MBD 2020
MUSEUM BIG DATA

MUSEUMS ON LOCKDOWN: UNLEASHING NEW OPPORTUNITIES FOR CREATIVITY AND EXPERIMENTATION WITH BIG DATA
22-24 OCTOBER 2020
Onsite and online conference in Nicosia, Cyprus

Mining Big Data for Agile Narratives

Dr. Susan Hazan

- Abstract
- Revision of the traditional museum
- Challenging imperialist and gendered imperialism
- Conceptual framework for agile narratives
- Big data, automation, and agile thinking – case studies

Abstract
Several historical figures have recently been 'pushed off' their pedestals recently; some figuratively while others more literally For example, in the British Museum, the bust of slave owner and Museum founder, Sir Hans Sloane was quietly moved from his pedestal to a nearby cabinet in the Enlightenment Gallery because of his links to the slave trade. Not far away, the Statue of Edward Colston, ignited public wrath due to his involvement in the Atlantic slave trade and was forcefully hurled into the Bristol Harbour during the George Floyd protests motivated by the Black Lives Matter movement. The statue was later recovered from the harbour and put into safe storage.

What is causing this fury? And why are people all over the world calling for a revision of traditional museum narratives and demanding their re-writing to include alternative voices of history [herstory]? According to BM Director, Hartwig Fischer *dedication to truthfulness when it comes to history is absolutely crucial,* but then again, truth is relative. When we see this anger flaring up against immovable stone and bronze statues in public squares in so many towns and cities, we can perhaps recognise how this battle-cry could be read as the Me-Too Movement for museums around the world.

Moving significant objects from gallery to gallery and re-witing history is demanding. The British Museum now sets the stage for Sir Hans Sloane with updated information for visitors, both in the gallery and on the website, but revising narratives demands a special kind of 'agile'[i] thinking and needs to be directed by a more open and reflective voice to include alternative histories and different perspectives. This means rewriting history, or at least its telling as we excavate, and re-purpose the object descriptions in the metadata buried in data-silos, often secreted separately from the objects. New kinds of narratives could then evolve, connecting museum collections to alternative histories in federated searches[ii], not only from museums and other related GLAM's, but also to historical sociaties, municipality websites, social media, and shipping trade records. The potential for these kinds of linked histories through the mining of big data is only now just becoming possible through evolving machine readable strategies and semantically queried linked open data.

There is a lot of work ahead to facilitate these kinds of searches across disparate databases and the various, distributed ecosystems of records, but once the conceptual framework for this kind of agile thinking has been initiated, the process for fully automated, federated and open retrieval can evolve.

This paper frames the problematics of these challenges on several levels; considers the collections, the stories they tell and the metadata that describes them. Moving beyond the descriptions, we examine the code that directs them to see how all sorts of biases creep into the data and - moving even deeper - examine how the algorithms that drive these actions can be polluted with their own micro-biases. In conclusion there are four examples of ways these challenges are being met and how new paradigms of thinking are opening up new pathways towards the evolution of agile narratives in big data.

Revision of the traditional museum

There are many issues driving the Black Lives Matter (BLM) movement that is currently wrenching the cultural sector. There are the big narratives; best illustrated perhaps by the demise of three gentlemen, Sir Jon Sloane, (1660-1753), Edward Colston, Tory Member of Parliament (1636-1721), and Admiral Christopher Columbus (1451-1506). There are the smaller, more personal stories, such as those in the workplaces of black, Indigenous and people of color (BIPOC), lesbian, gay, bisexual, or transgender, and others (LGBTQ+). And then there are the tiny stories as related by the algorithms. Just as the big stories perpetuate these iniquities, so do those invisible, machine-readable stories that are already infused with biases as they continue to disseminate the narratives of our cultural heritage from generation to generation. The problem is if we ignore these processes, we will continue to propagate these invisible biases as we continue to document and communicate our cultural heritage into the future.

Fig. 1. Three Gentlemen, Christopher Columbus, Hans Sloane and Edward Colston

This chapter starts with the first of our three gentlemen: The Baronet (1660-1753), a Tory Member of Parliament (1636-1721) and an Admiral (1451-1506). British Museum Director, Hartwig Fischer describes our hero as physician by trade[iii], but he also notes how Sir Hans Sloane was also a collector of objects from around the world. By his death in 1753 he had collected more than 71,000 items that he

bequeathed to the nation in his will. His objects were to become the founding collection of the British Museum. However, rather unceremoniously, the bust of slave owner and museum founder Sir Hans Sloane was quietly moved from his pedestal recently to a nearby cabinet in the Enlightenment Gallery because of his links to the slave trade. "*Dedication to truthfulness is crucial, when we face our own history,"* remarked Fischer in a statement widely reported in the local and international press, adding how "*Sloane allows us to highlight the complexity and ambiguity of this period, he was a physician, collector, scholar, benefactor and slave owner*."

Fig. 2. Bust of Hans Sloane, in the British Museum

The bronze statue of Tory Member of Parliament, Bristol-born merchant Edward Colston, our second hero, was erected in Bristol, England. It was originally forged in 1895 by sculptor John Cassidy and proudly placed on a plinth of Portland stone. The statue, however, had been the subject of increasing controversy since the 1990s, when Colston's reputation as a philanthropist came under scrutiny due to his involvement in the Atlantic slave trade. In May 2018 his statue suffered a 'wool bombing' and, the same year, an unofficial guerilla art exhibit appeared overnight when the bronze Colston found himself surrounded by some 100 human figures laid out at his bronze feet. But the ultimate retaliation was still to come. On 7 June 2020, the Statue of Edward Colston was toppled, defaced, and dumped into Bristol Harbour during the George Floyd protests related to the Black Lives Matter movement. The plinth was also covered in graffiti, but remains in place until today. The angry mob attacked the bronze effigy in recognition of the slave owner's responsibility for at least 30,000 deaths, but not all members of the public concurred with this sentiment. Another group, including several high-profile politicians of colour including the UK prime minister, decreed the violent watery end as unlawful and "utterly disgraceful".

Fig. 3. What happened after, repairing the damaged sculpture, the empty plinth, Banksy's vision

Even the empty plinth was contested. The infamous graffiti artist and activist Banksy posted a drawing of Colston together with figures of the protesters who had torn it down arguing that, when the statue is put back on display, the story will be told of why he was erected and how he was toppled. Meanwhile …. a team of conservators working on the broken, bronze Colston after he was retrieved from the water discovered a preserved rolled-up magazine squirreled inside the statue. It had been signed by the men at the Coalbrookdale Foundry that cast him and hidden inside more than a hundred years ago – yet another story that needs to be told.

Our third hero, the Admiral is beginning to be denied his annual festive holiday, as Columbus Day is gradually being replaced with the new celebration of Indigenous Peoples Day. Indigenous people have long resented the holiday, as Columbus's arrival was the first step in their genocide when the millions of indigenous Taíno people were enslaved and massacred upon Columbus's arrival, and saw their population reduced by as much as 85 percent within a few decades. The brutal colonization of two continents was soon to follow. According to CNN[iv], in October 2020, Virginia was the latest state to officially observe Indigenous People Day as a federal holiday, bringing the number to a total of 14 states and 130 cities. But what is causing this seismic shift in the public imagination and how does this effect the way these kinds of national narratives are being revisited in the museum such as in the poignant example of the Sloane bust relocation? Perhaps it is the right time not only to reconceptualize the collections, but perhaps even the museum project itself. This of course would not only be almost unworkable but even if accomplished, at least partially, it would be also extremely expensive. What might be feasible, however, would be to leave the objects in place and rethink and reinterpret their stories from additional viewpoints.

This is already happening with several post-colonial collections. In the recent publication, *The Brutish Museum* (2020) by British archaeologist and anthropologist Dan Hicks, Professor of Contemporary Archaeology at the University of Oxford, and Curator at the Pitt Rivers Museum goes beyond familiar African history to reveal the real truth behind the sacking of Benin City. Hicks draws on these brutal acts as a case study to map out how the looted Benin Bronzes came to end up in their glass display cabinets in museums around the world, exemplified as the trophies, amongst many others - of the spoils of the Empire. *To this day, many academic disciplines*, according to Hicks, *anthropology and archaeology – and my institutional workplace – the anthropological museum – are implicated in this history of racism, the degenerate display of supposedly 'savage' culture reduced to material form. Brute force, brutish display* (P.46, 2020).

Curators such as Hicks are suggesting new practices and inspiring new ways of interpreting collections to address these critical challenges. There is, however, much work to be done, but the first step, as always is in the recognition of the problem and identifying the scope of work that needs to be done.

Challenging imperialist and gendered imperialism

> *For black people, the sad truth is the system was never built for us. Following our freedom from **overt slavery**, we were told to go forth as free individuals and expected to perform at the same level as our white counterparts yet **covertly enslaved** through obstacles in forms of hiring discrimination, police brutality, racial profiling and education to name a few.* (Aghogho Akponah, 2020).[v]

Museum histories portray entangled histories; stories of sometimes brutal imperialism and deeply embedded biases. Even with the best intentions to unravel them it will take a tremendous effort and a considerable measure of agile thinking. We are all entrenched in our own histories; driven by our own narratives; often unconsciously, and it is strangely difficult to move past our traditional comfort zones to embrace another's narrative. The journey often overarches human suffering, and the unraveling of these pathways involves revisiting painful histories. Perhaps a gentler way to dive into these issues and to grasp the depth of these challenges is through the less person-focused field of botany. Alexandre Antonelli, Professor of Biodiversity, Director of Science, Royal Botanic Gardens, Kew suggests *it's time to decolonise botanical collections of the Herbarium at the Royal Botanic Gardens Kew.* He argues *in my own field of research, you can see an imperialist view prevail. Scientists continue to report how new species are "discovered" every year, species that are often already known and used by people in the region – and have been for thousands of years.* His solution is to suggest that plants and fungi can be part of the solution. *At Kew*, he argues, *we're sharing knowledge accumulated during our long botanical history with partner organisations in countries around the world to meet those challenges. In Ethiopia, we are investigating the potential for enset (the "false banana") to become a major source of nutrition for sub-Saharan Africa.* Transposing these processes to social values and universal ethics demands attentive curation and an unwavering dedication to rewriting history – as well as planting new facts on the ground - when demanded.

This chapter, however focuses on what is called the Fourth Industrial Revolution[vi] (or Industry 4.0) and the pervasiveness of machine readable solutions which appear to bypass human intervention yet may actually corrupt data. Rather than being innocent the omnipresent machine-to-machine automated processes are imbued with their own predispositions; those coded by humans who may transpose their own biases through pre-trained data and a penchant for the easy way out in replicating privileged metadata solutions already in place. This reaches an even a greater magnitude in big data when massive datasets are automatically compiled, pre-polluted. In this example beyond the cultural heritage sector, part of the problem is driven by those who are training the data. Amazon's Mechanical Turk already embeds a vested interest in the performance of their data that is attuned to their own requirements. In order to create the optimal dataset, Amazon recruits, trains, directs and monitors their crowd workers and their standards and preferences are all pre-ordained. We should heed from the words of Professor Shoshana Zuboff[vii] who – discussing the major players in our digital eco-system Amazon, Facebook and Google - reminds us how…

> *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)

So, what is it that the main actors; expect to reap out of their enormous investments and why is it that we have forgotten to ask these questions? Even more problematic, however, is we don't really know what questions to ask? We are bedazzled by all the free services we enjoy. Kevin Kelly reminds us how…

At first glance, you might think that Google is beefing up its AI portfolio to improve its search capabilities, since search constitutes 80 percent of its revenue. But I think that's backward. Rather than use AI to make its search better, Google is using search to make its AI better. Every time you type a query, click on a search-generated link, or create a link on the web, you are training the Google AI. (Kelly, 2016, P. 37).

It seems that ***we*** are being trained to train.

Some companies are successfully using AI to train their algorithms and it is always interesting to learn how various companies train their images. According to an article in the New Scientist, Facebook AI learned object recognition from 1 billion Instagram pics[viii]. *Training the AI took around a month*' they explain '*using 500 specialist chips called graphics processing units. It achieved an accuracy of 84.2 per cent in identifying the contents of 13,000 images it had never seen from the ImageNet database of images, which is often used to classify the effectiveness of computer vision tools'.* But although this sounds innocuous – totally automated – totally free from human intervention, it isn't always so.

While writing this chapter I uploaded images to illustrate my text and on doing so was prompted by Microsoft with this self-generated caption… *A group of people riding skis on top of a building*. Although I was entertained by this particular interpretation of the Grand Court in the British Museum, and even more amused by this absurd suggestion, I was, however, very much less amused when it occurred to me that I was training Microsoft's Word to identify this particular image correctly so that when the next person saw the caption prompt it would be saw more accurate. Try it – if you dare- find out see what Microsoft offers **you** as a caption!

Fig. 4. Screenshot of caption prompt in Word © Susan Hazan, 2021

But not all trainers are as self-invested. Maria Cristina Marinescu, coordinator of the *Saint George on a Bike* project at Europeana[ix], and senior researcher at the Computer Applications in Science and Engineering department (CASE) of BSC suggests…

> *Training AI to be aware of cultural heritage contexts is not as simple as teaching it to identify different objects in a modern picture. Saint George on a Bike is fine-tuning the algorithms so that they 'think' in context and time. The AI we are developing will be able to tell whether a painting shows Saint George on a horse or a bike. This is not as easy as it sounds because the shapes are similar. By training it in various cultural heritage elements, including the first appearance of the objects depicted and the period the painting is from, the AI algorithm would conclude that a 16th century painting of Saint George would logically depict a horse rather than a bike.*

So, what can we learn from these examples? Firstly, when there is hidden human labour required to train a machine; there is a potential design fault; especially when there is an inborn bias. Big data magnifies these biases exponentially because, at the end of the day, it is often human agency that has been doing the irreversible hard coding. Not all biases are malicious of course, they can be often unconscious or unintended but still very much present in the data. The realization that a system or big data set *might not be objective* must always be taken into consideration and large automated systems should be approached with caution. The following examples describe how this happens, and even with the best of intentions, data and metadata can be easily tainted.

Twitter has recently apologized for a “racist” image cropping algorithm, after users discovered the feature was automatically focusing on white faces over black ones. The company says it had tested the

service for bias before it started using it, but now accepts that it didn't go far enough[x]. There has also been a lot of deliberation[xi] with the claim by the MIT research group[xii] that Amazon's Rekognition correctly identifying light-skinned males with an accuracy of 99% but the accuracy drops drastically for females, who are identified as men 19% of the time. It mistakes dark-skinned women for men 39% of the time. Clearly this is an evolving arena and while we are hearing about these kinds of biases, we are also seeing interventions that improve the systems. A more ominous example of racial bias has been identified in the CGI movie industry with a call for urgent action by OpenAI and Stanford researchers to address harms of large language models like GPT-3[xiii]. According to a report in the American Scientific…

> *Journal articles on "skin rendering" often feature a single image of a computer-generated white person as empirical proof that the algorithm can depict "humans." Today's moviemaking technology has been built to tell white stories, because researchers working at the intersection of art and science have allowed white flesh and hair to insidiously become the only form of humanity considered worthy of in-depth scientific inquiry. Going forward, we need to ask whose stories this technology is furthering. What cases have been treated as "normal," and which are "special"? How many humans reside in those cases, and why?* [xiv] (Theodore Kim, 2020).

It seems that CGI can be just as biased as algorithms, which, if left to their own devices can be racist, sexist and ageist. None of these processes are innately objective, however. Clearly, we need to intervene.

Conceptual Framework for Agile Narratives

Cultural heritage practitioners create descriptive metadata in different ways: by employing professional catalogers who tend to speak in the institutional voice; by enlisting the help of the general public via online interfaces, often described as Citizen Science and exemplified in the extraordinary Zooneiverse[xv] projects, or by automation, more recently using algorithm-based tools and machine learning, like pattern recognition as described in the examples above. From whichever method descriptions are sourced, we need to think about the agile production of narratives that support the alternative, but essential stories that were previously invisible. Contemporary practices are often described as The Fourth Industrial Revolution[xvi] (or Industry 4.0), seen as the ongoing automation of traditional manufacturing and industrial practices, using smart technology. Large-scale machine-to-machine communication (M2M) and the internet of things (IoT) are integrated for increased automation, improved communication and self-monitoring, and production of smart machines that can analyze and diagnose issues without the need for human intervention.

One way to re-scope our thinking can be inspired by a feminist perspective. For example, the Feminist Internet[xvii] are a series of statements that offer a gender and sexual rights view on critical internet-related rights. Currently they describe a total of 17 Principles organized in clusters; together they provide a framework for women's movements to articulate and explore issues related to technology. One of the principles describes how education can be *the key to eradicating ignorance and prejudice. Through listening to and learning from its multitude of voices and their stories, it asserts that there is no one universal experience or learning style. This enables access to all information, but particularly promotes education around sexual health and identity politics.* The Feminist Internet was collectivly created during the initial workshop in September 2017 and encourages all to be aware of own own privileges and powers while at the same time acknowledging the negative experiences of marginalised groups and creating a world where nobody is oppressed, silenced, exposed or confined based on sex, gender, race or disability. It is a space that causes no harm, and where all people are equal.

How can we extrapolate these lofty principles from the meta experiences of technology in our lives to protect against the partialities of the micro biases of the algorithm?

The following graphic (developed by Safehouse Progressive Alliance for Nonviolence (2005) and adapted by Ellen Tuzzolo (2016) lists many of the ways in which overt and covert racism shows up in our lives. Racism towards black people, especially covert racism, is pervasive throughout our culture, and many white people may not be aware they are inadvertently contributing to this. White supremacy privileges white people over people of color and can occur at the individual (micro) level and at a structural (macro) level. In this graphic, examples of ***overt*** white supremacy are listed above the black line at the top of the graphic. Below the black line in the graphic are numerous examples of ***covert*** white supremacy, including some illegal actions, microaggressions and the effects of passive or active white privilege.

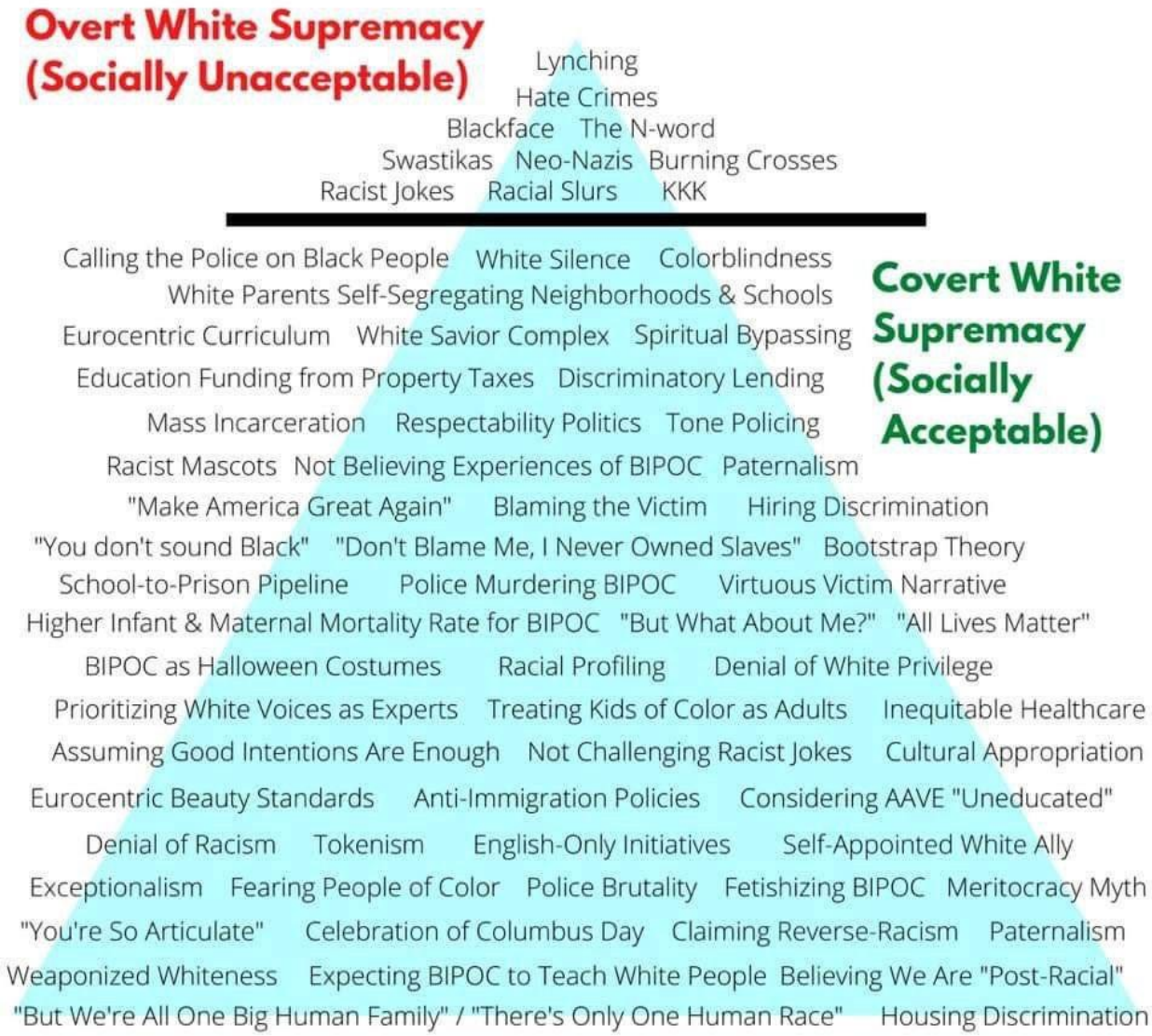

Fig. 5. Diagram attempting to illustrate and group examples of Overt White Supremacy

A number of these practices, including the degenerate or even brutal actions are far too easily transported into our digital world, and, at the same time there are many actions that sadly, have evolved exclusively from within our electronic communications. The second triangle illustrates how many of these aberrations mutate from the lived world to the digital, while others simple gestate there to be then born digital.

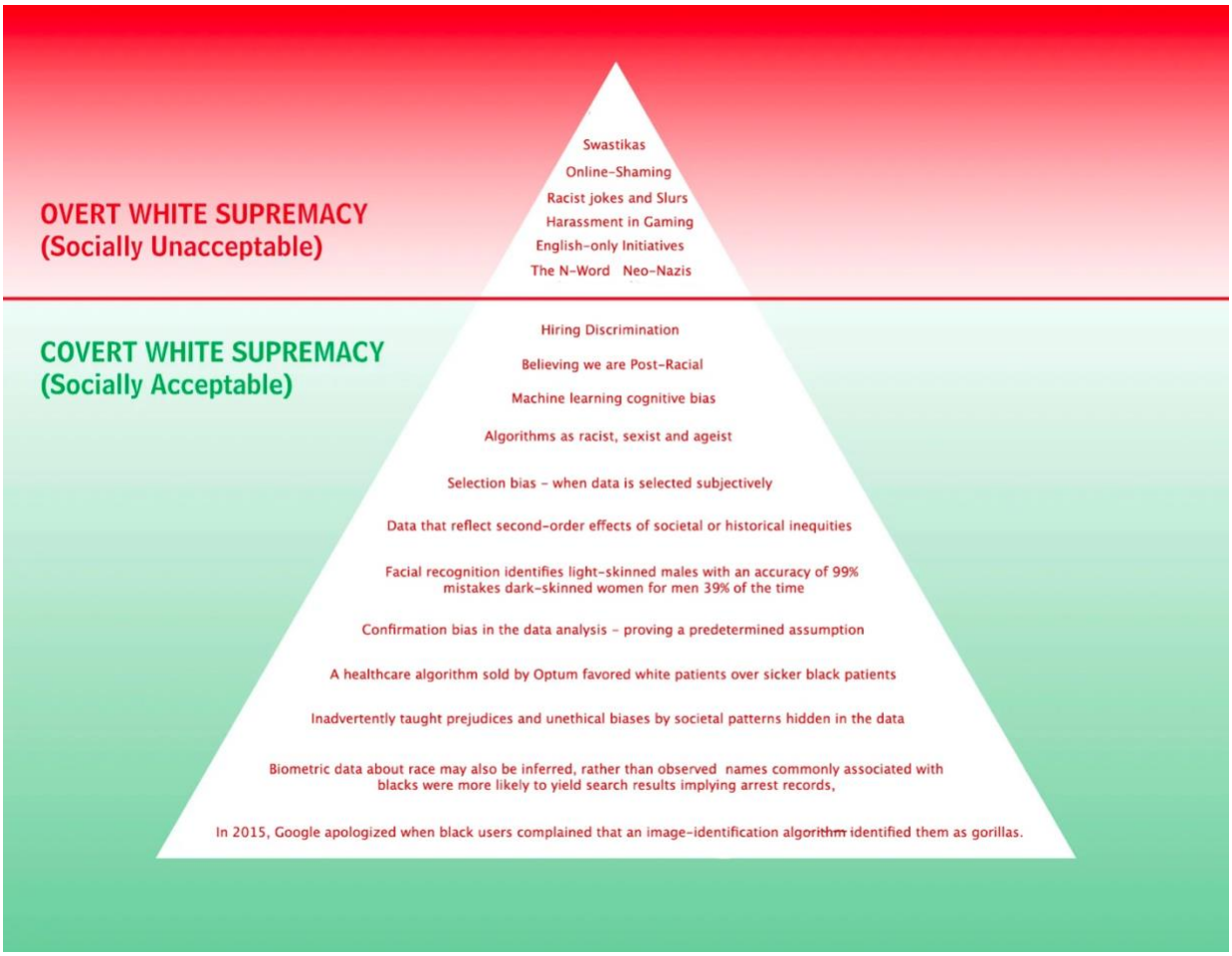

Fig. 6. Diagram attempting to illustrate and group examples of Overt White Supremacy Online, © Susan Hazan

The first steps to resolve any malevolency is first to acknowledge it exists, and often, we simply wave away these kinds of discriminatory actions in the digital as if a fleeting byte bears little consequence. I have discussed some of these dysfunctional aberrations in this chapter, but, as the diagram illustrates there are many others that would take up many more chapters to confront – let along resolve.

Instead of attempting to resolve so many problems I would suggest adjusting our mindset by introducing agile thinking into the way we render narratives in our cultural heritage conversations. In order to clarify this new mindset, I would like to start with the following diagram.

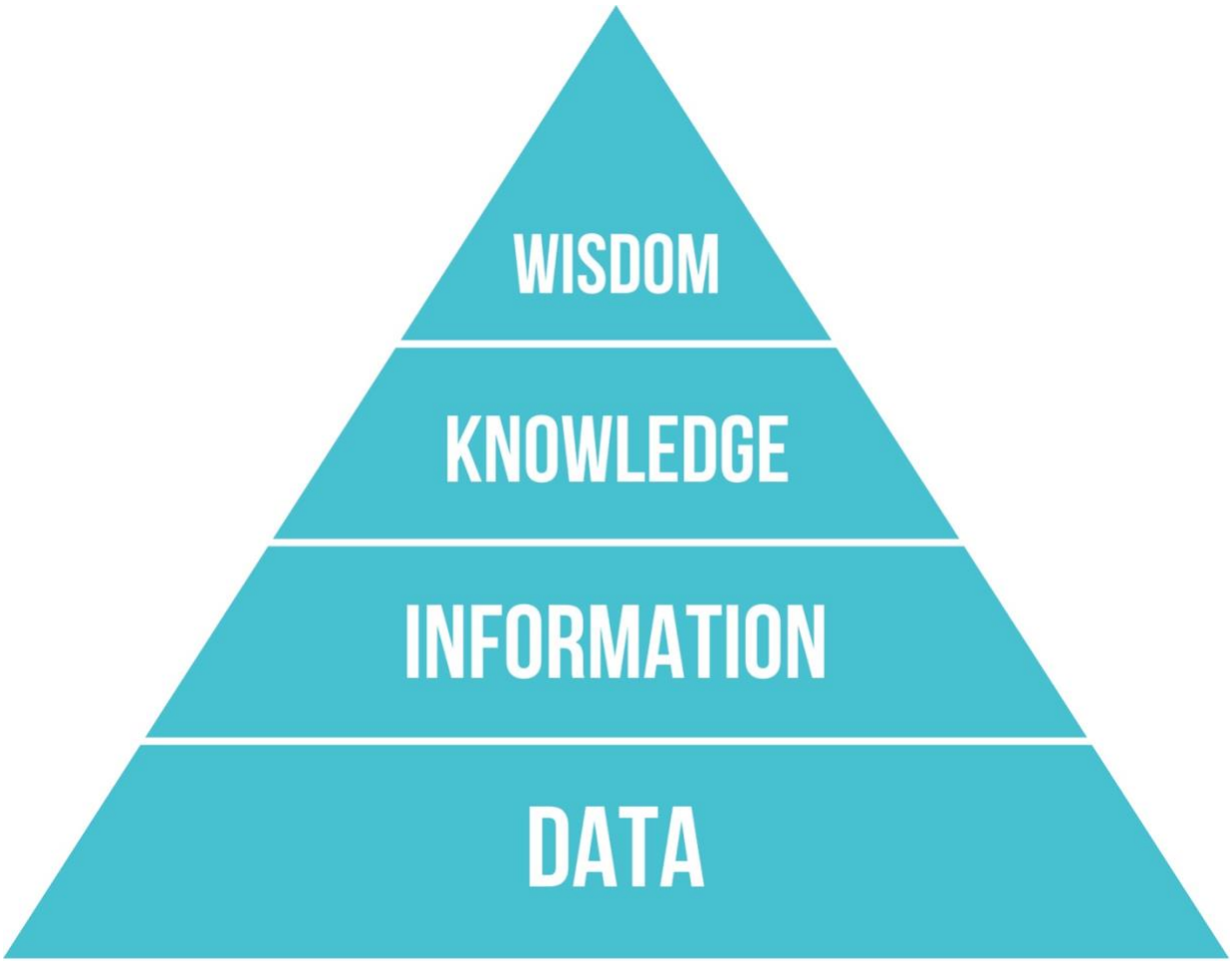

Fig. 7. DIKW pyramid - knowledge management

The pyramid illustrates the famous DIKW Hierarchy[xviii] that describes how how data becomes information, which then becomes knowledge, and, finally – at the top of the pyramid — becomes pure wisdom. DIKW, or at least the kernel of this thinking, originated from the play *The Rock* by T. S. Eliot in 1934 which contains wisdom-knowledge-information in the following lines:

> *Where is the Life we have lost in living?*
> *Where is the wisdom we have lost in knowledge?*
> *Where is the knowledge we have lost in information?*

In the context of cultural heritage, the gradual collecting and collating of the raw data (at the base of the pyramid) represents the individual objects of our cultural heritage and traditionally traces the curatorial doctrine. This is generally reflected as years of unambiguous research in a discrete academic area; the compiling and structuring of the raw data/objects that are described by compelling chunks of learned information which is then recombined with other informed resources to be fashioned and channelled to appear as pure knowledge. After years of curatorial work this knowledge is further distilled and evolves as an encyclopaedic entry or a 500-wise-word wall text to describe the wisdom encapsulated in a single rarefied museum object.

In the digital, and without any intervention, this hierarchy is simply replicated where we will find a transposition of this sequence iterated by the famous DIKW formula where the distillation of narratives flows in the following sequence. DATA -> **I**NFORMATION- > **K**NOWLEDGE -> to eventually re-appear as singular or universal **W**ISDOM.

Fig. 8. Multi-voice Pyramid, © Susan Hazan, 2021

DLAA approach - **D**ATA **-> L**INKED DATA (ONTOLOGIES) **-> A**LTERNATIVE WISDOM - **A**GILE NARRATIVES

If we invert this triangle and think about data as atomic components, we will be able to map individual objects, ideas, concepts to alternative ontologies; those silos of information that are not traditionally associated to the cultural heritage sector – shipping reports, historical societies, tribal records management systems, to create new associations and new insights. Reference models such as CIDOC CRM, described as a common language for domain experts and implementers, provide requirements for information systems and offer good practice in this kind of conceptual modelling. We can think of this as the "semantic glue" that mediates between different sources of cultural heritage information, such as that published by museums, libraries and archives.[xix] Combining cultural heritage data in this way through federated searches and linked open data can then make connections to disparate ontologies and connect narratives beyond their traditional sector. There are many tools that could support this process; Wikidata tools, linked open data vocabularies, and many other open source, free-to-use tools to connect to cultural heritage collections with Wikidata entities. Following the **DLAA** approach instead

of the traditional **DIKW** approach no longer produces a singular, or universal wisdom or story but a series of agile narratives that can branch out and speak in many voices and encompass a variety of perspectives. Imagine a museum object that allows you to search behind its front facing story on the traditional label or wall text to link up with unforeseen data-paths that been previously hidden from sight.

Big data, automation, and agile thinking – case studies

Where do we start? Firstly, we must challenge the historical convictions of received meta-narratives; we need to rethink curatorial and editorial interpretations of collections, as well as diving into the algorithmic implications of metadata descriptions where we can no longer presume neutrality in automated processes. There are clearly many different kinds of agencies that are driving these processes. To return to the Zuboff queries – *Who knows? Who decides? And Who decides who decides? (Zuboff, 2019. P. 231)*. We need to go behind the objects, re-investigate both the data and metadata that describe the objects and evaluate the semiotic queries that drive the algorithms. This demands new kinds of literacies and a recognition of the challenges of machine learning that is already threaded with all kinds of social relationships – not all benign. These are processes that demand attention from cultural heritage professionals but are also resonate with the experiences from many different sectors where automation is the imperative – autonomous vehicles, remote sensing, surveillance, deepfakes, face recognition, even in health management that the Covid-19 problems has recently so exacerbated. In the cultural heritage sector, the management of big data and other automated processes have already impacted the sector; they are driving editorial authorship, teaching, events management, retail, security, conservation and even curation and art production itself. None of these activities are essentially new to professionals working in their specific field but the seduction of upscaling processes though big data management may well result in an exponential magnification of flaws in the production that were previously minor and went unnoticed when they were executed on a smaller scale.

Unravelling all these intwined process is obviously challenging, but once there are examples of best practice in the digital heritage sector, these activities can be seen as models for others to follow. The next section introduces four examples of different kinds of interventions toward a more democratised interpretation of cultural heritage narratives, their actions and the processes that drive them.

- **Editorial and Curatorial** - The Europeana Collections Team
- **Community Action** - Citizen Curators: An Experiment in Cultural Democracy
- **Challenges of Representation** - Provisional Semantics
- **Addressing the Algorithmic** - bias detection and mitigation

1. **Editorial and Curatorial** - The Europeana Collections Team

Approaching questions of inclusion and diversity in Europeana's significant cultural heritage collections Marijke Everts and Jolan Wuyts, from the Europeana Collections Engagement Team[xx] are focusing their editorial strategy to enhance the representation of marginalised communities through their curation efforts. Towards this strategic goal, Europeana is promoting collections and curating exhibitions that exemplify narratives of black, indigenous and people of color (BIPOC); lesbian, gay, bisexual, or transgender, and others (LGBTQ+) communities to celebrate their histories and experiences. Through these kinds of stories, as well as those from and about people with disabilities and different religious backgrounds the team aims to open discussions around our shared past to redefine the context in which

Europeana's diverse hstories are told. The two-tracked curation and editorial pathways that drive these diverse and inclusive strategies result in exhibitions and blogs that pave the way for people to share histories – illustrated by a trove of data where everyone is represented, and everyone is celebrated. Exhibitions such as those showcased in the Womens' history campaign – including specifically black women - open up discussions on awareness, and blogs such as the *Drag Queens on Early Victorian Era* – introduce alternative communities to people across Europe and beyond. The exhibition, *Gowing up Black* spotlights celebrities such as American-born French entertainer Josephine Baker, and Alvin Ailey – black and gay, African American dancer, director, choreographer, and activist who founded the internationally renowned Alvin Ailey American Dance Theater. All these rich resources, highlighting previously underrepresented and misrepresented communities, provide a wealth of educational material that reflects on inclusivity and diversity. These resources, now easily findable and digitally accessible, extend the reach of the European classroom to serve the education community of all ages and from all backgrounds. In addition, this momentum from within Europeana and in the wider GLAM community can become a catalyst for change towards increasing social justice and equality for all European communities. As a ripple effect, these actions can curb discriminative behaviours through becoming familiar with other communities and can encourage a more mindful use of language and references.

Even the names of the Campaigns and Seasons already encapsulate this celebratory perspective: Black History Month, Women's History month, Pride Month, Disability Pride Month, Successful Women's History Month campaign, all present a vital corpus of European narratives. However, this is just the tip of the iceberg. There is a lot of work ahead of the team which is actively developing a series of new actions under the umbrella organisational drive towards more inclusivity and diversity.

2. **Community Action** - Citizen Curators: An Experiment in Cultural Democracy

Resonating with the idea behind the Citizen Scientist, Citizen Curator is is a work-based curatorial training and museum awareness course designed for volunteers who are already active in their own communities. The course is part of a four-year project that is based at the Curatorial Research Centre, in Penzance, Cornwall[xxi]. The curatorial practice is combined with the active research in their work, and which recognises the connection between the objects and the messages that are inherent in the curatorial space. They explain how the experiential learning programme was designed to support the democratisation of museum decision-making and to open up the knowledge locked in their collections. They also aim to provide the start of an alternative pathway into museum work with an emphasis on the emotive nature of the collection and the stories they tell. According to their democratic vision they argue *possessing that knowledge bestows a person power. It is the curator's purpose to share that knowledge (and its power) as widely and equitably as possible through brilliant communication and interpretation.* It is this power they wish to bestow on the citizen.

The Citizen Curators programme is a collaboration between Cornwall Museums Partnership, Curatorial Research Centre, and seven Cornish museums — Telegraph Museum Porthcurno; Penlee House Gallery & Museum; Museum of Cornish Life, Helston; Falmouth Art Gallery; Royal Cornwall Museum, Truro; Wheal Martyn Clay Works; and Cornwall's Regimental Museum, Bodmin. Their progressive approach is all about cultural democracy, the civic agenda, co-curation, co-production, co-creation. They are not the only museum to take up this challenge, there is almost a universal movement taking place around the world where trust and control is being shared by the community and where decision making processes are shouldered both by the museum and the public. We are seeing more and more how the public is invited to the table and becomes involved in the exhibition making process and management of the

collections. Of course, none of this is intrinsically new. These ideas have been around for many decades and have been inscribed in the concept of new museology. The expression 'new museology' is generally attributed to the French museologist, André Desvallees, who coined the term in his 1980 article on museology for the supplement of *Encyclopaedia Universalis* (France). The name also became the title of Peter Vergo's book (1989). The idea of 'a new museology' arrived in the UK at the end of the 1980's soon after the ecomuseum had appeared in France when, in the UK, the museum community faced a crisis at a time when funding was becoming scarce and when museums were concerned with having lost their direction. Inspired by Georges Henri Rivière's ecomuseum, new museology was identified with social action, not only as a reaffirmation of the institutions' social commitment to their public, but also as a concept that recognised the proactive role by the public in authoring the museum.

The Citizen Curators now asks how can citizens be supported in finding and articulating their own voice?

> *In all human societies, narratives and stories are central to creating meaning and understanding. Anthropological literature is replete with examples where narratives told as stories are instrumental to the transmission of diverse forms of knowledge across generations. We propose to use a participatory and co-designed methodology that draws from interpretation methods already used in the museum, such as artefact analysis and combine these with auto-ethnographic and duo-ethnographic narratives in which participants reflect on, and engage in dialogue about, their interpretations.*

Programs like these are currently evolving in many museums around the world. According to their website, by June 2021 Citizen Curators will have produced some 100 volunteers trained in basic curatorial practice and museum awareness as well as 30 museum staff, apprentices and interns. In addition, they will also produce a major body of quantitative and qualitative data which they suggest will make a significant contribution to museum and curatorial pedagogy. From the participant point of view, they explain, it was really important to them to be able to use the title, 'curator' particularly for those wanting their Citizen Curators experience to count towards a future job or study programme.

3. **Challenges of Representation** - Provisional Semantics

Provisional Semantics[xxii] addresses the challenges of representing multiple narratives within a specific digitised national collection and defining new decolonising practices to describe the collections. The UK based project is focused on producing search terms, catalogue entries and interpretations that will redefine the evolving digitised national collection. According to the researchers, Provisional Semantics is part of T*owards a National Collection (TANC)*[xxiii], a major programme taking place in the UK's world-renowned museums, archives, libraries and galleries. The programme, led by the Arts and Humanities Research Council with funding provided through UK Research and Innovation's Strategic Priorities Fund, '*will take the first steps towards creating a unified virtual "national collection" by dissolving barriers between different collections*'. Provisional Semantics is currently working with three case studies that examine collections at the National Trust, Imperial War Museums (IWM) and Tate that address the histories, representations and artistic practices of people of African and Asian descent. At the same time, they are testing an approach to collaborating with key stakeholders of African and Asian descent through the case studies and hosting a reflective workshop with key stakeholders at the National Maritime Museums (NMM).

Two of these case studies are described here as an indication of the different ways these practices can be defined and carried out. **The IWM case study** focuses on a sample of 60 photographs from the Second World War British Official photographs taken in India, covering the recruitment and experience of Indian soldiers. The original analogue object captions of these images were generated at their time of production, in the 1940s. This legacy collection has now been catalogued in a way that contextualises the collection to the public while exploring the colonial dynamics present in the sub-text.

The novel approach is articulated in the research questions which queries…

- *_Does the presence of contextual information and captions from perspectives outside of IWM enable audience engagement and understanding of challenging content and can it mitigate the harm of colonial gaze and language present in many historic captions?*
- *_Are layers of interpretation helpful to researchers in exploring and understanding the collection?*

In the same way that our Sir Hans Sloane description and his bust was re-visited; re-written and re-located from his prestigious location in the British Museum, the photographic documentation of the Indian soldier's experiences is undergoing a similar process.

The Tate case study focuses on the Panchayat Collection, and specifically the ephemera within this collection and seeks, according to the project researchers, *to place the artists and the originators of the collection at the heart of its history and foreground their voice in the process of cataloguing the material.* This is also an effort to increase the access and visibility of black artists and artists of colour while considering the significance of ephemera to those who are underrepresented in Tate's collections. The research question in this study questions the ways in which the Tate is working collaboratively with artists whose practices are reflected in and documented through ephemera held by Tate's library. Resonating with the Europeana efforts, the work is aimed to inform the methods and language used to document and search for those items. The consequential result, according to the approach taken in this case study under the direction of Provisional Semantics will engage directly with the current limitations of library practice and cataloguing standards.

4. **Addressing the Algorithmic** - bias detection and mitigation

   In the pre-algorithm world, humans and organizations made decisions in hiring, advertising, criminal sentencing, and lending. These decisions were often governed by federal, state, and local laws that regulated the decision-making processes in terms of fairness, transparency, and equity. Today, some of these decisions are entirely made or influenced by machines whose scale and statistical rigor promise unprecedented efficiencies[xxiv]*.*

The Brookings research presents a framework for algorithmic hygiene, which identifies specific causes of biases and employ best practices to identify and describe actions to mitigate them. The team also presents a set of public policy recommendations, which promote the fair and ethical deployment of AI and machine learning technologies that are critical for processes that regulate, licence or distribute legislation driven by algorithmic decision-making. This algorithmic literacy informs the ethical use of machine learning and other automated decision-making tools with a stated goal to reduce discriminatory intent or effects.

One of the recommendations proposes that operators of algorithms develop a bias impact statement, and they offer a template of questions that can be flexibly applied to guide them through the design, implementation, and monitoring phases to develop the statement. According to this approach, three foundational elements for a bias impact statement are directed by these simple questions…

- Which automated decisions?
- What are the user incentives?
- How are stakeholders being engaged?

These elements are embedded in a set of questions that operators should answer during the design phase to filter out potential bias. The exercise is suggested as a self-regulatory framework for computer programmers and other operators of algorithms before finalising the design and execution stages of their work. The series of questions encourages programmers to think about any negative or unintended outcome resulting from the algorithm, for whom, and the severity of consequences for members of the affected group if not detected and mitigated could potentially cause harm. Other questions ask whether diversity been considered in the design and execution and will the algorithm have implications for cultural groups and play out differently in cultural contexts?

While some of the examples described in the Brookings research have been since addressed, (the research took place 2019) the conclusions are encouraging. For example, there is a recognition that ongoing testing of algorithms in use is a necessity, and a realisation that people will continue to play a role in identifying and correcting biased outcomes long after an algorithm is developed, tested, and launched. The research also called out to foster algorithmic literacy in both the public and private sector, and suggest that those that stand to lose the most from biased decision-making can also play an active role in spotting it.

Each of these four examples indicate that there are excellent efforts underway to resolve the immense challenges posed by big data – these will be addressed, however, only once we begin to think outside of our comfort zone and look directly through the material object; go beyond the object to re-visit the descriptions and narratives; re-wire the metadata and rethink the automated processes taking place behind the code. We need agile thinking and news ways re-conceptualise our culture heritage.

Fig. 9. European Forrest, Marie Rytkölä, 2020

It's as if you take a seed of a eucalyptus tree from Australia and plant it in France. From an ecological perspective, eucalyptus trees are an invading species, and it will take generations before botanists reclassify them as native European plants. Yet from the viewpoint of the individual tree, it is French. If you don't water it with French water, it will wither. If you try to uproot it, you will discover it has struck its roots deep in the French soil, just like the local oaks and pines."

From "21 Lessons for the 21st Century" by Yuval Noah Harari

I believe that the best way to think about alternative narratives is through agile thinking – whether it is all about a seed in foreign soil or the potential to mine big data in order to be able to discover more than the obvious. There is a lot of work to be done at all levels; rethinking the stories we tell one another from our shared histories (herstories); the choice of what we pass down the generations; thinking about the objects we decide to showcase; and their descriptions and enveloping interpretations we select and choose to prioritize. The processes described here are challenging but it always starts from the conceptualizing of the problems, even when they are merely machine-readable, invisible to the human eye, beyond our comfort zones; yet highly potent.

---

[i] I use the term 'agile' here to reference to the methodology of agile software development where practices involve discovering requirements and developing solutions through the collaborative effort of self-organizing and cross-functional teams and their customer(s)/end user(s). Usually freflecting adaptive planning, evolutionary development, early delivery, and continual improvement, while encouraging a flexible response to cange. https://en.wikipedia.org/wiki/Aghile_software_development

[ii] Robert VanderBerg (2012) Converging libraries, archives and museums: overcoming distinctions, but for what gain?, Archives and Manuscripts, 40:3, 136-146, DOI: 10.1080/01576895.2012.735826

[iii]The British Museum Has Added a Label to a Bust of Its Founder to a Special Cabinet Where He's Identified as a Slave Owner, Artnet, https://news.artnet.com/art-world/british-museum-moved-founder-bust-1904050, August, 2020

[iv] These states are ditching Columbus Day to observe Indigenous Peoples' Day instead, CNN, https://edition.cnn.com/2020/10/12/us/indigenous-peoples-day-2020-states-trnd/index.html, October, 2020

[v] A call for action on centring black voices in the workplace, Medium, https://medium.com/codeyourfuture/a-call-for-action-on-centring-black-voices-in-the-workplace-d251cee5c15, June 2020.

[vi] Fourth Industrial Revolution, https://en.wikipedia.org/wiki/Fourth_Industrial_Revolution

[vii] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*

[viii] Facebook AI learned object recognition from 1 billion Instagram pics, New Scientist, https://www.newscientist.com/article/2270102-facebook-ai-learned-object-recognition-from-1-billion-instagram-pics/#ixzz6pABgUA1R, March 2021.

[ix] *Saint George on a Bike*, https://pro.europeana.eu/project/saint-george-on-a-bike

[x] *Twitter apologises for 'racist' image-cropping algorithm*, The Guardian, https://www.theguardian.com/technology/2020/sep/21/twitter-apologises-for-racist-image-cropping-algorithm, September 2020,

[xi] *Amazon: Facial recognition bias claims are 'misleading'*, BBC, https://www.bbc.com/news/technology-47117299 February 2019.

[xii] MIT researchers: Amazon's Rekognition shows gender and ethnic bias (updated), VentureBeat, https://venturebeat.com/2019/01/24/amazon-rekognition-bias-mit/, January 2019.

[xiii] OpenAI and Stanford researchers call for urgent action to address harms of large language models like GPT-3, VentureBeat, https://venturebeat.com/2021/02/09/openai-and-stanford-researchers-call-for-urgent-action-to-address-harms-of-large-language-models-like-gpt-3/ February, 2021.

[xiv] *The Racist Legacy of Computer-Generated Humans*, Scientific American, https://www.scientificamerican.com/article/the-racist-legacy-of-computer-generated-humans, August, 2020,
[xv] Zooniverse, https://www.zooniverse.org
[xvi] Fourth Industrial Revolution, https://en.wikipedia.org/wiki/Fourth_Industrial_Revolution
[xvii] The Feminist Internet, https://feministinternet.org/en/about
[xviii] DIKW pyramid, https://en.wikipedia.org/wiki/DIKW_pyramid
[xix] CIDOC Conceptual Reference Model, https://en.wikipedia.org/wiki/CIDOC_Conceptual_Reference_Model
xx Meet the Europeana Foundation Diversity and Inclusion cross team, https://pro.europeana.eu/post/meet-the-europeana-foundation-diversity-and-inclusion-cross-team
[xxi] Curatorial Research Centre, https://curatorialresearch.com/, March 2021
[xxii] Provisional Semantics, https://www.nationalcollection.org.uk/sites/default/files/2021-01/Provisional Semantics.pdf
[xxiii] https://ahrc.ukri.org/research/fundedthemesandprogrammes/tanc-opening-uk-heritage-to-the-world/
[xxiv] Nicol Turner Lee, Paul Resnick, and Genie Barton, Algorithmic bias detection and mitigation: Best practices and policies to reduce consumer harms, The Brookings Institution, https://www.brookingsdu/research/algorithmic-bias-detection-and-mitigation-best-practices-and-policies-to-reduce-consumer-harms/, May 2019

Images

Fig. 1. Three Gentlemen, Christopher Columbus, Hans Sloane and Edward Colston
(1) Sebastiano del Piombo, Portrait of a Man, Said to be Christopher Columbus, 1519, (2) Stephen Slaughter (1697-1765) - Sir Hans Sloane, Bt - NPG 569 - National Portrait Gallery (3) Portrait of Edward Colston (1636-1721), City Hall, Bristol, by Jonathan Richardson, Portrait of Edward Colston (1636-1721), City Hall, Bristol
Fig. 2. Bust of Hans Sloane, in the British Museum, Sir Hans Sloane, Bt; National Portrait Gallery, London, Bust (1730s) of Sir Hans Sloane (1660–1753), physician and "founder" of the British Museum. By Michael Rysbrack (1694–1770). It is currently housed in the British Museum in London. By Osama Shukir Muhammed Amin FRCP(Glasg) - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=93507195,
Fig.3. What happened after, repairing the damaged sculpture, the empty plinth, Banksy's vision
(1) Fran Coles and the statue (Image: jon Kent/Bristol Live)
https://www.bristolpost.co.uk/news/bristol-news/what-happened-edward-colston-statue-4237115
(2) The empty pedestal of the statue of Edward Colton in Bristol. Caitlin Hobbs, CC BY 3.0
(3) Banksy on Instagram, What should we do with the empty plinth in the middle of Bristol, Here's an idea that caters for both those who miss the Colston…"
https://www.instagram.com/p/CBNmTVZsDKS/
Fig. 4. Screenshot of caption prompt in Word © Susan Hazan, 2021
Fig. 5. Diagram (based on an original graphic created by Ellen Tuzzolo) used during our first Teach-in on White Supremacy held at USR on May 7th. The diagram attempts to illustrate and group examples of Overt White Supremacy (Socially Unacceptable) and Covert White Supremacy (Socially Acceptable).
https://www.greenpeace.org/usa/wp-content/uploads/2020/06/ac7971ce-wspyramid.jpg
Fig. 6. Diagram attempting to illustrate and group examples of Overt White Supremacy Online, © Susan Hazan
Fig. 7. DIKW pyramid - knowledge management
https://amp.en.google-info.org/10755909/1/dikw-pyramid.html
Fig. 8. Multi-voice Pyramid, © Susan Hazan, 2021
Fig. 9. Fig. 9. European Forrest, Marie Rytkölä, 2020