Introduction

SLIDE 1

I want to thank the CIDOC board for inviting me to contribute to the opening of this year's conference. It's a great honour to help support the overall theme of the week, and have the privileged opportunity to make some initial comments for the proceedings which I hope are helpful.

I wanted to start by giving you some historical context about me. My first degree was Law. Back in the day when I was choosing my degree subject, like many students, I found it difficult and I didn't really know what I wanted to study. A teacher of mine suggested that perhaps I should read law. Law was considered a solid general degree with prospects.

SLIDE 2

This was at the end of the 1980s when universities were approaching the end of a progressive period in which many disciplines, including the social sciences, were teaching curriculums using a different world view and therefore a different approach to education. This was just before universities became more commercially driven and disciplines started to be more narrowly defined. The progressive approach recognised changes in the way that new knowledge was being produced in response to a more complex and interconnected world.

Disciplines realised that they could not address increasingly complex questions through existing cartesian methods - splitting things and processes down to their most reducible parts - because the whole was more than the parts - that specialisation was missing the big picture - and that homogenisation meant losing valuable knowledge. Instead new knowledge processes started to be seen as naturally transdisciplinary and they addressed dynamic processes - not static things - and they tried to take into account change and transformation. They were more historically driven.

The lecturers running the course felt that to be a good lawyer, learning the statutes and case law, and how to navigate the courts, was not enough. Students needed to understand how law related to society as a whole. The degree course was called, "Law in Context".

In family law it was not enough to know the legal technicalities of divorce - it was important to understand the history of property rights for women, the causes and impact of domestic violence, and the effect of the law on children,

and changing attitudes towards what constituted a family. It was not enough to be able to technically advise someone arrested at a police station - you needed to understand the bias in the system, the motivations behind laws like stop and search, and the implications generally of new criminal laws for human rights and civil liberties. You needed to understand the history of penal practices and their effect on prisoners. It was not enough to memorise judge's decisions, you needed to understand the culture from which judges originated, and which guided their decisions, and you needed to understand the philosophical underpinnings guiding judges' approaches.

By putting law in context, and understanding how laws change in relation to society we could better understand the processes of law. One thing was certain - static laws eventually produce bad laws!

SLIDE 3

Much of the heritage sector was not really part of this fundamental change in approach. Despite many academics in museum studies pleading with museums to understand and adopt different perspectives, and to communicate the complexity of the social and historical connections of their collections, and beyond, museums were not really part of this new movement from the static to the dynamic, from the disciplinary or sub disciplinary to the transdisciplinary, from the intrinsic to the relational - at least in part. A conference was even held and a book produced called The Two Art Histories comparing the approaches of social history oriented academics, and that of materially oriented curators.

SLIDE 4

In documentation we have reached a point where simply providing references, finding aids and catalogue indexes, simply doesn't address new challenges, and answer the questions being asked of us, and they don't address the challenges of communicating and interacting with larger and more diverse communities in modern information infrastructures. The world and society has changed but some of the fundamental laws and rules which govern museum documentation have remained relatively static - and static documentation, at some stage, produces bad documentation! It also reflects a lack of direction in terms of the social role of museums, particularly in a global digital knowledge society.

SLIDE 5

A famous 20th century business consultant, Peter Drucker, who coined the phrase "knowledge worker" and advised businesses on transitioning to what was once called the "knowledge society" (a term now rarely used), said that **"Knowledge has to be improved, challenged and increased constantly or it vanishes."**

Anthony Griffiths, a former Keeper of Print & Drawings at the British Museum, and who sponsored the Museum's Collection Online system, a project I also managed, said that **a system constructed for inventory purposes was absurdly limiting and dangerous.** He talked about keeping records in line with the latest scholarly information, but progression also means expanding the categories of knowledge to reflect social needs. Addressing the needs of wider audiences means clearer and explicit meaning, addressing significance and relevance, and accepting contributions from external communities. He also commented, like Drucker, that **"information walked out of the door on the day that any curator retired, and his or her successor had to start all over again".** New Documentation needs to be continually changing documentation and it needs to be constantly contextualising and interconnecting to answer bigger questions.

Social Responsibility

SLIDE 6

The subject of this talk is documentation and social responsibility - the theme of the conference is documentation, knowledge and linked data. All these aspects are interconnected and point towards this new approach to documentation, and in particular more sophisticated structured forms of digital documentation.

If we are going to use Linked Data as a medium for documentation - then we need to understand how it communicates with people and supports knowledge generation.

Structured information has become a crucial part of digital information infrastructures, and ALL museums large and small have

become global communicators - but the internal processes of museums have not evolved to address this type of global communication on the Web of Data.

Our public data publication processes are just that - publications of existing forms of data based on information systems and standards that reflect a data administration approach that doesn't address the wider categories of knowledge necessary to fulfil new educational needs and address social responsibilities.

Digital Data Jukebox

It has become clear that we have built up a legacy of documentation records that are anachronistic, lacking adequate context, and which embed racist, sexist and generally discriminatory narratives, both implicitly and explicitly.

New technology does not, by itself, change this. I don't say this lightly and I will produce examples during this talk. Language is one issue, but others include a lack of attention to historical and social research which should be used for contextualisation, correcting, and remedying omissions.

The lack of new and important categories of knowledge, going beyond the traditional intrinsic museum record, is highly problematic both internally - because it inhibits progression in back office processes which themselves become anachronistic - and externally - in the strength of our relationships with communities interested not simply in objects in themselves, but with the knowledge that surround objects - a semantic network of information. Documentation should be a continual process and there should be little difference between practice, knowledge processes, and what we call research.

 "The fundamental role of the museum in assembling objects and maintaining them within a specific intellectual environment emphasises that museums are storehouses of knowledge as well as storehouses of objects"

Cannon Brookes (1984) - The Nature of Museum Collections

The objectives of this talk depend on the extent to which we understand the **potential value** of documentation as a social asset - a prioritisation in dealing

with diversity and inclusion, and a commitment to the removal of institutionalised discrimination, baked in by previous documentation methods, technologies, standards and management practices.

As Ray Bradbury alludes - we now regularly pump out data to the Web which is lacking in real substance and integrity. He says

"Cram them full of noncombustible data, chock them so damned full of 'facts' they feel stuffed, but absolutely 'brilliant' with information. Then they'll feel they're thinking, they'll get a sense of motion without moving. And they'll be happy, because facts of that sort don't change. Don't give them any slippery stuff like philosophy or sociology to tie things up with. That way lies melancholy."

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I will argue, for example, that only semantic knowledge systems, moving away from databases, can provide a progressive documentation strategy, because traditional databases lack the necessary semantics and the to ability accommodate transdisciplinary interconnections, or adequately represent historical change, and should be phased out as part of our new definition of documentation. There have been many promises by technologists to resolve the issues of documentation with new forms of database technology - but this is illusory. As the historian Eric Hobsbawm said, one of the big issues addressing history with technology is the,
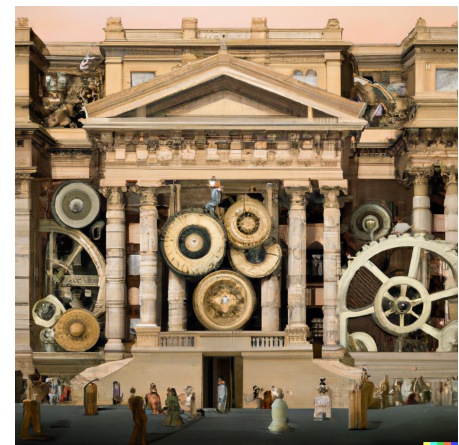
"a-historical, engineering, problem-solving approach by means of mechanical models and devices."

Eric Hobsbawm - On History

We need to pay far more attention to content rather than simply replicating legacy data in new technical structures. The generation of knowledge is not achieved by a computer and a technology like linked data, which is simply a technical structure - but by humans. The question is, how can technology augment our intellectual processes? Structured documentation should provide meaningful, evidenced based content, communicated in a way to allow humans to generate and contribute new knowledge.

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What does social responsibility for museum documentation look like in a digital world given that our data is being openly published and potentially reused - if the data has any value - by many different communities.

We need to have high standards of accuracy. This means that we must constantly review our documentation. We need to provide adequate context so that the underlying narratives are not distorted or hidden. To avoid this partial narrative we need to stop limiting the categories of information we are allowed to use - and which are not currently not part of administrative documentation standards. We need to represent the historical significance and current relevance of the items we curate. We need to directly challenge information that contains errors, prejudice and biases. This type of documentation requires a greater degree of complexity (but not a complexity that we need to be afraid of but that we need to embrace) to overcome the intellectual overhead of using reductive data, which ultimately means fragmentation, duplication and ineffectiveness without sufficient practical benefits. Unless we embrace the authorship of detailed and changing patterns of structured information we will not be able to contribute to the history of society as a whole.

If we do not prioritise and rethink documentation, the risk is not just that objects go missing, which is in itself a serious matter, but that we lose the knowledge that makes those objects significant in the first place. A general lack of priority in documentation is a serious cause for concern for a whole variety of reasons that go far beyond the museum inventory.

Background

SLIDE 9

Museum documentation has been greatly influenced by library cataloguing. Early examples of library catalogues include the Sumerian archive in the city-state of Uruk (around 3400 BCE), the cuneiform tablets that recorded the Royal Library of **Ashur**banipal (7th century BCE) and the Alexandrian Library (2nd or 3rd century BCE). Gradually the documentation of objects started to run in parallel with bibliographic items establishing at least an administrative connection between objects and associated textual works - but what was recorded was still effectively the type of index we use today using vocabularies for categorisation. It's worth noting that despite the fact that we developed

extreme specialisations that fragmented museum and library expertise and information, many organisations now attempt to reverse this trend and in part mend this situation.

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The precursor to the museum was the mediaeval wunderkammer. It had no catalogue or index. It was viewed as a microcosm designed to evoke knowledge about the world. In this unordered environment filled with objects, the visitor was able to construct their own semantic networks and contemplate the interconnections and dependencies that cross between the natural and the artificial. Visitors unconstrained by object labels could arrange these objects in a way that was meaningful to them.

The Italian Philosopher Giorgio A**gam**ben said that

"Only seemingly does chaos reign in the Wunderkammer, however: to the mind of the medieval scholar, it was a sort of microcosm that reproduced, in its harmonious confusion, the animal, vegetable, and mineral macrocosm. This is why the individual objects seem to find their meaning only side by side with others, between the walls of a room in which the scholar could measure at every moment the boundaries of the universe."
 Giorgio Agamben (1994)

In the digital world the wunderkammer is far broader.

SLIDE 11
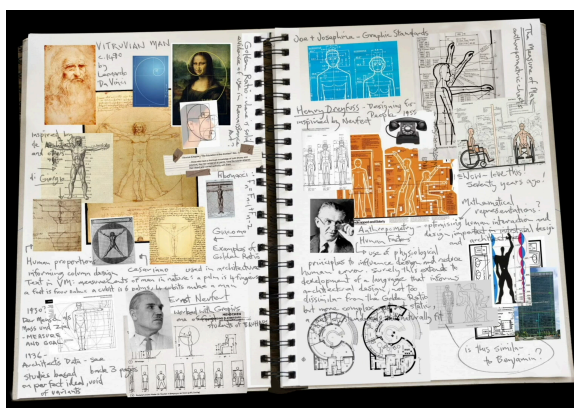
From the 17th century, in many countries, the commonplace book became a means for people to keep a record of the knowledge they had accumulated from books and experiences. They were perhaps an

earlier form of database, a personal record, but with more flexibility and no fixed data model.

It wouldn't be too long before someone tried to formalise the commonplace book with technology. Thomas Harrison's Ark of Studies allowed these snippets of information to be organised in a cabinet full of paper hooks with a subject index which also allowed cross references. Scientists like Gottfried Leibniz, considered a philosophical force behind modern computer science, wanted to use this invention to organise information and collaborate with colleagues. The vision was far bigger than the clunky technology could handle.

Harrison's vision was to compile,

"all the special and distinct notions existing in all books'. Someone commented that **"even though this is a task on a colossal scale, he thinks it need not be despaired of, since any number of people - ten or twenty thousand, say - can be involved in collecting the material'. Hartlib called it 'Opus totius generis Humani', a task for the whole human race."**

The vision was that building knowledge was **a collaborative** and participatory activity. If only we could combine and share our resources we could create and maintain something like Harrison's vision. But despite the Internet, the World Wide Web, and our powerful computer technology, we seem far away from Harrison's vision. In fact we seem to be going in the opposite direction.

The Web has become a perfect example of fragmentation hiding in plain sight. More and more people including the Web's creator, Tim Berners Lee, see a dysfunctional environment which works against knowledge building but which we accept and conform to. This may be in some way, as James bridle says, because of,

"Computational thinking .... the product of oversimplification, bad data, and deliberate obfuscation [which] allows us to recognise the ways in which it fails, and reveals its own limitations".

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Charge Babbage, credited as the inventor (at least in design) of the computer, had no grand plan for world knowledge. It was a machine that could take over the work of humans and reduce the cost of training and employing them. He set in motion intellectual machines to break the artisans' guilds using the combined principles of cartesian scientific reductionism and Adam Smith's equally reductive division of labour, as inspiration. His vision of the machine or computer was as an object of control, a precursor to Taylorism and scientific management - a tool of modern capitalism that impeded the knowledge and judgement of workers. Its tradition continues into the digital world as "Digital Taylorism" - represented by a growing hidden low paid workforce - filling in the gaps left by machines, just as those created for the factories that Babbage tried to automate.

SLIDE 15

However, as a new optimistic modernist vision appeared in the 20th century, the vision of Thomas Harrison's Ark of Studies was taken up once again by Paul Otlet, who laid the foundations of modern information science. He, and others like him, thought that the communication of knowledge would help to promote peace and collaboration across the world. He created the Universal Decimal Classification system, a hugely sophisticated subject indexing system which makes today's subject categories look flat and lifeless. At one stage it had over 200,000 classifications which could be semantically connected allowing transdisciplinary cataloguing. His **Mundaneum**, an information city, would facilitate peace through common understanding.

Otlet believed that books carried the history of all the books that came before them. They overlapped with one another repeating and amplifying but at the same time expanding and changing knowledge over time. Science was historical driven. Books represented an evolution of knowledge, Otlet said that,

"...books conserve mental energy, what is contained in books passes to other books when they themselves have been destroyed; and all bibliological creation, no matter how original and how powerful, implies redistribution, combination and new amalgamations from what is previously given".

Books contained an evolving dynamic - building a provenance of knowledge. He created a new technology - the microfiche system - a temporary mechanism, but he anticipated that people would eventually access the Mundaneum from devices with screens from their homes.

Today the classification is still used in organisations interested in detailed information exchange across national borders and languages. However, regardless of the sophistication of his index, it is still ultimately an index, unable to represent the social, economic and political context in which these subjects existed. It was still mundane!

In Archiving, the concept of 'conceptual reference' means not simply a physical arrangement, but that collections are organised using an intellectual arrangement which is derived from an understanding of the historical context in which things (or processes) are created, used and connect - and those intellectual arrangements will change over time as new knowledge is discovered. [1]

SLIDE 16

Going back to the computer, the database was invented in the 1960s by Charles Bachman, then called the Integrated Data Store. He wasn't an academic but part of a new generation of computer engineers working in commercial data processing departments. His motivation was not even close to those of Harrison and Otlet. He just wanted to make computers more accessible and efficient for processing supply chain information - the process of taking raw materials, creating finished products and distributing them to customers. It was not designed to record aspects of human history or behaviour. There was no need to think about any wider context - this just got in the way of bulk processing - storage and retrieval - what IT people call scale. Even today when a system is

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[1] **Picture Credit: Charles W. Bachman and the Charles Babbage Institute**

appraised the first question is still - "does it physical scale?", but never "does it intellectual scale?".

By bringing together different data tools into a data management system he made computer systems affordable to more companies who could not afford to create their own custom systems. It was the beginning of a growing demand for "off the shelf" products that took a function and created an intrinsic model aimed once again at reducing the cost of ownership to the owner of the capital. It wasn't designed for users.

The database system that Bachman created is more or less the same as the databases we use today. They have no semantics which impedes their communication and interoperability beyond the walls of the owning organisation. You can't easily change their data models to accommodate new creative thinking, forcing you to arrange your thinking elsewhere and necessarily to fragment information. It does not allow the information to be arranged into different patterns and relationships for different questions - and creates a production line which inhibits thinking.

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The gap between documentation and new approaches to knowledge production has been getting wider and wider. In the disciplines of history, historians investigate in wider and wider sources, making connections that are rarely represented in digital information systems. But we should be far more aware of how scholars now work and to capture more of the information they produce.

Scholars investigate questions for long periods of time collecting vast and varied information. They then create different patterns of the empirical facts they have created to support interpretations, and finally these interpretations are converted to textual narratives. The patterns and relations of facts however, are lost, but really should be documented.

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These investigations involve abstractions from the real world and from real world sources. There is a

direct connection between those sources and their abstractions or notes. When they are asked to then abstract their abstractions into a database, they not only have to conform to a fixed model but the real world connection to the sources is compromised. This is known as the theory of instrumentation.

It therefore doesn't support the skills and knowledge of people working in documentation. Database systems are designed so that they naturally can only deal with one function - their lack of formal semantics limits the complexity of the data they can practically manage.

SLIDE 19

"language structure is the basis for accurate orientation in the world, so long as it displays relevance with respect to the structure of the fragment of reality to which it refers. Establishing this relevance is not possible in any other way than through empirical findings. Without them the meaning of the linguistic structure and the actions based upon it become irrational and inadequate. Ultimately reality coerces adjustment, although this is done at a great expense and on a trial by error basis, which is always connected with a high risk of failures which cannot be undone."[2]
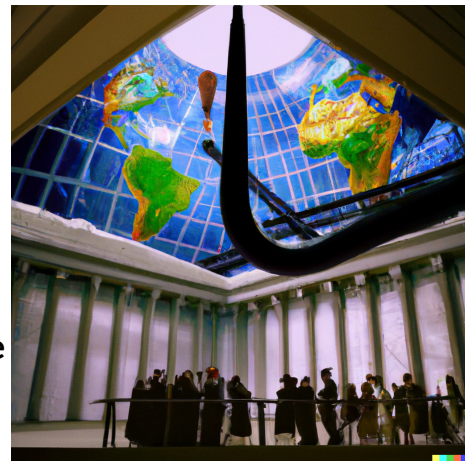
"A map is not the territory" and "Words are not the things they represent."[3]

The technical explanations of how digital communication is conducted is based on Shannon's Theory of Communication and is purely focussed on whether a message can be transmitted and remain intact when it is received at the other end of the communication. This theory is liberally explained in Digital Humanities courses, but in no way does it explain how meaning is generated in the receiver. This has been called the Information Paradox. The answer is that knowledge is generated by the receiver using references they know - just like

[2] Pasikowski, Slawomir. 'Gregory Bateson's Cybernetic Methodology: The Ecosystem Approach in Empirical Research: Batesonian Legacy Continued'. In *Towards an Ecology of Mind: Batesonian Legacy Continued (63-84)*, edited by N Bateson and M Jaworska-Witkowska, 63–84, 2017.

[3] Picture Copyright - Denning, Peter J., and Tim Bell. 'The Information Paradox'. *Am. Sci* 100 (2012): 470–77.

Agamben's Wunderkammer. But in the complex modern world of digital data communication we need to provide meaningful referents.

SLIDE 20

Quoting Martin Doerr :

"a) knowledge is a particular relation you can relate to its referents and you can justify.

b) no machine can recognize a referent.

c) therefore only humans can "know".

d) all scientific and historical knowledge is based on evidence.

e) encoded knowledge is information.

f) processed information becomes new knowledge in the recipient, if the relation to the referents is preserved and the **justification back to the original evidence is transparent**."

This is a strong aspect of the CIDOC CRM and one of the reasons its use continues to grow. It is a dialectic necessity. A logical solution to the contradiction of information without knowledge. It meets the demands of a, 'new documentation'.

No computer system will be perfect and free from constraints, but we can do much more by adopting semantic relational systems of documentation that empirical benchmark our language and which can better represent our sources - or evidence. Linked Data is a broad term but precisely it is just a technical metamodel - a structure for carrying data, albeit through the Web of Data. Linked Data provides a vehicle for semantic networks but it is the content that we must ultimately be concerned with.

If structure rules over content then we cannot create contextually aware documentation. In databases it is the structure that rules, it is the technical instrumentation that rules, and I say again that you should be contemplating the removal of databases - and using systems that are about community knowledge building. There is little benefit in transferring, like for like, legacy data from

databases to Linked Data. It must be conducted with a view to expanding the categories of knowledge - and linking data should ultimately be about authoring and supporting a dialogue that builds knowledge and expertise.
SLIDE 21
[4]

Linked Data becomes useful when it is coupled with a framework that supports meaningful content and this is what the CIDOC CRM provides for. The creation and development of the CIDOC CRM is by far the most significant innovation in museum (and wider) documentation. It should never be compared and put into the same box, as traditional standards that have evolved out of database and data processing mindsets. It has been developed to address many of the challenges I have mentioned.

SLIDE 22
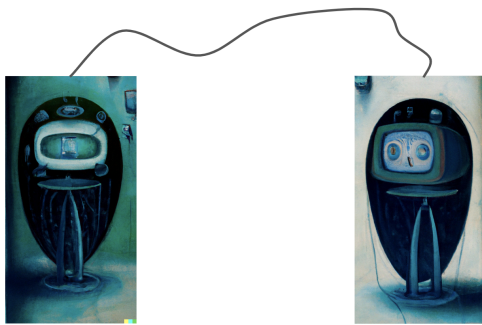
It does what no computer scientist has come close to doing. Describing historically based knowledge domains in a way that is semantically and universally accurate, but also allowing us to go far beyond our specialisations, and to be transdisciplinary. It promotes the dynamic improvement of information, it supports diversity of knowledge and its manipulation according to our thinking, - digital thinking about the world becomes efficient. The focus should now be to help people to transfer to this new way of working.

Case Studies

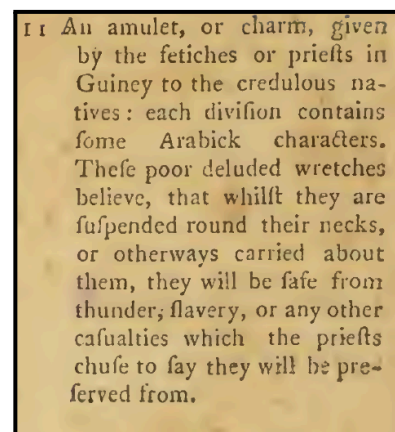SLIDE 23

I said that I would illustrate my statement about anachronistic and discriminatory information - which itself provides empirical evidence supporting the argument that we need to change our view of documentation. I have chosen a couple of examples - but I have not just picked them out of thin air. The methodology is to look at a 17th century catalogue and choose examples that have sufficient information to allow me to compare them to current documentation. I want us to go through the research that I undertook to prepare these case studies to try to support my claims .

I put before you an early catalogue from Don Saltaro's Coffee shop, whose original proprietor was James Salter. The catalogue, although often vague, provides an important marker for understanding the extent to which processes change over time as part of understanding how our society changes over time. While the technical processes and structure might have changed, the content may not.
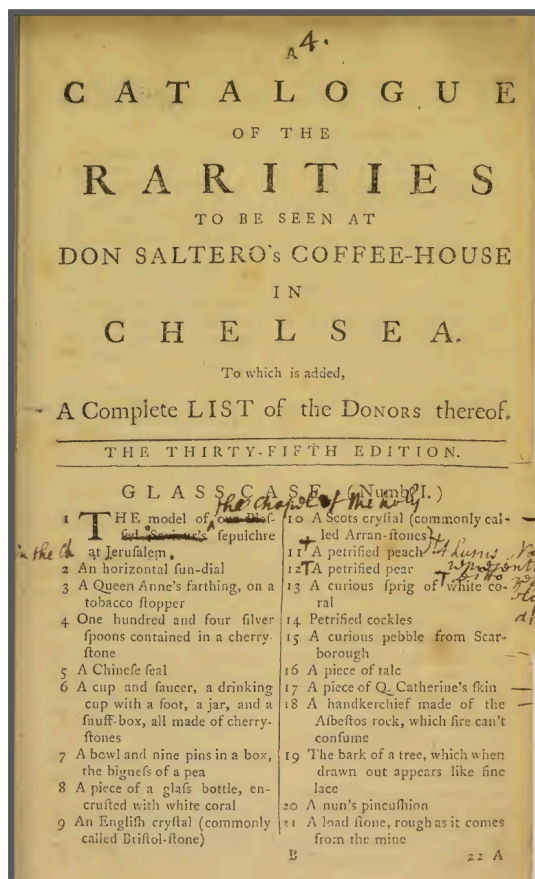
James Salter, had been a servant of Hans Sloane whose collection formed the basis of the British Museum collection. Sloane provided Salter, along with others, objects that he could display in the coffee shop to entertain and provide a focus for discussions about the world.

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SLIDE

The first relates to an amulet which is described as follows.

"An amulet, or charm, given by the fetiches or priests in Guiney to the credulous natives: each division contains some Arabic characters. These poor deluded wretches believe that whilst they are suspended round their necks, or otherwise carried about them, they will be safe from thunder, slavery, or any other casualties which the priests chose to say they will be preserved from."

This viewpoint, typical of the time, seeks to mock and denigrate a West Africa religion and an associated religious object, similar to ones used in many other parts of the world, including the West.

SLIDE 25

There are examples of these objects in many museums and they can be identified though generative AI systems like ChatGPT. Despite the nature of the Soltero's description I can take the context and wording it provides and, without mentioning an object type from a vocabulary, I can ask the following question.

"What item was worn around the neck by people in Guiney, West Africa, in the 18th century to bring good luck and provide protection, including protection from slavery, and contained Arabic text."

I'm using context, such as period, place, event, concept, and proposition. All semantic types and processes covered by the CIDOC CRM.

Chat GPT identifies this information in the material it has hoovered up and returns with the answer that it is a gris-gris - It adds some additional information that the scripture it contains is from the Quran and states that these were an integral part of the spiritual and cultural practices in West Africa. They "provided a source of psychological support and hope to those who carried them in the face of such challenging circumstances."

SLIDE 26

We now have an object type - a gris gris - and if we look this up in a popular online encyclopaedia we find this object which is also described as a "voodoo" object. This is an object associated with West African religion brought over to the Americas by slaves where it remains a significant religious object. For example, it is worn by the slaves in the Haitian revolution - an insurrection against their French colonial oppressors.

SLIDE 27

Going back to ChatGPT we can ask what events in history are relevant to the gris - gris. We get the answer that these protective amulets were worn by slaves during their journey across the Atlantic.

They were used in the Haitian revolution, as we saw, but also other Caribbean revolts where they were used as symbols of resistance. They were also worn during the American civil rights movement.

But in fact the correct spelling of the West African religion is in fact 'Vodou'. The word 'voodoo' as scholars have investigated, is a western word that has been used to promote a negative image and is now used interchangeably without distinction. It has become ingrained into our culture.

SLIDE 28

If we go back to ChatGPT and ask the question, "is Voodoo a western construct" we have to be careful. Our meaning is not clear and not explicit. The question is interpreted in terms of the religion not the spelling. It simply says that Voodoo is a valid religion originating from Africa and associates it with other spellings including vodou.

If we ask a more precise question, 'is the word Voodoo a western construct' then this is now understood, in the right context, as a western word, but at most just a simplification or variation of the original Vodou.

SLIDE 29

If we then ask whether the word voodoo is racist. The answer is, <u>not inherently</u> but it is

"associated with portrayals of African and African diaspora religions and their practitioners. In some cases, the term has been associated with harmful and offensive stereotypes in popular culture and media."

SLIDE 30

However we know that there is a large amount of material that attempts to associate black communities with criminality and activities designed to generate fear. In this piece on JStor daily it states that,

"Since slavery, tales of Voodoo helped establish black criminality as a social fact, and ultimately, Reconstruction-era public Voodoo narratives helped cultivate the ground for, and served as key forerunners to, the public

narratives of the black "beast" rapist, which defended Southern political violence for generations, black disfranchisement, and legal segregation in Louisiana…."

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When we go to other sources like the African version of Microsoft Encarta it explains that vodou includes spellings such as **"Vodun, Vodoun, [derived from a word for God and Spirit] but never voodoo, the sensationalist and derogatory Western creation. Vodou is a comprehensive system of knowledge that has nothing to do with simplistic and erroneous images such as sticking pins into dolls, putting a hex on an adversary, or turning innocents into zombies. It is an organised form of communal support that provides meaning to the human experience in relation to the natural and supernatural forces of the universe."**

SLIDE 32

We can clearly see how Voodoo has been ingrained to the point of irony

SLIDE 33

[5]

Voodoo.jpg
580 × 635; 143 KB
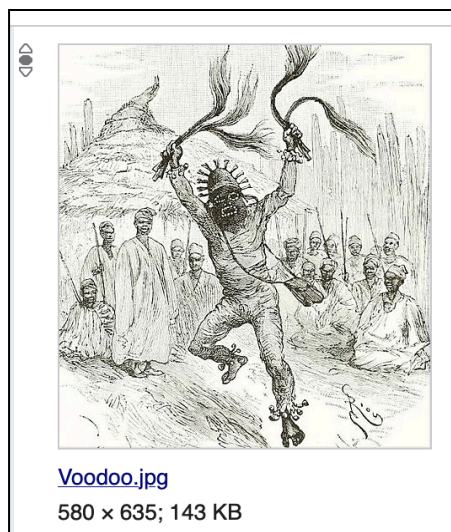
In wikidata however, although there is an entry for vodou, the same concept is also known as voodoo which is seen as just an alternative spelling. The image used to illustrate it is from a 1894 book of the world's cultures called Ridpath's History of the World, and the image file uses the word voodoo.jpg. The Ohio State University who digitally publish the book as a historical record also say;

"Ridpath avoids the extreme Euro-centrism of many contemporaries but nevertheless operates with explicit notions of racial hierarchy. He often refers to Africa as the "Dark Continent" and to Africans as "savages.""

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[5] Creative Commons Attribution-Share Alike 4.0 International Ridpath, *Ridpath's Universal History*.

SLIDE 34

In wikimedia commons the book is categorised as "scientific racism". Yet is used as the source reference in wikidata for vodou.

Most scholars agree that voodoo should not be used and tell us the extent to which the word "voodoo" has been used as a tool to demonise or belittle.

SLIDE 35

But museum documentation is silent on all this. They clarify and resolve nothing. They reduce the object to a static "thing" with no history or significance. They make no comment on the relevance of the object in the present. There is a lack of interest in providing the context that this object necessitates for anyone coming across it online or indeed in a museum cabinet.

Unlike ChatGPT this record is hard to find in this catalogue. It can't be found by using the words 'gris gris' and it can't be found through most of the context provided to ChatGPT.   This record illustrates important omissions, but there is no real way of adding them in its fixed structure.

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Alfonso Constanzo was the leader of a drug gang which committed brutal murders and eventually led to the death of an American citizen. He was associated with being an occultist.

The book, written by a journalist, is cited by scholars as having no basis in evidence or reality. There is no evidence of any association with African religions or that Constanzo based his reign of terror and death on it - but these associations are put forward under the headline of Voodoo.

SLIDE 37
This record documents one of many papier mache figures used in the Day of the Dead celebrations. The Day of the Dead holiday both celebrates and honours

friends and family who have died. It is part of UNESCOs list of Intangible Cultural Heritage of Humanity.

Yet the book is cited here, perhaps partly because of equally erroneous links to the religion of santa muerte (Constanza has a statue of the Saint) which itself has a different history to the Day of the Dead, and is a growing religion, but is also not a devil worshipping cult - quite the opposite.

This represents a particularly poor example of documentation and lack of a duty of care to provide accurate information absent of discrimination. The author of the record has decided to put in curatorial comments a reference to a book called, A Nightmare Tale of Drugs, Voodoo and Death in Mexico for a description of narco-satanists. There is no context or explanation of why the visitor might want to use this book and the purpose, but an association is made which should not be there.

Alfonso Constazo's criminal cult is linked to Voodoo and Santa Muerte, representing a similar pattern of racist characterisation . Both Voodoo and Santa Muerte have been misappropriated by journalists, politicians, churches and in this case a museum.

In the television series Penny Dreadful, the researchers, Dr. Kate Kingsbury and Dr. Andrew Chesnut point out that the "facts" presented

"depicts Santa Muerte as a so-called 'chaos demon'. Such attributions…reek of cultural misappropriation, misunderstanding and neocolonialism. Santa Muerte is not in any way linked to the devil. To assume so is to suffer from a colonial hangover. When the Spanish colonialists came upon the death deities of pre-Hispanic Mexico, they misconstrued them not as Gods and Goddesses but as satanic figures and forced Indigenous people to abandon their worship at risk of torture, seeking to obliterate all local religious forms and replace them with Catholicism."

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Lastly, when we consult the Getty Vocabularies we see that Voodoo is the preferred term instead of the correct term - Vodou. Showing the way in which the term has been conflated.

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My second example, from Salero's catalogue, is both inaccurate and supports a stereotype associated with discriminatory material in films and theatre and a misrepresentation of a history associated with the appropriation of land through the oppression of indigenous people. It has actually been corrected in a minority of museum publications, and by US Federal government information, and in wikipedia (although again not wikidata) and is an example of a combination of a lack of priority and resources.
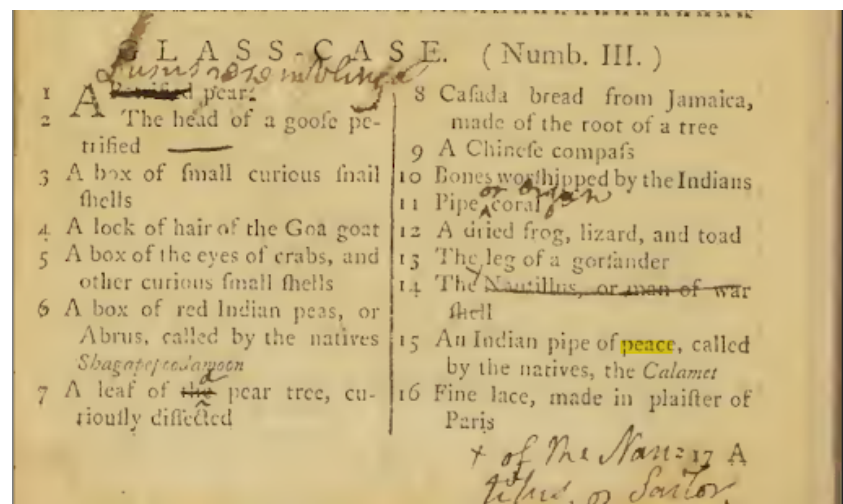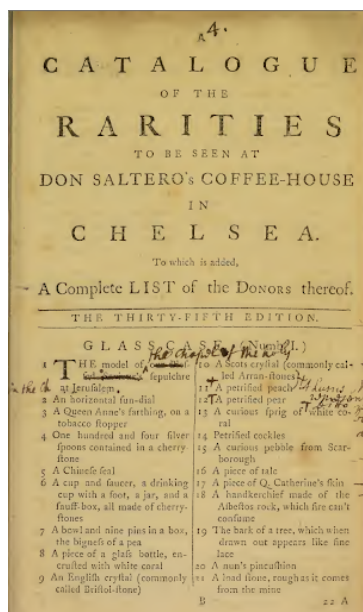
The entry simply says "an indian pipe of peace, called by the natives, the calumet. There are two serious errors. The first error is that the peace pipe is a misnomer and the second is that 'calumet' is not an indigenous term, it is a French word.

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The Federal Parks authority confirms that Peace Pipe is a misnomer.

The reduction of a ceremonial pipe to a peace pipe is a convenient mechanism for a general lack of interest in the full complexity of native American religion and a trivialisation of a culture they didn't understand.

Stereotypical depictions have trivialised and misrepresented and even asserted the indigenous population were the aggressors. Stereotypes have been plentiful in Hollywood films over the years.

The MGM film, Good News in 1947 includes dance sequences and song's such as "Pass That Peace Pipe" in which offensive stereotypical Native American riffs, combine with offensive dances and lyrics.

In fact the United States broke the nearly 500 treaties it signed between 1778 to 1871.

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The strength of material surrounding the Peace Pipe means that ChatGPT confirms that the item is real and not a construct and uses the same terminology 'calumet'.

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The authoritative museum, the National Museum of the American Indian also conforms to the terminology - Peace Pipe and Calumet. This is based on a record adopted from the Army medical Museum, which was demolished in 1969 and its objects dispersed. The museum has simply digitised the original card file and it hasn't been reviewed in over 50 years.

SLIDE 43

 The Peabody Museum in Harvard **has had** a notice warning about offensive and discriminatory language for quite a long time but with no real detailed information about its progress -and not providing transparency about exactly what practical steps they are taking . The Peace Pipe term is still used across their collection.

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Most museum retain the use of the term peace pipe and calumet

WikiData joins them backed up by Nuttall's encyclopaedia published in 1900 one of the original sources of the misnomer and a picture from the Harvard Peabody museum

The wikidata entry shows fragmentation since the term "Peace Pipe" has been corrected in Wikipedia using similar phrasing to the Federal park service. Even a College Football trophy called the **Peace Pipe trophy** was discontinued because the negative and disrespectful connotations were recognised.

- Change

There are a number of reasons why I wanted to highlight these issues in the keynote. The first is that there is a problem talking about these issues. I attended one online meeting which discussed the lack of transparency on this subject - turning the record button to off - conscious that talking about these issues might lead to problems with their employers.

Many museum's have initiated projects which address some of these issues but very few have integrated them into the everyday. On the one hand it is now a recognised problem and on the other public conversations are seen as problematic.

The second reason is that for some time now CIDOC has been developing a documentation framework that is capable of at least helping to resolve the documentation issues I have been highlighting - the CIDOC CRM. But it will take a lot more - it will need organisation backing in organisations where senior management are unaware of the possibilities - it will require the right systems systems in a sector dominated by traditional database collections systems, it will require a new way of thinking about documentation and a reversal of the decline in documentation professionals, and it is likely to need a new approach to participation in the writing of documentation. There is such a large legacy that fixing the problem is likely to require a participatory approach which goes back to educating senior management.

It also needs to highlight projects which are already making changes in their approach to heritage documentation and I wanted to discuss two current initiatives. One is a collaborative research project and the other is an institutional system.

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The research project is Pharos, a consortium of 14 European and North American art historical photo archives who between them hold 28 million documentation records. They are or have been funded by the Mellon foundation, The National Endowment for the Humanities, and the Kress Foundation. Bringing together legacy records is itself a painstaking tasks since all the organisations, despite fixed standards, use different data models and over the years many data management rules have been broken. However, the first phase of data has been migrated to the CIDOC CRM where semantic precision has been exerted which necessarily resolves the data issues that exist in systems with no formal semantics.

In other aggregation projects the aim has been to create a common denominator model - a union catalogue - in which, as I have mentioned homogenisation leads to the loss of knowledge and in some cases its distortion. It becomes a one stop reference site or finding aid - and then itself becomes static.

The approach of the project recognises that the whole exercise is pointless unless the resource becomes dynamic and the sources it was derived from are actively integrated into the knowledge graph. The second stage of Pharos is to provide an interactive authoring environment in which all the contributing organisations, and others, can start to expand the categories of information and add their ongoing work and thinking into the system. To survive it needs to be continually changing and do what internal documentation systems fail to do - respond to new scholarship and bring in a wider variety of views. It will allow structured arguments, allow the data to be arranged in different ways to support different viewpoints, support uncertainty and will be able to make use of new CIDOC CRM extensions like CRM Influence that help represent transformation and change and which allows researchers to show multiple sources of influence or causation.

The technical lead of the project says that there is no point in bringing together the information unless this dynamic research layer is added. You can read about Pharos on their web site http://pharosartresearch.org/

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The second example is particularly important because it is an example of the first fully Linked Data information system being used in a museum, in this case in a Collection Care Department, as a core institutional system specifically to break down divisions and remove fragmentation internally, to raise the quality of information being produced recognising the level of expertise and knowledge in the department - and then using that dynamic and to establish partnership, provide educational materials and to generally engage with the public.

The Collection Care department at the National Archives replaced their conservation database system with a CIDOC CRM knowledge base (ResearchSpace) as part of a long standing strategy of using a practitioner - researcher approach - the idea that everyday knowledge processes are in fact research and should be recorded at that level coupled with the idea that using that paradigm the information recorded at a higher level of detail could then be directly used for knowledge exchange. Moreover, specific research projects would also use the system and this would be incorporated into the day to day.

The National Archives in the UK contains a great deal of colonial papers and conservation and science professionals also spend time understanding and documenting the historical and social nature of these papers. Having a system that allows transdisciplinary patterns of semantic information means that they can combine their technical information with historical information building a far more representative picture of the work they do.

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In addition to enhancing the information about day to day activities, a broader knowledge base sits as another layer connecting the day to day with method and techniques, and historical information. In this way they can build a system that is also preserving their knowledge and showing how they as a department and

conservation professionals change over time. The system will provide a provenance of knowledge useful to new, existing and future members of the department, but also, through planned access, provide a knowledge base for people outside the organisation.
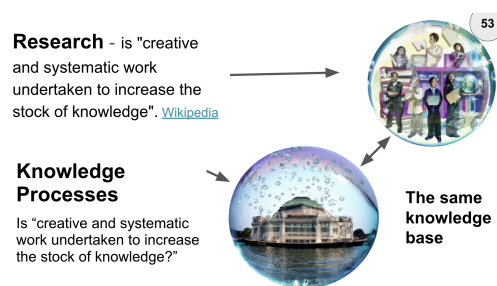
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Detailed conservation and scientific information can be stored and visualised.

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But at the same time people can become the modellers of associate information to provide the context that makes the platform a valuable social resource, not simply an administrative database.

Both systems makes use of the ResearchSpace system developed with funding from the Mellon foundation

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Research – is "creative and systematic work undertaken to increase the stock of knowledge". Wikipedia

Knowledge Processes

Is "creative and systematic work undertaken to increase the stock of knowledge?"

The same knowledge base

In effect The National Archives treats all sources of knowledge as part of the same interconnected knowledge graph.
This means that when they are funded externally they can demonstrate that all the outputs of research are incorporated into their core processes.

Even specific applications developed for particular purposes becomes part of the same system whether internal or external..
Practice is research and all knowledge ultimately comes from doing.

This is an example of new documentation

Additional

Semantic Data or more formally known as Knowledge Representation comes from an article written in the 1990s. Firstly it is a surrogate of something in the real world and represents characteristics of that 'entity' which can take

relationships. An ontology framework like the CIDOC CRM provides surrogates and relationships. Secondly, it has contology commitment - it is a way of thinking about the world from a ontological perspective, and focuses on what is known about the world or, what is. Thirdly, it is an environment for intelligent thinking and about logic in terms of interferences and supports the ability to apply reasoning. Fourthly, it is about the efficient application of thinking - it allows for a model to expand according to new questions in a way that does not cause overhead. It is flexible. Lastly, it expresses human statements about the world by using a language that humans understand, despite also being computer readable, in the sense that there is at least a common framework to which the user and computer follows..

With today's powerful but general computers, commercial organisations have sought to envelop the technical aspects of knowledge representation into relational database systems but without any of the associated principles set out by Davies et al and without an attempt to understand the complexities of domain knowledge systems. This represents an attempt to consume and reduce a whole set of fundamental principles for expert knowledge systems into the instrumentation of relational databases that, although can technically simulate a graph, were not designed for that purpose and allow commercial organisations the ability to maintain a core instrumental and functional mindset which fails to address issues of content or dynamic knowledge development.