THE DIGITISATION OF AUDIOVISUAL ASSETS SALVAGED FROM THE JAGGER LIBRARY FIRE: A PRACTICAL OVERVIEW

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Abstract

When a wildfire ripped through the Jagger Library on 18 April 2021 at the University of Cape Town (UCT), firefighters engaged in strenuous efforts to control the flames. Within days of the fire, a formal disaster management project was initiated, led by UCT Libraries. While the Reading Room was destroyed by the fire, the basements housing Special Collections survived. Within days, the flooded basement was drained and teams of volunteers arranged by UCT Libraries were organised to extract the materials, carrying labelled crates to the surface. In the lowest basement underground, significant flooding occurred, and audiovisual materials below the water mark were impacted, including video and audio tapes, causing water damage and instances of mould infestation. Following extraction, the Audiovisual Digitisation Project (AVDP) was launched to mitigate the potential loss of data on already-fragile carriers. The project formed part of a broader, ongoing disaster recovery response to salvage and recover Special Collections surviving the Jagger Library fire. With nearly 35,000 unique items affected and a range of damage to the carriers, the project was expedited at a scale of operation unprecedented within UCT Libraries. With little time to plan, the team had to execute a comprehensive audit and digitisation project of all the materials exposed to moisture during the fire. While planning is a critical part of any project, the circumstances of the AVDP were unprecedented and required significant agility and dedication by the team involved. The digitisation itself was outsourced to a company known as Video Restoration Television (VRTV), with UCT Libraries working closely with the vendor to digitise these fragile holdings. This article outlines the processes involved in the successful completion of the AVDP, unique not only as a digitisation project but also as a disaster recovery project, which resulted in the comprehensive audit and digitisation of the entire audiovisual archive in Special Collections.

Keywords: audiovisual digitisation, audiovisual audit, digitisation project, preservation, disaster recovery

Introduction

In April 2021, a runaway fire on Table Mountain caused the destruction of the almost 100-year-old Jagger Library Reading Room (Figures 1–3), home of the University of Cape Town Libraries' (UCTL) Special Collections and impacted several other buildings at the University. Due to the fire, much of the Government Publications and African Studies Libraries was lost, along with some of the Rare Books collections, and most of the African Film Collection (Singer and Noble, 2022, p. 11; Jethro and Karina, 2024, p. 9; Kirkwood, Noble, and Singer, 2023, p. 12). In addition to the published material housed

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in the library, there were over seventy archival collections that were completely or partially lost in the fire (Singer and Noble, 2022, p. 9).

Figure 1. Jagger Library Reading Room before the fire (image: UCT Libraries, 2021).

Figure 2. The Jagger Library in flames (image: Jennifer Cooke, 18 April 2021).

Figure 3. Jagger Library Reading Room after the fire (image: Michal Singer, April 2021).

The Audiovisual Archive's (AVA) tape collections, chiefly stored in the Jagger building's basement, were water-logged during firefighters' efforts to douse the flames. A plan to preserve the badly damaged and water-logged tapes, called the Audiovisual Digitisation Project (AVDP), was initiated. There was limited time to scope the project due to the urgency of the situation. This project was guided by best practices. Problems such as lack of funding, insufficient technology, and the ongoing South African energy crisis (Rathi, 2022) affected the digitisation project. Despite these challenges, the project was successful in recovering over 90 percent of the content stored on audiovisual carriers salvaged from the fire.

In addition to the UCTL reserve funds and a portion of the insurance claim, two Belgian groups, the Government of Flanders and KU Leuven, donated resources to support the project (Satgoor, 2024, p. 27). Additional financial support was received from the University of Cape Town's Centre for Film and Media Studies. The Centre also participated in the organisation of a student intern program to assist archivists (Satgoor, 2024, p. 23). Students created metadata to make the AVA collections discoverable, including participating in a pilot program testing the use of automated speech recognition to generate transcripts for collection items.

This article begins with an introduction to the fire and salvage operation, a discussion of the AVA and the various collections that were included in the Audiovisual Digitisation Project, followed by the details of the AVDP itself and a discussion of lessons learned throughout this multi-year, ongoing initiative.

The Fire and Its Aftermath

The impact of the Jagger Library fire was widely felt in the days immediately following the disaster. The library was not safe to enter until a couple of days after the fire, and additional time was then needed to pump water out of the basement (Figure 4). The prolonged waterlogging of some materials created conditions highly conducive to mould growth (Van Malssen, 2013, p. 36).

Figure 4. The Jagger basement with water at almost waist-height (image: Michal Singer, April 2021).

Volunteers were recruited from the community to provide much-needed salvage assistance. About 2,000 people helped remove materials from the Jagger Library over a period of seventeen days (Figure 5) (Minicka, 2021, p. 13; Sung et al., 1990, p. 300). The response was overwhelming and included alumni, academics, students, retired and current UCT Libraries staff, conservators, staff from UCT and other institutions, and people from the local Cape Town community. A website was set up to regulate the number of volunteers each day[3]. Volunteer efforts were coordinated during the height of the COVID-19 pandemic, and there was not a single infection during the whole recovery process. The risk of infection was mitigated by the use of Personal Protective Equipment (PPE) such as masks and hand sanitiser supplied by the University. Volunteers went through an induction on their first day, which included protocols for general safety and avoiding COVID infection.

Figure 5. A line of volunteers removing crates of material (image: Thomas Slingsby, April/May 2021).

A triage tent set up close to the Jagger Library was used to separate wet from dry materials. The triage area was staffed by expert conservators and volunteers (Jethro and Karina, 2024, p. 2; Sung et al., 1990, p. 305, 308). Materials were placed in crates and boxes donated by supermarket chains and wine farms and moved out of the library. A crate numbering system was devised to keep track of the salvaged items. The locations were recorded, and a quality controller confirmed the numbering, recording the details of each crate before it was sent to either triage or storage (Crowster, 2021, p. 30; O' Connell, 2015, p. 25). Water-logged material was placed in cold storage at –25°C (Jethro, 2021, p. 674). In total, 13,000 crates of salvaged material were rescued (Crowster, 2021, p. 31).

Recovery premises were set up close to the university. Crates were sequentially ordered by a cartage team from December 2021 to January 2022 (Singer and Noble, 2022, p. 10). Approximately 4,000 crates of material was received at the recovery premises (Singer and Noble, 2022, p. 10). This allowed archivists to begin to reassemble collections. The audiovisual material was stored in the Libraries' Immelman building, a 24-hour study space area. In January 2022, the digitisation project for the audiovisual material began. This project oversaw the digitisation of more than 25,000 items[4], which included film reels stored in a cold room that were not affected by the fire.

3 https://ibali.uct.ac.za/s/jagger/page/jagger-public-offer
4 For further information on the recovery process and UCTL Special Collections' other projects see: https://blogs.uct.ac.za/memory/

Audiovisual Archive Overview

At the time of the fire, UCTL Special Collections were housed in the Jagger Library's basement. There are two main sections within Special Collections: Published Collections and Primary Collections. Published Collections includes Rare Books, Government Publications, the African Studies Library, and the African Film Collection. Primary Collections includes Manuscripts and Archives, the Contemporary Photography Archive, and the AVA.

The AVA consists of nearly 50 separate collections, which are stored on a wide variety of formats, most commonly 16mm film, U-matic, Betacam, BetaSP, miniDV, and VHS tapes, as well as CDs, DVDs, and audio cassettes. Five of the collections in the AVA consist of news footage, five represent material from film festivals, five are the output of research projects, and nine are organisational collections. The remaining nineteen collections feature the work of eight amateur and eleven professional filmmakers.

The various collections came to UCTL in a variety of ways, some through the closure of other UCT units or departments, others through personal connections, and some had been quietly and clandestinely deposited for safe keeping during the political upheaval of late 20th Century South Africa. As a result, not all the collections had donation or deposit agreements in place, and most came without inventories or only with partial inventories. The accumulation of audiovisual materials eventually necessitated the creation of the AVA as a repository within Primary Collections. As an academic archive, UCTL continues to collect audiovisual content that is representative of the social and political history of South Africa and supports teaching and learning as well as research needs both at UCT and for the broader academic community.

After the fire, 38 collections from the AVA were included in the AVDP. Additionally, the AV material housed within the Manuscripts and Archives repository was digitised. Collections that were stored elsewhere at the time of the fire or were already fully digitised were not included in the project.

Conservation and Preservation

Other items from the collections that were salvaged during recovery efforts were not included in the preservation project. Some items were sent to cold storage as part of the triage process. These materials were very badly impacted by being submerged in water and the majority consensus was that halting the growth of mould through freezing the items was the most beneficial course of action during the salvage. This recommendation made by the conservators on site was that as the items could not be adequately treated immediately, it was better to freeze them until each item could be given the attention it required.

Prior to the fire, staff were conducting an item-level audit of the AVA, since existing inventories were inaccurate or inadequate. Because there was not a full account of items before the fire, it remains unclear exactly how many items were sent to cold storage. Due to the crate numbering system it has been possible to identify which collections the AV material sent to cold storage came from. The variations in format, and therefore size and dimensions of the items, makes it impossible to accurately calculate how many AV items this encompasses.

Among the thousands of books, papers and heritage objects, these items remain in cold storage more than four years after the fire. With such a volume of material to be conserved, the triage batch was sent in its frozen state to the Belfor Fire Recovery fa-

cility in Belgium to be freeze-dried and exposed to gamma radiation to kill any mould. Freeze-drying of video tapes has been shown to be a promising way to mitigate water damage (Jarczyk, 2013, p. 71, 73). Nagai et al. (2024, p. 1) states that "results showed that gamma irradiation significantly improved tensile strength and strain in mould-contaminated tapes, with no observable changes in their visual appearance". Nagai et al. (2024, p. 1, 7–8) goes on further to say that gamma radiation has a dual function of disinfecting and mechanically reinforcing VHS tapes. This shipment was arranged by the university management to expedite the recovery of its special collections and at the time of writing, processes are underway. On their return, items will be placed in the Conservation Unit for assessment and any further needed treatment. The Conservation Unit was established in Special Collections in 2022 to provide ongoing support for the broader recovery project as well as the ongoing requirements of the university.

Some formats could not be included in the AVDP, as the appropriate digitisation equipment was not available in South Africa and the cost of sending the material overseas was prohibitive. These formats included open reel video tapes, Betamax tapes, and a single MII videotape.

Orphaned Materials

The project provided opportunities for digital transformation and the archivists involved considered how to optimize available resources. Thus, while the collections of film reels were not impacted by the fire, their digitisation was included in the AVDP since UCTL does not have the capacity to digitise film in-house.

During initial recovery efforts, no items were identified as belonging to two of the collections: Qamata Uvumile and Colette Thorne. Items may have been misshelved in another storage facility and were therefore not damaged in the fire, or they could have been misidentified as belonging to another collection during triage. It is also possible that the items went to cold storage after triage and are temporarily unaccounted for, or that they were removed or lost at some point previously.

Before the fire, the 'Orphans' collection had consisted of fewer than thirty film reels and tapes that were not part of a larger collection. During the audit, more than eight hundred additional items were assigned to this collection, as not all the material salvaged from the Jagger basement could be identified as belonging to a specific collection. Many collections had been accessioned without accompanying inventories or had incomplete inventories. Exposure to water removed some labels, further exacerbating problems with identification. Upon completion of the audit, the list of materials with unknown provenance will be sent to donors and depositors, film historians, and other interested parties in the hopes of linking items to their appropriate collections.

This project provided an opportunity to consolidate audiovisual holdings across Special Collections. In addition to the 38 AVA collections identified in the AVDP audit, several collections from the Manuscripts and Archives and the Contemporary Photography Archive repositories contained audiovisual material. While some of these collections included only one or two AV items, others are primarily composed of audiovisual material. A few of the collections now in the AVA, such as Ken Howes-Howell and the Community Arts Project, were originally accessioned in the Manuscripts Archive and later transferred to the AVA. Some of the collections, such as Georgina Karvellas, have related collections in the Contemporary Photography Archive.

The largest non-AVA collection included in the AVDP is the Centre for Popular Memory. This collection is almost entirely made up of audiovisual items and was housed in the Jagger basement with the AVA. While much of it had already been digitised, a significant portion remained in physical format only. Its inclusion in the project consequently enlarged the digital repository for this collection.

The entire African Studies Library's African Film Collection (AFC) was initially believed to have been destroyed in the fire. Established in the 1980s, the AFC was a collection of 3,500 titles encompassing both African film and television along with material about Africa. It was a large and unique collection holding some of the only known copies of certain titles (Walker and Angus, 2023). AFC's DVDs were housed in a section of the Jagger Reading Room, which was completely burnt (Rijsdijk & Evans, 2024, p. 93). However, a few DVDs survived, due to being misshelved or located elsewhere at the time of the fire (Figure 6).

Originally, the AFC was housed on VHS tapes, but when the format became obsolete, tapes were copied onto DVDs. For legal reasons, the VHS tapes were retained in the Jagger basement with the AVA at the time of the fire. As a result, nearly a quarter of the AFC survived, and these tapes were included in the AVDP.

Figure 6. Film Librarian Bev Angus holds a surviving African Film Collection DVD found in Jagger during the salvage (image: Michal Singer, May 2021).

Audiovisual Digitisation Project

The ongoing digitisation project was part of a large project to salvage the entire archive. Throughout the recovery process, the work was reported in blogs, many photos were taken to document progress, narratives were provided as well as marketing posts, and the fire was spoken about at multiple conferences/interviews. A lot of attention from the press resulted in funding for the recovery process. "... the local press has remained engaged with the Financial Mail and Rapport running articles on the ongoing recovery process" (Satgoor, 2024, p. 16). People responded to the call for the Jagger Library recovery. Receiving funding resulted in three major restoration projects: DK Conservators contracted to restore the damaged antiquarian books from the rare and antiquarian books collection; funding received from the two Belgian groups, the Government of Flanders and KU Leuven and from the UCT Centre for Film and Media studies resulted in the digitisation of the AV archive; the National Institute for the Humanities and Social

Sciences (NIHSS) grant supported a project to conserve and digitise selected collections in Special Collections (Satgoor, 2024, p. 23).

Due to the scale of the project, digitisation was outsourced to an independent contractor called Video Restoration Television (VRTV). VRTV set up a digitisation unit in one of the Library's study spaces (Figure 7). Student access to the area was suspended for the duration of the project. The digitisation unit consisted of several machines that could digitise formats including Betacam, U-matic, DVD, and miniDV. VRTV used the open-source software Audacity[5] for audio and Open Broadcaster Software[6] for video digitisation.

The ongoing South African energy crisis caused frequent loadshedding, which disrupted the digitisation process (Ogugua and Ofordile, 2022, p. 116). After VRTV was forced to stop ingesting tapes during a rolling blackout, electricians installed an Uninterrupted Power Supply, which supplied power to all the power sockets in the digitisation unit. The outside box main switch tripped often and had to be manually switched back on. A surge arrester was added to the main distribution board, which ensured that there were no fluctuations of voltage if the power went off and on. The Libraries' 24/7 study space already had a generator installed which helped ease the burden of the energy crisis.

Figure 7. The digitisation unit set up by VRTV in early 2022 (image: Susan Harris).

Tapes that were part of the AVDP were covered in ash and others were mouldy. The post-salvage condition of the material was further impacted by the condition of the items prior to the fire. Some of the items were mouldy when received from the donor/depositor and the impact of the moisture on these items was therefore greater than on others. Prior to the AVDP a lot of cleaning, drying, and attention was given to the audiovisual materials by the volunteers during the salvage process, laying out items beside their cases to air dry where possible (Van Malssen, 2013, p. 35). Tapes that were still covered in ash (Figure 8) had to be cleaned with alcohol before the project could begin (Brown, 2020, p. 284; Iraci, Hess, and Flak, 2020). The heads of the machines regularly needed to be cleaned because of the ash as well as tapes with sticky-shed syndrome (Brown, 2020, p. 284).

5 https://www.audacityteam.org/
6 https://obsproject.com/

Figure 8. A tape with ash before it was cleaned during the recovery process (image: Susan Harris).

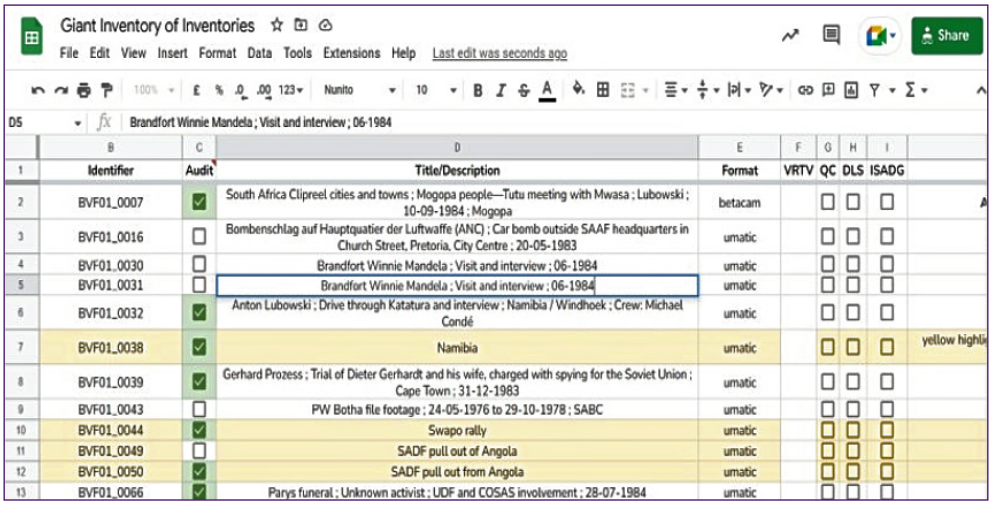
Figure 9. VRTV's Andrea Petersen manually rewinds a tape (image: Susan Harris).

Before the audiovisual digitisation project could commence, all the tapes had to be rewound. If tapes snapped when being rewound, they had to be spliced, though this was not always possible. To avoid breakage, some of the tapes were rewound manually (Figure 9). The snapping was a result of moisture exposure, which caused tapes to shrink and tighten as they dried.

Auditing

According to Van Malssen, "[i]ntellectual control of an archive is a goal that collecting institutions strive for but often struggle with" (Van Malssen, 2013, p. 37). It is not uncommon for an organization to have an unclear picture of its holdings." At UCTL, the AVA was known to consist of 20,000–30,000 items, but with the limited inventories available, exact contents were unknown. While a full-scale audit of the AVA had commenced in 2019 with the intention of creating a full inventory of its holdings, the COVID-19 lockdown interrupted its progress. This impacted archivists' ability to provide access to researchers and filmmakers. Prior to the AVDP, digitisation was undertaken by UCTL's Digital Library Services (DLS) on an ad-hoc basis when material was requested by users. The scoping of the AVDP was inhibited by the lack of a full inventory of the AVA, as it was necessary to work with estimates. Following the fire, the audit was restarted as it was necessary to account for each item that was salvaged.

For the audiovisual audit, a spreadsheet entitled 'Giant Inventory of Inventories' (GIoI) was created. This was first populated with any available inventories of the 44 AV collections. It is a control document that allows searching across collections, though the metadata is currently quite limited. Each item was assigned a unique identifier to tie the digital object to the physical object. The unique identifier comprised the archival collection number and a sequential number e.g., BVF01_1456. Basic metadata including title, physical format, and a brief description of the contents was included.



	B	C	D	E	F	G	H	I	
1	Identifier	Audit	Title/Description	Format	VRTV	QC	DLS	ISADG	
2	BVF01_0007	☑	South Africa Clipreel cities and towns ; Mogopa people—Tutu meeting with Mwasa ; Lubowski ; 10-09-1984 ; Mogopa	betacam		☐	☐	☐	A
3	BVF01_0016	☐	Bombenschlag auf Hauptquatier der Luftwaffe (ANC) ; Car bomb outside SAAF headquarters in Church Street, Pretoria, City Centre ; 20-05-1983	umatic		☐	☐	☐	
4	BVF01_0030	☐	Brandfort Winnie Mandela ; Visit and interview ; 06-1984	umatic		☐	☐	☐	
5	BVF01_0031	☐	Brandfort Winnie Mandela ; Visit and interview ; 06-1984	umatic		☐	☐	☐	
6	BVF01_0032	☑	Anton Lubowski ; Drive through Katatura and interview ; Namibia / Windhoek ; Crew: Michael Condé	umatic		☐	☐	☐	
7	BVF01_0038	☑	Namibia	umatic		☐	☐	☐	yellow highli
8	BVF01_0039	☑	Gerhard Prozess ; Trial of Dieter Gerhardt and his wife, charged with spying for the Soviet Union ; Cape Town ; 31-12-1983	umatic		☐	☐	☐	
9	BVF01_0043	☐	PW Botha file footage ; 24-05-1976 to 29-10-1978 ; SABC	umatic		☐	☐	☐	
10	BVF01_0044	☑	Swapo rally	umatic		☐	☐	☐	
11	BVF01_0049	☐	SADF pull out of Angola	umatic		☐	☐	☐	
12	BVF01_0050	☑	SADF pull out from Angola	umatic		☐	☐	☐	
13	BVF01_0066	☑	Parys funeral ; Unknown activist ; UDF and COSAS involvement ; 28-07-1984	umatic		☐	☐	☐	

Figure 10: Spreadsheet used to audit the audiovisual items.

The 'audit' check box depicted in Figure 10 is ticked when an archivist has either matched the physical item to one already listed in an inventory, or added the item to the appropriate collection, and labelled the tape with the appropriate identifier. Several Boolean fields were also employed. The "VRTV" column indicates whether an item has been digitised by VRTV. The "QC" check box shows that an item has undergone quality control. "DLS" gets ticked if the item has previously been digitised by Digital Library Services (DLS). The "ISADG" check box means that the item is included in a finding aid. The last column (partially visible in Figure 10) is a notes field, used to enter information about the condition of the material, such as "tape damaged" or "no sound". The AVA audit involved an enormous contribution made by staff and student interns, handling 27,531 individual items. This aspect of the project took thousands of working hours and spanned over two years.

The Centre for Popular Memory collection posed a particular problem for the auditing process. CPM had assigned identifiers to some of their items, but not all. Items that were not assigned a CPM identifier received a generic identifier, e.g. BC1223_001. Unfortunately, changes over the decades to the identification processes at CPM led to items having up to three separate identifiers. Where possible, these items were assigned identifiers according to the archival hierarchy. For example, CPM originally assigned the identifier of I.08 to an audio cassette. Later, this was changed to Im.08, and later still it became Wti8.05. The item now has the archival identifier BC1223_J2_8_05.

In addition to the archival identifier, other known IDs are recorded in the spreadsheet as either legacy or interim identifiers. This ensures that there are multiple ways to tie

the physical item to the digital item, in case one of the identifiers is somehow detached from either format (Van Malssen, 2013, p. 33, 37). Prioritization for digitisation was determined chiefly based on the item's physical format, though some items had been digitised prior to being audited by the archivists. When an item was digitised prior to having an ID assigned, VRTV assigned an interim identifier, which was used as the digitised version's file name, and as stated above, this information was also recorded in the spreadsheet.

Tracking Progress

Since processing crates contained a mixture of archival materials, it was challenging to ensure that no items were inadvertently overlooked. Initial attempts to track progress involved placing black stickers on each crate that had been audited. Items that were digitised had a 'D' sticker placed on them. However, the stickers did not always remain in place and the crates became increasingly disordered over time. Once the digitisation was finished, the volume of storage space required was unknown and needed to be calculated (Figure 11).

Figure 11. Repacking crates according to categories of material (image: Andrea Walker, October 2023).

A system of colour-coded labels was created to keep the crates organised (Figure 12). Near the end of the audit process, pink 'not done' labels were placed on each crate containing items that still needed to be digitised. In addition, crates were categorised according to how accessible they needed to be to the archivists. If a crate was packed with unaudited items, then it received a green 'access' label, signifying that the archivists needed immediate access to the items to complete the audit.

Figure 12. Examples of the labels applied to each crate.

Once items had been audited, they were categorised according to whether they needed additional follow-up by archivists. Some of the items' cases or labels contained more granular metadata, but in some cases only a title or a very brief description could be captured during the auditing process. Crates with items needing additional metadata received blue 'store' labels. These crates required space at Special Collections' interim premises, so archivists could access items for reference. Purple 'deep store' labels were given to crates that had no additional metadata to be transcribed. These crates were intended for one of the off-site storage locations, but a lack of space due to the need to rehouse other recovered material meant that all the AV crates remained together at the interim premises.

AV material found amongst the manuscript collections continues to be added to the GIoI as the recovery of those collections continues. Enhanced metadata is being created by transcribing additional information from the 'store' tapes. Once all the tapes in a crate are completed, the crate is then relabelled as part of the 'deep store' category. Generating complete metadata requires access to the digitised footage, but since mounting the 350+ TB of digitised data onto a server is not yet possible, this remains a project for the future.

Artificial Intelligence in the Archives

UCT Libraries' Special Collections embarked on a pilot project to investigate incorporating the use of Artificial Intelligence (AI) into archive cataloguing workflows. This project aimed to enhance discoverability of the AV Archive using the Cockatoo Speech-to-Text AI technology. The Cockatoo Speech-to-Text AI technology is a high-accuracy speech recognition software, capable of accurately transcribing audio and video content into text with timecodes, which help identify the precise parts of the footage that researchers are interested in viewing.

In October 2024, three Film and Media Studies student interns began to pilot test the software with previously digitised content on the Libraries' server. The interns used Cockatoo to transcribe audio and video in English and in Afrikaans. They worked with the AVA collection and with Cockatoo for four hours a week for ten weeks. The project's main objective was to enhance the metadata of AV holdings affected by the fire through the inclusion of a generated transcript. Previously, any transcripts included were manually created, which was a time-consuming and laborious process.

The interns proofread the transcripts generated to ensure precision. Generally, only minor corrections were needed for transcribed English text, but more substantial edits were needed for Afrikaans. The transcripts generated were saved on a OneDrive folder for easy access and were saved as .docx files. The pilot project was considered a success and AI is likely to be used in the future to enhance the accessibility of the AV Archive after gaining access to the material that was digitised following the fire as well as for future acquisitions.

Lessons Learned

A comprehensive disaster recovery plan is essential for protecting irreplaceable materials (Iyishu, Nkanu, Ogar, 2013, p. 42). Among other things, this plan should outline specific salvage and recovery procedures to be followed immediately after a crisis (Sung et al., 1990, p. 311). Because disasters often strike without warning (O'Connell, 2015, p. 23; Sung et al., 1990, p. 308), organizations must prepare in advance to minimize damage and ensure rapid response. At UCTL, a post-incident review was conducted to assess

what happened, what was affected, and how the Libraries responded. A timeline of events was conducted, and the damage was assessed.

UCT Libraries now has an updated disaster recovery plan particularly focused on its Special Collections, which were significantly impacted by the Jagger Library Fire in 2021. The plan in place at the time of the fire was found to be outdated, referring to people no longer on staff and did not accurately reflect the Libraries' current organisational structure. This made it difficult to implement a well-coordinated response to the fire. The updated UCT Libraries disaster recovery plan focuses on transitioning from salvage and recovery to a more permanent recovery phase. Recovery procedures were revised, especially response to a fire and fire suppression techniques.

Improved records management will also mitigate recovery efforts in the event of a future disaster. After the loss of many of Special Collections' administrative records in the fire (Figure 13), UCT Libraries consulted with both UCT's Legal Services and Risk Office to ensure that UCT Libraries' donation and deposit agreements meet university standards. Collections can no longer be accepted without an adequate inventory accompanying the material, as "[c]ollections that are unfamiliar, unprocessed, or have no identification are almost impossible to prioritise for recovery" (Northeast Document Conservation Center, 2022, p. 45).

Figure 13: Initial inspection of the surviving administrative files (image: Michal Singer, April 2021).

Good building management policies reduce the potential impact of a disaster. Institutions should prioritise providing safe conditions for collections they hold (Institute of Museum and Library Services, 2019, p. 19). Housing collections in a climate-controlled environment where temperature and humidity remain stable is essential, even if South Africa's climate and energy challenges prevent achieving ideal conditions (IASA Technical Committee, 2014, pp. 32–34; Wilsted, 2007, pp. 69, 74). Temperature and humidity monitoring have now been implemented by the Conservation Unit, though this has been difficult in the temporary premises. The space is essentially open plan, with exterior windows on all four sides of the building, making it difficult to maintain stable conditions in the South African environment.

In general, collections should not be stored below ground level, especially in areas where flooding is common (Pacifico and Wilsted, 2009, p. 20). While the cool tempera-

ture and steady humidity of a basement seem to make it a good location for storage, the significant risk of flooding in the event of a disaster must be considered (Van Malssen, 2013, p. 37). While much of the AV material was able to withstand being submerged for a few days this is a situation UCT Libraries will avoid in the future. Currently, some of the manuscript material from the archive has been shelved in other stores, but the majority of collections, including the AVA, remains in crates in temporary premises.

Archival facilities always require a higher level of fire safety than normal commercial buildings (Pacifico and Wilsted, 2009, p. 45). Fire guidelines and principles are constantly evolving, so it is paramount to stay abreast of these changes (Pacifico and Wilsted, 2009, p. 45–46). In developing countries archives are not always considered a priority and are often kept in inadequate buildings (Feni-Fete and Khayundi, 2023, p. 77). Moreover, sometimes trying to adapt existing buildings into archival facilities is even more difficult than starting from scratch (Feni-Fete and Khayundi, 2023, p. 77–78). At UCT Libraries, where parts of the archival infrastructure predate current preservation standards, these challenges are particularly relevant and call for both short-term mitigation and long-term infrastructure planning.

All of these factors need to be considered for the permanent premises that Special Collections will eventually settle in. The rebuilding of the Jagger building has not yet begun, and it is not yet clear whether the archive will return to that building or if it will be given a new home. While the authors of this article do not have direct input in these decisions, the archive staff have drafted a document outlining best practices and highlighting future needs with the lessons learned from the fire recovery experience serving as examples that underline the required design principles.

Although digitisation is good for preservation of assets, accurate budgeting can be difficult as the costs of ongoing storage, preservation, and access may not be considered (Rijsdijk and Evans, 2023, p. 93). Backups of the already digitised material will need to be kept in geographically separate locations, adding to storage costs. Due to the fact that the AVDP was an emergency response, budgeting was not properly scoped and funding is lacking. While priority is often given to collections, UCT Libraries cannot function effectively without its own administrative records. In a separate NIHSS-funded project, a team from Memorist digitised the surviving administrative records at the Libraries' interim premises.

Libraries often lack the resources to recover on their own, that is why external support was much needed during the recovery process. Comprehensive insurance coverage and documentation aided the recovery process. The recovery process, including loss assessment, insurance claims, and salvage tracking was supported by UCT Libraries' internal systems and tools. (Satgoor, 2021, p. 23).

Conclusion

As of July 2025, UCTL Special Collections has not yet fully recovered from the fire (Figure 14 shows statistics from the prior year). The temporary premises do not have a proper reading room to accommodate visitors. Work continues out of crates. Users are still not fully serviced. There is much work remaining to be done, but important first steps towards a more accessible Audiovisual Archive have been made.

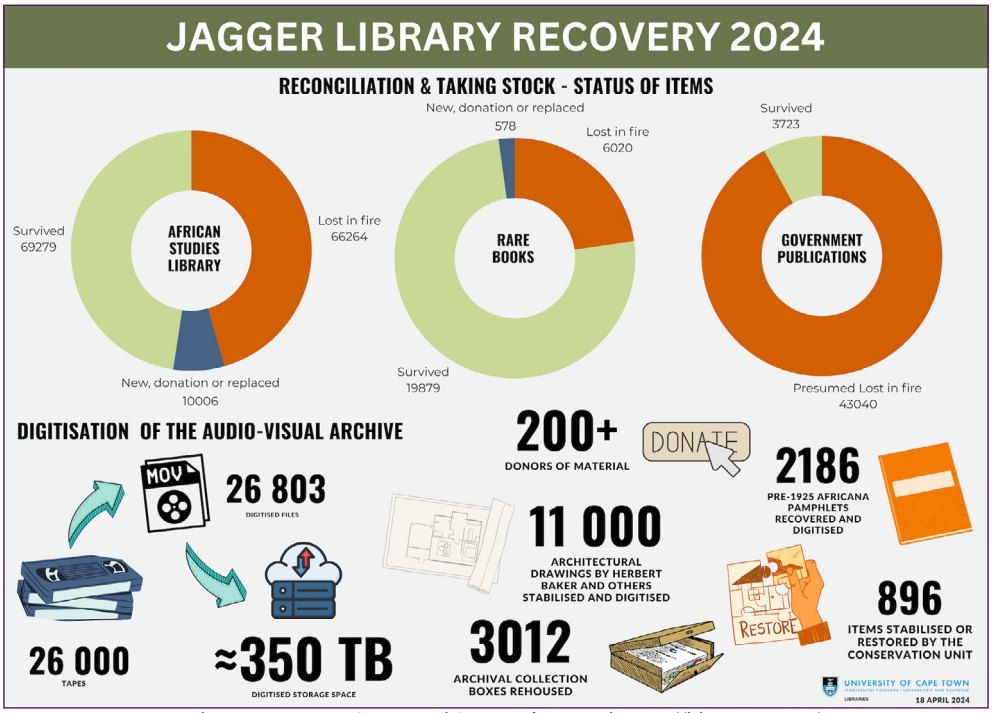


Figure 14: Jagger Library recovery facts and figures (image: https://lib.uct.ac.za/jagger-recovery, September 2024).

The digitisation of audiovisual assets salvaged from the Jagger Library Fire represent an important step in preserving cultural heritage and ensuring that these invaluable and fragile resources remain accessible for generations to come (Groo, 2019, p. 6). By assessing, restoring, and digitising these assets, content can be safeguarded and at the same time its discoverability may be improved (Van Malssen, 2013, p. 38).

While the Jagger fire was devastating for the UCTL Special Collections as a whole, the disaster was turned into an opportunity for its audiovisual archive. The coordinated response to the fire, which initially included enormous community efforts during salvage, resulted in the establishment of the Audiovisual Digitisation Project. Over 25,000 items were digitised in a two-year period following the fire. This would likely have taken many years to accomplish had the fire not occurred.

Creation of full metadata and finding aids will take years to complete and efforts are ongoing. Meanwhile, the completion of a comprehensive audiovisual materials audit resulted in a reliable, accurate inventory of the entire archive for the first time. It will be far easier to locate footage that users are interested in viewing. Once digitised footage becomes available, users will have access to audiovisual content that will no longer be dependent on utilising increasingly obsolete playback equipment or requiring wear on fragile carriers.

The Jagger fire has also brought a new attention to disaster awareness and conservation at UCTL. A Conservation Unit was established in Special Collections. An improved disaster recovery plan, updated donation and deposit agreements, staff training, and ongoing efforts to improve building, storage and environmental conditions will mitigate

the effects of future disasters. The AVDP illustrates the importance of resilience in the face of challenges. This project will eventually enable greater accessibility to digitised audiovisual items, benefiting researchers, staff, and students.

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