

# How Racism Leads to Epistemicide or Murder of Knowledge? A Case Study of Tangible and Cultural Heritage of the Nile Valley in Sudan

Widad Mustafa El Hadi\*, Sarah Hassan Elbeely\*\* and Shadia Abdrabo Abdelwahab\*\*\*

\* iSchool & Geriico, University of Lille (France), University of Lille, BP 60149,  
59653 Villeneuve d'Ascq cedex, France, widad.mustafa@univ-lille.fr

\*\* Faculty of Arts and Humanities, University of Khartoum, Khartoum, Sudan, selbeely@gmail.com>

\*\*\* National Corporation for Antiquities and Museums, JG45+98X, Nile St, Al Khurtum, Sudan,  
<shadiabdu@yahoo.com>

Widad Mustafa El Hadi, is Professor of Information and Communication Sciences at the University of Lille SHS where she is in charge of International Relations and of the Master Diploma program. She holds a PhD in linguistics from the University of Lyon 2, France and a Habilitation from the University of Lille in 2004. Her main areas of interest are: theoretical approaches to knowledge organization; language & culture and their impact on knowledge organization; knowledge organization systems and their evaluation; cross-language and cross-cultural information retrieval, and, more recently, Digital Humanities and ethics in information & knowledge organization. She has been active in ISKO (International Society for Knowledge Organization since 1996, as co-founder of the French ISKO Chapter (with Jacques Maniez) and elected as the first ISKO-France president (1996-2001, 2015-2023). She publishes regularly on knowledge organization, digital cultures, digital humanities and recently the Ethics of KO. She has supervised 18 doctoral theses on terminology; library and information science; information literacy; archiving and knowledge organization systems and Digital humanities. She founded in June 2021 the "International Thematic Network on Ethics in SHS".



Dr. Sarah Hassan Elbeely is an Associate professor at the University of Khartoum, Sudan. She was awarded her PhD in French Language and Literature in 2007, later she developed an interest for the cultural heritage of Sudan. She started by translating a book on Sudanese ancient history and that lead her to get involved with issues of preservation of the Sudanese tangible and intangible heritage. She participated in a project on the preservation of the intangible and oral heritage in Sudan: the proverbs. (Université de Khartoum). Lately she participated in the 3rd and the 4th International Conference on the Ethics of Information & Knowledge Organization in Lille, France.



Dr. Shadia Abdrabo is Senior Curator at the Sudan National Corporation for Antiquities & Museums. She was awarded her PhD in Archaeology at the University of Khartoum. for her research on faience production in ancient Sudan. Dr Abdrabo has worked on a variety of international fieldwork projects throughout Sudan. She is interested in how archaeological fieldwork and museums can work together to communicate an understanding of the past to people in the present. Currently, she is the director manager of regional museums in Sudan.



Mustafa El Hadi, Widad, Sarah Hassan Elbeely and Shadia Abdrabo Abdelwahab. 2023. "How Racism Leads to Epistemicide or Murder of Knowledge? A Case Study of Tangible and Cultural Heritage of the Nile Valley in Sudan". *Knowledge Organization* 50 (6): 391-406. 41 references. DOI:10.5771/0943-7444-2023-6-391.

**Abstract:** In this paper, we introduce epistemicide as an emerging theoretical framework for critical library and information studies alongside the well-known ones extensively covered in the literature of our field. Definitions of epistemicide and an aggregate of related concepts drawn from recent research are reviewed and examined through the lens of the ethics of information and knowledge organization (KO). A detailed historical background about Nubia and Kushite kingdoms along the river Nile is chosen as a case study. It focuses

on the early conditions that led to racism, marginalization, and discrimination of the civilization of the Nile Valley in Sudan and its tangible cultural heritage. Facts are drawn from a vast literature review, documentary films, checked in knowledge organization systems (KOS, indexing languages and classifications) and museums. The paper concludes with an appeal to information scholars and professionals to address epistemicide as an ethical and crucial issue for information professionals responsible for the credibility and accuracy of the information they handle in every field of knowledge.

Received: 25 August 2023; Revised: 14 October 2023; Accepted 16 October 2023

Keywords: Nubian cultural heritage; racism; epistemicide; Nile Valley; knowledge representation

## 1.0 Introduction

In this paper, we introduce epistemicide as one of the critical approaches in information and knowledge organization (KO) alongside the well-known ones extensively covered in the literature of knowledge organization (Olson, Beghtol, Floridi, Fox, Tennis, Guimarães, Adler, Smiraglia, Mai, Martínez-Ávila, Tognoli, among many others). Definitions of Epistemicide and an aggregate of related concepts are reviewed and examined through the lens of the ethics of information and KO. The scope of this paper is limited to a single case study and intends to be the occasion for further discussions and evaluations. We begin by defining the major concepts: epistemicide, cultural heritage, cognitive justice, cultural racism, oppression, documentary injustice, discrimination, and marginalization. We discuss how these cumulative injustices can lead to epistemicide. A detailed historical background about Nubia and Kushite kingdoms along the river Nile is given. The paper continues with the early conditions that led to the marginalization and discrimination of the civilizations of the Nile Valley in Sudan and its tangible cultural heritage. Evidence is drawn from a vast literature review, documentaries and checked in KOS (indexing languages and classifications) and in museums. We continue discussing the obvious murder of knowledge and how we should rescue and safeguard the endangered cultural heritage. The paper concludes with an appeal to information scholars and professionals to address epistemicide as an ethical and crucial issue for information professionals responsible for the credibility and accuracy of the information they organize and communicate in every field of knowledge.

## 2.0 Definitions

### 2.1 Epistemicide

Epistemicide is defined as the killing, silencing, annihilation, or devaluation of a knowledge system. Epistemicide occurs when epistemic injustices are persistent, systematic, and function collectively as structured oppression of particular ways of knowledge. It is also known as the “murder of knowledge” which implies the subjugation and even death

of other forms of knowledge by dominant forces (e.g., Western Eurocentric and colonial). This not only impacts the knowledge itself but also the demise of those cultures that held it –their beliefs, traditions, and local knowledge (Zembylas 2017; Patin and Yeon 2019; Patin et al. 2021). Youngman et al. (2022, 357-358) added more elements to this definition showing the relationships of epistemicide with library and information studies:

Epistemicide refers to knowledge destruction and is perpetuated through epistemic injustices, which are the ways we harm knowers in the process of their epistemological development. As an emerging theoretical framework for critical library and information studies, conversations about knowledge destruction in domains of cultural information studies are disunited in their use of epistemicide-based language. Rather, siloed conversations around epistemicide in cultural contexts have perpetuated a collective hermeneutical injustice (Fricker 2007), or lack of ability to describe the lived experiences of ourselves or others, regarding how to address omissions in the historical record. This has led to divergent vocabularies and interpretations of the role the absence of information plays in the creation or erasure of knowledge.

Regarding our contribution to dealing with tangible cultural heritage and its specificity, they have been highlighted in Youngman et al. (2022, 359)

Cultural heritage is a form of knowledge. Knowledge relies on information sources. In the context of cultural heritage, The NARA Document on Authenticity distinguishes how our understanding of cultural heritage is reliant on information sources available to us, defined as ‘all material, written, oral and figurative sources which make it possible to know the nature, specifications, meaning and history of the cultural heritage’ (International Council on Monuments and Sites 1994, 48). Indeed, as reference points of memory, information sources maintain and contextualize our constant re-creation and renegotiation of

cultural heritage in the present. These tangible and intangible traces of cultural heritage are essentially the past turned into ‘information-as-thing’ --in Buckland’s (1991) words - they are presentation of knowledge (about the past). Both tangible and intangible cultural heritage may serve as conveyors of information and ideas about the past: ‘the body itself is a site of memory’, as Dwyer and Alderman (2008, 166) explain with reference to ‘bodily enactments, commemorative rituals, and cultural displays’.

Epistemicide as a concept is embedded in what is called ‘cognitive justice’ which according to Visvanathan (2009)

recognizes the right of different forms of knowledge to co-exist but adds that this plurality needs to go beyond tolerance and or liberalism to an active recognition of the need for diversity. It demands recognition of knowledge, not only as methods but as ways of life. This presupposed that knowledge is embedded in an “ecology of knowledge” where each knowledge has its place, its claim to a cosmology, its sense as a form of life. In this sense, knowledge is not something to be abstracted from a culture, a life form; it is connected to livelihood, a lifecycle, it determines life chances.

Rachel Fischer and Erin Klazer (2022, 103) analyze and discuss the concept of cognitive justice and what it entails within the broader information ethics theoretical framework. They believe it is the recognition of different forms of knowledge as equal to other forms of knowledge, together with the right to exist alongside these. Cognitive justice proposes not only mere tolerance but also requires active endeavors towards inter and intracultural dialogues and the recognition of diversity (Visvanathan 2009), as well as the reorganization of various research and development strategies between communities and experts. The ecology of knowledge is central to the discourse on cognitive justice. It implies the concept of epistemological diversity of the world, which, according to Santos (2007), recognizes the existence of a plurality of knowledge beyond scientific knowledge.

## 2.2 Cognitive justice

The concept of cognitive justice is thus based on recognizing the plurality of knowledge and expresses the right of the different forms of knowledge to co-exist. Indian scholar Shiv Visvanathan (1997) coined the term “cognitive justice” in *“A Carnival for Science: Essays on science, technology and development”*. In the work, the author comments on the destructive impact of hegemonic Western science on developing countries and non-Western cultures, calling for the recognition of alternative sciences or non-Western

forms of knowledge. He argues that different knowledge relates to different livelihoods and lifestyles and should, therefore, be treated equally.

## 3.3 Cultural racism

Another illustrative concept to the present study is ‘Cultural racism’<sup>[1]</sup>, which “refers to representations, messages, and stories conveying the idea that behaviors and values associated with white people or “whiteness” are automatically “better” or more “normal” than those associated with other racially defined groups (Racial Equity Tools Glossary 2022). Cultural racism is also a powerful force in maintaining systems of internalized supremacy and internalized racism. It does that by influencing collective beliefs about what constitutes appropriate behavior, what is seen as beautiful, and the value placed on various forms of expression.<sup>[2]</sup>

## 2.3 Oppression

Oppression is also one of the operational concepts relevant to the present study; it is defined as “systemic devaluing, undermining, marginalizing, and disadvantaging of certain social identities in contrast to the privileged norm; when some people are denied something of value, while others have ready access” (Project Change 2020).<sup>[3]</sup>

White supremacy is a historically based, institutionally perpetuated system of exploitation and oppression of continents, nations, and peoples of color by white people and nations of the European continent to maintain and defend a system of wealth, power, and privilege. The idea (ideology) is that white people and the ideas, thoughts, beliefs, and actions of white people are superior to People of Color and their ideas, thoughts, beliefs, and actions. While most people associate white supremacy with extremist groups like the Ku Klux Klan and the neo-Nazis, white supremacy is ever present in our institutional and cultural assumptions that assign value, morality, goodness, and humanity to the white group while casting people and communities of color as worthless (worth less), immoral, evil, and inhuman and “undeserving.” Drawing from critical race theory, the term “white supremacy” also refers to a political or socio-economic system where white people enjoy structural advantages and rights that other racial and ethnic groups do not, both at a collective and an individual level.

## 2.4 Documentary injustice

Before epistemicide, there is the act of ‘Documentary injustice’ that happens

when recorded information is misrepresented, falsified, misleading, withheld, or inaccurately described

with the intention to, or at least the consequence of, inhibiting epistemological development [...] This misrepresentation will lead to a subsequent misinterpretation of the historical record, thereby skewing our future interpretations of processes of memorialization and acts of commemoration that can be used to suppress knowledge. Particularly in situations or environments where certain historical accounts are privileged and preferred over others, documentary injustice poses a serious threat to the accuracy of our collective memory (Youngman et al. 2022, 363).

The authors give the Archives, as memory institutions, as an example. According to them (2022) when those institutions fail to deliver foundational building blocks for mnemonic narratives, it leads to an archival silence. This may also concern all LAMs (Library, Archives & Museums) intuitions. Kenneth E. Foote quoted by Youngman et al. (2022, 366) noted in 1990 that archives and museums usually sustain a “representation of the past quite specific to [their] institutional mandate”.

With the Digital Humanities research, the LAMs movement endeavors to consider these services as integrated information and knowledge spaces. This stance aligns with the responsibility and accountability of institutional and individual levels in LAMs as information professionals and how they represent the past through their collections, exhibits, and programming. To provide a broader shared theoretical framework to account for epistemicide Youngman et al. (2022, 358) compared epistemicide of collective cultural heritage to archival silencing considered by them as an epistemic injustice:

In acknowledging the previous scholarship undertaken in archival science, we provide concrete language to describe the epistemic injustices knowledge-carriers experience when engaging with remnants of the past. In aligning concepts from the literature on archival silence, cultural heritage, and collective memory by viewing them through an information lens, we widen the discourse across multiple information fields by providing a shared theoretical framework.

The set of these concepts and ethical stances crucial to the ethics of information are fully relevant for describing the situation of Nubia and its kingdoms in the Nile Valley in Sudan. In this study, we go back to the roots of the racist and demeaning considerations of our heritage. But this attitude can go far beyond neglecting or demeaning a national heritage; it can result in genocide. As stated by Fox (2016, 373): “Oppression can result in consequences from inadvertent discrimination to harassment to violence or death, solely re-

sulting from belonging to a human group”. In the following sections, taking Nile Valley in Sudan as a case study, we will demonstrate how racism can lead to epistemicide.

### 3.0 Nubia and Kush through the lens of historians and archeologists in the 19<sup>th</sup> and early 20<sup>th</sup> Century

Nubia was one of the great civilizations of the ancient world. From its rise in the fourth millennium BC, Nubian rulers controlled long stretches of the Nile Valley, amassing wealth and power, and its traders and soldiers interacted with neighbors on all sides. Ancient Nubia is also of significant interest as a civilization with distinctively African characteristics, including a mobile population and economic and symbolic reliance on cattle. However, despite more than two hundred years of exploration, archaeological survey and excavation, and historical research, and despite the outstanding work of some truly dedicated scholars, Nubia remains poorly known regarding our understanding of its ancient contemporaries. Nubia has long been considered a margin culturally and politically dominated by the Egyptian Pharaonic civilization, except for the period of the 25th Dynasty, where from 721 to 663 BC, the Nubian pharaohs reigned over Egypt (Miller 2019, 2). There are several reasons for this state of knowledge. First is Nubia’s proximity to ancient Egypt, whose standing monuments and extensive written record have tended to overshadow Nubian history’s sometimes less impressive remains. Second, Nubians did not write until the second century BC, and because it has been challenging to identify the language in which these later texts were written, their writing system, called Meroitic script, has resisted decipherment. Third, since the Egyptian record is so abundant and often so eloquent, it has also tended to skew modern perceptions toward the perspective of ancient Egyptian ideology, in which, for example, the Nubian kingdom of Kush could only mean ‘vile’, and Nubians were stereotyped as primitive. Racial prejudice has also contributed to a lack of knowledge about ancient Nubia. In the early twentieth century, for example, scholars investigating the Nile Valley’s history explained Egyptian history’s brilliance in racial terms by positioning Egypt as separate from Africa. As Nubia was considered part of black Africa, scholarly interpretations systematically undervalued it.

More recently, scholars have discarded racial explanations of history as invalid and have acknowledged that Egypt is, in fact, in Africa. We now recognize that populations of Nubia and Egypt form a continuum rather than distinct groups and that it is impossible to draw a line between Egypt and Nubia to indicate where “black” begins. Finally, it may fairly be said that the difficulty of access to archaeological sites in Nubia has slowed the pace of work there. Lower Nubia was relatively remote and is now entirely

flooded due to the construction of the Aswan High Dam in the 1960s. At the same time, in Sudanese Nubia, the first paved roads linking the capital Khartoum with the northern border of Sudan were completed only in 2009 (Emberling 2011).

#### 4.0 Methodology

To carry out this research, we have based our methodology on the three following elements:

- Critical Review of the Literature & Documentary Films and Videos
- “Nubia” & “Kush” in Classification and Indexing Systems
- The Place of Nubia in Museums

##### 4.1 Critical review of the literature and documentary films and videos: first elements leading to marginalization and discrimination

Our review goes beyond descriptions of identified articles, books, videos, and museum data. It includes a degree of analysis and fact-checking in order to justify the term Epistemicide we used to describe how the Nile Valley in Sudan was and still is perceived and seen by Western Egyptologists and, of course, by the Egyptians. The critical review presents, analyzes and synthesizes material from diverse sources, as mentioned above. Although they are relatively recent, they enabled us to trace back the origins and reasons for the racist and colonialist attitude towards the cultural heritage of the Nile Valley in Sudan.

In 1905, British archaeologists started excavations in eastern Africa, aiming to uncover and extract artifacts from 3000-year-old temples. Left mostly with photographs, discouraged by the harsh environment, Wallis Budge, the British Egyptologist and philologist, wrote at the time that they made several trial diggings in different parts but found nothing worth carrying away! The archaeologists of the era subtly or explicitly dismissed the notion that black Africans could create art, technology, and metropolises like those from Egypt or Rome (Maxmen 2018). Unfortunately, the history of ancient Nubia that was summed up in only five pages in Maspero’s three volumes *Dawn of civilization* is still treated in modern textbooks as a mere annex to Egypt where only a few paragraphs mention the black pharaohs, at most.

The specificity of the kingdom of Kerma was long ignored. The American archaeologist Reisner undertook the first excavations there in 1913. At Kerma, he worked in the city that was the capital of the early kingdom of Kush from about 2000–1550 BC, although he did not recognize it as such. The site included a settlement area and a huge necropolis. In the settlement area, he worked primarily around a

massive mud-brick structure known as the Western Deffufa<sup>[4]</sup> with over fifty-two meters long and nineteen meters high. The structure had clearly been a temple in ancient times. Reisner very naturally imagined a very outlying Egyptian colony, responsible for transporting African products to Egypt. The huge western Deffufa was a warehouse for these exotic goods in this prospect. Reisner’s excavations at the base of the west of Deffufa uncovered remains of smaller temples and extensive areas for the production of faience and distinctive local ceramics. He also found Egyptian stone vessels and fragments of statues mixed with local Nubian products. Noting that the area had been burned, Reisner interpreted the remains as indicating the presence of an Egyptian settlement that had been burned in a Nubian attack (Emberling 2011).

As to the tombs, they bore witness to the local influence, which succumbed to generations of Egyptian governors’ expatriates. The eastern cemetery, with its royal burial mounds and human sacrifices, contained significant quantities of Egyptian objects of faience and stone, including whole statues (Emberling 2011). Despite the clear evidence of non-Egyptian burial practices and undoubtedly guided by racial prejudice, Reisner understood these large burials to be those of high Egyptian officials rather than those of Nubian kings.

While his archaeological methodology in Nubia is impeccable, his racist views severely compromised his ability to interpret his findings accurately. An example is his excavation of a high priestess or official burial in a royal tumulus at Kerma. In Reisner’s mind, she was the sacrificed “Negroid” wife of an Egyptian official. He denied that Africans could have built a powerful civilization as worthy of the same level of respect as the Egyptian civilization; therefore, he assumed that Kerma was only an Egyptian outpost in Nubia (Emberling 2014 quoted in Crawford 2021, 5).

Reisner’s interpretations were challenged soon after publication, and it is now abundantly clear that Kerma was a Nubian city, the capital of Kush. Since 1977, excavations at Kerma directed by Charles Bonnet have revealed and restored the city’s palaces, shrines, houses, and defensive walls (Emberling 2011). Therefore, Reisner, who discovered dozens of pyramids and temples in Sudan, recorded the names of kings, and shipped the most precious antiquities to the Museum of Fine Arts in Boston, with no evidence and unquestioning condescension, attributed any sophisticated architecture to a light-skinned race. In a 1918 bulletin for the museum, he matter-of-factly wrote, “The native negroid race had never developed either its trade or any industry worthy of mention and owed their cultural position to the Egyptian immigrants and to the imported Egyptian civiliza-

tion” (Reisner 1918, 81), and believing that skin pigmentation marked intellectual inferiority, he attributed the downfall of ancient Nubia to racial intermarriage (Maxmen 2018). George Reisner, the archaeologist who discovered most of the Kush treasures and unveiled the Kushite civilization, with his narrow-minded view of race, despite all the evidence he uncovered, could not fathom the idea that dark-skinned Africans had built this great society.

But Reisner had no evidence that could have contradicted this interpretation at the time. The rare Egyptian texts attesting to a powerful kingdom to the south of Egypt had not yet been discovered. The second stele of Kamose, which describes the proposed alliance between the Hyksos kingdom and Kerma, was found at Thebes in 1954, and the inscription from the tomb of Sobeknakht at el-Kab, describing an incursion by Kerma and its allies to Upper Egypt, was only discovered in 2003 (Rilly, 2017).

Eliot Smith, in the documentary diffused by National Geographic in 2014, “*Rise of the Black Pharaohs*,” described it as follows: “It tells the forgotten story of unexpected conquest and buried history. The story is a perfect example of history being written by the victors,” says executive producer Jared Lipworth. He continues: “Here was this great civilization that rose up alongside the Egyptians, conquered them for a time, and then was relegated to the shadows when the Egyptians recorded their history”. In the same documentary archaeologist Tim Kendall added: “I think the golden age of Egyptology was taking place just when people’s understanding of the concept of race was at its probably lowest form. So, the idea of a dark-skinned Nubian people taking over Egypt somehow went in the face of their closely held beliefs”. That White European civilization was superior to anything else and that other races were inferior. Fortunately, today’s archaeologists are more enlightened. They are separating fiction from fact and giving the Kushites the exposure and respect they deserve as one of the ancient world’s great civilizations” (Crawford 2021, 3).

#### 4.1.1 Adding insult to injury

But we need to acknowledge that ancient Egypt was not a white nor a European civilization, despite some of the dominant ideological paradigms telling that dynastic Egypt arose from the migration of a Caucasian population into Egypt, bringing the elements of an advanced civilization with them. Then, they encountered indigenous races that were less intellectually advanced. Mixing with these latter races led to cultural decline and stagnation. Waves of migrations alternating between Caucasians and Negroes accounted for expansions and lulls in civilization, respectively. This was the view pioneered by the ‘prominent’ archaeologist Flinders Petrie during the early twentieth century. Petrie believed that starting from the earliest times, Egyptian culture was born out of the

conquest of Caucasian outsiders from the north, who were needed to invigorate the local gene pool after cultural decay and decadence repeatedly arose due to the influence of inferior races (Ramsey 2004 cited in Crawford 2021).

Martin Bernal (1987) discusses the origins of racism in the West. While recognizing that essentially all cultures have some degree of prejudice against people who look different, he concludes that Northern European, American, and other colonial racism since the seventeenth century has been much more intense and pervasive than the norm. He explains how North American racism grew more virulent after 1650 with the increasing colonization of the continent and its twin policies of extermination of Native Americans and enslavement of Africans. The German philosopher Georg Hegel, a pioneer of Western philosophical thought, is also known for espousing racist theories where his Eurocentric approach to world history virtually eliminates Africa’s contributions to world civilization (Zambrana 2016). Many other notables in eighteenth- and nineteenth-century Europe classified blacks as the lowest of the races. According to naturalist Baron von Cuvier, “The projection of the lower parts of the face, and the thick lips evidently approximate it to the monkey tribe: the hordes of which it consists have always remained in the most complete state of barbarism” (Bernal 1987, 241 quoted in Crawford 2021). Arthur de Gobineau, the French diplomat, writer, and ethnologist who developed the theory of the Aryan master race, also states: “The black variety is the lowest and lies at the bottom of the ladder. The animal character lent to its basic form imposes its destiny from the moment of conception. It never leaves the most restricted intellectual zones....” (Bernal 1987, 241). He wrote approvingly of Reisner’s racial ideas about Nubia, stating “From the time of the Third Dynasty there was a rapid decline of Egyptian influence in Nubia, associated with a degradation of its essentially Proto-Egyptian culture and the infusion of Negro blood into its population” (Smith 1914, 85 quoted in Crawford 2021, 85). The relegation of Africans to the lowest rungs of the human evolutionary ladder provided an excuse for the brutality and egregious inhumanity of slavery and colonialism, the source of wealth for Europe and the USA. The biblical “curse of Ham,” misinterpreted as a curse on the black race to serve other races, was also frequently invoked to justify slavery, colonialism, and displacement of Africans from their land by white settlers (Sanders, 1969 cited in Crawford 2021).

#### 4.2 “Nubia” and “Kush” in classification and indexing systems

It is important to specify that Nubia is the historical land and Kush refers to the kingdoms established on the River Nile. Nubia is a region along the Nile River encompassing the area between the first cataract south of Aswan in south-

ern Egypt and the confluence of the Blue and White Niles (in Khartoum, the current capital in central Sudan). Nubia was home to several empires, most prominently the Kingdom of Kush, which conquered Egypt in the eighth century BC during the reign of Piye and ruled the country for about 120 years, as its 25th to be replaced a century later by the native Egyptian 26th Dynasty. The Kingdom of Kush had two different capital cities. The first capital was Napata, located along the Nile River in Northern Kush. Napata served as the capital during the height of Kush’s power. Sometime around 590 BCE, the capital moved to the city of Meroe. Meroe was further south, providing a better buffer from the fighting with Egypt. It also was a center for ironworking, an essential resource for the kingdom.

Our approach is interdisciplinary, but it is grounded in information science and knowledge organization, which led us to carry out an empirical study in the historical description of the following classes and subject headings: “History of Ancient Sudan” “Nubia”, “Kush”, “Napata”, “Moroe”, “Kerma” in classifications and indexing systems to see how the classes and subject-headings are organized. We chose two types of classifications, the Dewey Decimal Classification (DDC), and the Universal Decimal Classification (UDC). As for indexing languages we chose three, RAMEAU and Library of Congress subject-headings (LCSH).

Table 1 shows, in both classifications, that Nubia or ancient Sudan appears as part of the “History of Egypt,” making it difficult to access and retrieve in Library catalogs. It is obvious that the classes are allocated to subjects based on literary warrant. The late discoveries of the Nubian civilization can explain the absence of the Kushite toponyms in classification systems. It was in 1905 that the British archaeologists started excavations in eastern Africa, aiming to uncover and extract artifacts from 3000-year-old temples left

mostly with photographs. Almost nothing is known about what life was like for people living in Nubia during this time. Egyptologists of the 19th century often relied on accounts from ancient Greek historians who fabricated wild tales, Francigny<sup>[5]</sup> says, never bothering to go to Sudan themselves. Harvard archaeologist George Reisner filled in some details in the first part of the 20th century, who, besides being racist, was more interested in recording the names of royalty and retrieving treasures than looking at antiquities to understand the evolution of societies and cultures (Maxmen 2018).

As for Kerma, it was assumed that it was only an Egyptian outpost in Nubia. This situation calls for Furner’s remark:

It is important to recognize that, in its fixity, every classification scheme is an objective representation of a subjective point of view—that of its human constructors, who share the perspectives and ideologies of those populations with which they identify. Almost necessarily, then, every classification scheme may be interpreted as being biased in some respect, where the bias is the inevitable reflection of designers’ preferences (Furner 2007, 154).

Nubia is absent from UDC likewise but at least the adjective “Nubian” will enable finding and retrieving the Nubian languages; *Kenzi/Kenuzi, Dongolawl, Nobiin, Midob and Hill*; Nubian dialects: *Nobiin / Nubian / Mahas /Fadicca* – Old Nubian. However, there is no mention of Merotic language or of the origins of all these languages.

The specificity of a domain like history calls, like other domains, for a domain-analytic approach as Hjørland observed: “It is really important to know the most important

UDC Class	UDC Description	DDC Class	DDC Description
94(6)	History of Africa	960	History of Africa
94(62)	History of Egypt and the Sudan	962	Egypt, Sudan, South Sudan
94(624)	History of Sudan	962.4	Sudan and South Sudan
94(3)	History of ancient and medieval world	962.401-962.404	Periods of history of Sudan and South Sudan together, Sudan alone
94(32)	History of ancient Egypt	962.401	Beginnings to 500
=426.24	Nubian languages—Kenzi/Kenuzi, Dongolawl, Nobiin, Midob and Hill Nubian dialects	962.402	500-1820
=426.241	Nobiin / Nubian / Mahas /Fadicca—Old Nubian	962.403	Anglo-Egyptian Condominium Period, 1820-1956
(213.522.2)	Sahara desert—Libyan desert. Arabian desert (Western desert), Nubian desert	962.404	1956-

Table 1. Classification of Nubia in DDC and UDC

information sources in one or more domains at a rather detailed level. It has a strong relevance for practical information work” (2002, 425). Furner (2007, 157) quoting Hjørland shows how this approach is relevant for special classifications:

Hjørland (2002, 422) distinguishes among eleven domain-analytic methods for LIS. He lists the construction of special classifications as one of these approaches and calls both for further research on the problems of classification for special fields and (citing Bowker and Star 1999) for adopting a more critical approach that ‘seriously considers the consequences of special classifications and their social and ideological embeddedness’ [...] ‘In my opinion even general librarianship has to cope with different domains and may well benefit from considering the domain analytic view. One cannot treat all domains as if they are fundamentally similar, and a theoretical approach to LIS should consider different discourse communities.

Table 2 shows more elements, and almost all the important Kushite Kingdom capitals are used as descriptors, enabling easier search access. Descriptors were found in LCSH and its translation in the French Subject-headings RAMEAU which offers unsurprisingly a better representation of Nubia and Kushite kingdoms. An extensive coverage based on a domain-analytic approach is required in these cases. Indexing languages and especially thesauri offer this solution as observed by Hjørland: “Thesauri are mainly domain specific vocabularies, and the methodology of designing them can also be seen as one (implicit) form of domain analysis”. (Hjørland 2002, 425).

### 4.3 The place of Nubia in museums

In this subsection, we present information about the Nubian collections and their place in four important museums, namely the British Museum, the Louvre, the Boston Museum of Fine Arts, and the Egyptian Museum in Cairo. It is pretty evident the limited place given to such a “great” civilization where the concept of ‘Nubia’ often appears to be far from clear in the museological context. Most of the Nubian collections, including those coming from Sudan, are, in fact, located in Egyptian contexts, both on exhibition and in storage, with no distinction made between the two civilizations. The selection of those objects to be exhibited, and collection displays are also dramatically affected by several issues—such as museum targets, space limitations, aesthetic criteria, touristic programs, and lack of funds (Simone 2014). We need to indicate that in addition to Simone’s document, most of this information was collected from the museums’ websites; the authors have also separately visited the British Museum, the Louvre, and the Egyptian Museum in Cairo. The richness of the Nubian collection in these museums is due to the law of fifty-fifty split of excavated objects between the missions and the country, which was not respected in many cases where unique objects and masterpieces were excluded from this law; nevertheless, they found their way to many museums all over the world. Another reason is the dynamic of the circulation of objects: the policy of exchange adopted by many museums (Simone 2014) has led to the loss of traces of many objects buried in museum storage boxes. We need to indicate as well that access to this information on the websites is not direct in three of these museums; the Boston Museum of Fine Arts is the only one that has a direct entry for the Nubian Galleries and was the first Museum to create a gallery for Nubian objects in the US. Simone found 122 locations with Nubian artifacts scattered across five continents: Africa 22, Americas

RAMEAU (Translated in French indexing language )	LCSH
Colonies égyptiennes	[no term/ pas de correspondance]
Haute-Nubie (Soudan)	[no term/ pas de correspondance]
Basse-Nubie (Égypte)	[no term/ pas de correspondance]
Koush (Royaume)	[no term/ pas de correspondance]
Koushites	Cushites
Nubiens	Nubians
Danagla (peuple d’Afrique)	Danagla (African people)
Napata (Soudan ; ville ancienne)	Napata (Extinct city)
Villes disparues, en ruine, etc. – Soudan	Extinct cities—Sudan
Méroé (Soudan ; ville ancienne)	Meroe (Extinct city)
Naga (Soudan ; ville ancienne)	Naqa (Extinct city)

Table 2. Descriptions in RAMEAU and LCSH

20, Asia 1, Europe 77, and Oceania 2. She has found that a large quantity of Nubian materials is in storage due to the lack of a clear concept of 'Nubia' and of a scientific program in most of the museums, compounded by the long-term impact of the colonial perception of Nubia ingrained in the Egyptologist paradigm. This fact appears to be related to the original organization of the Nubian collections that arrived in Europe and other world regions as part of Egyptian collections, with which they were later 'naturally' exhibited or stored.

**The British Museum** houses one of the largest collections of Egyptian and Nubian antiquities, which the museum acquired since its foundation in 1753 (Simone, 2014). The Egyptian collection of the British Museum is displayed thematically in various rooms, and the Nubian collection is reunited in the Raymond and Beverly Sackler Gallery, that was created in 1992. The website presents the ancient Sudanese collection under Room 65: Sudan, Egypt, and Nubia. The description starts as follows: "This gallery tells the story of Sudan, southern Egypt, Nubia and the river Nile". The short introduction ends with the following "Found on the first floor, Gallery 65 displays objects from 100,000 BC to the Islamic period, including ancient rock art, a Kerma burial, plus elaborate religious and household goods". The page provides three entries namely: Highlights, Timeline, and Accessibility; providing photographs, a diagram providing brief information on the ancient Sudanese kingdoms, and information on accessibility to the museum. The website presents the Nubian collection mentioning the name of the dynasty/kingdom together with the number of found/exhibited objects, for example: Kushite (502 objects); Meroitic (502 objects); Nubia and Sudan periods and cultures (502 objects); Post-Meroitic (38 objects); X-Group Culture (38 objects)<sup>[6]</sup>. The information on the objects themselves and where they were found...etc, and the photographs are of good quality. There is an addition to the curator corner page where a video presents a curator explaining something from an excavation site in Sudan. On the ground, this collection is exhibited in a limited space (room No. 65), which is annexed to the department of Egyptian antiquities.

**The Louvre** collection is typologically and thematically significant enough to deserve to have a gallery devoted to its display. Unfortunately, it is still part of the Department of Egyptian antiquities. A new location consists of a small showcase in which objects are organized chronologically; it is located on the south landing, immediately at the exit from the majestic Egyptian gallery on the first floor of the Sully Section. In this showcase, only a few objects from the Nubian collection are dispersed in the Egyptian, Roman, and Coptic galleries (Simone, 2014). The website presents different types of objects (jewelry, pots, statue, etc) found in sites in Sudan representing different kingdoms (Kerma, Méroé, Napata, etc.) in the Department of Egyptian antiquities. The information is abundant and the photographs are

well displayed. Last year, the museum organized an exhibition from 28 April to 25 July 2022 under the title "Pharaoh of the two lands: The African Story of the Kings of Napata" in the hall Napoléon. The exhibition highlighted the importance of this vast kingdom, in what is now northern Sudan. It was organized in connection with the Louvre's archaeological campaign in Sudan. A video presenting the exhibition and videos of lectures from archaeologists and scientists on the theme "Along the Nile Cataracts".

**Boston Museum of Fine Arts** collection traces the history of Nubia from Prehistory to the Islamic period. The museum is one of the first institutions in the world to dedicate a gallery to Nubia. The website presents the museum's most extensive and important collection of ancient Nubian art outside of Khartoum, mostly gathered during the pioneering Harvard University–Boston Museum of Fine Arts Expedition in the first half of the twentieth century. The objects highlighted (...) include refined early ceramics, (including Kerma pottery, finest ever manufactured in the Nile Valley) monumental statues and relief carvings made for royal pyramids (colossal royal statues of Napatan kings from the temples and tombs at Gebel Barkal), exquisite gold and enamel jewelry (faience amulets from the royal tombs of el-Kurru and Nuri), playful decorations for furniture and clothing, and luxury goods traded from around the Mediterranean world (Doxey 2018). The collection is exhibited in the Nubian Art section under the main title: Art of Ancient Egypt, Nubia, and the Near East. The page provides three entries as follows: collection; highlights which contain two sub-entries: Nubian Art and Nubian Jewelry; Publications. In the last entry, related Publications provide images of the three publications and brief information on their content.

**The Egyptian Museum in Cairo**, Egypt. Until the sixties, at least in the context of museums, Nubia was perceived as part of Egypt without any particular need for it to have a separate space. The Museum's website limits the information on the 25th Dynasty (the Kushite dynasty that ruled over Egypt for a century) in the timeline section under the title: The third transitional era; it says "The rulers of Kush took control of Upper Egypt and they invaded Memphis". Even though the 25th Dynasty was mentioned in this timeline, it is the only Dynasty that is not mentioned with the other Egyptian dynasties on the external walls of the museum. Access to information on collections on the website is complicated. The website's Arabic language page contains more information than the English language page. Despite the richness of collections on the ground, no Nubian artifacts are presented on the museum's website. It is worth mentioning that most of the Nubian collection was relocated to the Nubia Museum of Aswan, that was established in 1997.

## 5.0 The Paradigm Shift in Nubian studies in the 20<sup>th</sup> Century

Nubiology<sup>[7]</sup> today is radically different from what it was in the 1960s. These racist views that continued to dominate in the field discouraging scientists from conducting research and excavations in those areas, convincing the populations of these zones that they have no history or at least if they have a history, it is unworthy of discovery, are disappearing. At the beginning of the 2000s, László Török<sup>[8]</sup>, for example, showed very convincingly, notably using linguistic examples, that the Kingdom of Kush had created an original ideology. Other researchers better oriented than their distant predecessors, such as Claude Rilly and Carsten Peust, began to discover fascinating links between the languages of ancient Nubia and medieval, or even modern Nubia (Labonté 2012). Young Sudanese archeologists and archeologists from different countries like Neal Spencer, David Edwards, Vincent Francigny, Stuart Tyson Smith, and Geoffrey Emberling are conducting research and leading excavations; they are working closely with scientists from different domains: e.g., anthropologists, bioarchaeologists, and linguists who help to uncover realities deriving from a found skull or meroitic inscriptions. The National Geographic documentary *The Rise of the Black Pharos* recognizes that: “Egypt and Kush were peers and formed a mutually beneficial relationship” (15:46). It further acknowledges that the Kushites’ sophistication in architecture was comparable to that of the Egyptians (15:00) and that they engaged in trade as equals.

Among the first colonialist historians and archaeologists who wrote the first histories of Nubia was Brugsch (1891) who did not believe that there could have existed a properly Nubian dynasty in Egypt, the famous 25th, founded by Kushites, which was to last a century and which caused a great deal of ‘ink<sup>[9]</sup> (Labonté 2012) for him, it is more or less conceivable that Africans could have achieved such a conquest. Like E. A. Wallis Budge (1891), later Douglas Erith Derry (1956) and even, to a lesser extent, Walter Emery (1965), who had a vision of a Nile Valley civilized by white Egyptians. As well as one of the “great founders” of Nubiology, Reisner, was himself influenced by a colonialist historiography: he went so far as to say that the gradual contribution of a “negroid” element to Nubia was to be related to the “delay” growing Nubian communities evolving parallel to predynastic Egypt.<sup>[10]</sup> His direct successor, Dows Dunham, only deepened these kinds of theories by studying craniometry<sup>[11]</sup> (Labonté 2012).

Recognized nubiologists, such as William Y. Adams, have repeatedly adapted anti-colonialist theories to Nubiology. In 1995, Stuart Tyson Smith also worked on Egyptian imperialism in Nubia<sup>[12]</sup>. These authors still share something with postcolonialism. Among historians of Nubia, Egypt no longer has the role of a beneficial civilizer after the

1980s. This is perhaps due, among other things, to the rise of ethnology with the study of daily life in Nubia and the strong presence of anthropologist-historians, who diversify approaches, especially about culture.<sup>[13]</sup> The Egyptian kingdom is instead the invader, the acculturator<sup>[14]</sup> or even the rival, according to the expression of O’Connor (1993). These historians and anthropologists of the 1970s and 1990s also spent much time trying to demonstrate that the Egyptian footprint was overestimated in Kush. In particular works, they also affirm that the local elites had not immigrated from the North and that it was not the Egyptian model that had enabled the Nubians to create a centralized State around the 9th century BC (Labonté 2012). Bruce G. Trigger also amply denounced Euro-American colonialism in the context of his research in ethnohistory (Labonté 2012).

In *Nubia: Corridor to Africa* (1977) William W. Adams condemns the colonialist approach of the first historians interested in Nubia: “The most significant deficiency of the enlightened colonial paradigm was philosophical: the persistence of 19th-century racism and the colonial mentality” (Adams 1977 quoted in Crawford 2021, 5). The author is also highly critical of the early periods in the development of Egyptology and Nubiology. He was struck by the degree to which racism permeated the early comparative anatomical studies of the Nile Valley’s skeletal remains. He noticed that invalidated research methodology and erroneous assumptions about population variability allowed these researchers to draw whatever conclusions they wished from their analyses. Adams emphasized that a racist perspective was the rule, not the exception, and had many strong proponents, such as G. Elliot Smith, Douglas Derry, and George Reisner (Crawford 2021).

## 5.1 Efforts Towards Knowledge Salvation

### 5.1.1 Our time and the fate of the Nubian cultural heritage

Today, archaeologists are realizing how wrong their predecessors were, and are rewriting history. With so little known about life in ancient Nubia, every object that’s uncovered could prove to be invaluable. Stuart Tyson Smith, an archaeologist at the University of California, Santa Barbara said: “This period has been burdened by racist colonial interpretations assuming that Nubians were backwater and inferior and now we can tell the story of this remarkable civilization” (Maxmen 2018, 3). A storytelling that was delayed for more than half a century. But even today’s archeologists started their recent discoveries while searching for the Egyptian presence in Nubia. For example, Neal Spencer, who came to Amara West site ten years ago looking for evidence of Egyptian vestiges’ presence, discovered that the site was showing

a mixed culture where the Egyptian and the local Nubian objects were side by side.<sup>[15]</sup>

Charles Bonnet, the Suisse archeologist and one of the most prominent figures in modern archaeology in Sudan (Rilly et al. 2017) stated in 2015, in an interview celebrating his 50 years of career in Archeology, that when he arrived in Sudan, people told him “You are wasting your time here, there is no history here, if you want to find significant elements you just have to go to Egypt, there is a history, there are important remains...etc. (9:39-9:49) He stated in this same interview that: “Most historians had considered that the civilizations of the world were in Egypt, the Middle East, Mesopotamia, Greece or Rome. As soon as we talked about black Africa, we considered that it was a country of Barbarians” (1:33). He explained that the ambiguity surrounding the history of ancient kingdoms in Sudan goes back to the fact that the European and American scientists relied on written texts to explain the history of the people while in the case of Sudan there were no written texts or very few (10:04). Therefore, it was “archeology” that prepared the construction of the “story” in the absence of a written history. Bonnet has explained that while “the profession of archaeologist was not as clear as it is today the excavations were generally directed by specialists in the language of the texts and then an architect was asked to make the holes as best as possible” (4:22-4:43) - that is why they relied on texts; now it is more complicated, using extremely sophisticated scientific means helping to uncover many realities and depending on interdisciplinarity.

Despite the delay caused by those racist views towards the Sudanese ancient civilization, the first excavations on the island of Sai (Kerma) dated back to the middle of the 20<sup>th</sup> century. After the brief passage of Anthony John Arkell in 1948, Jean Vercoutter, on behalf of the University of Lille, decided to work there in 1954. He interrupted those excavations to respond to the appeal launched by UNESCO to rescue the monuments of Nubia threatened by the building of the Aswan High Dam.

Brigitte Gratien, from the University of Lille 3, began the periodization of the kingdom of Kerma. From the study of ceramics from the necropolis of the island of Sai, a well-preserved elite cemetery of local princes, she was able to distinguish three periods: Ancient Kerma (2450-2050 BC), Middle Kerma (2050-1750 BC), Classical Kerma (1750-1550 BC). A “final Kerma” period (1550-1450 BC) is sometimes added, corresponding to the long struggles which preceded the definitive victory of the Egyptians and the establishment of pharaonic colonization (Rilly et al. 2017). From 1993, the direction of the excavation of the island of Sai was entrusted to Francis Geus, Lecturer at the University of Lille 3. He devoted a large part of his life (1975-2005) to the archaeological excavation of Nubia as Director of the Archaeological Mission of the Island of Sai seconded by the Ministry of Education to the Ministry of Foreign Affairs as

Director of the French Section of the Directorate of Antiquities in Sudan SFDAS. Geus organized four exhibitions in Lille and Khartoum in 1975, 1984, 1994, and 2004; he has also written on Nubia.

The University of Geneva’s excavations, begun in 1973, yielded definitive evidence that we were dealing with the capital of an indigenous state, the oldest historically known kingdom of sub-Saharan Africa. Charles Bonnet’s conclusions, which contradicted Reisner’s interpretations, took a long time to gain the support of the Egyptologists. But by the end of the 1980s, no one doubted that there had been, for a long time, in southern Egypt, a powerful state, a rival of Egypt, and almost nothing like it, except in the use of the Holy Scripture, which it never adopted. Charles Bonnet thus became the man who gave back to Sudan a thousand years of its history (Rilly et al. 2017). In 2003, after discovering the seven monumental statues of the Black Pharos in the archeological site of Doukki Gel/ Kerma<sup>[16]</sup>, Charles Bonnet declared, “The statues have revolutionized the idea that we had of the history of the Sudan. They showed that in this remote country considered barbaric by the so-called “Africanist” historians, there was a very sophisticated civilization”. He has found 40 fragmented pieces of marvelous statues in a perfect state of conservation and even though they were broken<sup>[17]</sup>, their surface was gorgeous.

In a video by Damien Piscopiello and Laetitia Béraud (3:28 to 5:01), Charles Bonnet said that while

[...] most historians had considered that the civilizations of the world were in Egypt, the Middle East, Mesopotamia, Greece or Rome, they considered black Africa as the land of Barbarians<sup>[18]</sup>, so to realize that these inhabitants were able to create statues of such quality we were lucky, through the discovery of that hole where the statues were hidden. Besides those buried statues we have discovered older cities, we have discovered the way of life of men, of organizing themselves within their institutions. To understand all of this is as important as the statues. It’s different but it’s important because it’s the opening to the world of an immense territory, which was considered wild (land of barbarians) and which is becoming an extraordinarily sophisticated and complex territory. And so they provide some fundamental insights into the history of Africa.

Unfortunately, those newly discovered treasures at the beginning of the 20<sup>th</sup> century were mostly transferred to Western museums, of which the major collections were made in these so-called barbaric countries (it is amazing to see that one of the most visited parts of the Louvre comes directly from Africa-Egypt). But even after discovering the richness of their civilizations, the population in those regions was

stripped of their valuable heritage that has been squandered and transferred to the “first world” museums. But this is not the only threat to this heritage; building dams and extensive urbanization and cultivation are threatening archeological sites as well. For example, building the High Aswan Dam created a 300-mile-long reservoir that submerged hundreds of archeological sites. Although the most grandiose were re-located to museums, the Nubian sites in northern Sudan were mostly submerged underwater.

According to an assessment by Sudan’s National Corporation for Antiquities and Museums, the reservoir created by one planned dam near the town of Kajbar would flood more than 500 archeological sites, including more than 1600 rock etchings and drawings dating from the Neolithic period through medieval times. Other wonders, such as Jebel Barkal and Tombos, are threatened more acutely by population growth and the desire to live modern lives with higher education and electricity. Nature is a destructive force as well. Since the 1980s, sandstorms have increasingly eroded the intricately carved walls of 43 decorative Kushite pyramids and a dozen chapels at a UNESCO World Heritage site named Meroe (Maxmen 2018).

Today, archaeologists realize how little time they have left to uncover and fully understand Nubia’s historical significance. There is little time left before the construction of dams along the Nile to generate electricity and provide water for the urban areas, causing extensive damage that no Archaeological Salvage project can undo. “This is one of the great, earliest-known civilizations in the world,” says Neal Spencer, an archaeologist with the British Museum. For the

past ten years, Spencer has traveled to a site his academic predecessors photographed a century ago, called Amara West, around 100 miles south of the Egyptian border in Sudan. Armed with a magnetometer,<sup>[19]</sup> Spencer plots thousands of readings to reveal entire neighborhoods beneath the sand, the bases of pyramids, and round burial mounds, called tumuli, over tombs where skeletons rest on funerary beds—unique to Nubia—dating from 1,300 to 800 B.C.

Sites like this can be found up and down the Nile River in northern Sudan, and at each one, archaeologists uncover hundreds of artifacts, decorated tombs, temples, and towns. The new generation of archeologists is taking new approaches to probe tombs for details about age, health, and place of origin, as well as cultural clues in those tombs where belongings were buried with the dead. Each finding is precious because they provide clues about who the ancient Nubians were, what art they made, what language they spoke, how they worshipped, and how they died, valuable puzzle pieces in the quest to understand the mosaic of human civilization. And yet, everything from hydroelectric dams to desertification in northern Sudan threatens to overtake, and, in some cases, erase these hallowed archaeological grounds (Maxmen 2018).

**5.1.2 NTIC in the rescue of sites and discovering new ones**

LiDAR (Light Detection and Ranging) technology is one of the most valuable sources of geographic information, providing high-resolution, three-dimensional models of

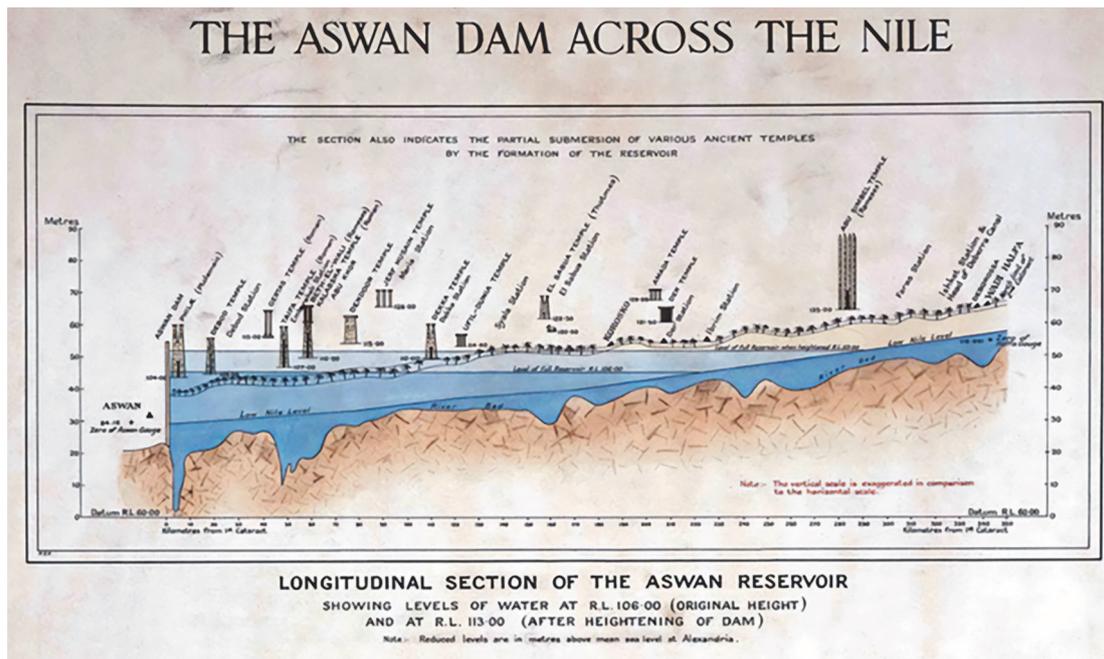


Figure 1: Longitudinal section of the Aswan Reservoir<sup>[20]</sup>

large land areas using laser scanning devices. LiDAR data, typically stored as point clouds, have been used in a wide range of scientific and professional fields as a fundamental component of work. Due to the vast volumes of data that can be generated, LiDAR datasets have always been a challenge to develop software that can process such large volumes of information quickly and efficiently. The goal is to produce beautiful images of the site and develop interactive 3D models.

Documentation is a significant step towards preserving heritage, whether human or natural factors threaten it. Still, there are no architectural databases or measurement surveys due to the lack of specialists and experts. There is, therefore, an immediate need to train new technicians and architects who could ensure the documentation and conservation of the remaining heritage.

Spencer, the British Museum archaeologist excavating pyramids and neighborhoods buried beneath the sand in Amara West, has revealed how different the region was about 3,300 years ago. With Optically Stimulated Luminescence, a technique used to determine when sediment was last exposed to light, his team dated the layers of fluvial clay buried beneath quartz in the strip on the map. It reveals that Amara West was, in fact, an island in the Nile when ancient Egyptians and Nubians inhabited the land. By 1,000 B.C., the Nile's side channel appeared to have dried up, and the island connected with the mainland. In addition to documenting their findings with notes, drawings, video, and models, the team also uses digital cameras above ruins, stitching together thousands of pictures in a technique called "Structure from Motion" that can be used to create 3D reconstructions (Maxmen 2018). These interactive graphics are now preserved on the British Museum's website so people can explore them without a trip to Sudan. Digital reconstructions of tombs and pyramids from elsewhere in ancient Nubia are also making their way online. This could be how to bring justice and shed light on the history of Nubia. Many archaeologists working in Sudan post their annual findings on blogs and their academic publications following after (Maxmen 2018).

Unfortunately, the Sudan Museum doesn't have a website to show its collections nor the world digital constructions of the findings and thus appropriate them. Of course, technical help and investment are needed to develop such a project. However, everything can shift, and maybe soon, the glorious true story of the Sudanese civilization can be explained in modern textbooks besides the stories of ancient Egypt, Greece, and Rome. Perhaps the next generation of students will not think of sub-Saharan Africa as a negative space lacking history but as the birthplace of humans and as home to some of humankind's earliest metropolises, replete with governance, religion, and art (Maxmen 2018).

### 5.1.3 Education in information and access to knowledge as a universal human right

Another way to bring justice to this little-known Nubia is to continue training Sudanese archaeologists to protect and promote Sudanese heritage. This needs the accumulation of efforts from different parties through funding of the work of archaeological missions, research, detailed mapping of monumental sites, developing media programs, construction of new museums, capacity-building activities in the management of collections, organizing international exposition, investment in the infrastructure around the sites, building networks and collaboration with universities and missions inviting them to come and participate in this work (after resolving bureaucratic issues hindering their participation), highlighting the importance of inter-disciplinarity bringing on specialist from different domains of specialty such as anthropologists, architects, environmentalists...etc. All this will help shed light and attract attention to this civilization, helping to disseminate the correct information and thus the due respect taking into consideration. This door was opened with the different international expositions organized with the help of SFDAS, namely in 1997 in Paris at the Institute of the Arab World - "*Soudan Royaume sur Le Nil*," and in 2010 at the Louvre Museum - "*Méroé un Empire sur le Nil*" as well as last year (2022) exposition at Louvre Museum - "*Pharaoh Of The Two Lands, The African Story of the Kings of Napata*". And at the Boston Museum of Fine Arts, "*Ancient Nubia Now*" in 2019. Francis Geus organized expositions in Lille and Khartoum in 1975, "*Egypt and Nubia*"; in 1984, "*Rescuing Sudan Ancient Cultures, A cooperation between France and the Sudan in the Field of Archeology at Sudan National Museum in Khartoum*"; in 1994 "*Nubia, the antiquity cultures of Sudan*" in Lille.

## 6.0 Conclusion

These strengths and stances are mobilized in our contribution to the ongoing research on epistemicide for a broader engagement of the scientific community and to deepen awareness of this specific type of harm, epistemicide. Although our contribution is rooted in the vast literature on the ethics of information and knowledge organization, the investigations by the following authors: Patin et al. (2020; 2021), Visvanathan (2009); Fischer and Klazer (2022) and Youngman et al. (2022) have been crucial to our work intended to contribute to recognizing epistemicide as a crime against intelligence. This recognition begins by acknowledging the role and place of information professions, tools, and scientific research in IS and LAMs communities. It is important to share the conclusions that Patin et al. (2021, 1306) came after thoroughly examining the major IS journals. When the authors searched for "epistemic injustice",

which we consider to be at the very origin of epistemicide, they found out that “this particular perspective is almost completely absent” ...In 10 major IS journals, no results were found”, they said. Only four of the journals examined by the authors mention “epistemic injustice”: Hajibayova (2020), for instance, discusses Fricker’s conception of epistemic injustice in terms of citizen science and ecological justice. Gibson (2019) discusses the “epistemic inequalities” present in IS departments. Both Doyle (2001) and Buschman (2006) quoted by Patin et al. (2021) “talk about epistemology and justice separately in their work.” According to these authors “to date, none of the major journals in our field has discussed ‘epistemicide’”. Although well-known in other social fields, it is deplorable that this concept has not yet found its rightful place in our discipline; information scientists have only recently acknowledged epistemicide. “There has to be a reckoning before the paradigm can truly shift; if there is no acknowledgment of injustice, there is no room for justice”, posted Beth Patin (2021, 1323). To move forward it is crucial to collectively work to bring forward these issues in our field, in its different branches, and to work “towards a code of ethics from a critical lens” as suggested by Patin (2021).

As information scholars and professionals, we are responsible for the credibility and accuracy of the information we organize and communicate. Therefore, addressing epistemicide is crucial for information professionals who handle information and knowledge from every field.

### Acknowledgments

We thank all the reviewers who provided helpful comments on previous versions of this work. We are especially grateful to our colleagues from the “Sudan National Museum & Archives” for providing data and support despite the ongoing war in the capital Khartoum.

### Endnotes

1. Racial Equity Tool Glossary. 2021. Available at <https://www.racialequitytools.org>.
2. Project Change’s “The Power of Words.” 2020. Originally produced for Project Change Lessons Learned II, also included in A Community Builder’s Toolkit (Appendix I) – both produced by Project Change and The Center for Assessment and Policy Development with some modification by Racial EquityTools.org
3. Project Change’s “The Power of Words.”2020.
4. Deffufa is a modern Nubian term meaning “fortified building.”
5. He was the director of the French Section of the Directorate of Antiquities in Sudan (SFDAS) from 2014 to 2018.
6. These are the typical words used on the museum’s website.
7. “Nubiology” is a term coined by Kazimierz Michalowski Józef Marian, a Polish archeologist Egyptologist, and art historian. It is the designation given to the primarily archeological science that specializes in the scientific and historical study of Ancient Nubia and its antiquities.
8. László Török was best known for his publications on ancient Nubia.
9. In recent years we have the publication of Morkot’s book *The Black Pharaohs: Egypt’s Nubian Rulers*. London: The Rubicon Press, 2000 and a shorter volume by Redford, *From Slave to Pharaoh: The Black Experience of Ancient Egypt*. London and Baltimore: The John Hopkins University Press, 2004, which primarily focuses on the rise to power of the Kushites.
10. See George Andrew Reisner. 1923. *Excavations at Kerma, Parts I-III*. Harvard African Studies, volume V Cambridge: Harvard University Press
11. See Dows Dunham. *The Royal Cemeteries of Kush – El Kurru*. vol. 1, Cambridge: Harvard University Press, 1950.
12. See Stuart Tyson Smith. 1995. *Askut in Nubia: The Economics and Ideology of Egyptian Imperialism in the Second Millennium B.C.*, New York: The Kegan Paul International.
13. For example, William Y. Adams, Stuart Tyson Smith and Bruce Trigger are anthropologists. Trigger, Kemp and O’Connor, have written a late social history of Egypt (Ancient Egypt: A Social History, Cambridge, Cambridge University Press, 1983, 450 p.) which shows, however, that the less “political” and “philological” turn taken by several academics is not only a matter of “expanding” anthropology in the Nile Valley, but also of integrating different historical approaches.
14. Acculturation - the process of incorporating new values, attitudes and behaviors, it is a process in which individuals from one cultural group, through contact with another cultural group, learn and internalize the cultural traits of the other group (McPherson, 2004, in Racial Equity Tool Glossary. 2021. Available at <https://www.racialequitytools.org>.
15. The archeologist was looking for evidence that the site was a copy of the Egyptian site Tel Amarna until he found with his team the presence of Nubian burial rituals in the tombs with funerary beds, Nubian steles, as well as Nubian pottery.
16. Doukki gel means the red hill in ancient Nubian, it is at about 500 km to the north of Khartoum and 300 km to the south of the Egyptian borders.

17. The statues of the Kushite kings were broken and buried by the conquering Egyptian army after they had defeated the Kushite King in Kerma.
18. Note figuring in the Polish indexing language KABA where it is a non-descriptor, the only indexing system where this word is found; see supra for more details. Compared to the French indexing languishes: NUKAT is similar to Sudoc (national union catalogue) and KABA is similar to RAMEAU (subject-headings).
19. A device that measures the patterns of magnetism in the features hidden underground.
20. A longitudinal cross-section demonstrates the partial submersion of various ancient temples due to the formation of the reservoir created by Egypt's Aswan High Dam, which was opened in 1970.

## References

- Bernal, Martin. 1987. *Black Athena: The Afroasiatic Roots of Classical Civilization, vol. 1. The Fabrication of Ancient Greece, 1785-1985*. New Brunswick, NJ: Rutgers University Press.
- Boston Museum of Fine Arts. n.d. "Art of Ancient Egypt, Nubia, and the Near East", Boston (website) Accessed October 6, 2023. <https://www.mfa.org/collection/ancient-egypt-nubia-and-the-near-east>.
- Brugsch, Heinrich Bey. *Egypt Under the Pharaohs: A History Derived Entirely From The Monuments Part One*. London: Kessinger Publishing.
- Budge, E. A. Wallis. 1907. *The Egyptian Sudan, its History and Monuments*, vol II. J. B. Philadelphia: Lippincott Company.
- Buschman, John. 2006. "The Integrity and Obstnacy of Intellectual Creations: Jürgen Habermas And Librarianship's Theoretical Literature". *The Library Quarterly* 76, no. 3: 270– 99.
- Crawford, Keith W. 2021. "Critique of the 'Black Pharaohs' Theme: Racist Perspectives of Egyptian and Kushite/Nubian Interactions in Popular Media." *African Archaeological Review* 38 (August): 695–712. <https://doi.org/10.1007/s10437-021-09453-7>.
- Derry, Douglas Erith. 1956. *The Dynastic Race in Egypt*. London: Egypt Exploration Society.
- Doxey, Denise M. 2018. *Arts of Ancient Nubia*. Boston: MFA Publications, Museum of Fine Arts.
- Doyle, Tony. 2001. "A Utilitarian Case for Intellectual Freedom in Libraries". *The Library Quarterly: Information, Community, Policy* 71, no.1: 44–71. <https://doi.org/10.1086/603240>.
- Emberling, Geoff. 2011. *Nubia: Ancient Kingdoms of Africa*. Princeton, N.J.: Princeton University Press.
- Emery, Walter B. 1965. *Egyptian Nubia*. London: Hutchinson.
- Fischer, Rachel and Erin Klazer. 2022 "Cognitive Justice and Intercultural Information Ethics". In *Foundations of Information Ethics*, edited by John T.F. Burgess and Emily Knox, 103-14. London: Facet Publishing.
- Fox, Melodie J. 2016. "Subjects in Doubt: The Ontogeny of Intersex in the Dewey Decimal Classification." *Knowledge Organization* 43, no. 8 581–593. <https://doi.org/10.5771/0943-7444-2016-8-581>.
- Furner, Jonathan. 2007. "Dewey Deracialized: A Critical Race-Theoretic Perspective." *Knowledge Organization* 34, no.3, 144–68. <https://doi.org/10.5771/0943-7444-2007-3-144>.
- Gibson, Amelia N., Renate Chancellor, Nicole A. Cooke, Sarah Parker Dahlen, Beth Patin, and Yasmeen Shorish. 2020. "Struggling to Breathe: COVID-19, Protest and the LIS Response". *Equality, Diversity and Inclusion: An International Journal* 40, no. 1:74– 82.
- Hajibayova, Lala. 2020. "(Un)theorizing Citizen Science: Investigation of Theories Applied to Citizen Science Studies". *Journal of the Association for Information Science and Technology*, 71, no.8: 916– 26. <https://doi.org/10.1002/asi.24308>.
- Hjørland, Birger. 2002. "Domain Analysis in Information Science: Eleven Approaches—Traditional as Well as Innovative." *Journal of Documentation* 58: 422–62. <https://doi.org/10.1108/00220410210431136>.
- Labonté, Guillaume Bouchard. 1976. "La Nubie Ancienne et la Décolonisation Intellectuelle (1976-2001)." *Revue Histoire, Idées, Sociétés*. Université du Québec à Montréal. <https://revuehis.uqam.ca/editions-thematiques/nubie-ancienne-decolonisation-intellectuelle-1976-2001/>.
- Marie-Celine. 2016. "50 years in Archaeology. Interview with Charles Bonnet" YouTube Video, 21:10, June 20, 2016. <https://www.youtube.com/watch?v=Oer1b76CwQ>.
- Maxmen, Amy. 2018. "In Sudan, Rediscovering Ancient Nubia before It's Too Late." *Undark* (blog), February 19, 2018, <https://undark.org/2018/02/19/nubia-sudan-ama-ra-west-archaeology/>.
- Miller, Catherine 2019. "Review of Histoire et Civilisations du Soudan. De la Miller Préhistoire à nos Jours by Claude Rilly et al." *Revue des Mondes Musulmans et de la Méditerranée* (March 2019). <https://doi.org/10.4000/remmm.12466>.
- O'Connor, David. 1993. *Ancient Nubia: Egypt's Rival in Africa*. University Museum of Archaeology and Anthropology, Philadelphia: University of Pennsylvania.
- Patin, Beth and Jongwon Yeon. 2019. "Ending Epistemicide: Amplifying Knowledge Systems in Libraries." *Library Research Seminar (LRS) VII*, 16-18 October 2019 Columbia South Carolina.
- Patin, Beth, Marília Sebastian, Jongwon Yeon, and Davide Bertolini. 2020. "Toward Epistemic Justice: An Approach for Conceptualizing Epistemicide in the Infor-

- mation Professions." *Proceedings of the Association for Information Science and Technology* 57, no. 1 (e242): 1-11. <https://doi.org/10.1002/pr2.242>.
- Patin, Beth, Marília Sebastian, Jongwon Yeon, Davide Bertolini, and Anna Grimm. 2021. "Interrupting Epistemicide: A Practical Framework for Naming, Identifying, and Ending Epistemic Injustice in the Information Professions." *Journal of the Association for Information Science and Technology* 72, no.10: 1306–1318. <https://doi.org/10.1002/asi.24479>.
- Piscopiello, Damien and Laetitia Béraud. 2021. "Charles Bonnet a Découvert les Pharaons Noirs", YouTube Video, 5:07, December 22, 2021, <https://www.youtube.com/watch?v=c3yXYn03eYI>.
- Reisner, George A. 1918. "Known and Unknown King in Ethiopia". *Museum of Fine Arts Bulletin* 16, no. 97: 67-82.
- Rilly, Claude, Vincent Francigny, and Marc Maillot. 2017. *Histoire et Civilisations du Soudan. De la Préhistoire à nos Jours*. Paris: Soleb.
- Santos, Boaventura de Sousa. 2007. "Beyond Abyssal Thinking: From Global Lines to Ecologies of Knowledges." *Review (Fernand Braudel Center)* 30, no.1: 45–89. <https://www.jstor.org/stable/40241677>.
- Santos, Boaventura de Sousa. 2014. *Epistemologies of the South: Justice Against Epistemicide*. New York: Routledge.
- Simone, Maria Costanza de. 2014. "Nubia and Nubians: The 'Museumization' of a Culture." PhD diss., Leiden University. Studies, vol. V, Cambridge, Massachusetts: Peabody Museum Press. <https://scholarlypublications.universiteitleiden.nl/access/item%3A2933635/view>.
- Starkey, David, dir. 2019. "Lost Kingdom of the Black Pharaohs". Alleycats TV. Aired December 1<sup>st</sup>, 2019, on Discovery Channel.
- The British Museum. n.d. "Nubia", London (website) October 6, 2023. [https://www.britishmuseum.org/collec-tion/search?keyword=nubia&material\\_culture=Meroitic&material\\_culture=Kushite&view=grid&sort=object\\_name\\_\\_asc&page=1](https://www.britishmuseum.org/collec-tion/search?keyword=nubia&material_culture=Meroitic&material_culture=Kushite&view=grid&sort=object_name__asc&page=1).
- The Colorful World. 2015. "Rise of the Black Pharaohs", YouTube Video, 54:55, August 27, 2015. [https://www.youtube.com/watch?v=q\\_q4dEsNqHw&list=PL-S32IxtLRpXOdz36WfaR8HQGfoG\\_NRH&index=10](https://www.youtube.com/watch?v=q_q4dEsNqHw&list=PL-S32IxtLRpXOdz36WfaR8HQGfoG_NRH&index=10).
- The Egyptian Museum. n.d. Cairo (website) October 6, 2023. <https://egyptianmuseumcairo.eg/emc/ar/historical-timeline/>.
- The Louvre Museum. n.d. "Nubie", Paris (website) Accessed October 6, 2023. <https://collections.louvre.fr/en/recherche?page=34&q=nubie>.
- Visvanathan, Shiv. 2009. "The Search for Cognitive Justice." *India Seminar*. [https://www.india-seminar.com/2009/597/597\\_shiv\\_visvanathan.htm](https://www.india-seminar.com/2009/597/597_shiv_visvanathan.htm).
- Visvanathan, Shiv. 1997 *A Carnival for Science: Essays on Science, Technology and Development*. Delhi, Oxford University Press. Published online by Cambridge University Press.
- Youngman, Tyler, Sebastian Modrow, Melissa Smith, and Beth Patin. 2022. "Epistemicide on the Record: Theorizing Commemorative Injustice and Reimagining Interdisciplinary Discourses in Cultural Information Studies." *Proceedings of the Association for Information Science and Technology* 59, no.1: 358–67. <https://doi.org/10.1002/pr2.759>.
- Zambrana, Rocío. 2016. "Hegel, History and Race". In *Oxford Handbook of Philosophy and Race*, edited by Naomi Zack, 251-60. New York: Oxford University Press.
- Zembylas, Michalinos, and Elena Papamichael. 2017. "Pedagogies of Discomfort and Empathy in Multicultural Teacher Education", *Intercultural Education* 28, no.1: 1-19. <https://10.1080/14675986.2017.1288448>.