

Deep Fake and Cultural Truth - Custodians of Cultural Heritage in the Age of a Digital Reproduction

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Abstract

How can we tell if we are looking at authentic video footage – a video that has not been manipulated, or altered in any wayⁱ? How do we know that a news item reflects a truthful perspective? Sadly, in an age of pervasive digital reproduction we can't – we simply go through life hoping not to be lied to, spinned or even scammed – in an era of deep fake we simply no longer have the skillsets required to be able tell truth from falsity. And spun we are. Politically spin has become the norm for many of us and, while we may choose to go to a cinema for a moment of welcome knowing escapism, when we seek to walk a simple path of veracity the sound track of our lives is constantly punctured by advertising, political pundits and news articles strung before us across an endless stream of information that confuses and contradicts truth and the lies; and more often or not confounds all that is inbetween.

But we *do* need to be able to separate the real from the false for ourselves; especially when delivered digitally. We rely on information, daily news, and social interaction online, but do we really have the competency to be able to discern fact from fiction while peering through our screens throughout the day. The 100-dollar question is who are the purveyors of the truth? In reality there is more than often more than one perspective on any given issue; even the physical object in a museum may be informed by more than one narrative in its provenance. But at least in a Museum you know that there is a professional group of fact-checkers behind the scenes who have done their very best to deliver reliable information to their public; the curators, conservators and educators whose role it is to interpret collections based on their own academic background. 'This is 'as truthful' as it gets, and while the act of telling a truth is highly complex and often disputed, we do tend to place our trust in a museum when we visit an exhibitionⁱⁱ. While the museum traditionally represents a place of 'true' discovery, once collections are delivered digitally; abstracted from their physical envelope, can we presume that have the power to transmit those same eternal truths? This chapter will explore these polar opposites of deep fakery and cultural truth through two case studies, a 'visit' to the California-based Museum of Jurassic Technology and an overview of the Damien Hirst works in *The True Artist* exhibition held at the Haifa Museum of Art during the summer of 2019. Museums, like libraries and archives are institutions known for their devotion to the truth through the representation of unique objects; each with their own embedded memories; each telling their own story. These are not the typical places we would expect to struggle with notions of and falsity and fiction; reality and fantasy but when they do take up the challenge, we have plenty to learn from them.

Deeply fake, deeply disturbing

Have you noticed how many things we're now describing with the word 'deep'? Deep mind, deep medicine, deep war, deep fake, deep surveillance, deep insights, deep climate, deep adaptation. We keep applying this adjective 'deep' to describe our newfound abilities to hit targets in medicine or war, to identify leverage points in research, to find needles in haystacks of data or to fake any face, voice or image with an accuracy or at a depth and with an impact that was simply unimaginable just a decade ago. (Thomas Friedman, 2019)ⁱⁱⁱ.

The adjective 'deep' denotes all that is embedded below our horizons. They are the invisible articulations of big data that only machines can read and are already affecting the decisions and actions that are permeating our lives in so many ways. This could be harmless algorithms that invite us to purchase something that has been informed by our profiles as something we would probably like to purchase; a series of [fake] articles that appear spontaneously in our newsfeed; or even a welcome automated cross check of medications interactions we take informed by the intelligent agent in the automated pharmaceutical system. We seed data about our personal and professional selves at an alarming rate, often unaware that our information has very deep, yet unwitting consequences in our lives such as; unknowingly appearing on a no-fly list – that is until we get to the airport; refusal of health benefits or the purchase of health insurance at a higher premium for smokers^{iv} or the result of a background check in the local bank that determines whether we are eligible, or not-eligible for a mortgage. These decisions were traditionally processed by humans; gatekeepers schooled in the proficiency of their expertise and have now been given over to algorithms who invisibly crunch the chunks of big data required to open the gate. But in an alarming exposé of the business model that drives the digital world Shoshana Zuboff argues that this seeding of personal and professional data poses a whole new challenge; processes she has called "surveillance capitalism". *It works, she argues by providing free services that billions of people cheerfully use, enabling the providers of those services to monitor the behaviour of those users in astonishing detail – often without their explicit consent*.

Apart from the obvious concerns we might have about our personal well-being, there are just as critical concerns at a societal level. These are deep underlying process that are unseen to us and in reality, managed by a very few. The gap between our inability not only to access this kind of information, but to control it, is forever growing and well-illustrated in the movie *I, Daniel Blake, 2016*^{vi}, directed by Ken Loach where both protagonists; widower Daniel Blake, a 59-year-old joiner from Newcastle, and Katie, a struggling single mother whom Daniel befriends lack the digital skills and knowhow to navigate the myriad social systems needed to literally survive. But as Zuboff warns, digital natives avail themselves with unbridled enthusiasm to these systems; especially with the all the free services available to everyone, but, by the end of the day, do we all really fully understand the results of these immeasurable interactions? Zuboff forewarns

In nearly every case the agents of institutionalization present their novel practices as if they are one thing, when they are, in fact, something altogether different. The realpolitik of commercial surveillance operations is concealed offstage while the chorus of actors singing and dancing under the spotlights holds our attention and sometimes even our enthusiasm. They sweat under the stage lights for the sake of one aim: that we fail to notice the answers or, better yet, forget to ask the questions: Who knows? Who decides? Who decides who decides? (Zuboff, 2019, P.231).

This is the crucial question and while I wouldn't even try to unravel the alarming repercussions that are looming on our global horizons – this is far too complex for a single author and a single chapter, I would like to unpack a more manageable question from my own field of expertise - who is responsible for cultural truths? And as Zuboff posits in her own research – who decides who decides? And in the management of culture; and especially digital culture, who are the actors who get to determine the truth? And this, I would argue is where custodians of cultural heritage need to step in, and especially in an age of digital reproduction where everything is reduced to a flat screen or a matrix of billions of points on a cloud.

Never before has reality been so easily reproducible. The deep fake seepage into our daily lives is often intended to beguile as, for example, with the self-promoting Trump tweet of a dog. October 2019, Trump posted a photo of himself awarding a medal of honor to the military dog that was involved in the raid that killed the Islamic State leader Abu Bakr al-Baghdadi^{vii}, and in addition he appears to have declassified its name. This seemingly innocuous tweet may have slipped past our critical capabilities to disserve real from false – the image is so cute that it immediately enchants us. But it was, in fact, an altered version of an Associated Press photograph of Trump awarding the medal of honor in 2017 to James McCloughan, a retired army medic who was honored for saving the lives of 10 people during the Vietnam war. According to a New York Times follow up^{viii} to the tweet, *Mr. McCloughan, 73, who had not seen the image before a reporter sent it to him, said that he interpreted it as Mr. Trump recognizing the dog's heroism. He certainly was not offended and laughed when he compared the two images.* Even though McCloughan took the fakery in good nature, the traction that Trump gained from the tweet was at the expense of the hero, the readers (as well as the dog)!

One could argue that we have already honed the critical faculties for telling fake from un-fake after decades of Photoshop artifacts, and even before that what we have experienced from the composite image created by

photographic montage. The trouble is we don't yet have the capacity for critical evaluation of deep fake video. The most popular example of this kind of deception is usually the Obama manipulated video often touted as an emblematic illustration of deep fake. Researchers at the University of Washington produced a photorealistic Barack Obama^{ix} and by putting words into his mouth had the former President sharing ideas that were not his in the making. This particular video was not created for nefarious reasons, but rather because the researchers had found it interesting to enforce Obama's lip-synced statements to create more convincing photorealistic results and was, in fact, authored as an experiential artifact to be published in a Siggraph 2017 paper^x.

Since the early days of video manipulation, the sector has taken to these technologies with great zeal and building on years of computer-generated imagery (CGI) in animation and Sci-fiction films we are now beginning to welcome digital (human) actors onto the silver screen. Some of these CGI actors, however, are contemporary manifestations of long dead actors. For example, according to the New Scientist in a January 2020 article ^{xi} *late in 2019, it was announced that US actor James Dean, who died in 1955, will star in a Vietnam war film slated for release later this year. Dean will be recreated on screen with CGI based on old footage and photographs, with another actor voicing him.* This opens up major ethical and financial questions both for the heirs of the estates as well as the public, and, in addition to these conundrums is that the eerie quality of these virtual humans is often disquieting. This weirdness factor was a major issue when the young Carrie Fisher was recreated for the film *Rogue One*, Lucas Film Ltd/Walt Disney Company Ltd. The uncanny quality was mostly notable around the eyes and mouth which people found disturbing and were not sure how to relate to a screen character which was not quite animated, yet not quite human.

Beyond the silver screen, digital artifacts may represent not only people but buildings and even entire neighborhoods; generating, yet again, a whole new range of a conceptual and ethical challenges and creating new kinds of realities. Once reduced to a point cloud, such as with light detection and ranging (LiDAR) laser scanners, every object, building or monument can be instantly re-purposed, morphed into 3D CAD models that can be manipulated and stored for posterity; and presented as a source for re-visualization; persuasive animation; creative rendering; and entirely new entities that can be disseminated throughout the mass media and directed to persuade you and I of new realities. It is as easy as baking a cake. Throw the ingredients into a cooking pan, stir for a few minutes and bake until done. But the gaps between original and clones are permeable, and the possibilities of infidelities that can creep into the system are challenging.

In the same way we need to navigate fakery in still and moving images, and, in order to recognize these kinds of interventions we need to produce new tools for forensic evaluation. With not only virtual dogs being conjured out thin air thin air but also (dead) people, and celebrities at that, we have to find ways to manage our surroundings and learn how to determine fact from fiction. New skill sets are being developed by professionals and academics around the world, for example at the L'Ecole Polytechnique Fédérale de Lausanne (EPFL), in Switzerland^{xii}.

The game between deepfake creators and the experts who try to catch them is one of cat and mouse. And the deepfakers tend to be one step ahead, since they can come up with an almost unlimited number of new contents that the experts must then try to detect. As soon as word gets out that deepfakes can be identified because people's mouths don't move naturally, for example, a malicious programmer will develop an algorithm to remedy that problem (Cécilia Carron, EPFL).

Also based in the EPFL is the Center for Digital Trust (C4DT) a research team startup that provides expertise in multimedia signal processing based on their many years of experience in detecting fake images. According to Olivier Crochat, Executive Director of the C4DT,^{xiii} *detection of image and video forgery to fight against malicious manipulations is clearly one of the applications where Artificial Intelligence helps to regain trust.*

Barak Obama lip-syncs, Trump's agile dog, and James Deans' digital resurrection, which all look disturbingly real have all been (re)born as a result of artificial intelligence and have since been amplified and multiplied exponentially across social media. Although we might take it all as a humorous prank the risk of commercial fraud is more than real....

The biggest fear that most people face vis-a-vis deepfakes is that they will be used to steal their identity. But the threat actually runs much deeper – fraudulent contents can also be used to deceive manufacturers, insurers, and even customs officials. For instance, goods can be digitally added to or removed from a cargo ship before it leaves the dock, or transactions could be approved using photos that have been counterfeited. (Cécilia Carron, EPFL CH-1015 Lausanne, 20.09.19).

Perhaps when we wake up to the fact that there may be a risk of fraud resulting in serious financial, or personal loss, more people might have to stand up and take notice. In 2019 the BBC took up the gauntlet and partnered with tech firms join forces to fight disinformation^{xiv}. The educational program was set up and drew-up new plans including:

- Early warning system: creating a system so that organisations can alert each other rapidly when they discover disinformation that threatens human life or disrupts democracy during elections. The emphasis will be on moving quickly and collectively to undermine disinformation before it can take hold.
- Media education: a joint online media education campaign to support and promote media education messages.
- Voter information: co-operation on civic information around elections, so there is a common way to explain how and where to vote.
- Shared learning: particularly around high-profile elections.

These kinds of pro-active steps have been echoed around the world. In Finland, and other Nordic countries high school children are being taught new kinds of skillsets^{xv} in digital literacy and critical thinking in order to be able to discern misinformation and hoaxes, and help them confront these challenges by teaching them fact-checking methods. The Italian-based social awareness project, *Parole O_Stili*^{xvi} focuses their efforts against the use of hostile language and supporting school children to redefine the way they handle online interactions and encourage them to choose their words carefully and responsibly.

They caution ...

Words are extremely powerful. They express thoughts, transmit knowledge, encourage cooperation, build visions, enchant, heal, and foster love. But words can also hurt, offend, vilify, deceive, destroy and marginalise, dehumanising their speakers. We must therefore choose words well and wisely, both in the real world and online. Since the Internet and social networks are virtual places where real people meet, we need to question who we are and how we should communicate and behave when we use them.

According to *Parole O_Stili* the Manifesto of Non-Hostile Communication is a commitment of shared responsibility to create a respectful and civilized Internet space that represents us and offers a sense of security and it is a charter of 10 practical principles to guide online behaviour. The Manifesto has been translated so far into 42 languages, including Emoji^{xvii} introducing the principles of critical thinking that is both fun and relevant. In addition to the Manifesto, there are educational materials available with training events for teachers and educational courses for students. The original contributors to *Parole O_Stili* included approximately 300 professional business and political communicators, teachers, entrepreneurs, influencers and bloggers: a diverse group of passionate people sharing a desire to make the Internet a better, less hostile place, and one of respect and civilized behaviour.

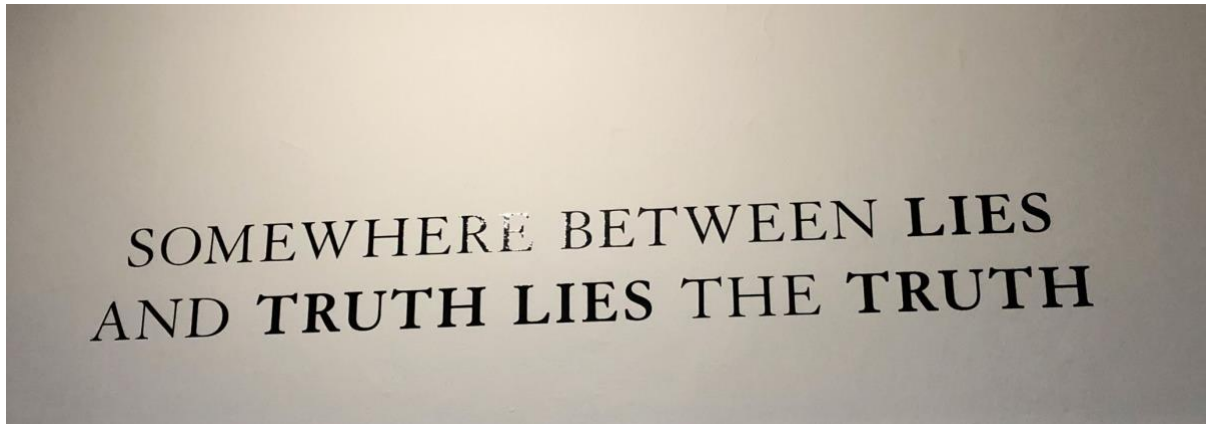
These are encouraging inroads both in increasing awareness about the deep fake environment that is permeating and polluting our social, and educational ecosystem as well as developing tools for critical thinking for students and teachers. But who can act as gatekeepers on a global scale to monitor and modify the trillions of data points created every second? Who can verify the truth in a point cloud? Architects and urban planners who depend on its fidelity, might be concerned if there was a powercut with the resulting loss of data but might not even be aware of a bug in the machine that subtly created undetectable falsities. What would happen to those CAD drawings that were committed to the next step -- to physical reality if these falsities become invisibly embedded in silent practices? Our reliance on mechanical and digital processes is a reflection of our era. Medical diagnostics imaging^{xviii} some claim override human frailty with so much big data to crunch. When it comes to big data, us highly limited humans don't even stand a chance.

The examples of false realities described above are may have been inspired with creative and benevolent intentions; less so if by by mistake but, they are especially concerning when deep fakery is driven by profit. To return to the main theme of this chapter, the management of cultural heritage, we need to look to the gatekeepers of cultural heritage and ask the same question that Zuboff asks - *Who decides? Who decides who decides?* (Zuboff, 2019, P.231). What are the custodians of our heritage doing about deep fakery, for example in the Museum world?

The Museum as Truth

In an age of “alternative facts” and contested versions of history, museums provide the material evidence of our shared past and can use that evidence to host debate and multi-narratives on a range of topics from the historical to the contemporary and, in so doing, may prompt reflection and critical interpretation. Museums help us negotiate the complex world around us; *they are safe and trusted spaces for exploring challenging and difficult ideas*^{xix} and, therefore, the ideal setting of discourse for these ideas. The following section will discuss two such opportunities: one an exhibition based on Damien Hirst’s fantastic works, and the other a wholly fictitious, yet totally physical museum.

Somewhere between the Lies and the Truth Lies the Truth



Hazan-Fig 1. Damien Hirst exhibitions wall text © Susan Hazan, 2019

Describing the 2019 exhibition, presented by Haifa Museum of Art, *Fake News Fake Truth*, exhibition curator, Svetlana Reingold commented... *The radical blurring of boundaries between fiction and reality, in a world dominated by post-truth politics, is at the focus of this cluster of exhibitions. The works presented in it emphasize that truth itself has become just one option amongst a wide variety of perspectives, in an age of open conflict between those attempting to formulate a solid order, and their vocal opponents.* Reingold goes on to explain –

The exhibiting artists use diverse strategies of deception and fabrication – such as the use of fictitious figures, pranks, and interventions in real life by means of impersonation. These practices are intended mostly to illuminate the loss of faith in the media culture, particularly under the decisive influence of online communication. They train us in skepticism and doubt, yet also encourage a discussion geared towards the possibility of regaining our trust.

Artists listed in this exhibition included 200 works from 48 local and international artists^{xx} and this chapter will focus on the exhibition within an exhibition that included Damien Hirst’s works in *Treasures from the Wreck of the Unbelievable*.

The exhibition and the video documentary that accompanied it was originally presented at the Venice Biennale in 2017, conceived as a riveting spectacle but not particularly well received by everyone. As reported for Hyperallergic in reference to Damien Hirst’s Venice debut of his exhibition, Tiernan Morgan wrote: — *Damien Hirst’s Treasures from the Wreck of the Unbelievable is not an exhibition. It’s a showroom for oligarchs. Comprised of about 190 works, including gold, silver, bronze, and marble sculptures, the show is undoubtedly the most expensive artistic flop in living memory*^{xxi}. The Biennale exhibition was located in two of Venice’s prestigious museums, the Punta Della Dogana and the Palazzo Grassi, with 189 works in bronze, marble, malachite, rock crystal, silver, gold. The back story told of a non-existent collector and his sunken treasure hidden in a shipwreck, ready to be hauled to the surface by, no other than Damien Hirst himself — or at least funded by him. The treasures were said to be dated from the first or second century, the belongings of a former slave who became fabulously wealthy, and was named Cif Amotan II. The name is an anagram of “I am fiction.”

In the online Netflix mockumentary video clip version^{xxii} the artist proclaims he discovered amazing objects in the sea *that has not been seen for lifetimes* – something he professes to be *completely unbelievable!* In the full

90-minute mockumentary we learn that the Venice biennale exhibition took 10 years to create, and some \$65 million to produce but was not the expected comeback exhibition that Hirst had been hoping for. The much more modest Haifa exhibit staged many of the key works, but in spite of the downscaling it was just as unbelievable. The exhibition opened with a video of the fictional discovery of the ancient shipwreck off the coast of East Africa, that supposedly took place in 2008, setting the scene and making for a very convincing entrée into the exhibition.



Hazan-Fig 2. Recovering Micky, Photo of video, *Treasures from the Wreck of the Unbelievable*, released on Netflix, © Susan Hazan, 2019



Hazan-Fig 3. *Micky Mouse*, resin coated to appear bronze and encrusted with aquatic debris, © Susan Hazan, 2019

Hirst reportedly spent \$65 million to stage a fictional shipwreck and the complex recovery operation of the antique sculptures, he claimed were ancient artifacts found at sea. Divers pull a barnacle-encrusted Micky-Mouse-like form from

the seabed, to carefully stow it away amongst the rest of the precious cargo; of their long-lost treasures; including a monkey apparently sculpted in gold, and Medusa, snakes twisting sinuously from her head looking more like diver's air pipes.

Arranged in the Haifa gallery visitors could make the obvious connection from the sea-drenched artworks to the meticulously shiny objects perched on their exquisitely lit pedestals. Micky Mouse's corals and barnacles had been sculpted to perfection, making the trompe d'oeil sculpture highly persuasive.



Hazan-Fig 4. Golden Monkey, © Susan Hazan, 2019



Hazan-Fig 5. The newly discovered *Medusa*, Photo of video in the gallery, *Treasures from the Wreck of the Unbelievable*, released on Netflix, © Susan Hazan, 2019

Through this lavish display of art and artist, Damien Hirst tricks us into believing the veracity of our own eyes, as well as institutional framing of a work of art in a museum – exploiting our implicit trust; yet confounding the truth in such institutions. Sadly, at the end of the day, what he is saying is that ultimately the truth no longer exists anywhere, anymore and no institutional framing can persuade us otherwise.

In Hist's own words ... *Its unbelievable to start with, but that is what makes it believable.*

Faked reality - the Museum of Jurassic Technology

The notions of truth and veracity in the Museum are inherently bewildering. As inscribed in legislation, and through their traditions of integrity and open-door policy, museums assure their public of their authority to collect, conserve and exhibit the cultural heritage on behalf of their public. Through this social contract we are also required suspend our disbelief as soon as we walk through the door and tune into the narratives spread out before us; taking in the concrete proof of the physical object as the undeniable evidence that convinces us of the storyline. Confounding the very notion of the integrity of the museum to tell *the truth*, however, the Museum of Jurassic Technology in Los Angeles, California tells another story. Promoted as an educational institution dedicated to the advancement of knowledge and the public appreciation of the Lower Jurassic, their narratives do not fall into any known museum category.^{xxiii} This is David Wilson's Museum, whose institutional mission reads:

Like a coat of two colours, the Museum serves dual functions. On the one hand the Museum provides the academic community with a specialized repository of relics and artefacts from the Lower Jurassic, with an emphasis on those that demonstrate unusual or curious technological qualities. On the other hand the Museum serves the general public by providing the visitor with a hands-on experience of "life in the Jurassic"
Wilson, the Museum of Jurassic Technology website^{xxiv}



Hazan-Fig 6, Museum of Jurassic Technology Facade - 9341 Venice Blvd. in Culver City, CA^{xxv}

The street address, 9341 Venice Blvd., Culver City, CA, 90212, attests to its material presence, and by its portrayal in Lawrence Weschler's book, published in 1995, *Mr. Wilson's Cabinet of Wonder: Pronged Ants, Horned Humans, Mice on Toast, and Other Marvels of Jurassic Technology*^{xxvi}. The publication not only described the Museum of Jurassic Technology but also the history and the role of museums. According to information on the museum's website, the museum is open four days a week: Thursdays from 2:00 PM to 8:00 PM., and Fridays, Saturdays and Sundays from 12:00 noon to 6:00 PM, which I include here as the evidence of a physical museum, in that the museums seems to keep regimented opening hours. I must, however, admit that I gathered this information from the website, and have not had an opportunity to actually visit the museum myself. In this case I have to double my trust; firstly, that the museum actually exists, and secondly that the museum website is telling the truth. I have since been assured by more than one person that the place does exist and does keep regular opening hours.

On the Museum website, Mary Rose Canon, (her sepia photo is included) recounts the history of the museum in an essay that describes the founders of the museum, *The Thums: Gardeners and Botanists*. Canon provides information on the lives of two central figures in the history of the Museum, Owen Thum and Owen Thum the Younger, who have been variously identified in the narrative as living in Xenia, Ohio, Rodenta, Nebraska, and in

Platt, Nebraska in 1919. Their obscure history tells a tale of the Thum's botanical gardens, their gardening careers and their passion for collecting, and alludes to the Tradescants^{xxvii} with a specific reference, noting how during the ten years in which the Thums had inhabited South Platt, their house and garden had become renowned as *Thum's Ark* (an echo of the Tradescant Ark?), throughout the county and, in fact, the entire state^{xxviii}.

The artefacts on display are no less confounding. The exhibition in the Thum Gallery, *Tell the Bees... Belief Knowledge and Hypersymbolic Cognition*, offers a rambling narrative that starts with Alexander Fleming's remedy, his extraordinary fungal cure (penicillin), and explains how Fleming had spent years investigating a range of home remedies, folk lore, and vulgar remedies. In Weschler's account, he dons a pair of headphones in the company of Mr Wilson, and sits down to the audio portion of the slide show that accompanied the exhibition, to listen to Fleming's own voice, or what Wescher describes as 'a Scottish voice of raspy, wire-recorder quality'. Weschler evidently was impressed with the first-rate production qualities of the tape, 'blending subtle music, crisp sound effects and a solid-seeming narrative' (1995: 100). *The go tell the bees* tale goes on to recount *the numerous healing traditions, pharmaceutical advances, superstitions, and folk remedies that all seem to relate (in the anonymous narrative's terminology) to vulgar knowledge, which, the voice of authority in the recording laments, has since been ghettoized and denigrated.*

The message of the narrative resembles the Hellenistic Greek tradition of tying a piece of funeral crepe to a beehive and the practice of bringing 'funeral sweet hives for the bees to feed upon' (see museum website). According to the Hellenistic Greek/*Jurassic* tradition, in this way, the bees are then invariably invited to the funeral and have, on a number of recorded occasions, seen fit to attend. The narrative ends in a plea: *Like the bees from which this exhibition has drawn its name, we are individuals, yet we are, most surely, like the bees, a group, and as a group we have, over the millennia, built ourselves a hive, our home, not to turn our backs on this carefully and beautifully constructed home especially now, in these uncertain and unsettling times.* (Museum of Jurassic Technology website narrative). You can, of course purchase the *Tell the Bees* T-shirt from the museum shop for less than \$20^{xxix}.



Hazan-Fig 7. *Tell the Bees* T-shirt, Museum shop, Museum of Jurassic Technology shop

The permanent collections in Gallery I includes the *Megolaponera Foetens*, the stink ant of the Cameroon of West Central Africa. Besides the photograph of the very weird looking insect, the visitor is beguiled by another strange tale... the stink ant, one of the very few to produce a cry audible to the human ear, while looking for food, is infected by inhaling a microscopic spore from a fungus of the genus *Tomentella*, which causes changes in the ant's patterns of behaviour. Driven on by the growth of the fungus, the ant climbs a tree where it impales the plant with its mandibles and waits to die. The fungus continues to consume first the nerve cells and finally all the soft tissue that remains of the ant. After approximately two weeks, a spike appears from what had been the head of the ant.



Hazan-Fig 8. *Megolaponera foetens*, the stink ant of the Cameroon of West Central Africa^{xxx}

According to the Museum label, this spike is about an inch and a half in length and has a bright orange tip heavy with spores, which rain down onto the rain forest floor for other unsuspecting ants to inhale. Interestingly, in a *Google* search on the *stink ant*, apart from the direct links to the Museum of Jurassic Technology, several links lead to well organized entomology and biology websites, which all in turn link to the Museum of Jurassic technology and the one and only reference to the *Megolaponera foetens*. (This does not in any way preclude either the existence of the ant or its strange tale, but, in an effort to forage for further information, I did write to the museum for further information on this point, but, as yet, received no answer). Exhibiting the bizarre, paranormal, beguiling, and merely baffling, Mr. Wilson's museum no doubt captures the imagination of all who visit; the blur between the astonishingly real and the fabulously fake, however, is likely to leave the visitor dizzy and perplexed.

Conclusion

While The Museum of Jurassic Technology could be read more as a highly elaborate and sophisticated form of performance art, in that it deliberately sets out to beguile, in doing so, it also confounds the visitor as it transgresses with impunity the very integrity of a museum – the institutional mission to tell the truth. Just in the same way that Hirst frames his unbelievable artefacts in the gallery as true fiction, the visitor to the Museum of Jurassic Technology finds himself alternating between truth and fake; scratching his or her head and wondering whether any of this could possibly be true. *And it's that very capacity for delicious confusion*, Wilson suggests, *that may constitute the most blessedly wonderful thing about being human*. (1995: 60) However, the poetic licence granted to art and artists, however, takes into account the crossing of boundaries, and in doing so is able to frame these kinds of performances as a 'stretching' of reality, rather than the 'representation of reality,' as the traditional museum would demand.

In conclusion, learning to decipher truth from deep fake demands new skills and new critical capabilities, such as those being taught to our children in Scandinavia and Italy. New kinds of research that is evolving in companies and universities has begun to confront technological challenges in combating deep fakery is also crucial. At the same time while the museum traditional frames physical realities, and canonical chronologies under its' institutional umbrella, in the case of artistic creatively there is more leverage to act, confident of the stamp of integrity and authority that is almost universally bestowed upon collections and exhibitions in, and by the museum.

The museum, in fact, has a vital role to play in mounting exhibitions to enable these kinds of conversations and opens up discourse by physically locating these kinds of exhibitions in the museum gallery where 'truth' is of prime value. This chapter has considered deep fake in binary opposition to cultural truth, but of course, things

are more complicated than that. When an artist or even an entire museum crosses that Rubicon, alarm bells start ringing, especially when custodians of cultural heritage take action in the age of a digital reproduction.

ⁱ Video manipulations

https://en.wikipedia.org/wiki/Video_manipulation

ⁱⁱ Golding, V. (2014), *Museums and Truths: the Elephant in the Room*, In *Museums and Truth*, Edited by Annette B. Fromm, Viv Golding and Per B. Rekdal, 2014, Cambridge Scholars Publishing

ⁱⁱⁱ After the Flat World, Comes the Deep World: A Conversation with Thomas Friedman

<https://www.haaretz.com/us-news/.premium-thomas-friedman-for-our-deep-world-to-win-u-s-and-china-must-rise-toget-1.7914948>

^{iv} How a smoker can buy health insurance, Economic Times, 2019

<https://economictimes.indiatimes.com/wealth/insure/health-insurance/how-a-smoker-can-buy-health-insurance/articleshow/69953046.cms?from=mdr>

^v Shoshanna Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*, New York: Public Affairs-Hachette Book Group, 2019

^{vi} *I Daniel Blake*, 2016

https://en.wikipedia.org/wiki/I_Daniel_Blake

^{vii} Trump tweets fake photo of Isis raid dog, and appears to declassify its name, Guardian Online, October 30, 2019

<https://www.theguardian.com/us-news/2019/oct/30/trump-latest-news-tweet-dog-isis>

^{viii} *Trump Tweets Faked Photo of Hero Dog Getting a Medal*, New York Times, October 30, 2019

<https://www.nytimes.com/2019/10/30/us/politics/trump-dog.html?auth=linked-google1tap>

^{ix} Fake Obama created using AI tool to make phoney speeches

<https://www.bbc.com/news/av/technology-40598465/fake-obama-created-using-ai-tool-to-make-phoney-speeches>

^x Synthesizing Obama: Learning Lip Sync from Audio

<http://grail.cs.washington.edu/projects/AudioToObama/>

^{xi} What are the ethics of CGI actors – and will they replace real ones? New Scientist, January, 2020

<https://www.newscientist.com/article/2230205-what-are-the-ethics-of-cgi-actors-and-will-they-replace-real-ones/#ixzz6BYTQH000>

^{xii} EPFL develops solution for detecting deepfakes

<https://actu.epfl.ch/news/epfl-develops-solution-for-detecting-deepfakes/>

^{xiii} Center for Digital Trust, (C4dt) EPFL, Lausanne, brings together 12 founding partners, 34 laboratories, civil society, and policy actors to collaborate, share insight, and to gain early access to trust-building technologies, building on state-of-the-art research at EPFL and beyond.

<https://www.c4dt.org/>

^{xiv} Fake news: BBC and tech firms join forces to fight disinformation, BBC online, September, 2019

<https://www.bbc.com/news/technology-49615771>

^{xv} How Finland is fighting fake news - in the classroom

<https://www.weforum.org/agenda/2019/05/how-finland-is-fighting-fake-news-in-the-classroom/>

^{xvi} *Parole O_Stili*, Social awareness project against the use of hostile language

<https://paroleostili.it/?lang=en>

^{xvii} Translations - Parole Ostili

<https://paroleostili.it/translations/?lang=en>

^{xviii} Medical imaging, Wikipedia

https://en.wikipedia.org/wiki/Medical_imaging

^{xix} The Museums Taskforce report and Recommendations, Museums Association, UK, 2016

www.museumsassociation.org

<https://www.museumsassociation.org/download?id=1246>

^{xx} Haifa Museum of Art, *Fake News Fake Truth*

https://www.hma.org.il/eng/Exhibitions/6964/%22Fake_News_%E2%80%93_Fake_Truth%22

^{xxi} Damien Hirst's Shipwreck Fantasy Sinks in Venice

<https://hyperallergic.com/391158/damien-hirst-treasures-from-the-wreck-of-the-unbelievable-venice-punta-della-dogana-palazzo-grassi/>

^{xxii} 'Treasures from the Wreck of the Unbelievable' released on Netflix
<https://vimeo.com/248348102>

^{xxiii} Museum of Jurassic Technology
<http://www.mjt.org>

^{xxiv} The Museum of Jurassic Technology
<http://www.mjt.org/themainpage/main2.html>

^{xxv} Museum of Jurassic Technology
https://commons.wikimedia.org/wiki/File:Museum_of_Jurassic_Technology_Facade_-_9341_Venice_Blvd._in_Culver_City,_CA.jpg

^{xxvi} Weschler, L. 1995, *Mr. Wilson's Cabinet of Wonder: Pronged Ants, Horned Humans, Mice on Toast, and Other Marvels of Jurassic Technology*, Random House

^{xxvii} John Tradescant the Elder (1570s – 15–16 April 1638), and father of John Tradescant the Younger, was an English naturalist, gardener, collector and traveller. The Tradescant Ark was the prototypical "Cabinet of Curiosity", a collection of rare and strange objects, that became the first museum open to the public in England, the Musaeum Tradescantianum.
https://en.wikipedia.org/wiki/John_Tradescant_the_Elder

^{xxviii} The first Museum in Britain was John Tradescant's Ark in Lambeth. The Tradescants (father and son) were plant hunters and collectors of Curiosities. The Museum included natural history objects as well as antiquities, and ethnography. The collection was eventually, and somewhat controversially, inherited by Elias Ashmole, who set up the Ashmolean Museum in Oxford using Tradescant's Ark.

^{xxix} *Tell the Bees* T-shirt from the Museum shop
<http://www.mjtgiftshop.org/products/tell-the-bees-t-shirt>

^{xxx} *Megolaponera Foetens*, the stink ant of the Cameroon of West Central Africa
http://www.mjt.org/exhibits/foundation_collections/stink_ant/stinkant.html