THE ROLE OF THE JOTELLO F. SOGA LIBRARY IN THE DIGITAL PRESERVATION OF THE HISTORY OF VETERINARY SCIENCE IN SOUTH AFRICA

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ABSTRACT

The history of Veterinary Science in South Africa can only be appreciated, studied, researched and passed on to coming generations if historical sources are readily available.

Material and sources with historical value in any country are often difficult to locate, are often dispersed over a large area and not part of the conventional book and journal literature.

The Faculty of Veterinary Science of the University of Pretoria and its library have access to a large collection of historical sources. The collection consists of photos, slides, documents, proceedings, posters, audiovisual material, postcards and other memorabilia. Other institutions in the country are also being approached if relevant sources are identified in their collections.

In 2006 the University of Pretoria's institutional repository, UPSpace, was launched. This provided the Jotello F Soga library with the opportunity to populate the repository with relevant digitised collections of diverse heritage and learning resources that can contribute to the long term preservation and accessibility of historical veterinary sources. These collections can be utilised not only by historians and researchers in South Africa but also Africa and the rest of the world.

Important historical collections such as the Arnold Theiler collection, the Jotello F Soga collection and collections of the Onderstepoort Journal of Veterinary Research and the Journal of the South African Veterinary Association will be discussed.

The benefits of an open access digital repository, the importance of collaboration across the veterinary community and other prerequisites for the sustainability of a digitisation project and the importance of metadata to enhance accessibility will be discussed.

Introduction

In any society knowledge exchange is critical for development.¹⁰ Around the world librarians have always been known as the keepers of knowledge. In general most of these information or knowledge sources were usually readily available through commercial vendors. But there are many valuable information sources that are not available through commercial publishers, are not easily discovered or accessible and these may be lost to researchers. Librarians are increasingly aware of the value of these information sources for research and scholarship and should encourage their clients or patrons to make such material available wherever possible.

According to a survey and literature review done by the Association of College and Research Libraries of the USA in 2010 academic library collections will in future include new resource types in digital form. "Increasingly, libraries are acquiring local collections and unique materials and, when possible, digitizing them to provide immediate, full-text online access to increase visibility and use. Access to full-text sources, not the discovery of the sources, is a major issue for scholars. These materials may include special collections, university archives, and/or the scholarly output of faculty and students." ¹ Libraries are challenged to expose these special collections in the web environment. ⁴

As Joe Jaros and others⁵ mention in their article "Saving the elusive past" veterinary librarians need to be aware of grey literature and add it to their current digital collections. Grey literature which is defined as literature not controlled by commercial publishers, literature that lacks adequate bibliographic description, has limited distribution and are often difficult to obtain is unique and may

never appear in conventional book and journal literature. Grey literature can be important in preserving the history of veterinary science in any country and next generation veterinary librarians should be mentored about the importance of historical veterinary literature.⁵

Institutional repositories

Institutional repositories developed as an answer to safeguarding and making grey literature available to researchers worldwide. They support the open access initiative which promotes the removal of permission barriers such as copyright and licensing restrictions so that scholarly research is freely available via the Internet. Institutional repositories are a direct result of the open access initiative.²

Institutional repositories can include a wide range of material and can make an important contribution to scholarship particularly in solving specific information visibility, management, or access problems experienced by faculty. Because of the permanence and accessibility of information in institutional repositories, they are a better alternative to informally distributing the information by, for example posting important information to Faculty or other corporate websites. Institutional repositories usually hold the scholarly output of an institute but can hold far more than surrogates of journal articles. They may also include unpublished conference papers, teaching and learning resources, unpublished research material and corporate material such as publicity material.

Developments with regard to the establishment of a digital institutional research repository for the University of Pretoria started in 2004 when a project team started evaluating different commercial and open source software platforms. After a decision was taken regarding the software platform, a management team was formed and members were allocated different responsibilities to get the repository functional. One of the focus areas for the initial repository was Veterinary Science.¹⁰

The University of Pretoria's Faculty of Veterinary Science has a rich variety of scarce and valuable historical resources available. As this is the only Faculty of Veterinary Science in South Africa the responsibility was even greater to preserve these resources that may become lost or inaccessible. The retirement of knowledgeable and experienced veterinary staff members could result in the permanent loss of tacit knowledge and years of unpublished research could become inaccessible to future users.³ It was realised that through the digitisation of these resources the library could become partners in delivering essential information to Africa and the rest of the world. The vision grew to include the creation of a South African National Veterinary Repository which was to cover historic and other material of interest to veterinary scientists worldwide. Veterinary material by individuals and organisations involved in past and ongoing veterinary research in South Africa was to be the foundation of the repository. All material in the repository is copyright protected and belongs to the contributing institutions or persons.

Collections that were considered for digitisation at the initial stage included veterinary anatomical illustrations by a South African biomedical artist Christine Seegers, the Arnold Theiler collection, veterinary slides of departments, old veterinary books, old veterinary theses, photographs and other memorabilia.

Collections

Collections already uploaded to the repository and continuously expanded are the following9.

<u>Veterinary History Committee of the South African Veterinary Association</u> http://repository.up.ac.za/upspace/handle/2263/6850

The members of this committee contribute a large amount of information in the form of Biographies of South African Veterinarians. Sixteen biographies have been made available so far to populate this collection. Early veterinarians such as Jotello F Soga and Duncan Hutcheon are also covered. The

biographies contain information about their education and career, scientific contributions, writings, homages and distinctions. The following biographies form part of the collection:

- Biography of Anna J.M. Verster . Compiled by Bigalke, R.D. and Van Wyk, J.A.
- Biography of Berend Cornelis (Ben) Jansen. Compiled by Verwoerd, D.W;
- Biography of Charles Willem Albert Belonje. Compiled by Belonje, Charles Willem Albert.
- Biography of Douw Gerbrand Steyn. Compiled by Naude, T.W.
- Biography of Duncan Hutcheon. Compiled by Heyne, Heloise.
- Biography of Govert Cornelis van Drimmelen. Compiled by Bigalke, R.D.
- Biography of Henri Pieter Albert de Boom. Compiled by Snijders, A.J.
- Biography of Herbert Watkins-Pitchford. Compiled by *Heine*, *Heloise*.
- Biography of Hermann Otto Mönnig. Compiled by Bigalke, R.D. and Van der Veen, R.R.
- Biography of Johannes Friedrich Wagner Grosskopf. Compiled by Bigalke, R.D.
- Biography of John Isaac Quin. Compiled by Bigalke, R.D.
- Biography of Jotello Festiri Soga. Compiled by Heyne, Heloise.
- Biography of Marthinus Christoffel Lambrechts. Compiled by Naude, T.W.
- Biography of Raymond Albert Alexander. Compiled by Cameron, Colin McKenzie.
- Biography of René Michel du Toit. Compiled by Nevill, E.M.
- Biography of Wilhelm Otto Daniel Martin Neitz. Compiled by Bigalke, R.D.

Arnold Theiler Collection

https://www.up.ac.za/dspace/handle/2263/80

Sir Arnold Theiler(1867 - 1936), is widely recognised as the father of Veterinary Science in South Africa. Born and educated in Switzerland he embarked on a veterinary career in South Africa in 1891. He made an enormous contribution to various disciplines in South Africa as well as abroad. The physical collection, donated to the Jotello F. Soga Library by Prof A. Verster, consists of a travel trunk containing personal photos as well as photo albums, documents, postcards and other personal memorabilia. Many of these items were digitised and added to the

digital collection. Also part of this digital collection is a copy of his dissertation, *Malaria des Pferdes*, submitted to the University of Bern, Switzerland, 1901. Photos taken during his time in South Africa at the various research stations and also photos of football teams during the early years of the faculty, are also



Fig. 1: Sir Arnold Theiler http://hdl.handle.net/ 2263/839

included. The UNISA Honorary Doctorates Graduation Book was signed by Sir Arnold Theiler on three occasions. On the 17th February 1912 he received an Honorary Degree: Doctor of Science; the Annual address to graduates was delivered by Sir Arnold Theiler at Graduation ceremony of 9th April 1920 and an Honorary Degree: Doctor of Veterinary Science was conferred on A Theiler at Graduation ceremony, 11th April 1925. These three pages also form part of the collection. Another unique item is the first Sir Arnold Theiler memorial lecture, delivered on the occasion of the First Faculty day of the Faculty of Veterinary Science, University of Pretoria on 5 September 1984. It was delivered by Thelma Gutsche. "Theiler - his personal significance today". It was afterwards published in the Journal of the South African Veterinary Association, vol. 56, no. 1, pp. 3-6. Permission was obtained from the SAVA to publish the electronic version of the article.

Jotello F. Soga Collection

http://repository.up.ac.za/upspace/handle/2263/6041

Jotello Festiri Soga was the first South African to qualify as a veterinary surgeon. He completed his studies at the Royal Dick School of Veterinary Studies, Edinburgh in 1886 and then returned to work mainly in the Eastern part of the

Fig. 2: Dr Jotello F Soga http://www.library.up.ac.z a/vet/soga.htm

Cape Colony with Duncan Hutcheon. Publications by Soga, photos as well as a biography form part of this collection. Documents were recently found in the Cape Town office of the National Archives and will soon be processed to form part of the collection. "Dr Soga played an important role in combating rinderpest and lung-sickness in the country as the first qualified South African veterinarian. He also laid a foundation for veterinary education in South Africa. But he is better known in veterinary circles as a pioneer researcher in the study of toxic plants and their effect on animals – both for their poisonous and curative effects." (Prof Gerry Swan, Dean, Faculty of Veterinary Science, University of Pretoria).

Arnold Theiler Memorial Lectures

http://repository.up.ac.za/upspace/handle/2263/900

Faculty Day is a special dedicated annual day at the Faculty of Veterinary Science when research activities at the Faculty are highlighted and displayed to the outside world. At this same occasion an invited speaker delivers the prestigious Arnold Theiler Memorial Lecture. From the first faculty day in 1984 till last year there were 27 faculty days. There was no memorial lecture in 1987 due to the opening of the new Sir Arnold Theiler building and in 1992 due to the opening of the Onderstepoort Veterinary Academic Hospital. The library managed to find and make 16 of these memorial lectures available on the repository. Where possible the full text has been uploaded.

Christine Seegers Biomedical Illustrations

http://repository.up.ac.za/upspace/handle/2263/1971

Christine Seegers was employed by the University of Pretoria in the Department of Anatomy of the Faculty of Veterinary Science, Onderstepoort. With her exceptional talent she is one of only a few biomedical artists in South Africa. She made a large collection of biomedical illustrations of wild and domestic animals while she worked at the University. This collection of the African Elephant includes various views of skulls, vertebrae, the female pelvis, ribs, scapulae etc.



Fig. 3: Adult elephant skull, ventral view https://www.up.ac.za/dspace/handle/2263/2217

Onderstepoort Journal of Veterinary Research

http://repository.up.ac.za/upspace/handle/2263/8641

The Onderstepoort Journal of Veterinary Research first published by the Transvaal Department of Agriculture as Report of the Government Veterinary Bacteriologist of the Transvaal started in 1903. The wealth of original research information on animal diseases and their cures in those early issues and the worldwide interest in this early documented research lead to the Jotello F Soga Library making these available in full text. The Equine Research Centre at the Faculty of Veterinary Science gave financial support to the digitisation project. When this project is finished it will include 100 years' publications.

Proceedings of the 1929 Pan African Veterinary Conference

http://repository.up.ac.za/upspace/handle/2263/7323

The 43 papers delivered at this Pan African Veterinary Conference, 1-17 August, 1929 were scanned and made available full text.

Veterinary Books

http://repository.up.ac.za/upspace/handle/2263/14177

Fig. 4: Cover of Home life on an ostrich farm https://www.up.ac.za/dspace/handle/2263/12686

Rare, old books in the Jotello F Soga Library's collection were also made available in full text by scanning and uploading them onto the repository. These books were no longer subject to copyright according to their countries' copyright laws.

1909. Diseases of the horse and their treatment by Duncan Hutcheon & Walter Jowett

1890. Home life on an ostrich farm by Annie Marti.

1881. Ostrich farming in South Africa by Arthur Douglass.

Faculty of Veterinary Science Web News

https://www.up.ac.za/dspace/handle/2263/11165

It was mentioned earlier that a website is not the ideal place to archive material, therefore this collection was developed to archive all the news articles previously published on the Faculty of Veterinary Science's web page.

Slide collections

- Poisonous plants: http://repository.up.ac.za/upspace/handle/2263/8082
- Cattle Breeds: http://repository.up.ac.za/upspace/handle/2263/11078
- Pastures: http://repository.up.ac.za/upspace/handle/2263/478
- Pathology: http://repository.up.ac.za/upspace/handle/2263/7998
- Critical Care Medicine: http://repository.up.ac.za/upspace/handle/2263/11080
- Heart water and Trypanosomosis:
 https://www.up.ac.za/dspace/handle/2263/3812
- Veterinary Tropical Diseases
 https://www.up.ac.za/dspace/handle/2263/11373

Researchers and lecturers attached to the Faculty of Veterinary Science made their personal photos and slides available to be loaded onto the repository. The advantages are that students can use them for study purposes and they are now archived for future use by researchers as well.



Fig 5.: Various stages of the life cycle of an Eimeria sp. in intestinal epithelial cells https://www.up.ac.za/dspace/ha ndle/2263/11397

Journal of the South African Veterinary Association

The material for this collection has been digitised but it is still in the process of cleaning the scans and transforming the items into PDF format to make it available for upload.

Early Veterinary Theses submitted to the University of South Africa, 1920-1950

In the early years of the Faculty of Veterinary Science the doctoral degrees were conferred by the University of South Africa. The Jotello F Soga Library managed to obtain the hard copies of these theses and digitised them. They are also in the final process of being uploaded.

The South African National Veterinary Repository is the best way to preserve and make important and rare sources available to the international community. Unfortunately people are not very familiar with searching/browsing the repository. A collective web interface where the various collections are listed and briefly described was developed to pull all the strings together. This website will be maintained by the Jotello F. Soga Library (http://www.library.up.ac.za/sanvr) and the History Committee of the SA Veterinary Association acts in an advisory capacity.

Metadata

One of the important cornerstones of the SANVR is the assignment of metadata to tag the variety of objects uploaded to the repository. Metadata refers to descriptive information that is searchable and therefore aids in the identification and retrieval of the electronic or digital information. As a large portion of the SANVR consists of historical material a clear decision was of utmost importance regarding which metadata fields were crucial for describing the objects and to populate the predetermined templates of the SANVR collections in UPSpace. Although the creation of metadata is costly the SANVR is committed to implementing the most current international standards and technologies for the presentation of the electronic resources. All of the resources in the South African National Veterinary Repository contain Dublin Core metadata, a metadata scheme that has achieved international standardization (ISO15836). Attaching metadata to historic veterinary resources in the Repository has the following advantages:

- Improve resource discovery of unique veterinary information
- developing appropriate utilisation, publication and display of the veterinary resources on the Web
- the recognition and publication of the accomplishments of veterinarians and the veterinary profession in South Africa.
- preserving metadata-indexed images and full-text documents of the past with links that are easily accessible.

The metadata creators of the SANVR adhere to relevant standards and encoding schemes in populating the metadata fields. The required metadata fields that must be assigned to an item on submission are title, author, type, language, subjects/keywords and rights. The decision to select only 6 Dublin Core metadata fields is to keep it as simple and accessible as possible to allow a non metadata specialist to create descriptive records in the SANVR easily but with effective retrieval. The information to populate these fields is usually found in the source document and can be identified easily. To assure the integrity of the metadata, input from accredited veterinarians and experts in the field of veterinary science and animal health is also part of the workflow process. One of the SANVR project aims is to invest in retired veterinary or biomedical academic staff to write and capture the metadata for use by future generations. If tacit knowledge is not captured these sources will become obsolete. When metadata is assigned by an expert the information is included in the metadata description of the item to reflect the authenticity of the repository.

Quality control is done on each record uploaded to the SANVR repository. Appointed metadata editors are responsible for the consistent use of author names, assigning additional keywords and controlled subject vocabulary for the collections in the SANVR. To further enhance the metadata descriptions the assigning of added value by information specialists, experts and metadata editors is encouraged.

Fig. 6: Example of a metadata authenticity note in a metadata field:

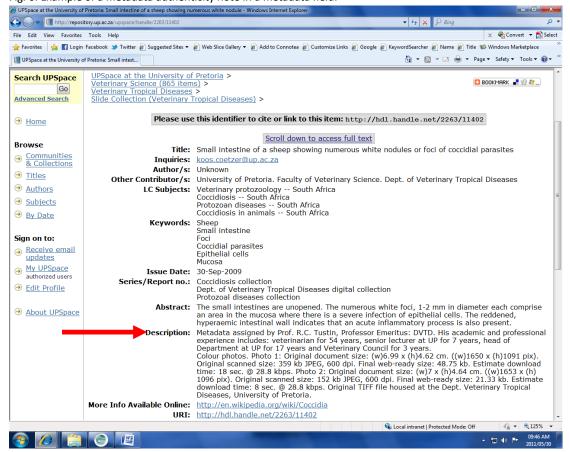
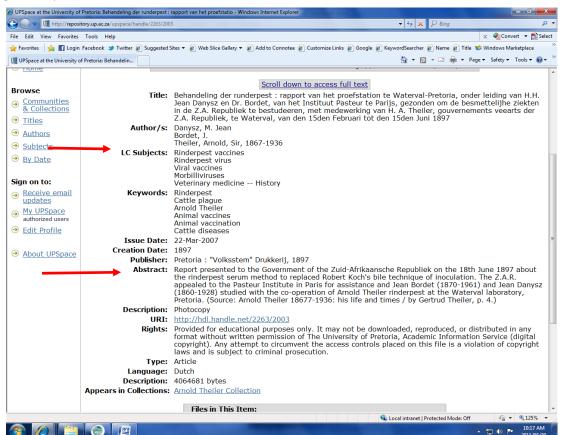


Fig. 7: Example of added value to a SANVR item:



These digital information resources with metadata descriptions must be made visible and searchable on the World Wide Web in a way that users can decide whether the resources are of value for them. The SANVR used the DSpace software as open access platform for uploading and presenting the digital material. As the University of Pretoria established their repository, UPSpace, in 2006 the decision was taken to incorporate the SANVR as a community on this platform. The digital resources and metadata are stored and preserved on the UP servers and managed and maintained by the University Of Pretoria Dept. of Library Services and the SANVR project committee.

Harvesting

Assigning metadata to SANVR items in accordance with international standards not only provides the essential link between the veterinary information creator and the veterinary information user but also creates the opportunity for harvesting the metadata. As the repository platform is Open Archives Initiatives-Protocol for Metadata Harvesting (OAI-PMH) compliant the SANVR is open for metadata harvesting making the research even more visible. Harvesting also increases the opportunity for endusers to locate data from institutional repositories via common search engines such as Google and Yahoo. Currently the SANVR metadata is harvested by OAISTER, DRIVER and Ivy Academic Search. Exposing South African veterinary historic material on these platforms delivers on key areas such as:

- Access to valuable grey material unique to Africa
- Resources are available for use in learning and teaching worldwide
- Playing an important role in delivering information to Africa and the rest of the world
- Preservation for future research
- Increased exposure for veterinary history and research information

The SANVR was successfully harvested in 2010 by Ivy Academic Search, an open access initiative of Utrecht University. The primary long-term goal of Ivy Academic Search - Veterinary Science & Medicine is to provide the local, national and international veterinary community with a high-quality academic information search and retrieval system for veterinary research. The benefits for researches and users are:

- A central portal for performing subject related searches
- Increased visibility of high quality (Grey) veterinary and medical literature
- Immediate access to the full-text of documents

Other participating repositories on the Ivy Academic Search platform are Cornell University, Igitur Archive Diergeneeskunde, Institutional Archive University Ghent, PubMed and Wageningen Yield.

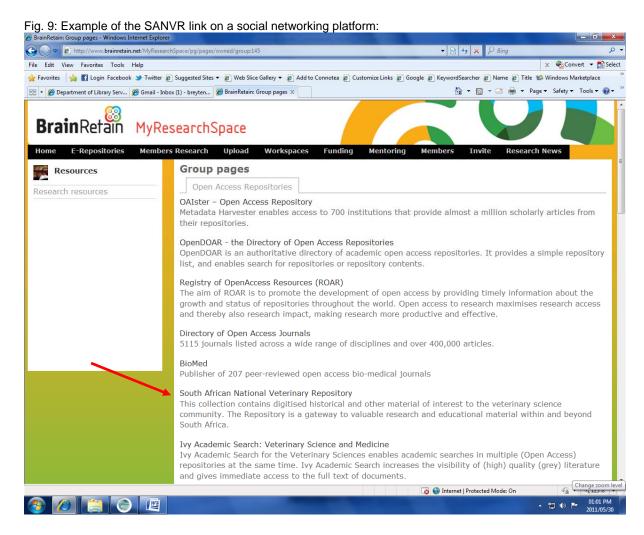
The SANVR plays an important role in the veterinary science fraternity by making historic as well as research material available for research and education within and beyond South Africa. The SANVR is also searchable through IRSpace, a search engine used to conduct a federated search across all African and South African repositories.

Ivyas - Windows Internet Explor http://www.ivyacademicsearch.org/results.php ▼ 🗟 👣 🗶 👂 Bing x ♠Convert ▼ 📆 Select File Edit View Favorites Tools Help 🍁 Favorites 🛮 🖕 🖸 Login Facebook 🅩 Twitter 🔊 Suggested Sites 🕶 🔊 Web Slice Gallery 🕶 🔊 Add to Connotea 🔊 Customize Links 🔊 Google 👰 KeywordSearcher 🔊 Name 🔊 Title 💖 Windows Marketplace 🏠 ▼ 🔝 ▼ 📑 🖷 ▼ Page ▼ Safety ▼ Tools ▼ 🔞 ▼ An Open Access Initiative of Utrecht University Ivy Academic Search → home → about this website Veterinary Science & Medicine Search RESULTS SEARCH HISTORY FILTER RESULTS: **Arnold AND Theiler** Publication year: previous | 1 2 3 4 5 6 7 8 9 10 | next Show All results Results 1 - 10 of 115 Document type: year article contributing repositories Article University of Pretoria (Institutional Repository) Postcard sent to Margaret Theiler from her father Dissertation Book Book part Author(s): Theiler, Arnold, Sir, 1867-1936 Book review Lecture □ 1910 Postcard sent to Dr. Arnold Theiler, 4th August 1910 University of Pretoria (Institutional Repository) Other Author(s): Theiler, Alfred Apply □ 1979 Gertrud Theiler, Thelma Gutsche and Margaret University of Pretoria (Institutional Repository) Theiler at the statue of Sir Arnold Theiler
Abstract USE RESULTS TO: Author(s): Unknown Print University of Pretoria (Institutional Repository) Prof. E.A. Watson, Lady E. <mark>Theiler</mark>, Prof. Porcher and Sir <mark>Arnold Theiler</mark> □ 1923 Save ← 125% **(e)**

Fig. 8: Example of SANVR items on the Ivy Academic Search Platform:

Social networking platforms

Virtual research environments are also an integral part of researchers' and students' research activities and the integration of open access digital repositories plays an important role in providing information. Recently the South African National Veterinary Repository was listed on BrainRetain, a social networking platform. As stated on their homepage BrainRetain is an academic network that supports the retention and growth of intellectual capital in African universities and enables the wider participation of African scholars in global knowledge development. As this is a fairly new network of international and African diaspora academics the link indicated that the SANVR is ranked as a valuable source of information



Digitisation projects require staffing, equipment, storage and maintenance cost and libraries will have to reallocate funds or obtain external funding to accommodate such projects. Like other library collections and services, digitisation projects may also be affected by reduced budgets.¹

A collaborative effort across the veterinary community in any country is necessary to preserve veterinary literature, memorabilia and other material with historical value. Cooperation and collaboration with the community served is very important. Their support is vital in creating a relevant, usable collection, from the initial stage of identifying the topic to be covered, the items to be digitised, their full descriptions, and their marketing to the wider world. Collaboration with parties outside one's own institution is a special challenge, but offers unique benefits for all concerned.⁷

Within their institutions librarians usually try to identify early adopters in Faculty in order to promote the Institutional Repository's mission. Faculty recruits are important for sustaining deposit activity.⁷ The understanding, buy-in and cooperation of colleagues and an institutional culture of trust and collaboration are critical to the success of a repository.^{3,5}

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