

**Should we burn or conserve? A case study of the *Moxwera wa Babaso*  
newspaper (1925-1938)**

by

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Mini-dissertation submitted in partial fulfilment of the requirements  
for the Master's Degree in  
Tangible Heritage Conservation  
School of the Arts  
in the

FACULTY OF HUMANITIES  
UNIVERSITY OF PRETORIA  
February 2023

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In this study a condition report is carried out on the *Moxwera wa Babaso* newspapers (1925-1938). The study then explores two possible conservation methods that could remedy the damage found. The first is towards the digital representation of the content found in the newspaper and the second is towards the physical restoration of the newspapers. As the newspaper is under the guardianship of the National Library of South Africa (NLSA) this study only gives possible treatment suggestions. Storage protocols of the hard copies are discussed, and handling as well as reinforcement methods are considered for the long-term preservation of the actual documents.

Digitisation and storage on a website where researchers can apply for access would assist with the long-term retention of the information within the newspapers and assist in making the information accessible to the public in the future. When the information is accessible on online platforms it would limit the physical handling of the actual publications that would assist with the long-term conservation of the newspapers. Under digitisation the following aspects are considered prior to embarking on any digitisation route; management, technology and content.

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KEY TERMS: Newspaper, *Moxwera wa Babaso*, *Mogoera oa Babaso*, *Mogwera*, Preservation, Digitisation, Deterioration.

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## Acknowledgements

As in my previous study I would first like to give thanks to God who has been with me through it all. I can also brag about my outstanding supervisors that always believe in me despite the challenges they anticipated ahead of me. This journey has been a great privilege and I owe every ounce of gratitude to the people that have supported me along the way. A special thanks to Isabelle McGinn, our conservation champion. You really are a gem, excuse the pun. I would like to thank my partner Agreement Ngobeni for his motivating encouragement when I lacked energy to continue. Thanks to all my friends and family for the continued support. Tebatso and Cherish, thanks for your hospitality during my visit to the Cape. I appreciate the assistance with the Afrikaans translation received from Daniel Manyike and Rochandré Nefdt. My research visit to the National Library in Cape Town was sponsored by the National Institute for Humanities and Social Sciences as part of their CRP20/1032 project 'African Oral Art in Image-Text Objects'. Finally, I would like to acknowledge the Andrew W. Mellon Foundation for the sponsorship for my study. Once again, the support has been greatly appreciated.

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## Chapter 1: Introduction

If we do not conserve<sup>1</sup>, we might as well consider burning because neglect is just as detrimental. When dealing with old library or archival material one cannot ignore the motive to digitise for the sustainability and accessibility of the material. Although this motive is often seen as the better way to conserve historical data it often renders the original material which is being digitised to be neglected (Bee, 2008:179-180).

In a recent visit to the National Library of South Africa (NLSA), it was brought to my attention that old library material is digitised, and the physical copies are subsequently neglected. I was told this after I had inquired about the preservation measures for old library material as I saw the alarming state in which the newspaper *Moxwera wa Babaso: Xo Boifa Morena ke Mathomo a Bohlale* (The Black People's Companion: The Fear of the Lord is the Beginning of Wisdom) was in. This name of the newspaper is relevant for the time period that my study covers. Later in this study, the newspaper publication is referred to as *Moxwera*. Some of the issues that rendered the newspaper in the state I found it could have been mitigated by effective storage measures. While the newspaper itself has not been digitised yet, some of the pages are disintegrating as a result of the flaking of the pages.

In my previous research, I investigated the Berlin Mission Society's communication network. I focused mainly on the annual calendar, *Thsupa Mabaka a Kereke* (1931 -1971), published for the South African members of the mission church in what was then the Transvaal. I also briefly discussed the monthly magazine, *Der Missions-Freund* (1846-1939), published for supporters

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<sup>1</sup> Conserve meaning to “ protect (something, especially something of environmental or cultural importance) from harm or destruction.”

Preserve meaning to “ maintain (something) in its original or existing state.”

I used both the terms stated above to maintain their inherent meaning respectively.

of the mission work in Germany. *Moxwera* was a South African-based newspaper published by the Berlin Mission for Northern Sotho-speaking and Tshivenda-speaking readers (Manyike, 2019). Although it was mentioned in my previous study, the historical significance of the publication as well as its content was not elaborated upon. The *Moxwera* publication existed from 1895 to the 1960s<sup>2</sup> This study elaborates further on the missionary communication channels with a focus on this newspaper. To do this, the Berlin Mission's newspaper and its significance is explored.

The value of African language newspapers for the study of South African history in the twentieth century has been reiterated in several studies. In this study I focused on L. and D. Switzer (1979) who contextualise the Black press that operated in South Africa and Lesotho from 1836-1976. Several Christian based publications and the following secular publications, *Umteteli wa Bantu* and *Bantu World* are said to be newspapers which had prominence within the same period as the *Moxwera* (Hoffmann, 1939:1-3). In my study I elaborated on the Black press and express where the *Moxwera* is situated within this history of newspapers aimed at a Black audience.

From the above, the historical significance can be deduced, but if these papers are not properly conserved, this history will be lost. Paper consists principally of cellulose. Hydrogen bonding between the cellulose chains causes the formation of fibrils which form paper fibres (Hanus and Hanusová, 2013:234). Paper degrades in two ways: acid-catalysed hydrolysis and oxidation. In the case of newsprint, the paper is produced from wood pulp which contains a chemical component called lignin, and over time it releases acids that degrades the cellulose fibres causing the paper to become yellow and brittle and eventually disintegrate. Digitisation is one way to conserve the information on the pages, but

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<sup>2</sup> The librarian, René Helbig, of the Berlin Mission Society confirmed that *Moxwera* existed into the 1960s when he shared a 1967 copy of the, then named, *Mogwera* which is in their library in Germany.

the papers can be conserved better by storing them in flat acid-free boxes and interleaving the pages with alkaline buffered tissue paper to prevent acid-catalysed hydrolysis (Baty and others, 2010).

### 1.1 History of the publication

The publication was first named *Mogoera oa Basotho*, a monthly newspaper that was authored by G. Trümpelmann. The name was changed to *Moxwera wa Babaso*, then *Mogwera wa Babaso*, and lately *Mogwera* (Mminele, 1983:94). There was a change in the Northern Sotho<sup>3</sup> orthography in the 1930s, which prompted the change in the name of the publication in October 1930 (Jeannerat, 2005). The National Library of South Africa only houses the publications from 1925 to 1938. Of the publications I had access to, the minimum number of pages per issue was four and in later years the publication had six pages.

The *Moxwera wa Babaso* is a newspaper published by the Berlin Mission Society. Initially it was printed at Botshabelo, where a printing works for literature for Black people in the Transvaal had already been established in 1880 (Mminele, 1983:93). An article about Mr. P.G. Schultz in the January 1932 edition of *Moxwera* suggests that he was the first printer and continued to do so for years. The same publication states, on its last page, that it was printed by O.H. Schultz in Middelburg, Transvaal (today in the Mpumalanga province of South Africa). The newspaper was also printed at Morija Printing works located in Basutoland (today Lesotho) as stated in the 1938 publication. On the NLSA website the publication is said to be produced from Blaawberg in the Transvaal (today Limpopo Province). A probable explanation may be that the missionary taking the major responsibility for the *Moxwera* must have hailed from this mission station for some time. The General Post Office distributed the newspaper from

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<sup>3</sup> I refer to the language as Northern Sotho to emphasise the location in which it was predominantly spoken. In other accounts it is referred to as Sesotho or Sepedi. In our present-day context, Sepedi would be more accurate, with Sesotho generally referring to southern Sotho, associated with the Free State province of South Africa and Lesotho.

Botshabelo, Middelburg across the Transvaal. Botshabelo was one of the most prominent Berlin Mission stations and hosted a seminary for teachers' and pastors' training. From there, other publications were also circulated (Jeannerat, 2005). Mminele (1983:94) states that the *Mogwera* as it was eventually called, "remained a popular publication even after the end of the missionary enterprise at Botshabelo in 1955".

### 1.1.1 Languages used in the *Moxwera*

The articles in the *Moxwera* are predominantly written in Northern Sotho; with some in Tshivenda. The news in the publications pertained to the work of the Berlin Missionaries in the churches and their schools. As from January 1936 it had an African editor, Epaphras Magagabise Ramaila, who was a renowned intellectual and author (Skota, 1966:54). The *Moxwera wa Babaso* contains articles written by African congregants sharing their experiences on what was happening in the church environments. This information portrayed in the publications was not church related only. For example, some of the articles in the 1931 publication give an account of certain natural disasters that occurred, and the extent of damage caused to the environment. The disasters reported on were both local and international.

C. Jeannerat (2005) conducted studies on the *Moxwera* focusing particularly on the Venda-speaking author Stephanus Maimela Dzivhani. In her research, she focused on the *Moxwera's* accounts of the church's activities in the Zoutspansberg area (today in the Limpopo Province, South Africa, where Blaawberg mission station was also located). The reportage included prayers for rain, welcoming ceremonies held at the church for a chief's wife, the involvement of the church with the Department of Labour in arranging what Jeannerat refers to as "Venda games". The inauguration of church leaders and accounts of wedding ceremonies held by the church are also mentioned. I have explored more of these accounts and hopefully unearthed more information that can provide historical significance to the understanding of the Berlin Mission's historical impact on South Africa and the area of the Transvaal in particular. Such

information could be lost as no conservation plan has yet been drafted for the preservation of the newspaper.

## 1.2 Need

Considering the extensive attention digitisation in humanities currently receives and the prominence given to digitisation projects, the remedial treatment of the authentic material can easily be neglected. The digitisation process is expensive, and the processes can also be drawn out. In the meanwhile, the remedial treatment and conservation of the original tactile material would require an altogether different strategy. In the case of the *Moxwera* newspapers, it would be significant to explore both options and the implications of each.

With recent threats to historical and cultural material due to fires and budget cuts in state departments, it has become more essential to discuss the matter. According to James Stent reporting for *News24*, despite Parliament's digitisation efforts much of their library material was destroyed in the 2022 fire. Although millions of rands were paid for the digitisation of the 7000 volumes of documentation, the scanned copies were found to range from semi-legible to unreadable, yet Parliament records stated that the job was completed. Most of the documents were unique to Parliament and no copies existed in other national archives (Stent, 2022). Another example of loss of cultural material can be ascribed to the fire that took place at the University of Cape Town in 2021. A fire travelling from Devil's Peak made its way to the Jagger Reading Room of the library destroying unique books, archival material, and other manuscripts (Jethro, 2021; Minicka, 2021). Considering this, the preservation of hard copies and the digitisation of the material it contains should be prioritised.

## 1.3 Scope

I have explored two possible conservation methods. The first is towards the digital representation of the text, *Moxwera*, and the second is towards the physical conservation and restoration of the newspapers. The newspaper is under the guardianship of the National Library of South Africa (NLSA). In this research

possible treatments like a change in storage protocols of the hard copies, as well as the digitisation and hosting of the papers on a website can only be proposed as the final decision regarding the budget for the treatment of the papers remains with the guardians.

Digitisation and storage on a website where researchers can apply for access would assist with the long-term retention of the information within the newspapers and also assist in making the information accessible to the public in the future. When the information is accessible on online platforms it would limit the physical handling of the actual publications that would assist with the long-term conservation of the newspapers.

#### **1.4 Aim of the Study**

The study aims to assess the damage and suggest possible strategies for performing conservation treatment on the *Moxwera* newspapers housed at the National Library of South Africa. I have also outlined the prospects of digitising the content and making it available to the public.

#### **1.5 Research Question**

Is it better to digitise or restore the *Moxwera wa Babaso* newspaper, or should both options be considered?

#### **1.6 Literature Review**

##### **1.6.1 Literature on the Berlin Mission church in the Transvaal**

Literature on the Berlin Mission Society is extensive. A prominent history of the society by J. Richter dates to 1924. Richter had written in German and was referenced by S.P.P. Mminele (1983), who wrote in English and on whom I rely in my study for historical context. H. Lehmann has written a three-volume history of the Berlin mission, published by the Society in 1989, and only available in German. There are also Afrikaans accounts of the Berlin Mission written by D.W. van der Merwe in the 1980s. He completed his master's study as well as a doctorate on their involvement in the Transvaal, both published in the Archives



Yearbook series. L. Zöllner and J.A. Heese's work of 1984 is available in English and Afrikaans provides accounts on the lives of members of the Berlin Mission from Germany. There are other authors that I have referenced in my previous study that are available in English. These authors have explored the history of the mission, their daily lives, their involvement with the politics of the time and multiple other topics. Other authors include G. Pakendorf, A. Kirkaldy, L. Kriel, U. van der Heyden, K. Rüter, I. Hofmeyr, S. Pugach and A. Bank. Another author I refer to in this study is C. Jeannerat whom I mentioned earlier.

Mminele (1983) gives an account of the impact of missionary work in the Transvaal during the latter part of the nineteenth century and first half of the twentieth century. He elaborates on the work of the missionaries and their difficulties. He also mentions the work of the African converts. He elaborates on the major events of the time including the missionary stations that were founded in different areas in the Transvaal, the schools that were built and the people involved in teaching at these schools. The challenges and milestones achieved by the missionaries and their helpers are also stated.

Zöllner and Heese (1984) provide a brief history of the work carried out in South Africa by Berlin missionaries from 1824 to the 1930s. They also discuss the socio-political context in which the work was carried out. The book provides genealogical and biographical information of the Berlin missionaries and their offspring. They speak of some of the events that the missionaries have encountered, the areas in which they operated and mention some of the major events that populated their lives.

Pakendorf (2012) gives the context of the work in which the German Missionary Society was involved in South Africa. Pakendorf emphasises language, culture and customs as a means of fulfilling the desire of naturalisation and the need for continuity. Pakendorf investigates the history of how the Germans came to be in South Africa; their identity when they arrived and while they were in the country, in which part of South Africa they first became active, the existence of German

churches and missionary communities in the South African society and the influence of language in shaping culture.

#### 1.6.2 Literature on the Black press

N. Erlank (2019) elaborates on the *Umteteli wa Bantu*, a newspaper created by the Native Recruitment Corporation in 1920. It used propaganda to practise 'soft power', as Erlank (2019) states. She elaborated on how the newspaper portrayed the daily experiences of its readers, giving them prominence under segregationist rule. The newspaper gave an opportunity for Black African expression in a time when it was forbidden elsewhere. Although I do not delve too deeply into her commentary, Erlank does assist me to contextualise what was happening during the period in which *Moxwera* existed amidst other publications of that period.

L. and D. Switzer (1979) discuss the Black press in South Africa and Lesotho. They discuss the period from 1836-1976. They elaborate on the origins of the Black press as well as its progression. In their book they situate the *Moxwera wa Babaso* amongst its contemporaneous newspapers and briefly discuss its contribution to religious-based publications. The work of the Lutheran missionaries and their contributions is also included in their discussions. Their study will assist me to discuss the relevance of the Black press and the *Moxwera* fits into this history.

#### 1.6.3 Literature on paper conservation

S.T.J. van Velzen (2018) discusses different ways that paper is produced in Western society. In the introduction of his thesis, he mentions that the knowledge will be helpful for conservators in grasping the vocabulary, materiality and preservation measures associated with paper. He discusses various accounts of paper production; the tools and equipment used, and different methods used.

D.R. Harvey and M.R. Mahard (2014) outline preservation methods for different types of libraries and museum and archival material. They elaborate on the elements of the materials of the objects they are discussing, be it paper, textiles,

or paintings. This resource will provide better context and underline the importance of paper and suggest the necessary treatment for the preservation of such material.

The aging of paper is usually identified through its yellowing. Certain pages in the *Moxwera* appear to be a different shade than others and have stains that seem to have been caused by some exposure to moisture. To address the topics of yellowing and bleaching of paper for conservation purposes, I refer to the work of H. Carter (1996). He investigates the effects of chromophores that are present in paper, which is responsible for the yellowing of paper.

Due to the aging of the paper and incorrect storage methods, the pages of *Moxwera* began to flake. Much of the printed areas are still intact yet if there is no change in the storage, much of the content will be lost soon. Embrittlement in paper produced between 1800 and 1990 relates to the type of acid that was used in the making of the paper (Baty and others, 2010). To prevent or reduce the tearing of paper, alkalisating methods can be applied. This would involve careful determination of pH levels, avoiding handling tactics that would cause further damage, and not exposing the paper to any conditions that encourage further deterioration.

#### 1.6.4 Literature on digitisation in the field of conservation

H. Walravens (2008a) discusses the challenges one faces in the process of digitising newspaper articles. They discuss some considerations when deciding to create digital libraries. The author of the book also focuses on topics concerning conservation and backing up data, copyright and intellectual property constraints and implications, and the Legal Deposit Act. In another book, Walravens (2008b) focuses on featured articles in newspapers and how these are used in education. The study elaborates on the role of the librarian in preserving these newspapers for future use and discusses handling. It lists the challenges they face in terms of the labelling and organisation of these newspapers. These topics are relevant to the *Moxwera* as there are certain

issues that I have picked up on in terms of its packaging and handling when I was assisted with copies. I will elaborate in the ensuing chapters.

I also focused on digitisation as a conservation strategy. I investigated the benefits and challenges and essentially the effects on the material that is being digitised. Corrado and Sandy (2017) focus on digital preservation. They elaborate on the relationship between management, technology, and content. Their discussion is shared in the context of library, museum, and archival materials.

D. Drijfhout (2012) discusses some of the newspapers that have been digitised by the National Library of South Africa. The Black press as discussed by the Switzers is alluded to in the article. The importance of preserving newspapers as well as the contribution that newspapers make as information sources is also discussed.

### **1.7 Theoretical Approach of the Study**

Burns (2017) discusses the materiality of photographic documentation. He elaborates on the act of digitising as an archival preservation method while focusing on notions of surrogacy, aura, and originality. Burns argues that digitisation of cultural materials brings about a new form rather than preserving the materiality of the original object. This article has assisted in shaping my argument towards the option both to digitise and preserve the original *Moxwera* newspapers. Burns draws his arguments from Walter Benjamin (2008). As a supporting article I also discuss Benjamin and his view on the work of art in the age of mechanical reproduction.

Walravens (2006) gives an account of the global newspaper preservation plan. He expands on the measures taken by different continents towards preserving newspapers as well as the common urgency to digitise newspapers. This will assist to form the main bases of my arguments and place them in relation to what is being done in other parts of the world.

## **1.8 Research Methodology**

The *Moxwera wa Babaso* newspapers is the case study for my research. The study is based on qualitative and quantitative research by investigating the newspapers (Newing and others, 2011:7-8). I systematically reviewed and evaluated which of the two methods (conservation or digitisation) would be best suited as a point of departure. Systematic reviews are the guiding point for subsequent research agendas. This research method also appraises policy-making decisions that are based on gathered evidence and caters to expert procedures (Torgerson, 2003).

## **1.9 Brief Outline of Chapters**

Chapter two contextualises on the involvement of the Berlin Missionary Society with the printing of the *Moxwera*. It gives accounts of the editors and the writing that is found within the publication. In chapter three the condition of the *Moxwera* located at the National Library of South African Cape Town and Pretoria campuses is discussed in terms of type of damage that can be observed and the cause of the damage. Lastly, in chapter four I propose two methods of preservation. I discuss possible conservation treatment that can be applied on the actual newspapers, and I also discuss the possibility of digitisation.

## Chapter 2: Moxwera wa Babaso

### 2.1 Introduction

This chapter gives an overview of the *Moxwera wa Babaso* newspaper, its content and structure. It then gives a historic account of the events surrounding the time as well as brief biographies of the main contributors (editors) of the publication. Thereafter it elaborates on the recurrent information and outlines how the newspaper features as a source of history.

### 2.2 Berlin Missionary context during the existence of the Moxwera

Zöllner and Heese (1984:17) regard the era from 1866 until the conclusion of that century as the “golden years” of the Berlin Mission Society. Pakendorf (2011: 111-112) confirms that the era before the First World War (1914-1919) was the ground-breaking years for the Berlin Mission Society. African scholarship owes some of its achievements to the contributions of the Berlin Missionaries as linguists and anthropologists. Amongst the contributors in the ground-breaking years is Güstav Trümpelmann who led the translation of the Bible into Northern Sotho. Mminele (1983:94) also states Güstav Trümpelmann as the founding author who established the *Moxwera* in 1895. This date is confirmed in an article on the *Moxwera* which appeared in the German magazine *Der Missions-Freund* in 1897.

In 1894, there were 64 missionaries in South Africa from the Berlin Mission Society. By the end of the nineteenth century the Berlin Mission Society had also spread widely across the Transvaal area. Thus the 36 Berlin Missionaries and their establishments in the Transvaal were not exempted from the disaster brought about by the South African War (1899 – 1902) (Zöllner and Heese, 1984:18). The activities of both the Boers and the British troops brought about destruction to the property of the Berlin Mission. Several missionaries were transported to Pretoria and kept under house arrest until the war came to an end (Zöllner and Heese, 1984:18). In 1914 when the First World War broke out this happened again. Also, the Berlin Mission in South Africa lost almost all financial

aid from Germany. After this War the establishment of new mission stations down significantly. Where the Berlin Mission established 30 stations in the years 1860 to 1900, they only established one station from 1919 to 1939 (Zöllner and Heese, 1984:18). While the nineteenth century was characterised by expansion, the twentieth century was one of consolidation, and a very slow transfer of the Mission Church to the autonomy of the African Christians (only concluded in the 1970s).

### **2.3 *Moxwera wa Babaso* publication and its origins**

When the printing works in Botshabelo began in 1880, it was Rev. Hermann Kuschke who led the project (Mminele, 1983:93). The missionary craftsman by the name of Gustav Schultz took over from him. In the January 1932 *Moxwera* publication there is an article on the passing of P.G. Schultz . The article states that he died on 28 November the previous year (1931). From the article we also learn that when he had started printing what was then still called *Moxwera wa Basotho* in 1895, he was assisted by two local Africans: Idisa Maputle and Yoel Mpoeste from Botshabelo.

Mminele (1983:93) states that the Botshabelo printing project was driven by the desire to provide different African communities within the Transvaal with literature in their native languages. The Bavenda were also included in the vision, yet the Northern Sotho-speaking communities were more dominant in terms of the number of titles printed in their language. This is also seen in the *Moxwera* as more articles are written in Northern Sotho than in Tshivenda.

Mminele (1983:94) mentions that it was due to the existence of the printing press that Rev. G. Trümpelmann could edit a local newspaper *Mogoera oa Babaso* (“Basotho-Freund”) as from the year 1895. He mentions that the motive behind the printing of the newspaper was to create a communication network between the Christians in the northern Transvaal and those that resided in the southern part of the Transvaal. The second aim was to give a platform to the African

helpers of the missionaries to showcase their writing skills and share their activities within their communities.

The January 1897 article by Alexander Merensky in the *Der Missions-Freud* discusses the origins and content of the *Moxwera* in its infant years. Merensky mentioned that *Moxwera* was set in Roman letter format and that it was printed in Middelburg by Schultz, here referred to as “the former missionary craftsman”. The content of the newspaper as was described to German readers was spiritually uplifting and included educational matters, and events from the everyday lives of Basotho people. It also contextualised the laws of the Transvaal Government that were geared towards African people. The publication included advertisements of different kinds from businessmen aiming to familiarise Africans with their shops. The publication also gave liberty to African writers to express their opinions.

The printing works in Botshabelo were the main supplier of schoolbooks for African learners. The access to printing facilities also encouraged reading amongst locals that had easy access to reading material. Local South Africans, like Maputle and Mapoeste mentioned above, also got exposure to learning how to print and bind. The establishment of a printing house created jobs for the local African people. Towards the end of the South African War printing activities in Botshabelo also had to be stopped, but although printing was no longer taking place the area continued to be a centre for the distribution of published works. Printing activities in Botshabelo were stopped partially because it was discovered that printing would work out cheaper if carried out in Berlin and London. The other reason was that the Berlin Mission struggled to find a replacement for Schultz while he was away on furlough in Germany (Mminele 1983:95). While it may have been cheaper to print Bibles and similar literature overseas and ship them to South Africa, it is unlikely that the *Moxwera*, as a regular publication, would be imported. As already mentioned, printers in Middelburg and Lesotho are acknowledged for the issues of the paper dating from the 1930s.



## 2.4 Structure of the newspaper



Figure 1: Cover page: Mogoera oa Babaso, 1 August 1927, National Library of South Africa, Pretoria Campus.

Figure 1 is an example of a cover page of the *Mogoera oa Babaso*, later referred to as *Moxwera*. The samples I focus on are the 1931-1938 publications kept in the National Library of South Africa, Cape Town Campus. The other sample is the 1925-1937 publications kept in the National Library of South Africa, Pretoria Campus. Both collections miss some publications which will be discussed later in the study.

Jeannerat (2005) worked on the *Moxwera* publications that were kept in the National Library of South Africa, Pretoria Campus. She was only able to access the publications from 1 July 1925 to April 1938. The December 1927, January 1931 and February 1934 publications were missing at the time of her research. Figure 2 is an image of the book-bound publications that exist at the Cape Town Campus. Figure 3 is an image of the brown paper covering the publications in Pretoria.



Figure 2: Four Book covers created for the 1931-1938 *Moxwera wa Babaso*, National Library of South Africa, Cape Town. Photo: Nkami Manyike.



Figure 3: Two brown paper covers for 1925-1938 *Moxwera wa Babaso*, National Library of South Africa, Pretoria. Photo: Nkami Manyike.

As seen in figure 1, the dimension of the newspaper is 277mm (width) by 437mm (length). At the very top it reads from left to right: ngoaga (year) xxv (25) Middelburg, Transvaal, 1 August 1927, ngwato boshego (June: it does seem as if each publication was prepared two months in advance), no. 28 (possibly the volume or issue number). This writing is followed by a border pattern that frames the title information. Within the pattern there is also a table with three columns and in the columns is the following information: price of publication, publication editors and who to contact to receive a copy.

At the top above the title, it states that the publication is recognised as a newspaper in accordance with the standard requirements of the General Post Office (G.P.O) (Why newspapers are registered at the G.P.O, 2017). Underneath the acknowledgement is the sub-title: *Goa boifa Morena ke mathomo oa bahlale*, which was translated in the introductory chapter, (the word *bahlale* in this publication is incorrect; it was later changed to *bohlale* which is the correct term). Jeannerat refers to spelling errors found in the text of the publication. Underneath the sub-title is the main title: *Mogoera oa Babaso*. The information in the first column in the pattern states that the newspaper appears once a month, its cost is 3/- per annum and 3d per publication, and 2/6 per announcement. The second column states that the editor is G. Schwellnus, Lydenburg, and he is assisted by Pastors C. Hoffmann and J. Trümpelmann. The third column states that anyone who would like the newspaper must send 3/- to Rev. A. Kohl, 68 Tenth Street, Boksburg North.

The first article as noticed in most of the publications, consists of a Bible verse or a hymn. In this publication the verse stated is 1 Samuel 17 verse 23 (Which I believe should have been verse 32 according to how it translates: Don't worry about this Philistine," David told Saul. "I'll go fight him!" Usually following the first article would be international news about wars and major events overseas. In the January 1937 publication, for example, it gives three different accounts: the first of England, the second of China, and the third of Spain.

The account of England focuses on the abdication of King Edward VIII from his throne on 10 December 1936. He left the throne to King George VI. It goes on to say that many were not pleased with Edward's decision to renounce the throne as he was trustworthy and a king that took care of his people. The account of China speaks of Chiang Kai-shek, a prominent leader in the Chinese government, who was kidnapped and was said to be bound by one of his leaders and was thought to be dead. Chiang Kai-shek is described as a powerful man who encouraged the Chinese government to remain united. He was also described as a peacemaker who advocated against war with Japan. The account of Spain mentioned how the war in Spain was continuing. It was described how the war involved many countries, with volunteers from Russia, France and England. Although the governments tried to agree to allow the Spanish to bring the war to an end on their own, only those who wished to fight for the communist regime would go; and they went in ships and trains carrying arms and soldiers. It mentions that around 500 000 people had died in the war at the time the article was written.

The international news is followed by local news. In figure 1 the local news follows an account of the events in the Roman Catholic Church. The article states that the Roman Catholic Church does not get along with other evangelical (i.e., protestant) churches. It elaborates on the tensions and the resistance towards specifically the Lutheran Church. Following this article is a biographical account of Minister Herrmann Kuschke. He was born in Berlin on 14 January 1853. He was sent to initiate teaching in Riversdale, in the Cape in 1877. It gives context on the work he carried out in GaMamabolo and Johannesburg.

After the local news the publication provides news pertaining to the church and other local occurrences. The January 1937 publication also gives another example of local occurrences that are documented in the newspaper. The 1937 article is titled, "Ke ba hweditse ba bolela Seisemane" (I found them speaking English). The writer expresses his disappointment at three boys which he found speaking English. The writer wanted directions to a certain place and the boys

continued to speak in English. The writer felt that they had abandoned their own language. There are numerous accounts in the *Moxwera* that emphasise the importance of maintaining one's mother tongue, and the encouragement of people learning in their own language.

Common to most *Moxwera* publications are obituaries, a section that speaks about what the school children are taught in their own language, accounts of how many people existed in the world at a given time, teaching post advertisements and the Literature Commission section (a list of publications and their prices). In some of the publications one would also find competitions that were geared towards the promotion of writing in native languages. Although I previously understood the *Moxwera* not to have illustrations the careful study of these publications has led me to a few illustrations and photos such as the one seen in figure 1.

Jeannerat (2005) mentions the common themes discussed in the *Moxwera* articles. These include the accounts of chiefs, kings, and headmen. Other focus on events for praying for rain during a drought. Dzivhani's writings suggest that these political leaders mentioned above had good relations with the Berlin Missionaries. Jeannerat emphasises that the motive behind the Berlin Missionaries wanting to gain favour with the chiefs and kings is that they felt that this would assist in also gaining the leaders' conversion to their faith. Dzivhani's articles however state the political leaders' involvement in events rather than their control or leadership role. It also shows their relationships with African congregants rather than their relations with missionaries.

Some of the articles in the *Moxwera* that I have encountered discuss instances where funds are requested for the purpose of building a new church. There are also appeals made in the newspaper to increase the industrial courses offered to girls as interest was rising. There are articles where victories are shared of how preaching prevailed against resistance from Basotho Chiefs. There is also an



article that mentions how a rise in the interest to learn carpentry motivated the initiative to build a school of carpentry.

## **2.5 Biographical accounts of some of the major editors and main recognised authors**

The Berlin missionaries and their dependents contributed to different fields of knowledge during their lifetime. One of their major inputs was towards translating the African spoken languages into written languages (Zöllner and Heese, 1984:21-22). All the contributors to, and editors of the *Moxwera* participated in upholding the standard of, and establishing a Northern Sotho vocabulary.

The author (editor) of *Moxwera* as stated on the NLSA website is Rüdolph Friedrich Gustav Trümpelmann (1841-1923). His son J. Trümpelmann (Friedrich Theodor Johannes Trümpelmann, 1881-1954) was also a recurrent editor of *Moxwera*, as well as other missionary publications, like the school textbook, *Padisö, ka mmolelo oa Basutho*: i-iii (meaning Reading, in the language of the Basotho: volume 1-3) (Genealogy, geni.com). Other editors listed in the *Moxwera wa Babaso* are C. Hoffmann, G. Schwellnus, C. Endemann and T.P. Mathabathe which we see from the July 1925 until the July 1926 publication. Some other editors are listed in later publications: In June 1934 K. Drescher is introduced as part of the team of editors and in December 1936 E.M. Ramaila is also mentioned. R. Hagens was part of the editorial team from January 1938.

Zöllner and Heese (1984:448-449) wrote biographies of some of the prominent missionaries from Berlin. Here I focus on the biographies of some of the editors that I mention above. Rüdolph Friedrich Gustav Trümpelmann was raised by his father and due to financial problems, he had to leave school at the age of 14. As a trustworthy member of the Christian society, he developed a desire to become a missionary. He studied at the Berlin Institute of the missionary society where he showed potential in music and languages. After being ordained in 1868 he was sent to the mission station in Lydenburg, where he was assisting the aged and learnt Northern Sotho. Eight months later he was sent to start a new mission

station in Makgabeng, south of Blaawberg in the Northern Transvaal. In 1872 he was transferred to the Orange Free State to run the new Adamshoop station near Bethany. There he translated ninety-one songs into Setswana. Thereafter he was appointed as head of the Botshabelo Seminary near Middelburg, Transvaal. His role was to supervise and train Black helpers and teachers. One of the Black helpers that qualified under this wing was Abraham Serote, who also was sent to the Berlin institution and later ordained. At Botshabelo Gustav produced many works. Some of these included *Padiso Katekisima* (New Catechism), a handbook and *Kopelo* (song), a hymn book. The zenith of his works was when he was commissioned to translate the Bible in Northern Sotho with the help of Serote. The task was completed in 1903 and the work was published the following year by the British and Foreign Bible Society. In the same period, he also edited and published the first issues of the monthly newspaper, *Mogoera oa Babaso*.

Johannes Trümpelmann grew up at Botshabelo. He took part in the South African War on the Boer side under Captain Jack Hindon's command, was wounded and taken prisoner by the British. After the war he went to Germany to train as a missionary. He returned to South Africa in 1907 and was placed at Edendale. From 1910 he worked at Wallmansthal, just outside Pretoria. It was regarded to have been a difficult missionary station as there was insufficient water supply and the congregation made it difficult for him to work amongst them. Trümpelmann was fluent in Northern Sotho. As a linguist and *Mogoera oa Babaso* editor, he became leader of the Literature Commission for several years. He also assisted with the publication of the church calendar *Thsupa-Mabaka* (Zöllner and Heese, 1984:452-453).

Georg August Theodor Schwellnus began his educational training in Mphome-Kratzenstein (district Duiwelskloof). He later went to Germany to complete both his educational and missionary training. He returned to South Africa in 1902 and first worked at Tshivhase missionary station in Venda. He knew the Venda language very well and collaborated with his brother Paul to translate the Bible into Tshivenda. The Hamburg Professor of African Languages, Carl Meinhof also

worked with them on a Venda grammar book. Schweltnus and his wife also provided medical services around Venda as there was no medical doctor in the area (Zöllner and Heese, 1984:434).

Carl Adolf Gustav Hoffmann came from the small town of Zielenzig in East Prussia. When Carl completed his schooling, he was trained as a letter setter in the printing industry. He joined the Berlin Mission in 1890 and was trained as a missionary. In 1894 Carl was sent with Ernest Friedrich Pauli to Gutu in Mashonaland (Zimbabwe) where two other Berlin missionaries had already established missionary work. He learned the language of the people there directly from them as there were no written books. In 1897 he was sent to Arkona in Sekhukhuneland. Here he started to take note of the proverbs of the Basotho, which he and Carl Endemann would later publish. In Pretoria after the South African War, Carl worked in the place of a colleague, who was on leave in Germany. In 1904 he was sent to the Mphome-Kratzenstein, where he spent of his most fruitful years as missionary from 1904-1934. From Kratzenstein he served the region of Pietersburg through to the Kruger National Park and the Olifants River. Despite this demanding role, Carl made use of every opportunity to make a thorough study of the morals, habits, and ethics of the communities in the area (Zöllner and Heese, 1984:165-166).

Carl wrote and illustrated old stories told by Black elders. From 1907 he published a book almost every year. Carl wrote both in German and in Northern Sotho. Besides the books he wrote, he was also a regular collaborator, with other editors, on the *Moxwera* and he published the Northern Sotho church calendar (*Thsupa Mabaka*) for years (Zöllner and Heese, 1984:166).

Karl Drescher's father was a farmer in East Prussia, where Karl also worked after completing his school training. When the First World War broke out Karl, his mother and his siblings were moved to Russia and could only return to Germany in 1917. While working as a minister at church David Jurkat told him about the prospect of missionary work and this sparked an interest in him. He joined the



missionary seminary in Berlin in 1920 and was sent to South Africa on 28 December 1926 and operated from Tshakhuma mission station. On 27 July 1930 he was officially ordained as a missionary and was later sent to Tshivhase. In 1938 the whole family went to Germany on leave. Due to financial reasons, he could not be sent back to South Africa. During the Second World War (1939-1945) he became minister in different congregations in Germany. After the war ended, he attempted once again to return to South Africa. When the Berlin Missionary Council failed to send him, he resigned and returned independently. In South Africa he tried to join the Dutch Reformed Church, but the negotiations failed. He later worked at the Bantu-Commissioner at Tshivhase (Zöllner and Heese, 1984:67).

Amongst the Black African editors of the *Moxwera* as listed above, Epaphras Mogagabise Ramaila (1897-1962) was perhaps the most prominent. He was educated at Botshabelo. His father Nathaniel Pududu Ramalia was driven to have his sons educated. Epaphras's older brother, however, died of the Great Flu after the First World War, and he did not make it to his ordination ceremony. During Epaphras's time at Botshabelo he also trained in evangelism. Epaphras first worked at Lydenburg Mission School as an assistant teacher. He befriended chief Christian Manoke, who assisted him with his transition to teaching. Following his work as a teacher, Ramaila became the principal of two schools in Rustenburg before heading to Phokeng to become principal of Saron Lutheran School. His journey prepared him for his work as writer and philosopher. It is said that he made contributions to many books and was a national historian. He concerned himself with "genealogies and historical details of war, movement, councils, and treaties", according to Mveli Skota (1966:54). Epaphras Ramalia was so dedicated to the editing of the *Moxwera* newspaper that he still worked on his last issue on his death bed (Skota, 1966:54).

Renning Hagens was born in Togo. The First World War forced his parents to return to Germany where his father became manager of the missionary institution bookstore. After training at the missionary institution, he was sent to South Africa

in 1932. He went to Kratzenstein where Hoffmann taught him the Northern Sotho language. The first missionary station where he worked was Lobethal. Renning was exceptionally musical and composed several hymns. Besides *Moxwera*, he also edited the church calendar, *Thsupa-Mabaka* (Zöllner and Heese, 1984:145).

## **2.6 Significance of the publications that formed part of the Black press**

Since the 1820s, missionaries lead the production of newspapers that were meant for an indigenous audience. Later, in the 1880s, indigenous people started to fund their own production of newspapers. The urban consumer culture was however birthed from a wave of non-African owned press cooperations that produced content aimed at a city-based population (Erlank, 2019). Jeannerat (2005) indicates in her study that she has extensively searched for writing that focuses on the understanding of faith by members of the Berlin Mission Church within the Zoutpansberg area. Her concern was that she was not finding many written accounts by African Christians. She mentioned her underwhelming experience with the expectation to find numerous accounts versus the actual results of very little. She further stated that this reflects on the Berlin Mission Society.

The *Moxwera* publications have featured accounts by several African writers. Their expression and style of writing is different when compared to their Western counterparts. It is therefore essential that their literature is retained and conserved for future reference specially to understand the changes in orthography and competence in using the native language. Merensky (1897:1-3) stated that the Africans (at the time he was writing his article) had been suffering and receiving harsh treatment by the white people in this part of the country (the Transvaal). Africans as a result resisted many white people. He expressed the fact that, despite the tension, there was positive feedback from the Africans that would write letters back to the missionary newspaper.

Erlank (2019) mentions that the Black press was regarded as having an indigenous audience as its target market. Even if most of the content have been

authored by non-African writers it was still defined within the constraints of its target audience. *Moxwera* also seems to have focused on the articles that were written by non-African writers. We see that the content written by Africans pertained more to the day-to-day life experiences and that the writing by non-Africans focused more on international relations.

Many other versions of the press and its ownership and use came from a culture that was started by the missionaries. This was a culture that persuaded Africans to read and write (Erlank, 2019). Jeannerat (2005) suggests that a dogmatic practice of Lutheran tradition can be gathered from the expression of the African writers in the *Moxwera*. The only constant is Luther's catechisms, that were understood to be the basis of Lutheranism, as well as the *Konkordienformel*, which contains multiple ideas of Lutheranism by different Lutherans with differing opinions. Jeannerat reads the writings within the *Moxwera* against the content that appears in the Lutheran catechisms.

The Switzers (1979:vii) speak about how the focus in the Black press was on racial traditions practiced by South Africans. The Black press is defined as such because of its target audience which was African, Indian and coloured people. This acknowledges that some publications of the Black press were authored and published also by white people. The Switzers (1979:1-11) mention three phases in the shaping of the Black press. The first two phases, up till the 1940s, are of relevance to this study and will be discussed here.

During the first phase (1830s – 1880s) religious publications were produced by Christian missionaries. The Switzers (1979:1-11) also mention that these publications were, “the most durable”. The London Missionaries contributed to the Tswana collection in the Northern Cape. These publications came from Robert Moffat's press in Kuruman where *Morisa wa Molemo* (Shepherd of God) was published in 1836. Missionaries focused on circulating devotionals and using their publications as evangelical tools for the missionary followers that stayed on the mission stations. The Methodist and Presbyterian missionaries published

*Umshumayeli Wendaba* (Publisher/ Preacher of the News) in 1837 amongst the Xhosa people in the Eastern Cape. The Glasgow Missionary Society published the *Indaba* from 1862, which is regarded as the first to include both English and an African language.

During the second phase (1880s – 1930s) a press that was predominantly controlled by Blacks was established. The first of its kind that emerged from the Eastern Cape, was *Imvo Zabantsundu* (Black Opinion) which was created by John Tengo Jabavu in 1884. He was also the editor of *Isigidimi* (The message) which hosted some of the earliest protest poetry pieces. This made Jabavu well known around the Cape Colony as a mission-educated African man (Drijfhout 2012). The *Moxwera*, although not part of the second phase but maybe rather the first, emerged shortly after this in 1895 (Mminele 1983:94). The *Moxwera* seems to have come into existence simultaneously, but parallel to, the rise of an African dominated press carrying expressions of protest against segregationist ideas and discrimination. Missionaries educated Africans in reading and writing. These Africans gained their voice through non-Christian-based content that aimed to speak against the politics of that period (Drijfhout 2012 ).

Other publications that were created in the second phase include *Koranta ea Becoana* (The Batswana Newspaper) published first in 1901, *Ilanga lase Natal* (The Natal Sun/ Day) published from 1903, and *Naledi ya Lesotho* (The Lesotho Star) created in 1904. There were Coloured and Indian political parties that emerged during this period and in 1912 a publication was formed by them called *Abantu-Batho*. Many more emerged around this period including school publications and journals created by political parties. More religious publications also continued to emerge (Switzer, 1979:4).

It was at a challenging time, when the Black press experienced production tension and lack of financial and material resources, that *Umteteli wa Bantu* was formed in 1920. It was established by the Chamber of Mines, and it was written in multiple languages. This newspaper created a platform for Black journalists to

rise above the challenges and continue to provide their opinions. These newspapers saw a rise in readership as militant political content was produced. It was taken over by whites during the Depression in the 1930s (Switzer, 1979:7).

Another influential newspaper founded in 1932 is *Bantu World* which originated from *Bantu Press*, an enterprise established by a former farmer and nomadic salesman Bertram Paver. He too was motivated by the desire to create a platform for African expression and to give Blacks an edge against the white owned newspapers of the time. He was interested in getting as many Black people as possible involved, and by the end of 1932 most of the shareholders of his company were Black. Fourteen months later, after the publication had experienced financial difficulty, it was taken over by the Argus Printing and Publishing Company, considered to be a well know monopoly of the period. This new ownership catered for the needs of the white controllers and so the Black contributions ceased to have the former glory and impact under the new owners (Switzer, 1979:7-11).

The Switzers' publication (1979:251-264) mentioned the *Moxwera* as a religious based newspaper that was published in Middelburg in the Transvaal. The religious publications that were contemporaries of the *Moxwera* include *Isithunywa* (The Messenger). Said initially to have been based on devotional and evangelical efforts, it later, in the 1930s and 1940s, carried some of the politics of the Lutheran church. *Izwe la Kiti* (our country) is another example. *Izwe la Kiti* was used as an instrument for protest. It gave prominence to African expression. Another contemporary publication to the *Moxwera* was the *Mosupa-Tsela* (The Guide). It was first published in 1893 and carried both general and religious news. And lastly *The Zulu Almanac* was a publication based on religious expression.

Drijfhout (2012) states that newspapers are bearers of the histories and complexities presented by past events. It is in newspapers that the politics, the social lives of people and other relevant scholarly information of a particular period is portrayed. And the *Moxwera* forms part of this knowledge base.

## 2.7 Digitisation in the National Library of South Africa

The National Library of South Africa (NLSA) has the first newspaper that has ever been published in South Africa as part of its collection. Drijfhout (2012) mentions that numerous of these newspapers have been microfilmed by the NLSA themselves. Housed in the Pretoria and Cape Town campuses are original copies of the newspaper collections that date back to the first publications ever in the country.

The NLSA was amongst those that instituted Digital Innovation South Africa (DISA). DISA was established in 1997 with the aim to enhance technological offerings in library institutions and give electronic access to publications related to the socio-political content of the country during the freedom struggle. The NLSA has subsidised the digitisation project by having some of the journals and other publications digitised under the DISA. An example of what has been digitised is the *Sechaba*, a newspaper known to deliver commentary on South African liberation events, and *Indian Origin*, a periodical from Gandhi's printing press in South Africa (Johnson, 2004; Hofmeyr, 2013:96). The NLSA have also scanned their microfilmed archival publications so that these can be accessed digitally (Drijfhout, 2012).

Alongside the project by DISA African countries participated in other digitisation projects and have adopted the necessary technologies and human resources to be able to carry out the task. The digitisation of the liberation struggle that happened in different contexts and for which there is archival material, has been carried out through several projects. The documents in the archives were digitised for long-term preservation. The project was made possible by the South African Development Community (SADC). The countries that were involved include South Africa, Zimbabwe, Botswana, Angola, Zambia, Namibia, Tanzania, and Mozambique. The aim of the project was to conserve mainly the history that was written by Africans in their own voice and their understanding of the world (Garaba, Stilwell & Ngulube, 2011: 34-36).

The NLSA went on to change the microfilming facility into a digitisation facility, with all the necessary equipment to do the job. Flat scanners, digital camera and digital videography equipment were acquired. They have also trained their staff to be able to make use of the technology in achieving their digitisation goals. Their hopes are that they can also digitise their 7.5 million copies of newspaper collections that are currently in microfilm. Of the collection of newspapers in microfilm 40 publications are from the Black press and their page estimate is about 200 000 pages worth of content (Drijfhout, 2012).

Drijfhout (2012) alludes to the Switzers' contributions to documenting the history of the Black press. As previously mentioned, the Black press is said to be characterised by its target audience rather than whether it was published by Black owned publishing houses or edited by Black people. The newsprint that has already been digitised by 2012 includes: *Izwi Lama Swazi*, *Naledi Ya baTswana*, *Inkundla Ya Bantu*, *Imvo Zabantsundu*, *Iphepha Lesizwe Indaba*, *Umhlobo Wabantwana Motswalle Wa Bana*, *Egoli*, *Lentsoe la BaSotho*, and *The Mirror*. Although the NLSA has reached several milestones in terms of digitisation there are still challenges with lack of sufficient staff, equipment and funding (Dlamini, 2015: 2-3).

## **2.8 Provenance and authenticity**

When an object is preserved it protects its provenance. Spencer (2004: 3) argues that people are always ready to correct injustices that are socially and politically related to actual people. Meanwhile, the injustices that are inflicted on objects through misrepresentation or false identifications (copies believed to be original) are somewhat ignored or rejected. It is therefore important to advocate for these objects to preserve their histories, which in the case of a newspaper like *Moxwera*, are also the histories of the people the paper reported on. This will be elaborated upon in chapter 4.

## 2.9 Conclusion

Given that history can be misread or that the years in which something existed can be confused, it is essential that the original material of the history be preserved to tell its own story. It is also essential that the digitisation of the material be implemented in the cases where the material cannot withstand the conditions in which it exists. The *Moxwera* carries a broad history in terms of African written expression. It can be used as a base to trace writers of the past as well as their written contributions. It also interprets accounts of significant events in history and useful information for scholarly study.



## Chapter 3: Condition of the Moxwera wa Babaso

### 3.1 Introduction

The following chapter will outline the condition of the *Moxwera* publications in Cape Town and Pretoria. It is essential to note that I do not necessarily give only a comparison of the same years for both locations but what was made available at the two locations. The fragile state of the Pretoria publications led me to only sample one of the two batches with which I was provided, to prevent any further damage. This chapter will discuss some of the agents of deterioration that have affected the newspapers. I will focus on articles by authors who have worked with newspapers and paper previously and state what their challenges have been.

The authors that I will focus on are M.Thabakgolo and B. Jorosi (2014) who elaborate on three legal deposits (National repositories) in Botswana, stating their employment of different modes of preservation and the environments that house their collections. I also introduce this study by giving a statement from the research of Hamilton (1992) that focuses on the preservation of newspapers. The chapter will also reference other theorists including J. Hanus and E. Hanusová (2013), K. Higashijima, C. Hori, K. Igarashi, T. Enomae and A. Isogai (2012), who focus on specific kinds of deterioration.

G. Hamilton (1992:43) begins his discussion by stating the difficulty of obtaining newspaper content as access is only available to those with the means to go where the newspaper is. I agree with his statement as I had to travel to the Cape Town and the Pretoria libraries to access the *Moxwera* collection. Considering the bad state of the Pretoria collection I anticipate that the public may soon be prohibited from accessing it, for the purpose of preserving it from further damage. Newspapers are primary sources to understand history. The *Moxwera* provides different accounts of history that could be lost if these newspaper publications are not preserved.

### **3.2 Factors that cause paper deterioration.**

The way paper was manufactured during the nineteenth and twentieth centuries accounts for its degradation. Although this may be true for most paper-based products of that period the long-term storage of paper can also determine for how long the paper will remain useful. The strength of the paper depends on the strength of its fibres and the material that was used in the manufacturing process. The different sources in manufacturing paper can include pine, maple, straw, cotton, eucalyptus amongst other natural materials (Baty and others, 2010). Newsprint, by nature was not designed to last forever, and is produced mostly from wood pulp, without any cotton added for increased strength, or the removal of the lignin that causes acid-catalysed deterioration of paper (Tobey, n.d.).

Hanus and Hanusová (2013:234) mention that paper is made up of different fibres (which may include lignin and hemicellulose). They add that the main property of paper is cellulose and can be accompanied by other fibres and pigments. “Cellulose is a macromolecule which is formed from the combination of plant material and microscopic organisms”, as mentioned in Appendix J: Curatorial Care of Paper Objects (2003). Hanus and Hanusová agree with Nishanthi (2020:8) as they also state that deterioration of paper can be affected by mechanical, biological or chemical factors. The stability of cellulose in paper determines the type of conservation treatment that needs to be applied. Hydrolysis and oxidation happening in cellulose as paper ages and these processes are what cause deterioration in paper. These processes happen when paper is exposed to pollutants in the air, light, and humidity. A combination of the above effects can weaken paper fibres and cause embrittlement and colour change (also known as yellowing).

Nishanthi (2020:8) argues that damage on paper caused by natural factors is irremediable and inevitable. The three factors that are responsible for degradation of paper materials are: physical (factors caused by the environment; water, temperature, humidity, air, heat, light, and the intervention of human beings). Physical factors such as fires, floods, and other natural disasters can

cause rapid permanent damage to paper. The second is biological (mould, fungus, insect), which can be promoted by the build-up of dust and dirt on the paper. Biological factors can also be a result of exposure to food products, and insects gaining access to the library area through open spaces or carried in with other insect infected material. The lack of ventilation also increases the extent of biological deterioration. And lastly chemical factors; acids, environmental pollutants, substances with chemicals in them can damage paper.

Durability is a concern when dealing with paper material (Presnell, 2017:2). There are multiple factors that affect the longevity of paper. The environment in which the newspaper is kept should be tightly controlled. Within the environment newspapers can be affected by relative humidity, the temperature in the storage area, the type of lighting that the newspapers may be exposed to, and various contaminants. The access that outside users may have, may need to be restricted to ensure the longevity of the newspaper collection (Thabakgolo and Jorosi, 2014:65).

The condition of the environment in which paper is stored can affect the life span of the paper. When temperature and the humidity levels increase the chemical reaction rate also increases in organic material. Hanus and Hanusová (2013:237) say, “temperature is a measure of the kinetic energy in a system”. When the temperature in a library environment increases then the reactions that take place in the molecules of organic objects (paper included) increase and this makes the paper age quicker and the cellulose weakens. Other pollutants that may affect newspapers in library environments include dust, dirt and soot. These pollutants can increase the chemical reactions in the environment and affect the longevity of newspaper material (Hanus and Hanusová, 2013:237-238).

### **3.3 Condition report**

#### **3.3.1 Cape Town Collection report**

The *Moxwera* housed at the Cape Town Library is stored in bound covers which you can see in figure 2. There are four bound covers that were provided to me, containing the 1931-1938 publications. The first cover hosts 1931-1934, the second one hosts 1935-1936, the third hosts 1937 and the fourth hosts 1938. Three of the covers are bound by thread and the 1938 one is bound by an adhesive. The agents of deterioration affecting the Cape Town collection differ slightly to those affecting the Pretoria collection. I will discuss the damage that has been observed on both collections and suggest possible causes. I elaborate on the specific factors affecting the Cape Town collection below.

*Table 1: Cape Town collection condition report, Moxwera wa Babaso 1931-1938*

Year	Damage	Editors:
1931	January: Page 1-2 <ul style="list-style-type: none"> <li>• Insect damage holes on the top right going down to page 1 May 1931</li> <li>• Signs of mould infestation/foxing from cover to the first page</li> <li>• Library stamp (on each cover page of all existing publications)</li> <li>• Discoloration due to aging and exposure to oxygen and other gases</li> <li>• Pages that are discoloured are also more brittle and have tare</li> <li>• Paper losses resulting from the pressure of the thread</li> <li>• Paper flaking on the side where people flip the pages open</li> <li>• Stains at the bottom possible from handling the paper free hand</li> </ul>	G. Schwellnus C. Hoffmann J.Trümpelmann

	<ul style="list-style-type: none"><li>• Loss of content where the newspaper was previously folded</li></ul> <p>February:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Brown stain on right side of page</li><li>• Insect damage</li></ul> <p>March:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Brown stain on page</li><li>• Insect damage</li></ul> <p>April:</p> <ul style="list-style-type: none"><li>• Brown residue</li><li>• Fading of text on fold</li><li>• Insect damage</li></ul> <p>May:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Writing on the top with marking/ Felt tipped pen</li><li>• Stain on folds</li><li>• Damage on fold</li></ul> <p>June:</p> <ul style="list-style-type: none"><li>• Fading of text on fold</li></ul> <p>July:</p> <p>Page 2-3</p> <ul style="list-style-type: none"><li>• Other stains that may have been caused by how it was previously stored</li></ul> <p>August: Good condition</p> <p>September:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Writing has become blurry seems like there has previously been friction in the space it was previously transferred onto</li></ul>	
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	<ul style="list-style-type: none"> <li>• Tear on edges</li> <li>• Brown stain</li> </ul> <p>Page 4</p> <ul style="list-style-type: none"> <li>• There is a tear on the area where you flip the page open</li> </ul> <p>October:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Has visible stains that seem to have transferred to page 4 of September edition</li> <li>• There is an additional stamp on this publication</li> </ul> <p>November: Page 1:</p> <ul style="list-style-type: none"> <li>• Had a print manufacture issue</li> </ul> <p>Overall: Stain on pages is transferred to subsequent pages that are against each other</p> <p>December: Missing from collection</p>	
1932	<p>January:</p> <p>Page 1-2</p> <ul style="list-style-type: none"> <li>• There are bits of flaking paper on this page that have moved from the corner</li> <li>• The thread used to join pages together is very close text and in one area it is directly on the text which may over time result in the area being damaged and the content lost. (Digitisation solution)</li> <li>• Water residue on edges</li> <li>• Dirt on folds</li> </ul> <p>February:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Stain seems to be transferred to subsequent page</li> </ul> <p>March:</p>	<p>G. Schwellnus C. Hoffmann J.Trümpelmann</p>

<p>Page 1</p> <ul style="list-style-type: none"><li>• Text is blurry due to possible friction</li><li>• Dirt on folds</li><li>• Tear at the bottom</li></ul> <p>April: Page 3-4:</p> <ul style="list-style-type: none"><li>• tear on the side edge where the page is flipped</li><li>• Text fading</li><li>• Discoloration beginning from edges</li></ul> <p>May:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Other stains that may have been caused by how it was previously stored</li><li>• Visible fingerprints</li><li>• Dirt on folds</li></ul> <p>June:</p> <ul style="list-style-type: none"><li>• Text faded</li><li>• Brown residue</li></ul> <p>July:</p> <ul style="list-style-type: none"><li>• Brown residue</li></ul> <p>August:</p> <ul style="list-style-type: none"><li>• Brown residue and dirt on folds</li></ul> <p>September:</p> <p>Page 1</p> <ul style="list-style-type: none"><li>• Writing has become blurry</li><li>• Brown residue</li></ul> <p>Page 4:</p> <ul style="list-style-type: none"><li>• There is a tear where you flip the page open</li></ul> <p>October- November:</p> <p>Page 1</p>	
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	<ul style="list-style-type: none"> <li>• Brown residue differs from other noticeable stains on the title of the <i>Moxwera</i> (also in November)</li> <li>• December still in good condition</li> </ul>	
1933	<p>January:</p> <p>Page 1-2</p> <ul style="list-style-type: none"> <li>• Dirt on page and wearing on previous folds</li> </ul> <p>February - April:</p> <ul style="list-style-type: none"> <li>• Fading text</li> <li>• Brown residue</li> </ul> <p>May:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Random loose page with Literature Commission Berlin Missionaries Transvaal lingering. It could as a result be lost in future</li> <li>• Tear at the top of page 1-2 affecting the pattern around the title</li> <li>• Fading text</li> <li>• Brown residue</li> </ul> <p>June:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Large paper loss affecting the first article. There is a stain in the area. Digitisation could also assist in preserving these areas. Also affects article 3 on page 2</li> </ul> <p>July:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Similar stain to the one on June edition</li> <li>• Water damage (residue)</li> </ul> <p>July:</p> <p>Page 2-3</p>	<p>G. Schwellnus C. Hoffmann J.Trumpelmann</p>



	<ul style="list-style-type: none"> <li>• Other stains that may have been caused by how it was previously stored</li> </ul> <p>August:</p> <p>Whole publication</p> <ul style="list-style-type: none"> <li>• Manufacture issue – ink different from the rest darker and seems to have smudged</li> </ul> <p>September:</p> <p>Page 1</p> <ul style="list-style-type: none"> <li>• Brown residue</li> </ul> <p>October:</p> <ul style="list-style-type: none"> <li>• Has a stamp on the content of the first article</li> <li>• Water damage at the bottom corner</li> <li>• Brown residue</li> </ul> <p>November:</p> <ul style="list-style-type: none"> <li>• Is starting to become blurry text and has brown stain</li> </ul> <p>December page 1:</p> <ul style="list-style-type: none"> <li>• Blurring on folds</li> <li>• Brown dirt</li> <li>• Water damage</li> </ul>	
1934	<p>January: Page 1-2.</p> <ul style="list-style-type: none"> <li>• Large brown stains like on pages</li> </ul> <p>February: Page 1</p> <ul style="list-style-type: none"> <li>• Title fading</li> <li>• Water damage</li> </ul> <p>March: Page 1</p> <ul style="list-style-type: none"> <li>• Water stain on top right of page. The stain moves to subsequent pages</li> </ul>	<p>G. Schwellnus C. Hoffmann J. Trümpelmann</p> <p>New editor from June: K. Drescher</p>

	<p>April:</p> <ul style="list-style-type: none"> <li>• Is not discoloured like the rest of the pages: it is the best preserved – very good condition</li> <li>• Paper is strong compared to the rest</li> </ul> <p>May: Page 1:</p> <ul style="list-style-type: none"> <li>• Has a second stamp bottom right article (it is on the text)</li> <li>• Dirt on folds</li> </ul> <p>June: Good condition</p> <p>July: Page 2-3:</p> <ul style="list-style-type: none"> <li>• Text starting to blur.</li> </ul> <p>August: Page 1:</p> <ul style="list-style-type: none"> <li>• Small holes affecting first articles on right side of the page</li> </ul> <p>September: Page 1:</p> <ul style="list-style-type: none"> <li>• Part of the material on page is withering; not yet a completed hole is formed resulting in some of the text content to be lost on the second article of page</li> </ul> <p>October: Page 1:</p> <ul style="list-style-type: none"> <li>• Stains at the top of page 1</li> </ul> <p>November: Page 1:</p> <ul style="list-style-type: none"> <li>• Reddish/ maroon stain and tear on right next to the stain</li> </ul> <p>December: Page 1</p> <ul style="list-style-type: none"> <li>• Marking pen/ felt tipped pen stain at the top and brown stains like on first pages of most publications</li> </ul> <p>Page 3-4</p> <ul style="list-style-type: none"> <li>• Becoming brittle and sensitive where joined to others – material loss is inevitable</li> </ul> <p>Page 4</p>	
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	<ul style="list-style-type: none"> <li>• Seems to have a lot of mould</li> </ul> <p>Overall:</p>	
1935	<p>January: Page 1-2.</p> <ul style="list-style-type: none"> <li>• Glue on the edge on the page where it has been bound. The thread, which was used to join the pages is very untidy on the same area</li> <li>• Brown stains are visible</li> </ul> <p>February: Page 1</p> <ul style="list-style-type: none"> <li>• Brown stain persists</li> </ul> <p>March: Page 1</p> <ul style="list-style-type: none"> <li>• There is material loss on the word “wa” of the newspaper title</li> <li>• Water damage</li> </ul> <p>April, May, June: In good condition</p> <p>July: Page 2-3: Like April in 1934 edition</p> <ul style="list-style-type: none"> <li>• Pages are in very good condition and are not discoloured – applicable also for January 1936</li> </ul> <p>August, September: Page 1:</p> <ul style="list-style-type: none"> <li>• In good condition</li> </ul> <p>October: Page 1:</p> <ul style="list-style-type: none"> <li>• Fingerprint smudge stain from a pen</li> </ul> <p>November: Page 1:</p> <ul style="list-style-type: none"> <li>• Brown mould like stains mostly on the title area of the publication</li> <li>• Although the pages are strong, they are filled with brown stains</li> </ul> <p>December: Page 1:</p>	<p>G. Schwellnus C. Hoffmann J. Trümpelmann K. Drescher</p>

	<ul style="list-style-type: none"> <li>• Brown mould spots appear in this publication</li> <li>• Page seems to be knocked in by something. Page 1 bottom is pushed in</li> </ul>	
1936	<p>January:</p> <ul style="list-style-type: none"> <li>• Is in good condition page 3 folded on top right corner</li> </ul> <p>February:</p> <ul style="list-style-type: none"> <li>• Random loose chapter before February edition, titled “Melao Ya Xo Busa Mowera Wa Babaso”</li> <li>• Pages are discoloured from here onwards</li> <li>• Tear on the bottom corner</li> </ul> <p>March:</p> <ul style="list-style-type: none"> <li>• Small foxing marks</li> </ul> <p>April:</p> <ul style="list-style-type: none"> <li>• Discolouration</li> </ul> <p>May- September:</p> <ul style="list-style-type: none"> <li>• Brown dirt</li> <li>• Another residue</li> </ul> <p>October:</p> <p>Page 3&amp;4</p> <ul style="list-style-type: none"> <li>• Has a tear</li> </ul> <p>December</p> <ul style="list-style-type: none"> <li>• Foxing visible</li> <li>• Very brittle</li> </ul>	<p>G. Schwellnus C. Hoffmann J.Trümpelmann K. Drescher</p> <p>New editor from December: E.M. Ramaila</p>
1937	<p>January:</p> <ul style="list-style-type: none"> <li>• This publication is in the worst condition of all the publications in the National Library in Cape Town.</li> <li>• The pages seem to have water damage and stains due to contact with humidity.</li> <li>• The pages are extremely brittle and delicate to be handled with a single hand only.</li> </ul>	<p>G. Schwellnus C. Hoffmann J. Trümpelmann K. Drescher E.M. Ramaila</p>

	<ul style="list-style-type: none"> <li>• The corners of the pages are starting to wither off it; this could be due to insect damage.</li> <li>• There are two holes affecting article 5,6,7,8,9 in the first page. It seems like remedial action was attempted to prevent further damage, yet tape was applied to the damaged areas.</li> <li>• There also seems to be mould that has begun forming at the bottom where the paper was exposed to moisture.</li> <li>• There are clear signs of discolouring. The edges where the paper is bound together are also damaged.</li> </ul> <p>From February -June</p> <ul style="list-style-type: none"> <li>• Damage of the corners (paper lose)</li> </ul> <p>From July- October</p> <ul style="list-style-type: none"> <li>• Damage affecting the top right corner</li> </ul> <p>October:</p> <p>Page 3</p> <ul style="list-style-type: none"> <li>• Dirt and what appears to be black coloured residue affecting the text of the 8<sup>th</sup> article</li> <li>• Small tears visible at the bottom</li> </ul> <p>September – December</p> <p>From page 3</p> <ul style="list-style-type: none"> <li>• Liquid residue travels from the 3<sup>rd</sup> page right until the last page of December</li> <li>• December page 1 is as brittle as the first page of January 1937. Residue clear depicted at the bottom of the page. Water exposure also visible in different areas on the publication.</li> </ul>	
1938	The most brittle and most discoloured.	G. Schwellnus C. Hoffmann

<ul style="list-style-type: none"> <li>• There was difficulty in opening the pages in fear of causing more damage. The newspapers were bound differently compared to the other bound copies. There is no visible thread holding the pages together.</li> <li>• Stamps visible from the African public library (common to all publications in the Cape Town Collection).</li> </ul> <p>March:</p> <ul style="list-style-type: none"> <li>• Tape has been placed over a torn area on page 2 and 4.</li> </ul> <p>May:</p> <ul style="list-style-type: none"> <li>• Missing from collection</li> </ul> <p>June:</p> <ul style="list-style-type: none"> <li>• Has less discoloration compared to the other publications</li> </ul> <p>July:</p> <ul style="list-style-type: none"> <li>• Random tape with fingerprint marks on the top right of page 2. There are not visible tears on this area that could possibly indicate attempts to prevent further damage. This publication consists of 6 pages and not 4 pages like the rest.</li> </ul> <p>August: The publication is 4 pages from here.</p> <p>September:</p> <ul style="list-style-type: none"> <li>• Large tape on page 4 as there are holes starting to form on fold lines. Signs of attempt to prevent further damage.</li> </ul> <p>November:</p> <ul style="list-style-type: none"> <li>• Tape with fingerprints placed on the top right corner of page 2 where there seems to be a tear.</li> <li>• Tear at the bottom of page 3 and 4</li> </ul> <p>December:</p>	<p>J. Trümpelmann K. Drescher E.M. Ramaila</p> <p>New editor from January: R. Hagens</p>
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	<ul style="list-style-type: none"> <li>• Has tape on page 1 in the centre and bottom where tears have started to develop</li> <li>• Page 3 has one tear at the top, two in the centre and one at the bottom</li> <li>• Fingerprint residue visible</li> <li>• Page 5 has holes at the centre affecting articles on page 5 and 6</li> </ul>	
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### 3.3.2 Pretoria Collection Report

The Pretoria collection is most affected by embrittlement and yellowing. Most of the pages were flaking on the edges. Figure 17 is an example of the paper that has flaked off. I only captured a small portion compared to the amount that has flaked off. If you look closely at figure 17 some of the newspaper has text on it which means that the loss in the paper also results in the loss of content. The rest of the images from the Pretoria collection that I have captured for the purpose of this study do not represent fully the extent of the damage to the collection. Hoping to preserve the severely damaged publications I chose the documents that seemed better preserved for investigation, as not to cause further damage to the already fragile collection. The condition report in the table below will discuss the type of damage observed in the different publications.



Figure 4: Material loss from the Moxwera publications, NLSA (Pretoria). Photo: Nkami Manyike.

Table 2: Pretoria collection condition report, Moxwera wa Babaso 1925-1937

Year	Damage	Editors:
1925	<p>July:</p> <ul style="list-style-type: none"> <li>The newspaper is badly torn and very brittle.</li> <li>The text is faded.</li> </ul> <p>August:</p> <ul style="list-style-type: none"> <li>A large amount of flaking has resulted in the loss of content.</li> </ul> <p>December:</p> <p>All publications until December are in the same condition: Seriously discoloured, flaking on the edges and very brittle.</p>	G. Schwellnus C. Hoffmann J. Trümpelmann T.P. Mahabodhi
1926	<p>January:</p> <ul style="list-style-type: none"> <li>Seriously discoloured, flaking on the edges and very brittle</li> </ul> <p>February:</p> <ul style="list-style-type: none"> <li>Seriously discoloured, flaking on the edges and very brittle</li> </ul> <p>March:</p> <ul style="list-style-type: none"> <li>There are two copies of the march addition.</li> <li>One has the name Karl Drescher (K. Drescher is later seen as an editor; this publication may have probably been from his personal collection) written in it. The</li> </ul>	G. Schwellnus C. Hoffmann J. Trümpelmann T.P. Mathabethe (Is only seen as an editor until July 1926)



	<p>written name seems to be done by use of a pen. There is a library stamp and ink blots (residue).</p> <ul style="list-style-type: none"> <li>• The second copy less damaged yet it is embrittled and discoloured.</li> </ul> <p>April:</p> <ul style="list-style-type: none"> <li>• Also has two copies</li> </ul> <p>May - July:</p> <ul style="list-style-type: none"> <li>• Have holes on the top left corner</li> </ul> <p>June – August:</p> <ul style="list-style-type: none"> <li>• Have small tears on the area where the newspaper was previously bent</li> </ul> <p>August:</p> <ul style="list-style-type: none"> <li>• Fading of text on the title</li> </ul> <p>September and October:</p> <ul style="list-style-type: none"> <li>• Has the same defects as the previous publications</li> </ul> <p>November:</p> <ul style="list-style-type: none"> <li>• Edges of the publication are starting to flake</li> </ul> <p>December:</p> <ul style="list-style-type: none"> <li>• Has also started to flake on the edges</li> <li>• 1925 and 1926 were folded together and both are very fragile and experiencing serious flaking</li> </ul>	
1927	<p>Very brittle, flaking of edges and holes starting to form on the four corner edges from previous packing</p> <p>January - March:</p> <ul style="list-style-type: none"> <li>• Are discoloured and slightly less brittle compared to 1925 and 1926 publications</li> </ul> <p>April and July:</p> <ul style="list-style-type: none"> <li>• small tears on edges</li> </ul> <p>August:</p> <ul style="list-style-type: none"> <li>• Has illustration</li> </ul> <p>September:</p> <ul style="list-style-type: none"> <li>• Fading of text</li> </ul> <p>October:</p> <ul style="list-style-type: none"> <li>• Title on first page is faded.</li> <li>• A form of pen was used on the bottom left like the pen used in March 1927</li> </ul> <p>November:</p> <ul style="list-style-type: none"> <li>• Discoloured, text fading and use of pen also on this publication.</li> </ul>	G. Schwellnus C. Hoffmann J. Trümpelmann

	<p>December:</p> <ul style="list-style-type: none"> <li>• Missing from the first batch</li> </ul>	
1928	<p>January:</p> <ul style="list-style-type: none"> <li>• Very brittle, discoloured (mostly on the edges)</li> <li>• Four holes on the edge possibly punched in for previous packaging purposes</li> <li>• Water stain from the left possibly due to packaging measures</li> <li>• Flaking on the edges especially on top left corner</li> </ul> <p>February:</p> <ul style="list-style-type: none"> <li>• Black stain affecting last page of January publication</li> <li>• Pen marks on the text (Attempt to correct or manipulate word)</li> <li>• Small tears on folds</li> </ul> <p>March - May:</p> <ul style="list-style-type: none"> <li>• Tear on folds – embrittlement of edges</li> <li>• Discoloration and flaking of edges.</li> </ul> <p>July - December:</p> <ul style="list-style-type: none"> <li>• Tear affecting text of the right side of pages.</li> <li>• Fading of text in October publication.</li> <li>• December publication has pen marks used to underline certain areas and manipulation of text.</li> </ul>	<p>G. Schwellnus C. Hoffmann J. Trümpelmann</p>
1929	<p>January:</p> <ul style="list-style-type: none"> <li>• Stable but discoloured and a bit brittle.</li> </ul> <p>February:</p> <ul style="list-style-type: none"> <li>• Brown stain at the bottom and text starting to fade.</li> </ul> <p>March:</p> <ul style="list-style-type: none"> <li>• Possible exposure to water on left edges</li> <li>• Brown stains on last page</li> </ul> <p>April: Illustration of church</p> <p>May:</p> <ul style="list-style-type: none"> <li>• Stains on the back</li> </ul> <p>June:</p> <ul style="list-style-type: none"> <li>• Stain on the front and back of publication</li> <li>• Discoloration and embrittlement</li> </ul> <p>July:</p> <ul style="list-style-type: none"> <li>• Small brown stain and tear on bottom left</li> </ul> <p>August:</p> <ul style="list-style-type: none"> <li>• Text very faded especially on fold and it seems to have been exposed to dust</li> <li>• Tear at the top.</li> </ul> <p>September - October:</p> <ul style="list-style-type: none"> <li>• Stable but discoloured and slightly brittle</li> </ul>	<p>G. Schwellnus C. Hoffmann J. Trümpelmann</p>

	<p>November: Illustration of school in Botshabelo</p> <p>December:</p> <ul style="list-style-type: none"> <li>• Brown stain from something pressed against document. Slightly less discoloured compared to the rest and less brittle.</li> </ul>	
1930	<p>January: Has two copies</p> <ul style="list-style-type: none"> <li>• Very damaged, extensive tears affecting text</li> <li>• Brittle and flaking on edges</li> <li>• Library stamp on text</li> <li>• Water stain on bottom right</li> <li>• Brown stain at the top</li> <li>• Water stain with mould residue in the area on the last page</li> <li>• Printing era 1929 appears in place of 1930 in the top of last page</li> <li>• Second copy very dirty: page 1 tears on text, folded in the bottom left corner, flaking of content</li> </ul> <p>February: two copies</p> <ul style="list-style-type: none"> <li>• Stamp on page</li> <li>• Water damage on bottom right</li> <li>• Embrittlement, discoloration pressure stain at the top left</li> <li>• Second copy: Very brittle and very discoloured, has mould that looks black</li> </ul> <p>March: two copies</p> <ul style="list-style-type: none"> <li>• Insect damage detected- affecting text area</li> <li>• Brown dirt</li> </ul> <p>April - May: two copies each</p> <ul style="list-style-type: none"> <li>• Brown stains</li> <li>• Second copy: mould like stains possible water damage.</li> </ul> <p>June - September: two copies</p> <ul style="list-style-type: none"> <li>• Second copy is torn on fold</li> </ul> <p>October - December:</p> <ul style="list-style-type: none"> <li>• Torn on fold</li> <li>• Use of red pen</li> <li>• Text fading</li> </ul>	<p>G. Schwellnus</p> <p>C. Hoffmann</p> <p>J. Trümpelmann</p>
1931	<p>January- April:</p> <ul style="list-style-type: none"> <li>• Less brittle and less discoloured</li> </ul> <p>May:</p> <ul style="list-style-type: none"> <li>• Page 1 has a large hole (paper loss)</li> </ul> <p>July- August:</p> <ul style="list-style-type: none"> <li>• Less brittle and less discoloured</li> </ul> <p>September:</p> <ul style="list-style-type: none"> <li>• Pink stain and yellow stains.</li> </ul> <p>October - November:</p>	

	<ul style="list-style-type: none"> <li>Less brittle and less discoloured</li> </ul> <p>December:</p> <ul style="list-style-type: none"> <li>Edge brittle and starting to tear.</li> </ul>	
1932	The most brittle and most discoloured.	
1933	<p>January – March:</p> <ul style="list-style-type: none"> <li>Less brittle and less discoloured, little damage on edges.</li> </ul> <p>April:</p> <ul style="list-style-type: none"> <li>Brown stains on left side of the title.</li> </ul> <p>May:</p> <ul style="list-style-type: none"> <li>Yellow stains, material, external, glued to page.</li> <li>Brown mould like dirt at the back of page.</li> </ul> <p>June - December:</p> <ul style="list-style-type: none"> <li>Less brittle and less discoloured, little damage on edges.</li> </ul>	
1934	<p>January:</p> <ul style="list-style-type: none"> <li>Has pencil writing in it</li> <li>Less brittle and less discoloured</li> </ul> <p>February: Missing</p> <p>March:</p> <ul style="list-style-type: none"> <li>Has pencil writing in it</li> <li>Less brittle and less discoloured</li> </ul> <p>April:</p> <ul style="list-style-type: none"> <li>Is the least discoloured and stronger than the rest</li> <li>Red crayon marks</li> </ul> <p>May – September:</p> <ul style="list-style-type: none"> <li>Has red crayon marks</li> <li>Publications are less brittle and less discoloured</li> </ul> <p>October- November:</p> <ul style="list-style-type: none"> <li>Tear on folds,</li> <li>Delicate and flaking on the edges</li> </ul> <p>December:</p> <ul style="list-style-type: none"> <li>Less brittle and less discoloured</li> </ul>	
1935	<p>January:</p> <ul style="list-style-type: none"> <li>Less brittle and less discoloured</li> </ul> <p>February:</p> <ul style="list-style-type: none"> <li>Stains on the last page</li> </ul> <p>March-May:</p> <ul style="list-style-type: none"> <li>Stains on front pages</li> </ul> <p>July -December:</p> <ul style="list-style-type: none"> <li>Good condition: like April 1934 least discoloured and stronger than the rest</li> </ul>	
1936	<p>January:</p> <ul style="list-style-type: none"> <li>Good condition: like April 1934 and July - December 1935, least discoloured and stronger than the rest</li> </ul>	

	<p>February – March:</p> <ul style="list-style-type: none"> <li>• Discolouration and embrittlement</li> <li>• Flaking of edge</li> </ul> <p>April:</p> <ul style="list-style-type: none"> <li>• Red stain on left corner</li> </ul> <p>May - August:</p> <ul style="list-style-type: none"> <li>• Discoloured and embrittled</li> <li>• Flaking on edges</li> </ul> <p>September:</p> <ul style="list-style-type: none"> <li>• Has red crayon stains</li> </ul> <p>October – December:</p> <ul style="list-style-type: none"> <li>• Small tears on folds</li> </ul>	
1937	<p>January – March:</p> <ul style="list-style-type: none"> <li>• Small tears on folds</li> </ul> <p>April: Less discoloured, no damage on edges</p> <p>May - July:</p> <ul style="list-style-type: none"> <li>• Discoloured, embrittled</li> </ul> <p>August:</p> <ul style="list-style-type: none"> <li>• Stain on right corner</li> </ul> <p>September – October:</p> <ul style="list-style-type: none"> <li>• Discoloured, embrittled</li> </ul> <p>November:</p> <ul style="list-style-type: none"> <li>• Pencil writing on page</li> <li>• Flaking on edges</li> </ul> <p>December:</p> <ul style="list-style-type: none"> <li>• Very discoloured, very brittle</li> <li>• Flaking on edge</li> <li>• Tear on fold</li> </ul>	

### 3.4 Foxing

#### 3.4.1 Foxing and mould

Foxing is the result of both mould and metal contaminants in paper. Foxing appears as brown, yellow, or red stains on the paper, often in spidery spots or blotches. High humidity and damp conditions are the main causes of foxing. To prevent foxing, paper materials should be kept in a cool, dry, clean room with minimal exposure to light. Avoid environments where temperature and humidity can fluctuate, such as basements, attics, areas near radiators and vents, and areas prone to flooding. Store paper materials in protective enclosures, such as acid/lignin-free folders and polyester sleeves, separate from other acidic papers to prevent acids from migrating. The circulation of gasses such as sulphur

dioxide, nitrogen dioxide, and hydrogen sulphide react with the humidity in the air and form acids that cause harm to the materials kept in the library storage space and further deteriorates them (Hanus and Hanusová, 2013:237) (Choi, 2007:138).



*Figure 5: Foxing and insect damage on cover 1931-1934 Moxwera publication, NLSA (Cape Town).*



*Figure 6: Insect damage from the cover of the publication and foxing 1931-1934 Moxwera publication, National Library of South Africa (Cape Town).*



Figures 5 and 6 are the blank pages that are placed just after the cover page. There seems to be foxing which may have been caused by relative humidity in the area that the newspaper is kept. This same foxing can also be observed in the 1937 publication. In figure 7 it is evident that the foxing can travel from the cover to the newspaper publications inside. Figure 8 is from December of 1934 which is also affected by foxing.



Figure 7: Cover page with foxing transferred from previous pages 1931 Moxwera publication, NLSA (Cape Town).

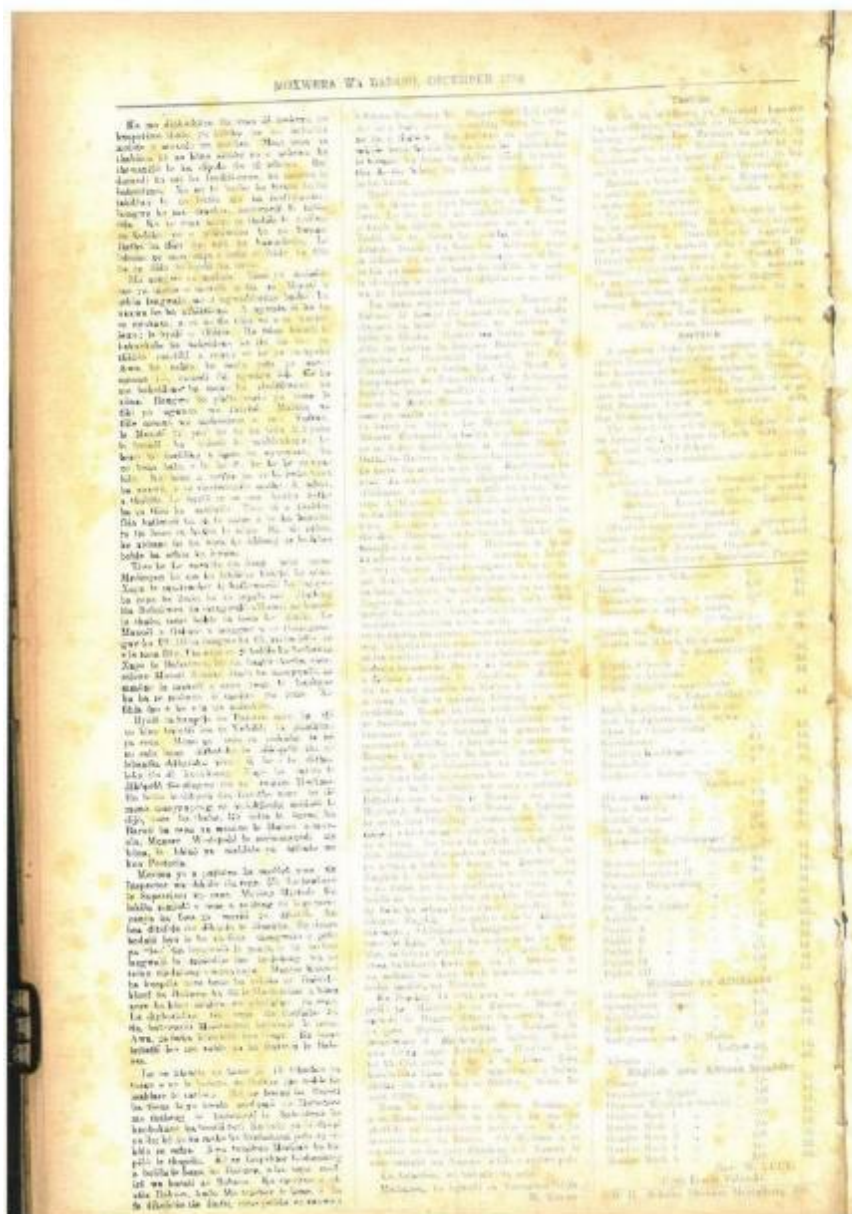


Figure 8: Last page of December 1934 Moxwera publication with foxing transferred from previous pages, NLSA (Cape Town).

When foxing develops it compromises the integrity of the paper as it creates brown stains, it changes the makeup of the paper by affecting its physical and chemical bonds (Higashijima, Hori, Igarashi, Enomae & Isogai, 2012:164). Newsprint is especially prone to these forms of deterioration as it is usually printed on a lower quality paper to keep costs down and is not inherently designed to last for as long periods as books. Newsprint also usually contains a lot of lignin which accelerates the deterioration.



### 3.4.2 Foxing and metal exposure

Porck (2000:9-10) briefly discusses foxing stains that develop on paper. Foxing stains are yellowish or brownish spots that develop on paper. In my condition report I refer to foxing stains as yellow or brown stains that I have observed on some of the pages of the newspaper publications. Figure 9 is another example of the pages I found with foxing stains. Metal is regarded as the major contributor to foxing in paper. The metal that affects the paper can travel with airborne dust where certain metal objects are placed in the same space as the paper. The paper can also be affected by the metal it came across through the paper manufacturing process. The metal types can include iron, mercury, copper, brass and copper-zinc. It is through oxidation that iron and copper that is found on paper can form rusty stains. The formation of fungus and bacteria can also cause foxing stains (Choi, 2007:138-140).



Figure 9: Foxing stains on November 1935 Moxwera publication, NLSA (Cape Town).

### **3.5 Insect damage**

Figures 5 and 6 also show holes that were possibly created by insects, and some penetrate all the way to the May 1931 publication. Both the foxing and insect damage can be caused by lack of control of the room temperature and relative humidity in the library environment. When the condition in the library is such that nutrition for insects are present, and climatic conditions support their existence, they remain in that environment and cause further damage to the paper. Insects also feed on existing fungus in paper. The common types of insects that attack paper include but are not limited to beetles, silverfish, cockroaches, termites and bookworm (Riyadi, n.d).

### **3.6 Water damage**

Water damage on paper causes the growth of mould and the spreading of adhesives on to the rest of the document. When some adhesives used in the binding of paper get wet, they become viscous and cause other sections to be bound together. Recently, to prevent the adhesive from running when paper encounters water, freezing methods have been applied (Higashijima, Hori, Igarashi, Enomae & Isogai, 2012:165).

### **3.7 Yellowing in paper**

The existence of chromophores in paper is what causes it to degrade and change colour. When paper begins to age the first stage it goes through is yellowing. Over time the yellowing turns brown and eventually the paper becomes brittle. Carter (1996:1068) mentions that paper is made up of components including wood, glue, dyes, fillers, additives and sizing chemicals. Oxidation reactions result from the combination of all these components. The types of reactions are those involving the carbonyl and carbon-carbon bonds. The process of oxidation is a result of light, heat and moisture. Oxidation can also take place where copper ions and ferric ions exist. Other pollutant gases such as sulphur dioxide and nitrogen dioxide also aid oxidation reactions in paper.

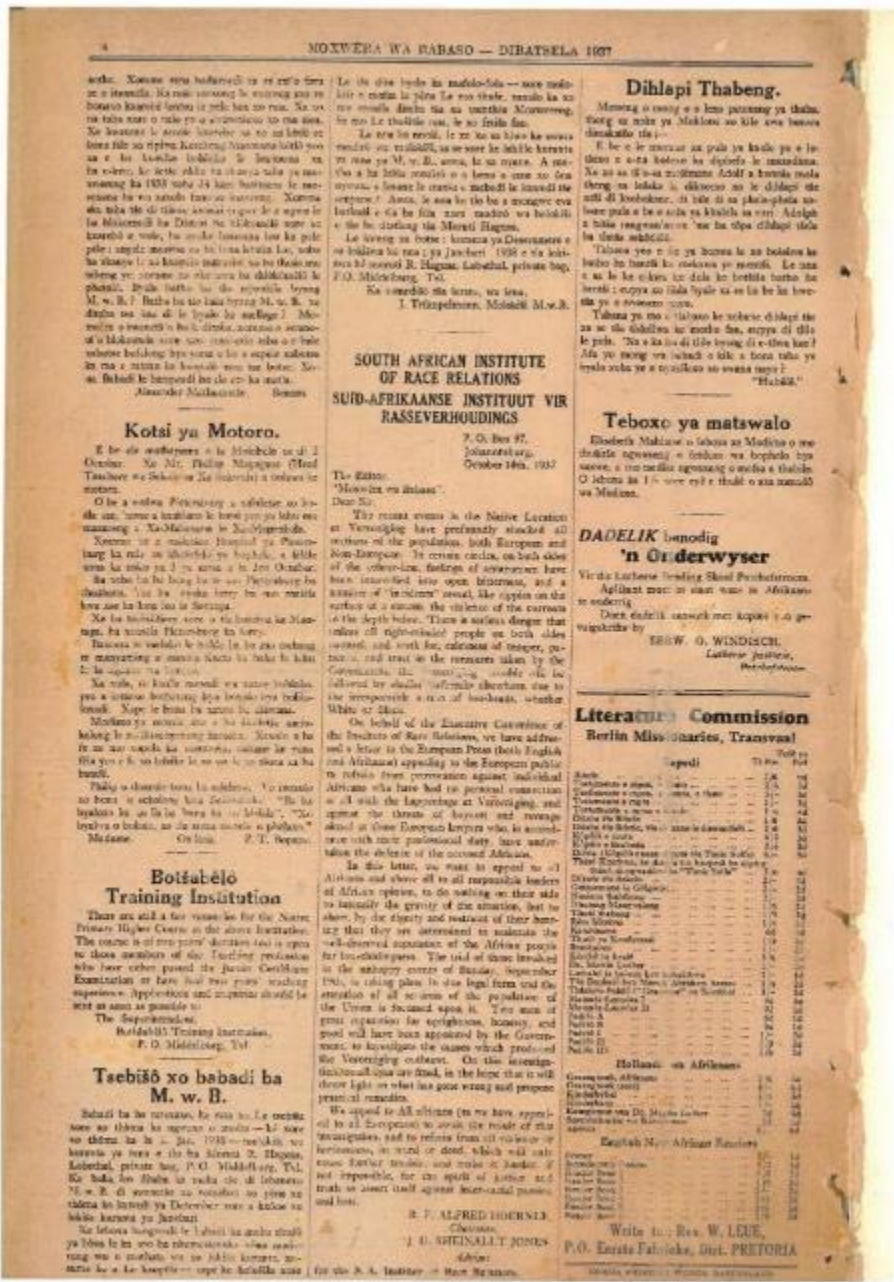


Figure 10: Embrittlement and yellow stains affecting November 1934 Moxwera publication, NLSA (Cape Town).

If paper has a high percentage of lignin and hemicellulose the extent of its yellowing happens quicker. Besides oxidation, photooxidation can occur in paper. The photooxidation process happens when the chromophores that exist within the components of paper absorb light (Carter, 1996:1068). Figure 10 is an example of yellowing and tearing of paper due to embrittlement.

### **3.8 Embrittlement in paper**

Zou, Gurnagul, Uesaka, and Bouchard (1994:399-401) studied how cotton linter paper reacts to accelerated aging compared to Whatman filter paper. They found that Whatman filter paper is more prone to embrittlement and loss in paper strength and cotton linter paper remained strong under the same conditions. In their study they show that it is not so much the hydrolysis or oxidation that can be deemed the cause of embrittlement. Embrittlement is also dependant on the type of material that was used in the manufacturing of the paper.

They further say that the embrittlement of the Whatman filter paper may have been caused by a low degree of polymerisation as well as low pH levels which was experienced during manufacture processes. Paper that has been manufactured from cotton has been found to be long lasting. In their study acid hydrolysis has also been found to be another cause of embrittlement and paper deterioration. It is essential however to note that their experiments were made using paper that had pure cellulose and that perhaps paper containing lignin and hemicellulose may respond differently under the same conditions (Zou, Gurnagul, Uesaka, and Bouchard, 1994:400).

### **3.9 Documented images of the type of damage observed**

Figure 11 has four holes on the side. Most of the newspapers in the Pretoria collection have similar holes. It could possibly be how they were previously stored together. The newspaper has changed colour and is embrittled. Figure 12 has a brown stain that may have come from external dirt. It is also embrittled and discoloured. Figure 13 has text that has been underlined by use of a pen.











Figures 14, 15 and 16 have a very defined line where the newspaper was folded, in the more damaged publications that is one of the major areas where the paper loss has occurred. Figure 14 has been subjected to cockling. There is dirt that can be observed on figure 15 and slight discoloration near the fold line of figure 16. Figure 15 also seems to have come across liquid of some sort as there is a water mark on the top right.

I chose to place figure 16 to show that there are a few publications that are still in good condition in terms of the aging of the paper. One can also observe the extent of the discoloration when comparing figure 16 to the rest of the publications. One can only observe very slight discoloration starting to take effect from the middle where there is a fold line. There are red colour pencil markings on the newspaper.

Human beings can affect paper through multiple means including storing paper in correctly, poor handling, writing on the materials, folding the paper, vandalising, etc. In the *Moxwera* there are a few examples of damage ascribed to human action. In the Cape Town collection, we see it most in the use of tape to salvage the paper. Although this may assist against further tearing of the paper it does introduce other issues (Nishanthi, 2020:8).











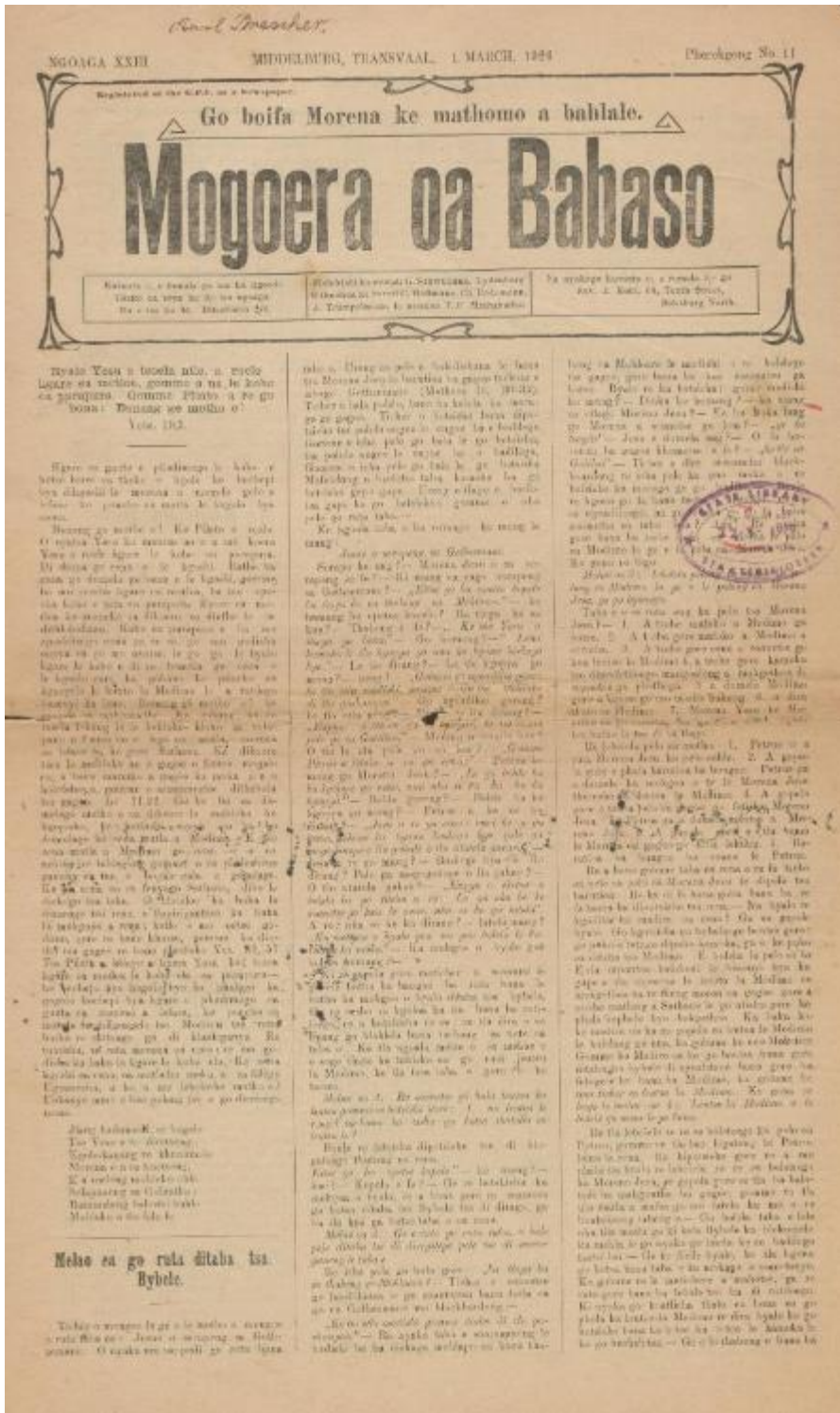


Figure 17: Hole in the centre and ink drops on March 1926 Moxwera publication, NLSA (Cape Town).

Figure 17 is discoloured, there seems to be other ink marks on it besides that on the text and there is a hole in the centre of the page. Both the Cape Town and Pretoria scans were done by museum personnel so the capturing of the entire frame of the paper was outside of my control. Most of the Pretoria newspapers

experience flaking/loss of material on the edges and some in the centre where the newspaper was folded. Because the newspapers are brittle the packaging and the folding of the newspapers cause more pressure to the papers in the centre and lead to further deterioration. The weight distribution between the newspapers differs and so some newspapers are more strained than others.

The packaging of the newspaper also poses issues. There is a rope and ribbon binding around the brown bag that the newspapers are kept in. This binding is meant to ensure that the newspapers remain secure. The binding does however add to the stain that the newspapers are exposed to, as it is bound tightly around embrittled newspaper publications. I would argue that the pressure experienced by the newspapers is what resulted in the material loss seen in figure 4.



Figure 18: Excess ink manufacturing fault on page from the August 1937 Moxwera publication, NLSA (Cape Town).



Figure 18 shows a manufacturing error with excess ink visible on the top right. It also shows how yellowing has begun on the edges of the paper. Figure 19 shows the use of an adhesive and thread for the binding process. Both binding methods compromise the integrity of the paper yet paper that is bound together within a book cover lasts longer than paper that is left exposed. The edges of figure 19 are more discoloured as compared to the inner area of the newspaper.



Figure 19: Yellowing of page and adhesive residue on January 1935 Moxwera publication, NLSA (Cape Town).







1997:69). We can also see the use of tape in figure 22 and this page has begun to change colour.



Figure 22: Tape applied on areas with holes November 1938 Moxwera publication, NLSA (Cape Town).

Figures 23 and 24 are the front and back of the first page of the January 1937 publication. It is also the most damaged page that I came across throughout the entire publication. The page has been affected by water damage, dirt, discolouration, and embrittlement. There are also remnants of adhesive tape. This has caused the newspaper to experience loss of material (flaking) and foxing.

Xo Boifa Morëna ké mathómó a bohlae.

# Moxwëra wa Babaso

Ngwaxa ya e boifa mo ya le boifa  
Thaba ya e ya le boifa mo ya  
le boifa mo ya le boifa mo ya

Mokhotli ke moeti J. Tlopilewana, V. S. Wathulwana,  
Hendrik, Tlopilewana, — O boifa le boifa C. Hoffmann,  
E. Schreiner, K. Deutscher, H. Tlopilewana,  
E. K. M. Kautz, Berlin, Moxwëra, Pretoria

E e wa boifa boifa ya e boifa mo ya  
le boifa mo ya le boifa mo ya  
le boifa mo ya le boifa mo ya

## Re thóma ngwaxa o mofsa.

1. Dula le mo! A boifa mo ya le boifa  
Na le boifa, boifa le mo  
La boifa mo ya le boifa mo ya  
Jesu Moxwëra wa Babaso
2. Dula le mo! Na le mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo
3. Dula le mo! Na le mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo
4. Dula le mo! Na le mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

(Mokhotli ke moeti J. Tlopilewana, V. S. Wathulwana, Hendrik, Tlopilewana, — O boifa le boifa C. Hoffmann, E. Schreiner, K. Deutscher, H. Tlopilewana, E. K. M. Kautz, Berlin, Moxwëra, Pretoria)

## Madirong.

A na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

## Tsa Mosatê wa Engelane.

Kakawo e e boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Ya le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

## Tša Thšaena.

Kwa Thšaena mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

## Tša Sepania

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

## Tša Xaê.

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Na le boifa mo ya le boifa mo ya le boifa  
Moxwëra wa Babaso  
Na le boifa, boifa le mo  
O mofsa, boifa le mo  
O mofsa, boifa le mo

Figure 23: Material loss, foxing, use of tape and water damage January 1937 Moxwëra publication, NLSA (Cape Town).





### 3.10 Conclusion

The agents of deterioration affecting paper was carefully discussed. I detailed the main factor that affected the *Moxwera* including water damage, foxing, insect damage, human interference, yellowing and embrittlement. I further discuss that the Cape Town and Pretoria papers have certain similarities and certain differences in terms of the type of damage and its extent. The Pretoria publications are more brittle than the Cape Town publications which is a result of both the packaging and environmental conditions of the Pretoria library. The Cape Town Collection is also subject to embrittlement yet is in a better condition compared to the Pretoria collection. The Cape Town collection experiences more foxing damage compared to the Pretoria collection owing to the humidity associated with coastal areas.

## Chapter 4: Restoration and Digitisation

### 4.1 Introduction

Harvey and Mahard (2014:3-4) discuss that the 21st century has prompted the need to consider preservation procedures that factor in both physical (analogue as they refer to it) and digital collections. The chapter that follows will outline some of the issues with the *Moxwera wa Babaso* that prompt the need for conservation treatment. It focuses particularly on how to deal with and maintain paper objects within library settings. It will also state the policies and certain constraints to consider for digitisation of archival and library material, and the conservation methods that are employed in these contexts.

The chapter will discuss several conservation treatments to consider for the type of damage outlined in the previous chapter. I will discuss treatments such as deacidification, reinforcement by adding material, alkalisers and adhesives. These means are used to increase the lifespan of paper and allow it to be useable for longer. I will elaborate on storage spaces and handling of objects within the library context and how it affects the life span of the paper. I will focus on the article of J. Hanus and E. Hanusová to guide the discussion on storage. D. Conn and D. Walnut (2014) give an in-depth account on the things within an environment that can shorten the lifespan of paper.

### 4.2 Storage in libraries

Hanus and Hanusová (2013:233-234) understand that digitisation has been introduced to archives and libraries to preserve cultural histories. They do, on the other hand, stress the sole mandate of both libraries and archives to safeguard the original objects themselves, as the object has as much intrinsic value as the cultural history written on it. All the factors that could possibly cause damage to the paper need to be considered when storing the material. The increase in chemical reactions within particles in organic matter accelerates the deterioration of the matter. The aim is to store organic matter under conditions that will reduce the chemical reaction rate and therefore slow down the deterioration rate. Hanus



and Hanusová (2013:237) list the factors that could speed up the reaction rate as, “concentration of reactants, temperature, medium, presence of catalysts and competitors.”

Ventilation within the library storage area is essential and it should be clean air that is circulated within the environment. The materials that the paper gets exposed to also need to be checked to ensure that it does not consist of any materials that may cause chemical reactions and accelerate deterioration. Library assistants must be wary of using ozone creating materials which can be air-filters or air-conditioners and photocopying machines. Ozone is known to cause harm to organic matter by oxidation and can cause harm to paper (Hanus and Hanusová, 2013:237).

The storage units and storage containers need to be cleaned regularly and should be made of material that is not potentially harmful to the paper it houses. Dust can trap moisture from the environment and transfer it to the paper. When the paper carries dust, abrasion can take place when the paper is in use. Two methods to protect against air borne pollutants would be to make use of an air filtration system e.g., high-filtration particulate air filters, alternatively, use paper containers that are non-acidic, non-lignin containing, alkaline materials (Conn and Walus, 2014:155). The container can also just be lined with acid free paper which is changed regularly should the other methods not be optional in context where the necessary resources are unavailable.

#### 4.2.1 Environment control measures

Different materials respond differently to certain conditions in a library storage area. Paper materials kept in storage in the library for use should be at a maximum of 21°C room temperature and relative humidity should be between 30 to 60 percent. The area where the material is stored should be between 2°C to 18°C and the relative humidity should be the same as the former. In high temperatures deterioration accelerates for paper that contains high acid levels. The library in question would need to consider certain technologies to assist in

temperature monitoring and controlling. High relative humidity forms wrinkling of paper referred to as cockling in the previous chapter. And low relative humidity reduces the litheness of paper (Conn and Walus, 2014:154). If this is not feasible, as in many South African archives and libraries, the most important thing is to limit the humidity and keep the temperature constant.

Light is another factor that needs to be managed in a library storage environment. Conn and Walus (2014:154) suggest that paper objects when not in use should be stored in a space that is not exposed to light. The recommended storage areas are in folders and boxes. UV light needs to be limited and the paper protected from exposure to it. Oxidation that takes place in the presence of light has been found to cause damage to paper. When lignin undergoes photo-oxidation the paper becomes yellow (Baty and others, 2010).

Although oxidation can cause damage to newsprint, degradation studies show that hydrolysis has harsher effects. Hydrolysis degrades paper by making it lose its strength. Hydrolysis takes place where there is water vapour in humid environments (Baty and others, 2010). This could bring context to the different issues affecting the Cape Town collection compared to the factors affecting the Pretoria collection. The Pretoria collection was mostly affected by embrittlement yet in the Cape Town collection foxing was dominant in some of the publications and various stains that may have been caused through the process of hydrolysis. The air in the environment is also important. If there is dust and pollution in the environment this will badly affect the paper (Conn and Walus, 2014:154).

### **4.3 Handling by users and librarians**

All users of library material should use materials cautiously and it is essential that library visitors are educated to handle paper-based material in the correct manner. Paper based objects should be handled on flat surfaces. When paper has been embrittled it is advised to use paper-turning instruments to prevent it from further damage. The instrument can be a micro spatula or any thin instrument that can slide into pages without abrading them. Copying and

scanning of newspaper can also cause further damage, so this should be limited. All users should receive orientation on careful handling of paper objects that are meant to last for a long time (Conn and Walus, 2014:158). Therefore, the digitisation of such objects would allow for a different space to access the content without damaging the material.

The use of white cotton gloves is no longer considered in library settings. The cotton gloves make handling of paper difficult. The fibres in cotton gloves can also get stuck between torn brittle paper and cause further damage. Cotton can also easily pick up dust and dirt that can be transferred onto paper. It is recommended rather to consider nitrile gloves or lint-free gloves when handling paper or just washing and drying of hands prior to using library collections. This process can be repeated when hands start to become sweaty or dirty. Sanitisers are not the best way to clean hands for the purpose of using library objects. The alcohol contained in sanitisers assist in removing germs, yet moisturising agents in commercial sanitisers can collect dirt and oils on hands and when in contact with paper can cause further issues (Conn and Walus, 2014:159).

#### **4.4 Important deterioration factors effected in the manufacturing process of paper**

Conn and Walus (2014:147-148) mention that the type of raw material used in the manufacturing of newspaper contains lignin. They further mention that lignin is responsible for the short life span of newspapers. The combination of lignin with light and humidity causes acidic reactions, and this compromises the strength of the cellulose chains. The introduction of alkaline and sulphur compounds to remove the lignin in paper during the manufacture process can assist to lengthen the life span of paper, but as newsprint is a high throughput material produced to be as cost effective as possible, and not designed for a long lifespan, this is usually not done.

Other factors to be considered when dealing with paper is the type of ink and adhesives introduced. Regarding the ink, the most important consideration is the



type of oil used in the manufacturing process. The ideal situation would be to use linseed oil that is used to create ink which is permanent and stable once it has hardened on paper. Conn and Walus (2014:148-150) allude to the naivety of assuming that all ink used on paper was created by using linseed oil; people used the oil they had at their disposal at the time of manufacture.

Adhesives are also used in the paper manufacturing process. Common adhesives are created from starch, animal products or synthetic material and are used to make surfaces stick together. Animal glue and synthetic glues are commonly used in paper and they include gelatine (found in bones, hooves and skin), casein (protein found in milk), “methylcellulose, pressure-sensitive tapes, rubber cement, polyvinyl acetate (PVA)”, (Conn and Walus 2014:147-150). The ideal adhesives to use for conservation purposes are those that contain starch, and the process of adhesion is reversible.

#### **4.5 Deacidification of embrittled paper**

Deacidification in paper is the process of adding alkaline based substances evenly on paper to neutralise the acid levels and prevent further deterioration. Newspapers are known to be made from mechanical pulp which is not designed to last long. Mechanical pulp is also prone to yellowing during storage and this can be due to light or exposure to metal reagents (Baty and others, 2010). The following materials are used in the process of deacidification i.e., amines, carbonates, bicarbonates, oxides and hydroxides.

Calcium carbonate and magnesium carbonate are highly regarded as paper fillers (added during paper production) for inherent deacidification of paper as they act as buffers. Although carbonates are effective in the above process, they are not soluble in organic diluents which limits their dispersal in paper pulp. Bicarbonates dissolve more easily than carbonates which assists them to distribute easier through paper pulp. It is however important that a careful selection in terms of the type of bicarbonate is done. Where bicarbonate solutions have been found to combat yellowing and strengthen the paper, the use of

magnesium bicarbonate has proven to do the opposite after paper was treated (Baty and others, 2010).

Hydroxides while effective in deacidification processes have been found to have higher pH levels than neutral. Calcium hydroxide has been used in different deacidification processes as a liquid solution and has been effective. Calcium hydroxide has also been more effective when used with methyl cellulose (which is the pulp component that strengthens paper). Calcium hydroxide however has the potential to react with carbon dioxide and form calcium carbonate. Another hydroxide that has been tested yet found to be toxic is barium hydroxide and its use was in a non-liquid form (Baty and others, 2010).

#### **4.6 Newspaper reinforcement methods**

Two fortification methods have been found to be effective in restoring old Chinese newspapers. These methods include the use of cotton mesh and Japanese washi paper. When using both methods the paper was first made flexible by slightly spraying with deionized water. A 300-yarn count of cotton was used for the cotton mesh method. In the cotton mesh process the cotton is placed flat on the paper which also rests on a flat surface. A clean towel that has been heated, then immersed in distilled water is dried completely then rolled on the cotton mesh to ensure it adheres to the newspaper. The cotton mesh fibres are absorbed into the newspaper and left to dry at room temperature (Liu, Xing, Wang, Cao, Chao, Jia, and Li, 2021:4-9).

The Japanese washi method is done by firstly applying wheat starch with a wool brush on the newspaper that had been sprayed with deionized water. The Japanese washi paper, slightly larger in size than the newspaper, is then adhered onto the newspaper and brushed down to equally distribute the adhesive (wheat starch). The excess water is extracted by adding mechanical pressure and brushing it down, further pressure is applied to ensure that the added material adheres to the newspaper. The same process is repeated on the other side of

the newspaper. Machines are then used to dry the newspaper until it is in a stable form (Liu, Xing, Wang, Cao, Chao, Jia, and Li, 2021:6-9).

The results of these processes improve the mechanical strength of the paper which deters ageing. After more tests were conducted on the paper to evaluate the “mechanical properties, chromatic aberration and surface morphology,” as mentioned by Liu, Xing, Wang, Cao, Chao, Jia, and Li (2021:9), cotton mesh was found to be a better method yielding better results than the Japanese washi paper method.

#### **4.7 Washing and bleaching as a method to combat yellowing in paper**

Bleaching is the use of chemicals to remove the yellow colour formed over time on paper. Although bleaching may be a good way to remove the yellow colour it is not necessarily a recommendation when the preservation of text is in question. Bleaching can compromise both the integrity of the paper by further weakening it and removing the ink which forms the text. Washing is more recommendable as an initial means of deacidification during production. The use of alkalised deionised water could be used to reduce the yellowing of paper. It is safer as a method than bleaching. Washing the paper with deionised water alone is not recommended as this can cause further damage. It is advised to use deacidifying solutions containing either calcium hydroxide or magnesium bicarbonate (Carter, 1996:1069-1070). In the case of newsprint, which is a lower quality paper with shorter fibres, washing is a risky procedure as the paper does not have the inherent strength to withstand wet treatment.

#### **4.8 Digitisation of original objects and preservation of the ‘surrogate object’**

With the innovations that are resultant from Information Technology, digital objects be it surrogates (digital reproductions of physical objects) or objects that are manufactured digitally are now possible. This has in turn affected preservation (Harvey and Mahard, 2014:3-4). Burns (2017:1-2) begins her argument by defining preservation according to the Society of American Archives. In short, she highlights that it is the use of non-invasive conservation methods in

expanding the life of an object and protecting it from further deterioration of any form. As institutions consider digitisation as a form of preservation Burns' concern is with the separation of the digitised object with its original material content. She (like Harvey and Mahard) refers to the digitised object as the 'surrogate' to the original and further suggests that it is not treated as an archival object. In the context of the *Moxwera* the process of forming digital surrogate could be both helpful and harmful if the preservation of the original material is negated.

#### 4.8.1 Factors to consider when choosing the digitisation route

Although digitisation may seem like a perfect solution when the preservation of very old paper is concerned there are a few factors that should be considered. Corrado and Sandy (2017:21) mention the following three factors which include management, technology, and content. Any digitisation project requires ample planning and commitment from involved parties towards maintenance of the digital sites. Management is responsible for the implementation of the processes that support the technology and content storage. These involve the processes of creating a strategy that will support everything to work together for digitisation to occur. Labour resources and economic resources also become part of this section as digitisation and the maintenance of digital sites cost money. Policies must be put in place for the running of a digital site that will contain all data collected from the original objects.

Policies are essential in evaluating the goals of the digitisation project. It provides action plans that the people working on the project can abide by. It also maps the way for those that will be entrusted with the responsibility in the future to understand the standards that are expected by the library institution for maintaining the digital sites and the data they will host. The policies put in place must factor in the data safety aspect of the reproduced documents. Systems need to be put in place to regulate access to the digital copies and safeguard the data from manipulation and tampering. A digital repository with a good security reputation may need to be used or created to house the data (Corrado and Sandy, 2017:21-22).

Corrado and Sandy (2017:54) mention that as far as technology is concerned most digital conservators use the Open Archival Information System (OAIS). New users will have to learn how the system works. This is not the only technology that can be used for preservation. Some institutions prefer to create their own data repositories and take the responsibility of maintaining these themselves. It is however important that the parties involved in the project are familiar with the operations of all the technological systems used. Another consideration about technology is its sustainability. Data storage should not be limited to one place as hardware technology does not last forever. There should be multiple back-ups (hard drives and online drives) and these back-ups should be upgraded with the evolving nature of technology and data sites. This also includes the format in which data is stored. Think about all the data on floppy disks or VCR tape cassettes that may no longer be retrieved through modern technology (Iraci, 2011:82).

The final factor to consider is the content. Content can be found in libraries, archives and heritage documents can be found in museums. For this study the content would be the *Moxwera wa Babaso* newspapers. The state in which these newspapers are, currently makes them a high priority to be digitised before they incur further damage and are unusable. E. Delaunay (2008:96-99) highlights an alarming issue that has been faced by the National Library of France. The external institution that they approached in the efforts to digitise their library newspapers did not include all the content contained in the newspapers. This could potentially be a waste of resources as the goal to create a long-term deposit falls short of its promises to preserve entire documents.

It is essential that libraries nominate competent parties and institutions that understand the handling process of documentation. The parties should also be committed to the goal of preservation of all content for long-term use. Another point to take note of before embarking on a digitisation project is local laws that govern the reproduction of documents i.e., copyright laws (Delaunay, 2008:49).

W. Benjamin (1970:217) argues that artworks have always been reproducible. I refer to Walter Benjamin because although he speaks about reproduction in terms of art and photography, his observations are very much related to the digitisation era. Benjamin (1970:217) mentions how texts produced by man can be mimicked by man. In this it can be argued that anything can be imitated by man. The existence of copyright constraints, different policies governing the copying of other people's work and the existence of plagiarism policies, informs the possibility of original works being wrongfully mimicked. Benjamin continues to argue that individuals make copies of works to improve their skills, some to differentiate from common practice and others for personal gain. Information that is library owned should be protected from possible corrupt activities.

#### 4.8.2 Authenticity and originality

Benjamin argues that the authenticity of an artwork lies in its originality. In context of the newspaper, it would feed the argument of provenance. When a work is reproduced into a different form it loses its authenticity. Benjamin (1970:222) compares process reproduction to manual reproduction. He mentions that process reproduction such as photography is more independent of the original than manual reproduction. Process reproduction is argued to be able to manipulate the size and time in motion pictures. It is also able to represent images that are not found in nature. It can place the imitation of the originals in a space that the originals in themselves would not reach. The image takes up a life of its own and serves its own functions. Manual reproduction would be the problematic type of reproduction as it would be imitating someone else's work and without the correct acknowledgement this would have some legal implications.

The process mentioned above can be supported by the act of videotaping or tape recording. The video captures the image of the original that cannot be placed in the tape. Benjamin argues that where the audience would be restricted by policies and distance to see the original, the reproductive process allows the

beholder to meet halfway with the original (Benjamin, 1970:222). This concept could be applied to the *Moxwera* newspapers. The library conservator should evaluate the level of possible damage and assess whether the newspaper can still be made available in its physical form. In most cases researchers are more interested in the text content rather than the material content of the publication. It is only in studies like the type I conducted that the material is equally as significant.

#### 4.8.3 Use value and ritualistic value

Benjamin (1970: 225-226) mentions that it is important that the existence of an artwork in connection with its aura is not completely separated from its ritualistic functions. Its original use value has its bases on ritual. Mechanical reproduction frees the artwork from these ritualistic bounds. The mechanical reproduction (copy) becomes a product for recurring reproduction. This means the copy can be produced again and again. Where the authenticity of an artwork is no more, the function of art is reversed. In this case, art is no longer based on ritual but rather other practices such as politics. In terms of the *Moxwera*, the materiality of the newspapers is affected by continuous use and the printing process also exposed the fragile papers to light which will cause more harm. Should the newspapers be digitised the copies can be drawn directly from the digital archives and databases and prevent the need for the use of the newspaper therefore contributing to its preservation.

The Pretoria collection as well as the 1938 Cape Town collection have been subjected to embrittlement. It has been a benefit to my study to be able to work through the physical copies, yet I too can attest to the condition of the newspapers to rather be preserved digitally for future investigation of the text content. The material context can also be documented and reported upon for future researchers to have the option to assess the information on digital platforms. Both digitisation and material preservation of the original newspaper should be considered. I do also advocate for the preservation of the actual newspapers. They carry their own inherent information on their history and materiality which

researchers and librarians may not be able to completely describe or represent in words alone. This would allow library assistants to use their discretion to decide when the physical copy would need to be shared with researchers or when the digital would suffice.

#### **4.9 Conclusion**

In the above discussion the issues affecting paper in general with specific reference to newsprint as well as possible conservation treatments have been outlined. The discussion elaborates on handling as well as storage considerations in a library setting. I also give examples of treatments and reinforcement material that can be used to strengthen the paper and make it last longer. The reasons for digitisation are also mentioned as well as the factors to consider prior to digitisation. For the nature of documents that the *Moxwera* is, I argue that both the conservation treatment as well as digitisation should take place in this order. A few tests would need to be conducted to determine which treatment method would best suit the newspapers in question.

Walter Benjamin explains the position of art in the age of mass production. He mentions how art no longer is original as there are copies available on different platforms with the possibilities created by reproduction. He also mentions how copies are devoid of the ritualistic and traditional aspects of the artwork. Accordingly, newspapers can also be considered in this discourse. It is helpful to protect the provenance of the newspaper for future research. It is also helpful to consider the reproduction of the newspaper into digital archives for the preservation of the physical copies and for easy access of the content by users.



## Chapter 5: Conclusion

### 5.1 Summary of chapters

This study has discussed the prospects of preserving the *Moxwera wa Babaso* publication. The history of the publication was mapped and some of the major writers were discussed in broader detail. The value of newspapers is considered for the argument of the importance of preserving such documents.

Chapter 2 was set out to outline the content of the *Moxwera* newspapers as well as the historical context of both the contributors and the time period in which the publication came into existence. The main author of the publication is Rev Gustav Trümpelmann. Other supporting editors mentioned on the covers of the *Moxwera* include C. Hoffmann, G. Schwellnus, J. Trümpelmann, C. Endemann, T.P. Mathabathe, K. Drescher, E.M. Ramaila and R. Hagens.

The *Moxwera* contains international accounts as well as local news regarding the events of that period. It gives news pertaining to certain dignitaries including chiefs, kings and headmen. The leaders were important to the missionaries because gaining their favour could also open opportunities for possible conversion of them and their subjects to their faith. The Berlin Missionaries were interested in ensuring that their congregants received the news as they portrayed it. Amongst the other political and resistance newspapers (including *Umteteli* and *Bantu World*) that were being circulated in the early 1900 they took pride in the hope that their publication provided for their congregants.

Missionary publications were some of the first platforms that gave exposure to African writing to a large population. African writers also realised their potential to write and give account of their daily lives in the newspaper platform. The preservation of the newspapers would allow for future study of the progression of the Northern Sotho orthography as well as the study of different writing styles implemented by writers of the 1930s. It would also provide a platform to understanding the histories that they portray and compare their account with

other historical documents to improve their understanding of what was happening in that period, especially other newspapers of the 1920s and 1930s (those listed in Chapter 2 as being contemporary to *Moxwera*) aimed at Black Africans. The digitisation work done by the National Library of South Africa also opens the possibility for the *Moxwera*.

In Chapter 3 the state of the *Moxwera* newspapers is elaborated upon. The components of the paper were firstly mentioned. Paper is said to be made up of lignin, hemicellulose and the main component is cellulose. The process of hydrolysis and oxidation is what is responsible for paper deterioration. The factors that cause newsprint and paper to deteriorate were listed as the environment, water, temperature, humidity, air, heat, light, microorganisms and human intervention. These were further grouped into their categories of physical factors, biological factors, and chemical factors. The storage conditions of paper and newsprint can also influence its lifespan.

The main types of deterioration experienced by both collections include embrittlement, yellowing, stains, water damage, the use of tape, and exposure to dust and dirt. The issues that are unique to the Cape Town collection are foxing and insect damage. The Pretoria collection had underlining of text content by users. Both newspapers experienced flaking, yet the Pretoria newspapers experienced the most material loss as they are very brittle. Other issues include the adhesives and thread used in the binding process for the Cape Town collection.

The Cape Town collection is bound in book covers which assist with the preservation, while the Pretoria publication is stored in brown paper covers which adds to the degrading of the newspaper. The brown paper is held together by thread which strains the newspaper and may be part of the cause of the flaking of the newspaper. It is against this backdrop that the treatment plan had to be investigated. Chapter 4 therefore investigates different methods that can be employed for paper remediation.

The chapter begins by stating the importance of preserving the actual library materials as they are as valuable as the content written in them. Since the motivation of this study was centred around the premise that the process of digitisation renders the conservation of the original documents less important, the statement above assists to place the material in a place of significance. The materiality of the newspaper is just as important for understanding the historical context and content of the actual newspaper.

When considering storage of newspapers, it is recommended that the condition of the storage area should slow down chemical reactions in the newspaper. Ventilation of clean non-polluted air is necessary for the long-term retention of any library material. Machines used such as air-filtration systems and photocopy machines should be assessed for the emission of ozone which can cause damage to paper. It is essential that the room temperature and relative humidity where newspapers are stored is highly controlled to suit the nature of the material. When newspaper is not in use it is best to store it where it will not be exposed to light. Storage areas should be cleaned regularly, and objects should be placed in alkaline or neutral containers to slow down acidic reactions.

Hydrolysis is regarded to cause more damage to newspaper than oxidation as it weakens it. When a newspaper encounters water, it can easily lose its form and content. Objects should be handled with great caution to prevent further damage. Flat surfaces are recommended for using of paper-based objects and instruments such as micro spatulas are recommended if the paper is too fragile to handle by hand.

I briefly discuss some of the alkaline material that can be introduced in the manufacturing process that can assist the long-term durability of paper. It is also noted that newspaper was not designed to last for a long time. I also discuss the following reinforcement methods, the use of cotton mesh and Japanese washi paper. These methods are used to increase the strength of the newspaper and

make it last longer. The washing and bleaching of paper to reduce the yellowing is mentioned, yet I do state that bleaching and washing are not recommended for newsprint as it is more fragile than paper and could disintegrate when in contact with fluid.

I begin the digitisation discussion by stating what the management, technology and content aspects should be when embarking on a digitisation project. Sufficient resources need to be put in place and there must be an understanding of the preservation technologies that are available to a given institution. It should also be considered that clear reasons are identified for the nature of content that needs to be preserved and that the data is well organised and well represented for future use.

Digitisation is usually a great point of departure for most library institutions, as the content of the material can be conserved in what seems as a secure and long-lasting space. The motive to digitise however is usually accompanied by neglect of the actual objects rendering it to degenerate. My argument is centred around seeing both the digital preservation of the content as well as the material preservation of the actual object equally important. It is essential that the digitised content is conserved, and the necessary policies and decisions are put in place to ensure that the information can be accessed as technologies improve and software offerings develop.

Walter Benjamin's contributions also alert us to the possibilities of information to be wrongfully represented or mimicked. The digitisation measures put in place by the library should protect the integrity of the information and acknowledge the creators of the information accordingly. I finally state that both digitisation and the preservation of the original *Moxwera* newspapers should be implemented as both content and object have significance for future research and investigation.

## **5.2 Contribution of the study**

The study is a contribution to the social sciences as it focuses on preservation of heritage. It studies a newspaper that has not received ample public scrutiny. The study also offers the potential for studies of an African middleclass in the Transvaal. It gives a missionary perspective into the lives of the Northern Sotho people as well as an account from the local writers.

From a conservation note, this study offers considerations for preservation treatments that can be implemented within our South African context. It considers our environmental conditions and our library resources. It offers some value to the science as it creates the potential for further investigation into the methods that can be employed for the preservation of newsprint. The area of digitisation is also explored which can be of interest to digital studies programmes.

## **5.3 Limitations of study**

As of present the limitation is that the newspaper maintained under the authority of the National Library of South Africa and any intervention towards preservation treatment must be implemented by their governing bodies. The newspapers were available to view yet no further studies of the material properties of the newspaper were permissible. The photographic documenting and scanning of the content of the actual newspaper was done with the assistance of library personnel. No further studies on the environment of the library could be conducted, so the suggestion given in this study relies on general applications previously implemented by other conservators.

The bulk of the newspaper is written in either Northern Sotho or Tshivenda which makes the content inaccessible to people that do not speak or know how to read the languages. I also experienced a time limitation in relation to the use of the documents. Because the library owns the documents, I was limited to using the documents during library hours. In Cape Town I was limited to the amount of time I could stay there to conduct my studies. The documents also had to be pre-booked at the Cape Town library to be made available to me for that period.

#### 5.4 Suggestions for further research

When considering that the study falls short in terms of the limitations as stated above the motive to conduct further studies would be focused on conducting actual treatment on the newspaper. I would carry out tests on the pieces of newspaper to see what type of material was used. The newspaper would be placed in a different environment and tools such as fluorescence microscopy would be used to determine the properties that make up the newspaper. Once determined, the most suitable conservation treatment would be applied on some of the small pieces that have flaked off the newspapers to see how they respond to the treatment. Further studies would be carried out to determine the library storage conditions and how these can be improved. A digitisation project would be initiated with the necessary permission from all relevant parties.

In terms of the content an in-depth study would be carried out to portray the histories that are framed in the newspaper comparing these to happenings in other newspapers of that time period to gauge the political angle of the stories portrayed in the *Moxwera* newspapers. This would assist in framing how missionaries reported their stories compared to their African contemporaries who operated in a secular urban context. The authors' histories would also be researched to see if they had other contributions in other bodies of writing. The relationship between the authors' influences from the mission stations they were placed in and their motives to write would be a point to consider. The newspaper could also be translated into English so that it can be accessed by a larger readership. When the information is translated it creates a greater platform for conservation as future generations will be able to access and understand the information they are presented with.

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