

ISSUE

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DISCOVERING ART, SCIENCE AND TECHNOLOGY

TRUTH

THECUBE invited artists, researchers, technologists, professionals working with and/or researching within the theme of 'TRUTH' to submit work for this issue of our tri-annual magazine. We hoped to tackle this broad theme from an interdisciplinary platform focusing on Art, Science, Technology, and Design.

'Post-truth' is a term that has been thrown around a lot since Brexit and the election of Trump in the US, and while it is hyperbolic and alarmist to some extent, there is also some grain of truth (so to speak) to it. It is in reference to a specific phenomenon of the contortion of reality through the lens of mainstream and social media. Due to the notion's current prominence in cultural, political, social, and scientific discourse, we thought it appropriate to examine the concept of 'truth' itself. It is important that we re-explore, redefine and re-examine our conception and the nature of it, and how it translates in the midst of a global network.

Truth, to a large extent has come to be defined in a relative fashion, rather than absolute. While it can be argued that this has largely been the case throughout history, we are growing more and more aware of it. Social media bubbles are created by algorithms that are designed to please, and in turn end up keeping us unaware of the outside to our echo chambers, where we regurgitate the same opinions as people on our friend lists. And through Google's automatic personalisation as per searches by individuals, the search engine is constantly learning our opinions and interests and further narrowing down our view of reality. The ways in which we interact with information has changed, along with our consumption habits in relation to news. The matter of perception is interesting in how we structure our own realities, and we have curated the magazine to address these issues through an interdisciplinary approach.

The West's collective consciousness has changed to a large extent in the last twenty years due to speeding technological advances. And while we continue to move forward towards the abstract and often side-lining notion of 'progress', we find it important to take a step back and re-examine, in the age of speed. Our contributors have tackled the topic through a critical and creative lens, exploring current research and re-examining what we already know.

Thank you for reading!

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The Architecture of Truth

By Mark Bessoudo



Images by Mark Bessoudo

Misinformation can now be spread effortlessly through the echo chambers of social media at an unprecedented scale and velocity. No matter how postmodern these assaults on public facts may seem, they are, in fact, nothing new. The “post-truth” narratives and the construction of alternative realities are merely a reflection of a much deeper and more systemic problem, one that did not originate in the twenty-first century.

The problem is one of human cognition. We have a tendency to exhibit numerous biases, fallacies, and illusions -- the very lifeblood of post-truth narratives. These behavioural and cognitive errors aren't flaws in the system; rather, they arise as a result of being built into the very cognitive machinery that allows us to think. So while problematic post-truth narratives may appear to be imposed on us from outside or above, they are actually more of a collective manifestation of our default cognitive set point.

The reason why misinformation is able to thrive in the twenty-first century, therefore, is the same reason why it has thrived for centuries: it takes time and persistence to overcome our inherent cognitive and behavioural errors, and most people, understandably, do not have the luxury nor the interest to put in the effort required.

In the wake of various recent world events that have exemplified the extent to which blatant misinformation can have real-world consequences, many have placed blame on the technology companies that served as conduit for the misinformation to be proliferated. And while these companies do have a certain responsibility for safeguarding against malicious cyber-attacks, they cannot realistically be expected to safeguard us from ourselves.

So, if we want a better democracy with well-informed citizens, the algorithm for detecting misinformation can't merely be outsourced. We still need to rely on the trustworthiness of experts, of course, but we also need to rely on the algorithms that reside inside our own minds. Behavioural and cognitive errors may be

features of our brains, but so is the capacity to overcome them.

There is perhaps no compendium more effective at conveying this phenomenon than the 2013 book, *The Art of Thinking Clearly* by the Swiss writer Rolf Dobelli. The book succinctly illustrates ninety-nine of the most common errors that plague us, both individually and collectively as a society. With enlightening chapter titles like ‘If Fifty Million People Say Something Foolish, It Is Still Foolish: Social Proof’, ‘Beware the ‘Special Case’: ‘Confirmation Bias’, ‘Don’t Bow to Authority: Authority Bias’, and ‘Why We Prefer a Wrong Map to None at All: Availability Bias’, it’s no wonder that this book could serve as the recipe for combatting the biases that contribute to the proliferation of post-truth narratives.¹

Rarely are we formally taught how best to overcome our intrinsic cognitive errors, let alone acknowledge that they exist. This is what makes Dobelli’s book so notable, particularly for something as vital for the functioning of a healthy democracy with informed citizens. The alternative - ignorance - ultimately leads down the path of least resistance, surrendering to the allure of groupthink and identity politics, and culminating in post-truth alternative realities that exist on both sides of the political spectrum. This inability (or refusal) of ours to reason honestly is no longer just a personal or individual problem – it has become a social problem for the entire world.

Sheila Jasanoff, professor of science and technology studies at the Harvard Kennedy School of Government, provides a remedy: “To address the current retreat from reason—and indeed to restore confidence that ‘facts’ and ‘truth’ can be reclaimed in the public sphere—we need a discourse less crude than the stark binaries of good/bad, true/false, or science/anti-science.”²

What’s needed, in other words, is a culture that values intellectual honesty and demands it from our leaders, ourselves, and each other. Intellectual honesty is both an awareness of one’s own limits of knowledge coupled

with an openness to accept new ideas based on honest reasoning, careful observation, and logical consistency, irrespective of in-group/out-group loyalties. According to the philosopher and neuroscientist Sam Harris, it is what “allows us to stand outside ourselves and to think in ways that others can (and should) find compelling. It rests on the understanding that *wanting* something to be true isn’t a reason to believe that it is true.”³

In the pursuit of truth, intellectual honesty should be the principle that trumps all others; it is the value that produces (and maintains) real knowledge. While certainly important, facts, in and of themselves, are not as important as the process by which they are gathered, debated, and agreed upon. Intellectual honesty, Harris argues, is what makes real knowledge possible. If truth is a structure, then intellectual honesty is the architecture.

According to Jasanoff, public truths in democratic societies “are precious collective achievements, arrived at just as good laws are, through slow sifting of alternative interpretations based on careful observation and argument and painstaking deliberation among trustworthy experts.” Furthermore, the durability of public facts “depends not on nature alone but on the procedural values of fairness, transparency, criticism, and appeal in the fact-finding process” -- the very virtues that are built into the ethos of science.

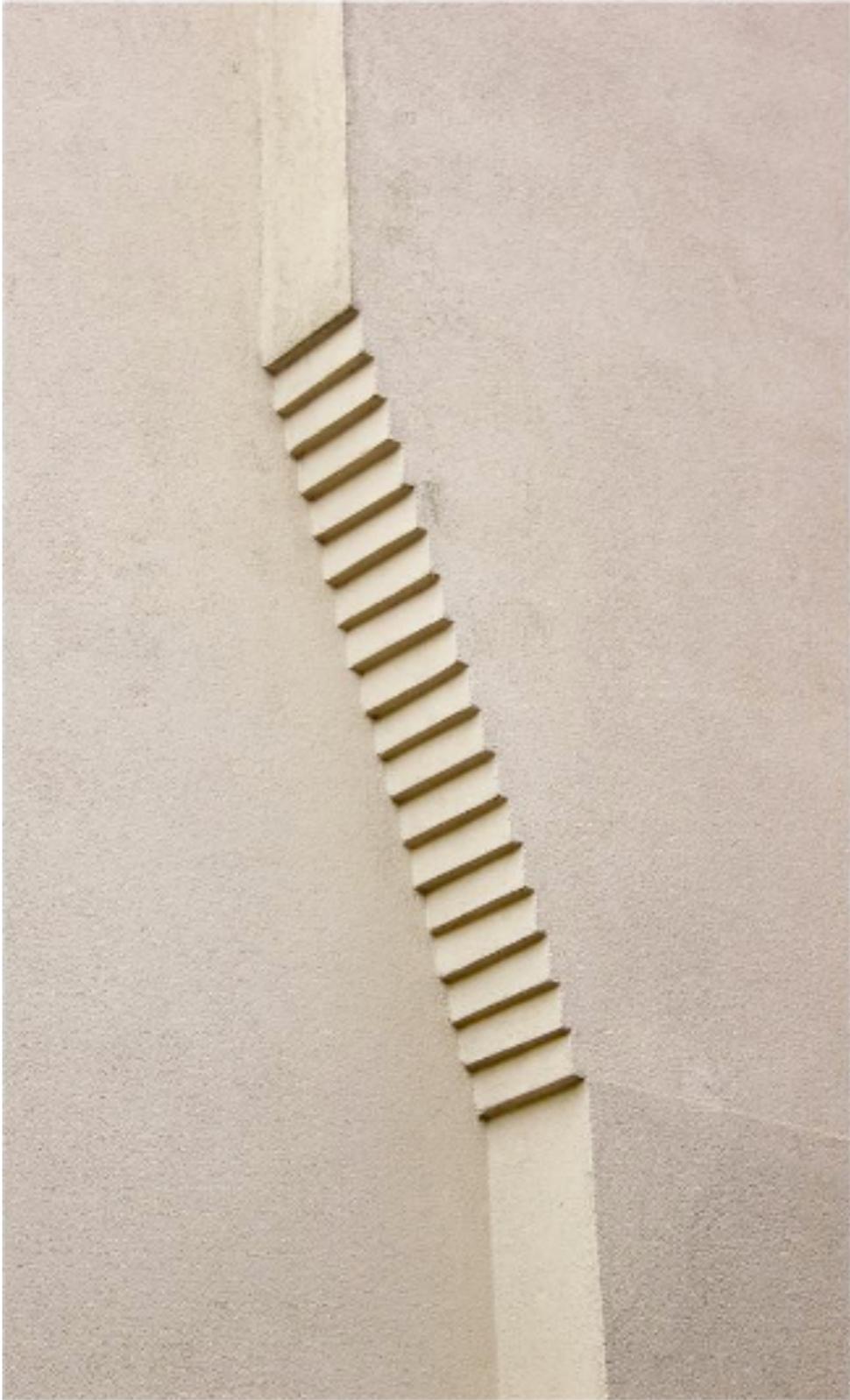
Harris would probably agree: “The core of science is not controlled experiment or mathematical modelling; it is intellectual honesty.” For, when considering whether or not something is true, “one is either engaged in an honest appraisal of the evidence and logical arguments, or one isn’t.”⁴ Merely admitting this has the potential to transform the way we think about truth in the public sphere.

In a society that fosters a culture of intellectual honesty, factual disagreements will still exist, but they

would retreat into the background. For, as Jasanoff concludes, even if factual disagreements in such a society are not resolved to everyone’s satisfaction, “the possibility remains open that one can return some other day, with more persuasive data, and hope the wheel of knowledge will turn in synchrony with the arc of justice.”

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OPTIMISED

FOR

FAKE

NEWS

By Benjamin Byford

Images by Andre Gunawan, Tech in Asia





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SHARE THIS!

FAKE NEWS, IN THIS INSTANCE, IS A RECENT TERM COINED TO EXPLAIN MISLEADING OR WHOLLY FABRICATED WEBSITE ARTICLES. THE ARTICLES ARE SHARED ON SOCIAL MEDIA TO GARNER MISDIRECTION OR MISTRUST FOR THE ARTICLE'S SUBJECT. THEY CAN BE POLITICAL, BUT ALWAYS THEY ARE JUST TEETERING BEYOND A LINE OF PLAUSIBILITY. HOWEVER FOR THE ARTICLE, THESES WEBSITES ARE MOSTLY CREATED TO LEVERAGE CLICKS TO GENERATE INCOME BASED ON LIES DRESSED ¹⁰ UP AS TRUTHS.



In 1994 advertising online went mainstream; Pandora's Box opened. Previously, the ARPANET begot the Internet and on top the World Wide Web was conceived - a set of technologies for accessing and displaying scientific documents. Or that was its original purpose. The World Wide Web, more commonly known now as simply: the web, was host to message boards, links to digital chat rooms, counter-cultures of all kinds; a new type of freedom privileged by those who had limited access, yet created openly for everyone. During the early '90s, industry got on board with both the Internet and the Web, turning a limited resource into a paid-for abundance. The Dotcom Bubble companies came of age after online advertising had been established leaving them to grapple with new kinds of financial models. However, many revenue streams fell to the wayside leaving mostly Ad supported models for most.

Away from commercial interests, some new websites were being made in the spirit of the Web. I can remember being told not to use references from Wikipedia in essays during my education. But what to use then? I had just been given access to a Pantheon of information on the Web and was told it can't be trusted. The peer-review process that the scientific community hinges on grew an unwanted child on the Web: Wiki. Like open-source software, many hands (and eyes) make light work. Many many eyes, make software, who have created the most used operating systems, web servers and browsers; and who continue to compile summaries and references to the world's knowledge cross-referenced and reviewed. This was happening openly and free for the interests of society, or those with internet connections.

At the same time children were growing up with the Web of abundant communication, with instant messaging, instant shopping and instant knowledge.

From MSN Messenger to Snapchat a whole generation was becoming comfortable with technology as consumption and consuming more and more. Today we read news, updates from friends, create videos, and post our own truths. We are all creators, content producers, prosumers and consumers, continuously paying an unadvertised price through our habits, words, clicks and ultimately our wallets. We are linking, sharing and liking without a second glance, opinion, critique. Coming of age with the Web of today we are blind to our footprint, and ignorant to our news sources.

While the Web was becoming social, adverts were being democratised. Anyone could add Google Adwords to their site and earn big by driving more and more traffic to that site. Predictably, sites morphed or were created with this in mind. Websites like the Mail Online, BuzzFeed and others lead to the coining of the term 'clickbait': eye-catching, candy-coated, persuasive headlines designed to entice us, the data excretors, the creators, the shoppers to click. Those clicks take us beyond in a flash to the land of smart banner ads fuelling content created for our sensation, to entertain, to entrap. However, billboard ads on the Web were just as static, and untargeted as roadside ads, and users started to get wise.

Many websites (or indeed services as they started to transcend mere information portals) in the post commerce Web were relying more and more on advertising as their only stream of revenue; online billboards had taken over but they weren't "smart" in the new world of personal data, so they had to develop - and quickly. Adverts had to learn about us, who we are, what we like, where we go, who we talk to. Fortunately, we were all starting to carry around mobile tracking devices and pool our personal information and interactions into fewer and fewer silos. This was a boom period for those silos but with every innovation within the online ad space comes a downward trend with more user literacy drying up clicks, purchases, eyeballs. This lead to the services changing your socialising online to look closer and closer to advert posts themselves. Is that a news link, a

purchase recommendation, a new restaurant? Each look similar, but crucially they could be posts from friends or “promoted”, there is little difference. When everything is an ad it becomes hard to see the flowers from the weeds.

Socially we have our tribes, we are plagued by confirmation bias, and are elated by our dopamine diet of likes, shares, posts and selfies. Our technology is optimised to track our data deluge and package us into neat advertisable boxes; it's a system prioritising the tertiary information of the advert rather than the content or consumer. Is it any wonder that the news online isn't always the truth?



TRUTH HAS DATA



By Sukanya Deb

Image by Thomas Kvistholt

With the advent of machinic decision-making in the world and our lives, whether it's through self-driving cars or artificial intelligence, it is important to investigate the connotations of such. The statement 'truth as data' connotes a machinic worldview that is free from subjectivity and human error and is presented as the ultimate form of empiricism or objectivity. But how valid is this claim? Do biases exist within algorithms? Deep learning technologies through artificial neural networks suggest a certain opacity at this moment in time as it is not known how most advanced algorithms work. At the core of this issue, lies the question - how do machines make decisions, can we rely on these decisions, and what are their consequences?

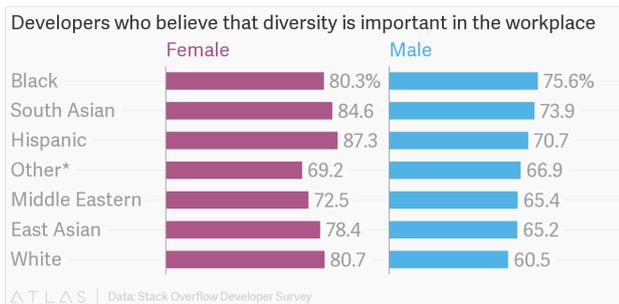
These were the questions set up to address for the 'Truth as Data' discussion that was held on 28th June, 2017 at THECUBE. We were joined by Prof. Peter Latham (UCL), Dr. Edgar Whitley (LSE) and Dr. Sara Marino (KCL). Sara uses and interprets digital media data for her research, Peter focuses on understanding how biologically realistic networks carry out computations, and Edgar has previously written on digital identities and biometrics amongst much else.

Artificial intelligence can be understood simply as machines being taught to mimic human cognitive processes, including speech recognition, facial recognition, associative "thinking", logical deduction based on data provided etc.¹ The discussion at hand started with defining 'truth' through a discussion challenging the idea that there is in fact a singular truth that is within reach through the study of data. It can be argued that objective truth only lies in Mathematics, but how is that relevant to the world that we perceive and the reality we judge, and how to translate that into our daily lives? Subjectivity plays a large role, and often what is thought as objective is merely representative of a certain hierarchy at play within society and what we understand as 'objective' as being highly hegemonic and reductive of non-conforming truths. This raises the question - who gets to decide what is beneficial for society at large and the

way technology is employed in the future, along with the specific calibrations of technologies?

Through the discussion there were multiple definitions of truth that we encountered, including cumulative truth through vast quantities of data which represents an abstract reality where truth can be interpreted through data (and this can be compared to how evidence is gathered in any criminal investigation), the key being the quantity. On its own data can be seen as raw material, that needs to be activated in order to be of any practical use to us. With the accumulation of digital data we acquire networked information through the use of datasets, which can be argued to be limiting in some respects, though its capacity for usefulness should not be underestimated either.² Another definition of truth that we encountered through the discussion is multiple truths through subjectivity that overlap to form one ultimate truth. This is something that the Frankfurt school philosopher Walter Benjamin has theorised in his work.³ Rather than fully establishing a singular notion of truth, we explored the nature(s) of truth that we encounter.

Looking at technology it is a natural or perhaps, arguably, learned assumption that the cold, removed nature of technology is separate from human subjectivity, but it is important to challenge these notions of positivist thought. There are important questions to address as technology today takes larger prominence in our lives than ever before, and slowly we are handing over a measure of control to intelligent machines such as in the case of self-driving cars and the production, dissemination, and networking of information. Through networking data, it is provided with context and meaning. One of the primary concerns in this topic is the notion of technology as novelty and how that detracts from dealing with larger societal problems that are replicated in technology. The idea of equality being inherent in technology and the internet being largely based on ideas of machinic objectivity to form a democratised space is misleading at the least, when it is in fact human beings with unconscious biases that are training algorithms and datasets.

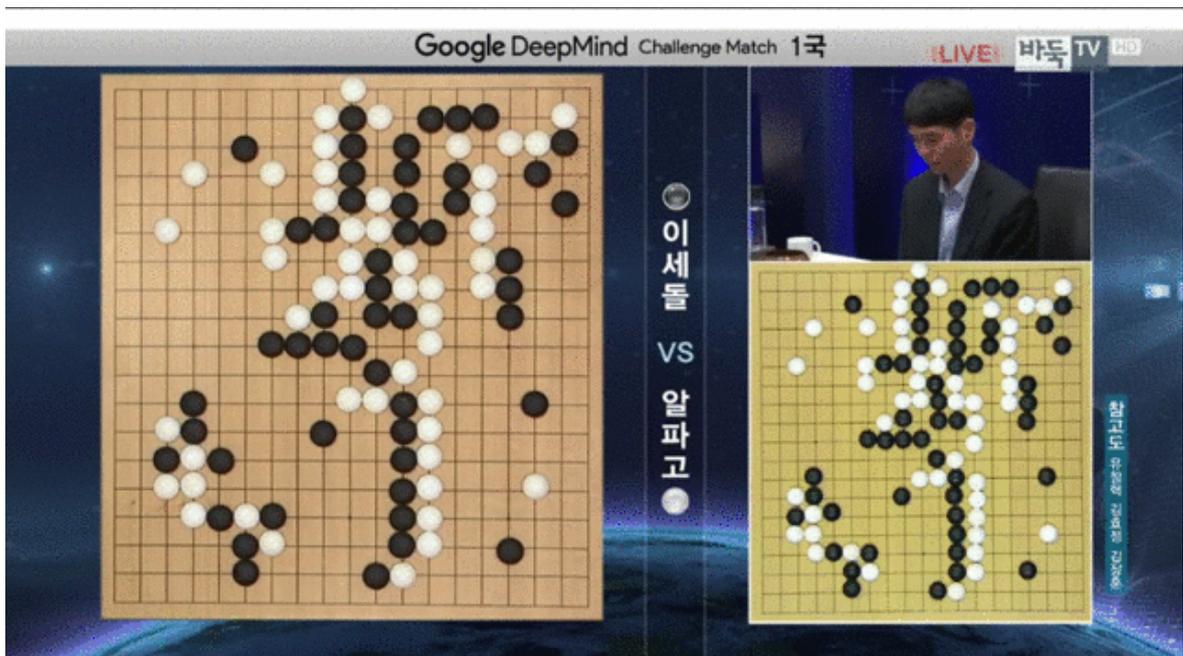


Looking at statistics of the technology industry, it is seen that in 2017, 85.5% engineers are male in the US, and an overwhelming majority of them being white.⁴ It is illogical to assume that this small subsection of society will be able to accurately represent the entire human race, especially when they enjoy a certain position of power within society. And this connotes graver problems when algorithms are used to determine whether or not someone is viable for a car loan, for example, or in the case of predictive policing, both being largely authorised in the US.⁵ There is statistical evidence that minorities, i.e. underrepresented parts of society are disproportionately targeted in cases like these. The importance of representative sampling and sample size through various demographics cannot be stressed enough. This is a big reason why assuming technology to be neutral is dangerous as it is then put on a pedestal and it becomes difficult to question due to the importance and vitality we allow it to assume. It has become crucial to incorporate changes that are more representative of society.

We are at a point in technological progress, namely through the use of deep learning or artificial neural networks, where we can't see the reasoning behind specific functions that the machines make. Deep learning incorporates learning data outcomes rather than task specific ones, in order to allow the machine to form its own internal logic, and contains more than one hidden layer, often multiple. They replicate biological neural networks, but the problem that arises is that scientists and programmers don't understand why it is, specifically, that the machines are making the decisions that they are, due to the hidden or invisible layers present.⁶ And while deep learning has allowed for a new site of research that is currently thriving, it leaves us with ethical questions of whether we actually **do** want machinic decision-making to gain further prominence and whether we can rely on these deep learning systems - does this represent a further internalisation by the machines of biases that already exist within society, to a point where it becomes inextricable?

It can also be argued that it is important to prioritise problems, and instead of trying to understand and replicate the chaotic nature of human beings, perhaps we should be working in synthesis with machines to solve larger and more prescient issues that we face as a collective society today. It is important to understand the “thought processes” of these deep learning systems in order to determine the fairness and accuracy of judgment on the machine’s part. An interesting example of using machine-specific intelligence to challenge learned human intelligence was with IBM Watson, the artificial intelligence program that interprets vast amounts of data to answer questions. It was fed vast amounts of data about recipes and an understanding of the human tongue, and how chemicals are processed, and what constitutes of flavours, and it ended up constructing recipes that a person would deem to be strange combinations. However they ended up being functional, well-received recipes.⁷

Another example is Google playing Go and finding how techniques of tackling the complicated game, moves that people considered to be outright bad moves, until they saw that it played the game more efficiently. This has opened a new chapter for the game.⁸



It is particularly interesting to take facial recognition into account as it is a technology that is wielded in high security situations like passport control, as well as lower forms of defining identity, for example, in Facebook's tagging mechanism. Algorithms are programmed to chop up datasets in order to "recognise" facial features, and in doing so there is a simplification of the complexity of gender. And so they are often programmed to recognise long hair as female and short hair as male, which ends up reducing identity to simplifications. It has been found that often facial recognition technologies in various parts of the world are unable to detect facial features properly when there is a different skin tone presented to the machine.⁹ This reflects a problem with calibration rather than an inherent racial bias in the system, however, it does disproportionately affect minorities. The idea of capture and control through attributing certain qualities of violence to minorities has been explored in Keith Piper's video installation *Tagging the Other*, and comprised of a good deal of his practice.

Machines have a much higher rate of accuracy than human beings in recognising faces - however, the technology is unable to detect discrepancies that a human being would naturally disregard or overlook.

These interferences or obstructions often weaponised are termed as adversarial images. For example, it was found that machines often cluster objects within images together as it views it along the same two-dimensional plane. Machine learning of image and facial recognition takes place through the annotation of images and finding commonalities between the images tagged as same, through repositories of information. And through this aggregation, there is a computer "image" formed of approximations of images. And because of this it becomes easy to fool a machine.¹⁰

An important point that was discussed was the dangerous idea of inevitability in terms of progress, especially when looking at technology. The problems that currently exist within technology must be worked on in the present rather than looking to the abstract Future. Taking an example, George W. Bush took away funding for stem cell research, while Obama brought it back, and it is now likely that President Trump will reduce funding or scrap it altogether. Policymaking plays an extremely important role towards the future of research. It can hardly be said that data is the end of the story, and instead it is merely information that we gather and it is up to us to examine it and put it to use.



Keith Piper, *Tagging the Other*, mixed media installation with four video monitors and slide projection. First exhibited January 1992 Impressions Gallery, York. (image above) Installation at Nederlands Foto Instituut, Rotterdam, Holland. March-April 1994

While there has been a change in the quantities of data that we collect now, compared to the past, we still portray the same attitude towards data and often use to fit our worldviews instead of studying it to seek what is really true. This is often true in the case of the criminal justice system and how we use this to further legitimise our standpoints regarding minorities and underrepresented groups of people. We still seek predictability but we look for it on our terms. Often it becomes a point of concern that the money is ruling the research and serving individual or corporations' desires rather than addressing gaps in societal progress that can be addressed through technological advances, or symbiotic problem-solving. Instead of seeing technology as a solution, it should be used as a tool to develop a democratisation of information and representation.

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FAKE TRUTH,

REAL ART

By Luba Elliott

Images by Mario Klingemann, Jack Elwes, Terrence Broad, Christina Ruggeri

THE WAVE OF CLICKBAIT HEADLINES, FACTUALLY INCORRECT STORIES AND MISLEADING NARRATIVES SWEEP ACROSS OUR SCREENS WITH RENEWED FORCE IN THIS PAST YEAR OF GENERAL ELECTIONS AND REFERENDUMS. THIS SO-CALLED PHENOMENON OF FAKE NEWS MAY HAVE BEEN COINED RECENTLY, BUT THE LIES AND PROPAGANDA BEHIND IT HAVE EXISTED THROUGHOUT HUMAN HISTORY WITH STALEMATES DISGUISED AS VICTORIES¹ AND FALSE RUMOURS SPREAD ABOUT GROUPS AND INDIVIDUALS FOR POLITICAL GAIN². THESE DAYS, FAKE NEWS HAS BECOME UBIQUITOUS AND ALL THE MORE POWERFUL THANKS TO OUR CONSTANT RELIANCE ON SOCIAL MEDIA AND THE ALGORITHMS THAT GOVERN THEM, FEEDING US MORE OF WHAT WE WANT TO SEE IRRESPECTIVE OF ITS VALUE.

Given the recent advances in machine learning, we can only expect the distinction between truth, fiction – and fake news – to become even blurrier. Face capture and re-enactment technologies enable us to manipulate faces³, voice generation tools imitate speech⁴ and generative models bring our favourite TV characters back to life.⁵ These technologies are advancing at a rapid rate and will soon be commercially available, in the hands of anyone.

Artists have started to embrace machine learning in their practice, experimenting with the latest algorithms and manipulating existing media to test the limits of the technology. In his work *Alternative Face v 1.1*, Mario Klingemann has Donald Trump’s counsellor Kellyanne Conway speak about “alternative facts” through the face of the French singer Françoise Hardy, questioning the extent to which we can trust what we see. Jake Elwes’s *Dadada Ta* reduces the interviews of tech company executives to the language of numbers only, making their focus on money, technology and capitalism apparent. Neither has fictional media remained untouched, with the artists Terence Broad and Ben Bogart applying machine learning techniques to the film *Blade Runner* to demonstrate how well a machine can remember and reconstruct the film. Quite well it turns out – the platform hosting Terence Broad’s *Autoencoding Blade Runner* received a takedown notice from Warner Bros, normally given out to illegally uploaded copies of the film.⁶

As more and more artists became enamoured with the potential of these technologies and create art that is difficult to distinguish from fake news, must they be held accountable? The role of artists and their responsibility to society can hardly be universally agreed on. Looking at art as imitation, Plato saw its social function as potentially dangerous⁷ in contrast to Aristotle, who considered it part of human nature and praised the healing aspects of tragedy.⁸ More recently, the critic Howard Richards called for “artistic integrity” in his 1966 article on *The Social Responsibility of the Artist*, which “requires commitment

to some standard of excellence other than public applause”⁹, while Theodor Adorno argued for the autonomy of art from social function.¹⁰



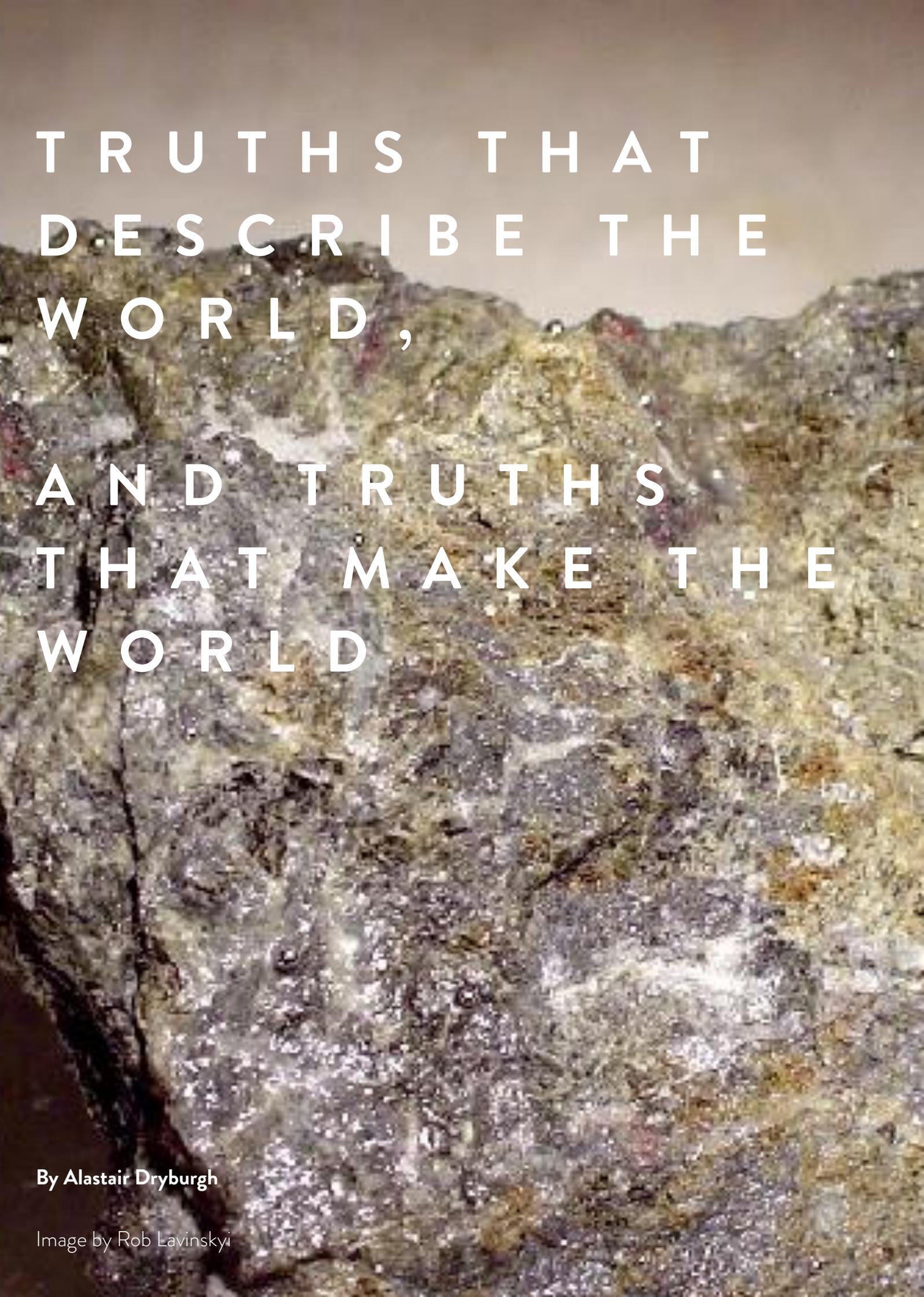
Top: Screenshot from *Alternative Face v1.1* by Mario Klingemann, 2017
Middle: Screenshots from *Dadada Ta* by Jake Elwes, 2017
Bottom: Screenshot from *Autoencoding Blade Runner* by Terence Broad, 2016

With its breadth of approach, diversity of thematic content and ever-increasing reach, contemporary art presents additional challenges in framing artistic freedom and responsibility. Characterised by the absence of a uniform governing principle, the art world gives artists free reign regarding their choice of format, medium and technique. The subject is arguably another matter. Sexually explicit, politically or racially sensitive work means that artists such as Ai Weiwei, Pussy Riot and Dana Schutz have been met with calls for censorship. Others such as Alison Jackson have struggled to find publishers for their satirical photography involving celebrity look-alikes portraying Trump, Kim Kardashian or members of the Royal family, fearing legal action¹¹. Meanwhile, Cristina Guggeri's series *Il Dovere Quotidiano* depicts world leaders sitting on the loo in an alternative interpretation of "the daily duty" garnered more curiosity than disdain.¹² This series of staged portraits of powerful people is so mundane that no viewer could seriously accept them as real.

In the end, it may well be the artistic intent, execution and admission that separate art from fake news. The artist Zardulu, known for her hoaxes such as the video of a New York rat carrying a pizza, clarified the difference between art and fake news as being "the intention and the consequence. That's how we judge everything else".¹³ The potential consequences of a rat's plight downstairs with pizza turning out to be fake may be a disappointment at worst, the case with known personalities engaging in believable false narratives is another story. For now, the light-hearted play with images of the Trump, the Queen or a dead French singer may be harmless. As machine learning for creating fake speech and video becomes more advanced and accessible, artists will need to pay close attention to ensure their integrity is not compromised, be it wittingly or unwittingly.

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TRUTHS THAT
DESCRIBE THE
WORLD,

AND TRUTHS
THAT MAKE THE
WORLD

By Alastair Dryburgh

Image by Rob Lavinskyi

Consider the following statement: "There is only one metal which is a liquid at room temperature, and it is mercury." And now consider this one: "There is no God but God, and Mohammed is His messenger."

These statements have a very similar grammatical form, but they are completely different in nature. The first is a statement of fact and, once we have agreed on the definition of "metal", we can easily verify whether it is true or false. The second could be interpreted as a statement of fact, but for the believer who utters it, it serves a very different purpose. It is not saying something about the world, but doing something in the world. It is an act of allegiance; in uttering it you are signing up to a religion, a code of behaviour and ethics, aligning yourself with a specific group of people.

Now consider a third statement: "Barack Obama was not born in the US." What sort of thing is this? On the one hand, it is a factual statement similar to the one about mercury, one which can be resolved by examining evidence (a birth certificate, hospital records). Yet, many people who made this assertion maintained their position in the face of whatever evidence was produced to the contrary. The reason that the birthplace controversy was so heated and long-lasting was that the two sides, although supporting or opposing the same statement, were doing completely different things. Those maintaining that Obama was born in the US were speaking factually. Those maintaining that he was not, were not deluded; their meaning was "I am opposed to Obama," or even "He does not represent my view of what an American should be." It was a pejorative view.

It is the difference between a statement about the world, and an expression of how the speaker thinks the world should be, or what they think about the world.

Once you start looking, these confusions are everywhere. For example, venture capitalist Marc Andreessen argued in 2014 that "for people who aren't deep into math and science and technology, it is going to get far harder to understand the world going forward."¹ Really? The world is quite hard to understand at present - Brexit, Trump, North Korea, the Middle East - but it's not clear that studying maths or technology is going to help anyone make sense of it. What Andreessen is really saying is "I am deep into Maths and Science and technology and think those disciplines are the only ones that matter." The danger is that Andreessen is a very successful person in Silicon Valley, which creates the risk of his statements being taken as statements of fact rather than as statements of allegiance (techies vs. woolly humanities graduates).

And that is just the start. I could argue that the whole discipline of Economics suffers from the same problem, but that is a much longer story...

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C H A N G I N G _ _ _ _

T H I N G S : _ _ _ _ S C

C E _ _ _ _ I N _ _ _ _

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By Stephen Bennett

Images by Stephen Bennett

JORGE LUIS BORGES' ESSAY *TLÖN, UQBAR, ORBIS TERTIUS*, BEGINS WITH THE DISAPPEARANCE OF THE LAND OF UQBAR FROM THE 1917 ANGLO-AMERICAN CYCLOPEDIA.

THE ENTRY IN THE ENCYCLOPAEDIA IS RECALLED FOR A MEMORABLE OBSERVATION BY THE HERESIARCHS OF UQBAR ('MIRRORS AND COPULATION ARE ABOMINABLE BECAUSE THEY INCREASE THE NUMBERS OF MEN'), YET WHEN A COPY OF THE SAME ENCYCLOPAEDIA IS LOCATED, THERE IS NO ENTRY SANDWICHED BETWEEN 'UPSALA' AND 'URAL-ALTAIC LANGUAGES'.

This essay also starts with a mystery, more modern and less glamorous. Whilst writing a website blog on an art project run in collaboration with CERN particle collider in Geneva, spellchecker picked up the word ‘miniscule’, as used in the following sentence “*the current laws of physics (the Standard Model) break down in situations where immense masses exist in miniscule spaces*”.

After a more fruitful search than that managed by Borges, an explanation is found on the ever-useful Oxford Living Dictionaries site. The word is spelled ‘minuscule’ and is derived from the Latin word *miniscula (littera)* meaning ‘somewhat smaller (letter)’. However, people naturally associate the word with ‘mini’, and hence it is often spelled miniscule – in around 52% of total use of the word, including chatrooms or, indeed, unedited personal blogs. The author concludes that ‘the adjective minuscule is a good example of a word whose spelling is changing’.

Seeing something so fundamental as a word change before our very eyes is perhaps more noteworthy than usual in this time of alternative facts, post-truth and *covfefe*. The Oxford Dictionaries’ approach to the ebb and flow of language is reassuring. “As the compilers of dictionaries, our job is to record the language as we see it being used today... meanings expand and mutate, loanwords are constantly adopted, so-called rules are stretched and twisted”. As the histories of *numpire*, *decimate* and *awful* testify, words change their spelling and meaning over time. The French post-structuralist thinker, Michel Foucault, even argued that the past several centuries have seen a change in *how* language is used, with implications for the very way that facts are understood as knowledge.

In his 1970 book *The Order of Things*, Foucault reviews knowledge and what is now termed science in the Renaissance (16th Century), Enlightenment (17th-18th Century) and Modern (19th Century) eras. Originally titled *Les Mots et les Choses*, the book finds that in the Renaissance period the ‘word’ and the ‘thing’ were the same or, perhaps more precisely, an organic and entwined reflection of each other. There was no

conception of words and things being different, other than in the way an object is different to its reflection. Key notions for understanding the world of things were *resemblance* and *similitude*.



Photograph from the series *Microscopic Macroscopic*, shot by Stephen Bennett at CERN particle collider, 2016-17

Words changed their role during the Enlightenment to become more abstract, less ingrained in the essence of the ‘thing’, and more representative of it. This precipitated a complete change in the way Western culture thought. Instead of employing resemblance as a favoured mode of analysis, the new way of using words permitted classification, comparison, discrimination and ordering. This heralded the growth of the taxonomy as an essential scientific approach.

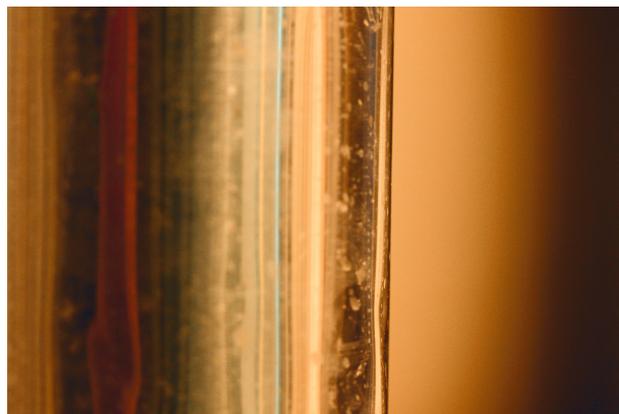
Foucault’s final regime change or ‘discontinuity’ was the 19th Century discovery of depths and hidden forces in words and things. Modern linguistics no longer treat a word as a word, but analyse its origin, causality, history and meaning; in parallel, the study of wealth becomes a study of hidden economic forces under Ricardo, or superstructures under Marx; biological and physical sciences become preoccupied with evolution, nuclei and fundamental forces.

What lessons can we take from Foucault's analysis? First, that the way knowledge and truth is conceived changes over human epochs. It is perhaps impossible to ever know whether we are on the verge of a transition, except in hindsight – *The Order of Things* completed its analysis by arriving at modernity, yet its publication coincided with the cusp of postmodernity. Are we on the fringe of another change in the way that words and things are understood as knowledge? This seems an important question given contemporary debate about a 'post-truth' era. Which brings me to the second lesson: we can never take for granted the role of science and evidence in society.

These two concerns informed my artistic collaboration with Michael Hoch's team at CERN particle collider. The project explored the linkages between microscopic and macroscopic scales in physics. As indicated in the initial reference to minuscule in this essay, the astonishing scales involved in phenomena like black holes and the Big Bang break from our current scientific framework for understanding things – the Standard Model.

Yet predating the Standard Model by several centuries, pre-Enlightenment thinkers also identified powerful relationships between the microscopic and the macroscopic level. The Renaissance concept of *Aemulatio* (emulation) explained why things can imitate one another from the other side of the universe without apparent connection or proximity, whether they be patterns of celestial bodies, river deltas on earth, veins in the human wrist or capillaries in a leaf. The machines at CERN interrogate the seriously microscopic – particles a million million times smaller than a human hair – because they are directly linked, *the same material even*, as could be found in black holes and dark matter.

My collaboration with CERN resulted in a work, entitled *Microscopic Macroscopic*, which tries to capture some of these relationships. It reflects upon the transition between various scientific regimes and asks whether understanding past *discontinuities* can help us move beyond the limitations of the Standard Model.



Photograph from the series *Microscopic Macroscopic*, shot by Stephen Bennett at CERN particle collider, 2016-17

The very role of science in society could also be subject to disruption. Science has been central to Western social and political life for almost four centuries now, but it has not always been this way – see occult philosophy in the Elizabethan age, alchemy, shamanism and so on. Inherent to the post-truth plotline is the question whether another regime shift may be taking place, where science is less integral in determining what 'truth' is. American politics is an obvious place to start, but closer to home there are signs too, with a notable British politician stating in 2016 that "Britain has had enough of experts". Confidence in experts is at an all-time low, partly because of social media echo-chambers that only serve to confirm our own biases, and partly because of high profile perceived failures of the 'establishment' relating to the financial crisis, Eurozone crisis and predicting Brexit.

The Pew Research Centre suggests that socio-economic and political status affect individuals' views on certain science issues such as climate change and the funding of basic science. The *Microscopic Macroscopic* project is not only about particle physics; it asks whether portraying the high profile and spectacular work at CERN can excite a cross-ideological audience about science in a more general fashion.

The problem is the difficulty of capturing the amazing developments at CERN. No one can see a Higgs Boson or particles colliding, and the physical geography is idiosyncratic but hardly awe-inspiring. The *Microscopic Macroscopic* film and associated photography tries to capture the awe and wonder of particle physics. I use only photographs taken at CERN, mainly of microscopic features of the physical environment: gleaming machinery, car bumpers, watermarked windows and rusty dustbins. Photographs are blown up to take on a macroscopic and even celestial characteristic, before being animated in a compelling sequence. The aim is to provide a sense of the astounding science pioneered at this multi-country research facility through visualisation. Science may or may not need a shot in the arm to move beyond our current understanding of words and things, to make sense of anti-matter, black holes and the start of the universe. The work *Microscopic Macroscopic* argues that whatever the case, it is essential that science is central to our conception of truth in modern society.

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Photograph from the series *Microscopic Macroscopic*, shot by Stephen Bennett at CERN particle collider, 2016-17

THE MUSINGS OF A PR
PROFESSIONAL:

IN A POST-TRUTH ERA
PLAGUED WITH POLITICAL
SKEPTICISM, WHAT
CHANCE DO BRANDS HAVE
OF GAINING AND
UPHOLDING TRUST OF
CONSUMERS?

By Alicia Mellish

Images by The White House, Marc Nozell

When I started out in public relations I felt like I'd taken a step 'behind the wizard's curtain'. I had achieved enlightenment. I now understood the mythical machine that was driving the world's media; the careful curation of brand messaging, disseminated via the symbiotic, sometimes strained, relationship between PR and journalist.

From politicians to rock stars, Scotch whisky to soap powder, it didn't matter what 'brand' you were pushing, PR was about communicating a narrative in order to build trust, drive advocacy and maintain loyalty amongst a defined audience. The media channels with which public relations professionals and everyday people interacted were limited and so controlling the messaging was relatively easy.

But then something revolutionary happened and it was to change how we engage and communicate forever - human to human, 'brand' to consumer. The dawn of the digital era, opened up a world of inter-connectivity and super charged self-expression. Social media was to provide a platform from which every individual and 'brand' could broadcast, free from geographical boundary or censorship.

Fast forward 10 or 15 years, and we find ourselves in a Brave New World. Brands and individuals alike are creating, sharing and consuming unprecedented quantities of 'content'. BUT, where once we believed that knowledge was king and the key to determining truth (and building trust), today there is an argument that we have reached a tipping point. We are fast approaching cognitive overload, fatigued with opinion masquerading as fact, and therefore are beginning to adopt a default position of distrust of the information that we receive. And this distrust is widespread.

Our cynicism extends beyond the distrust of big corporations or brands, long perceived to profit at the expense of the less fortunate or financially astute, to the abandonment of faith in the very pillars of society that we, as a western society, had previously deferred (i.e. governments). This new norm can be summed up in the buzzword "Post-Truth". I doubt there is anyone

reading this who is not familiar with the term, now officially included in The Oxford Dictionary. Their definition: "Relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief."¹

Despite my continual surprise at the lengths to which Truthsayer-Trump(!) takes his attack on the media, and my shock and frustration at the lack of objective press reporting during the 2017 UK general election, I am less interested in questioning what would build my trust in the political system. Instead, aware of my own *post-truth era fatigue*, I am fascinated as to what effect our distrust of society's leaders has had (and indeed will have moving forwards) on us as a brand consuming nation. After all, brand marketing is my livelihood; and constructing a narrative to engage and persuade a consumer of their need for my client's product, my craft.

Keen to put weight to our agency (approach and in the face of an increasingly complex and overcrowded media landscape), we commissioned research with cognitive neuroscience research lab, THECUBE, last year. Our aim was to better understand how to develop and deliver brand communications on behalf of our clients and ultimately gain and maintain the trust and loyalty of their target audiences.

- The first half of the research identified communication trends, including the increased reliance of individuals on peer-to-peer recommendation rather than top-down brand broadcast.
- The second half unpicked the three key elements required for effective human communication: i) Empathy and Theory of Mind; ii) Language and Narrative; iii) Attention and Memory.

We looked at how the knowledge of these could be applied to brand communications in order to build consumer trust, vital in a world where trust has become a carefully traded commodity.

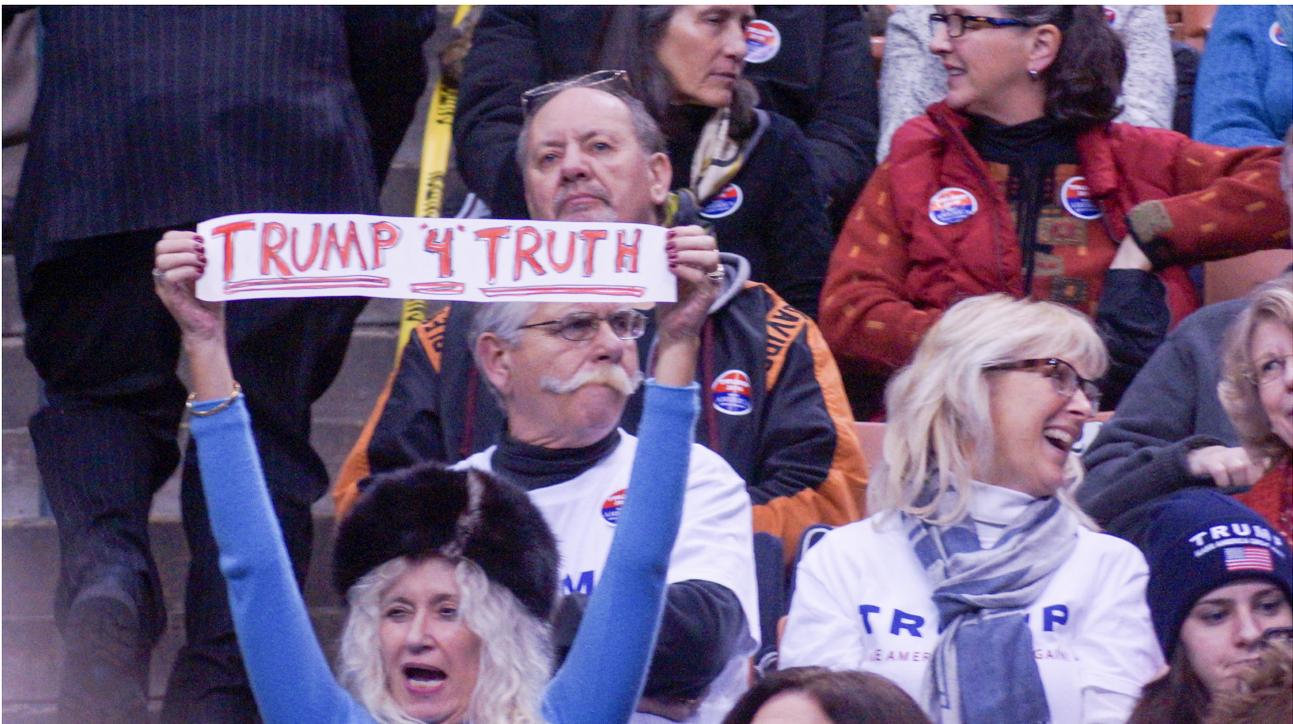
Empathy and Theory of Mind, which is the mental capacity to attribute mental states (thoughts, knowledge, beliefs and desires) to oneself and others, is crucial to crafting trusted communication. Working with the *right* influencer (be that traditional journalist or social media expert) to engage with a brand audience is key. The clear shift away from seeking recommendation from “traditional authority figures” and towards the “everyman” is music to a PR’s ears. Disseminating brand messaging through a third party or peer has always been at the core of the public relations discipline. The once maligned, less flashy alternative to big budget above the line campaigns is poised and ready for its close-up!

However, developing and disseminating trustworthy communication is only one half of the post-digital revolution PR’s day job. The other half is managing the reactive - the 24/7 right of Joe-Public to broadcast his ‘truth’ so long as there is a readily available WiFi connection. The genie is out the bottle and consumers have assumed power. They decide what is trusted information and declare their truth through Facebook, Twitter, comment boxes and digital rating systems. Do I trust that Cheryl Cole uses L’Oreal Elvive? Do I heck. Do I trust Bob from Brighton’s opinion on the gastro pub down the road? Hell yeah! Brands that are forward thinking and embrace the brave new world of communications, incorporating a strong element of peer to peer recommendation, will weather the storm of consumer distrust. They will remain competitive in a global market where choice can sometimes paralyse, rather than empower, the purchaser.

Brands, however, that continue to broadcast their own bullsh*t (a reference to James Ball’s new book ‘Post-Truth: How Bullshit Conquered The World’) without sufficient empathy, strong enough narrative or due consideration for what will secure attention, will struggle to harness the opportunities that the digital era can, and does, afford. Those brands will suffer a fate that we can only hope befalls today’s ‘Leader of the Free World’!

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MEDIATION

AND

THE

TRUTH



By John Scott

Image by Ming Jun Tan

I am a mediator, helping individuals and companies resolve disputes.

Mediation has a number of advantages:

1. It is confidential and so any final agreement, which can be legally binding, will reinforce the confidentiality of discussions and the terms of the agreement.
2. It is "without prejudice" creating a level ground for neutrality and discussion, and so all possible solutions can be explored before an agreement is signed.
3. Those involved retain control of the mediation and agreement, rather than passing it to somebody else who does not have particular insight into the matter at hand, for example in the case of a Tribunal or Court where decisions are made by others and then imposed. The resolution to the dispute is created by the parties behind the dispute.
4. A mediation can identify solutions which are not evident during the early stages of a dispute or subsequent litigation. For example, creating a middle ground between formality and informality, an apology can often go a long way in resolving matters.

It is often the case that those involved in mediations express strong and opposing views. In such circumstances, it is difficult, if not impossible, to agree on the real facts or on certain matters being true. For example, is an email insulting or direct; has a piece of work been carried out as defined in the contract or has the contract been breached; can specific behaviours be considered to be bullying or as assertive; is a particular legal analysis of the issues correct or fundamentally flawed?

The following may be helpful as a definition of truth:

1. The real facts about something.
2. The things that are true.
3. The quality or state of being true.
4. A statement or idea that is true or meaningfully accepted as true.

The conditions which are needed to be obtained before something can be deemed to be true require further work in order to get this definition off the ground.

Indeed, the notion of truth has kept philosophers very busy for a long time and the nature of such is too complex for us to simply resolve here despite centuries of debate.

The notion of truth in use in day-to-day life is more pragmatic. For example:

1. This is a fact
2. It is true that this happened – I know it to be true, I can prove it to be true and any other account is therefore false
3. To claim that this did not happen is false

Such statements are often loaded with judgement and emotion and are rarely neutral, particularly in a dispute. It would not be unusual for a parenthetical along the lines of "and you are a damned liar!" to be stated or implied in 1-3 above.

As such, any search for a mutually agreed definition of truth relating to a dispute is likely to fail, recognising there may be more truth in one series of statements compared to any other.

One of the skills of mediation is to encourage those involved to focus on the future, recognising that individuals are stuck in the past and the immediate present with their fists in the air when they are in dispute. To some extent, those involved in a dispute tend to be operating with their own pattern of truth and facts at odds with other patterns. One of the skills in mediation is to help those involved recognise that the chasm between them is not so large after all and will shrink with some effort on all sides.

Any resolution requires a certain act of compromise and in doing so, abandoning one's understanding of a series of events or truth that transpired. Any resolution will have to set these differing patterns to one side or at least accept their incompatibility, and in doing so, recognising instead the essential messiness of life, whether in the workplace or at home.

HOW

TRUTH

MATTERS

TO

PEOPLE

By Nick Enfield

Images by ARA News

A flagrant disregard for facts and expertise has found its way into the highest offices. It has aided and abetted Putin, Duterte, Brexit, Trump, amongst other contemporary catastrophes. But while many observers agree that post-truth discourse is a problem, little else is clear. Has a kind of relativism found its way into the mainstream through alternative facts, or through the idea that different versions of the truth are equally valid? Are there facts anyway?

Common sense tells us that, yes, there are facts. Intuitively, people work on the assumption that some assertions are true and some are false, and that evidence can settle the matter. Suppose that a detective wants to know whether the blood at the crime scene is mine. I respond that it is not, and a DNA test shows that I am telling the truth. There are endless examples among more everyday questions of life. Is this food I'm about to eat really organic? Is the costly treatment that my dentist is recommending really needed? Is this really petrol and not diesel I'm about to put in my car? We assume that statements are either true or false, and that it is possible to know the answer—though this is of course not infallible, particularly as it often means trusting an authority. Still, this common sense model of truth and evidence serves us well. Yet it is challenged in certain scholarly fields, including some wings of philosophy and political science.

The first kind of challenge is the corrosive idea that truth is somehow illusory, that we cannot ever get an objective handle on it. This idea is the ultimate form of gaslighting—destabilizing others' sense of sanity by undermining their perceived grip on reality.¹ Yet it is heard from left and right, past and present, in news interviews and in academic seminars, in many forms: There are no facts, only interpretations; facts are subjective; my facts aren't necessarily your facts; everything is a social construction; evidence-based reasoning is just one form of cultural practice.

Statements like these—made by everyone from Friedrich Nietzsche to Kellyanne Conway—allude to some fascinating and important observations about

the nature of language in social life. But they distract us from the grimmest reality of all: we live in a physical world, and facts don't care what we think.

Here is why the truth matters to people. If what we believe is different from what is true, then we are likely to make bad decisions. Suppose I believe that this plank will support my weight, so I use it as a step bridge, but it cracks and I fall. Or I accept cash for my services, only to find out that the notes are counterfeit, and not worth the paper they are printed on. These might be small costs, but in some cases false beliefs can cost us everything. On New Year's Eve of 2011, 38-year old chef Lui Jun cooked a celebratory meal for friends with mushrooms he had picked himself in suburban Canberra.² Believing that he had obtained a kind of mushroom common in Asian cooking, he was in fact preparing to eat the world's most poisonous fungi. Two days later he was dead, along with his 52-year old friend Tsou Hiang. A third man was taken ill but survived, while a fourth in the party—who had declined the mushrooms, perhaps not believing that they were safe—was fine. Who would be willing to explain to Lui Jun's widowed family that the poisonous nature of those mushrooms—and indeed the fact that their husband and father is dead—was not a matter of fact but of social construction?

It is true that I cannot describe to you what happened without using the socially constructed tools of my native language. And my description will be in various ways incomplete and subjective. But none of this selectivity or subjectivity would have any bearing on the physical events themselves. The mushrooms killed him, no matter how we interpret them, no matter how we describe them, no matter which piece of the story we add, subtract, or embellish.

Similarly, if you are locked in a prison cell, you can interpret or construct the situation any way you want, it won't change the fact that you can't leave. If you are pushed off a rooftop, you will still hit the ground. If you are beheaded, you may have a unique perspective, but that won't affect the event itself, or your chances of survival.



A second frequently-heard challenge to the common sense notion of truth is the idea that facts can be negated by social power, and therefore that facts are malleable or even illusory, as if a person with social power can decide what is true and what is not. Those with political power often act as if this were the case, but as we know from the brute reality of climate change, for example, this is wishful thinking. In the 12th Century legend,³ King Canute proves that he is not a divine being by standing on the beach and commanding the waves to stay back. He shows that a king's pretensions are no match for the powers of brute reality.

This is why political power is ultimately grounded in hard, physical facts. As the sociologist Max Weber defined it, the state is an entity that claims a monopoly on the legitimate use of physical force.⁴ Whether the use of force is legitimate can always be contested, but the force itself cannot. The effects of force belong in the realm of cold hard facts. They are not affected by our interpretations, and this is why physical facts cannot be ignored when considering power in human affairs. It is what Conservative television host Dana Loesch means when she refers to 'the clenched fist of truth' in her controversial NRA promotion video.⁵ A bullet through the head is neither ambiguous nor contestable. Its gruesome effects are non-negotiable matters.

It is possible for social power to contest or negate facts when it concerns social facts. Unlike physical facts, social facts are defined by people's rights and duties, which in turn are created by social agreements. Social facts include statements like 'I am married', 'I have a mortgage', 'I am licensed to drive in New South Wales', and 'The cash in my wallet belongs to me'. A social fact of ownership can readily be negated—or rendered untrue—by the use of force and its non-negotiable effects. If someone with a knife deprives me of my rights to the cash in my wallet, this works because of the physical fact that the knife would cause me true harm. The mugger's power to overturn the social fact of ownership comes directly from the victim's certainty of the physical facts. The only way I

can contest their power is by producing a bigger knife. Or I might remind the mugger of the possibility of prosecution, but this again would be a threat based in physical facts—the brute denial of freedom by bodily incarceration, a core mechanism of state power.

Those who invoke political power as part of an argument against the existence of truth have things the wrong way around. Political power exists precisely because of the non-negotiable nature of physical truths. King Canute's gesture showed humility because it acknowledged the natural forces that surround us, and that will not bend to our will or ideology. The most obvious parallel today is the reality of climate change and the folly of those who deny it. Brute reality is the domain of physics, chemistry, and biology. It is also the domain of ultimate power. It explains why the politically powerful—those who wield the legitimate use of force—can act as if climate change is not happening. And similarly, it explains why climate change proceeds without regard for the politically powerful, and why it will ultimately prevail. As the author Philip K. Dick put it: 'Reality is that which, when you stop believing in it, doesn't go away.'⁶

It is sometimes said that a show of certainty about facts, whether in the physical realm or elsewhere, is a show of arrogance, and that a relativist approach—where different truths can co-exist—is the humble option. This is wrong. The way to show humility in relation to truth is not to say that we can't deign to say what truth is. It is to acknowledge that our soft interpretations are no match for hard, demonstrable, natural facts.

A social scientist may say that while this is all very well, the agreed facts of a matter are less important than the discourses of interpretation and evaluation that follow and envelop those facts. The facts can be spun like a top, and in the end they may come to be defined by the stories that we tell about them. For example, it is a matter of fact that in 2015 a number of men accused of crimes in ISIS-occupied territories were forced from high rooftops, and fell to their deaths. Nobody disputes that this happened. But people have

offered completely disparate and utterly contested interpretations and evaluations around why this happened, who was involved, and what should follow.

Yes, facts can be discerned and agreed upon if the evidence allows, but this does not mean that they are *easily* discerned, nor that they tell a *whole* story, nor that people *will* agree on what they mean. So, here is the challenge: if we are going to have a coherent and constructive perspective on reality, we need to reconcile the two views, clearly both correct, that facts can be observed and that versions of the truth can be socially constructed. Clever propaganda exploits this tension.

To subvert it, we need to promote a new kind of literacy, combining the tools of evidence-based reasoning with a keen awareness of the biases in human thinking and public discourse, saturated as they are by our socialisation, and by the frames our cultures furnish for viewing and presenting the facts. Truth matters to people, very much so. We can harness this for good as long as we are careful to distinguish between the different kinds of truth that matter. On the one hand, there are the socially constructed versions of the world that motivate, preoccupy, distract, and sometimes consume us. On the other hand, there are the physical realities that we are ultimately and inescapably accountable to. It's no secret which of these trumps the other.

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investigation

on

navigating

individual and

collective realities

By Anna Nagele

Images by Tiphaine





a lie
is
simply a lie.
it draws its strength from belief.
stop believing
in
what hurts you.

— power

Nayyirah Waheed

Today, everyone seems to be an expert in any given field, as they have “read it on the internet”. You will get answers to literally any question you ask, no matter how unanswerable. Unable to move and see in the slabby swamp of information all around, this leaves me in a state of general doubt towards everything. Rather than seeking advice I’m now finding myself retreating to some kind of new witchy spiritualism - reading my horoscope, celebrating moon rituals or picking tarot cards - which I consider as much as truth as anything. Or not. Also as anything. I pick and mix information as I please and thus create a reality that perfectly suits me.

Truth doesn’t seem to matter so much, it can be overcome with rhetoric that speak to people’s values and reassure them in what they choose to believe, however they decide to construct their reality. This is known as confirmation bias. Even when people understand that what they hear is not true, oftentimes they still continue to support arguments that resonate with them, and the author of the lie continues to lie, as the support they receive suits their agenda. To get heard, you are not only competing with the best or most powerful actors, but even untruth and misinformation itself. As Harry Frankfurt describes in his essay ‘On Bullshit’, bullshit is an indifference to how things really are, and such indifference is quite accepted in our current reality.

How did we get here?

With the advent of the postmodern worldview, a reaction to the positivism of scientific or ‘objective’ efforts to explain reality, truth came under question. Facts are not simply accepted as truth, but understood as the product of the interaction of individual and group subjectivities. Reality is constructed through those interactive experiences, expressed through language and culture and eventually becomes adopted by society. Reality and fiction come close to being equally accepted as everything is believed to be a construction anyway, or that there are several ways of attaining knowledge, and that realities are plural. And so are the truths.

We can construct our realities however we want them to be. Real and digital merge and connections become so complex that right or wrong are not on the ends of the spectrum, but information just exists within the network. Everyone, individual or organisational, can simply tell the one truth that they believe in or that helps them reach their goal. The digital space allows everything to exist, which in turn informs reality. But the system is coming under increasing scrutiny lately, as wicked global challenges are growing in scale and unpredictable events are happening more frequently. We need to change direction and adapt new strategies, develop new sensibilities for producing and consuming information.

Since the beginning of the information revolution, information has become increasingly commodified. People as well as businesses are constantly competing to make information, be it textual or visual, in order to make it generate the most ‘likes’ and clicks, and in turn increase their audience. Trending content or hashtags and influencers have the power to make almost anything true as the content reaches a vast amount of people which form a community around any belief and manifest it in their reality.

Through the internet, and social media platforms, it is rather simple today for the audience to become an author themselves and actively participate in the creation of reality. Everyone has the ability to decide who they want to be and construct and represent their reality in a way to become this person and shape their identity. These developments resulted in an ironic, nihilistic and sarcastic state of postmodernism, as the cultural critic Alan Kirby puts it. Reality is highly individual and narrowed intellectually, where a globalised market regulates all social activity. This leads to a paradoxical desire to constantly consume the newest lifestyles and revisit one’s own identity over and over again, yet perceiving this as personal freedom.

By focusing so much on individualism and the construction of our own reality, based on the stories that corporations present to us and we adopt as truth,

while consuming more of them and subscribing to their agenda, we are losing the ability to engage in actions towards a greater good, rather than simply focusing on ourselves.

As machine learning and artificial intelligence are improving, bots are increasingly engaging in our conversations. They are not necessarily telling the truth but through algorithms identify arguments that will receive the most engagement. They will go ahead spreading information which might be untrue but generates the most visibility for their owner. In the end we might end up having bots talking to bots and 'liking' their fake information, creating a reality for us that holds no ground, and in the end, is out of our hands. It's like hot air.

Technological development has led to a deeply intertwined and complex, but at the same time highly fragmented world. Every action leads to so many different, unexpected reactions that it is difficult to predict an outcome. We seem to be realising that we need some new forms of truth, some grand narratives that unite us over our individual truths, that we can trust in. Or that at least that guides us towards a greater sensibility and acceptance towards the construction of reality and the beliefs of others. We all need to develop new skills to search for the truth, accepting that they might not ever be found but at least striving to find it.

Empathy as truth

While social constructivism has so far led to chaos, the endless possibilities and acceptance of self expression that come with it give immense power to each of us. Social constructivism is a sociological theory that states that we create knowledge through social interactions, and that one cannot think of development without looking at the social sphere. It is the source for us to strive for the new, pushes us towards imagining better futures for everyone and is an underlying force for innovation. It is useful for organisations to be able to tap into that potential and address latent or visible needs and desires. It ultimately

gives us the potential to liberate ourselves from social and cultural constructs that lead to segregation, discrimination and so many of the problems we face in the world.

We need to readjust to this networked age and adapt and develop new sensibilities of how to use the constant construction and reconstruction of truth to our collective advantage. Your own belief changes you, collective beliefs change the world - but if you believe something strong enough this belief can become a tool to create change.

Truth might not be objectively found, but the communication of individual or organisational truths can be designed to inspire change towards a greater good or create social or cultural value to make living on Earth bearable for all of us. We have to be aware of there being an unlimited variety of perspectives and truths as there are people on this planet. We need to learn to look through other people's eyes in order to adjust and extend our perception of truth. Empathy is key for creating possible better futures together.

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TRUTH IN TIME



By Araceli Camargo

Image by Noah Silliman

The etymology of the word Truth comes from old english *trīewth*, *trēowth* 'faithfulness, constancy'. The essence of truth into our language, culture, and perception first arrived in the 14th century with an extended meaning of accuracy and correctness.

It is especially interesting to see the word 'constancy' as part of truth's etymology as it gives it a temporal quality. In other words an element of truth is staying the same through a sustained period of time.

However, can one be factually correct through a long period of time? Shouldn't 'truth' move within the context of time? Time gives us more moments of exploration and discovery. Furthermore, we love learning new things, finding new ideas, and creating new things. Therefore, as time passes our truth changes based on the discovery of new information, it cannot be fixed. For example, we once thought the world was flat, we had confidence and evidence of this 'truth'.

This theory made perfect sense for that moment in time. Our perception would tell us that everything on earth was 'flat' otherwise how could we walk, our eyes told us that the horizon looked like it had a definitive end. We also had not discovered gravity, so it would not have made sense that we would be able to exist in a sphere that had an 'upside down'. Therefore, Galileo through his curiosity and imagination invited a new instrument that gave us vision beyond our eyes. With the telescope he was able to shed new insight on our planet, however this was completely against the perception of the time. Therefore how we perceive truth does not lie in facts alone, it is also contextual.

So what is truth? We think it's related to coherence. Coherence is the quality of being logical and consistent. It is more about whether the orchestration of different elements come together in a sensible manner in a relation to a specific context.

For example, a street has coherence through its different elements that relate to its context. There are cars, road signs, stop lights, pavement, people, etc. If

instead of having pavement, there was grass, the coherence of the street would diminish, in this context that element would not make sense.

In relation to cognition, part of how we process information is that we relate it to an existing schema, as per the street. Then we would assess if a certain element made sense. If it doesn't then we deem it as non-truth or lie.

This phenomena has always been the case — from the time Galileo was laughed at and considered a liar, because a round earth made no sense, to present time where some people think scientists are lying about climate change. Even in small interactions many times we misjudge people who we think are lying, because what they are saying doesn't fit with our biases or narratives or *visa versa*.

Truth is subjective and it changes with time.

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THECUBE London was founded in 2009 and from the start we have cultivated a highly curious and diverse community in our workspace. In the eight years we have been around, it has always been important to have place where knowledge can be gained and shared. This is the reason we now have a magazine to create another platform from which people can share interesting ideas and thoughts.

If you would like to join our community or would like to contribute to our next magazine, please get in touch by emailing hi@thecubelondon.com.

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