffusion of digital photographs with a vintage or retro look - the countless filters available to make them "old-fashioned" - was linked to a wider social trend. That is, the drive to look at the present as a "potentially documented past": given the ease with which we can reproduce and share any piece of the world, we are looking for a way to make it seem more important, more "substantial and real". The vintage filter serves just that: to simulate the lost scarcity, the ancient rarity of a photograph.

Perhaps an even more obvious example is the recent Instapoets phenomenon. I write a poem with a typewriter - or at least using a font that reminds me of it - then I take a picture of it and place it on Instagram. The conflict between an idealized and romantic yesterday, the ideal place for poetry, and a technological and cold today, is very clear.

And here it's hard not to think about Walter Benjamin. Just eighty years ago, the German philosopher printed the work of art in the era of technical reproducibility. The basic thesis is well known: the introduction of tools capable of producing identical copies of a given work - and therefore photography or cinema - completely changed art and the concept of originality. For Benjamin these techniques make the work lose its aura, that is, the very authenticity of the single "piece", irreproducible if not at the cost of (precisely) falsifying it. The very idea that the hic et nunc has some authority - and at the same time all the ritual connected to it - disappears. In this Benjamin sees the passage from a religious foundation of art to a political one.

Today the reproductive technique is now widespread at every level, and conveniently compacted in a smartphone. Doesn't this put us at risk of losing even the aura of the experience itself? In his essay, Benjamin makes a suggestion that
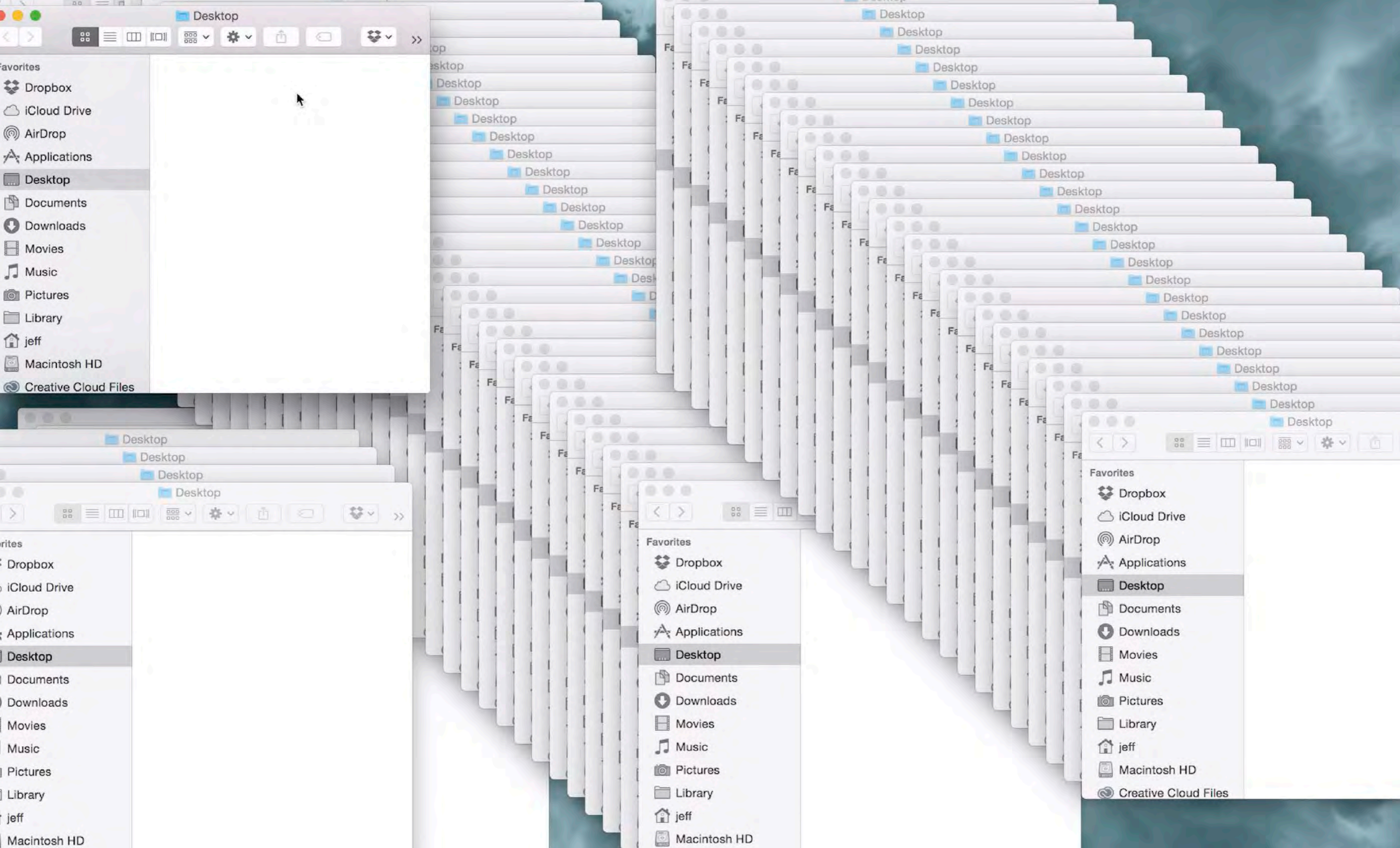
seems extraordinarily topical today:
*Making things, spatially and humanly, closer to each other is for the masses of today a very real need, as much as the tendency to overcome the uniqueness of any data through the reception of its reproduction.*

Things are far away, and we want them closer. It seems paradoxical, but it is not: on the contrary, at the time of global digitization they are even more distant. Their absolute availability in image form creates the illusion that they are here with us, that everything is under control: it is the triumph of the original promise Sontag spoke of, "to democratize all experiences, translating them into images".

And what about reality? Immersed in this flow, it's as if the symbolic charge of experiences, in fact, risks fading a bit. Everything can be collected and catalogued under macro categories, ordered and predefined directories - dogs, cats, cities, sunsets, fruit etc.. Even horror is not exempt from it: the game of emotional revival with increasingly terrible images of war or tragedies linked to the great migrations - Aylan's harrowing photograph was an example for everyone - could make us increasingly numb and blind.

A disturbing consequence, for an instrument that was born with a completely different premise. I don't know what we're really doing with all these images: but wondering about it now and then, maybe.

MAKING THINGS, SPATIALLY AND HUMANLY, CLOSER TO EACH OTHER IS FOR THE MASSES OF TODAY A VERY REAL NEED, AS MUCH AS THE TENDENCY TO OVERCOME THE UNIQUENESS OF ANY DATA THROUGH THE RECEPTION OF ITS REPRODUCTION.

Babe! Chill! u can do it 😂😂😂 Don´t **lethal** f of the things the teacher says the teacher fail you! Study 🤓! Alge **brain** class are in chinese 😵 Last time sux 🙄🙄 u don´t want to take it aga **injury** duty saved me from the finals 😄

DON'T
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DRIVE | Sprint

# Oscillating political opinions on social media

14:22:41
9 September 2019

TEXT
**Alif Ibrahim**

PROJECT
**Conall McAteer**

*EVERY MINUTE COUNTS,*
**CONALL MEASURES
PUBLIC OPINION
ON THE INCESSANT
DEBATE AROUND
BREXIT BY WATCHING
REAL-TIME DATA
FROM TWITTER.**

A part of why art is exciting is that it allows you to imagine new political futures. Beyond highlighting social issues and pushing the technical boundaries of a medium, some of the most interesting works that have emerged gives us new ways that we can relate with each other and the world, producing new ways of seeing. And with some artists starting to question the actual impact of documenting previously unseen things, it's often more productive to take another look at things that we already see every day.

Conall McAteer's net art project imagines a different way of relating to politics. In *Every Minute Counts*, Conall gauges public opinion on the ceaseless and passionate debate around Brexit by scraping real-time data from Twitter. The London-based conceptual artist, who's currently housing this project at Digital Artist Residency, is using the large volume of debate on the topic to ask: "What would happen if the public were able to impact political decisions in real time?"

The project came about after being invited to propose a new online work for the online residency at isthisit?, the platform directed by Bob Bicknell-Knight. "At the time Britain was
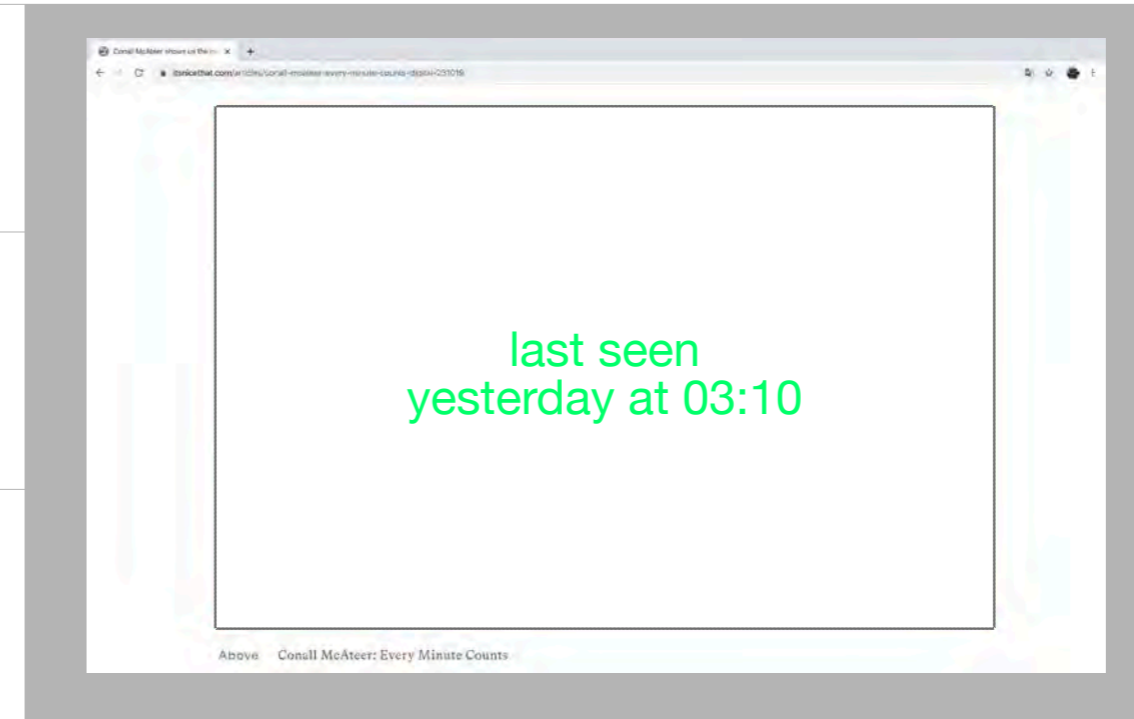
due to leave the EU at the end of the month, and since the vote, the debate had been growing passionately from both sides," Conall tells *It's Nice That*. "Seven months on, as Brexit continues to loom heavily over the nation, I'm interested to see how emerging technologies could evolve the way through which we have a say on the state of our countries."

The webpage receives updates every minute, featuring a changing colour gradient: red to represent tweets that express a desire to leave, and blue for remain. The gradient is charted proportionally to the number of these opinions, which Conall scrapes and collates using the rtweet package. The frequency of updates and the ephemeral nature of the gradients separates this project from a more straightforward data visualisation project. Even watching for just five minutes, you can see how often the colours oscillate from one side to the other. The gradient, shifting like a dusty sunset that never concludes, is more of a commentary on methods of political participation rather than a public survey of opinions. What you might find with *Every Minute Counts* is that it tells you much more about how difficult it is to gauge political consensus as mediated by social media rather than about Brexit itself. "I think artists have a responsibility to challenge the complications that arise from our growing relationship and dependency on evolving technologies," Conall says. "Ultimately, as an artist, you need to make the work you feel needs to be made." Exploring relationships between the digital and the personal, the real, or the creative, Conall's stream of creative coding projects is easily relatable to many of us who have ever been ghosted, who feels like they've spent too long in front of their computers, and those who've faced rejections in the creative field. *SunriseSunsetSunriseSunset* for instance, reflects on "the growth in leisure time we collectively spend in front of the digital screen," scraping the 100 most downloaded Google results for sunrise and sunset wallpaper images and mapping the sun's position in relation to the user's cursor. Another earlier project, *Last Seen* At is a live

## "ULTIMATELY, AS AN ARTIST, YOU NEED TO MAKE THE WORK YOU FEEL NEEDS TO BE MADE."

last seen
yesterday at 03:10

Above   Conall McAteer: Every Minute Counts

## THE MEDITATIVE AURA OF CONALL'S PROJECTS COME FROM MAKING THESE IMAGINED SITUATIONS A REALITY, REARRANGING THE CIRCUIT TO MAKE EXPLICIT THE THINGS WE PREVIOUSLY ONLY HAD A HUNCH ABOUT.

stream of his Whatsapp status, a take on examining how new technologies can create a new cultural language around trust and communication.

At its core, Conall's creative coding pieces reflect an important movement of digital art today, something that also reminds us of Neal Agarwal's desire to use technology for play. The meditative aura of Conall's projects come from making these imagined situations a reality, rearranging the circuit to make explicit the things we previously only had a hunch about.

# How Google's algorithm rules the web

TEXT
**Steven Levy**

INFOGRAPHIC
**Francesca Fincato**

THE STORY OF GOOGLE'S ALGORITHM BEGINS WITH PAGERANK, THE SYSTEM INVENTED IN 1997 BY COFOUNDER LARRY PAGE WHILE HE WAS A GRAD STUDENT AT STANFORD. PAGE'S NOW LEGENDARY INSIGHT WAS TO RATE PAGES BASED ON THE NUMBER AND IMPORTANCE OF LINKS THAT POINTED TO THEM — TO USE THE COLLECTIVE INTELLIGENCE OF THE WEB ITSELF TO DETERMINE WHICH SITES WERE MOST RELEVANT. IT WAS A SIMPLE AND POWERFUL CONCEPT, AND — AS GOOGLE QUICKLY BECAME THE MOST SUCCESSFUL SEARCH ENGINE ON THE WEB — PAGE AND COFOUNDER SERGEY BRIN CREDITED PAGERANK AS THEIR COMPANY'S FUNDAMENTAL INNOVATION.

But that wasn't the whole story. "People hold on to PageRank because it's recognizable," Manber says. "But there were many other things that improved the relevancy." These involve the exploitation of certain signals, contextual clues that help the search engine rank the millions of possible results to any query, ensuring that the most useful ones float to the top.

Web search is a multipart process. First, Google crawls the Web to collect the contents of every accessible site. This data is broken down into an index (organized by word, just like the index of a textbook), a way of finding any page based on its content. Every time a user types a query, the index is combed for relevant pages, returning a list that commonly numbers in the hundreds of thousands, or millions. The trickiest part, though, is the ranking process — determining which of those pages belong at the top of the list.

That's where the contextual signals come in. All search engines incorporate them, but none has added as many or made use of them as skillfully as Google has. PageRank itself is a signal, an attribute of a Web page (in this case, its importance relative to the rest of the Web) that can be used to help determine relevance. Some of the signals now seem obvious. Early on, Google's algorithm gave special consideration to the title on a Web page — clearly an important signal for determining relevance. Another key technique exploited anchor text, the words that make up the actual hyperlink connecting one page to another. As a result, "when you did a search, the right page would come up, even if the page didn't include the actual words you were searching for," says Scott Hassan, an early Google architect who worked with Page and Brin at Stanford. "That was pretty cool." Later signals included attributes like freshness (for certain queries, pages created more recently may be more valuable than older ones) and location (Google knows the rough geographic coordinates of searchers and favors local results). The search engine currently uses more than 200 signals to help rank its results.

Google's engineers have discovered that some of the most important signals can come from Google itself. PageRank has been celebrated as instituting a measure of populism into search engines: the democracy of millions of people deciding what to link to on the Web. But Singhal notes that the engineers in Building 43 are exploiting another democracy — the hundreds of millions who search on Google. The data people generate when they search — what results they click on, what words they replace in the query when they're unsatisfied, how their queries match with their physical locations — turns out to be an invaluable resource in discovering new signals and improving the relevance of results. The most direct example of this process is what Google calls personalized search — a feature that uses someone's search history and location as signals to determine what kind of results they'll find useful.[1] But more generally, Google has used its huge mass of collected data to bolster its algorithm with an amazingly deep knowledge base that helps interpret the complex intent of cryptic queries.

Take, for instance, the way Google's engine learns which

The problem was fixed in late 2002 by a breakthrough based on philosopher Ludwig Wittgenstein's theories about how words are defined by context.

# Development of Google's algorithm over the years

## 1997

**Backrub**
September

This search engine, which had run on Stanford's servers for almost two years, is renamed Google. Its breakthrough innovation: ranking searches based on the number and quality of incoming links.

## 2001

**New algorithm**
August

The search algorithm is completely revamped to incorporate additional ranking criteria more easily.

## 2003

**Local connectivity analysis**
February

Google's first patent is granted for this feature, which gives more weight to links from authoritative sites.

**Fritz**
Summer

This initiative allows Google to update its index constantly, instead of in big batches.

## 2005

**Personalized results**
June

Users can choose to let Google mine their own search behavior to provide individualized results.

## 2007

**Universal search**
May

Building on Image Search, Google News, and Book Search, the new Universal Search allows users to get links to any medium on the same results page.

## 2009

**Real-Time Search**
December

Displays results from Twitter and blogs as they are published.

## 2011

**Panda Update**
February

The first iteration of a then unnamed Google algorithm update was introduced (12 percent of queries were impacted), shocking the SEO industry and many big players, as well as effectively ending the "content farm" business model as it existed at the time. Initially dubbed Farmer within the industry, Google revealed soon after launch that the update's was called Panda, named after the engineer who came up with the primary algorithm breakthrough.

**Freshness Update**
November

With this update, Google altered its ranking algorithm to better determine when to deliver search results that are fresher (e.g., current events, hot topics, recurring events) to be more relevant to searchers. This update impacted 35 percent of searches.

## 2012

**Page Layout Update**
January

Google's page layout algorithm update (or Above the Fold) targeted websites with too many ads above the fold. In other words, a user would have to scroll down the page to see any actual content. Google said this algorithm impacted less than 1 percent of websites.

## 2013

**Penguin Update**
April

A long-anticipated "over-optimization" penalty finally arrived on this day. Google announced the launch of a (then unnamed) algorithm change meant to downrank websites engaging in aggressive webspam (e.g., keyword stuffing, unnatural linking) that violated Google's Webmaster Guidelines. Google said this update would impact 3.1 percent of English queries. Just two days later, we learned the name of the algorithm: Penguin.

**Hummingbird Update**
September

The Hummingbird update was a major overhaul to Google's core search technology. Google needed a way to better understand and return the most relevant results to more complex queries as a result of the growth of conversational search (i.e., voice search). Google said the new algorithm affected about 90 percent of searches worldwide. Although this update was announced on this date, it actually started rolling out in August 2013.

## 2015

**RankBrain**
October

Though it had been in testing since April 2015, Google officially introduced RankBrain on this date. RankBrain is a machine learning algorithm that filters search results to help give users a best answer to their query. Initially, RankBrain was used for about 15 percent of queries (mainly new queries Google had never seen before), but now it is involved in almost every query entered into Google. RankBrain has been called the third most important ranking signal.

## 2017

**Fred**
March

Google's Gary Illyes jokingly referred to this update as "Fred" and the name ended up sticking. But this algorithm was no laughing matter for those impacted. This major algorithm update seemed to mainly target low-value content. On March 24, Illyes officially confirmed the update. But Google has refused to share any more specifics, instead choosing to say that all the answers about Fred can be found in Google's Webmaster Quality Guidelines.

## 2018

**Broad Core Algorithm Update**
March

On March 12, Google confirmed via Twitter that a "broad core algorithm update" had rolled out the prior week. While Google was light on details, Google said the changes were meant to "benefit pages that were previously under-rewarded," and advised everyone to "continue building great content."

## 2019

**BERT Update**
October

Google announced the BERT Update, calling it the biggest change to Google search in the past 5 years. Google uses BERT models to better understand search queries, Google said this change impacted both search rankings and featured snippets and BERT (which stands for Bidirectional Encoder Representations from Transformers) will be used on 10 percent of U.S. English searches.

## 2020

**Featured Snippet Deduplication**
January

Google's Danny Sullivan confirmed via Twitter that webpages in a featured snippet position will no longer be repeated in regular Page 1 organic listings. This change affected 100% of all search listings, worldwide.

words are synonyms. "We discovered a nifty thing very early on," Singhal says. "People change words in their queries. So someone would say, 'pictures of dogs,' and then they'd say, 'pictures of puppies.' So that told us that maybe 'dogs' and 'puppies' were interchangeable. We also learned that when you boil water, it's hot water. We were relearning semantics from humans, and that was a great advance."

## OUR JOB IS TO BASICALLY CHANGE THE ENGINES ON A PLANE THAT IS FLYING AT 1,000 KILOMETERS AN HOUR, 30,000 FEET ABOVE EARTH.

But there were obstacles. Google's synonym system understood that a dog was similar to a puppy and that boiling water was hot. But it also concluded that a hot dog was the same as a boiling puppy. The problem was fixed in late 2002 by a breakthrough based on philosopher Ludwig Wittgenstein's theories about how words are defined by context. As Google crawled and archived billions of documents and Web pages, it analyzed what words were close to each other. "Hot dog" would be found in searches that also contained "bread" and "mustard" and "baseball games" — not poached pooches. That helped the algorithm understand what "hot dog" — and millions of other terms — meant. "Today, if you type 'Gandhi bio,' we know that bio means biography," Singhal says. "And if you type 'bio warfare,' it means biological."

Throughout its history, Google has devised ways of adding more signals, all without disrupting its users' core experience. Every couple of years there's a major change in the system — sort of equivalent to a new version of Windows — that's a big deal in Mountain View but not discussed publicly. "Our job is to basically change the engines on a plane that is flying at 1,000 kilometers an hour, 30,000 feet above Earth," Singhal says. In 2001, to accommodate the rapid growth of the Web, Singhal essentially revised Page and Brin's original algorithm completely, enabling the system to incorporate new signals quickly. (One of the first signals on the new system distinguished between commercial and noncommercial pages, providing better results for searchers who want to shop.) That same year, an engineer named Krishna Bharat, figuring that links from recognized authorities should carry more weight, devised a powerful signal that confers extra credibility to references from experts' sites. (It would become Google's first patent.) The most recent major change, codenamed Caffeine, revamped the entire indexing system to make it even easier for engineers to add signals.

Google is famously creative at encouraging these breakthroughs; every year, it holds an internal demo fair called CSI — Crazy Search Ideas — in an attempt to spark offbeat but productive approaches. But for the most part, the improvement process is a relentless slog, grinding through bad results to determine what isn't working. One unsuccessful search became a legend: Sometime in 2001, Singhal learned of poor results when people typed the name "audrey fino" into the search box. Google kept returning Italian sites praising Audrey Hepburn. (Fino means fine in Italian.) "We realized that this is actually a person's name," Singhal says. "But we didn't have the smarts in the system."

The Audrey Fino failure led Singhal on a multiyear quest to improve the way the system deals with names — which account for 8 percent of all searches. To crack it, he had to master the black art of "bi-gram breakage" — that is, separating multiple words into discrete units. For instance, "new york" represents two words that go together (a bi-gram). But so would the three words in "new york times," which clearly indicate a different kind of search. And everything changes when the query is "new york times square." Humans can make these distinctions instantly, but

## In 2001 the Web grew so fast

# We needed to be smarter

Google does not have a Brazil-like back room with hundreds of thousands of cubicle jockeys. It relies on algorithms.

The Mike Siwek query illustrates how Google accomplishes this. When Singhal types in a command to expose a layer of code underneath each search result, it's clear which signals determine the selection of the top links: a bi-gram connection to figure it's a name; a synonym; a geographic location. "Deconstruct this query from an engineer's point of view," Singhal explains. "We say, 'Aha! We can break this here!' We figure that lawyer is not a last name and Siwek is not a middle name. And by the way, lawyer is not a town in Michigan. A lawyer is an attorney."

This is the hard-won realization from inside the Google search engine, culled from the data generated by billions of searches: a rock is a rock. It's also a stone, and it could be a boulder. Spell it "rokc" and it's still a rock. But put "little" in front of it and it's the capital of Arkansas. Which is not an ark. Unless Noah is around. "The holy grail of search is to understand what the user wants," Singhal says. "Then you are not matching words; you are actually trying to match meaning."

And Google keeps improving. Re-

cently, search engineer Maureen Heymans discovered a problem with "Cindy Louise Greenslade." The algorithm figured out that it should look for a person — in this case a psychologist in Garden Grove, California — but it failed to place Greenslade's homepage in the top 10 results. Heymans found that, in essence, Google had downgraded the relevance of her homepage because Greenslade used only her middle initial, not her full middle name as in the query. "We needed to be smarter than that," Heymans says. So she added a signal that looks for middle initials. Now Greenslade's homepage is the fifth result.

At any moment, dozens of these changes are going through a well-oiled testing process. Google employs hundreds of people around the world to sit at their home computer and judge results for various queries, marking whether the tweaks return better or worse results than before. But Google also has a larger army of testers — its billions of users, virtually all of whom are unwittingly participating in its constant quality experiments. Every time engineers want to test a tweak, they run the new algorithm on a tiny percentage of random users, letting the rest of the site's searchers serve as a massive control group. There are so many changes to measure that Google has discarded the traditional scientific nostrum that only one experiment should be conducted at a time. "On most Google queries, you're actually in multiple control or experimental groups simultaneously," says search quality engineer Patrick Riley. Then he corrects himself. "Essentially," he says, "all the queries are involved in some test." In other words, just about every time you search on Google, you're a lab rat.

This flexibility — the ability to add signals, tweak the underlying code, and instantly test the results — is why Googlers say they can withstand any competition from Bing or Twitter or Facebook. Indeed, in the last six months Google has made more than 200 improvements, some of which seem to mimic — even outdo — the offerings of its competitors. (Google says this is just a coincidence and points out that it has been adding features routinely for years.) One is real-time search, eagerly awaited since Page opined some months ago that Google should be scanning the entire Web every second. When someone queries a subject of current interest, among the 10 blue links Google now puts a "latest results" box: a scrolling set of just-produced posts from news sources, blogs, or tweets. Once again, Google uses signals to ensure that only the most relevant tweets find their way into the real-time stream. "We look at what's retweeted, how many people follow the person, and whether the tweet is organic or a bot," Singhal says. "We know how to do this, because we've been doing it for a decade."

Along with real-time search, Google has introduced other new features, including a service called Goggles, which treats images captured by users' phones as search queries. It's all

## The ability to add signals, tweak the underlying code, and instantly test the results — is why Googlers say they can withstand any competition

# IT'S EXTREMELY IMPORTANT TO KEEP IN MIND THAT GOOGLE IS A LONG-TERM JOURNEY.

part of the company's relentless march toward search becoming an always-on, ubiquitous presence. With a camera and voice recognition, a smartphone becomes eyes and ears. If the right signals are found, anything can be query fodder.

Google's massive computing power and bandwidth give the company an undeniable edge. Some observers say it's an advantage that essentially prohibits startups from trying to compete. But Manber says it's not infrastructure alone that makes Google the leader: "The very, very, very key ingredient in all of this is that we hired the right people."

By all standards, Qi Lu qualifies as one of those people. "I have the highest regard for him," says Manber, who worked with the 48-year-old computer scientist at Yahoo. But Lu joined Microsoft early last year to lead the Bing team. When asked about his mission, Lu, a diminutive man dressed in jeans and a Bing T-shirt, pauses, then softly recites a measured reply: "It's extremely important to keep in mind that this is a long-term journey." He has the same I'm-not-going-away look in his eye that Uma Thurman has in *Kill Bill*.

Indeed, the company that won last decade's browser war has a best-served-cold approach to search, an eerie certainty that at some point, people are going to want more than what Google's algorithm can provide. "If we don't have a paradigm shift, it's going to be very, very difficult to compete with the current winners," says Harry Shum, Microsoft's head of core search development. "But our view is that there will be a paradigm shift."

Still, even if there is such a shift, Google's algorithms will probably be able to incorporate that, too. That's why Google is such a fearsome competitor; it has built a machine nimble enough to absorb almost any approach that threatens it — all while returning high-quality results that its competitors can't match. Anyone can come up with a new way to buy plane tickets. But only Google knows how to find Mike Siwek.

# LOTS OF COMPANIES DON'T SUCCEED OVER TIME. WHAT DO THEY DO WRONG? THEY USUALLY MISS THE FUTURE.

It has larger volume
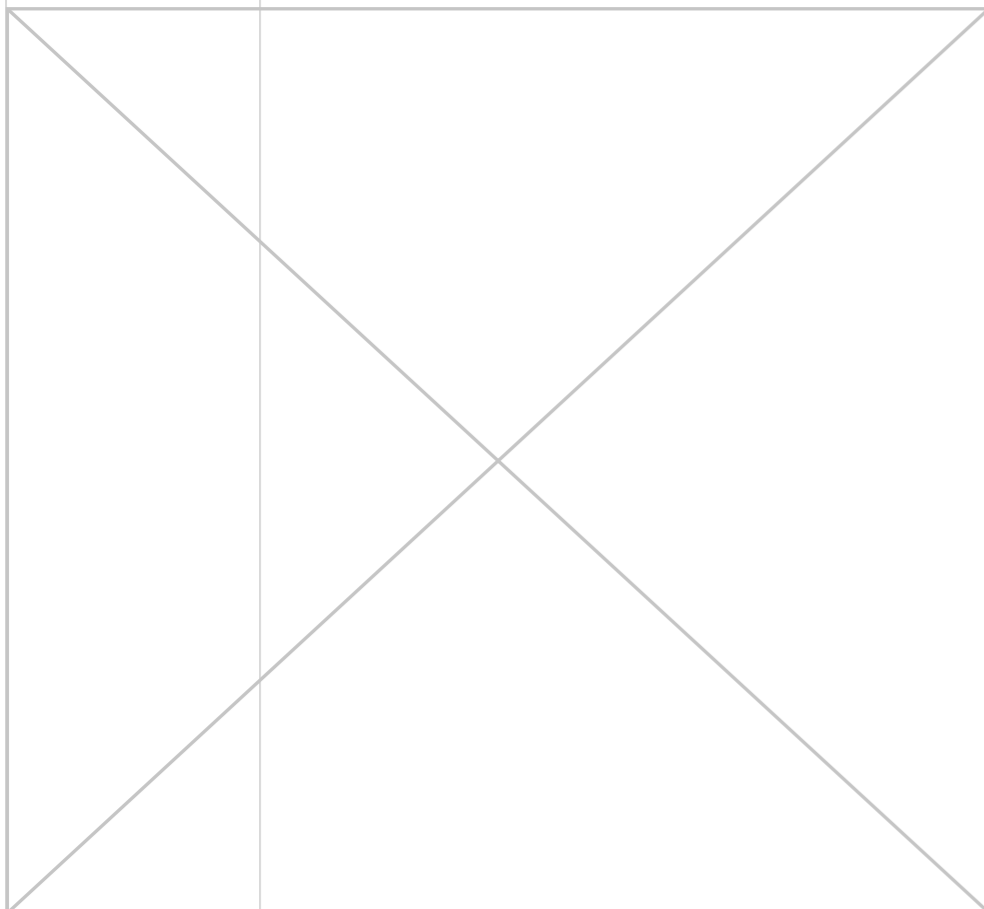than other backpacks.

Samsonite

# Finding the Blank spots

TEXT
**Meg Miller**
**Mimi Onuoha**

INSTALLATION
**Mimi Onuoha**

## IF THE DATA DOES NOT EXIST, YOU DO NOT EXIST.

## WHEN DATA IS USED AT SUCH AN ENORMOUS SCALE GAPS IN THE DATA TAKE ON AN OUTSIZED IMPORTANCE, LEADING TO ERASURE, REINFORCING BIAS AND CREATING A DISTORTED VIEW OF HUMANITY.

The conceptual, practical, and ethical issues surrounding "big data" and data in general begin at the very moment of data collection. Particularly when the data concerns people, not enough attention is paid to the realities entangled within that significant moment and spreading out from it.

Mimi Onuoha is an artist who works mostly with algorithms, data sets, and digital systems, but her best known work may be a file cabinet. White, metal, and unassuming, it's the kind that used to line the carpeted halls of office buildings before the advent of Google Drive and iCloud. Sliding open Onuoha's cabinet reveals a column of familiar brownish-green folders, hooked at the sides and marked on top by plastic tabs. The labels include: "Publicly available gun trace data," "Trans people killed or injured in instances of hate crime," "Muslim communities surveilled by the FBI/CIA." But when you open any one of the folders, there's nothing inside.

This is Onuoha's *Library of Missing Datasets*, a physical catalog of digital absence. She created the piece in 2016 (and a second version in 2018), after realizing that even with all of the esoteric, eccentric data sets you can find online—every word in the Broadway musical Hamilton,

a yearly estimate of hotdogs eaten by Americans on the 4th of July—there's a lot of urgent, necessary data that's suspiciously missing. "In spaces that are oversaturated with data, there are blank spots where there's nothing collected at all," she says in a video for Data & Society. "When you look into them, you start to realize that they almost universally intersect with the interests of the most vulnerable."

But how often do we think of data as missing? Data is everywhere—it's used to decide what products to stock in stores, to determine which diseases we're most at risk for, to train AI models to think more like humans. It's collected by our governments and used to make civic decisions. It's mined by major tech companies to tailor our online experiences and sell to advertisers. As our data becomes an increasingly valuable commodity—usually profiting others, sometimes at our own expense—to not be "seen" or counted might seem like a good thing. But when data is used at such an enormous scale, gaps in the data take on an outsized importance, leading to erasure, reinforcing bias, and, ultimately, creating a distorted view of humanity. As Tea Uglow, director of Google's Creative Lab, has said in reference to the exclusion of queer and transgender communities, "If the data does not exist, you do not exist."

"In spaces that are oversaturated with data, there are blank spots where there's nothing collected at all." This is something that artists and designers working in the digital realm understand better than most, and a growing number of them are working on projects that bring in the nuance, ethical outlook, and humanist approach necessary to take on the problem of data bias. This group includes artists like Onuoha that have the vision to seek out and highlight these absences.

### So what is a missing data set?

"Missing data sets" are the term for the blank spots that exist in spaces that are otherwise data-saturated.

The interest in them stems from the observation that within many spaces where large amounts of data are collected, there are often empty spaces where no data live. Unsurprisingly, this lack of data typically correlates with issues affecting those who are most vulnerable in that context.

The word "missing" is inherently normative. It implies both a lack and an ought: something does not exist, but it should. That which should be somewhere is not in its expected place; an established system is disrupted by distinct absence. Just because some type of data doesn't exist doesn't mean it's missing, and the idea of missing data sets is inextricably tied to a more expansive climate of inevitable and routine data collection.

*THE LIBRARY OF MISSING DATASETS (2016), MIXED MEDIA INSTALLATION. THE LIBRARY OF MISSING DATASETS* **IS A PHYSICAL REPOSITORY OF THINGS THAT HAVE BEEN EXCLUDED IN A SOCIETY WHERE SO MUCH IS COLLECTED.**



### Why do they matter?

That which we ignore reveals more than what we give our attention to. It's in these things that we find cultural and colloquial hints of what is deemed important. Spots that we've left blank reveal our hidden social biases and indifferences.

## JUST BECAUSE SOME TYPE OF DATA DOESN'T EXIST DOESN'T MEAN IT'S MISSING, AND THE IDEA OF MISSING DATA SETS IS INEXTRICABLY TIED TO A MORE EXPANSIVE CLIMATE OF INEVITABLE AND ROUTINE DATA COLLECTION.



### Why are they missing?

There are a number of reasons why a data set that seems like it should exist might not, and they are all tied to the quiet complications inherent in data collection. Below are four reasons, with accompanying real-world examples.

1. Those who have the resources to collect data lack the incentive to (corollary: often those who have access to a dataset are the same ones who have the ability to remove, hide, or obscure it). Police brutality towards civilians provides a powerful example. Though policing and crime are among the most data-driven areas of public policy, traditionally there has been little history of standardized and rigorous data collected about police brutality. Nowadays we have a political and cultural climate where this issue has become one of public discussion. Public interest campaigns like Fatal Encounters and the *Guardian's The Counted* have helped fill that void. But even for these individuals/organizations, the work is difficult and time-consuming. The group who would make the most sense to monitor this issue—the law enforcement agents who create the data set in the first place—have no incentive to actually gather such data, which could prove incriminating.

2. The data to be collected resist simple quantification (corollary: we prioritize collecting things that fit our modes of collection). The defining tension of data collection is the struggle of taking a messy, organic world and defining it in formats that are neat, clean, and structured. Some things are difficult to collect and quantify by nature of their structure. We don't know how much US currency is outside of our borders. There's no incentive for other countries to monitor US currency within their countries, and the very nature of cash and the anonymity it affords makes it difficult to track. But then there are other subjects that resist quantification entirely. Things like emotions are hard to quantify (at this time, at least). Institutional racism is subtle and deniable; it reveals itself more in effects than acts. Not all things are easily quantifiable, and at times the very desire to render the world more abstract, trackable, and machine-readable is an idea that itself deserves questioning.

3. The act of collection involves more work than the benefit the presence of the data is perceived to give. Sexual assault and harassment are woefully underreported. And while there are many reasons why this is, one major one is that in many cases the very act of reporting sexual assault is a very intensive, painful, and difficult process. For some, the benefit of reporting isn't perceived to be equal or greater than the cost of the process.

4. There are advantages to nonexistence. Every missing dataset is a testament to this fact. Just as the presence of data benefits someone, so too does the absence. This is important to keep in mind.

However, there's an even more specific angle to this point. To collect, record, and archive aspects of the world is an intentional act, one that typically benefits those who have the power to decide what should be collected. Often, remaining outside of the bounds of collection can be a form of response for a situationally-disadvantaged group. In short, sometimes a missing dataset can function as a form of protection.

# DATA WON'T SOLVE ALL PROBLEMS.

DATA ARE USEFUL FOR INFORMING A DEBATE, INCREASING KNOWLEDGE, SHAPING A CONVERSATION, AND PROVIDING CONTEXT. DATA CAN GIVE THE ABILITY TO HAVE KNOWLEDGE ABOUT TRENDS, AND HOW THINGS HAVE CHANGED OVER TIME. BUT HAVING DATA ISN'T ENOUGH TO SOLVE ALL PROBLEMS.

**An incomplete list of missing data sets.** This list will always be incomplete, and is designed to be illustrative rather than comprehensive. It also comes primarily from the perspective of the U.S, though the complete list of data sets features far more international examples.

- Sales and prices in the art world (and relationships between artists and gallerists);
- People excluded from public housing because of criminal records;
- Trans people killed or injured in instances of hate crime (note: existing records are notably unreliable or incomplete);
- Poverty and employment statistics that include people who are behind bars;
- Muslim communities surveilled by the FBI/CIA;
- Mobility for older people with physical disabilities or cognitive impairments;
- LGBT older adults discriminated against in housing;
- No documented immigrants incarcerated and/or underpaid;
- Undocumented immigrants for whom prosecutorial discretion has been used to justify release or general punishment;
- Measurements for global web users that take into account shared devices and VPNs;
- Firm statistics on how often police arrest women for making false rape reports;
- Master database that details if/which Americans are registered to vote in multiple states;
- Total number of local and state police departments using stingray phone trackers (IMSI-catchers);
- How much Spotify pays each of its artists per play of song.
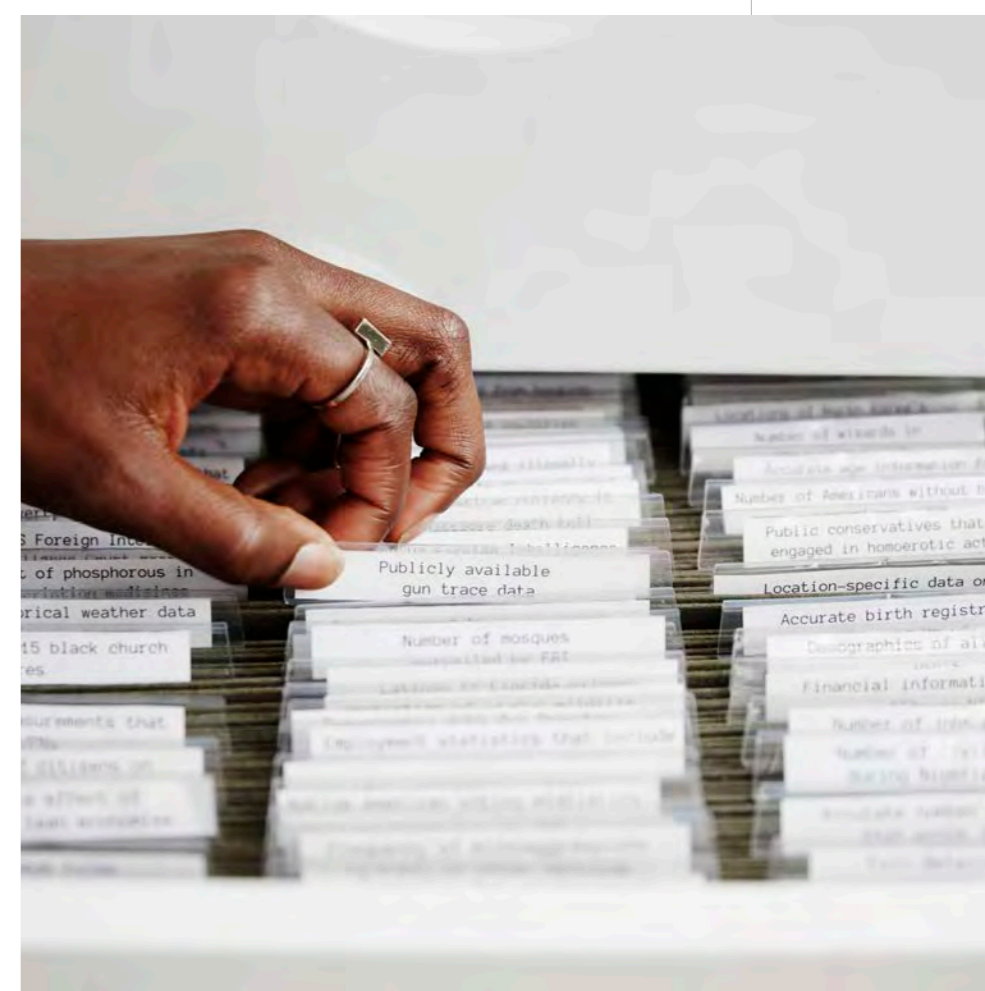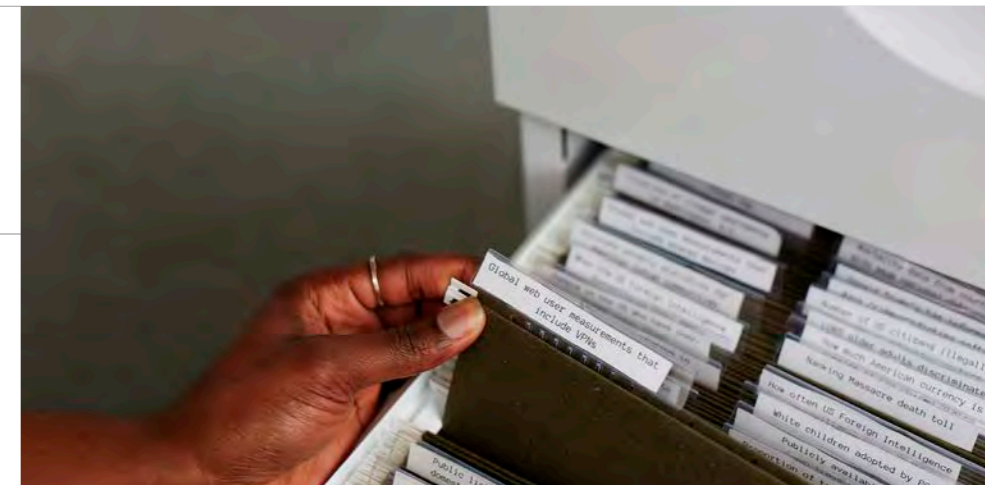
**Responses & Hypotheses**
Data won't solve all problems. Data are useful for informing a debate, increasing knowledge, shaping a conversation, and providing context. Data can give the ability to have knowledge about trends, and how things have changed over time. But having data isn't enough to solve all problems (just because we now know how many people are killed in moments of police brutality doesn't mean that police brutality has ended. )

Collective action is a strategy for resistance. The hypothesis is that one answer to these missing datasets lies in those who have a stake in the data cooperating to disrupt the structures preventing access to it, a la Jonah Bossewitch and Aram Sinnreich's sousveillance society model (see Resources folder for paper).

Lack of collection is also a strategy. This has been said before, but bears repeating. A tricky aspect of dealing with missing data sets is that they hint at larger problems, and the answer to those problems does not universally lie in collecting more data.

*THE LIBRARY OF MISSING DATASETS 2.0 (2018), INSTALLATION PIECE. THE SECOND INSTALLMENT IN THE LIBRARY OF MISSINGS DATASETS SERIES FOCUSES ON BLACKNESS. BLACK FOLKS ARE BOTH OVER-COLLECTED AND UNDER-REPRESENTED IN AMERICAN DATASETS.*
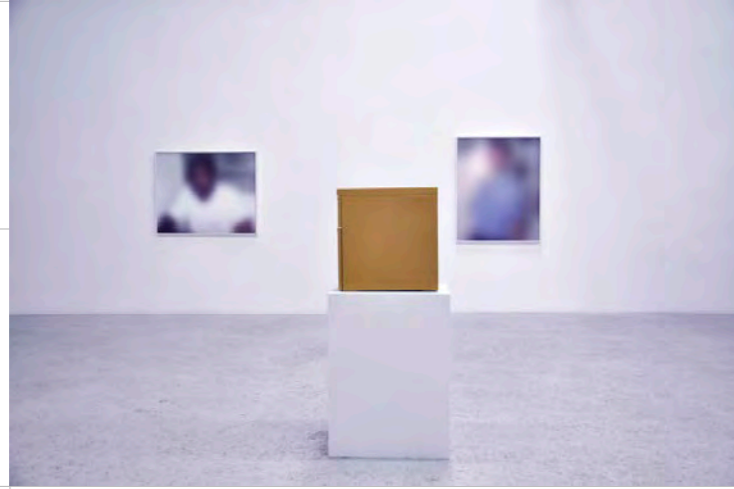
## What can we do?

Five theses around data collection if you have anything to do with data on a daily basis (read: all of us) and want to do data responsibly.

### 1. Data sets are the results of their means of collection.

It's easy to forget that the people collecting a data set, and how they choose to do it, directly determines the data set. An illustrative example can be found in the statistics for how many hate crimes were committed in the United States in 2012. According to the FBI Uniform Crime Reporting Program (UCR), the number was 5,796. However, the Department of Justice's Bureau of Statistics reported 293,800 hate crimes. The reason for the variation was simple. The URC gathers data that is voluntarily reported by law enforcement agencies across the country. The Bureau of Statistics, on the other hand, distributes the National Crime Victimization Survey, which collects data from the victims of hate crimes. The result is a more transparent and inclusive surveying. Same data set, two different means of collection, two wildly different results. What they show is an important fact we must keep in mind: There's no pure objectivity encoded into data sets. Each one is the result of a number of human processes and decisions that affect, in a variety of ways, the data that they aim to report. In this sense, the moment of data collection starts before any data is actually produced.

### 2. We prioritize things that fit patterns of collection.

Or as Rob Kitchin and Martin Dodge say in *Code/Space*, "The effect of abstracting the world is that the world starts to structure itself in the image of the capta and the code." Data emerges from a world that is increasingly software-mediated, and software thrives on abstraction. It flattens out individual variations in favor of types and models. As we abstract the world, we prioritize abstractions of the world. The more we look to data to answer our big questions (in areas like policing, safety, and security), the more incentives we have to shape the world into an input that fits into an algorithm. Our need to generate things that feed a model rings true even in cases where the messy bounds of experiences can't be neatly categorized into bits and bytes, or easily retrieved from tables through queries. Biometric data is a great example of this. Fingerprint authentication technologies and iris scanners point to a system where individuals are uniquely identified through metrics and data. In order for this to work, people themselves have to be conceptualized more and more as machine-readable.
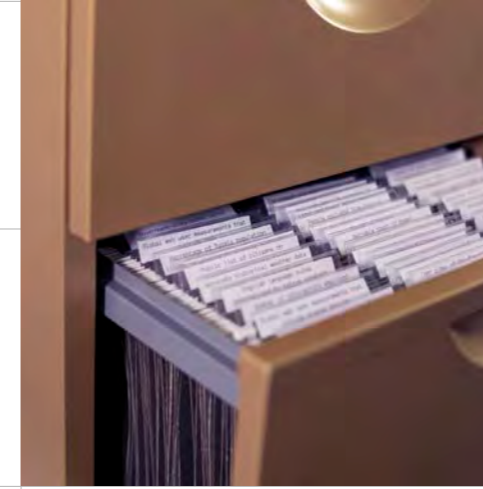
BLACK FOLKS ARE BOTH OVER-COLLECTED AND UNDER-REPRESENTED IN AMERICAN DATASETS, FEATURING STRONGLY AS OBJECTS OF COLLECTION BUT RARELY AS SUBJECTS WITH AGENCY OVER COLLECTION, OWNERSHIP, AND POWER. VERSION 2.0 OF *THE LIBRARY OF MISSING DATASETS* SPEAKS TO THIS REALITY.

## The data are capable of shifting and changing according to specific cultural contexts and to play different roles than what they might have initially been intended for.

### 3. Data sets outlive the rationale for their type of collection.

Spotify can come up with a list of reasons why having access to users' photos, locations, microphones, and contact lists can improve the music streaming experience. But the reasons why they decide these forms of data might be useful can be less important than the fact that they have the data itself. This is because the needs or desires influencing the decisions to collect some type of data often eventually disappear, while the data produced as a result of those decisions have the potential to live for much longer.

The data are capable of shifting and changing according to specific cultural contexts and to play different roles than what they might have initially been intended for. Ultimately, the question of intention behind the collection or generation of a data set can be rendered irrelevant.

Thinking through the moment of collection can reveal the distance between it and the data's use. And it's often far more critical to think about the potentials and possibilities surrounding what can be done with collected data.

### 4. Corollary: Especially combined, data sets reveal far more than intended.

We sometimes fail to realize that data sets, both on their own and combined with others, can be used to do far more than what they were originally intended for. You can make inferences from one data set that result in conclusions in completely different realms.

Facebook, by having huge amounts of data on people and their networks, could make reasonable hypotheses regarding people's sexual orientations. People who work with data know this intimately, but it can often be difficult to see the connections between the collection of one thing and the inference of something else. Unfortunately, the effects of these connections can become very strongly felt. As Bruce Schneier puts it, "data we're willing to share can imply conclusions that we don't want to share."

### 5. Data collection is a transaction that is the result of an invisible relationship.

This is a frame — connected tot the first point — useful for understanding how to think about data collection on the whole: Every data set involving people implies subjects and objects, those who collect and those who make up the collected.

It is imperative to remember that on both sides we have human beings.

I point this out not for any fluffy reasons related to humanism or human-centered design, but because power arises out of hierarchies, interactions, and dynamics. The below-the-surface work of a particular data set is joined to the reasons and means that created it and the relationships running through those reasons and means. If we can keep that in mind, we're better positioned to see data as an intermediate result, one piece in a larger process, something that is as much human-oriented as it is systematic.

The challenge is for us to keep in mind both aspects of data collection, to see systematic as well as human tensions and biases.

The point of data collection is a unique site for unpacking change, abuse, unfairness, bias, and potential. We can't talk about responsible data without talking about the moment when data becomes data.

72:59:59

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Cosmolite,
the **strongest** and **lightest** Samsonite ever.

Cosmolite

# How far I have scrolled in a year

TEXT
**Hussein Kesvani**

Hussein Kesvani is the UK and Europe editor of *MEL magazine* and writes features on technology, subcultures and identity.

I started 2019 with a small list of resolutions to try improve my life: Wake up earlier (failed), meet my deadlines (failed) and give up coffee (yep, you guessed it: failed). But there was one resolution I ended up not just fulfilling, but exceeding: I completed a half-marathon, and then some. I did no training. I adhered to no special diet. And I bought no thermowear for endurance runs. In fact, I completed most of my marathon while lying in bed or sitting on the toilet.

I am, of course, talking about the mileage carried out by my thumb in service of browsing Twitter, Instagram, Facebook and TikTok.

While I'm still in denial about my larger social media problem, I will admit to taking anywhere between five to 10 "sporadic'" scrolling sessions an hour. Sure, they only last around 30 to 60 seconds at a time, but when they're all accumulated, it probably amounts to more mileage per day than I drive in a week. There hasn't been any official or deeply mathematical research on "scroll depth", the term app developers use when talking about scrolling distance. But some researchers have estimated that an average person will have scrolled the equivalent height of the *Burj Khalifa* (i.e., the tallest building in the world) in a week, and Mount Everest in a year. Meanwhile, in 2018, the technology agency Gravity Road estimated that if someone were to scroll from the top to the bottom of the Mail Online on an iPhone 8, they'd have covered 16 feet — that's three Seth Greens.

These measurements tend to be based on the "average" amount of social media use per person. Though there's no consensus on that figure, according to Yahoo!, it's around two hours, 57 minutes per day. This estimate obviously comes with a lot of assumptions: that the person is scrolling on just one device, and that their scrolling time is linked to their recreational use of social media platforms. Basically, if you happen to be like me — someone who spends their work and leisure time online — that distance is likely to be far, far longer.

This could, though, be about to change, as many internet researchers expect scrolling patterns and behaviors to become a favored metric among publishers and social media platforms in the 2020s. "Scrolling behavior could be interesting if we can infer appropriate understanding of it, rather than just assuming," says Brit Davidson, a research associate in cybersecurity at the University of Bristol. That said, she believes it only scratches the surface. "I'm more interested in the way people use devices and how that's unique to them," she explains, which she thinks gets more at their intentions in using a particular app or program.

To get my own scroll depth for 2019, Idrees told me that any accurate measurement would probably require me to jailbreak my iPhone, write some code and let it run in the background for at least 48 hours — something I didn't have the savvy to do. Instead, I relied on the number-crunching of Leo Qin, an L.A.-based data scientist.

On his blog, Qin estimates that an average person will likely perform between 201 to 257 thumb strokes on their smartphone a day, based on the aforementioned Yahoo! data and the number of words the average college student reads on a screen per minute. According to Qin's calculations, on an iPhone with a six-inch screen, the average person is likely to cover 890 inches of text daily — or 74 feet. That probably doesn't seem like a lot, but when you extrapolate it out, Qin estimates that a normal person will have traveled at least five miles a year with their thumbs.

With that — and if my iPhone screen-time data is correct — my yearly scrolling time is more than triple that of average person. So, at the very least, I covered around 20 miles in 2019. That's just under four Everests, or eight lengths of the Hollywood Walk of Fame. Perhaps not quite a marathon — but much closer to the goal than my vow to wake up earlier.

## YOU CAN USE DATA SCIENCE TO CALCULATE THE DISTANCE TRAVELED BY YOUR IPHONE THUMB. IT'S MORE MILEAGE THAN MOST OF US CAN RUN.
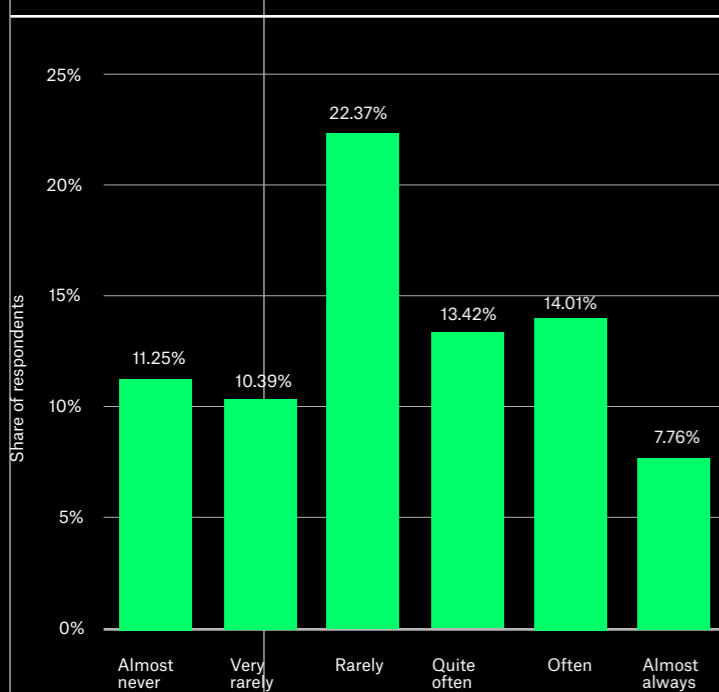
# Information media around the world

🟩 Global data
🟥 US data

## USE OF SMARTPHONE AS SOURCE OF INFORMATION

Share of respondents

- Almost never — 11.25%
- Very rarely — 10.39%
- Rarely — 22.37%
- Quite often — 13.42%
- Often — 14.01%
- Almost always — 7.76%

## % OF AMERICANS THAT ARE HOME BROADBAND USERS

2002 2004 2006 2008 2010 2012 2014 2016 2018

## HOW DO COSTUMERS GET THE NEWS?

Share of consumers who prefer selected gateways to digital news content

| 32% | 25% | 23% | 6% | 5% | 5% |
|---|---|---|---|---|---|
| Directly on news site | Search | Social media | Email | Mobile alerts | Aggregators |

## WICH NEWS SOURCES DO AMERICANS TRUST?

% that have 'a lot' or 'a fair amount' of confidence in the following news sources

| 54% | 52% | 51% | 46% |
|---|---|---|---|
| Local Newspapers | National Network Newspaper | Major National Newspaper | Cable news |

## WHERE AMERICANS GET THEIR NEWS

About six-in-ten americans often get news on a mobile device

**2013**
21% — 30%
*Mobile*  Desktop/Laptop

**2019**
57% — 30%
*Mobile*  Desktop/Laptop

| 38% | 36% |
|---|---|
| News aggregators | Internet-only news website |
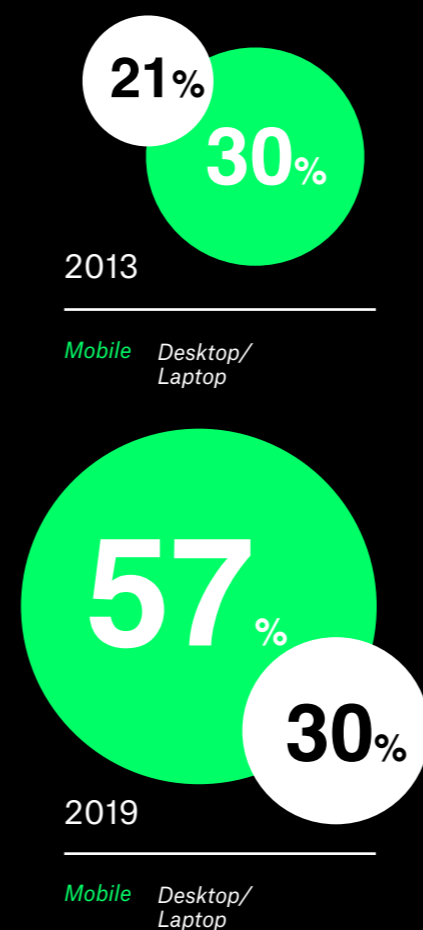
## WICH COUNTRIES READ THE NEWS THE MOST?

Share of respondents in selected countries who read the news more than once a day

- SWEDEN **85%**
- POLAND **79%**
- TURKEY **78%**
- SOUTH KOREA **77%**
- ITALY **70%**
- GREAT BRITAIN **67%**
- GERMANY **64%**
- USA **63%**
- FRANCE **60%**
- SPAIN **58%**
- CANADA **57%**
- AUSTRALIA **52%**

## GLOBAL INTERNET POPULATION

BLN
**4.57**
*Active Internet*

BLN
**4.2**
*Unique mobile internet*

BLN
**3.81**
*Active Social media*

BLN
**3.76**
*Active mobile Social media*

TEXT
**Jordana Capelewicz**
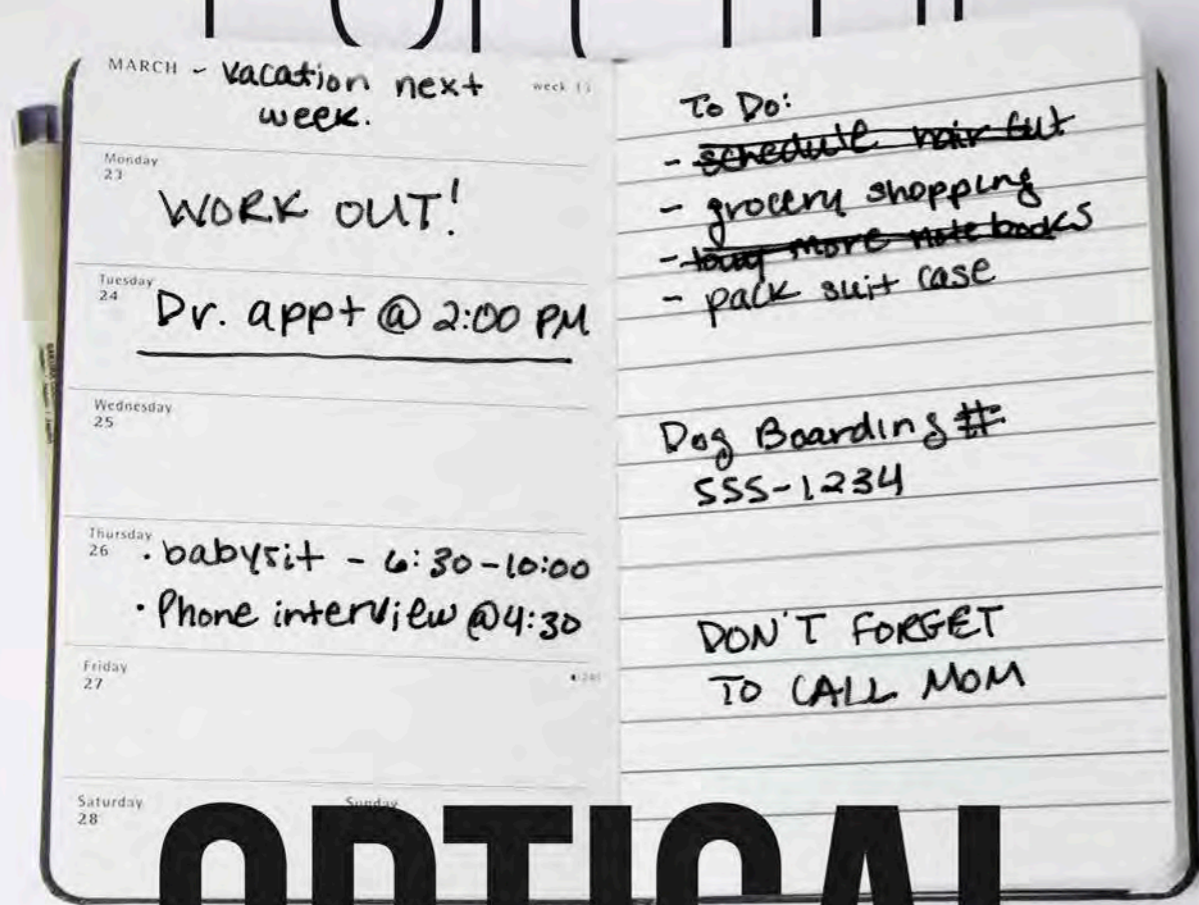
GRAPHICS
**Caterina Cedone**

# THE MEMORY OVERLOAD that sends the brain out of sync

HUMANS CAN ONLY STORE FOUR OR FIVE ELEMENTS AT A TIME IN THEIR WORKING MEMORY: IF IT BECOMES OVERLOADED, THE FEEDBACK SIGNALS SENT FROM CERTAIN AREAS OF THE BRAIN ARE INTERRUPTED AND THE BRAIN NETWORK LOSES SYNCHRONIZATION
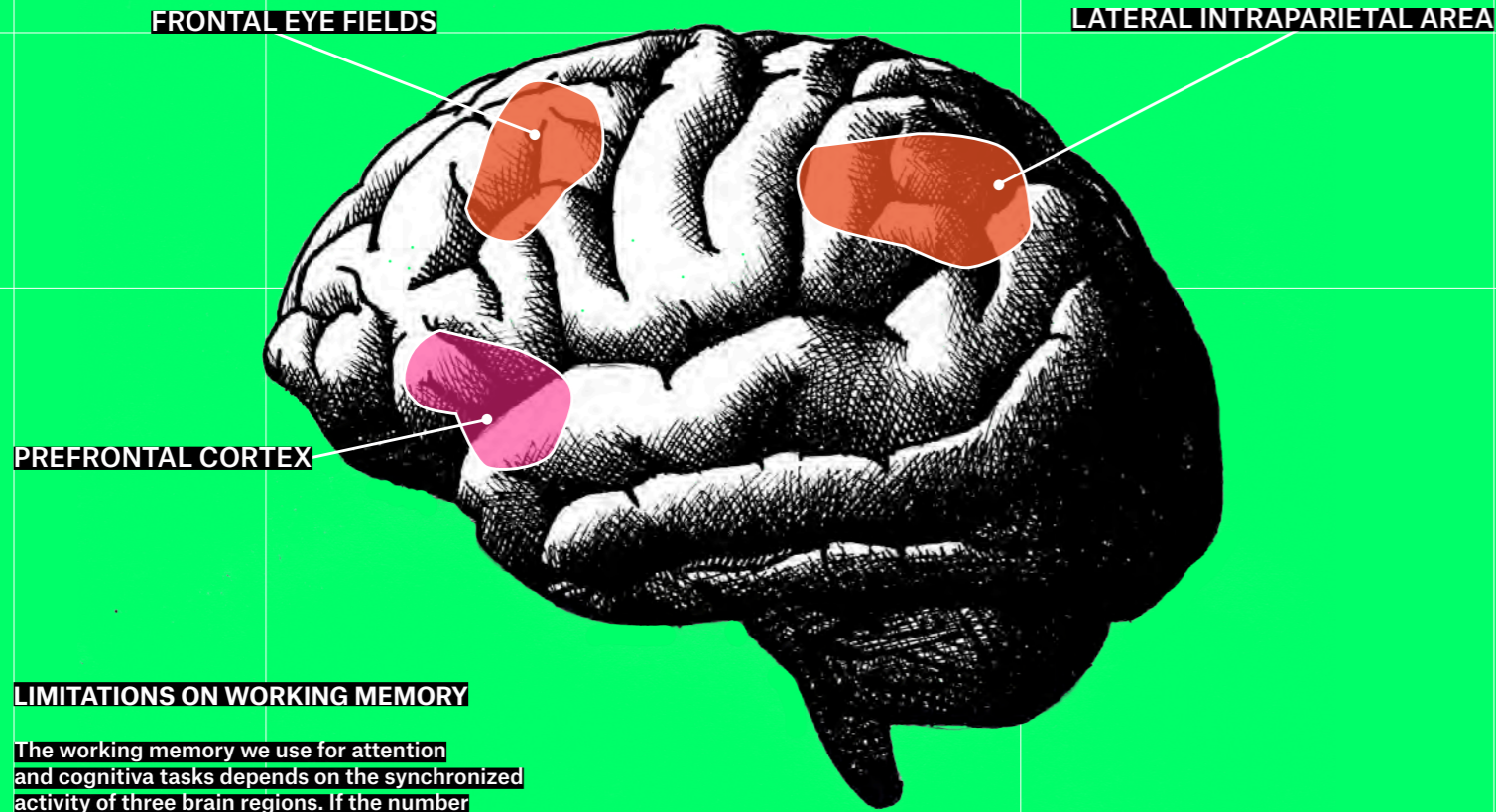
## FRONTAL EYE FIELDS

## LATERAL INTRAPARIETAL AREA
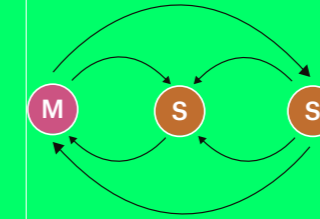
## PREFRONTAL CORTEX

### LIMITATIONS ON WORKING MEMORY

The working memory we use for attention and cognitiva tasks depends on the synchronized activity of three brain regions. If the number of objects we're paying attention to exceeds five, the prefrontal area that modelsexperiences cannot keep up.
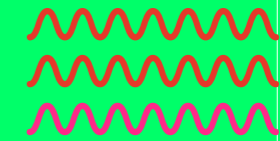
### WORKING MEMORY THAT WORKS

▲ ■ ●

FOR FIVE
OR FEWER ITEMS

M — S — S

BRAIN REGIONS EXCHANGE
SIGNALS ABOUT MODELED
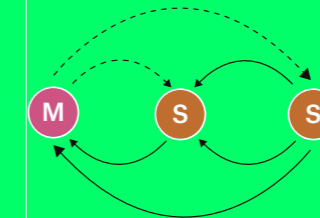EXPERIENCES (M) AND SENSORY
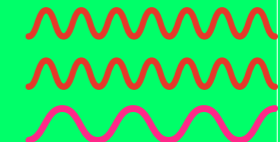INFORMATION (S).

BRAIN WAVES
IN THE THREE
AREAS STAY
SYNCHRONIZED.

### OVERLOADED WORKING MEMORY

▲ ■ ● ⬠ ⬡ ★ ●

FOR MORE
THAN FIVE ITEMS

M — S — S

THE MODELING CAPACITY
IS OVERWHELMED.
SIGNALS FROM THAT
AREA ARE DISRUPTED.

WORKING MEMORY
FAILS BECAUSE
THE BRAIN WAVES
ARE OUT OF SYNC.

---

In 1956, the well-known cognitive psychologist George Miller published one of the most famous articles in the subject: "The magic number seven, more or less two". In that work, he argued that even though the brain can store an entire lifetime of knowledge in its one trillion connections, the number of elements that human beings can actively and simultaneously maintain in conscious awareness is limited, on average, to seven. The elements could be a series of numbers, a handful of objects scattered around a room, a list of words or sounds overlapping. Whatever they are, Miller wrote, only seven of them can fit into so-called working memory, where they are available for our focused attention and other cognitive processes. Their permanence in working memory is short and limited: when they are no longer actively thought of, they are stored elsewhere or forgotten.

Since Miller's time, neuroscientists and psychologists have continued to study working memory and its surprisingly rigid limitations, discovering that they may be closer to four or five voices than seven. And they have studied how people circumvent the limit: we can remember all the digits of a phone number by "tearing" the numbers apart (remembering 1, then 4, instead of the single item 14, for example), or by developing mnemonic tricks to extract random pi-greek digits from long-term memory.

But the reason why working memory starts to fail at such a low threshold is still unclear. Researchers can see that any attempt to cross that threshold degrades information: neuronal representations become "more fragile", brain rhythms change and memories are lost. This happens with even fewer of elements in people diagnosed with neurological disorders, such as schizophrenia.

The mechanism behind the degradation, however, remained unknown until recently. In an article published in *Cerebral Cortex* in March, three scientists found that a significant weakening of feedback signals between different parts of the brain is responsible for the problem. The study sheds light on the function and dysfunction of memory and offers further evidence for a promising theory of how the brain processes information.

### A synchronized hum

Earl Miller, neuroscientist at the cower Institute for Learning and Memory at MIT, Dimitris Pinotsis, researcher at his lab, and Timothy Buschman, assistant professor at Princeton University, wanted to know what sets such a low limit on working memory capacity.

They already knew that there is a network in working memory that involves three brain regions: the prefrontal cortex, the frontal ocular fields and the lateral intraparietal area. But they had not yet observed changes in neural activity that corresponded to the rapid transition between remembering and not remembering that accompanies exceeding the limit of working memory.

So they resumed a working memory test that Miller's laboratory had conducted a few years earlier, in which the researchers showed some monkeys a series of screens: first a series of colored squares, followed briefly by an empty screen, and then again by the initial screen, but this time with the color of a square changed.

The animals had to detect the difference between the screens. Sometimes the number of squares would fall below the working memory capacity, other times it would rise above it. The electrodes inserted into the monkeys' brains recorded the time and frequency of the brain waves produced by various populations of neurons as the animals faced each task.

These waves are essentially the coordinated rhythms of millions of neurons that become active or silent at the same time. When areas of the brain show corresponding oscillations, both in time and frequency, they are said to be synchronized. "It's like they're buzzing together," Miller said. "And the neurons buzzing together are communicating."

Miller compared this to a road network: the physical connections of the brain behave like roads and highways, while the resonance patterns created by the oscillating brain waves that "buzz" together are the traffic lights that direct the flow of traffic. This configuration, the researchers hypothesize, seems to help to somehow "tie" the active networks to a more solid representation of an experience.

In their recent work, Miller and colleagues have extracted the oscillation data collected from monkey tests to obtain information about how this tripartite memory network works. They constructed a detailed mechanistic model incorporating hypotheses - based on previous research - about the structure and activity of the net: the positions and behaviours (e.g. exciters or inhibitors) of specific neutral populations, or the frequencies of certain oscillations.

The researchers then generated some competing hypotheses on how different areas of the brain could "talk" to each other - including the direction and intensity of that dialogue - when monkeys had to remember more and more voices. Finally, they compared these calculations with their experimental data to determine which of the scenarios was the most likely.

Their model confirmed that the three regions of the brain behave like jugglers engaged in an acrobatic throw of objects.

The prefrontal cortex appears to help build an internal model of the world by sending so-called top-down or feedback signals, which transmit this model to lower brain areas. Meanwhile, the frontal superficial ocular fields and the lateral intraparietal area send raw sensory input to deeper areas of the prefrontal cortex in the form of bottom-up or feedforward signals. The differences between the top-down model and bottom-up sensory information allow the brain to understand what it is experiencing and to modify its internal models accordingly.

Miller and colleagues found that when the number of items to remember exceeded the working memory capacity of the monkeys, the top-down feedback connection from the prefrontal cortex to the other two regions was broken. Feedforward connections, however, remained intact.

The weakening of feedback signals, according to the group's patterns, led to a loss of synchronicity between areas of the brain. Without prediction-oriented communications from the prefrontal cortex, the working memory network was out of sync.

## To have a representation or expectation on the sentence in real time means to have an implicit representation of the past and the future.

Updating the model

But why is top-down feedback so ulnerable to an increase in the number of items to remember? The researchers' hypothesis is that the modeled information from the prefrontal cortex essentially represents a set of predictions about what the brain will perceive in the world: in this case, the content of the elements contained in the working memory.

"For example, while you're reading this sentence, you'll have expectations about speech, pieces of sentence or the whole sentence," notes Karl Friston, a neuroscientist at University College London, who was not involved in the study. "To have a representation or expectation on the sentence in real time means to have an implicit representation of the past and the future."

Many neuroscientists believe that the brain relies heavily on this "predictive encoding" of sensory data to perform its routine cognitive and command functions. But Miller and colleagues speculate that when the amount of objects placed in working memory becomes too large, the number of possible predictions for those elements cannot be easily encoded in the feedback signal. As a result, the feedback fails and the overloaded working memory system collapses.

Miller's lab and others are working to carve out a more important role for brain wave interaction in the working memory model, which traditionally places most emphasis on the

electrical impulse transport activity of individual neurons. It is also being investigated why the upper limit of working memory is around four or five elements, and not another number.

Miller thinks that the brain manipulates the elements contained in the working memory one at a time, alternately. "That means all the information has to fit into a brain wave," he said. "When you exceed the capacity of that one brain wave, you've reached the limit of working memory."

"The question now is where this will take us," said Rufin Van Rullen, researcher at the French CNRS who finds

## WHEN YOU EXCEED THE CAPACITY OF THAT ONE BRAIN WAVE, YOU'VE REACHED THE LIMIT OF WORKING MEMORY.

the modelling and conclusions of the "powerful" group, pending further experimental confirmation. "We need to actually get into the brain and find more direct evidence of these connections". The potential reward is high. Strengthening a predictive coding model for working memory will not only allow a better understanding of how the brain works and what could go wrong in neurological diseases, but will also have crucial implications for what we mean by "intelligence" and even individuality, according to Friston.

To begin with, better understanding what feedback connections in the brain do could lead to big steps in artificial intelligence research, which today focuses more on feedforward signals and classification algorithms. "But sometimes a system may need to make a decision not on what it sees but on what it remembers," Pinotsis said.
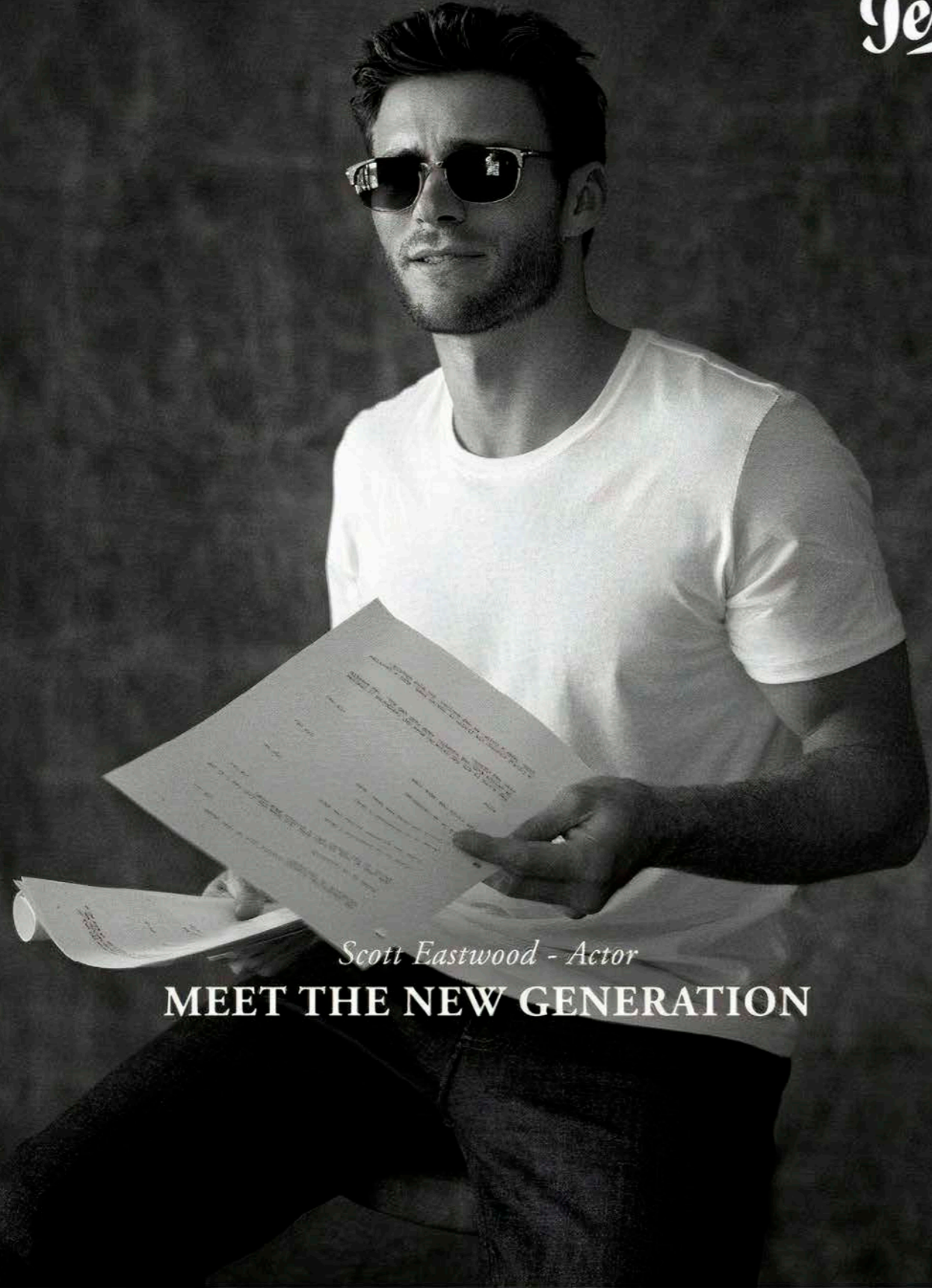
# WHICH OF THESE NEWS ARE FAKE?

## SOMETIMES THE TRUTH IS NOT WHAT IT SEEMS.

We live in an age of uncertainty. The constant flow of commodities, technologies and even ideas that make up our global markets has snowballed, over time, creating a mammoth, multi-directional discourse in which our collective experience of change is fortified by a collective feeling of chaos and anxiety. This, in essence, is PERMA-FLUX. Ita dolorpor magni sus voloreped et antur? Udandis doluptatem qui vendio de nis ape porere lam nosam non ressuntem as aligendant.

Results:
1. Fake
2. Real
3. Real
4. Fake
5. Real
6. Real
7. Real
8. Fake
9. Real
10. Fake
11. Real
12. Real
13. Fake
14. Fake
15. Fake
16. Real
17. Real
18. Fake

**2** FIRST-EVER EVIDENCE THAT MOSQUITOES CAN BE TRAINED — Fake / Real

**3** Tito's Vodkabegs: Don't use alcohol as hand sanitizer in coronavirus outbreak — Fake / Real

**7** Facebook begins rating users on how trustworthy they are at flagging fake news — Fake / Real

**9** China Assigns Every Citizen A 'Social Credit Score' To Identify Who Is And Isn't Trustworthy — Fake / Real

**1** Did President Trump Order Detained Immigrants to Wear Yellow Bracelets? — Fake / Real

**4** ADIDAS ENDORSES TRUMP — Fake / Real

**6** Googling Symptoms Improves Patients' Experiences In The ER, According To A New Study — Fake / Real

**8** Revolutionary spinal cord implant helps paralysed patients walk again — Fake / Real

**5** FLORIDA MAN ACCIDENTALLY BURNS HOME DOWN AFTER LIGHTING NIKE SHOES ON FIRE IN PROTEST OF NIKE'S COLIN KAEPERNICK AD — Fake / Real

**12** Female named hurricanes are deadlier than male named — Fake / Real

**14** Alabama Requires Birth Certificate To Use Public Bathroom — Fake / Real

**16** New app helps Icelanders avoid accidental incest — Fake / Real

**18** NATIONAL GEOGRAPHIC TO STOP PUBLISHING NUDE ANIMAL PICTURES — Fake / Real

**11** Feel the love with a robo-hug that's better than the real thing — Fake / Real

**15** Trump says Washington Post staffers should strike: 'We would get rid of Fake News for an extended period of time' — Fake / Real

**17** Suspected drunk driver tried to light cigarette with his burning car — Fake / Real

**10** Kim Jong-un BANS One Direction from entering North Korea unless they get their hair cut — Fake / Real

**13** Los Angeles Tap Water Contains 18% Xanax and 7% OxyCodone — Fake / Real
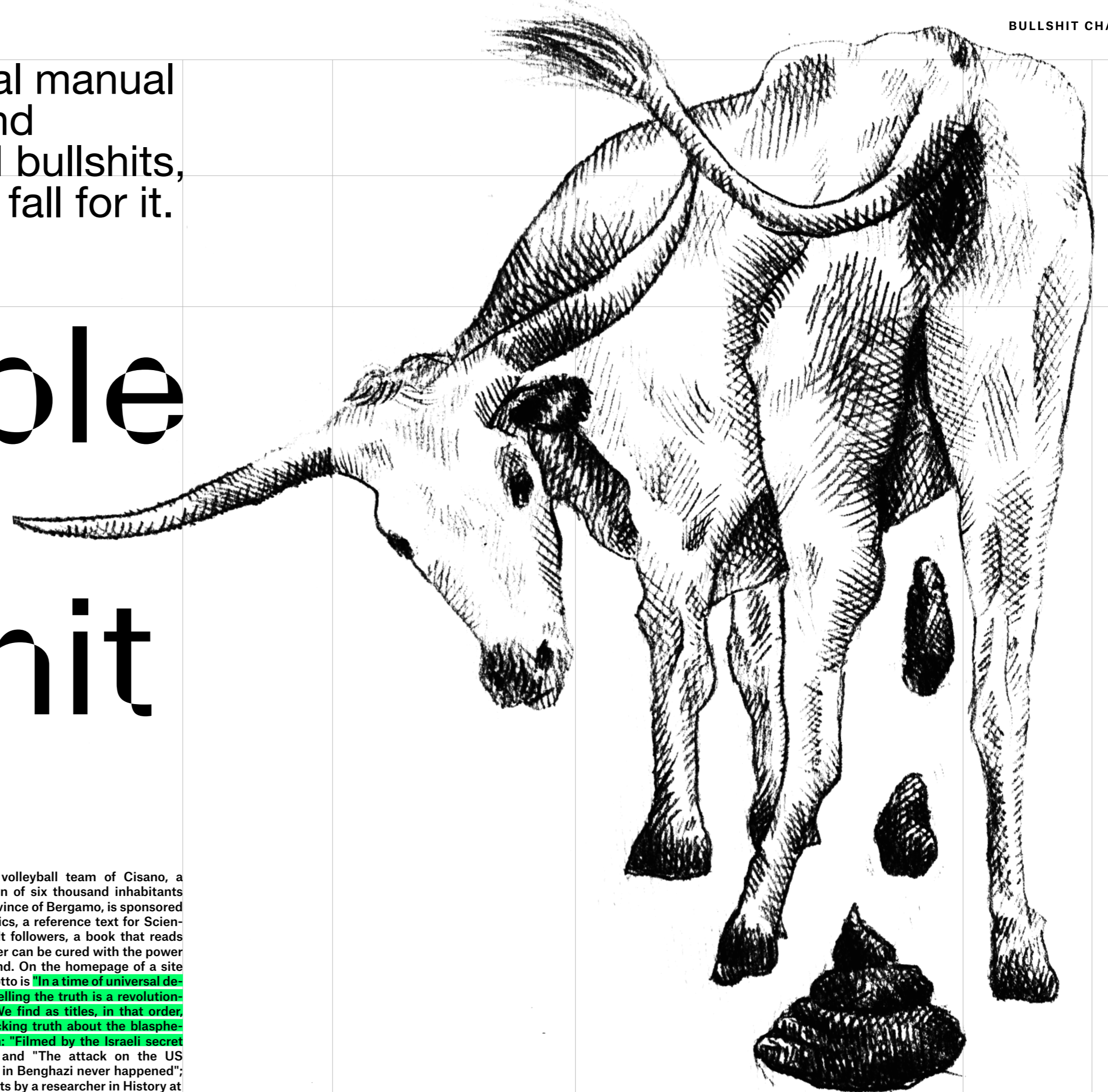
can you spot the fake ones?

**N26**

Loved for
peace of mind

Instant notifications

Mobile banking the world loves

Philosophical manual
to understand
how to build bullshits,
and why we fall for it.

# The irresistible charm of bullshit
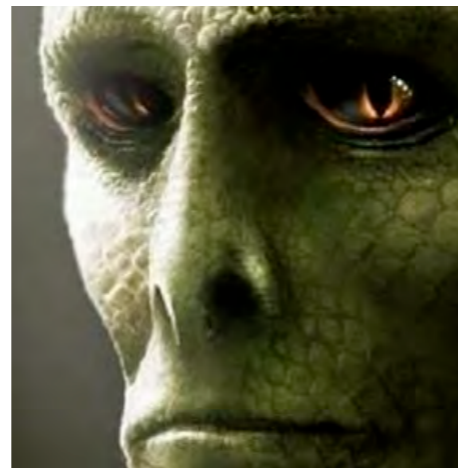
TEXT
**Antonio Sgobba**

ILLUSTRATION
**Caterina Cedone**

The volleyball team of Cisano, a small town of six thousand inhabitants in the province of Bergamo, is sponsored by Dianetics, a reference text for Scientology cult followers, a book that reads that cancer can be cured with the power of the mind. On the homepage of a site whose motto is "In a time of universal deception, telling the truth is a revolutionary act! We find as titles, in that order, "The shocking truth about the blasphemous film: "Filmed by the Israeli secret services" and "The attack on the US consulate in Benghazi never happened"; statements by a researcher in History at

HERE WE SEE SOME BIG CELEBRITIES WHO FOR BULLSHIT SEEM TO BELONG TO THE REPTILE RACE. FROM TOP OF PAGE: MARK ZUCKERBERG, QUEEN ELIZABETH II, BARACK OBAMA & GRETA THUNBERG.

the University of Milan and an English journalist, respectively. Last April, the court in Rimini issued a sentence against the Ministry of Health, claiming that the measles vaccine causes autism ("A false scientific", had to remember the Italian Society of Paediatrics). In France, however, many psychoanalysts appeal to the analysis of autism made by Lacan, according to which the pathology derives from "Mama crocodile" figure "intrusive and castrating. The current Secretary of the Senate Health Commission is fighting for the recognition of "the rights of 11 million Italians who have recourse to homeopathic treatment". An Italian publishing house has just translated an essay by a former Kgb spy, entitled The Invisible Empire: the real conspiracy of those who rule the world. Among other things, the book reads: "Why is the Empire destroying the world financial system? The elite Lombardy knows. David Rockefeller knows. Kings and queens all over the world know it."

## THEY'RE ALL AROUND US. HOW DO YOU DEFINE THEIR THEORIES? THERE'S A TECHNICAL TERM: "BULLSHIT".

Theorists of occult powers, diabetics, homeopaths, lacanians, denials. They walk around the provincial volleyball courts, occupy university chairs and parliamentary seats, sharpen pharmacy counters and the pages of newspapers and websites. They are all around us. How to define their theories? There is a technical term: "bullshit". This is how it is classified in the recent essay *Believing bullshit: How Not to Get Sucked into an Intellectual Black Hole* (Prometheus Books, 2011). The English philosopher Stephen Law, professor at the University of London. "Even among the most

educated and scientifically advanced populations ridiculous belief systems abound. Many believe in astrology, in the fantastic powers of television gurus, in divine crystals, in the healing powers of magnets, in the prophecies of Nostradamus. Many claim that the pyramids were built by aliens, that the Holocaust never happened, that 9/11 was caused by the American government. There are even those who are convinced that the Earth is ruled by a circle of reptilians", writes Law Attention: we must not think that those who fall victim to the strangelings are stupid or naive. Often they are intelligent people; in the other areas of their ita they show that they are cautious, subject any statement to critical scrutiny, carefully weigh the evidence, evaluate according to robust rational standards. But then how do you explain the success of bullshit? How come brilliant and educated people become slaves to these ramblings? Above all, how do they convince themselves that their attitude is rational and everyone else is wrong? The secret lies in the fascination that these theories exercise. And the sex - appeal of the strangled comes from the method by which they are produced and spread. Law identifies the most frequently used techniques among the producers of these theories. There are eight simple rules, anyone can use them. A

# We mustn't think that those who fall victim to bullshit are stupid or naive.

sort of manual for the artists of bullshit. 1 "Play the Mystery Card." When things get complicated, the producer of bullshit pulls it out of the deck. With the Mystery Card, any statement will be immune to rebuttal thanks to unwarranted appeals to the unfathomable. Scientific criticism? One answers: "Science cannot decide on everything". To give an educated patina to the move, one quotes a classic: "As Shakespeare said, "There are more things between heaven and earth than you dream of with your philosophy. 2 "Blanks", that is, criticizing orthodox theories with real but irrelevant problems or raising false questions. 3 "Nuclear Explosion". Release and detonate a skeptical or relativistic device on your interlocutor. All theses will end on the same level. End-of-world weapon: Saying "Reason doesn't matter". Do you propose rational criticism? Answer with: "Faith in reason is as dogmatic as any other faith". Boom. All finished. No thesis can remain standing. Relativistic variant: "There is no Truth with capital Laura V, there is a truth for each of us". Does Flavia Vento believe in angels? And why should we blame her? It's her truth. Everyone has his own truth. Available also in cultural relativism mode; instead of individuals, communities are legitimized. Seventy-two virgins in Paradise? Reincarnation? Bernadette saw Our Lady?

All truth, if you're a believer. 4 "Move the goalposts", that is, change the rules on the run. You talk about Empire, they object that there is no Empire. Answer: but the Empire is invisible. 5 "I just know it", that is, never justify your beliefs. At most they are revealed truths. 6 "Pseudo-Depth", that is, the art of making the false, the trite and retracted, the nonsense, appear as true and profound. The beginner can start from easy pseudo depths: banalities. "We've all been children", "Money doesn't buy love", "Death is inevitable". The contradictions also work well: "Healthcare is nothing but a kind of madness", "Life is a form of death", "The ordinary is extraordinary". They mean nothing but they can seduce a certain kind of interlocutor. 7 "Piles of Anecdotes".

# BEING INTERESTED IN INTERESTING THINGS IS A LONG WAY FROM BEING INTERESTED IN THE TRUTH.

They are irrelevant, but who cares? 8 "Brainwashing, in five steps": isolation, control, uncertainty, repetition, emotion. The main artists of bullshit habitually use these means. "Take the supporters of homeopathy, the most common trick is to pile up the anecdotes about the effectiveness of treatment," says Law. With subsequent recourse to the Mystery Card - it would otherwise be difficult to attribute therapeutic properties to claim that in practice they are fresh water, at most water with sugar. If we ask the homeopath: how do they have curative efficacy? "There are more things between heaven and earth...". The good conspiracy theorist instead has a simple recipe to follow. First of all he identifies some intriguing case to provide the "solution". It doesn't matter if it really is a mystery ("Who killed John Fitzgerald Kennedy?") or if it isn't ("Who elected to Mario Monti?"). The important thing is that the public can accept the explanation as something disconcerting. Engines of action are always invisible agents with extraordinary powers. Examples: Have you noticed the way the twin towers fell? And the places where the pyramids of Giza are located? Do all those geometries keep you random? Criticism will come. Don't worry. To stop skeptics, there is always the Mystery Card. How did the aliens build the pyramids? "There are more things between heaven and earth..." If objections continue, they make up problems that would have orthodox explanations, fire blanks. Where were the Jews during 9/11? Don't those strange chosen ones in the rock paintings look like space charges? And the Old Testament, doesn't that match the description of a spaceship landing?

He's gonna object. That's how you make all the weed bullshit. So far we haven't even given a serious definition of the term, Right, let's proceed. The domain of bottlenecks is much broader than the field of (pseudo)scientific speech. When we talk about bottlenecks we cannot but consider their pervasiveness, their omnipresence in language in general. For a definition, a classic for scholars in the field is essential: the essay
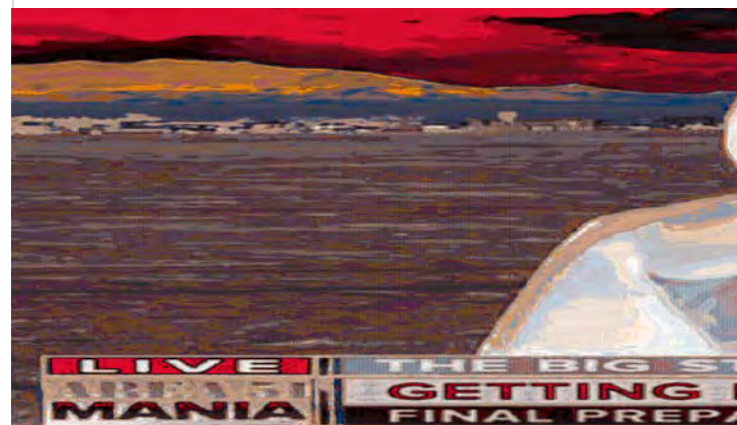
## We should therefore not concern ourselves with why the bullshit is created, but rather with what it looks like.

by the moral philosopher Harry G. Frankfurt, *On Bullshit*, published in 1986 and reprinted in a separate volume in 2005 (Rizzoli). Incipit unquestionable: "One of the salient features of our culture is the amount of bullshit in circulation. Everybody knows it. Each of us makes our own contribution". The philosopher goes so far as to define "the essence of bullshit" at the end of his research: "The absence of a link with an interest in truth [...] indifference to the way things really are". The artist of bullshit is beyond the liar. He doesn't deny the truth, he doesn't care. Frankfurt's essay was the forerunner to the rigorous treatment of the problem. The most detailed criticism came from Geoffrey A. Cohen, an eminent political philosopher who passed away last year. You can find it in the article "Complete Bullshit" (in *Finding Oneself in the other*, Princeton University press, released last month). From Frankfurt's perspective it is misleading: "To be criticized is the product that is visible, and not the production process, which is not". So we don't have to be interested in why the bullshit is created, but rather how it is made. Especially academic bullshit, the most dangerous. If we examine them we might not agree, according to Geoffrey A. Cohen, on one characteristic: bullshit presents itself as obscure and cannot be clarified in any way. What does that mean? A text is irreparably obscure if "adding or subtracting a sign of negation to a text its plausibility remains the same". Cohen has a clear idea of what examples can be given: "The philosophical culture that has produced the most bullshit since World War II, both in terms of volume and in terms of the warmth with which it has been received, is undoubtedly French-speaking philosophical culture. Take Jacques Derrida, Gilles Deleuze, Julia Kristeva or Jacques Lacan himself. "If you read their phrases quickly, they sound good. The remedy is to read them slowly and you'll recognize such wonderful paradigms of bullshit." For the English philosopher there are six precise reasons why this happens in a particular country. (In his opinion the best situation in Italy. In fact, the bullshit produced by Italian philosophy is so obviously bullshit that "outside of narrow circles, no one is willing to buy it". So the speech on French bullshit will come a fortiori for Italian bullshit).
Six commandments at the basis of the production of philosophical bullshit. 1. There is only one center of cultural authority: Paris. That also the center of power. This makes intellectual activity heavily charged with politics and a form of exchange product for a career. "Two good reasons to disregard the truth". 2. The idea that style is everything.

# THE IMPORTANT THING IS THAT THE PUBLIC CAN ACCEPT THE EXPLANATION AS SOMETHING DISCONCERTING.

ON THESE PAGES WE CAN SEE: THE 51 AREA, ELON MUSK AND THE SIMULATED REALITY LIKE MATRIX, THE GIZA'S PYRAMIDS BUILT BY THE ALIENS.

# THE ESSENCE OF BULLSHIT IS "THE ABSENCE OF A LINK TO AN INTEREST IN TRUTH, INDIFFERENCE TO THE WAY THINGS REALLY ARE." THE ARTIST OF BULLSHIT IS BEYOND THE LIAR.

On the keys to the success of French philosophical bullshit is the unmistakable style, the one that characterizes every French artifact, brilliant and charming (especially the Americans bite).

3. Being interesting is more important than telling the truth. This happens because intellectual products have a wide audience of non-specialists. And this is a problem. It means that the wide audience will only read about philosophy if it is interesting, and being interested in interesting things is something quite distant from being interested in the truth. Geoffrey A. Cohen writes: "Academics by profession are paid to be boring". And not to fill festival squares.

4. A university system based on frontal academic actions -de haut en bas.

5. The long tradition of mixing literature and philosophy. And because we do not apply the standards of rigor and criticism that we should apply to literature, philosophy becomes less rigorous.

6. One must write passionately. Using a "warm" style is a necessary condition for the radical and committed intellectual to define himself as such. He is rebellious, spontaneous, non-conformist, he doesn't care about authority and

tradition, he doesn't get lost in quibbles and minutiae. On the practical level it means being disloyal, inaccurate, rhetorical, exaggerated.

The description of the French-speaking philosophical bullshit maker closely resembles the portrait of the charlatan drawn by the mathematician Martin Gardner in his 1952 essay *Fads and Fallacies* (translated into Italian in 1998 by Transeuropa with the title *In the name of science*). Gardner wrote - about the pseudoscientific barker - : "He often tends to write in a complex jargon, using terms and expressions in his own brother-in-law. Schizophrenics often use what psychiatrists call "neologisms" - words that have meaning for the patient, but sound like ramblings for anyone else". Gardner was angry with Scientologists, alternative care maniacs, plotters. Exactly sixty years ago. The situation doesn't seem much better if we take one of the most recent trips to the center of the bullshit, the report by Canadian journalist Jonathan Kay among conspiracy theorists post 9/11 (*Among the truthers*, Harper, 2011): "These subjects would once have operated in relative anonymity," writes K. "But with the emergence of the Internet they have had the opportunity to establish a cult and acquire adoring followers, people who clog blogs and social networks with ideologically tailored catalogs of history on their obsessions. There's always a large audience for pseudoscientists, philosophes and conspiracy activists. In a market of ideas that rewards what is considered interesting or shocking, where theories are rejected not when they have been refuted, but at most when they have gone out of fashion - and the truth has the defect of sounding boring, banal, old. Better to produce something new interesting; if possible, shocking. Wrapped in the darkness where bullshit thrives.

FROM TOP:
TERRAPIATTISM
& THE ALLEGED FALSITY
OF THE MOON LANDING.

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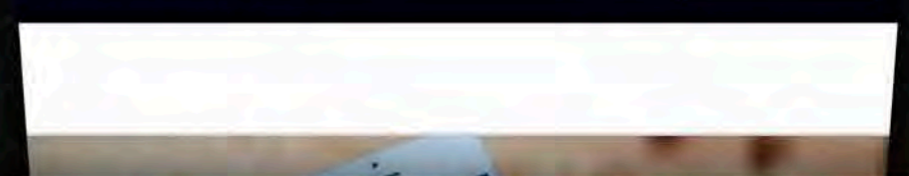
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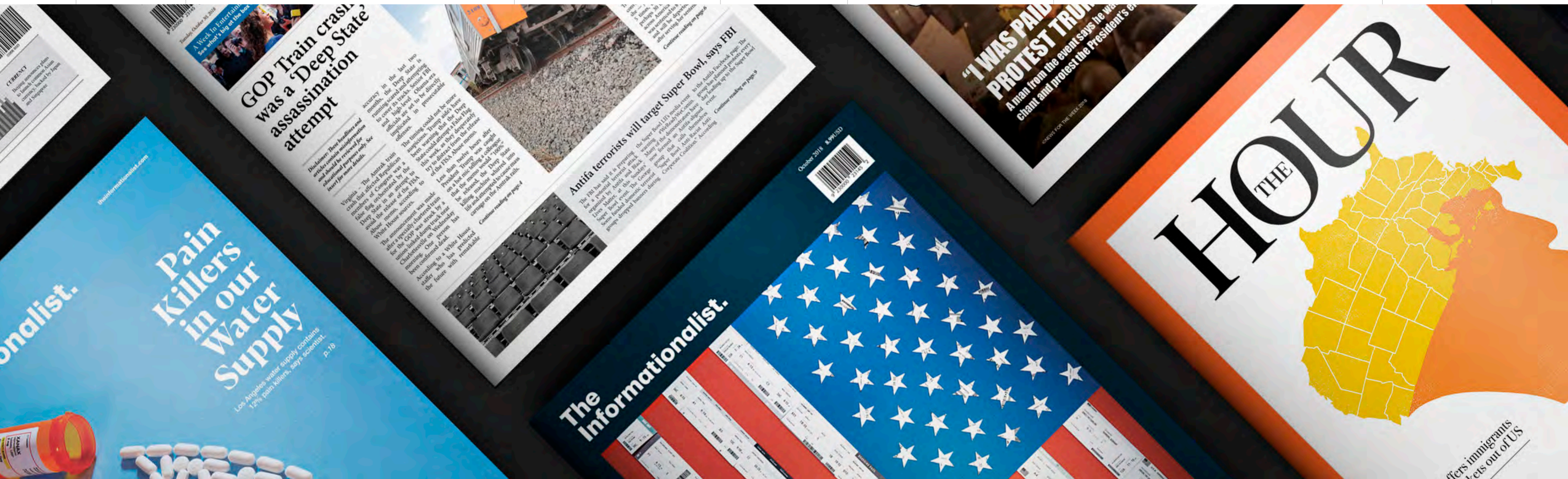
# THE FAKE NEWS STAND

## slow down to understand

**NEW YORK. OCTOBER 30, 2019.**
THE FAKE NEWS STAND HAS ATTRACTED MEDIA ATTENTION
IN MORE THAN 100 COUNTRIES, GENERATED MORE THAN 300
NEWS ITEMS AND REACHED MORE THAN 2 BILLION PEOPLE
WITH ZERO MEDIA DOLLARS SPENT. THE GOAL WAS TO CREATE
AWARENESS AND INVITE PEOPLE TO SLOW DOWN ON THE ISSUE
OF MISINFORMATION: AN INVITATION TO BE MORE CAUTION
TO THE "NEWS" WE SEE AND SHARE.

TEXT
**Marta Monti**

PHOTOGRAPHY
**Tim Nudd**

What happens if we put all the fake news we are subjected to every day in black and white?

This question is the origin of what the *Columbia Journalism Review*, world leader in press criticism, in collaboration with *TBWA\Chiat\Day*, proposed in the heart of New York in October 2019. In October 2019, in fact, the *CJR* undertook an experiment to educate and invite people to reflect and take responsibility for the news that we are continually exposed and subjected to and that we consume daily.

A newsstand was set up in the heart of New York City in Manhattan, specifically in Bryant Park, specializing in misinformation: they took some existing newspapers, removed the real publications and replaced them with fake headlines, inserting all the fake news widely shared online.

THE PHOTO BELOW SHOWS WHAT THE FAKE NEWS STAND SET UP IN THE HEART OF MANHATTAN WAS LIKE.

WE TOOK THE FAKE HEADLINES AND PUT THEM IN THE REAL WORLD, ON THE COVERS OF INVENTED PUBLICATIONS THAT LOOK LIKE NEWSPAPERS AND MAGAZINES THAT YOU COULD ACTUALLY READ.



is true, authoritative, from what is not.

In an increasingly uninformed world, thanks also to social sharing, we find ourselves frustrated, totally incapable of handling all this load of knowledge and information and we also find ourselves witnessing a great inability of the great technological platforms to do something about it; it is not so much that we cannot tackle the problem, but that it has simply been decided that this intervention is out of tune and does not fit their business model.

But while the news business has tried to move Facebook and Twitter to try to address the problem, this problem has only grown, and its effects have become increasingly threatening. Think about everything that, in a period of pandemic caused by a virus, like the one we unfortunately live in Covid's times, it is shared and posted every day on Facebook, WhatsApp and all the other social networks; let's think how much news bumps us every day: from the most disparate on how to care to prevent and how to solve this emergency situation generated by a virus as invisible as it is powerful.

*"The spread of disinformation,"* explains Kyle Pope, editor of the *Columbia Journalism Review*, *"is the latest problem we have decided to tackle with our heads held high and with an unconventional approach. We took the fake headlines and put them in the real world, on the covers of invented publications that look like newspapers and magazines that you could actually read. [...] The fact that most people now get their news mainly through social media,"* he adds, *"means that too often news consumers put real news into everything else. Our goal is to show the cost of that inattention, in terms of the kind of information we are consuming, its effect on real journalism, and even its potential for violence."*

THE PHOTOS ABOVE SHOW HOW KNOWN HEADLINES WERE TAKEN AND USED TO SHOW FAKE NEWS.

THIS MYRIAD OF INFORMATION, OF ANY KIND AND TYPE WHATSOEVER, THAT HITS US EVERY DAY COULD CREATE SERIOUS DAMAGE IN US AND IN OUR TIME IF WE DO NOT TAKE A FEW MOMENTS TO DISCERN WHAT IS TRUE, AUTHORITATIVE, FROM WHAT IS NOT.

But why this idea? First of all, we need to investigate the period in which this event took place, which is our time.

We find ourselves constantly exposed to news of any kind and type; often we find ourselves almost unarmed in front of all this bombardment that we slowly see coming towards us and that, many times unconsciously, we think there is nothing we can do about it.

And instead, this myriad of information, of any kind and type whatsoever, that hits us every day could create serious damage in us and in our time if we do not take a few moments to discern what

Every day we come into contact with different information that we are therefore unable to manage or classify as real or false. It becomes even more complicated when we see that the fake news with which, much more than we are aware, we

**The Informationalist.**
Health Edition

**Pain Killers in our Water Supply**

Los Angeles water supply contains 12% pain killers, says scientist.
p.18

**The Informationalist.**

**Goodbye, America**
President offers immigrants one-way tickets out of US
Page 8

# The burden of taking responsibility for what we watch and read must fall on us, our readers and their judgement. Us, the readers, observers and listeners are the first line of defence against misinformation.

GET ALL OF THE LATEST REPORTS BY SUBSCRIBING ONLINE

# THE HOUR

Trump offers immigrants one-way tickets out of US

"Pack your bags" says the President

Page 6

come into contact, are often mixed with the real news. We often meet bad information on the same platforms where real journalism meets, and the fear is that with more and more difficulty we will be able to differentiate the two things.

In this struggle of true news and false news, the tedious and time-consuming work of checking the facts and documenting misinformation takes a long time, so the news world would find itself forced to work in a dramatically slower way, and the production of true news would be greatly reduced. We therefore understand that the burden of taking responsibility for what we watch and read must fall on us, our readers and their judgement. Us, the readers, observers and listeners are the first line of defence against misinformation.
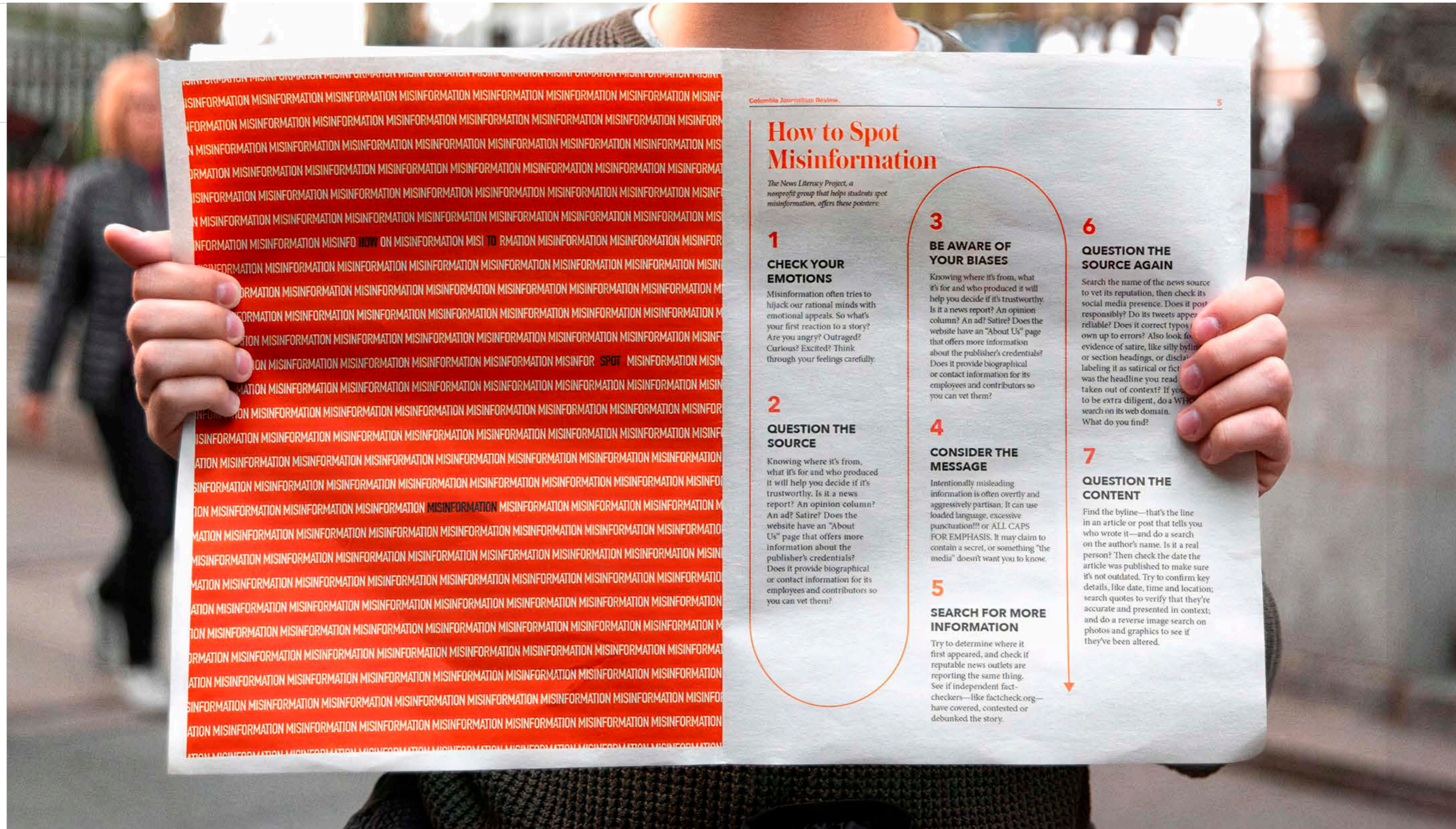
All this, of course, if we are guided to have a judgment, matured thanks to guidelines that help in differentiating between fake news or real news.

This was the principle behind the newsstand located outside Bryant Park in Midtown Manhattan. Thanks to a collaboration between *CJR* and *TBWA/Chiat/Day*, the advertising agency, the newsstand was flooded with publications that at first glance seemed quite real, but whose titles were absurd.
"Trump argues that America should never have given independence to Canada," says one; "Texas is now recognized as a Mexican state," says another. One of the most absurd reads: "Toddler fight club": Parents outraged after kindergarten was caught running a children's fight club."

They are absurd, some are even very exasperated. And yet it's very accessible and multi-faceted news on the web. It scandalizes and makes this action reflect: to pull out of the darkness of the internet by making tangible news that accompanies us every day and that in the eyes of many are true.

ALL THE FAKE NEWS ARE INSERTED IN THE MOST TRUTHFUL WAY POSSIBLE INSIDE KNOWN TITLES. AT THE TOP OF THIS PAGE AND IN THE NEXT PAGE WE CAN SEE SOME EXAMPLES.

Seeing false news turn into what could be a real publication sold in a real newsstand makes us face the nature of what we are spreading and consuming. And perhaps, confronting this, is the first point to mature one's own method of judgement.

We can therefore safely say that this project is born from a hope: the hope that having something false in our hands will one day push us all to be more reflective and more caution to the news and information we are seeing and sharing.
All the fake headlines that were proposed and produced contained inserts to instruct people on how to recognize fake news and, on the contrary, to highlight the importance of real news produced by real journalists.

People's response to such a project was interesting. First of all, it was remarkable that many people, seeing such absurd headlines exposed, slowed down, read the ridiculous headlines, and, astounded and shocked, kept walking around as if nothing had happened, assuming they were true.

It was a strange reaction, but one that makes the fact that nowadays fake news is part of our lives, as protagonist as the real news of that sea of information in which every day we sail.

It is absurd to see how nothing, not even the statement that "Texas is now a Mexican state", moves us, we continue in our things without really knowing what is happening around us, accepting whatever proposition we are told in our lives, without filtering it.

While some people then continued almost indifferently and without too

5

# How to Spot Misinformation

The News Literacy Project, a nonprofit group that helps students spot misinformation, offers these pointers:

### 1
### CHECK YOUR EMOTIONS

Misinformation often tries to hijack our rational minds with emotional appeals. So what's your first reaction to a story? Are you angry? Outraged? Curious? Excited? Think through your feelings carefully.

### 2
### QUESTION THE SOURCE

Knowing where it's from, what it's for and who produced it will help you decide if it's trustworthy. Is it a news report? An opinion column? An ad? Satire? Does the website have an "About Us" page that offers more information about the publisher's credentials? Does it provide biographical or contact information for its employees and contributors so you can vet them?

### 3
### BE AWARE OF YOUR BIASES

Knowing where it's from, what it's for and who produced it will help you decide if it's trustworthy. Is it a news report? An opinion column? An ad? Satire? Does the website have an "About Us" page that offers more information about the publisher's credentials? Does it provide biographical or contact information for its employees and contributors so you can vet them?

### 4
### CONSIDER THE MESSAGE

Intentionally misleading information is often overtly and aggressively partisan. It can use loaded language, excessive punctuation!!! or ALL CAPS FOR EMPHASIS. It may claim to contain a secret, or something "the media" doesn't want you to know.

### 5
### SEARCH FOR MORE INFORMATION

Try to determine where it first appeared, and check if reputable news outlets are reporting the same thing. See if independent fact-checkers—like factcheck.org—have covered, contested or debunked the story.

### 6
### QUESTION THE SOURCE AGAIN

Search the name of the news source to vet its reputation, then check its social media presence. Does it post responsibly? Do its tweets appear reliable? Does it correct typos and own up to errors? Also look for evidence of satire, like silly bylines or section headings, or disclaimers labeling it as satirical or fiction. Was the headline you read taken out of context? If you want to be extra diligent, do a WHOIS search on its web domain. What do you find?

### 7
### QUESTION THE CONTENT

Find the byline—that's the line in an article or post that tells you who wrote it—and do a search on the author's name. Is it a real person? Then check the date the article was published to make sure it's not outdated. Try to confirm key details, like date, time and location; search quotes to verify that they're accurate and presented in context; and do a reverse image search on photos and graphics to see if they've been altered.

many problems in their activities, it was different the response of some supporters of President Trump who stopped to read and immediately declared with no doubt that all those proposals were fake news.

Finally, it must be said that most of the people whose attention was captivated by the *Fake News Stand* did so carefully, and were taken by surprise by the fact that the ridiculous publications they were mocking were widely shared online, some, perhaps, even by some of them.

Most of them finally said that the experiment forced them to think about the news, and that was the real mission of the *Fake News Stand.*

This running into something that forces you to think and slow down, which in the heart of New York has been made possible thanks to this project, is the move that it takes not to succumb under the weight of all this overexposure to the media, which often sees so many false news swims in itself, which, share after share, acquire more and more power, generating great disorientation in those who read them.

And this is the challenge that this project has posed to all of us: to slow down, to take time to think more carefully about the news that is shared and consumed and where it comes from.

# TO SLOW DOWN, TO TAKE TIME TO THINK MORE CAREFULLY ABOUT THE NEWS THAT IS SHARED AND CONSUMED AND WHERE IT COMES FROM.

**Let's stop to understand where the information comes from.**

And let's look, in the midst of all this noise and noise, for real journalism and real facts, now so small and helpless in the sea of information. When everything seems to invite us to a continuous race, it is necessary to stop for a moment and ask ourselves in front of the news we are exposed to every day, what is true and what to believe. Stop, question, to go deeper than what you see and hear. When was the last time we stopped?

**SOME EXAMPLES OF THE NEWSPAPERS TAKEN TO ATTRACT THE ATTENTION OF THOSE WHO WALKED AROUND NEW YORK.**

WHEN EVERYTHING SEEMS TO INVITE US TO A CONTINUOUS RACE, IT IS NECESSARY TO STOP FOR A MOMENT AND ASK OURSELVES IN FRONT OF THE NEWS WE ARE EXPOSED TO EVERY DAY, WHAT IS TRUE AND WHAT TO BELIEVE. STOP, QUESTION, TO GO DEEPER THAN WHAT YOU SEE AND HEAR.

WHEN WAS THE LAST TIME WE STOPPED?

GET OUT BEFORE **IT'S TOO LATE**

BREEZE
dirt is good
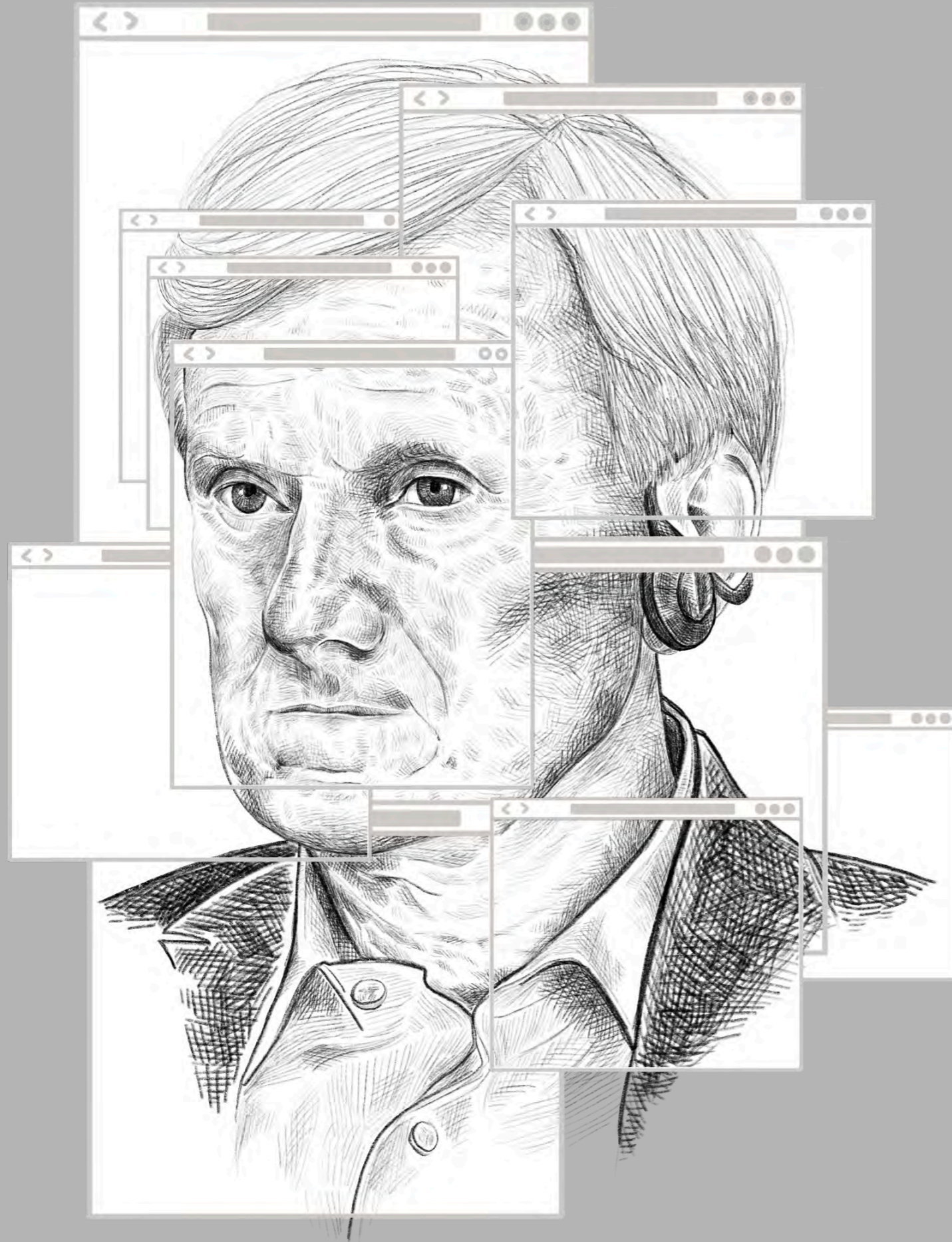
# Scaruffi .com

SCARUFFI.COM
WAS AROUND BEFORE
THE INTERNET AS
WE KNOW IT TODAY,
AND WHILE IT MAY
NOT BE BEAUTIFUL,
IT IS UTTERLY IMPRESSIVE.
MEET A MAN WHO HAS
ATTEMPTED TO ARCHIVE
THE WORLD, SHARING
HIS VIEWS AND INSIGHTS
ABOUT EVERYTHING
FROM THE HISTORY
OF ROCK 'N ROLL
TO SRI LANKAN POLITICS

TEXT
**Susanna Marchini**
**Liz Shemaria**

ILLUSTRATION
**Francesca Fincato**

# I BELIEVE MORE IN THE PEOPLE WHO WRITE FREE SOFTWARE ON OPEN SOURCE PLATFORMS BECAUSE THOSE PEOPLE DO IT FOR A PASSION.

At first sight, scaruffi.com looks like a time machine, a weird journey through the story of internet, and humanity in general. It's a utopian dream of mapping the knowledge a person acquires during a lifetime, a modern, online version of the *Library of Babel*. It's a difficult job, achievable by a compulsive and dedicated mind, working with patience and passion. As a digital copy of an obsession, this massive catalog looks surprisingly the same as it did when it first launched in 1995, and navigating it is like going through the synapses of its creator, a freelance software consultant and university lecturer. Piero Scaruffi started the website that bears his name at the down of internet, for practical reasons: he's always had a lousy memory and wanted to keep a record of all things that he had watched, read and listened to, as well as to have a place for his thoughts. "The goal is not to attract a lot of people or make a lot of money. The moment a website becomes very fancy, it dies." Twenty-five years later, scaruffi.com is not only a vast knowledge base of science, art, history, philosophy, music, literature, politics, cinema, and travel - it's also one of the longest-running, and most visited URLs on the internet.

For an intellectual, Scaruffi's site is a version of heaven - it's easy to spend hours in the wormhole of his facts, dates, and opinions on nearly everything. You could peruse his review of a brief History of Serbian, Croatian, and Slovenian Literature, dating from the 1400s to 1998; read a philosophical essay about how speaking gave us a symbolic mind: get to know the history of rap music, or take a look at the rated filmography of Edward Yang. "I know it may not be the most pleasing-to-the-eye website." Scaruffi said. "But the truth is, I'm more interested in the content to a new format. But the beauty of the website comes from its functionally: probably, that's why its early-internet design is seen as a gem rather than a flaw by its visitors.

The act of archiving come from the deeply human need to rationalize everything we see, giving it an order, a role within a context, a place to store it: it's not by chance that the word "archiving" derives from the ancient Greek arch, "to begin, rule, govern." To br in control of the world around us. But since archiving is an exercise that never ends, it is more a leap of faith than anything else. Said Scaruffi:"We can't, no matter the effort, archive everything that exists, or whose existence we per-

ceive. There will always be something waiting to be archived."

As a testament to the site's mass, Scaruffi confessed that he has more than 800 CDs at home waiting for his review - all sent to him by musicians, An expert in computers and artificial intelligence, who studied mathematics and physio at the University of Turin and moved to California in 1983 to work for Italian information technology company Olivetti. Scaruffi fell into this endless encyclopedic task of updating his website at first driven by his passion for music.

"I had no idea that this Silicon Valley would become so famous: my first project was to make two computers communicate through something that now is called internet", he admitted. "The main goal of being in California was just that it sounded fun, interesting. There was a lot of crazy music going on. I was much more interested in the music, honestly."

Scaruffi, who has written nine books about cognitive science and artificial intelligence, in addition to more than a dozen tomes about music, and half a dozen history titles, started using an old Apple problem to record his writings about his interests when he was still in Italy. He later migrated his notice to Olivetti's server and then created his site using basic HTML - the same code visiting Mali, one of the top jazz albums of 2019, or politics - like Sri Lanka presidential election. Scaruffi, who is a former visiting scholar at Harvard and Stanford, and lecturer at University of California, Berkeley, gets his information mainly from magazines, newspapers, and friends from all over the world, who are experts in science and politics, but he remains the music expert.

He has a particular way of summarising facts based on historical context. For example, 1955 was the year that the terms rock and roll and artificial intelligence were born - the same one Albert Einstein died. When he listens to something, or reads something, or watches a movie, he said that in the back of his mind, he is "influenced by,

how does this thing fit into history? Do these things have anything in common? Is there a pattern?"

With his perspective -of seeing the birth of the Internet and the explosion of startups and ridiculous amounts of venture capital money in Silicon Valley less than 20 years later - from a time when having a website with your name on it was novel (even for companies). Scaruffi has strong views about what it means to be a startup in what seems to be a Californian utopia where anything is possible, where million dollar homes are the norm, and Teslas are the most common vehicle you see causing down scenic Highway.

"In the '80s, people with an idea were here, and now I see them more as just employees, following rules or regulations," said Scaruffi, "I don't believe in startups because you don't have to sacrifice much. The risk was important; in the old days, if you were willing to take a risk it. Meant you really believed in what you were doing. Now, if you fail, you just start another one. People think that the internet will give us immortality, what I've seen is the opposite - on the Internet things are very ephemeral." Ephemeral, except for scaruffi.com .

While startups in Silicon Valley are a dime a dozen, and automated tasks are moving toward replacing humans with machines, Scaruffi seems to be saying they there is still room for people like him, and computer pioneers like Steve Wozniak, Steve Jobs and Bill Gates, who started creating because of a desire to invent and share a breakthrough with the world. As Scaruffi said: "I believe more in the people who write free software on Open source platforms because those people do it for a passion."



IN THE PICTURE ABOVE WE CAN SEE PIERO SCARUFFI.

WE CAN'T, NO MATTER THE EFFORT, ARCHIVE EVERYTHING THAT EXISTS, OR WHOSE EXISTENCE WE PERCEIVE. THERE WILL ALWAYS BE SOMETHING WAITING TO BE ARCHIVED.

| 6:30 AM | 6:45 AM | 7:00 AM |
|---------|---------|---------|
| Alarm | Alarm | Alarm |

| 7:15 AM | 7:30 AM | 7:45 AM |
|---------|---------|---------|
| Alarm | Alarm | Alarm |

| 8:00 AM | 8:15 AM | 8:30 AM |
|---------|---------|---------|
| Alarm | Alarm | Alarm |

| 8:45 AM | 9:00 AM | 9:15 AM |
|---------|---------|---------|
| Alarm | Alarm | Alarm |

| 9:30 AM | 9:45 AM | 10:00 AM |
|---------|---------|---------|
| Alarm | Alarm | Alarm |

| 10:15 AM | 10:30 AM | 10:45 AM |
|----------|----------|----------|
| Alarm | Alarm | Alarm |

| 11:00 AM | 11:15 AM | 11:30 AM |
|----------|----------|----------|
| Alarm | Alarm | Alarm |

| 11:45 AM | 12:00 AM | 12:15 AM |
|----------|----------|----------|
| Alarm | Alarm | Alarm |

# Cultural distillations

TEXT
**Jamie Green**

PROJECT
**Tom Joyes**
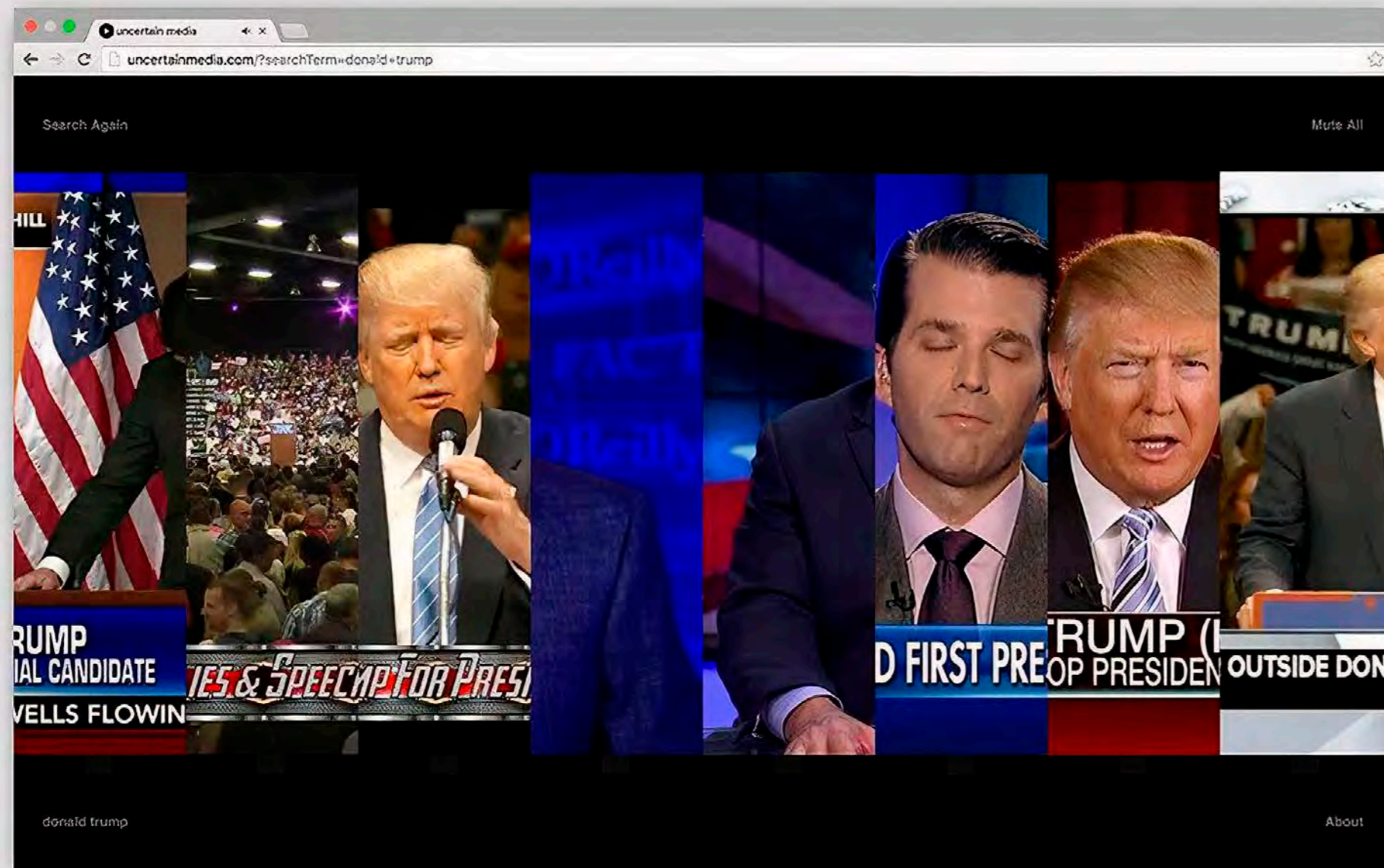
Tom Joyes studied
communication
design at Glasgow
School of Art.
Politically-minded,
his work is a distillation
of the contemporary
political and saturated
climate, making
inventive use of his
skills in design
and filmmaking.

UNCERTAIN MEDIA OFFERS
A NEW LEVEL OF ANALYSIS
AND INTERACTION WITH WHAT
IS RELATIVELY STATIC MEDIA,
WHERE USERS BECOME ACTIVE
CRITICS OF CONTENT THAN
SIMPLY PASSIVE CONSUMERS.

**Search for|something**

*UNCERTAIN MEDIA* IS BASICALLY
A SEARCH ENGINE THAT COLLECTS
THE BEST SEARCH RESULTS ON YOUTUBE
AND PLAYS THEM SIMULTANEOUSLY.
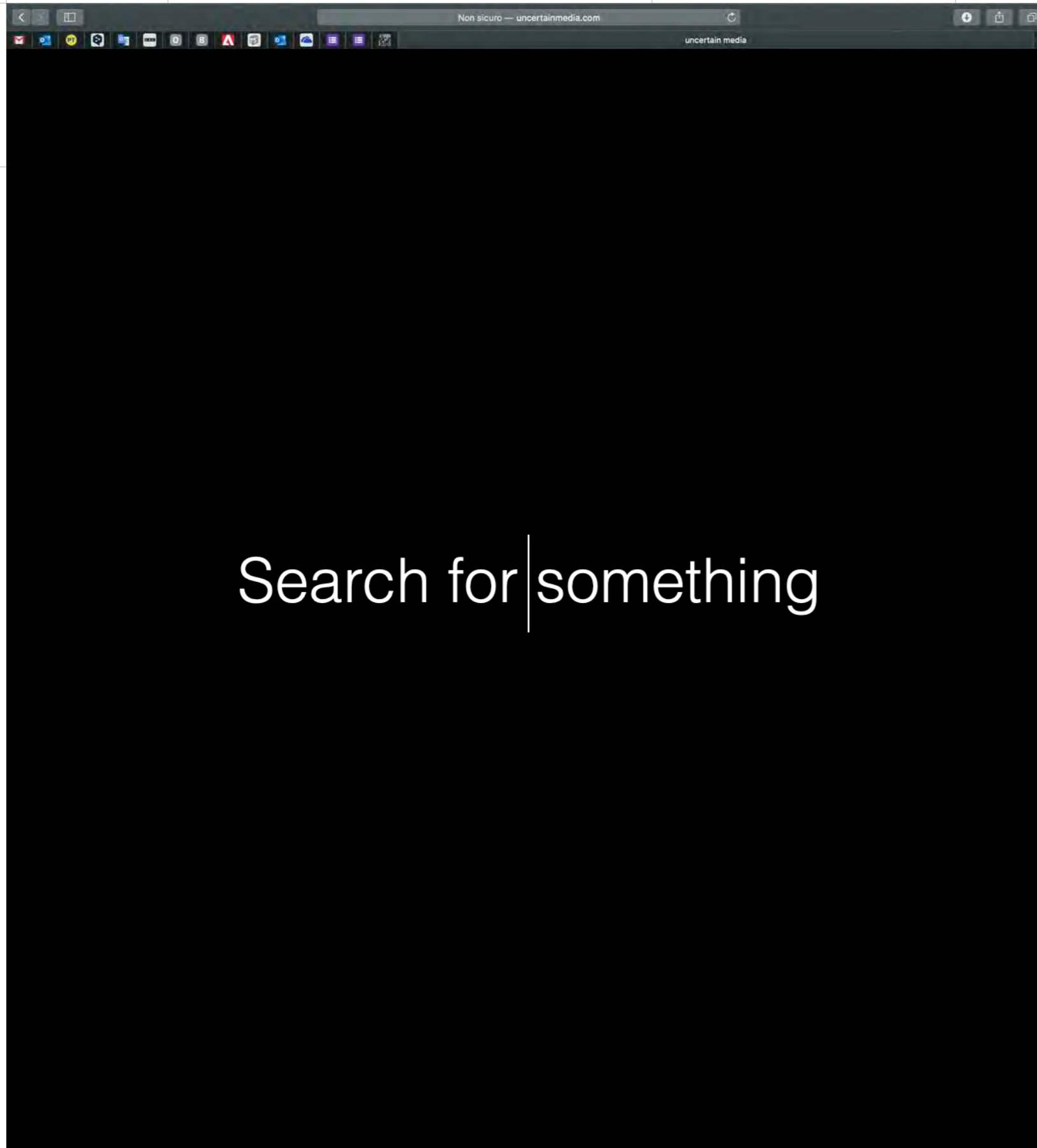
Tom consciously avoids gravitating to a particular style or signature aesthetic in his work, concerning himself instead with the context and content of the subject at hand. "I am interested in what the concept of a 'style' actually means for designers...I mostly work with subjects that I feel socially or politically connected to and discuss themes of technology, media and consumption," he says.

During his time at art school he found himself questioning the notion of the designer as creator, and the role of designer as curator. "Recently, my work has explored removing this hand completely, designing systems and machines that essentially act as mediator in the equation," he says, expressed through projects like *Uncertain Media* (uncertainmedia.com). His home city of Glasgow was the natural choice for Tom, which he describes as having: "a complete lack of pretension, and is small enough to provide a low-risk environment to freely create whatever you like, without fear of scrutiny or failure."Nevertheless, he spent time deliberating between Glasgow School of Art's sculpture and environmental art course, and the communication design course he eventually went on to pursue. "I was swayed by the design school, where communication design was known for being extremely open and research-based, and I was interested how these approaches could cross disciplines, bridging art and design," he says. He pinpoints this openness and the multidisciplinary nature of the tutors and teaching as a driving force behind his work, with an emphasis placed on "thinking laterally and questioning conventional ways of doing things.

"Allowed to direct the content and briefs for his final year of study, there was little Tom didn't find himself enjoying, able to pursue his interests and ideas through experimentation and exploration. Although he admits that "the film *Visually Similar*was definitely an endurance task to create. The project took six months to complete and involved downloading 10,000 plus images manually from Google." As such, most of his projects are born out of a culture for collaboration and self-initiation shared among his peers at Glasgow School of Art. "In our course, we would often facilitate our own discussions as a group, questioning why things are done a certain way and what we could do differently.

I'm certain my peers will form a base for future collaborations and I look forward to this beyond graduation," he explains. *Uncertain Media* was his favourite major project, bringing together many of the key avenues of concern and interest he developed during his time at Glasgow School of Art. "It's basically a search engine that collates top YouTube search results and plays them simultaneously in a composition of vertical bars, creating an overload of audiovisual content," he explains. Mediating the tagged content in this way, the project becomes a cultural comparison tool which hall calls "both a source of productivity and distraction in my own practice," which simultaneous analyses the surface-skimming tendencies of internet browsing habits that inspired it. "*Uncertain Media* offers a new level of analysis and interaction with what is relatively static media, where users become active critics of content than simply passive consumers. This is an idea I'm interested in pursuing," he says.

Tom is sticking around in Glasgow with his fellow graduates for the time being, sharing a studio in the city while keeping his eye out on internships and residencies, both at home and abroad. "I see myself working abroad, particularly in Amsterdam, as I feel connected with the ideologies of Dutch design and find its focus on political and technologically driven work and attitudes towards the field of conceptual design very forward-thinking." As such, he hopes and recommends "exploiting the next two years of free movement before *Article 50* hits hard."

**I was interested on how these approaches could cross disciplines, bridging art and design**

It's time to explore the great indoors. **Jeep**

# Thomas Ruff: JPEGs

TEXT
**Leo Benedictus**

PHOTOGRAPHY
**Thomas Ruff**

In his research on the means and possibilities of photography, Thomas Ruff explores a variety of themes that is reflected in the range of techniques he employs. Analogue and digital exposures exist in his practice alongside computer generated imagery, photographs from scientific archives and pictures manipulated from newspapers, magazines and the Internet. In his famous portraits, Ruff pursues an idea of photography as a static, objective, high-definition technique. However, in series like
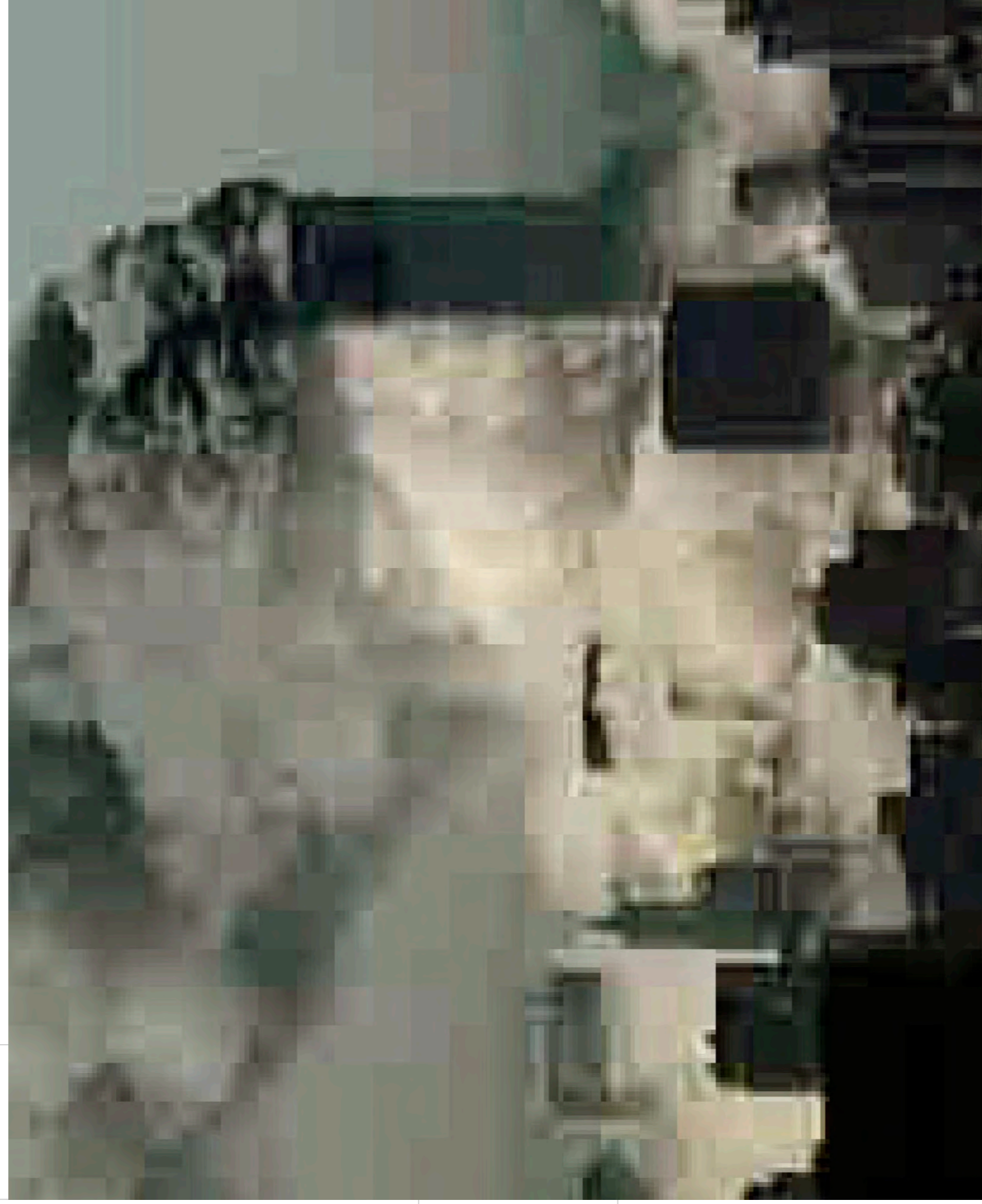
Born on February 10, 1958 in Zell am Harmersbach, Germany, Ruff studied under Bernd and Hilla Becher at the Kunstakademie Düsseldorf during the late 1970s.

The Becher's process of photography as an open archive became a basic structure for the young artist, as it did for his classmates Andreas Gursky, Thomas Struth, and Candida Höfer.

Ruff continues to live and work in Düsseldorf, Germany.

His works are held in the collections of the Art Institute of Chicago, the Tate Gallery in London, the Kunstmuseum Basel, and The Museum of Modern Art in New York.

*"Photography quickly came to be used in a prejudicial way, losing its innocence and consequently its ability to communicate."*

I BELIEVE THAT PHOTOGRAPHY CAN ONLY REPRODUCE THE SURFACE OF THINGS. THE SAME APPLIES TO A PORTRAIT. I TAKE PHOTOGRAPHS OF PEOPLE THE SAME WAY I WOULD TAKE PHOTOGRAPHS OF A PLASTER BUST.

*Nacht, Nudes* and *Jpegs,* the German photographer reflects on the aesthetic connotations of low-resolution.

In the *Jpegs* series (2004-2009) Ruff explores the distribution and reception of images in the digital age. "One day in 2000 I was downloading pictures from the internet and I noticed some of them were broken up into little squares. It created quite a painterly, impressionistic structure, and rendered parts of what was often an ugly image very beautiful. I looked into it, and found the jpeg file-compression software was responsible. I started experimenting to see if I could create whole images like this myself" he states. Many of Ruff's works in the series focus on idyllic, seemingly untouched landscapes, and conversely, scenes of war, and nature disturbed by human manipulation.

Taken together, these masterworks create an encyclopedic compendium of contemporary visual culture that also actively engages the history of landscape painting. Starting with images he culled primarily from the web, Ruff enlarges them to a gigantic scale, which exaggerates the pixel patterns until they become sublime geometric displays of color. "A pixellated square is ugly, *but if you present it in the right context it can become beautiful"* the photographer says. However, the meaning of Ruff's work in not only aesthetic. By showing the hidden structure of digital images, he invites us to reflect on contemporary visual culture. In fact, all images that appear on the internet or printed in books today are digitized. Nearly all images are digital even if they originated in non-digital or pre-digital forms. Given this fact, it is surprising how few of them ever wish to address the fact that they exist as masses of electronic information that take visual form as pixels. Thomas Ruff's *Jpegs* series embraces the true nature of digital images.
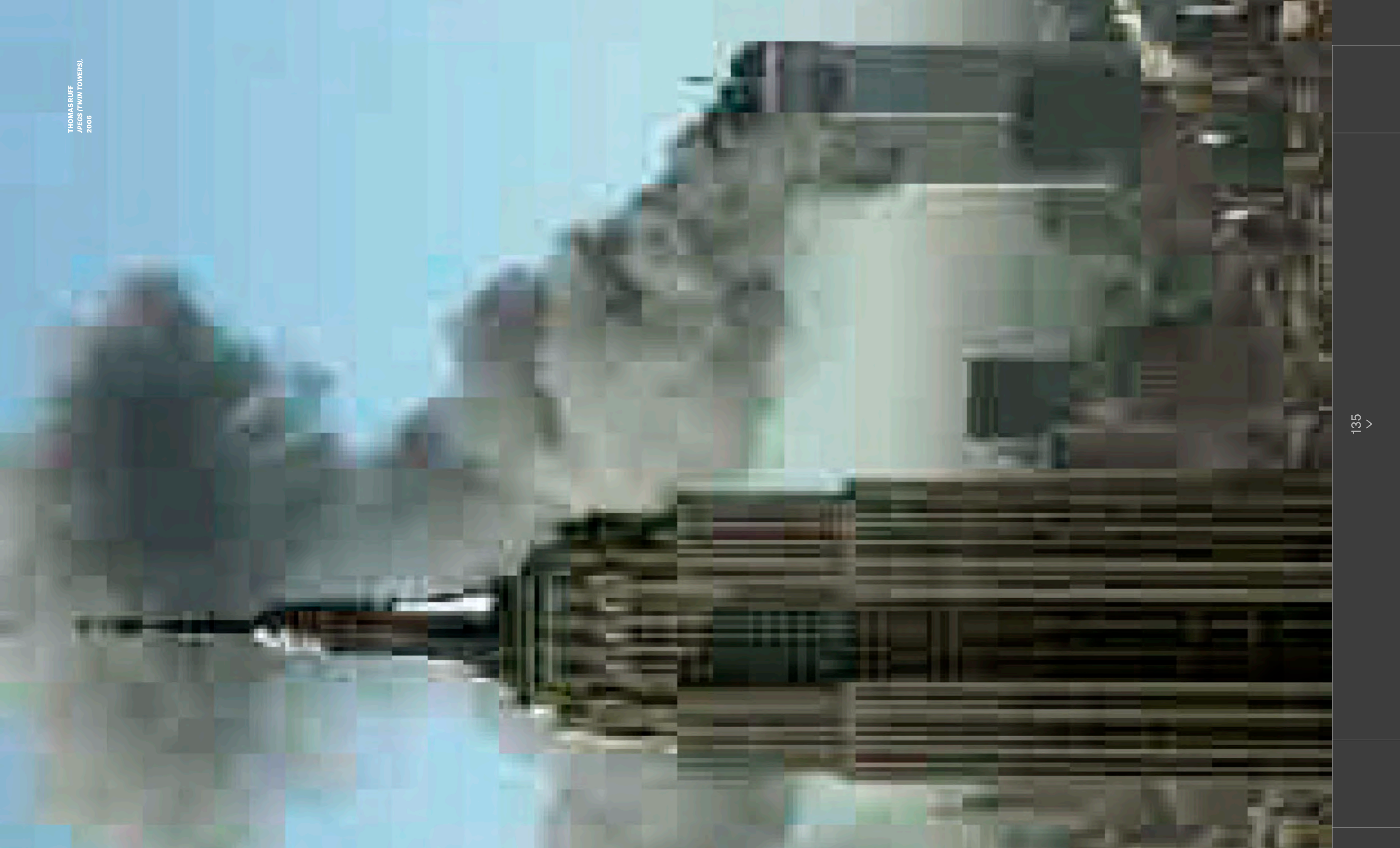
THOMAS RUFF, *JPEG RL03,*
2007



THOMAS RUFF, *JPEG NB01,*
ED.: 1/3
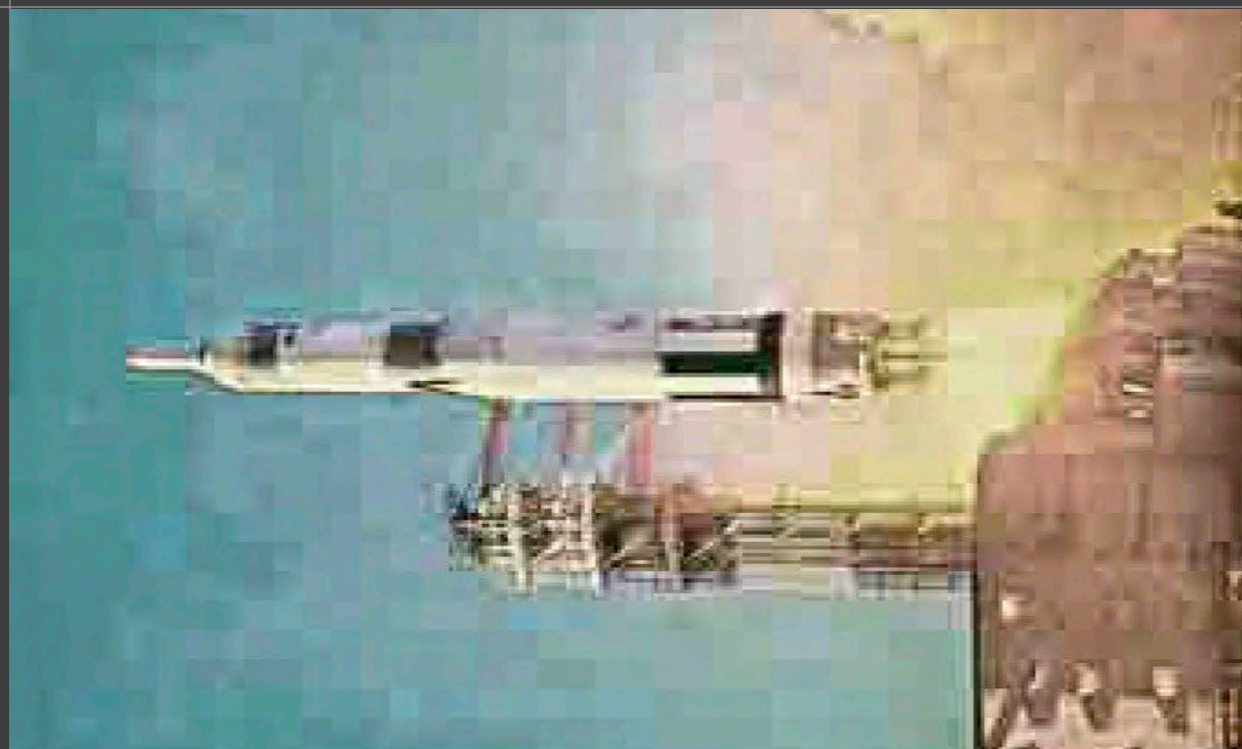


THOMAS RUFF, *JPEG ICBM03,*
2007



THOMAS RUFF, *JPEG DE01,*
2005
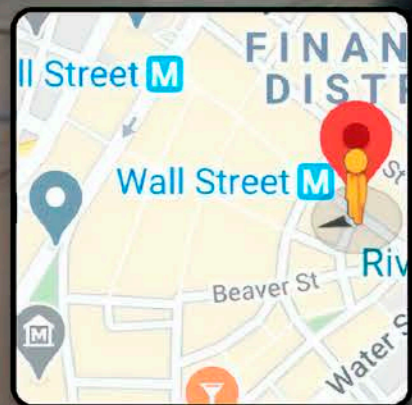
# Interview with Jeroen van Loon

TEXT
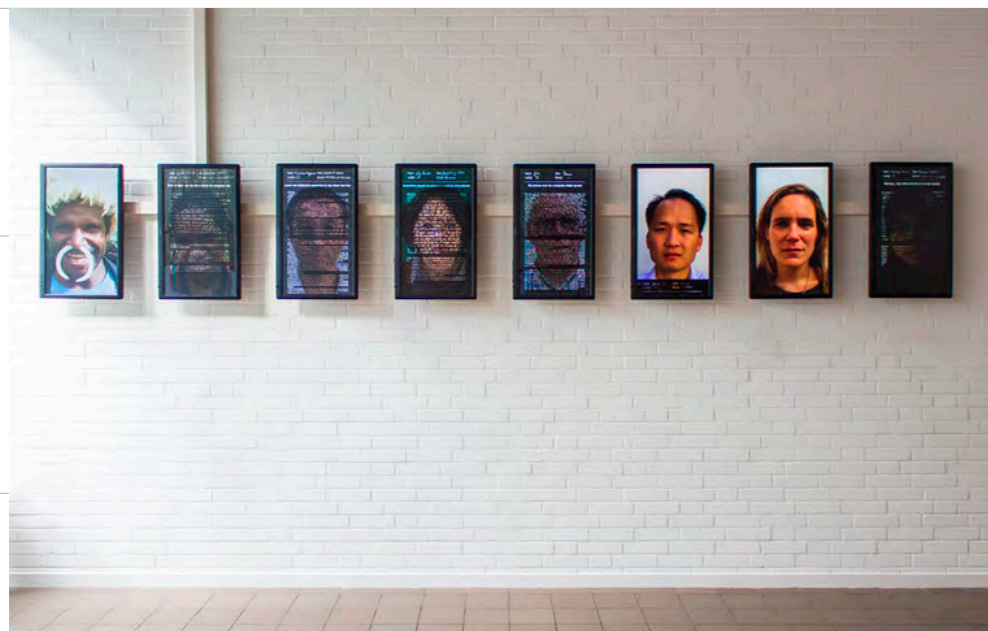**Filippo Lorenzin**

PHOTOGRAPHY
**Jeroen van Loon**

**FL**
*Most of your work revolves around the impact of the internet in everyday life. You consider not only the individuals who actively use it but also those who don't. For example, in the* <u>Life Needs Internet</u> *series (2012-) you asked eight people from all over the world to write letters about how they feel using the internet, even to people who don't even know what it is.*

**JvL**
**Asking people how the internet affects their daily lives is a very open question:** <mark>it doesn't focus on any specific topic within the perimeter of digital culture.</mark>
I think this is really fundamental in *Life Need Internet*. I want the people who write these letters to feel free to say anything and I think that this is the only way they will tell original, personal and interesting stories. At the beginning of *Life Needs Internet*, letters from people who didn't know how to use the internet or who didn't even know what it was were vital to me, because I could understand that you can't give an opinion about the influence of the internet without considering people who don't use it. When I started the project, I wanted to show the letters from those who have no access to the Internet to those who have one hundred percent access. I think all the other stories are stronger if you include the views of those who cannot afford, are unable or do not have the ability to use the internet in everyday life, because that is also part of the impact of the internet. If you don't know how to drive a car, you are still influenced by its inability because others succeed and others still shape the
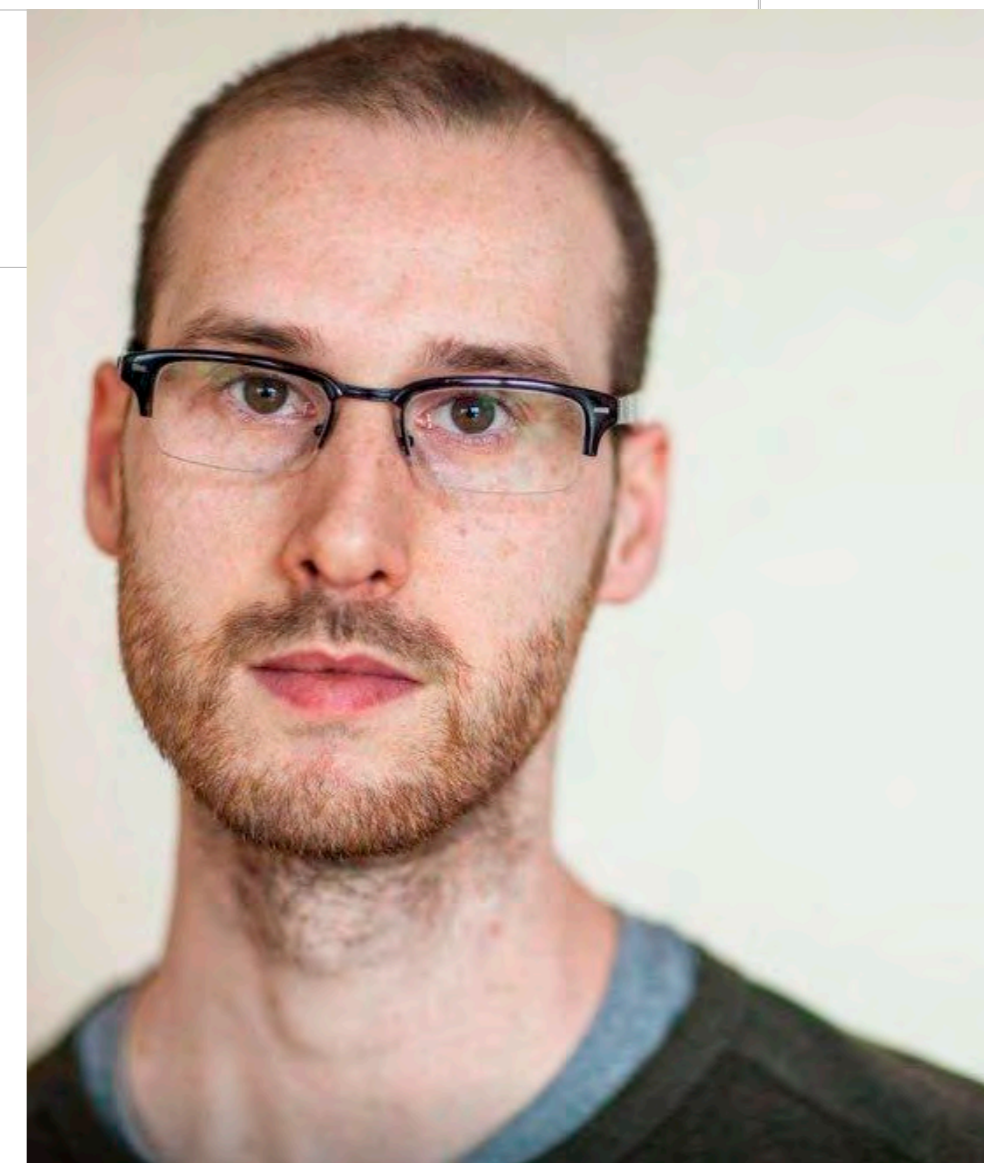
Jeroen van Loon is not interested in judging whether marketing-based algorithms are right or wrong, or whether social media encourages harmful self-presentation strategies. He regularly gives presentations on his artistic explorations of technology, both in the art world and through institutions promoting innovation, such as TEDx.
Van Loon has a degree in Digital media design and a master's degree in European media. He currently lives in Utrecht, the Netherlands.

"I COULD UNDERSTAND THAT YOU CAN'T GIVE AN OPINION ABOUT THE INFLUENCE OF THE INTERNET WITHOUT CONSIDERING PEOPLE WHO DON'T USE IT."

others succeed and others still shape the city, because cars are now fundamental. I think that, during the last few years, the views of those who are digitally excluded are not considered as "minority perspectives", but more as post-online views, i.e. we are seeing a worldwide trend in doing less digital things, connecting less, spending less time on social media, disconnecting more often.

I find it funny, because ==I think all this was already present in these older perspectives, only then it wasn't a choice, but today these stories are probably more relevant than ever.==

However I am focused on digital outcasts from another perspective. For a new project called *Read The Fucking Manual*, I will focus on people excluded from the digital world within our society, just think of people with disabilities or older people. I'm taking computer courses for seniors to get an idea of what it feels like not to be able to do the most (in my opinion) trivial online activities, like downloading a photo or sending an email. I think it's interesting, because in forty years time we may have the same problems.

**FL**

*It seems to me that your interest in digitally excluded cultures and individuals is not only about interaction design.*
*If one of the main characteristics of online art is its transversality, its potential accessibility for anyone with an internet connection and a device, what happens when artists create projects that only work with cutting-edge technology or a fast internet connection? What makes these projects different from the same traditional elite art that net.art initially disdained?*

**JvL**

That's a really interesting question. I think working with (very) recent technologies can be intriguing, but there is a danger that the novelty is too much, i.e. ordinary people still can't understand why the use of new technologies in art can be interesting. It almost automatically creates a wall between the public and the artist. In my opinion, using slightly less recent technology is usually more intriguing, since it has already had some impact on society that you can then show/criticise/question or imagine. Sometimes the new is simply too new and so art becomes a sort of prototype without any meaning.

At the same time, when it comes to transversality and availability, I think the opposite is becoming more and more interesting. This concept has also played an important role in my work *Ephemeral Data*. I think a change is happening in the way we access information online and valuate it. The fact that online data is available 24/7 worldwide is no longer of interest to us. We are moving to-
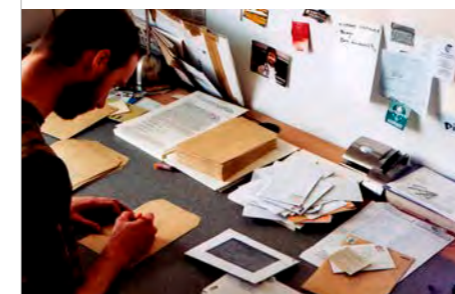
wards a digital culture where digital information is limited, short, unique, temporary and perhaps even local. This is already visible in the way teenagers use the internet. They have grown up with the idea that what is posted online will only be available for 24 hours, think Snapchat or Instagram stories.
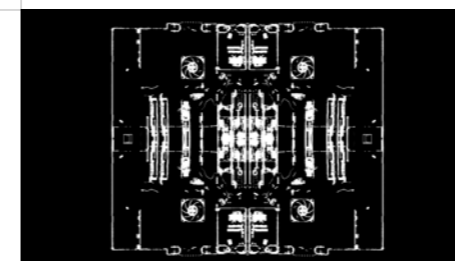
**FL**

*What You See is What You Get (2014) shows images of a CT scan of your computer along with the sound of your child's heartbeat. You emphasize a sentimental, almost physical connection between ourselves and our devices. This symbiosis causes us to experience the world through a lens never seen before, combining our human perception with artificial senses.*

**JvL**

Honestly, I never thought about it. *What You See is What You Get* was a work created very much in the moment without thinking too much about its meaning. I remember having the idea of using the images from a CT scan as a kind of Rorshach blot and including the heartbeat to add something human to these technological images. For me it was a mixture of how we humanize technology and how we want to see what we want to see in technology, hence the title. Do machines or software add something to our experience of the world or limit it? I think they do both at the same time. It's great that with Google Maps I can go anywhere I want, I immediately know which local bus I have to take to go where I want to go in a foreign country. But at the same time I feel completely lost without the app. ==I think it's an area that keeps changing, the center keeps moving.== We keep having new possibilities and experiences but at the same time others fade away and every now and then we realize what has happened and we try to move the center either backwards or further forward.

I find it difficult to give a concrete answer to this question, since it changes a lot for every technology.

**FL**

*Your interest in translating digital information into analogical ways of thinking is evident in works like Analogue Blog (2010), a project that prompted you to edit and keep a diary using analogical methods, and Connecting the Dots (2018), where you asked children to draw 279 puzzles in which they had to connect the dots to represent an internet cable of a submarine.*

**JvL**

I had recently spoken to someone who had visited *Ephemeral Data*, we had talked about that work and the others, and you also mentioned this theme in my work. She didn't call it a bridge between the old and the new, but she told me that many of my projects were about the passage of time and she asked me what to pass on this digital culture to the next one. I found it very interesting because it is a very present theme in a work like *Ephemeral Data*, but also in *Cellout.me*. ==The same can be said about Life Needs Internet and maybe also about Connecting the Dots. Now that I think about it, it's also present in Read The Fucking Manual.== I think it's not something I'm actively looking for, but more of a background perspective present in all the topics that interest me. I think it's interesting to think about the impact of digital culture over a longer period of time rather than just focusing on the here and now and the present.



*WHAT YOU SEE IS WHAT YOU GET (2014).*





*CONNECTING THE DOTS (2018)*
*ANALOGUE BLOG (2010)*

*LIFE NEEDS INTERNET (2012).*

**"WE ARE MOVING MORE TOWARDS A DIGITAL CULTURE WHERE DIGITAL INFORMATION IS LIMITED, SHORT, UNIQUE, TEMPORARY AND PERHAPS EVEN LOCAL."**
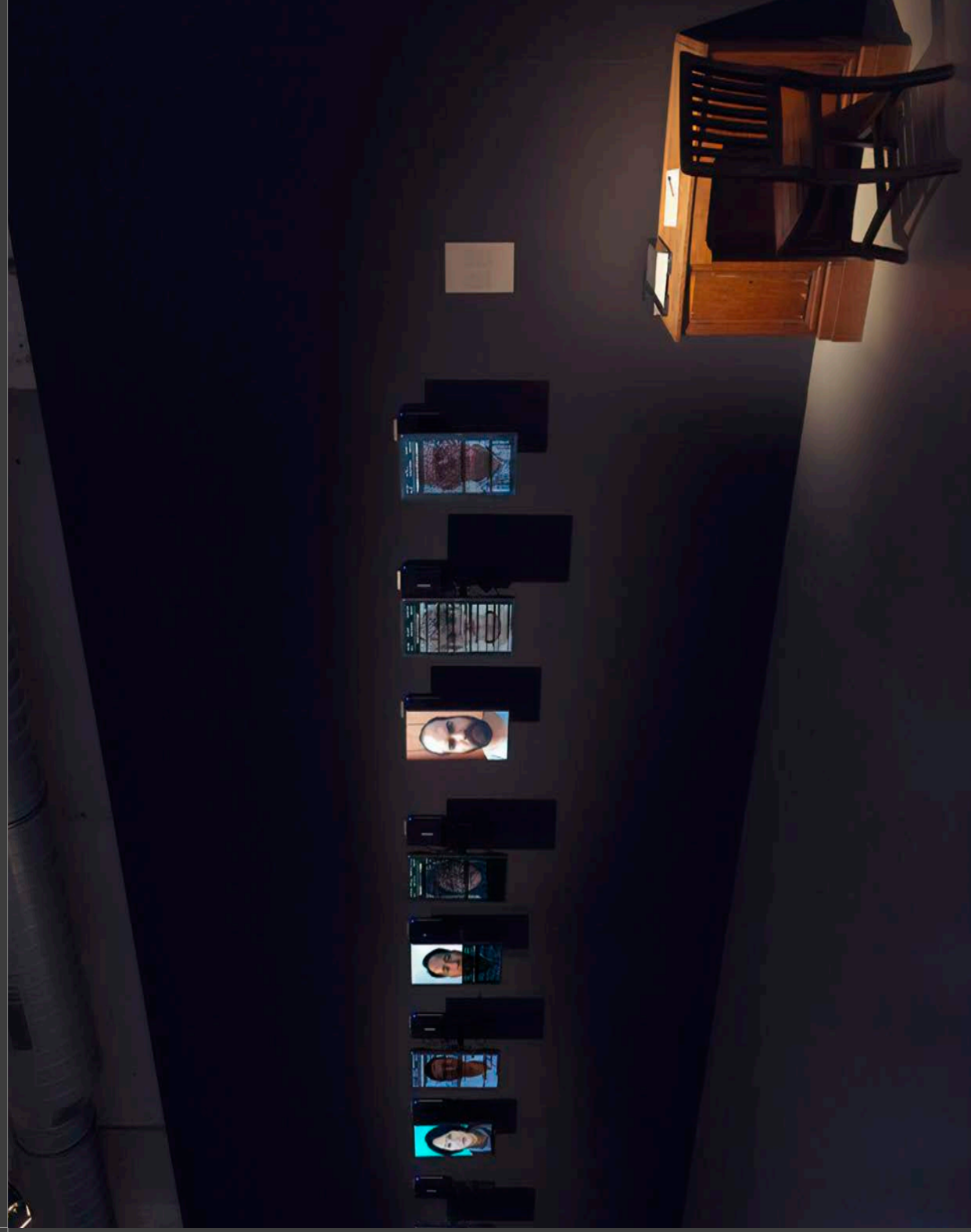
DOCUMENTING DIGITAL CULTURE THROUGH HANDWRITTEN LETTERS. RECENT LETTERS CAME FROM BRAZIL, CHINA, FRANCE, INDIA, GHANA AND WEST-PAPUA. THE GOAL OF LIFE NEEDS INTERNET IS TO DOCUMENT HOW WE CURRENTLY FEEL ABOUT THE INTERNET. THIS DIFFERS PER CULTURE, GENERATION, COUNTRY OR EVEN CITY; THERE IS NO GLOBAL DIGITAL CULTURE.



LIFE NEEDS INTERNET #2 (2017)
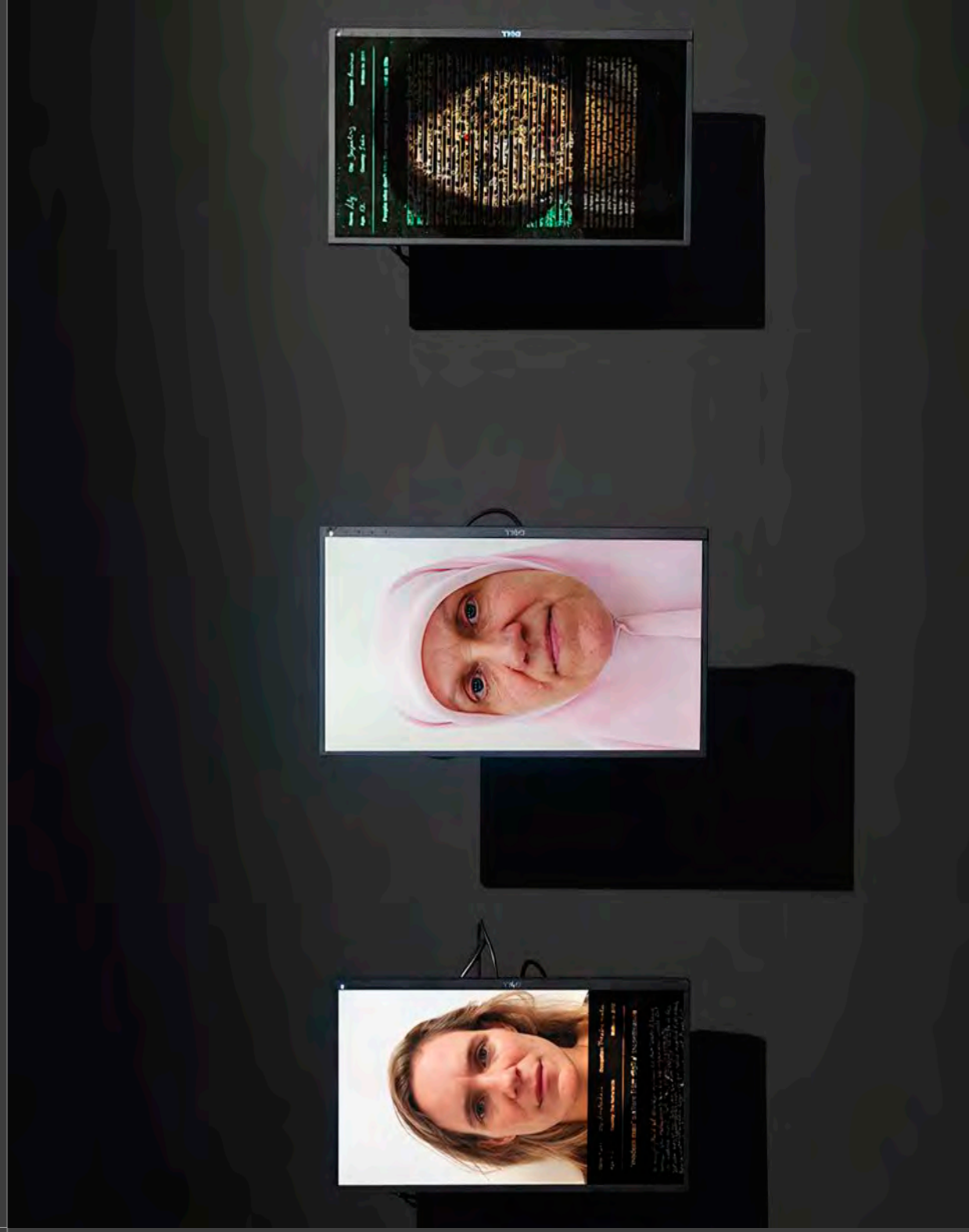
THE AIM IS TO RECREATE THIS WORK EVERY FEW YEARS. THE FIRST VERSION IS FROM 2012. THIS ONE IS FROM 2017. THE NEXT VERSION WILL AGAIN TELL NEW AND DIFFERENT STORIES SHOWING THAT THERE IS NO SINGLE GLOBAL DIGITAL CULTURE.
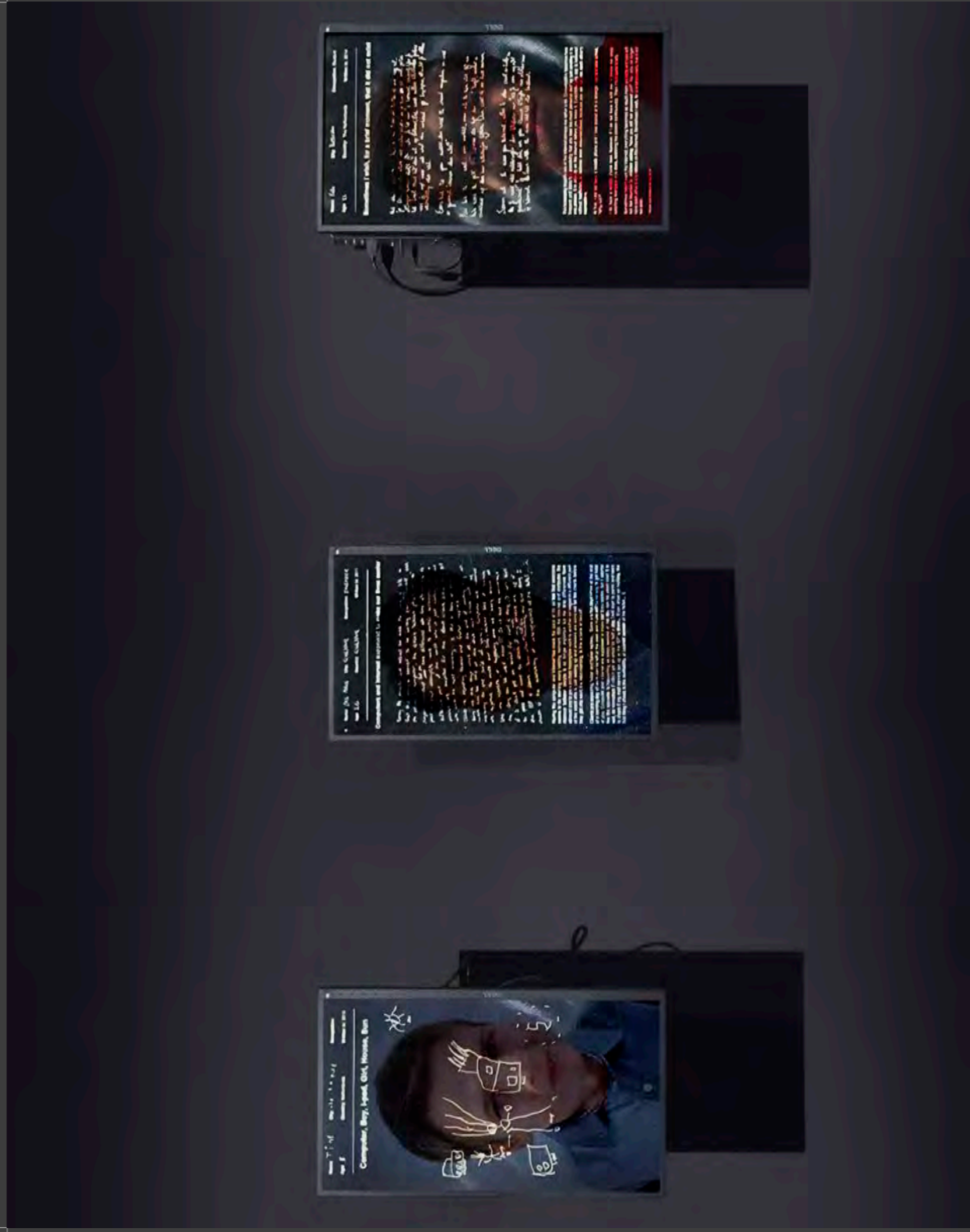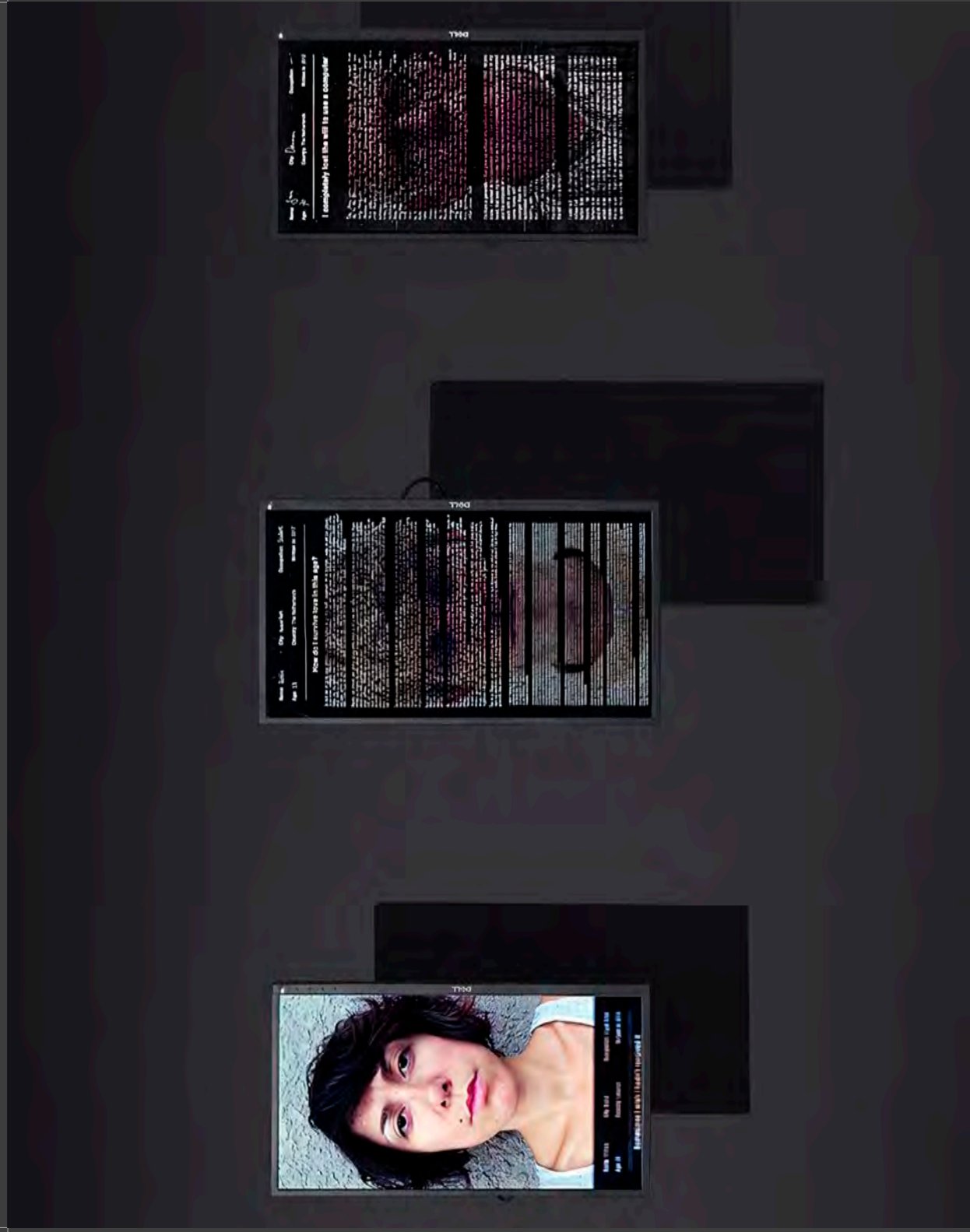
Gender: Male

Age: 25

City:

Country: The Netherlands

Occupation: Student

Written in: 2017

**Internet is one of the most powerful media that helped many people to survive**

I remember quite well how the connection to the internet was made by using the regular telephone line. Sometimes we had to wait for an hour or more, before receiving a response. 15 years ago; it took a very long time. Around 10 kilobyte per second, incredibly slow, but at least there was actual contact through the internet. So how is it possible to see everything in a distant part of the world by simply clicking a button? The Internet was actually a symbol of wealth at the time. The Internet was not for everyone. Whether or not you used the Internet depended on your finances and technological possibilities. After a relatively short time, more technology became available throughout the country. The mobile phone and computer were rapidly introduced into every home. It made communication through the internet much easier. The Internet demanded more and more time both at work and at school, as well as when meeting up with friends. It actually became the way to follow the news. It is also a method of finding out something. Each question was asked on Google. For the majority, the questions were about our lives as Syrians, about what was happening in our country and how we could escape from that high-risk place. Nowadays, we are aware of the importance of the Internet. Even now, it is sometimes difficult to communicate through the internet due to the lack of electrical power and/or the bad connection. The Internet has helped us to understand what we need to do, how we should do it and where we are heading. The Internet is one of the most powerful media that has helped many people to survive. I now remember my first introduction to the Internet some 15 years ago and how it has become an essential part of our daily life. I do wonder what the situation will be like in 15 years' time; will I be living without the Internet?

It's not possible to walk on the street with your smartphone



Internet is one of the most powerful media that helped many people to survive



How do I survive love in this age?



People who don't use the computer are missing out on life

THE *LIFE NEEDS INTERNET* INSTALLATION IS PART OF THE ONGOING WWW. LIFENEEDSINTERNET.COM PROJECT WHICH DOCUMENTS AND ARCHIVES ALL THE HANDWRITTEN LETTERS.

CELLOUT.ME (2016)



**FL**

*In 2016 you sold your DNA information for the Cellout.me project. If this can be seen as the ultimate self-portrait, as you suggest, how do artists go beyond this boundary to represent themselves in a way that goes beyond the collection of genetic information?*

**JvL**

I think context is the answer. It doesn't really matter if you choose to represent yourself through genetic information or any other medium. Everything becomes more interesting if you can show the context of the medium and ask questions about why or what is interesting in choosing this medium to represent yourself in that specific context. I think genetic information itself is not very interesting or spectacular, but how others react to this information, what you can do with it or its value makes the medium (and its content) more interesting. There will certainly be new types of media that artists can use and each of these media is embedded in a specific part of society with its rules, values and codes, so there will always be new ways for artists to represent themselves.

**FL**

*Your last work, Ephemeral Data (2019), was a performance that played on the concept of materiality and structure.*
*Performers created a sand mandala of 12×9 meters that represented the complete digital infrastructure of Utrecht, representing every telecommunication cable and every telephone repeater.*

**JvL**

It was a completely new way of creating a work of art. I had never created a performance before, but I knew that this work, and the message I wanted to convey, required the medium of performance. At that moment I didn't realize what the difference between creating an installation and a performance would be.
Of course, one of the biggest differences was that you were working with people and not just with materials and computers. So writing all the performers, rehearsing and working with them was a very new and positive experience. It also made me think more about how you can present your work in space. If the performer's actions are considered the work of art, what do you want to show, how, why, when and where? I don't consider myse. If a performance artist from this moment on, only this work was born to be a performance.
However, I think that digital culture can learn a lot from the characteristics and essence of performance art. The fact that it is done on the spot, that it is only there when the audience sees it, that it is performed on the spot and that it can be lost. You can't be about a performance on Youtube, you have to be present. All these aspects will become more and more important within our future digital culture.

**FL**

*I notice that with the mandalas you wanted to emphasize the almost spiritual relationship between internet users and the very structure that can sustain their increased experience of the world.*

**JvL**

It's not exactly what I was looking for, the main reason why I created a sand mandala was because after finishing it it would be erased in a few seconds. With *Ephemeral Data* I wanted to create a work of art that talked about ephemeral data, ephemeral in digital, but I wanted it to be the ephemeral work itself.
That's why there is no documentation of the 444 hours of the performance, apart from a photo taken just before the beginning of the performance and one just after the destruction of the sand mandala (the public was also forbidden to take any photos). Everything that happened in between could only be the experience on the spot, during the performance, and now it's all over.
I think that much of the meaning of the work lies in this action, as the performers and the audience I interviewed also claim. But it's interesting to hear what you think about it, a lot of people had different ideas about the meaning of the work. I think this was possible because it was visually simple. There were six performers who created a sand mandala in three colours, representing the entire digital infrastructure of Utrecht. Nothing else for ten days, eight hours a day. It got people thinking about different things.

**FL**

*Can you tell us more about Read The Fucking Manual?*

**JvL**

It will deal with digital exclusion and the question of whether it will still exist in the future, when we will have even more, better, faster and more intrusive technologies and interfaces.
I am also working on the idea of celebrating the tenth anniversary of my *Life Needs Internet* archive. The idea is to do something with all the letters received and the different versions of the video installation. I would also like to be able to entrust the entire archive to other professionals, such as anthropologists or sociologists, and ask them to interpret all the letters of the archive.
Then, perhaps, a publication or an exhibition, I am not sure yet.

EPHEMERAL DATA (2018)

OVER HALF THE WORLD'S
FUTURE
PROGRAMMERS
HAVE YET
TO GET ONLINE
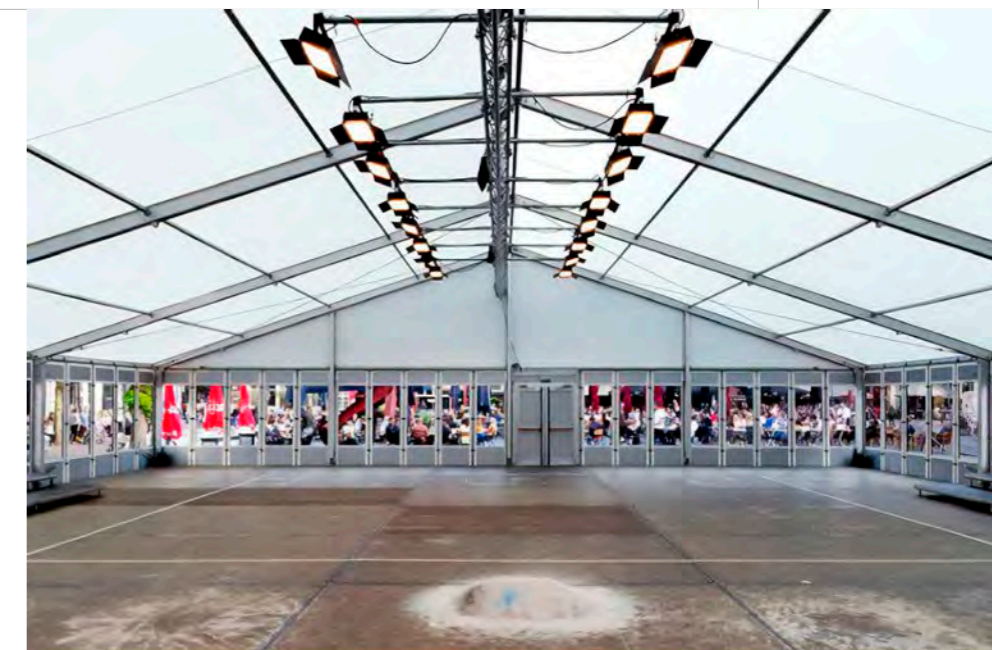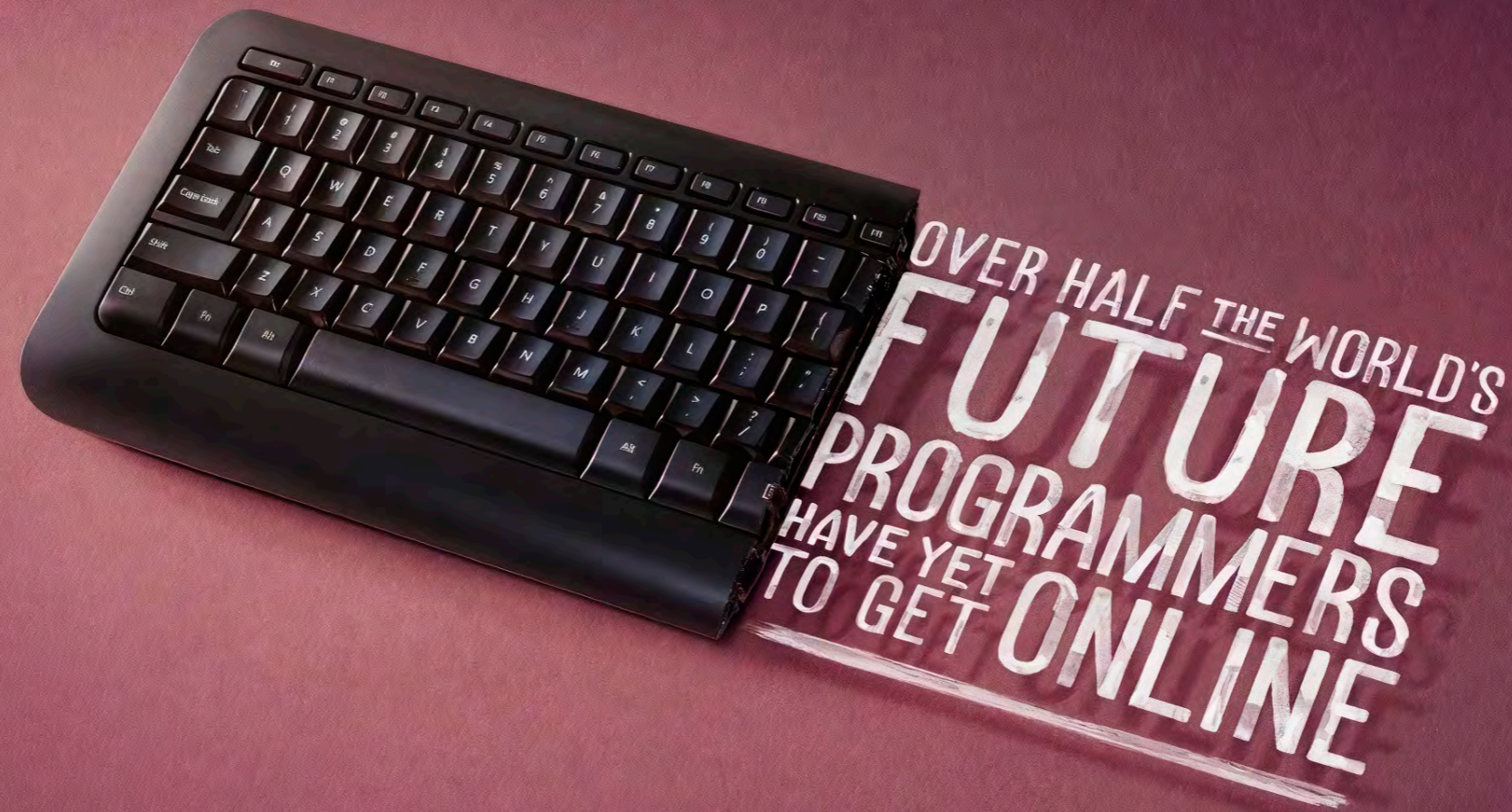
internet.org by facebook

That's why Internet.org is exploring innovative ways to get the unconnected half of the world online - like installing wireless hotspots, beaming internet from the sky and creating platforms that enable data-free access. Learn more at Internet.org.

Let's connect the whole wide world.

# Mess with reality

TEXT
**Ruby Boddington**

ILLUSTRATION
**Steffen Ullman**

STEFFEN ULLMAN'S DIGITAL ILLUSTRATIONS MESS WITH REALITY. VISUALLY DISABLING OR ENHANCING OBJECTS FROM OUR EVERYDAY IS LIKE A GAME TO THE CREATIVE.

# THE ATTITUDE THAT UNDERLIES MY WORK IS CHARACTERIZED BY A HUMOROUS, IRONIC AND NAIVE VISION OF THE IMAGES.

Berlin-based Steffen Ullman studied graphic design and illustration at a "rather arty and traditional type of school". There, he learned drawing, painting, sculpting and collage but Steffen's interests pivoted to digital design in the early 2000s with the expansion of the internet and widespread availability of computers. Today, it's the medium's "opportunity to depict countless and highly diverse styles and aesthetics quite easily," which keeps him glued to it. "In terms of 3D software, it's also fascinating to be able to reach photo-like results and mess with 'reality' in a very free way," he adds.

It's this very notion – of messing with reality – which caught our eye when we stumbled upon Steffen's Instagram account. His feed is full of illustrations which see the objects of our every day melting and spilling out of themselves. In one image, an iPhone screen bleeds out of its own charging port and, in another, its screen is stretched by the person using it to play *Candy Crush*.

On this series, Steffen tells us: "[I'm] playing with imagery of everyday objects, like cars, mobile phones, laptops, watches or scissors, and visually disabling or enhancing their common physical states and functions, though this only feels like an ongoing game to me mostly."

In another series, he explores concepts concerning science fiction, in particular, technology which could derive from this genre. The imagery here often forms a futuristic tableaux with imagined objects and arrangements – a kind of inverse memento mori for the modern day in which many things really do live forever. It's a series Steffen calls "slightly geeky" as its mainly a place for him to improve his 3D-modelling techniques but it's also an opportunity to "explore and blur the boundaries of organic and technological matters or objects."

While these works seem distinctive to us, Steffen explains that he doesn't aim for any consistent style. Rather, it's a "pattern of procedure" which prevails, " the attitude behind [my work] or possibly certain humorous, ironic or even naive characteristics of imagery."

In terms of the kinds of projects he likes to take on, Steffen's interests are always changing. He looks for projects in which he has to "learn new things or do research of context," as it "keeps it interesting for me and the results are versatile." The same goes for tools, media, styles and aesthetics: "I've been teaching myself 3D visualisation and modelling for a few years, whereby I really like to bring in previous ways of working and utilise experiences with former work mechanisms. Often times, the results derive from discovering one of the numberless and quite complex software functions, sometimes there might already be an idea, and in other cases it's just starting to play in a sort of meditative moment and see where it goes."

Clearly an artist who loves the technical side of creativity, many of Steffen's plans include continuing to learn new techniques or softwares. "I'm planning to print some posters with a few of my works and also extend my technical capabilities to be able to get into more animation-related work again," he explains. "Besides that there is an ongoing queue of illustration and design-jobs as usual, which in consequence of the current circumstances can be a rather solitary occupation at times. These might also provide some quiet-time to find further creative destinations though," he concludes optimistically.

THE ILLUSTRATIONS IN THIS ARTICLE ARE ENTIRELY CREATIONS OF STEFFEN ULLMAN

"I AM PLAYING WITH IMAGERY OF EVERYDAY OBJECTS, LIKE CARS, MOBILE PHONES, LAPTOPS, WATCHES OR SCISSORS, AND VISUALLY DISABLING OR ENHANCING THEIR COMMON PHYSICAL STATES AND FUNCTIONS, THOUGH THIS ONLY FEELS LIKE AN ONGOING GAME TO ME MOSTLY"
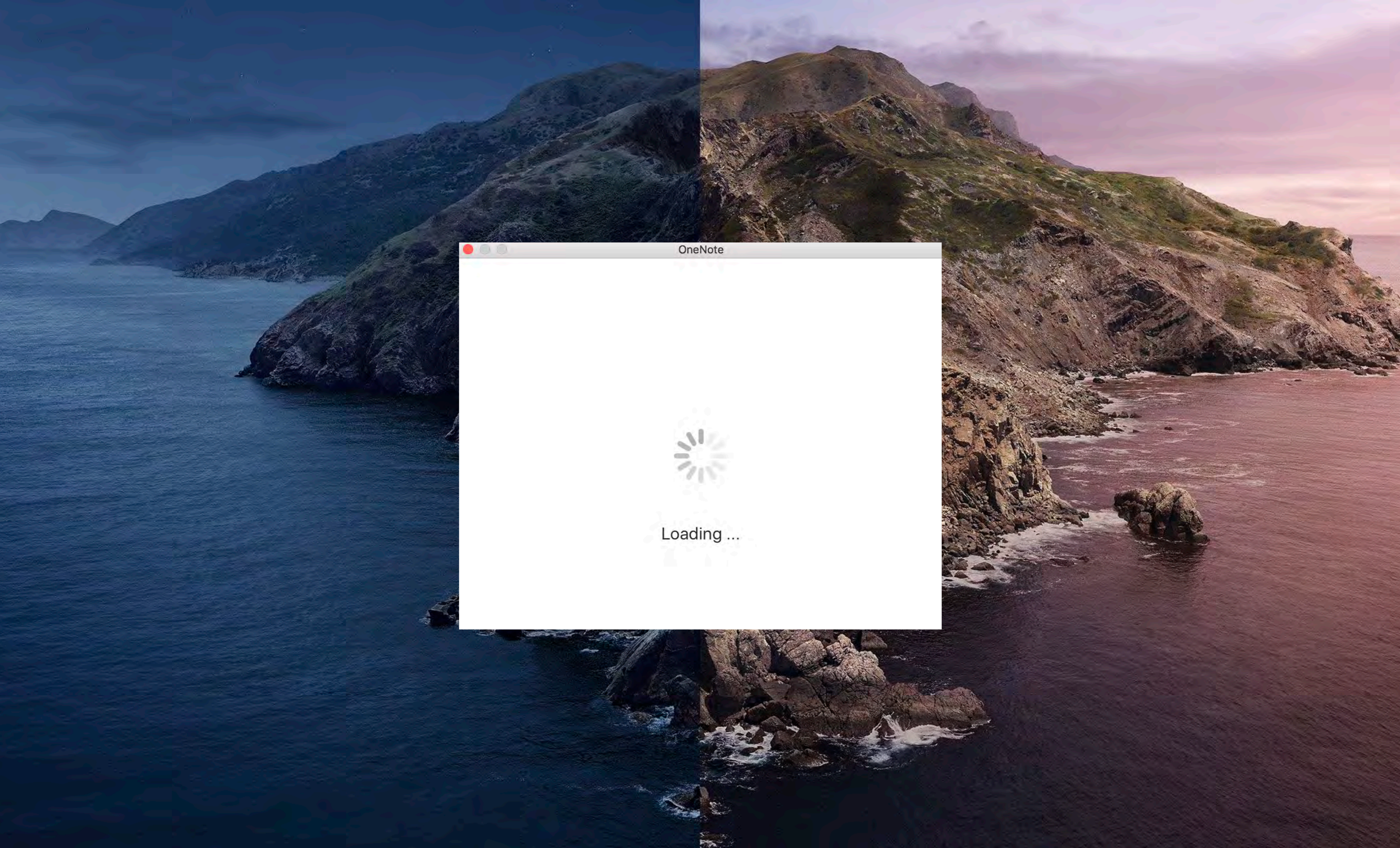
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TEXT
**Susanna Marchini**

ART
**George Widener**

# The art of calculation

## Interview with George Widener



"I BELIEVE IN THE FUTURE TECHNOLOGY OF THE SINGULARITY, THE IDEA THAT MACHINES WILL ONE DAY HAVE TRUE HUMAN-LIKE INTELLIGENCE.
I LIKE TO BELIEVE THAT SOME OF THE THINGS THAT I DO WILL BE APPRECIATED."

This American artist has an incomparable mental ability. Diagnosed with savant syndrome, he is endowed with a super calculator power that drives him to obsessively compute complex sequences of numbers and dates to the point of predictions. George Widener likens himself to a "time traveler" creating mixed-media works that give visible form to complex calculations based on dates and historical events. A self-taught artist, he is highly visible in the contemporary art arena with works in the American Folk Art Museum in New York, the Kroller-Muller Museum in the Netherlands, and the Collection de l'Art Brut in Lausanne, Switzerland.

**SM**
*You have an amazing ability to mentally calculate the days of the week and play with numbers. How did this process start and develop for you?*

**GW**
It all came from my past; I have been able to do it all my life, since I was a child. But in the 1980s, I had some problems, I was by myself, and I was doing it more and more as a pastime to try to make some sense of my world.

**SM**
*How did you realize that you could channel this ability into art?*

**GW**
I think it took some time for me to become creative. As a child, I used to make a list of dates — but I wasn't being creative with that. I have always loved to draw. Ever since I was a child, I'd draw objects from memory, like trees or cars. As I got older, I became more creative, but still, I didn't think of it as art.

**SM**
*So what happened then?*

**GW**
From 1986 to 1994, I was what they call an outsider artist — which is somebody doing something for himself without thinking about other people.
Things began to change around 2000 when the art dealer Henry Boxer started to exhibit my work in London, and from then on I was in galleries. But I wasn't trying to show in a gallery or anything like that; they found me.

**SM**
*Do you usually plan the idea behind your artworks, or are your ideas more spontaneous?*

**GW**
I have some ideas and then I'll have a dream about them, so the answer will come to me in the dream. And then, I will have a dream about some other ideas.
Sometimes people are very creative right before they go to sleep, that is when you're not awake, but also not fully

GEORGE WIDENER , *TITANIC* 2007.

# "MEMORY PLAYS A HUGE ROLE IN MY WORK."

asleep. Ideas come to me in that in-between time. It was more frequent in the past when I didn't talk a lot with people and I wasn't social very much, now I have a more balanced life.

**SM**

*Do you have any recurrent subjects that interest you or specific images that catch your attention to create new work?*

**GW**

Memory plays a huge role in my work. With dates, it's just an inner landscape; to me, it's like a rhythm or something that I do for myself. But if I happen to see something, then it plays around in my head and I think it has to do with my childhood. I was a late bloomer, I didn't speak until I was like three or four years old, so at first I had to think in pictures.

**SM**

*In your Titanic series, you have displayed lots of numbers and information related to history. How did you research that project?*

**GW**

*Titanic* is a historical event but also a very emotional one. I became very interested in it, and it was a way for me to try to express some feelings. I would just collect information through books while some others I have in my memory. I still remember that *Titanic* is 882.2 feet long—it just sticks in my head.

**SM**

*How much do you think your disorder affected your art?*

**GW**

In my family, there were some cases of autism but some of them had real gifts. I can remember days, but I'm not disabled.
I had the chance to meet Kim Peek, he had the best memory of anybody and he could memorize everything he read, but his father had to take care of him until the end. That meeting made me realize that I'm very lucky.

**SM**

*Do you draw every day?*

**GW**

I can't say that I draw every day but I do have the need to draw. When I was younger, I was obsessed with what to do.
I wasn't doing it for some sort of vocation, I did it because I had to, it just came out of me. I have to draw at least every few days or I start to become anxious or a bit nervous.

**SM**

*Is there a specific meaning behind your artwork?*



RICCO/MARESCA GALLERY
529 W. 20TH ST, NEW YORK, NY.

**GW**

I believe in the future technology of the singularity, the idea that machines will one day have true human-like intelligence. I like to believe that some of the things that I do will be appreciated.
If someone could look at my work and quickly calculate the thousands of dates and how I move them around and find connections, they might appreciate them like a puzzle or a crossword puzzle.

**SM**

*It seems like there are some calculations within your artwork that cannot be solved right now.*

**GW**

There is a concept in mathematics called the *Magic Square*, which is simply a four-by-four grid of numbers and it can create an equal sum in all directions. I took that magic square and mixed it with dates, turning it into a magic time square. I believe that future artificial intelligence could do something similar—they will find patterns like that.
I can only calculate dates one at a time, but machines with rapid calculation could discover hidden geometrical patterns that could have some meaning or relevance for the future.

**SM**

*In your drawings, could patterns of numbers predict the future?*

**GW**

I played around with this idea with a little bit of humor. *Magic squares* have been used to make predictions in the past, but only with numbers. I was filling the magic squares with dates for past accidents or floods and then I would have a few that opened to future dates to complete it.

**SM**

*Where do you find your inspiration?*

**GW**

I'm interested in the work of science fiction writer Philip K. Dick. He wrote short stories mostly about floods but the ideas behind them were very interesting and inspired movies like
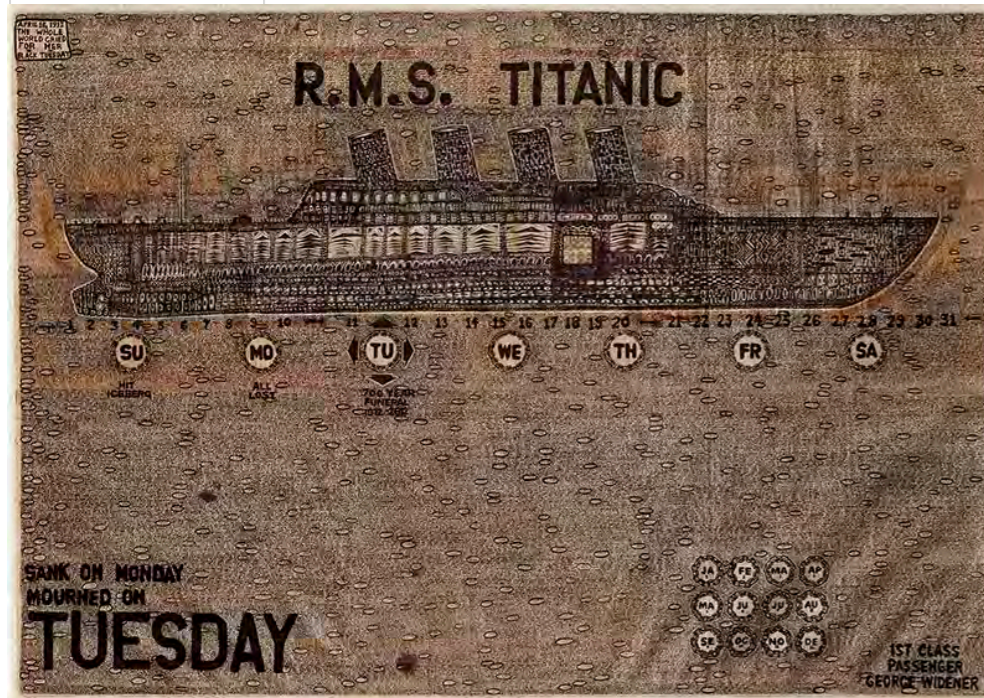


GEORGE WIDENER ,
*CIRCLE* 2007.

*The Matrix*, *Minority Report*, and *Blade Runner*.

I like to try to see my calendars in the same way—not just mathematical but also with mystery and psychology.

**SM**
*How do you envision the society of the future?*

**GW**
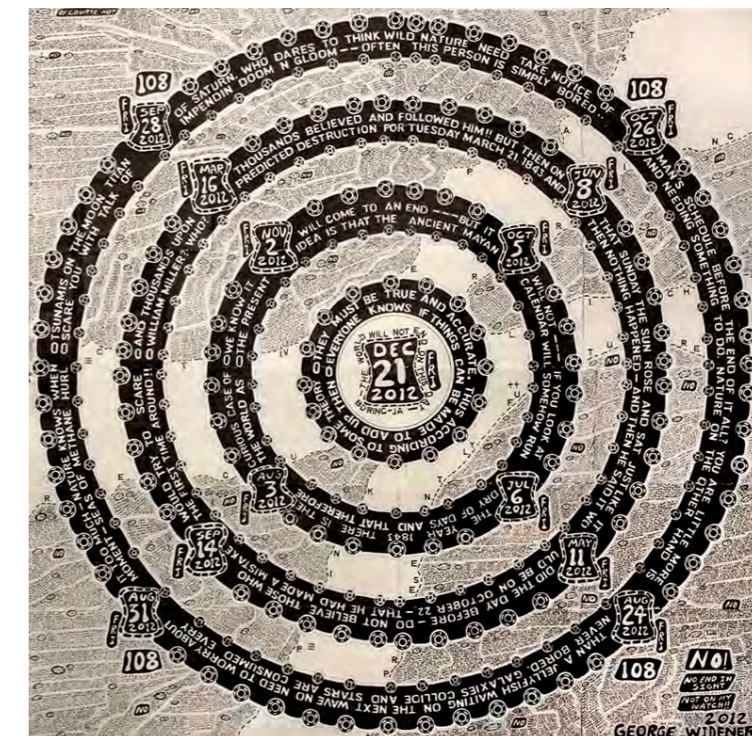I like to be optimistic and think that there will be great technological changes in the distant future. I would like to positively believe that machines are going to see us as parents or that they can live with us. And that many problems can be solved with greater intelligence. But I'm also aware of the other side, the dystopian idea that machines decide they don't need us or that people are destroying the environment.

**SM**
*Where did you find the inspiration for your time machine?*

**GW**
I originally studied mechanical engineering. I had good grades, but I didn't finish. I do love machines and their details, I love drawing machines. I was just contemplating that idea of whether or not time travel truly is possible. I haven't tried to really build a time machine, but I know that time exists in a multi-dimensional way that we can't comprehend.

**SM**
*If you could travel in the past or the future, where would you go?*

**GW**
I'm a big fan of certain times in the past. Who wouldn't want to go back to the time of Leonardo da Vinci and shake his hand?

**SM**
*How would you explain the concept of time in your drawings?*

**GW**
My time is dynamic, not static; it's evolving. For me, dates are continually shifting and I'm always exploring the different ways that they balance, the ways that they are in harmony, the ways that they are opposed to each other. I am continually exploring their similarities and differences.

My work evolves because I choose to listen and to try to write down what I'm seeing in my dreams as well as when I'm awake.

GEORGE WIDENER , *FRIDAY* 2009.
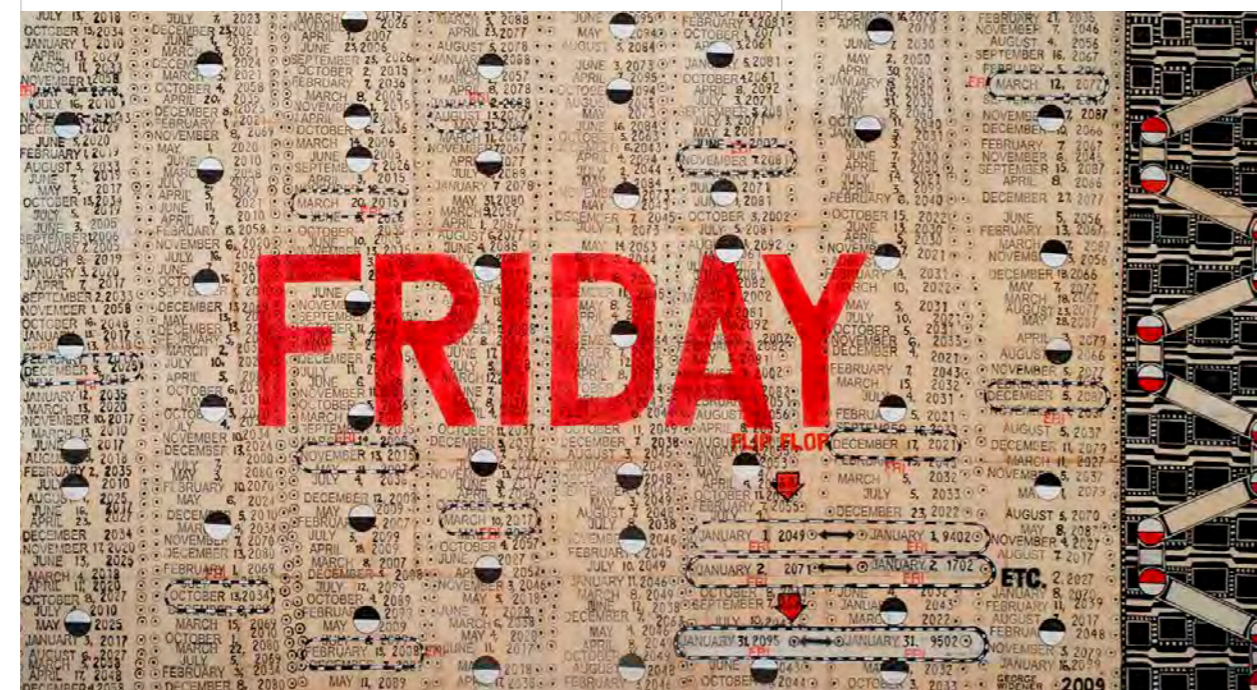
TEXT
**Eleonora Rospi**

IN CONVERSATION
WITH
**Paolo Cirio**

Interview with
Paolo Cirio

# Internet's implication across Art

Paolo Cirio engages with legal, economic, and cultural systems of the information society. His work investigates social fields impacted by the Internet, such as privacy, copyright, democracy, and finance. He shows his research and intervention - based works through prints, installations, videos, and public art. Cirio's art considers how society is affected by the control over the information. It embodies the contradictions, ethics, conflicts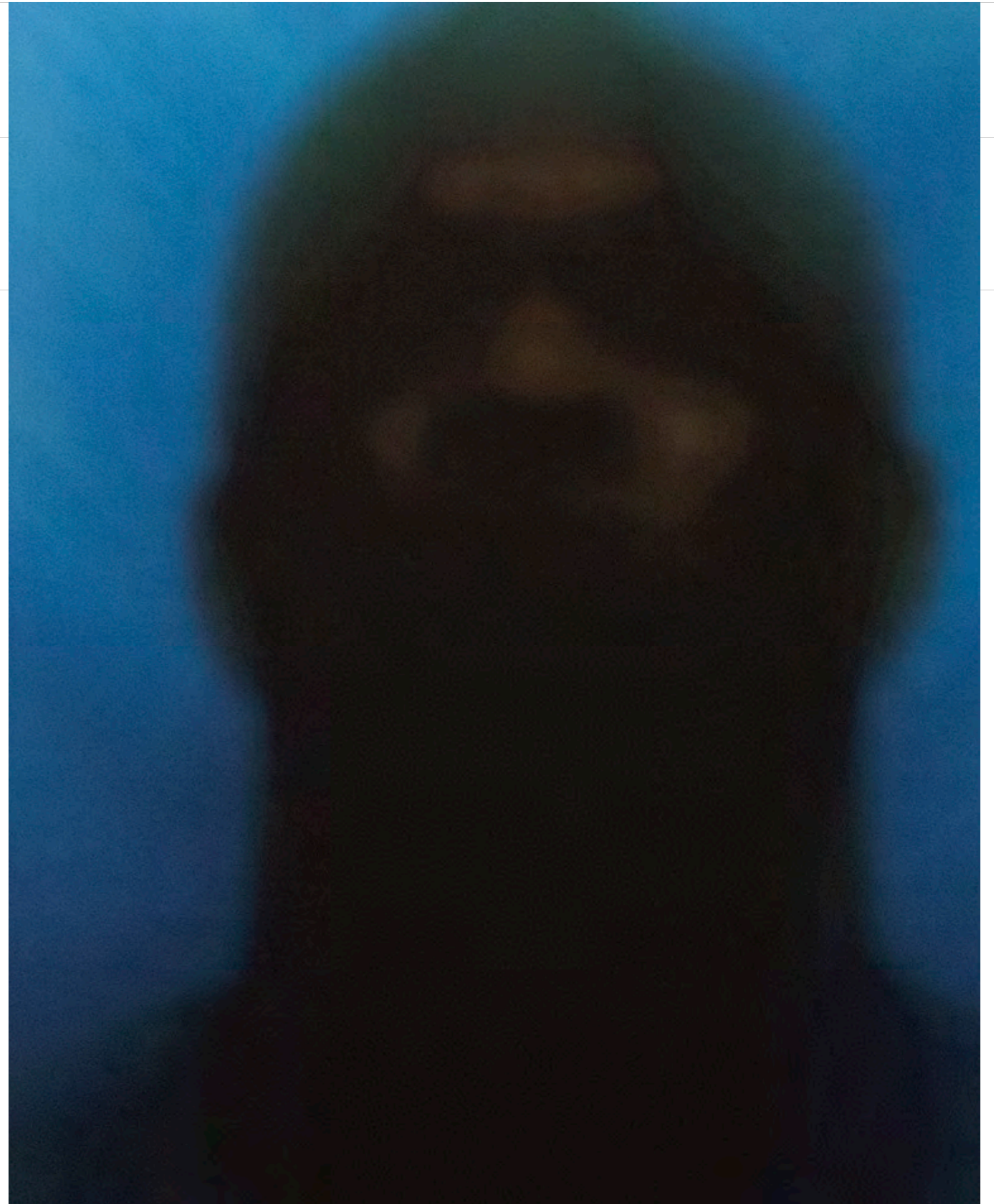, and potentials inherent to the social complexity of information society through a critical and proactive approach. His techniques of exposure, appropriation, and recontextualization of sensitive information stimulate ways of seeing, understanding, and challenging contemporary complex issues. Cirio uses popular language, irony, interventions, and seductive visuals to engage a wide public in works of art. His works often make contradictions apparent, expose mechanism, and dispute their processes in order to debunk perceptions of social, technological, and cognitive sytstems.

**MM**
*Your work deals with pivotal issues such as appropriation, control, image rights, and information theory. How did it all begin?*

**PC**
I was interested in studying the power of media. As an Italian of my generation, i was influenced by Italian philosophers, like Umberto Eco, and studies in semiotics, language of media, and communication theories. Moreover, in the mid-'90 during Silvio Berlusconi's rise to power, the Italian media and political landscape started to become very fascinating. This also corresponded to a time when the Internet came along - as a small and new thing - yet to one was using it or was even able to access it. Somehow, I started to be interested in that, with feeling that was going to change everything.

Eventually, the Internet became more and more crucial in everyday life and, since my work is dealing with the philosophical and tackle new and a variety of issues such as finance, advertising, and privacy.

Now, i feel the Internet has changed society to the point og having become its true core, and to some extent it has become society itself. For this reason, I argue that i am not working with the Internet, but rather with society.

**MM**
*How does your work intersect with society?*

**PC**
In working with the Internet, I work directly with the one thing that affects society the most, and with what society looks at: For example, political elections, economy, perception of reality, and interpersonal communications are all strongly informed by the Internet.

In this sense, my work is also about dilemmas and conflicts that society has to face because of the Internet. Look at what's happening now with the U.S. presidential elections, or the slightly different take on social control in India, or China.

**MM**
*The 1970 milestone exhibition Information at MOMA comes to mind. Are there any parallels between now and then, culturally and socially speaking?*

**PC**
This sounds like a big jump because people tend to think about the future instead of the past. however, looking closely, you realize that the interesting momenti we are living in already happened, in a different form, 50 years ago. When the two shows *Information* and *Software* were presented in New York, people talked about the same issues: how information technology was affecting society.



*SOCIALITY*
SOCALITY REVEALS TECHNOLOGY ENABLING SOCIAL MANIPULATION. FOR THIS, CIRIO DOCUMENTED 20.000 PATENTS, EXPOSING SOCIALLY HAZARDOUS INFORMATION TECHNOLOGY.
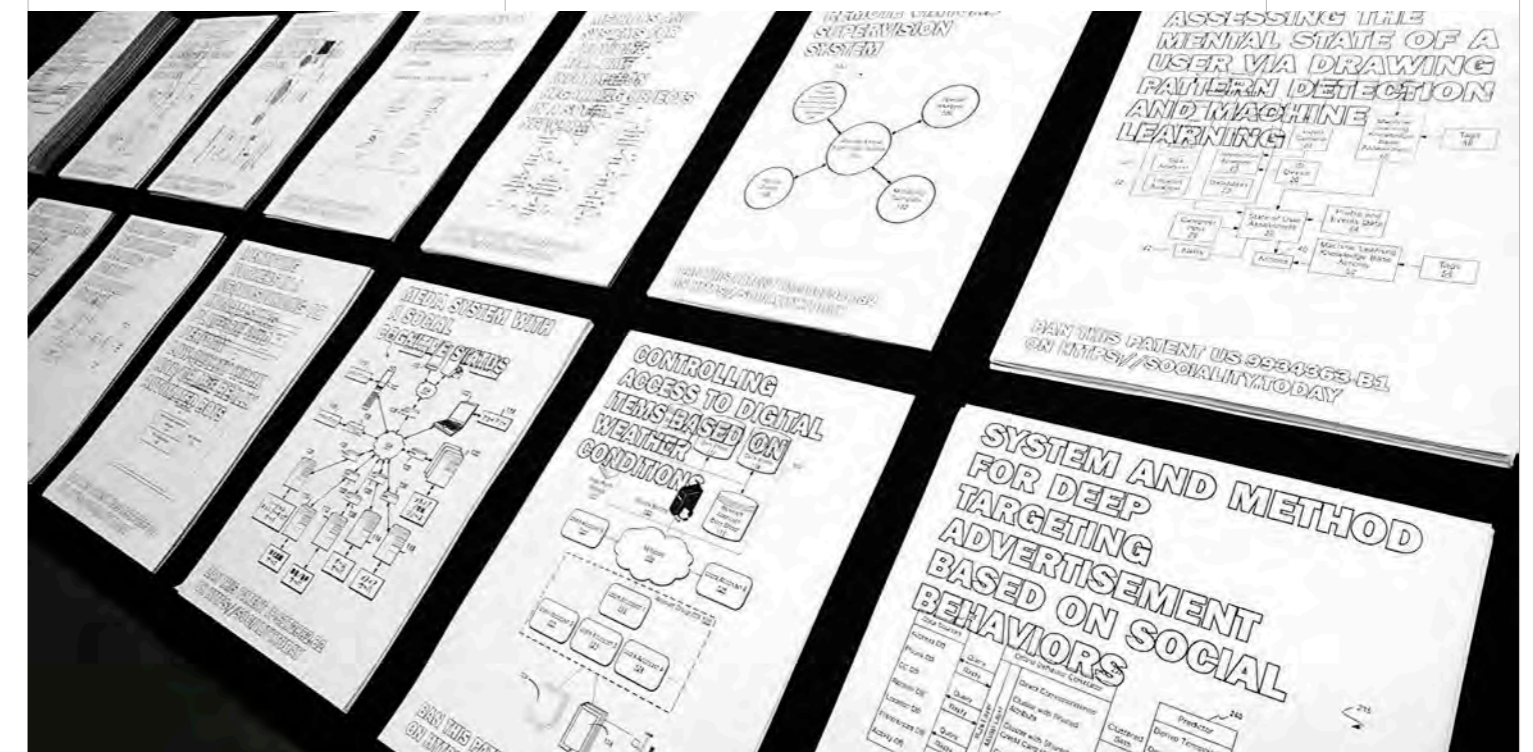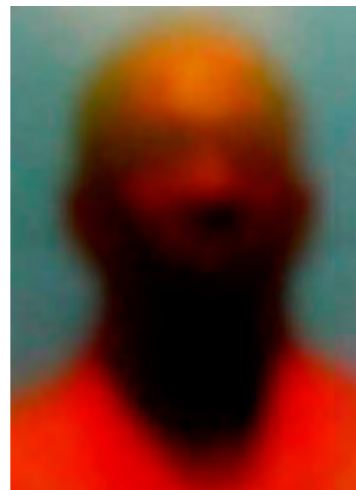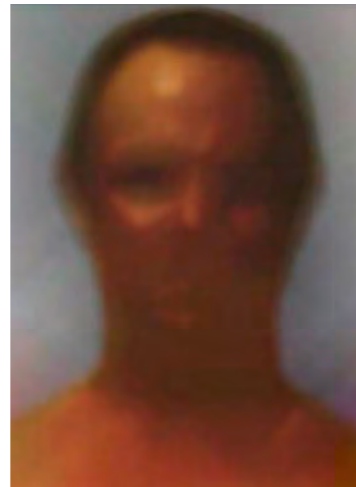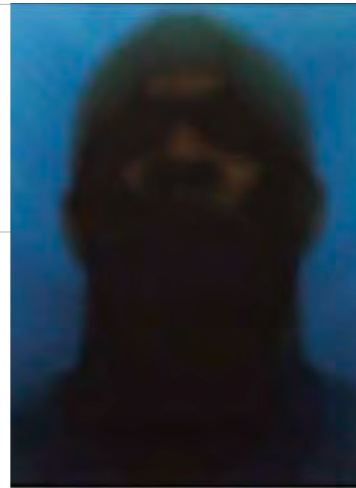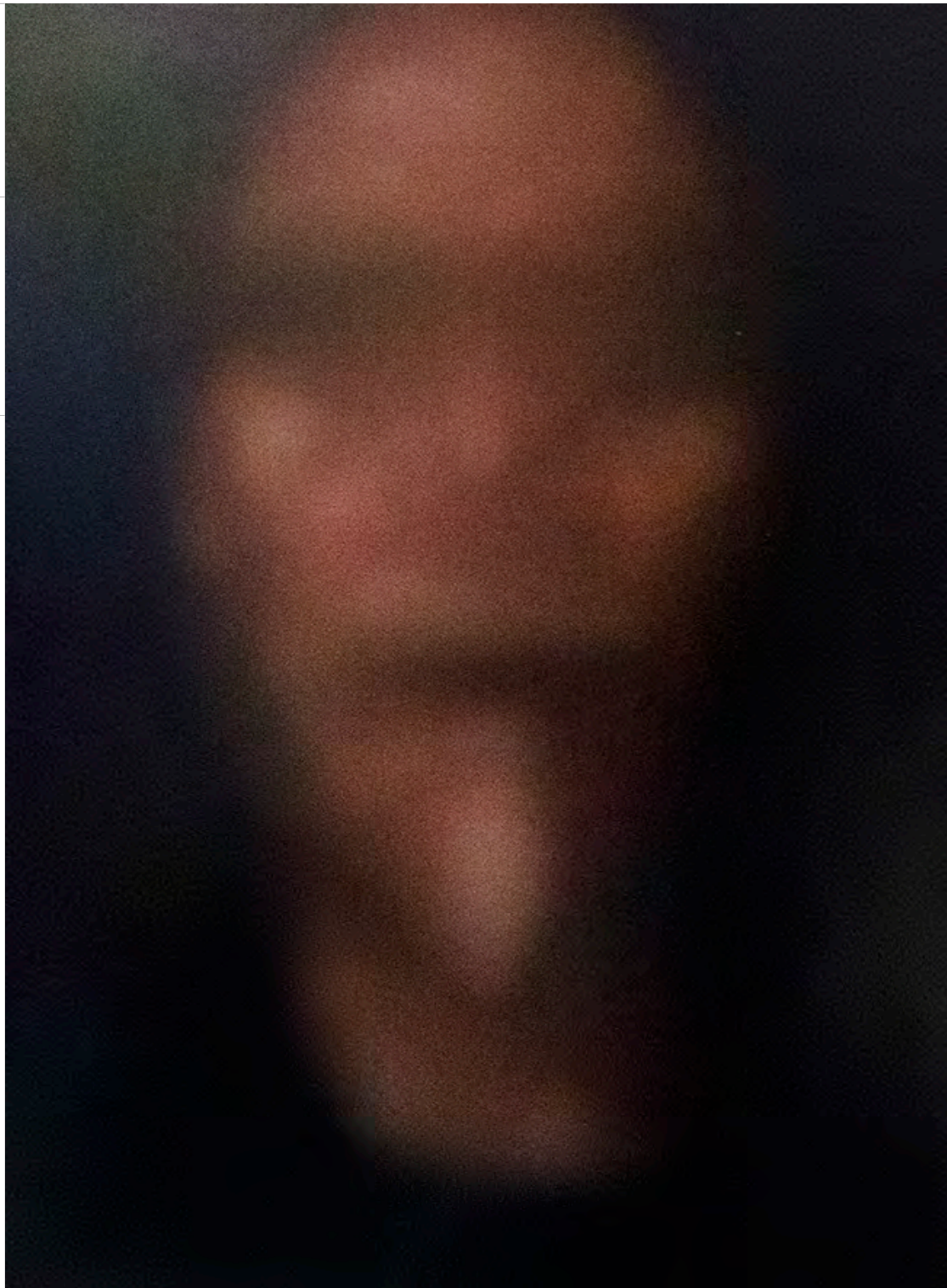
*OBSCURITY*
MADE OF OVER 15 MILLION MUGSHOTS OF PEOPLE ARRESTED IN THE U.S., OBSCURITY OBFUSCATED THE CRIMINAL RECORDS OF SIX MUGSHOT WEBSITES BY CLONING THEM, BLURRING THEIR PICTURES, AND SHUFFLING THEIR DATA.

It was the first time information technology, and especially computers and networks, were starting to impact the economy, politics, and social life. **Artists started to look at all of this. generating a wave of conceptual art, system art, ad a perspective that was lookin at I.T. as a political tool ready to be transformed into an aesthetic object.** So there are some parallels, and although with time technology has changed everything, and then has kid of lived a life of its own for a while, we are now in a moment when technology is heavily politicizing and affecting society again.

**MM**
*The curator of Information exhibition argued that at the time the project "was essential for an art institution dealing with artists who broaden artistic definitions and challenge our perceptions." You, 50 years later, address art history as a system with your exhibit Systems of Systems in Turin. Do you feel like you're stretching boundaries?*

**PC**
Many of my projects tackle contemporary matters and, in a way, some have a pop dimension, but at the same time, I am always trying to contextualize these works within an aesthetic and philosophical landscape. I spent a long time researching, writing, and reading philosophy and art history to articulate the issues I really want to discuss. My recent exhibition at the Giorgio Persano Gallery in Turin - the first gallery presenting *Conceptual Art and Arte Povera* in the '60s and '70s worldwide - is continuing such a trajectory, but with today's materials and systems that are more powerful and broader than in the past, as they impact our society on a global scale.

It is interesting to look at how the history of the medium (the network and computation itself), did not start with the *Internet*, but rather it ran through phases to get there. After all, the *Internet* has 20-year history already and is constantly evolving.

**MM**
*To what extent is data real and how is this data shaped and seen?*

**PC**
There is a kind of mutual relation between the medium and society. Data has immense power, but that power becomes real and material only when people use it and make that same data seen and shaped in different forms. **Society decides how to use that data, whether to manipulate it, change it, misread it,** or use it in the worst or best way possible.

**MM**
*What is your approach to data? And what's the role of social manipulation in your practice?*

**PC**
In a way, data is matter: it takes different forms; these forms offer different interpretations depending on the audience, as with any other piece of art. However, data, algorithms, and the Internet, are a unique kind of material, as it affects millions of people, governments, economy, society and social fields directly. In my work, I take data, re-shape it, and present it as a new sculpture that eventually has an impact on all those social enterprises that are doing business with that data. At the moment of publicly presenting such new forms, I usually receive reactions from big companies, from thousands of people or from the media, creating ripple effects. Sometimes - especially when my artwork becomes viral and global - people's interactions with it produces even more artistic outcomes, as a performance. This happened, for instance, with a few projects, particularly those dealing with big data, like *Face to Facebook* and *Obscurity* and *Loophole for All*. People started to see things differently: that's the role of art, afterall.

**MM**
*We might think that the more data we have, the easier it is to find our*

*path to truth. But we discovered it's actually the opposite: Data seems to be moving us away from the truth. Is post-truth a dystopia? Can the same data/technology get us back on track?*

**PC**

In my work, I generally look at utopian and dystopian realities of the Internet and thus at the contradictions and limits of ethics. However, at the same time, to me. they are not narrations or slogans: I do really want to break those down. ==My goal is to crack the complexity and the general understanding of things by offering more insights into complex issues, such as post-truth- By doing that, I sometimes identify solutions that may fix the problems that I encounter.== This is the hacker attitude that breaks very complex systems/networks, find the problem and the bug, exploits it, creates chaos, and eventually offers a way through. But it's beyond the technological apparatus, the paywall or the firewall: it concerns a society that deeply reflects technology. In some of my projects, like *Global Direct*, this utopian approach is evident, as it shows the unused potential of the Internet: in *Sociality*, both utopian and dystopian issues are addressed. In *Loophole for All* I even discuss oh offshore finance could be tackled.

**MM**

*Would you say that you are trying to expand common awareness of the issues related to data and the Internet?*

**PC**

Yes, and some of my projects have become activist campaigns. With *Obscurity*, for example, for three years I have worked to create a privacy policy in the United States for the "right to be forgotten." with the help of lawyers and legislators to promote it. With a similar approach, with *Sociality*, I am working on the idea that some technology should be legislated, or banned completely. However, these are not easy issues to solve as long as corporations, governments, politicians, and users try to have undemocratic control over them.

The Internet is becoming a place of conflict because of the power of the tool - and everyone wants to control it. An issue such as post-truth could ideally be resolved in many ways, but it is taking a long time to solve it. This is for me the real utopia: it's not about having a global peace, it's about solving simple problems. Nevertheless, the idea of utopia is constantly concretizing: error after error, we are trying to fix our mistakes. ==And for me, it is all good, because we are finally facing our problems.== Take the matter of privacy: I've been working and researching privacy and surveillance since '90s, and back then, no one cared about it, until we discovered we were all mass surveilled. After that, new tools were introduced to prevent it. It's still not perfect, but it's getting better.

**MM**

*In such a context, what is the artist's role in society? Do you see your work as having an impact on people's awareness of the world that they live in?*

**PC**

Absolutely. The artist's work is probably more concrete now, then ever, and because of that, it inspires and shows people something that they couldn't see before, like societal contradictions or the way things are re-shaped. Indeed, I believe the artist cna change society, not like a politician would, but rather at a cultural level, and that eventually has a ripple effect on other fields, I have been influential, for instance, *Loophole For All* (2013) was done before *The Panama Papers* and other financial leaks, and the data that the work revealed was used by several journalists for further investigations. And when i presented *Face to Facebook* (made in 2011 with Alessandro Ludovico), Facebook was not perceived as it is today: People were excited about it and now, after all the recent scandals, must people are leaving Facebook.

Then with *Obscurity* (2016) I was one of the first to talk about
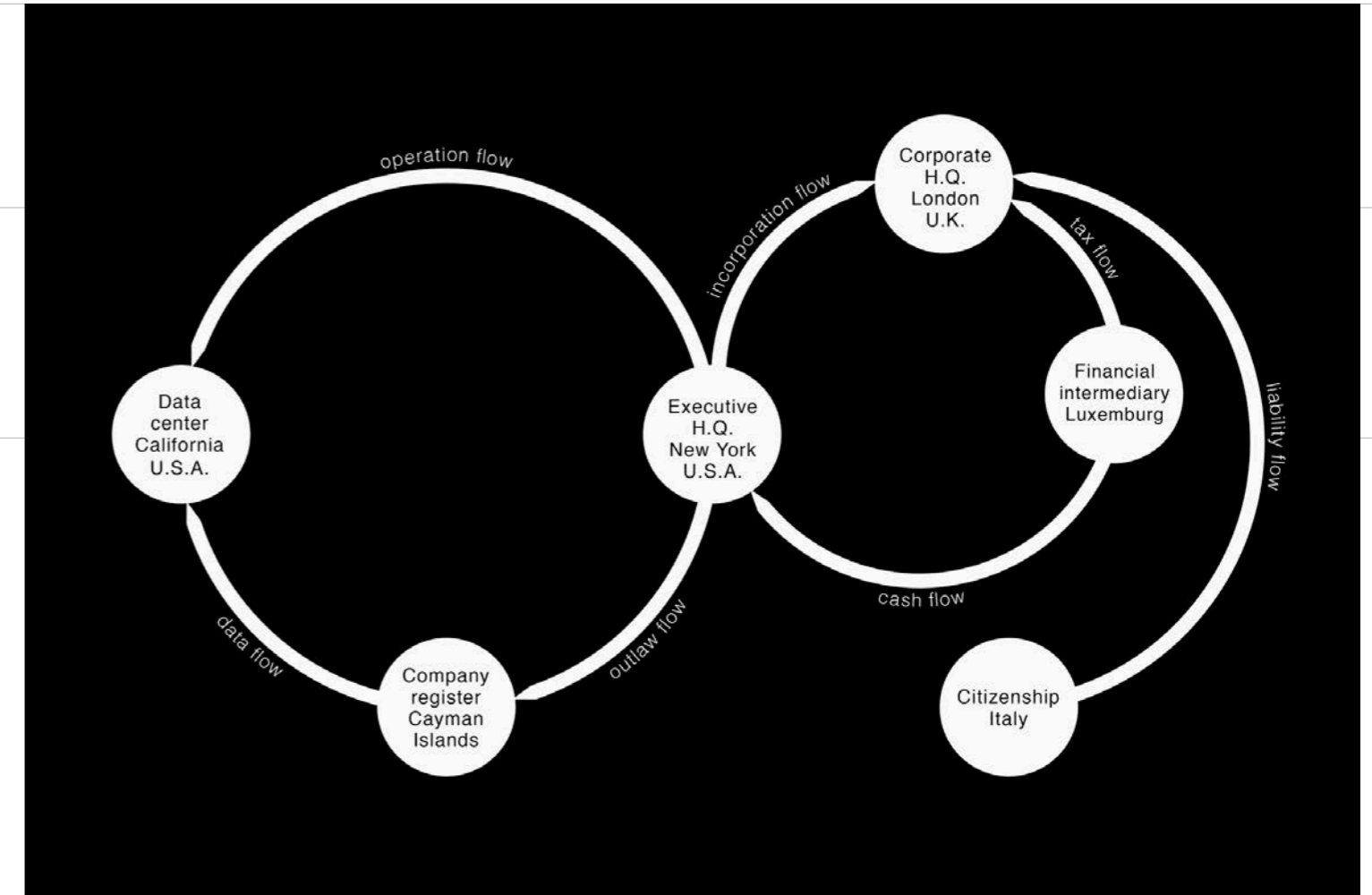




*LOOPHOLE FOR ALL BY HACKING THE CAYMAN ISLANDS GOVERNMENT REGISTRY, CIRIO UNVEILED OVER 200.000 COMPANIES TO UNSETTLE GLOBAL FINANCIAL MACHINATIONS.*
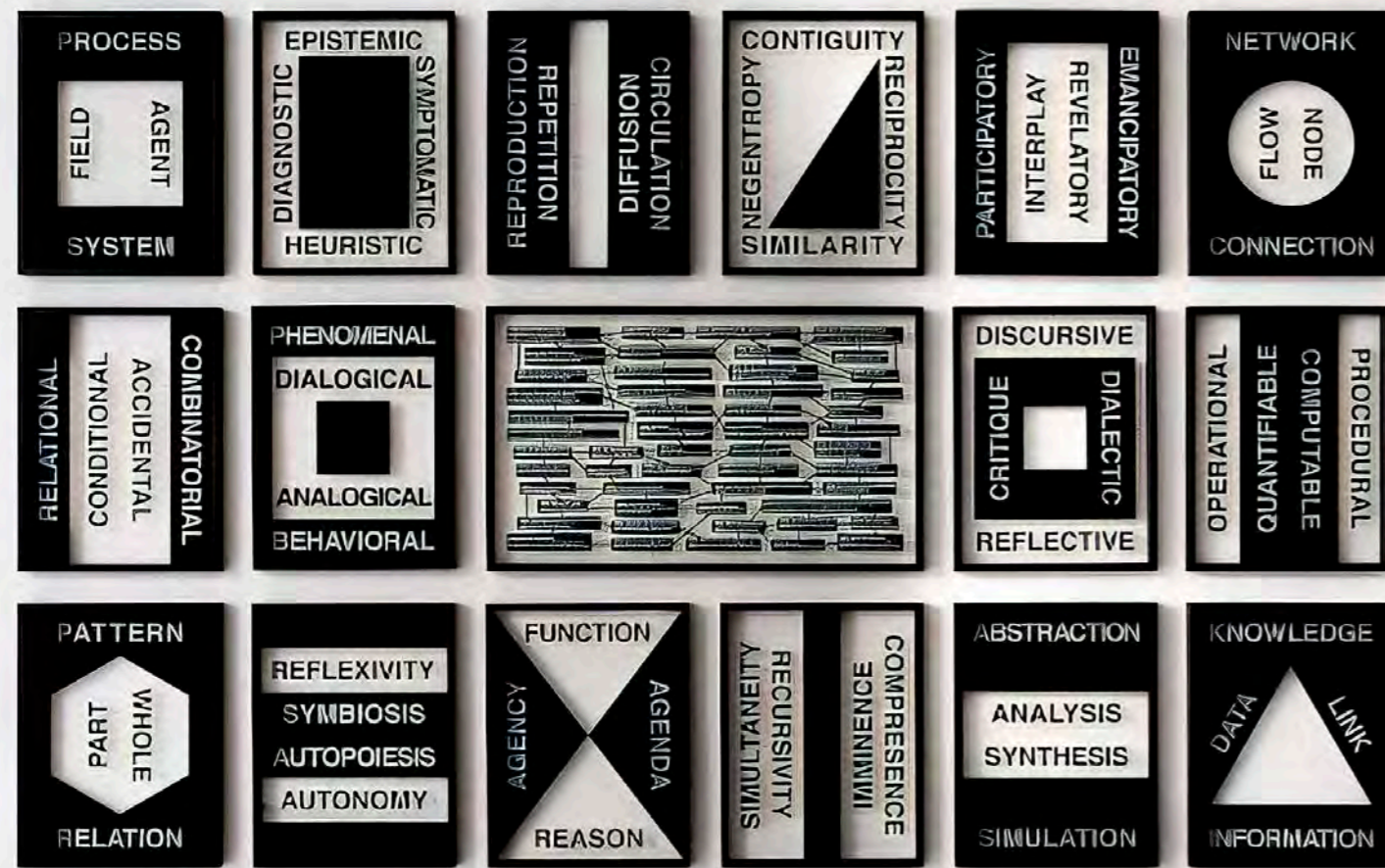
*GLOBALDIRECT*
IN GLOBAL DIRECT,
CIRIO DREW A SERIES
OF FLOWCHARTS OF
IMAGINATIVE PROTOCOLS,
PROCEDURES, AND
POLICIES FOR OUTLINING
A GLOBAL PARTICIPATORY
DEMOCRACY.



the "right to be forgotten" in United States, Most people in the U.S. didn't even know of such a concept at the time, but the project slowly started t reshape public conversation. So, there is a degree of impact, which may just assume the form of inspiring or changing perspective or focus.

**MM**
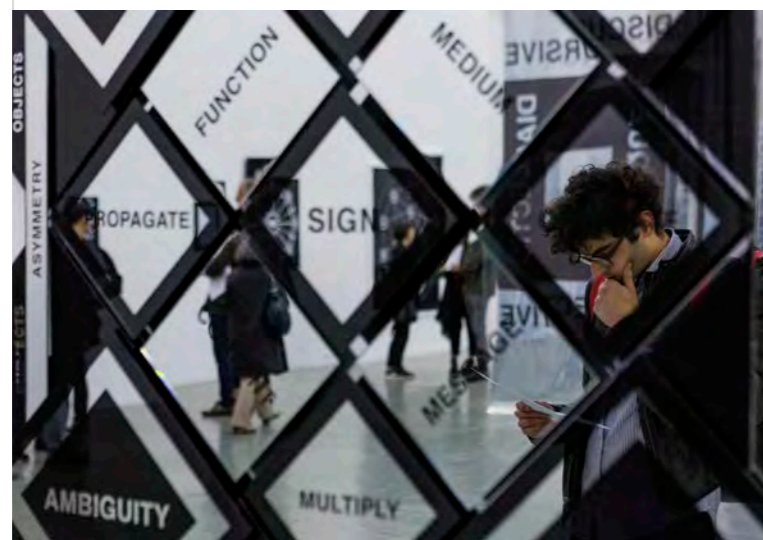*In many of your works, you question and cross the thin line of privacy. What does this mean as an artist, thief or visionary?*

**PC**
Since data is the material I use in my artistic practice, a substantial part of my art is about appropriation. There's a fine line between appropriation and embezzlement. This is almost a *Readymade*, an object assembled with data that people can see on their screen, now in a whole other context with another meaning, or presented in a different configuration. But still, differently from appropriation in *Readymade*, my process of transformation (of data) is much more sophisticated, as there are millions of records about people or companies that I have to reshape in other forms. Most of the data that I show is often public and already compromised, but because I do discuss the politics of data, I am also careful with the ethics of representing it.

I try to question myself, too, to be aware of the sensitivity of the material that I show, which sometimes presents difficult ethical decisions that I have to make. In some cases, I deliberately decide to blur the data or not to expose it at all: for instance, I do not show clear names next to a picture and I do not index data on Google. I carefully choose hot to show the information that I'm taking, to achieve specific goals, wheteher they are political, aesthetic, or performative.

**MM**
*How have you addressed the ethics of the information that you collect?*

**PC**
I have extensively been addressing the issue of ethics in my work, as it has become a contingent issue of the Internet in recent years. Somehow, it concerns the essence of the medium itself, and I find it very interesting for two reasons: First, the "aesthetics of the ethics", in other words, how ethics can produce aesthetic meaning. The second reason concerns the philosophical and political side of ethics, and how the Internet is becoming an almost philosophical dilemma. When we discuss ethics, there are difficult questions that need to be made to answer those questions.

With information technology, we constantly face the dilemma of whether to expose or not to expose information or whether to use an algorithm or any device, thus compromising the potential of that particular, powerful information or tool. And this is not going to be resolved anytime soon. Still, it's interesting that we are facing it, because the Internet emerges not only as a technological fun space where we share everything, but as a place where we have to tackle human dilemmas.

**MM**
*In 1985, director Michelangelo Antonioni argued that matter would become an impalpable idea. Is the media leading us in that direction?*

**PC**
There are material effects and out comes, literally physical things, that are affected by virtual space; I don't think there is one place that's completely virtualmente or a place that is completely physical. Rather, I think there is a hybrid environment that is constantly changing, interdependent from the two spaces. For instance, *Street Ghosts*, shows how we navigate among an urban space and what we seen screen while we use maps; in particular, here, it becomes clear to what extent a virtual map might change and have an impact on urban space. Take the Airbnb platform, and

how the places, the offerings, and the listings within a neighbor-hood, will eventually transform the neighbourhood. **This applies to other situations, like how Amazon is changing the manufactur-ing and distribution process,** how trasportation system and infra-structure are changing according to the Internet, and vice versa. We are learning that humanity can not be reduced to technology, and technology cannot replace some complex human processes, because we are still led by intricate philosophical questions. The same goes for physical reality: it can not disappear.

**MM**
*What are, in your opinion, the crucial utopias that we should aim for as society?*

**PC**
It is hard to talk about the future these days, but I can say what the crucial utopias will probably be. Perhaps a global democratic form of government, and the agency to face and solve global is-sues that are not yet tackled in the right way.This would be a sort of UN, but one that is more drastic and with more enforcing pow-ers to address those issues. Although some issues, like climate change, are tackled in some countries, it isn't enough.

Moreover, we would need a better privacy policy within the Internet: better economic agreements. Those are all the same problem and everyone is affected.

# It is hard to talk about the future these days, but I can say what the crucial utopias will probably be. Perhaps a global democratic form of government, and the agency to face and solve global issues that are not yet tackled in the right way.
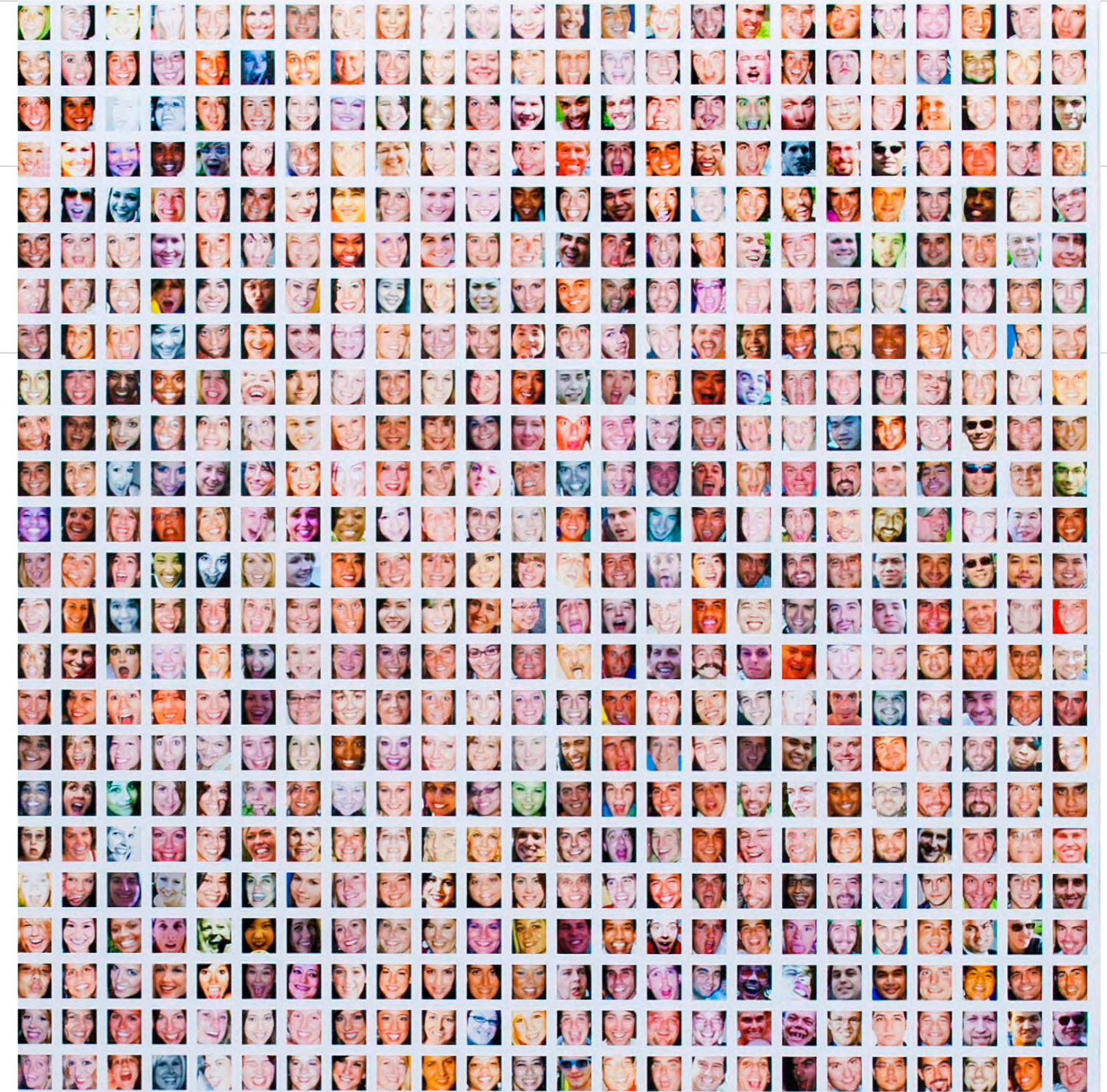


*FACE TO FACEBOOK AN ARTWORK THAT APPROPRIATED ONE MILLION FACEBOOK PROFILES AND POSTED 250.000 OF THEM ON A CUSTOM-MADE DATING WEBSITE WITH PROFILES SORTED BY SOCIAL TEMPERAMENT.*

kindle
paperwhite

when Shere Khan the tiger meets Aslan the lion

cause, why not? enough room for everyone.

# Praise of slowness

TEXT
**Carl Honoré**

PHOTOHGRAPHY
**Peter Marlow**

Carl Honoré's life is shaped by his curiosity, his love of language, and his desire to make the world better. After graduating university, he worked with children living on the street in Brazil, and then spent a decade as a journalist covering South America and Europe before switching to writing books. His first three (*In Praise of Slowness, Under Pressure and The Slow Fix*) took on our modern cult of speed. His newest, *Bolder*, takes on the cult of youth.

What I'd like to start off with is an observation, which is that if I've learned anything over the last year, it's that the supreme irony of publishing a book about slowness is that you have to go around promoting it really fast. I seem to spend most of my time these days zipping from city to city, studio to studio, interview to interview, serving up the book in really tiny bite-size chunks. Because everyone these days wants to know how to slow down, but they want to know how to slow down really quickly. So ... so I did a spot on *CNN* the other day where I actually spent more time in makeup than I did talking on air. And I think that -- that's not really surprising though, is it? Because that's kind of the world that we live in now, a world stuck in fast-forward.

A world obsessed with speed, with doing everything faster, with cramming more and more into less and less time. Every moment of the day feels like a race against the clock. To borrow a phrase from Carrie Fisher, which is in my bio there; I'll just toss it out again -- "These days even instant gratification takes too long." And if you think about how we to try to make things better, what do we do? No, we speed them up, don't we? So we used to dial; now we speed dial. We used to read; now we speed read. We used to walk; now we speed walk. And of course, we used to date and now we speed date. And even things that are by their very nature slow -- we try and speed them up too. So I was in New York recently, and I walked past a gym that had an advertisement in the window for a new course, a new evening course. And it was for, you guessed it, speed yoga. So this -- the perfect solution for time-starved professionals who want to, you know, salute the sun, but only want to give over about 20 minutes to it. I mean, these are sort of the extreme examples, and they're amusing and good to laugh at.

But there's a very serious point, and I think that in the headlong dash of daily life, we often lose sight of the damage that this roadrunner form of living does to us. We're so marinated in the culture of speed that we almost fail to notice the toll it takes on every aspect of our lives -- on our health, our diet, our work, our relationships, the environment and our community. And sometimes it takes a wake-up call, doesn't it, to alert us to the fact that we're hurrying through our lives, instead of actually living them; that we're living the fast life, instead of the good life. And I think for many people, that wake-up call takes the form of an illness. You know, a burnout, or eventually the body says, "I can't take it anymore," and throws in the towel. Or maybe a relationship goes

# HOW DID WE GET SO FAST? IS IT POSSIBLE, OR EVEN DESIRABLE, TO SLOW DOWN?

# TIME IS MONEY

up in smoke because we haven't had the time, or the patience, or the tranquility, to be with the other person, to listen to them.

And my wake-up call came when I started reading bedtime stories to my son, and I found that at the end of day, I would go into his room and I just couldn't slow down -- you know, I'd be speed reading *The Cat In The Hat*. I'd be -- you know, I'd be skipping lines here, paragraphs there, sometimes a whole page, and of course, my little boy knew the book inside out, so we would quarrel. And what should have been the most relaxing, the most intimate, the most tender moment of the day, when a dad sits down to read to his son, became instead this kind of gladiatorial battle of wills, a clash between my speed and his slowness. And this went on for some time, until I caught myself scanning a newspaper article with timesaving tips for fast people. And one of them made reference to a series of books called *The One-Minute Bedtime Story*. And I wince saying those words now, but my first reaction at the time was very different. My first reflex was to say, "Hallelujah -- what a great idea! This is exactly what I'm looking for to speed up bedtime even more." But thankfully, a light bulb went on over my head, and my next reaction was very different, and I took a step back, and I thought, "Whoa -- you know, has it really come to this? Am I really in such a hurry that I'm prepared to fob off my son with a sound byte at the end of the day?" And I put away the newspaper -- and I was getting on a plane -- and I sat there, and I did something I hadn't done for a long time -- which is I did nothing. I just thought, and I thought long and hard. And by the time I got off that plane, I'd decided I wanted to do something about it. I wanted to investigate this whole roadrunner culture, and what it was doing to me and to everyone else. And I had two questions in my head. The first was, how did we get so fast? And the second is, ==is it possible, or even desirable, to slow down?== Now, if you think about how our world got so accelerated, the usual suspects rear their heads.

You think of urbanization, consumerism, the workplace, technology. But I think if you cut through those forces, you get to what might be the deeper driver, the nub of the question, which is how we think about time itself. In other cultures, time is cyclical. It's seen as moving in great, unhurried circles. It's always renewing and refreshing itself. Whereas in the West, time is linear. It's a finite resource; it's always draining away. You either use it, or lose it. "*Time is money*," as Benjamin Franklin said. And I think what that does to us psychologically is it creates an equation. Time is scarce, so what do we do? Well -- well, we speed up, don't we? We try and do more and more with less and less time. We turn every moment of every day into a race to the finish line -- a finish line, incidentally, that we never reach, but a finish line nonetheless. And I guess that the question is, is it possible to break free from that mindset? And thankfully, the answer is yes, because what I discovered, when I began looking around, that there is a global backlash against this culture that tells us that faster is always better, and that busier is best.

Right across the world, people are doing the unthinkable: ==they're slowing down, and finding that, although conventional wisdom tells you that if you slow down, you're roadkill, the opposite turns out to be true: that by slowing down at the right moments, people find that they do everything better.== They eat better; they make love better; they exercise better; they work better; they live better. And, in this kind of cauldron of moments and places and acts of deceleration, lie what a lot of people now refer to as the "International Slow Movement."

Now I'll just give you a very quick overview of what's going on inside the *Slow Movement*. If you think about food, you've heard of the *Slow Food* movement. Started in Italy, but has spread across the world, and now has 100,000 members in 50 countries. And it's driven by a very simple and sensible message, which is that we get more pleasure and more health from our food when we cultivate, cook and consume it at a reasonable pace. I think also the explosion of the organic farming movement, and the renaissance of farmers' markets, are other illustrations of the fact that people are desperate to get away from eating and cooking and cultivating their food on an industrial timetable. They want to get back to slower rhythms. And out of the *Slow Food* movement has grown something called the *Slow Cities* movement, which has started in Italy, but has spread right across Europe and beyond. And in this, towns begin to rethink how they organize the urban landscape, so that people are encouraged to slow down and smell the roses and connect with one another. So they might curb traffic, or put in a park bench, or some green space.

And in some ways, these changes add up to more than the sum of their parts, because I think when a *Slow City* becomes officially a *Slow City*, it's kind of like a philosophical declaration. It's saying to the rest of world, and to the people in that town, that we believe that in the 21st century, slowness has a role to play. In medicine, I think a lot of people are deeply disillusioned with the kind of quick-fix mentality you find in conventional medicine. And millions of them around the world are turning to complementary and alternative forms of medicine, which tend to tap into sort of slower, gentler, more holistic forms of healing. Now, obviously the jury is out on many of these complementary therapies, and I personally doubt that the coffee enema will ever, you know, gain mainstream approval. But other treatments such as acupuncture and massage, and even just relaxation, clearly have some

## Sometimes it takes a wake-up call to alert us to the fact that we're hurrying through our lives.

kind of benefit. And blue-chip medical colleges everywhere are starting to study these things to find out how they work, and what we might learn from them. Sex. There's an awful lot of fast sex around, isn't there? I was making my way, let's say, slowly to Oxford, and I went through a newsagent, and I saw a magazine, a men's magazine, and it said on the front, "How to bring your partner to orgasm in 30 seconds." ==So, you know, even sex is on a stopwatch these days. Now, I like a quickie as much as the next person, but I think that there's an awful lot to be gained from slow sex -- from slowing down in the bedroom.== You know, you tap into that -- those deeper, sort of, psychological, emotional, spiritual currents, and you get a better orgasm with the buildup. You can get more bang for your buck, let's say. I mean, the *Pointer Sisters* said it most eloquently, didn't they, when they sang the praises of "a lover with a slow hand." Now, we all laughed at Sting a few years ago when he went Tantric, but you fast-forward a few years, and now you find couples of all ages flocking to workshops, or maybe just on their own in their own bedrooms, finding ways to put on the brakes and have better sex. And of course, in Italy where -- I mean, Italians always seem to know where to find their pleasure -- they've launched an official *Slow Sex movement*. The workplace. Right across much of the world -- North America being a notable exception -- working hours have been coming down. And Europe is an example of that, and people finding that their quality of life improves as they're working less, and also that their hourly productivity goes up. Now, clearly there are problems with the 35-hour workweek in France -- too much, too soon, too rigid. But other countries in Europe, notably the Nordic countries, are showing that it's possible to have a kick-ass economy without being a workaholic. And Norway, Sweden, Denmark and Finland now rank among the top six most competitive nations on Earth, and they work the kind of hours that would make the average American weep with envy. And if you go beyond sort

# IT'S TIME TO FIND, OR GET BACK TO THAT LOST ART OF SHIFTING GEARS.

## "SLOW" IS A DIRTY WORD IN OUR CULTURE. IT'S A BYWORD FOR "LAZY," "SLACKER," FOR BEING SOMEBODY WHO GIVES UP. IT'S ACTUALLY SYNONYMOUS WITH BEING STUPID.

of the country level, down at the micro-company level, more and more companies now are realizing that they need to allow their staff either to work fewer hours or just to unplug -- to take a lunch break, or to go sit in a quiet room, to switch off their Blackberrys and laptops, mobile phones, during the work day or on the weekend, so that they have time to recharge and for the brain to slide into that kind of creative mode of thought.

It's not just, though, these days, adults who overwork, though, is it? It's children, too. I'm 37, and my childhood ended in the mid-'80s, and I look at kids now, and I'm just amazed by the way they race around with more homework, more tutoring, more extracurriculars than we would ever have conceived of a generation ago. And some of the most heartrending emails that I get on my website are actually from adolescents hovering on the edge of burnout, pleading with me to write to their parents, to help them slow down, to help them get off this full-throttle treadmill. But thankfully, there is a backlash there in parenting as well, and you're finding that, you know, towns in the United States are now banding together and banning extracurriculars on a particular day of the month, so that people can, you know, decompress and have some family time, and slow down.

Homework is another thing. There are homework bans springing up all over the developed world in schools which had been piling on the homework for years, and now they're discovering that less can be more. So there was a case up in Scotland recently where a fee-paying, high-achieving private school banned homework for everyone under the age of 13, and the high-achieving parents freaked out and said, "What are you -- you know, our kids will fall" -- the headmaster said, "No, no, your children need to slow down at the end of the day." And just this last month, the exam results came in, and in math, science, marks went up 20 percent on average last year. And I think what's very revealing is that the elite universities, who are often cited as the reason that people drive their kids and hothouse them so much, are starting to notice the caliber of students coming to them is falling. These kids have wonderful marks; they have CVs jammed with extracurriculars, to the point that would make your eyes water. But they lack spark; they lack the ability to think creatively and think outside -- they don't know how to dream. And so what these Ivy League schools, and Oxford and Cambridge and so on, are starting to send a message to parents and students that they need to put on the brakes a little bit. And in Harvard, for instance, they send out a letter to undergraduates -- freshmen -- telling them that they'll get more out of life, and more out of Harvard, if they put on the brakes, if they do less, but give time to things, the time that things need, to enjoy them, to savor them. And even if they sometimes do nothing at all. And that letter is called -- very revealing, I think -- "*Slow Down!*" -- with an exclamation mark on the end.

So wherever you look, the message, it seems to me, is the same: that less is very often more, that slower is very often better. But that said, of course, it's not that easy to slow down, is it? I mean, you heard that I got a speeding ticket while I was researching my book on the benefits of slowness, and that's true, but that's not all of it. I was actually en route to a dinner held by *Slow Food* at the time. And if that's not shaming enough, I got that ticket in Italy. And if any of you have ever driven on an Italian highway, you'll have a pretty good idea of how fast I was going. But why is it so hard to slow down? I think there are various reasons. One is that speed is fun, you know, speed is sexy. It's all that adrenaline rush. It's hard to give it up. I think there's a kind of metaphysical dimension -- that speed becomes a way of walling ourselves off from the bigger, deeper questions. We fill our head with distraction, with busyness, so that we

don't have to ask, am I well? Am I happy? Are my children growing up right? Are politicians making good decisions on my behalf? Another reason -- although I think, perhaps, the most powerful reason -- why we find it hard to slow down is the cultural taboo that we've erected against slowing down. "*Slow*" is a dirty word in our culture. It's a byword for "*lazy*," "*slacker*," for being somebody who gives up. You know, "*he's a bit slow.*" It's actually synonymous with being stupid.

I guess what the *Slow Movement* -- the purpose of the *Slow Movement*, or its main goal, really, is to tackle that *taboo*, and to say that yes, sometimes slow is not the answer, that there is such a thing as "*bad slow.*" You know, I got stuck on the M25, which is a ring road around London, recently, and spent three-and-a-half hours there. And I can tell you, that's really *bad slow*. But the new idea, the sort of revolutionary idea, of the *Slow Movement*, is that there is such a thing as "*good slow*," too. And good slow is, you know, taking the time to eat a meal with

your family, with the TV switched off. Or taking the time to look at a problem from all angles in the office to make the best decision at work.

Or even simply just taking the time to slow down and savor your life. Now, one of the things that I found most uplifting about all of this stuff that's happened around the book since it came out, is the reaction to it. And I knew that when my book on slowness came out, it would be welcomed by the *New Age* brigade, but it's also been taken up, with great gusto, by the corporate world -- you know, business press, but also big companies and leadership organizations.

Because people at the top of the chain, people like you, I think, are starting to realize that there's too much speed in the system, there's too much busyness, and it's time to find, or get back to that lost art of shifting gears. Another encouraging sign, I think, is that it's not just in the developed world that this idea's been taken up. In the developing world, in countries that are on the verge of making that leap into first world status -- China, Brazil, Thailand, Poland, and so on -- these countries have embraced the idea of the *Slow Movement*, many people in them, and there's a debate going on in their media, on the streets. Because I think they're looking at the West, and they're saying, "Well, we like that aspect of what you've got, but we're not so sure about that." So all of that said, is it, I guess, is it possible? That's really the main question before us today. Is it possible to slow down? And I'm happy to be able to say to you that the answer is a resounding yes. And I present myself as Exhibit A, a kind of reformed and rehabilitated speed-aholic.

I still love speed. You know, I live in London, and I work as a journalist, and I enjoy the buzz and the busyness, and the adrenaline rush that comes from both of those things. I play squash and ice hockey, two very fast sports, and I wouldn't give

## That they'll get more out of life, and more out of Harvard, if they put on the brakes, if they do less, but give time to things, the time that things need, to enjoy them, to savor them.

I NO LONGER HEAR TIME'S WINGED CHARIOT DRAWING NEAR, OR AT LEAST NOT AS MUCH AS I DID BEFORE. I CAN ACTUALLY HEAR IT NOW, BECAUSE I SEE MY TIME IS TICKING OFF. AND THE UPSHOT OF ALL OF THAT IS THAT I ACTUALLY FEEL A LOT HAPPIER, HEALTHIER, MORE PRODUCTIVE THAN I EVER HAVE.

them up for the world. But I've also, over the last year or so, got in touch with my inner tortoise. And what that means is that I no longer overload myself gratuitously. My default mode is no longer to be a rush-aholic. I no longer hear time's winged chariot drawing near, or at least not as much as I did before. I can actually hear it now, because I see my time is ticking off. And the upshot of all of that is that I actually feel a lot happier, healthier, more productive than I ever have. I feel like I'm living my life rather than actually just racing through it. And perhaps, the most important measure of the success of this is that I feel that my relationships are a lot deeper, richer, stronger. And for me, I guess, the litmus test for whether this would work, and what it would mean, was always going to be bedtime stories, because that's sort of where the journey began. And there too the news is rosy. You know, at the end of the day, I go into my son's room. I don't wear a watch. I switch off my computer, so I can't hear the email pinging into the basket, and I just slow down to his pace and we read. And because children have their own tempo and internal clock, they don't do quality time, where you schedule 10 minutes for them to open up to you. They need you to move at their rhythm. I find that 10 minutes into a story, you know, my son will suddenly say, "You know, something happened in the playground today that really bothered me." And we'll go off and have a conversation on that. And I now find that bedtime stories used to be a box on my to-do list, something that I dreaded, because it was so slow and I had to get through it quickly. It's become my reward at the end of the day, something I really cherish. A few months ago, I was getting ready to go on another book tour, and I had my bags packed. I was downstairs by the front door, and I was waiting for a taxi, and my son came down the stairs and he'd made a card for me. And he was carrying it. He'd gone and stapled two cards, very like these, together, and put a sticker of his favorite character, *Tintin*, on the front. And he said to me, or he handed this to me, and I read it, and it said, "To Daddy, love Benjamin." And I thought, "Aw, that's really sweet. Is that a good luck on the book tour card?" And he said, "No, no, no, Daddy -- this is a card for being the best story reader in the world." And I thought, "Yeah, you know, this slowing down thing really does work."

I feel like I'm living my life rather than actually just racing through it.
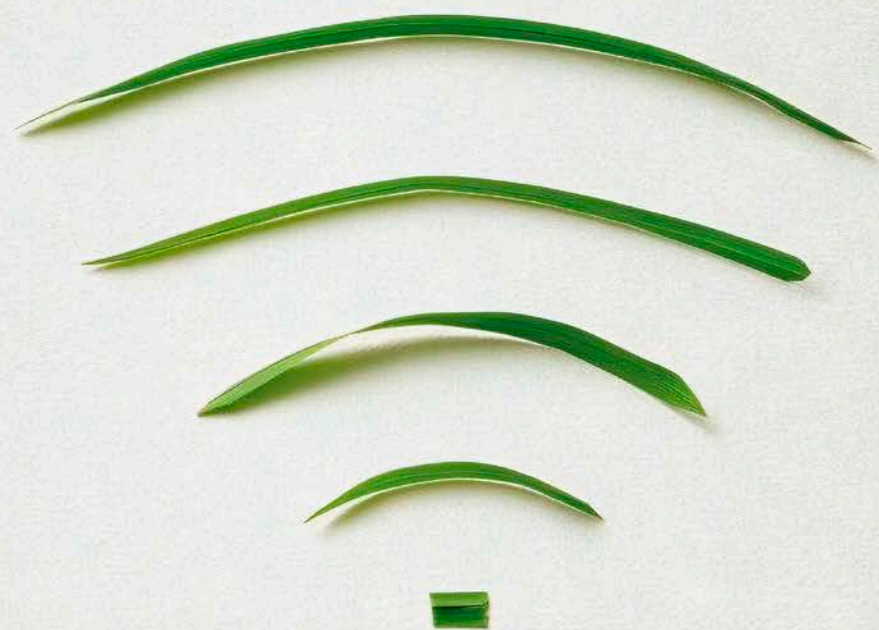
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