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Abstract

International standards for all types of indexing are considered, especially through the ISO, and information is given on where to find these documents. A significant one, ISO 999:1900, on the content and presentation of indexes is summarised. This also discusses the quality of indexes, how headings should be presented and chosen and the form of the final document for the printers. A useful document, ISO 5963:1985, on the method of indexing designed to facilitate communication between all people involved in the indexing process, is described. Reference is also made to other relevant documents.

Introduction

The International Standards Organization (ISO) has set out documents that give the standards of practice and technique to be applied by indexers internationally, with the aim of achieving high quality indexes. The standards are designed for indexes of documents, their contents and of non-print items, media and three-dimensional objects.

South Africa has no national policy, so one could adapt the ISO standards for local use. Quality publishers will base their house style guidelines on the ISO norms. The ISO documents can be obtained in PDF or printed format through the ISO website, <http://www.iso.org/iso/en/CatalogueDetailPage>.

They are detailed, designed to cover every contingency, and pricey.

Some Relevant ISO Documents

<http://www.iso.org/iso/en/CatalogueDetailPage>

The dates after the document number refer to the latest revision as at May 2004 /H2/ *ISO 999:1996:information and documentation*. This gives 'guidelines for the content, arrangement and presentation of indexes to books, periodicals ... but also non print materials, such as electronic documents, films, sound and video recordings, maps and three-dimensional objects' (<http://www.iso.org/iso/en/CatalogueDetailPage>).

Summary

The document opens with a reference to other relevant ISO documents, especially ISO 5963:1985 documentation. It suggests the function of an index as well as quality controls.

These should meet the needs of those seeking information and the indexer should be impartial when choosing subject matter and terminology. An index should be sufficiently detailed and consistent. Authority files and thesauri will help achieve this aim. The document should be discussed with the author and publisher. The expected needs of the user should be decisive if there are conflicts between authors, publishers, database managers and indexers. Indexers need access to the entire document, for example to the illustrations, captions, maps and charts. The final index should be proofread by the indexer. Indexers should have the opportunity of being named in the publication in acknowledgment of their work.

Content and Construction

The entire document should be covered and any parts of the text excluded should be pointed out in an introductory note to the index. An introductory note can be included, where necessary, to explain how the index has been constructed. One single index is ideal, but sometimes separate indexes might be needed, for example for the indexing of chemical formulae or patent numbers. These separate indexes should be clearly marked.

Headings

Headings and concepts should be chosen from the document and influenced by the purpose of the document. One term should be used always for the same concept, with the appropriate *see* cross-references. This also applies to spelling variations and abbreviations. Linked terms that need to be indexed together will also need references, for example

evil *see* good and evil

Headings should consist of nouns, only modified by adjectives where necessary, for example

cutting tools

The plural should be used for countables, for example

animals

When the plural and singular have different meanings both can be used, for example

building

buildings

The spelling conventions of the text, or authority file should be followed. Double-word concepts should not be inverted or subsumed, for example

balance sheet *and not*

sheet, balance

Prepositions need only be used to avoid ambiguity, for example

computers for management

computers, management of

Personal names should be given as fully as possible. Variations should be cross-referenced and compound names should be entered under the first part, for example

Xavier Pérez de Cuéllar, Javier

Over time, preferred terms change. In serial publications or newspapers one might have to note, for example, that before 1950 the word 'wireless' was used and not 'radio'. These changes will need to be explained in the index. This also applies to names, for example

Burkina Faso *see also* Upper Volta for references before November 1984

This can also happen in books. The indexer should add in parenthesis 'now [new name]' with an appropriate cross-reference, for example

Lobel, Alice (now Alice Synkova) *and*

Synkova, Alice *see* Lobel, Alice

Corporate bodies should be entered as fully as needed to distinguish them from those with similar names. Both personal and corporate names should be used in the most recent commonly used form. Geographical names should also be as full as necessary for clarity. Titles of documents should be distinguished by underlining or italicised. If necessary, qualifiers can be added in parenthesis, for example

Ave Maria (Gounod)

Ave Maria (Schubert)

Locators

The document discusses locators, that is page numbers, volume numbers, dates, et cetera. These will depend on the material being indexed. A single-volume work will generally need only a reference to page numbers, but an index to a collection of documents will need, at least, reference to the author and title of the document and its pagination and/or volume number.

Arrangement of Entries

Filing rules or the arrangement of entries is discussed. Ideally, upper and lower case letters should be given equal value. The force of modified characters, such as ä, å and ö, should follow local practice. The value of a blank space depends on whether letter-by-letter or word-by-word indexing is being followed. Headings consisting of more than one word should be arranged word by word, in which a space files before a letter; for example 'New York' files before 'Newark'. The alternative letter by letter may be used if needed; then 'Newark' will file before 'New York'. Arabic and Roman numerals should file before the alphabetical entries, but according to their numerical value. For example:

1:30 am

XX century cyclopedia and atlas

1001 nights

1066 and all that

They can be filed as if they were spelt-out words.

The filing position of any index heading must be clear and predictable. The alphanumeric arrangement is the most practical. Other arrangements, such as patent numbers, may be needed in technical indexes. Subheadings should follow the same pattern as headings. This can be modified chronologically or numerically if the text suggests it.

Presentation of Printed Indexes

The presentation of the final copy for processing should be done in a way that meets the publisher's (or corporate body's/author's) needs. This might be typescript or machine-readable format accompanied by hard copy for individual documents. For collections of documents it might be anything from card indexes to electronic publications.

The copy should give the typesetter clear indications of the desired layout. The conventions of typesetter's indicators, of the country in which the typesetting is to be done, should be followed. There should be a blank line between each alphabetical sequence. Each page on which the index is printed, should have a running headline. This should inform users where they are in the index and, in the case of multiple indexes, which one they are using – such as the author index as opposed to the geographical one. To indicate the scope of a page, the first and last index entries can be used. If an index entry runs onto a new page the heading and maybe the subheading should be repeated, followed by the word 'continued' in parenthesis. The index is usually presented in two columns per page.

The hierarchy of headings can be indicated by either the set-out layout or the run-on layout. With the set-out style, hierarchy is indicated by spacing and indentation, for example

<p>Aristotle debt to Plato 23, 46; literary criticism in 35, 74, 89-93 on Aeschylus 101-104, 279 on Aristophanes 195 on Euripides 104-126, 187</p>

The run-on style gives hierarchy by means of punctuation between entries, for example

<p>Aristotle debt to Plato 23, 46; literary criticism in 35, 74, 89-93; on Aeschylus 101-104; on Aristophanes 195; on Euripides 104-126, 186</p>
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Addendum

This gives references to other relevant ISO documents, such as ISO 9:1995 *Documentation – transliteration of Slavic Cyrillic characters into Latin characters*, ISO 690:1987 *Documentation – bibliographic references – content form and structure*, and ISO

5776:1983 *Graphic technology – symbols for text correction*. These can all be found via the web page mentioned earlier. Multilingual indexing is prevalent in Southern Africa, and so the following document may be of interest: ISO 5963:1985 *Documentation – guidelines for the establishment and development of multilingual thesauri*. This needs to be used in conjunction with ISO 2788:1986 *Documentation – guidelines for the establishment and development of monolingual thesauri*. One of these will now be considered:

/H2/ISO 5963:1985

Documentation – methods for examining documents, determining subjects, and selecting index terms.

Abstract

Describes general techniques for document analysis which should apply in all indexing situations. These techniques can be employed by any agency in which human indexers analyse the subjects of documents and express these documents in indexing terms. It is intended to promote standard practice within an agency or a network of agencies as well as between different indexing agencies, especially those which exchange bibliographic records (<http://www.iso.ch/iso/en/CatalogueDetailPaige>).

Conclusion

The ISO standards which have been discussed are flexible, since local, national and publisher's various needs are taken into account. They are sound guidelines for any indexer to follow.



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Abstract

The concept of Africana is extensively analysed with a focus on the problems experienced in indexing this genre. The history and importance of various Africana indexing tools is given. The pre-Internet tools SABIB, SANB and ISAP are discussed as well as the unpublished Fairbridge Index. The background history to SABIB is given, with the pioneering work of George McCall Theal and Sidney Mendelssohn. The value of the work is explained. The reader is introduced to their online successors and the basic new Internet tools African Studies and South African Studies. Into the second decade of South Africa's democracy an important new resource, the DISA database on the freedom struggle, is mentioned. These can be useful for subject headings and name authorities in indexing.

Introduction

Africana is a well-known and often used word or concept in South Africa and elsewhere. It is a word used by booksellers, librarians, book collectors and dealers in antique maps, furniture, et cetera. But what does this word or concept really mean?

Die handwoordeboek van die Afrikaanse taal (HAT) describes Africana as books, documents, maps and so on, of historical importance with regard to Africa [translation].

It is interesting to compare this with a definition of Americana from *Funk and Wagnall's* (1968): 'Material relating to the Americas, whether [it is] printed about or in, the Americas, or written by Americans.'

Perhaps we should first of all provide a better definition of the concept 'Africana'. Africana has to do with Africa. The suffix *-ana* is taken from the Latin, and refers to what belongs to, or has to do with, a certain place. It can refer to both a person or a place, and may include sayings, anecdotes or publications about that person or place. Africana literally means material dealing with Africa.

The view that all publications dealing with Africa are regarded as Africana is an interpretation held by many countries, although, according to Bradlow (1970b), this was the prevalent view in South Africa too, until about 1939. Thereafter, the Zambezi was regarded by South Africans as being their northernmost border. Currently, the Limpopo serves this purpose. South Africa (as well as Lesotho, Botswana, Swaziland and Namibia) is today regarded as Africana terrain. This is, however, a concept arbitrarily laid down by booksellers, book collectors and librarians. (The creation of the Federation of Central African States, which included the then Northern and Southern Rhodesia and Nyasaland,

led to certain material being classed as Rhodesiana, material which was later limited to Rhodesia – the Zimbabwe of today. Rhodesiana is regarded as a subsection of Africana.)

It may be said that Africana has to do with almost every aspect of South Africa: its history, climatic conditions, transport, architecture and the like. It is a very wide field of study, and includes records of every human activity. Only some of these records are important to librarians, while certain others are important to archivists or museologists. The first part of the discussion will deal with library Africana, including books, films, video recordings, sound recordings, ephemera and manuscripts.

The term 'Africana' is a creation of the twentieth century that came into fairly general use in 1920. Many authors divide Africana into different periods, with each one following his or her own system of subdivision. It is, however, possible to distinguish certain definite periods. For instance:

- The Portuguese period, or the pre-colonisation period: mainly accounts of journeys by Portuguese, Dutch and English travellers
- The Dutch period, 1652-1795: the *Daghregister* of Jan van Riebeeck and his successors (the best example of Africana of this period)
- The First British Occupation, 1795-1803
- The Batavian period, 1803-1806
- The Second British Occupation, 1806-1910
- The Great Trek and the founding of Natal and the Boer Republics of the Transvaal and the Orange Free State
- The Anglo-Boer War, 1899-1902
- The period of the Union of South Africa, 1910-1960
- The Republican period, 1961-1994
- The era of democracy, 1994-

The Great Trek and the Anglo-Boer War periods are often regarded as forming part of the First British Occupation. Moreover, many people regard Africana from 1910 onwards as being modern Africana, and only pre-1910 material is acknowledged as being true or classical Africana. The foregoing division is a purely chronological one. Africana can also be classified according to subject, for example records dealing with South Africa's fauna or flora, architecture, geography, history or accounts of journeys.

Types of Africana

As mentioned earlier, Africana can appear in any physical form. Most Africana is in the form of printed codices, as the discovery of the Cape of Good Hope (1487) came soon after the invention of printing in Europe (roughly 1450). There are 23 different kinds of Africana, based on the type of medium used for publication.

Books or Codex Records

Most Africana are in the form of printed books. In the early stages, these were printed in Europe, and some even in Batavia. They consist mostly of travelogues written by Portuguese,

English and French travellers, with a few in a Scandinavian language. They focus mainly on the unique plants, animals and people encountered during their travels. Carl Thunberg and Anders Sparrman (1747-1820), pupils of Charles Linnaeus (1707-1778), regarded as the father of modern botany, paid a visit to South Africa. When Linnaeus was drawing up his system for the classification of plants according to flower genus, he had access to a collection of Cape plants, very probably in Amsterdam where he worked and studied. His classification system was published in three works, *Systema naturae* (1735), *Genera plantarum* (1737) and *Species plantarum* (1753). Although Linnaeus himself never visited the Cape, he took a tremendous interest in Cape flora. Sparrman and Thunberg, however, are credited as the first to make an intensive study of Cape plants.

Before the art of printing was established in the Cape, codices were also written by hand. The Huguenot teacher Migault, for example, has bequeathed a hand-written Bible.

After printing became universal in the nineteenth century, locally printed books were produced. Many of these were in the form of government proclamations, missionary writings, sermons, law reports and several literary works. The First and Second Afrikaans Language Movements gave impetus to the writing of fiction. Early Afrikaans fiction is now much sought-after Africana. Books written in the vernacular form a valuable part of Africana. Beautiful illustrations are an important element of these codex records. The works of well-known artists such as Heinrich Claudius, François le Vaillant and, latterly, Cythna Letty's works, appear in codex form. (The codices have often been cut up, and the illustrations sold separately.) In many codices, excellent and reliable maps are found, such as those in *Travels in Southern Africa* by MKH Lichtenstein (1780-1857). An interesting characteristic of these works was that many of them were published in more than one language. This can be attributed to the great interest taken in the Cape because of the importance of its sea route.

Photographs and Films (Metacodex Records)

Photographs are highly rated as Africana material. They provide a picture of what South Africa looked like a hundred years ago. They have replaced common drawings in books as illustrative matter.

There were quite a few well-known photographers in South Africa. One of these was Arthur Elliot, who systematically took pictures of old buildings and unique events. His collection of 10 000 negatives was bought by the Union Government and is now housed in the Cape Archives.

Ephemera

Harrod (1977) defines the term as follows: 'pamphlets, cuttings and other material of ephemeral interest and value[;] [s]uch material of earlier periods that has acquired literary or historical value'.

This definition implies that the items concerned were of an ephemeral and fleeting nature at the time of their publication, but that they acquired value as Africana as time passed. Ephemera come in a variety of physical formats, and can fall under any of the

three previous subheadings. One finds printed ephemera such as pamphlets, handbills, bus tickets, Christmas cards and picture postcards. Interesting ephemera include theatre and circus programmes, and programmes of festive occasions.

Archival Records

Archival records are among our most important Africana records. Respective archival depositories in the ten provinces (Bloemfontein, Pretoria and Pietermaritzburg) and the National Archives in Pretoria (as well as Harare and Windhoek) contain most valuable sources. Kennedy (1965) is of the opinion that the entire history of the world since 1652 is mirrored in the Cape Town archives. There are many important collections of Africana in overseas archives, in places such as The Hague, Lisbon and London. In South Africa, specialised archives also exist such as political archives. The archives of private companies, such as De Beers or the Anglo-American Corporation, also contain valuable items.

Manuscripts

One important type of Africana is the handwritten manuscript. This includes letters, book manuscripts, diaries and the like. Many libraries such as the National Library of South Africa (Cape Town), universities such as Wits, Stellenbosch and Unisa, and museums such as the War Museum for the Boer Republics, have extensive collections.

Other

Africana could also include items such as furniture, vehicles, medals, coins and paper money.

Africana Collections

Before discussing the indexing of Africana, mention should be made of some prominent Africana collections. The librarians or curators in charge of these collections are usually knowledgeable about the field and about the indexing of Africana, and they could be contacted for more information through their specific institutions.

Many Africana collections were built up towards the end of the nineteenth and the beginning of the twentieth centuries. They consisted mainly of classical Africana and in many instances these collections formed the nuclei of the Africana collections found today in many of South Africa's larger libraries.

One of the best known of the Africana collectors was Sidney Mendelssohn (1861-1917). He once owned a diamond mine in Kimberley and later emigrated to England. He built up an extensive collection for which he also compiled a bibliography. On his death, he left his collection to the Union Parliament. Today it still forms part of the collection of the Library of Parliament.

There are several such collections in the National Library of South Africa in Cape Town, formerly the South African Library. Both the Dessinian and the Grey collections contain Africana. Another well-known collection is that of Charles Aken Fairbridge. His collection was transferred to the library in 1927.

Regarding Gauteng or the former Transvaal, one thinks mainly of John Gaspard Gubbins (1877-1935), Harold Strange, Sir EP Solomon and his son Hugh, and Sir Ernest Oppenheimer (1880-1957) and his son Harry, who all developed magnificent collections. The Gubbins Africana book collection is housed in the library of the University of the Witwatersrand, while other items from his collection form the nucleus of the Africana museum in Johannesburg. The Strange Collection is housed in the Johannesburg Public Library and the Solomon Collection in the Kosie Gericke (former Carnegie) Library at the University of Stellenbosch. The Oppenheimer Collection is still in the possession of the family where it is preserved in its own private library, the Brenthurst Library. Valuable unpublished material from this collection is published by the Brenthurst Press and these often set the standard for publishing and indexing of Africana in South Africa.

The Killie Campbell Collection is administered by the University of KwaZulu-Natal. This collection was built up by Margaret Roach Campbell (1881-1965). Some of the material in the library is now being digitalised as part of the Digital Imaging South Africa (DISA) project.

Other famous collections include the Dreyer Collection in the library of the University of the Free State and the JL van Schaik and Wagener Collections in the Unisa Library. Mention should also be made of the William Fehr Collection consisting of prints, watercolours and furniture. The porcelain and furniture are housed in the Castle in Cape Town, and the prints and watercolours in the historic homestead 'Rust en Vreugd' in Buitkant Street, Cape Town.

What Kinds of Africana are Indexed?

Africana material in various forms and formats may be indexed. For the purpose of this chapter, attention will be paid to books, journals and magazines.

Most libraries collect printed books, maps, art prints and metacodex records, whereas archives usually concentrate on collecting documents and other primary sources. Museums collect items such as ephemera, tools, furniture and vehicles.

Africana Indexing Resources

Indexes

There are many excellent indexes available for Africana material, for example the different indexes to *A South African bibliography to the year 1925, being a revision and continuation of Sidney Mendelssohn's South African bibliography 1910 (SABIB)* published by the State Library in 1985 (see detailed account in the second part of the discussion in this chapter) and Mansell in four volumes in 1979 respectively. *SABIB* differs from the South African National Bibliography (SANB) and the Retrospective South African National Bibliography (RSANB) in the sense that it also includes publications **about** South Africa. The fifth and sixth volumes were published in 1991 and 1997 respectively. The sixth volume is a comprehensive index to the whole bibliography and is an important indexing achievement in the South African context.

In 1983 the *Bibliography of anonymous and pseudonymous works from a South African bibliography to the year 1925* compiled by Dorothea Smit was published. A separate

volume listing South African printers and publishers from 1795-1925 was also published in 1987 by the South African Library (*South African printers and publishers 1795-1925*). The oldest item printed in South Africa dates from 1795. This publication makes SABIB even more accessible through a number of important indexes.

SABIB is an update of Mendelssohn's bibliography *South African bibliography* in two volumes published in 1910, but without the numerous annotations in it. Indexers still find it a useful reference source.

The indexes to SABIB are excellent examples of how an Africana index should be created and should be consulted by prospective and practising Africana indexers.

Reference Sources

The Africana indexer in South Africa is in the fortunate position that there are a large number of reference sources on all aspects of South African Africana, from history to science, to the fauna and flora of South Africa and to its people:

- One of the best is the *South African biographical dictionary/Suid-Afrikaanse biografiese woordeboek* (1987). It was updated by a further two volumes which, unfortunately, are not of the same quality as the first five. It has an excellent name index.
- Mention should be made of indexes to streets in or general histories of Southern African cities. Examples are Tom Andrew's *Street names of Pretoria* and *A concise historical dictionary of Greater Johannesburg* by Naomi and Reuben Musiker. A useful index to South African place names was compiled by PE Raper in 1987, entitled *A dictionary of Southern African place names*.

Problems with Indexing Africana

The indexing process of Africana follows the same steps as any other indexing procedure; namely description, conceptual analysis, assigning indexing terms, et cetera. These do not bear repetition here but some problems peculiar to Africana indexing will be discussed.

Handwriting

The earliest Africana is usually handwritten and written in seventeenth century Dutch. These include diaries, travelogues, correspondence, and so on. The indexer should be able to read them and transcribe them into modern Dutch or into the language of the index being compiled.

Language

Cape Town, as the 'Tavern of the Seas', was visited by many Europeans who often wrote an account of their visits – such as Barrow, Liechtenstein and Le Vaillant. It is therefore imperative that Africana indexers should have a sound command of several languages, such as Portuguese, French, Dutch and German. Knowledge of the indigenous languages of South Africa is another prerequisite for the Africana indexer.

Historical Names of Persons

In true colonial tradition the names of the indigenous peoples of Africa were Europeanised. One of the first local citizens to be met by Jan van Riebeeck in 1652 was Autshumao or Hadah, captain of the Khoi tribe the Goringhaikona, who lived in the vicinity of Table Bay. Autshumao met English travellers who renamed him Harry or King Harry. For hundreds of years this is how he was known to all.

What name should the indexer use if the document uses only Harry or Hadah, or both? The best modern practice would be to use the indigenous name and to refer by *see* references from Harry to Autshumao. There are thousands of such examples in Africana books. SJP Kruger, the last President of the South African Republic, was known as 'Oom Paul', simply as Paul Kruger, or as 'die ou President', et cetera. Which term should be used in the index? One could opt for Kruger, Stephanus Paulus Johannes, President of the South African Republic, 1884-1902, with the necessary cross-references.

Place Names

Place names create the same kind of problems for the indexer of Africana. In South Africa, place names may have an Afrikaans, English and/or vernacular name. The Witwatersrand is known by this name in Afrikaans and English, the Zulu name is Egoli and the Sotho name Gauteng. Previously, Gauteng was called the PWV area (Pretoria, Witwatersrand Vereeniging area) and before that known as Southern Transvaal. The new province established after 1994 could be indexed under Gauteng with references perhaps from PWV, Egoli, Southern Transvaal and a general reference from Transvaal *see also* Gauteng, Limpopo, Mpumalanga and North West province. A book dealing with the gold mines of Johannesburg in 1894 should be indexed under Johannesburg, with references from Gauteng, Egoli, PWV and Witwatersrand.

Every book or periodical article should be treated on its own merit. During conceptual analysis, the indexer should determine the main subject of the book, as well as additional subjects that warrant indexing terms.

Different Names for Different Events

The problems are the same as above. The Anglo-Boer War is known as the Boer War, the South African War, 'die Engelse Oorlog', 'die Tweede Vryheidsoorlog', Second War of Independence and, at the time of the war's centenary, the Anglo South African Boer War. In such instances (as with personal and place names, mentioned above) the best solution is to create a standardised form of name, linked through cross-references to the other name forms.

Changes in Orthography

Orthography refers to the spelling of words. A number of years ago, the orthography of Sesotho changed. Recently Afrikaans also underwent a radical change where words that were once written as one word can now be separated into two, for example Tafelberg, the

old spelling, may now be written Tafel Berg. A living language changes constantly, and British English is widely used in South Africa, not the American version.

Language Used in an Index

In Africana indexing, the language of the index can be a problem. As a general guideline the index should be compiled in the language of the book. A library catalogue can be problematic. Some libraries use English subject headings only; some use both Afrikaans and English. One should be guided by the purpose and users of the index in context with the indexing policy.

South Africanisms

In South African English and Afrikaans, certain typical South Africanisms are used, for instance 'robot' instead of 'traffic light'. Other examples are 'imbizo' or 'bosberaad' for the American 'brainstorming', 'makietie' for a party, and so on. South African terms should be used in the index if they appear in the text, but references should be made from the more acceptable terms.

Weights, Measures and Monetary Systems

In older Africana, information sources such as pounds and ounces are still used, as well as miles, yards, feet and inches. Even older books have references to the Dutch monetary system of rixdaalders (rixdollars), roede, vaam, et cetera. The English pounds, shillings and pence were used until 1961 when South Africa changed to the decimal system of rands and cents.

Use the old measurements for old documents but refer to the new ones as well. A good idea is to include a calculation table, for instance 2 pounds and 2 ounces = 1 kilogram, or 1 shilling = 10 cents.

A Good User Guide

The problems mentioned above illustrate the need for a thorough introduction and user guide to any Africana index. Terms or measurements used should have an explanatory note, with calculation tables provided and, where necessary, annotations. Important to Africana indexing, a controlled vocabulary or thesaurus should be used and policy decisions should be taken regularly.

Conclusion

Africana is an important information source and it is therefore essential that Southern African indexers should have a sound knowledge of the subject, its indexing tools, reference works and methodology.

The second part of this chapter is devoted to the South African Bibliography (SABIB).

SABIB: A Jewel in the Crown of South African Bibliography and Indexing

In WS Gilbert's *Mikado*, Ko-Ko, referring to his enemies, says,

*'I've got a little list' – to which the chorus replies:
'He's got 'em on the list – he's got 'em on the list;
And they'll none of 'em be missed!'*

Historical Background

This parody of a concept which librarians have based their work on for centuries nonetheless points to the various uses to which the list can be put. In library terms it is the foundation of the work of the cataloguer, bibliographer and indexer. A definition of indexing is '[t]he compiling of systematic guides to the location of words, names and concepts in books and other publications' (*Cambridge encyclopaedia* 1994). The Latin word 'index' in its dictionary definition of 1598 is referred to as a pointer, a discoverer, which serves to direct to a portion, fact or conclusion. The concept of the index is therefore an old one that goes back to classical times. Cicero used the term to describe the list of contents to a book. Claudius Ptolemy's great astronomical and trigonometrical work, the *Almagest*, in the second century AD, was a model of organised tables and lists of stars and planets, unsurpassed until the fifteenth century. The cartographers, astronomers, mathematicians and geographers of the Renaissance were much given to producing lists of numbers, place names in gazetteers, and the logic of alphabetical order was accepted. In *Troilus and Cressida*, Shakespeare wrote:

*And in such indexes, although small pricks
To their subsequent volumes, there is seen
The baby figure of the giant mass.*

Another example of use of an index was direct and to the point. The *Index librorum prohibitorum* (1559) was inaugurated and published by Pope Paul IV, formerly Cardinal Carafa, the head of the Papal Inquisition. The *Index* listed books which were prohibited reading matter for Catholics. The origin of this kind of restriction dates back to 496 AD. The Catholic Church continued to publish new editions of the *Index* until 1966, when it was decided that although the papacy still claimed the right to restrict the reading available to Catholics, no further lists would be published.

If the index in its widest frame of reference is seen as a list of items, the lines dividing a bibliography, a catalogue and an index are somewhat blurred. At times they seem to fulfil the same function – as devices to find things which have been arranged in alphabetical or subject order. In the field of Africana this is amply illustrated by that indispensable tool for the librarian and researcher, the six-volume *South African bibliography to the year 1925: being a revision and continuation of Sidney Mendelssohn's South African bibliography (1910)*. The six volumes combine all three of the elements mentioned above.

The background to the compilation of the bibliography, known as SABIB, is interesting. In 1882, the historian George McCall Theal suggested that there was a need for a bibliography of South African historical material. He himself, much later in 1912, produced his annotated

463-page *Catalogue of books and pamphlets relating to Africa, South of the Zambezi* in Cape Town. By this time, two other bibliographies had appeared. The first, by CA Fairbridge and John Noble, entitled *Catalogue of books relating to South Africa* 1886, was based on Fairbridge's own collection. The second was HC Schunke-Holloway's 'Bibliography of books, pamphlets, maps, magazine articles et cetera: relating to South Africa, with special reference to geography from 1503-1888' (*Transactions of the South African Philosophical Society* 1898). Although these were admirable attempts at forming early records of Africana, they were really lists with no annotations and scant bibliographic information.

Subsequent Developments

The advent of Sidney Mendelssohn's *South African bibliography* in 1910 provided a much-needed resource in the field of descriptive cataloguing of Africana. The massive two-volume work, a bibliography of Sidney Mendelssohn's own fabulous collection, contained 7 000 titles, many of them accompanied by useful annotations. For the next 20 years Mendelssohn was the bible for librarians, researchers and collectors. The collection was later bequeathed by Mendelssohn to the Library of Parliament. By 1934, the time had come for a revision to cater for the needs of the growing number of libraries and other interested users. World War II interrupted the initial plans and it was not until 1957 that a facsimile reprint of Mendelssohn was issued. All 500 copies were quickly sold. Its value was by then well established in the book world. Not in Mendelssohn, in a library situation or in a dealer's catalogue, usually indicated a rare item of Africana dating from earlier than 1910. The facsimile proved to be only a temporary solution to the problem of putting together the mass of material which had accumulated over the years.

In 1960, a serious revision was begun by the South African Library in Cape Town (then the South African Public Library). In order to make the scope of the vast amount of material manageable, it was decided to exclude pictures, periodicals, newspapers, maps, printed music, manuscripts and government publications after 1854. The geographical scope would be confined to the area south of the Limpopo River, but would include the three British High Commission territories and those islands of the Indian and Atlantic oceans that were once British colonial possessions. On the face of it, this would appear to eliminate a large body of material, but by 1960 the number of books and pamphlets concerning South Africa from 1501 to 1925 comprised enough material for a very large bibliography. Presumably the hope was that the categories excluded would be separately dealt with by specialists. Much has been done to cover this ground, but there remains a great deal of material to be worked on.

The format of SABIB took the Mendelssohn Collection as its basis, with the entries arranged by author. To these were added the catalogues of 29 libraries and private collections. Each entry provides the source or sources, depending on rarity, of the item, making the initial four-volume bibliography an invaluable finding list. A supplement was added in 1991, and by 1997 a subject and title index appeared as the sixth volume, effectively rounding off the project. The cataloguing was meticulously and imaginatively done throughout, making the bibliography, in today's terminology, user-friendly. The index was compiled using the Macrex computer program which successfully dealt with the 15 000 main items in the subject section, with subheadings and cross-references. The title index has some 35 103

titles, also with some cross-references. The subject contents of the staggering number of 40 000 books and pamphlets are contained in the index. Some of the subject divisions have an enormous number of entries, for example for Portugal across the five volumes. To break a section like this into sub-headings would have made the work tremendously difficult for the compilers. Even so, the usefulness of the index far outweighs the effort of working through a large subject section.

As a combination of catalogue, bibliography and index, SABIB fulfils many functions, depending on the requirements of the user. From the point of view of the librarian, bibliographer and indexer, to be able to compare editions, establish dates and pinpoint details like number of plates, and many other vital elements dear to the heart of the true bibliographer, is a boon indeed.

Other major tools in South African bibliography and indexing, some of long standing, and which are now being produced electronically, are briefly referred to below.

The Fairbridge Index

The Fairbridge Index, compiled by the Rhodesian pioneer journalist WF Fairbridge (1863-1943), is a manual one written on cards, in the South African National Library (Cape Town). Unfortunately Fairbridge's handwriting is not very clear. The JG Gubbins Africana Library at Wits University and TAB (National Archives Repository: Records of the Old Transvaal) have photocopied versions of it. This very random index is based on clippings from the *Cape Argus*, other Cape journals and some books. It covers Africana from around 1800 to the beginning of the twentieth century. Subjects include geography, 'natives' (a term of its time, referring to blacks) and shipping. It contains useful references to places and people. Staff who did the photocopying for Wits Library estimated that it extended to 60 000 traditional catalogue cards (Strachan 1985: ms). This valuable resource needs to be enhanced to an electronic format.

Index to South African Periodicals (ISAP: 1940-1986)

ISAP follows Fairbridge. It covers the period 1940-1986 and came out in various formats, printed and microfiche. Most South African journals were included. It started as a group effort under the aegis of the South African Library Association; very soon Johannesburg Public Library took over compilation and publication. Since 1987 to date, the National Library of South Africa is producing the online electronic version. This version, obtainable through the National Library's web page www.nlsa.ac.za, as well as SABINET Online www.sabinet.co.za, usually seems six months behind the current date. Further details about ISAP can be found in chapter 9.

South African National Bibliography (SANB: 1959-1999)

From 1959, SANB was published annually until 1999, covering only material published in South Africa. It has been continued as an online publication still known as SANB and also obtainable through the National Library's web page, using its own database

and SABINET Online. Following on from SABIB, with its coverage until 1925, the period 1926-1958 is covered by the two-volume *Retrospective South African national bibliography* (RSANB:1985). The various lists that had covered this period were considered unsatisfactory, so RSANB was published in 1985.

African Studies and South African Studies

These two electronic sites were begun when ISAP ceased to be published in printed format. They can be traced through the parent web page www.nisc.com and may be accessed in both CD-ROM and online (Biblioline). *African studies* claims cover from the nineteenth century to the present and *South African studies* from 1960 to date, with some nineteenth century cover. A trial run for the nineteenth century found them to be wanting in some respects. For authority, their subject index could be useful. Their best usage is for the post-1987 period to date. These sites are not limited to material published in South Africa.

South African Freedom Struggles, 1950-1994

DISA publish this full-text database. Its aim is to make 'Southern African material of high socio-political interest, which would otherwise be difficult to locate and use, [and] accessible' (<http://disa.nu.ac.za>).

Forty journal titles are covered in the database, dating 1950-1994. Many viewpoints, both black and white, are represented; from the *African Communist* to the journal of the Liberal Party of South Africa's *Contact*. Many of the titles are not well represented in research collections. The database does make use of a thesaurus.

Authority for Indexing and Thesauri

All of the printed and electronic databases mentioned above, except maybe the Fairbridge Index, can be used for these purposes. The National Library of South Africa administers an accurate system for South African corporate and personal names. The Authority File of SACat, found through SABINET, may be used for subject searches.

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Yvonne Garson

Abstract

The aim of the author is to give an impression of the responsibilities and difficulties, as well as the aesthetic enjoyment, inherent in the custodianship of a collection of antique maps. Also assessed is the educational benefit to the librarian undertaking this task. Some practical points are made concerning the care, cataloguing and indexing of old maps, in sheet form as well as in books, bearing in mind the needs of the institution concerned. The reference work required is also discussed. Some historical background is supplied, together with a list of suggested reading.

Some Thoughts on the Management of Collections of Old Maps

As this chapter's title suggests, there is much in the study of the antique map to stimulate the imagination and please the eye. The broad scope of the subject encompasses the earliest attempts, thousands of years ago, by human beings to make simple graphics to establish their location, the new cartography of the Renaissance, the glorious elaborations of the Dutch and Flemish maps of the seventeenth century, and the more accurate and elegant maps of the eighteenth and early nineteenth centuries.

Within the many fields of specialisation in the discipline of librarianship, which today seems to be weighted heavily towards a technological approach, there is fortunately still room for the librarian with an antiquarian cast of mind. Collections of all kinds of old objects, books, manuscripts, maps and other graphic material are still being unearthed in odd corners of the world, which require specialised treatment. New technology is an invaluable tool in the management of old material, but it cannot take the place of understanding and evaluating it to its best advantage. This chapter is presented against the background of the Africana map collection in the Library of the University of the Witwatersrand, Johannesburg. The intention, however, is to focus on broader insights gained from the bibliographic and indexing experience in the recording of this collection, in the hope that some useful guidelines can be provided for the management of antique maps.

By the standards of the great institutional collections such as those in the British Library, the Library of Congress in Washington and the Bibliothèque Nationale in Paris, the Africana collection of maps at Wits is a small one. But through examining its contents it is possible to trace the progress of cartography from the fifteenth to the nineteenth centuries, supported by a variety of reference books including facsimile atlases of the works of Claudius Ptolemy

and others of the great scholars of the history of mapping. Over the years additions have been carefully made to enhance the quality of the collection. On setting out to build up and expand a good collection of historical maps, quality above quantity should be the guiding factor, naturally within budgetary limits.

The custodianship of a collection of old and valuable material brings with it heavy responsibilities. There is the physical care of often brittle and fragile items which need special treatment. There is also the need to secure one's material against theft. A few years ago the Wits Library suffered serious losses through both burglary and ingenious pilfering. Some of the maps were recovered, but regrettable gaps remain. Watertight security is of paramount importance, but even the most sophisticated systems have been known to have been breached from without and within. In 2003 Scotland Yard estimated that approximately 4 500 maps were missing from European Libraries alone. An article in the *Times Literary Supplement* entitled 'Don't steal this book' gives these alarming figures and also some illuminating facts about the history of this specialised type of plunder over the centuries (Caines 2003).

The system of care of precious items such as old maps has of necessity to be adapted to local conditions. In an ideal world, climate control, special lighting and perfect storage space would all be possible. Few libraries today are able to provide an ideal environment, but certain basic measures should be taken if possible. These can be summarised as follows:

- Encapsulate all sheet maps in acid-free plastic sleeves. This protects them and facilitates handling.
- Store in flat drawers in cabinets that must be protected against fish moths and damp. Some libraries have special cabinets in which the maps are hung on rods, the upper orders of the maps being reinforced. In some ways this is a good method since it is easier to keep the maps in an ordered system, but it is probably better to allow them to lie flat.
- Keep lighting as low as possible. This applies as well to framed maps, which should always be backed and mounted with acid-free boards.
- Keep the work of restoring old maps to a minimum. Tears can be repaired with special museum-approved tape. Beyond this they are better left alone, bearing in mind that heavy restoration greatly reduces the value of any old material, and in some cases can prove to be damaging to the images.

Once the physical environment of a map collection has been satisfactorily established, the next stage is the evaluation of the items for recording.

Evaluation of Maps for Recording

Of all the antique graphic materials which come the way of the librarian, maps are among the most interesting. One is confronted here not only with form, which in many cases is beautiful in outline, decoration and lettering, but with content as well. Content can often prove to be baffling; maps are frequently enigmatic in the amount of information they yield. What needs to be understood is that even if the outline, as in many a map of

the sixteenth century, for example, seems to be wildly inaccurate, the finished product nevertheless represents a synthesis at a given time of the work of philosophers, historians, mathematicians, astronomers, geographers, mariners, travellers, explorers, engravers and illustrators. The aesthetic quality can also range widely from crude and harshly coloured items to exquisite works of art, delicately engraved, lettered and coloured. French maps of the eighteenth century stand out in this last category. Maps of the old kind, as opposed to the impeccably accurate maps of today, are often graphic story-tellers of more lurid times, particularly when accompanied by text, as for example in some of the sixteenth to eighteenth century atlases. From these come images of piracy, slavery and colonial inroads into conquered territory. The antique map is not always just a pretty face.

The history of cartography stretches back through the centuries, and to do one's collection justice, the rudiments at least should be absorbed, and an ability developed to read the features of the antique map for clues. There can be few librarians, however erudite, who are qualified in astronomy or navigation, for example, but there are many excellent histories which offer accessible background information. The study of aspects of cartographic history is ongoing; the fascination with the antique map and atlas never ceases.

Structural Cataloguing

The structural cataloguing of a map can be a reasonably simple exercise. The rules suggested by the second edition of the *Anglo American cataloguing rules* (1988) provide a useful framework to follow. Antique maps are by their nature quixotic, and one must be pragmatic in the application of rules, with an eye to consistency if adopting a style to suit a particular collection. The general order of initial cataloguing runs as follows: author followed by dates, title, scale, edition, imprint, size in centimetres and an indication whether the map is coloured or not.

Provision is made for notes at the end of the entry. An example would be

Senex, John d.1740
Africa corrected from the observations of the Royal Society of London and Paris ...
 [London], John Maxwell, [1711-1714]
 Scales vary
 1 map:col. 69 x 97 cm.
 Notes

Depending on the nature of the library or museum, arrangement of the material can be either by author or area or date. Where the historical element rather than the geographical predominates, the most practical way to arrange the catalogue seems to be chronologically, with authors alphabetically disposed within the chronology. Added entries for additional elements such as engravers, illustrators, publishers, if they are known to be of importance, and any other salient features, should be made.

Certain complications sometimes arise in the cataloguing of historical maps. Their enigmatic nature has been referred to. On the majority of old maps, the cartouche, often a work of art in itself and frequently highly symbolic, contains at least some of the essential

bibliographic information. It can happen though that there is neither author, imprint nor even a title. In such a situation research has to be undertaken which can become very time-consuming. Reference material is invaluable here and there is a wide field of sources to consult. Experience has shown that one of the most helpful of these has been the British Museum's *Catalogue of printed maps, charts and plans*. There is also the Library of Congress *National Union catalogue*, and of course exploration on the Internet.

The starting point is to try to establish the identity of the author, utilising all available clues on the map itself, and employing the use of illustrated reference material from which comparisons may be made. This can often open up the whole enquiry, and give enough clues for speculative names, dates and places of publication. In the extreme case of a totally anonymous map, the watermark on the paper can at least pinpoint the item to within a certain date range. Colouring can also be followed up, but with caution. This is one of the most difficult areas when it comes to dating. Modern methods of antiquing in paper making and colour reproduction can cause one to make false claims, and the advice of experts should be called in. It is necessary to be watchful for telltale signs of copying. These are usually indicated by faint platemarks and colour, obvious erasures made here and there and the superimposing of new information in the cartouche. The usual explanation for this type of tampering is that an unscrupulous publisher, having acquired or even stolen plates of a famous map or maps, has reprinted the map, usually without change to the content, sometimes as long as a hundred years after its original publication. Here is another intriguing avenue of investigation which the fascinating and recalcitrant old map can present. As is the case in general cataloguing practice, externally acquired information must be placed within square brackets. Once the bibliographic details have been put in place, the notes can be assembled.

The scope of the note depends on many factors. When dealing with old maps it is important to situate them within their historical context. If the cartographer is known, biographical details as well as his place in the development of cartography should be included. Information about famous cartographers associated with the development of mapping in Europe from the time of the Renaissance, such as Mercator, Ortelius, Sanuto, Sanson, de l'Isle, d'Anville and a host of others, is readily available, should one be so fortunate as to have their maps in a collection. It is with the more local maps of an area that other methods need to be explored to find details of their makers and the intent behind their construction. In the Africana context, with the opening up of regions and districts by colonial administrators, explorers and missionaries, one encounters maps of greater detail and accuracy than the grand and lavish Dutch and French maps of the seventeenth and eighteenth centuries. Because these have bearing on local matters, they require careful analysis and description. They are often the subjects of research in various fields and need to be accessible. This is where good notes are important. If at all possible a printed catalogue, even if only for the use of the institution, should be compiled. Computer records, mandatory today, are necessarily limited in scope – which can be frustrating to the cataloguer who may feel it necessary to provide extensive information. The ideal solution to the thorough recording of important maps, whatever their emphasis, is to compile a printed catalogue, with an index, even if it is only for the use of the particular institution. To provide such a

tool would greatly benefit the librarian and the researcher. Experience has shown that the most unlikely-seeming details can be of interest and value.

Publication

If publication is thought to be desirable, the system of ordering the entries as described throughout the chapter has proved to be practical. In the case of publication of the Wits Africana map collection, of which three bibliographies have been completed, all the inherent problems with maps, be they manuscript or printed, were encountered; this type of compilation is very time-consuming. In addition, because the index included personal and place names in old Dutch, German, Italian and French, it was not possible to adapt any existing indexing computer program. The index had to be put together item by item, a laborious procedure, but producing a satisfactory outcome. Illustrations to the text as well as an accompanying CD-ROM can enhance the usefulness of the publication, although the illustrating of a map catalogue is in itself an undertaking fraught with problems. Some maps are very large, the paper is often yellowed and brittle, and lines are often faint, making reproduction difficult.

An additional system that was found desirable for rounding out the collection of maps in the Wits Africana Library, which also contains fine Africana books, was to analyse some of the rarer items illustrated with maps by well-known cartographers, and to incorporate the maps in the bibliography. There are guidelines on how to set out this type of entry. Because of the introduction of additional bibliographical detail into the body of the physical description of these items, and also more extensive notes, the problem of compression of the added information was not easy to overcome; neither was it entirely successful in all cases. Notes can easily run away with one and the succinct paragraph or two is an ideal to aim for.

Conclusion

For the librarian who is in the fortunate position of recording and caring for a collection of historical maps for the first time, a short list of useful publications is included at the end of this chapter. It is to be hoped that the work and background reading required, as well as the handling of the material, will stimulate an appreciation of the aesthetic nature and historical interest of the antique map, at the same time providing the educational benefits of exploring a new field of librarianship.

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Abstract

In the not-so-distant past it was commonplace for researchers and users of archives to rely primarily on the knowledge and sleuthing abilities of individual archivists, if they wanted to gain access to archival records and their content. This was because archivists tend to stress documenting context and structure from the point of view of provenance, series and record-keeping systems. However, nowadays archivists are also seriously considering questions relating to the analysis and retrieval of information in archival records, particularly in relation to archival description that identifies, manages, locates and interprets archival holdings and clarifies their context and origin. Users' needs, the nature of the records and the principles underlying indexing itself are now taken into account in the setting up of a system.

Introduction

In the archival environment, the depth and structure of information is complex and multi-levelled. It is crucial, when analysing archival records for indexing purposes, to retrieve information in a way that still reflects their provenance and methods of organisation. If a well-planned finding aids system is not developed for every archival collection (which contains sub-collections and items to which additional material may be constantly added), and it is not comprehensively and carefully indexed, information will be lost, accessibility will be compromised, researchers will be disadvantaged and societal memory will be depleted.

The process of cataloguing archival material is very different from cataloguing books. An archives does not have an all-embracing subject-based catalogue to its holdings. To navigate the archival records researchers are dependent on finding aids. Finding aids, which include guides, inventories and indexes, provide for physical and intellectual control and make it possible to identify and retrieve specific record items, thereby facilitating access. Finding aids also assist in the preservation of archives by reducing the amount of physical handling of documents.

Indexes are the components of the descriptive archival system that allow researchers to link their searches to the hierarchically structured finding aids. However, because of the complexity and layered nature of archival description types, indexes are important tools to link more deeply to content. Entries reflect the names of record creators, series, items, personal and institutional names and subjects. It is therefore important to produce in-depth finding aids. Indexes can be in the form of cards, printed lists, databases and in-house and

web-based automated retrieval systems and should also allude to the hierarchical structures within the finding aids. They should also refer researchers to the context of an item, thereby increasing understanding or pointing to additional material. Consequently, indexing archival records can be labour-intensive, expensive, variable and subjective.

Each archive tends to have its own in-house rules with regard to indexing conventions and terminology used. However, the way indexing terms are selected and standardised is very important in an archive and good quality index terms are the best way of providing multiple access routes to information. In the South African historical and political framework, a thesaurus of preferred terms should be used and continuously updated so as to make indexing manageable and effective and to provide for consistent retrieval. Descriptions of archival collections are usually written at the time the material itself was created and therefore words and phrases used often reflect common usage of the era in which they were written. In the early 1990s, a group of archivists and librarians, largely from the nongovernmental organisations (NGO) sector, came together as the South African Thesaurus Building Group (SATBG) to develop a thesaurus that would be useful in resource centres and archives whose holdings were of a political, social and historical nature. Subsequently, Digital Imaging South Africa (DISA), a national collaborative digital project, has been systematically adding to the work of the SATBG.

In an archives, index terms are also key in accessing, searching and retrieving digital objects. A list of indexing protocols is developed to assure consistency in relation to the indexing terms and a system of review and quality control for all indexing tasks is used.

Painstakingly preserving records for historical and conservation reasons is fundamental, but if researchers over time cannot gain access to these documents or their contents, their value and power is lost. The production of finding aids and indexes to these records is indispensable to unlocking the potential of and gaining access to archival material.

The benefits to archivists and users derived from electronic and digital technology in relation to the production of archival finding aids are huge. It is more functional, allows access to the full details of collections and also enables those details to be shared with remote users though a World Wide Web (WWW) interface. An electronic finding aid, therefore, facilitates vigorous searching, retrieval and displaying of information because it can index across collections and provide full-text and item-level indexing within collections.

To ensure an effective global retrieval system and to reflect the complexity of archival description, while taking into consideration context, content and structure, the archival profession is currently developing internationally recognised descriptive metadata schema, such as Encoded Archive Description (EAD) and the Text Encoded Initiative (TEI). These are descriptive mark-up standards based on Standard Generalized Mark-up Language (SGML), which is a very useful tool for cataloguing finding aids. It is non-proprietary, flexible and can handle hierarchical structures. SGML allows refined and intelligent database and document indexing and searching.

Requirements for the encoding standard include the following criteria:

- ability to represent finding aids
- preservation of hierarchical relationships
- ability to inherit description from one level of the hierarchy to another

- ability to move among different hierarchical levels
- support for element-specific indexing and retrieval

Indexing Protocols in Historical Papers, University of the Witwatersrand

The University of the Witwatersrand has, as one of its most valuable and prestigious heritage and research assets, the holdings of the priceless Historical Papers collections. Historical Papers is the main humanities archival research resource on campus and is located in the William Cullen Library. It is also the largest non-state archives in Southern Africa.

Archives provide the bedrock for society's understanding of the past. They underpin citizens' rights, assert identities and are crucial to truth recovery. They are also irreplaceable evidential testaments of human experience on which social equality is built. The apartheid past, in particular, has left its mark not only in human suffering but also in the great volume of documents that record both the violations of human rights and the struggles to defend them. Many of the most valuable primary sources relating to human rights struggles are often in danger of being lost, either as a result of the dispersal of documents or lack of capacity of the human rights NGOs that hold them.

With this in mind, Historical Papers was established in the 1960s as a centre where South African memory, particularly that which was/is under threat or may be lost, is preserved and made available. We have concentrated on documenting and providing enduring evidence of resistance struggles against oppression and exploitation. As such, the voices of those who have been politically and socially marginalised are also reflected. The archives held in custody for the wider community within Historical Papers are vast and provide a unique, and often fragile, documentary record of South African history and culture, particularly with regard to the apartheid period, the freedom struggle and political imprisonment in South Africa. These collections have contributed to many notable publications, television documentaries, school textbooks and academic works. They not only hold value as research tools, teaching aids and as crucial evidence for the intellectual development of theories and models but they also contain collective social memory. Consequently, Historical Papers is an accessible hub for human rights research serving civil society as well as scholars.

The collections in Historical Papers are accessible through a variety of finding aids available in the Department and online.

Indexing of Photographs

Historical Papers has a large collection of photographs, which needs to be indexed. The index includes the names of people, places and organisations, as well as events, activities (e.g. Mining) and some concepts (e.g. Influx control).

The index is tailored to this unique collection, and has also been shaped by the enquiries received. For example, a dozen photographs of musicians of different eras and styles were initially indexed (along with a few singers and dancers) under 'Entertainment'. The photographs archivist realised that there was considerable interest in early jazz musicians,

and so added a specific entry for these, and a general entry 'Musicians', which now refers the user to several other entries.

An attempt has been made to see the index through the eyes of a researcher – someone who does not necessarily know the scope of the collection. Thus cross-references to similar events or concepts, et cetera, were added. For example, the entry 'Housing' with its subheadings of 'Informal housing', 'Traditional African housing', and so on, includes cross-references to 'Hostels', 'Mine compounds', 'Squatters', and 'Rural' and 'Urban environments'.

It is sometimes necessary to have several index entries for one photograph. Thus a significant photograph showing the leaders of the Women's March of 1956 at the Union Buildings is indexed under the headings 'Women involved in resistance' and 'Resistance: Passes', and there are also entries for each of the four leaders of the march.

In compiling the index, it was necessary to use the correct terms to describe concepts, according to the thesaurus of accepted terms. For example, the preferred term for forced removals is 'Relocations'; for unrest, the preferred term is 'Violence'. The preferred terms have been used, but have also included entries for the commonly known terms (e.g. Unrest: *see*: Violence), because of the belief that researchers might look for these.

The index is forever growing – it is an ongoing challenge to make it as accessible and 'user-friendly' as possible.

Some Problems with Indexing in the Archives

When a member of the public entrusts to the archives a diary written by a forebear who was present at the Siege of Mafeking, one can see the thought bubble 'This won't disappear for ever into a dusty archive and never see the light of day again ... will it?' The donor is reassured that the item will be listed in the *Guide to the Archives* and selected names and subjects will be indexed. But it is in the selection of these names and subjects that the greatest challenge arises – for who is the ultimate judge of what entries should be included in the index? Are the archivists the main determinants of what constitutes history? What is selected for archiving and indexing is what future researchers will use when recording the events of the past – a heavy responsibility.

It is possible to over-index. In the past busy researchers have been seen clicking their tongues with impatience when, having waited for the tenth box to come up from the basement in response to a request for 'any items written by Chief Luthuli', they find that the indexed reference is an acceptance to an invitation for tea with the Bishop. Researchers will not usually appreciate having to spend time on trivial index entries.

But these days there is a greater danger of under-indexing, for two reasons. Firstly, the volume of material that comes into the archives makes it impossible to read and index everything. When minute books from Diocesan Offices come in, one knows they are packed with historical information about churches that someone is going to ask for sooner or later when writing a parish history, but indexing every reference to every church is often too time-consuming a task.

The second reason is that it is difficult for indexers to know what names and subjects are going to be of historical value, either because research requirements change over the years

or because indexers may not have enough in the way of general knowledge to identify the names or subjects that are worthy of inclusion in indexes. Hundreds of people had occasion to write letters to Archbishop Tutu or to Helen Suzman (to name two people whose papers are kept in the archives). Many of them are just ordinary people with no particular claim to historical importance. But some may be people whose views carry weight, or whose letters may be of future significance. Mary Renault? Chester Crocker? Robin Renwick? Lionel Abrahams? If these names do not ring a bell with the indexer their letters are likely to end up in a file marked something like 'Correspondence Jan-Apr 1976'. Then the donors of papers may feel that the archives have let them down.

Fashions change in research. One obvious change is the growing interest in black history: whereas in the past the archivist may have indexed a file under subject matter 'Abortion sub-committee – minutes of meetings', thinking that the contents had been covered, these days people may be asking how many black delegates were present at a meeting and how many times they spoke. (Can this be indexed?) In the old church records, the missionaries would write enthusiastically about the virtues and activities of their black catechists and deacons, sometimes giving a first name only. (Perhaps they were writing reports for the missionary body overseas and thought surnames of catechists irrelevant.) Research would be necessary to ascertain how to index these groups of people, who are currently a popular focus for study.

In order to provide a really detailed account of the contents of a set of correspondence one would need to do a chronological 'calendar' of papers – as was done for A. B. Xuma – with the date of the letter, name of the correspondent and summary of the contents – and then index the calendar by names of correspondents and subject matter. This is quite labour-intensive and can only be done with a few important collections. Nowadays archivists tend to put correspondence into files according to subject matter or date, and index names and subjects that seem 'significant'. It is useful to have the same people indexing the records and helping researchers – in this way one gets a feel for required information. It is known that church records are scanned for individual churchmen, histories of parish churches and missions, church policy and statements on political and social issues. Archivists may be taken by surprise when users request material on some bizarre subject – they may have a vague recollection of having seen something relevant but it may never have been indexed because it did not seem likely as a subject of interest for research.

Conclusion

The qualities needed in an inspired archival indexer will include (as well as careful attention to detail, and a wide general knowledge) the kind of imagination that will predict future research requirements and supply those useful keywords that will turn a folder of dull-looking documents into an exciting treasure trove for researchers.



Sophia le Roux

Abstract

This chapter argues that in order to index educational material effectively, the indexer needs to be thoroughly acquainted with the workings and trends of the education system and, in the case of curriculum material, be familiar with the terminology of the national curriculum and the particular subject field. It sketches the predominant changes affecting the education system in South Africa during the past decade characterised by a radical transformation process. It also examines the intellectual skills of prior knowledge, judgment, reading and analysis when indexing educational material. It discusses how the changing landscape of education impacts on the indexing of educational material, concluding that keeping abreast of the changes in education and the needs of the end users will contribute to better access to educational material by potential users.

Introduction

During the first decade of democracy, the South African education system underwent drastic changes in transforming itself into a nonracial, nonsexist, democratic and equitable system. The purpose of this chapter is to examine how these changes impact on the indexing of educational material. It is argued that the indexer of educational material needs to be thoroughly acquainted with the education landscape in order to index effectively, so that educational material can be fully accessed by the end users. Knowledge of the subject field and the users of this material and also possession of intellectual skills such as the ability to exercise sound judgment, and to do careful reading and thorough analysis of the text are all indispensable to effective indexing.

The Transformation of Education in South Africa

Following the General Election on 27 April 1994, a new constitutional dispensation came into being in South Africa. In terms of the *Constitution of the Republic of South Africa Act 200 of 1996*, South Africa was divided into nine provinces. The first task of the new national Department of Education (DoE) was to transform the fourteen racially and ethnically based executive education departments into nine integrated executive provincial education departments (South Africa 1997:7). The DoE is responsible for formulating policy, setting

norms and standards and monitoring and evaluating all levels of the education system. This comprises 32 910 public institutions ranging from early childhood development centres to higher education institutions (South Africa 2003:1). To transform the curriculum, in October 1997 the Minister of Education introduced *Curriculum 2005 (C2005)* as the new outcomes-based National Curriculum Framework for General Education and Training (school education). In 2002, after experiencing many problems in implementing this curriculum, *The Revised National Curriculum Statement for Grades R-9 (Schools)* was approved by the Cabinet and the Council of Education Ministers for General Education. In 2003 the *National Curriculum Statement Grades 10-12 (Schools)* for Further Education and Training was introduced. The establishment of the National Qualifications Framework (NQF), the promulgation of the *South African Qualifications Authority Act 58 of 1995* and the enactment of the *South African Qualifications Authority (SAQA)* were all geared to opening up learning opportunities and career progression for all South Africans.

The DoE also embarked on the restructuring of higher education and further education and training institutions. This process reduced the former 152 education and training colleges to 50 mega-institutions. Higher education institutions were reduced from 35 to 24 through a process of mergers and incorporations (South Africa 2003:i,10). The financing, resourcing and cost of education in public schools are other issues high on the agenda of the DoE in its attempts to improve accessibility of education to the poor of the country (South Africa 2003:i). Other priority policy issues include teacher education and development and, in particular, the empowerment of the teaching staff at schools to implement the new curriculum effectively in the classroom; the quality of the teaching and learning of mathematics, science and technology in the schools; the improvement of the literacy rate; national examinations and assessment; HIV/Aids; and the performance of schools. Collaboration between the DoE and the Department of Labour is evident in shared programmes such as the Human Resources Development (HRD) Strategy for South Africa and skills development which includes learnerships.

Categories of Indexing

Indexing is about making information findable (MacDougall 1996:282). It entails the examining of documents, determining their subjects, and selecting appropriate indexing terms reflecting those subjects and their essential meaning. Indexing of educational material falls into three categories: book or 'back of book', and serial and database indexing.

Book indexing is aimed at providing in-depth access to the contents of an individual book and is mainly based on the author's own terminology. Serial indexing entails the ongoing indexing of serial titles. For the sake of consistency over time, the development of a standardised terminology, such as a thesaurus, is preferable. Database indexing is used for online retrieval and is performed by indexing and abstracting services as well as by information professionals of various organisations, such as academic institutions and government departments. It covers a wide variety of materials including journal articles, reports, conference papers and books. With database indexing a controlled vocabulary, in the form of a thesaurus, is preferable to the use of natural language.

Intellectual Skills Needed by the Indexer

For the effective indexing of educational material the indexer should be endowed with certain intellectual skills. Ward (1996:217-223) identifies several of these skills involved in effective indexing which are also applicable to indexing of educational material. *Prior knowledge* of the subject field and of the users of educational material is of crucial importance. To index effectively, the indexer needs a thorough knowledge of the aims and policies of the DoE, the functions and activities of the executive provincial departments of education and the methodology of the national curriculum. Since the new democratic government came into being, a wide range of new education terms has developed. These terms are already embedded in the material acquired by libraries and information centres. The indexer needs to be familiar with the latest education terminology and to keep abreast of any changes and trends in this field. Finally, the indexer has to be familiar with the general and specific needs of the users of educational material.

Judgment while handling educational material is important, as the indexer has to make decisions about the document and its approach, for example decide what to index and the degree of exhaustivity to apply to each document. This could affect the use of a document, as it is sometimes not until a document is being indexed that its full significance and usefulness for the target audience is determined. *Reading* the text, according to Ward (1996:218), means 'mentally incorporating the structure and content of a text not in and for itself, but as it is of value to the user'. The indexer has to read the text as if he or she were the end user of the text or text base. Ward (1996:218) argues that the indexer therefore must have adopted something of the stance, inclinations and presuppositions of the users of the material, and that such empathy can only be acquired through personal knowledge of, and identification with, the end users.

Careful analysis is imperative. This entails three main processes, each involving an act of comparison (Ward 1996:220-221). The first is the comparison of each text with all the other texts that have preceded it in order to identify new features worth indexing. The second comparison is between each text and the indexer's personal experience. Does the text contain new concepts which the indexer has not encountered before? In that case these terms have to be recognised and explained in a scope note in the thesaurus. The third act of comparison is that between the text and the users' known needs and expectations. Which information in the text is relevant to the users and has to be highlighted? Is there crucial information hidden somewhere in a lengthy report?

Indexing Educational Material

With book indexing knowledge about the subject field and its terminology is of the utmost importance while the target audience must be continually taken into account. Is the book a textbook for school learners, for students or for educators? By identifying with the users of the index, the indexer will ensure that the index terms are appropriate to the retrieval of the needed information. When indexing learner support material indexers should familiarise themselves with the official terminology of the particular learning area. This can be obtained from the curriculum and assessment glossary at the back of each of the eight learning area

statements which form part of *The Revised National Curriculum Statement for Grades R-9 (Schools)* and the *National Curriculum Statement Grades 10-12 (Schools)* issued by the DoE. This will facilitate the making of cross-references in the book index, directing users from recognised terms not chosen for index headings to headings used and thus ensuring standardisation.

With serial indexing as well as database indexing, a thorough knowledge of the trends in education is required. A good starting point to acquainting oneself with these trends and the official terminology is to study the legislative framework within which the education system is built. The relevant legislation, such as the *National Education Policy Act, 1996* and *The South African Schools Act, 1996 (SASA)*, all give a clear indication of trends in education and also provide glossaries which contain the official terminology. Policy documents and departmental reports, such as *The Review of the Financing, Resourcing and Costs of Education in Public Schools* (South Africa 2003:9) and annual reports, are primary sources to assimilate the recognised terminology used by the education authorities. These can be used by the indexer to develop an in-house thesaurus and may also provide definitions of the terms which can be utilised by the indexer for the scope note of the relevant term in the thesaurus. Most of these documents are available on the Internet and can be directly downloaded from the websites of the DoE and provincial education departments.

One problem often confronting the indexer is the proliferation in the use of acronyms for both names of organisations in the education field and education concepts. When developing a thesaurus it is useful to include a component (field) called the *identifier*. Identifiers are usually the proper names of governmental and nongovernmental bodies, names of Acts and Bills and names of concepts, such as LSEN for 'Learners with Special Education Needs'. The full name of organisations and concepts can be recorded in the identifier field with the acronym in brackets after the name. Identifiers are also used in the *Thesaurus of ERIC descriptors*, developed under the auspices of the Educational Research Information Center (ERIC) of the Office of Educational Research and Improvement of the United States Department of Education. This thesaurus is also an excellent guide for indexers of educational material in South Africa.

In the case of educational material dealing with curriculum matters, it is important for the indexer to keep abreast of the changes in terminology. From the implementation of *C2005* to the introduction of *The Revised National Curriculum Statement for Grades R-9 (Schools)*, many curriculum terms have changed, such as the term 'critical cross-field outcomes' which has become 'critical outcomes'. The indexer must be aware of these changes and make cross-references between the old and the new terms. New terms have also been adopted, such as 'developmental outcomes', of which the indexer must be aware when indexing curriculum material.

Conclusion

In this chapter it has been argued that effective indexing of educational material can only take place if indexers of such material keep abreast of the latest developments in the education field and know the particular needs of the end users of this material. Only then can the aims of indexing be achieved – of bringing the contents of documents to the attention of

potential users. This requires commitment by the indexer as well as the intellectual skills of prior knowledge, judgment, proper reading and analysis of the text.

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Martha Pretorius

Abstract

Indexing of environmental material requires special skills and knowledge. This chapter provides guidelines for the indexing of publications on the wider environment, focusing on chemical, geographical, physical and social features.

Definition of the environment: 'the sum total of all biological, chemical and physical factors to which organisms are exposed' (Deason 1986).

Introduction

People have been inevitably linked to the natural environment from the beginning of human time. The first farmers learnt when to plant and when to reap their crops, ancient settlements were built close to safe and reliable water sources, while women had to learn which plants were suitable for cooking and which were better left alone. It was, however, only during the latter half of the twentieth century that the role played by humans in environmental damage and destruction was fully appreciated. Today, most of us are familiar with environmental terms such as 'global warming', 'environmental impact', 'the greenhouse effect', 'biodiversity' and 'sustainable development'. As more and more environmentally related scientific publications see the light, it has become essential to index environmental literature to ensure easy and effective retrieval of information as required to best manage and control the environment. This chapter provides guidelines on the indexing of environmental publications for the building and development of bibliographic databases.

Historical Background

In South Africa there have been many attempts to order and classify material on a wide range of environmental topics. A report on South African databases published in 1991 (McGillvray, Op't Hoff & Schnugh 1991) revealed that of the 357 databases listed, no less than 110 (or 30,8%) covered numerical or textual material on environmental subjects. Many of these databases no longer exist. Of those still in existence the most prominent is WATERLIT, one of the oldest and certainly most comprehensive locally developed databases on an environmental topic.

The South African Water Information Centre (SAWIC) began the production and development of the WATERLIT bibliographic database in 1975 with funding provided by the Water Research Commission (WRC) and technical support from the Council for Scientific

and Industrial Research (CSIR). SAWIC was disbanded at the end of 1996 although the CSIR continued to develop and maintain the WATERLIT database. In 1998, a decision was made for WATERLIT to be managed exclusively by the Water Research Commission. Agreements were negotiated with various institutions countrywide that would make their unique journal and publication collections available for indexing and to be included in the WATERLIT database. As from 1 April 2003, the National Inquiry Services Centre (NISC) in Grahamstown on behalf of the Water Research Commission now handles production, development and maintenance of the WATERLIT database. The guidelines for the indexing of material on environmental issues discussed in this chapter are based on the guidelines applied in the construction and development of the WATERLIT database (Pretorius 1983; Shelwell 1999).

Basic Indexing Principles

General indexing principles are applied in the indexing of material on environmental issues. Keywords, consisting of single words or phrases, are selected (preferably from a controlled vocabulary list) to represent the contents of the publication. Relevant keywords are selected according to the following general criteria:

- **Specific meaning.** All the keywords that are essential to convey the meaning of the document have to be listed in the index, whether they appear in the text or not. Many of these terms, or synonyms for them, are usually found in the title and abstract of the document.
- **Ease of retrieval.** The keywords used to describe the contents of the publication should be selected to ensure that the end user will be able to retrieve that particular publication in the easiest and most direct way. Indexers should ask themselves if anyone would be specifically interested in the information covered by this publication and which terms will be most likely used as search terms to enable retrieval of this information. Therefore keywords should always include at least one main broad term covering the main topic with which the publication is concerned. For example:

When selecting keywords for a publication on the **design of filters**, the indexer has to indicate where such filters will be used, that is in the purification of industrial effluents, the removal of dust particles from air, treatment of water for domestic use, et cetera. Keywords like 'industrial wastewater treatment', 'air pollution' or 'water treatment' should be selected to indicate the main focus of the publication.

Basic Concepts

Four basic concepts can be identified in any document or publication:

- **Why:** aim or purpose of the activity, operation or process
- **What:** item or object in relation to which the activity, operation or process occurs
- **How:** means of achievement (e.g. techniques, methods, apparatus)
- **Where:** environment (e.g. geographical location, specific industry, solvent)

Keywords

The number of keywords selected for the indexing of a single document will depend on the database policy. Superficial indexing may require a maximum of 5 keywords, while more in-depth indexing may require up to 25 keywords. Be careful not to over-index any item – keep in mind that a *set* of keywords will be used to retrieve information from the database.

Indexing Requirements

Because of the scientific nature of most publications on environmental topics, it is recommended that indexers used for the processing of environmental material should have at least a first degree or higher diploma (awarded by a technikon or technical university) in the natural sciences. The ideal would be to use an indexer with a qualification in botany for publications on vegetation, a chemist for the indexing of publications on environmental chemistry, and so on.

Vocabulary Control

Keywords selected to describe the contents of a publication fall into two categories:

- Descriptors – words or phrases from a controlled list of terms.
- Identifiers – free-language terms. Identifiers may include geographical names, trade names, names of procedures, processes or techniques, names of chemical compounds, species names of organisms, et cetera.

For more detailed information on vocabulary control, consult chapter 14 on thesaurus construction.

Spelling

Avoid the use of American spelling in the allocation of keywords, especially when selecting identifiers. American spellings should be changed to their standard South African variants. For example:

Aluminum	use	Aluminium
Cesium	use	Caesium
Color	use	Colour
Odor	use	Odour
Sulfur	use	Sulphur (also sulphuric acid, sulphates, etc.)

However, species names must not be altered:
Desulfovibrio desulfuricans, *Desulfobacter*, et cetera

Indexing of Environment-specific Information

Analytical Chemistry

Indexing publications on analytical chemistry calls for great care in the selection of keywords. Applying the four basic concepts listed above (why, what, how, where), indexers

may have problems identifying the key issues in reports on closely related, but totally different, chemical issues. The following examples explain the difference:

Example 1:

Title: Determination of polycyclic aromatic compounds in oysters using high performance liquid chromatography.

This article is mainly concerned with the **analytical technique** applied in the determination of the polycyclic compounds.

Keywords: **analytical techniques**; animal tissue analysis; oysters; high performance liquid chromatography; polycyclic compounds;

Example 2:

Title: Identification of polyhalogenated anisoles and phenols in oysters collected from Table Bay.

This article reports on the **results** of a survey to determine the effects of pollution on oysters collected in Table Bay.

Keywords: **pollutants identification**; oysters; animal tissue analysis; phenols; anisoles; gas chromatography; Table Bay;

In Example 1, full particulars are given of the sample preparation, the equipment used, any enrichment techniques applied, interfering substances, the concentration range for which the method is applicable, and so on. As a final sentence in the publication, reference might be made to the fact that this particular technique has been used in the determination of those compounds in oysters collected from Table Bay.

In Example 2, only limited attention is paid to the analytical technique used, but the *results* of the analysis will be reported in detail.

Chemical Names

The full names of key chemical compounds mentioned in the text need to be included as identifiers (unlisted keywords), especially when the title only provides the chemical formula of such compounds:

Title: The Occurrence of As, Cd and Co in Soil Samples from the Limpopo Province in South Africa.

Keywords: soil contamination; Arsenic; Cadmium; Cobalt;

Heavy Metals

As mentioned before, it is essential to select a broad term as keyword to identify the main application field of the research reported in the publication, for example type of organism (aquatic insects, soil bacteria, marine plants), environmental conditions (cold regions, arid climates) and problem areas (waste disposal sites, informal settlements). As a group of chemical compounds, heavy metals and the detrimental effect that they may have on the whole environment are of great concern to environmental chemists. It is therefore useful to use 'heavy metals' as a broad term whenever any one of the greater group of heavy metals (metals whose specific gravity is approximately 5 or higher) is discussed.

Greek Letters

Any Greek letters appearing in the title need to be written out in full when used as identifiers:

Title: Making waste sterile – with γ -rays

Keywords: radioactive waste disposal; radioactivity; **gamma rays**;

Indexing of Publications in the Biological Sciences

Species and Family Names

Publications on the biological sciences will most probably include the name(s) of a specific species. The species name, as well as the broader genus, family or order names relating to that specific animal, plant, organism, et cetera, should be added as an identifier:

Title: The effect of some ecological factors on longitudinal patterns of black fly community structure in a foothill stream.

Keywords: diptera; simuliidae; blackflies; aquatic insects;

Any species name appearing in abbreviated form in the title of a publication needs to be included in full as identifier:

Title: High levels of **E. coli** detected in food samples following a sewer burst in an urban township.

Keywords: food contamination; **Escherichia coli**;

Scientific and Popular Names

Scientific names as well as popular names of fauna and flora should be used as identifiers:

Title: Lower numbers of Lesser and Greater Flamingos migrating to drought-stricken Botswana.

Keywords: Lesser Flamingo; **Phoenicopterus minor**; Greater Flamingo; **Phoenicopterus ruber**; Botswana; droughts;

Abbreviations and Acronyms

Any abbreviations in the title referring to processes, constants or organisations need to be included in full as keywords:

Example 1:

Title: Determination of pollutants in water by **GC/MS**

Keywords: pollutants determination; water analysis; **gas chromatography-mass spectrometry**;

Example 2:

Title: Estimating the **LC 50** values in experiments determining the toxicity of lead to Rainbow Salmon.

Keywords: toxicity tests; rainbow salmon; salmo gairdneri; lead; **median lethal concentration**;

Example 3:

Title: Report on the role of the **WHO** in the control of human diseases in Africa.

Keywords: human diseases; disease prevention; Africa; **World Health Organization**;

Depending on database development policy, standardised acronyms for diseases, company names, pesticides, et cetera, may be used as legitimate keywords:

- HIV/Aids (disease)
- 2,4 D, TDE, DDT, EPTC, MSMA, MCPA (pesticides)
- SASOL, ESKOM (company names)
- pH (a measure of the acidity or alkalinity of a solution)

Geographical Names

In many publications on the environment, details about the geographical location of the reported event are of the utmost importance. The effect of atmospheric pollutants released by an industrial plant located in a densely populated area will obviously be more severe, compared to the effect the same event may have where the same industrial plant is located in a remote area. It is therefore important to include geographical references as identifiers, for example country or regional names, names of towns or cities, rivers, dams, lakes, seas and oceans, mountain ranges and conservation areas. It is recommended that standardised lists of important geographical names should be developed for this purpose, either by the database owner, or at least by the indexer. When geographical names are used in their non-English form, the standard English equivalent should be used as keyword. For example:

Wien	use	Vienna
Bodensee	use	Lake Constance
Firenze	use	Florence

South African geographical names are obviously of great importance to local users. Indexers should carefully select geographical identifiers, paying special attention to spelling and recent name changes (provinces, towns, dams, rivers, etc.).

Social Issues

During the past few years, the impact of environmental conditions on the social characteristics of communities has received great attention from researchers, governments and international institutions. Human poverty and other socioeconomic problems are often the result of existing environmental conditions such as droughts, over-exploitation of natural resources and natural disasters. Indexing of material on these issues needs to include terms on the environment as well as on the social or socioeconomic content of the publication.

Conclusion

The first World Summit to discuss global environmental issues was held in 1992 in Rio de Janeiro, Brazil, followed by the Earth Summit which took place in Johannesburg, South Africa, in 2002. The outcomes of these two events, and the targets set for future and immediate actions aimed at improving environmental conditions for all the earth's inhabitants, clearly indicate that environmental issues will remain a global priority well into the twenty-first century. It is therefore of the utmost importance, also for all interested parties in South Africa, to keep abreast of research and new developments in the environmental area. Proper indexing of environmental material will help achieve this goal.

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Elizabeth Robertson

Abstract

A brief overview of information resources indexed for retrieval in the health sciences looks at needs and opportunities for indexing in the field. Suggestions are made about indexing aids and problems, and the help obtainable from large libraries and online indexes and catalogues.

Introduction

Health sciences indexing is essentially no different from any other subject indexing but is made more complex by the very structured nature of the health sciences and the perceived complexity of medical terminology. Some of the major indexing institutions and their products are considered below.

The National Library of Medicine, Washington

The National Library of Medicine was set up in the 1960s. Besides collecting and preserving the literature of medicine, its mission was to index and make available the content of medical literature. This was done by the publication of *Index medicus*, monthly and with annual cumulations, for up-to-date access to medical literature in serial form worldwide. *The National Library of Medicine catalog* lists monographs and non-serial medical literature. Both appeared in print form until the end of the 1990s, and are now available online.

Two important tools accompany *Index medicus*. They are the *List of journals indexed* (updated annually and now numbering 4 600 titles) and their standard abbreviations. The second is *MEdical Subject Headings (MeSH)*, a list of 22 000 descriptors and 24 000 *see* references which will be further discussed below.

Medline and PubMed

Medline is available online as *PubMed* on the Entrez link at the National Library of Medicine website <http://www.ncbi.nlm.nih.gov/> – PubMed contains the whole *Index Medicus* database and subsidiary indexes, and *MeSH* and the *List of journals indexed*. It is available free of charge, and *MeSH* and the journals list can be downloaded. Since they are extensive, downloading can be slow.

Google

Much further information can be found, more informally, on the Internet. Google is the serious researcher's search engine of choice.

ISAP

The *Index to South African periodicals (ISAP)*, accessed online through SABINET or online or on compact disc from NISC databases *African studies* and *South African studies*, provides access to the contents of South African journals of medicine and the allied health sciences (as well as to most other important South African journals). Only seven South African journals are indexed in *Medline*. This includes two veterinary journals, but no nursing journals. Indexing of the *South African Medical Journal* in *Medline* is incomplete, since many valuable sections are issued separately and do not appear in *Medline*. It is important to know therefore that *ISAP* is more comprehensive in the indexing of this key journal and of South African journals in general.

Book Indexing, Personal Files and Small Collections

The above indexes seem so comprehensive that one might think no further indexing in the health sciences would be required in South Africa. However, published books require indexing and book indexers need to follow standard indexing conventions. NGOs still need to index their in-house resources, some of which include the health sciences. And academic researchers collect personal information in all formats, which need organising. All of these benefit from the use of appropriate software packages and knowledge of the aids to health sciences indexing.

Aids to Health Sciences Indexing

A comprehensive explanatory medical dictionary is essential for indexing. Many are available. *Mosby's medical, nursing and allied health dictionary* (1988) is designed, as its title indicates, for use by practitioners in allied branches of health sciences and therefore is likely to be helpful for the lay indexer. It is worth noting that most English language medical dictionaries are of American origin and will spell 'paediatric', 'haemolytic' or 'foetus' as 'pediatric', 'hemolytic' and 'fetus'. It is therefore useful to have a small standard medical dictionary of British origin and a good general English dictionary to check standard English spelling.

It is also interesting to note that medicine, in the literature at least, and in health science faculties, is becoming more democratic. The comprehensive term 'health sciences' is used, and the contributions of nursing, physiotherapy, occupational therapy, pharmacy and other allied professions are acknowledged and valued.

The Major Indexes

The major indexes of the health sciences are *Index medicus*, *Excerpta medica* (known online as *Embase*), and the *Comprehensive index to nursing and allied health literature (CINAHL)*. Other science databases exist which may have health sciences coverage. Their names, scope and accessibility change, as do subscriptions to these expensive tools, and one should seek information about them at large libraries with internet facilities and online subscriptions.

Medline is of great interest because of its long history and its structure. *Index medicus* published its final printed issue of *Cumulated index medicus* in 2000 after 34 years of punctual updating. From 1970 it has also been available online, as *Medline*, in various developing formats, gradually becoming easier to search. It still retains, online, the *List of journals indexed* and *MeSH* which has made it so valuable bibliographically over the years.

List of Journals Indexed

The list of journals indexed, with standard journal abbreviations for citation purposes, is available in *Medline*. Most medical journals require that these standard abbreviations be used, which sometimes presents an author with the problem of how to abbreviate non-medical journals which may also be cited in the same work. The 'Vancouver style' was adopted in 1982 by a conference of medical editors, a large group of whom agreed to use a standard form in the publication requirements for authors in their journals. This included the standard journal abbreviations mentioned above and a citation style based on that evolved by *Index medicus*. It is the least fussy and the easiest to use and edit of commonly used editorial styles. The style is detailed in the journals which support it: it appears, for instance, at the beginning of each issue of the *British Medical Journal* and in the *South African Medical Journal*.

MeSH

The major tool of *Medline* is *Medical Subject Headings*, or *MeSH*. There are 22 000 descriptors. Health sciences, from cytology to psychology through a large number of specialisms, is a very broad field. *MeSH* consists of the terms selected in alphabetical order, with *see* references, scope notes and numbers. For example:

ALCOHOLIC INTOXICATION

C21.613.53+ F3.900.100.300+

Human and animal; drunkenness goes here; acute alcohol intoxication = ETHANOL/
poisoning.

These scope notes are instructions to indexers and guidelines for searchers. The existence of such notes gives immediate reassurance. An indexer who wishes to index or find material on the kidney and its diseases, for instance, may wonder whether to look for headings starting with Kidney, Renal, or Nephritic, and *MeSH* provides the necessary guidance.

MeSH is complemented by a further list, a framework known as the Tree Structures, of which the major divisions or trees number about 15, starting with A. Anatomy, B. Organisms, C. Diseases, D. Drugs. These structures form a classification system which contains all the medical subject headings used, numbered and divided by subject down to seven levels of specificity in some cases. It differs from a book classification scheme like the *Dewey decimal classification*, for instance, in that it does not attempt to classify every possible subject. It has literary warrant – that is, it is built to classify the subject matter it indexes and it acts as a framework for parts or divisions of health sciences literature.

MeSH is not a dictionary, but one can learn something about a subject by referring to the tree numbers assigned. The examples below illustrate this:

- The term **Polymyalgia Rheumatica** for instance, shows no comment at all, but a number: C5.651.742. This number, in the trees, shows that the broader term is Neuromuscular Disease and, at the same level of indentation it can be seen that it is related to Arteritis [sic]. Now, without previous knowledge, the medical context of the disease is clear. A medical dictionary will give more detailed information but possibly less context.
- Similarly, under **Cancer** there are only two headings. The see reference, however, indicates that the preferred term is **Neoplasms**, and in the trees under C4 Neoplasms there are 20 pages of classification of every form of cancer.
- There are difficulties about indexing by assigned terms. There may be every reason *not* to use these in a book index, but they do clarify the context in an area where the endocrinologist and the psychiatrist may talk virtually different languages. A researcher may not habitually use a particular term in a subject area but would hope to find see references covering at least some of the terminology of the literature. However, for a long while it was difficult to find articles about stroke in *Index medicus*, one had to be sufficiently knowledgeable to search under **Cerebral Accident**. (Latterly, a see reference has been added.)
- **Autoregulation** has a *see* reference to **Homeostasis G7.621+**. The + sign indicates that there are further indented (narrower) terms in the tree structures at this number.
- Terminology changes as new subject areas open up. Old headings become inadequate, and appear so. There is a new heading **Nevirapine**, described as follows:

A potent, non-nucleoside reverse transcriptase inhibitor used in combination with nucleoside analogues for treatment of HIV infection and AIDS. Previous indexing: Azepines (1991-92)

Pyridines (1993-97).

When searching online most possible terms can be retrieved directly, as old headings and new are searched, as well as terms referred from, and all text words used in titles of articles. The fact that *Medline* is indexed by *MeSH* ensures a more powerful and complete retrieval of subject matter than text words alone allow, because of the framework of the trees. Subheadings are available for refining the search, as are dates, indications of format (e.g. a review article) and whether the articles are available online in full text without charge. The accessibility of information has increased exponentially.

Recent Developments in Medical Indexing

Using *Medline* to search the literature under Abstracts and Indexing, it appears that little has been published on the subject in recent journal literature anywhere. The articles retrieved are about experiments on the efficacy of retrieval using various methods, or the availability on the Internet of small journals excluded by *Index medicus* policy from *Medline* but linked on the Web instead to major websites. The seminal articles on indexing and retrieval and

the majority of manuals and instruction booklets happened in the early 1970s when *Medline* was new. Now that databases are much more user-friendly, having extensive instructions and illustrations in the Help index, librarians are often assumed to be capable of effective searching, and also of effective teaching of end users. If they understand *MeSH*, their results should be more effective than those of some of their clients. The fact that *PubMed* is available online and free of charge makes it possible for every medical indexer to work to internationally accepted standards.

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Judith Shier

Abstract

This chapter provides an overview of literature published in the field of labour (many without indexes). Indexing needs and requirements are discussed. It also includes guidelines for indexers. A very useful bibliography contains references to many sources that may be consulted for information in the field of labour.

Historical Overview

South Africa has a fairly long, complex and rich labour history that is well documented. The first forms of industrial organisation were craft unions created by skilled immigrants (before Union). Following a period of intense confrontation between organised skilled white workers, the government and employers in the 1920s, an industrial conciliation framework was created. This incorporated white workers and excluded Africans. This framework was challenged by an emerging African working class in the 1940s and 1950s. Severe political repression in the 1950s and 1960s ensured that African workers remained disorganised and outside of the state's industrial conciliation mechanisms. It was only in the 1970s that this framework was challenged and rendered unworkable.

This section reflects writing about the labour movement and industrial relations since the re-emergence of the independent trade union movement in the early 1970s. A relatively small, reasonably well-defined field in South Africa has been generated since then, covering labour legislation, the economy – national and international – workplace issues and politics, as well as aspects of the labour movement itself such as strikes and collective bargaining issues. Approaches range from the highly theoretical or polemical to the more practical and popular. The types of material include 'grey literature', books, journals or magazines, photographs or posters, papers and online material. The trade union movement has played a key role in modern South African history and has been a topic for debate among academics and entrepreneurs, political activists, officials and members of the individual unions and federations. In the struggle for freedom in the workplace and in the economy and society the union movement itself developed a tradition of writing and publishing about political and economic and workplace issues. Much of the work produced from within the trade unions had an educational or campaigning purpose, and had the appearance of 'struggle literature' (especially in the 1980s). Academic institutions also produced scholarly works about the labour movement and labour issues.

Many of the publications in the labour field have been published without indexes. This includes internal trade union material such as 'NUMSA Women Organise' or the Chemical Workers Industrial Union's 'Defend, empower, advance: responses to plant level bargaining'. Papers of the annual Labour Law Conference held in Durban were published from the late 1980s, but not indexed. A long-standing journal on labour issues, *South African Labour Bulletin*, started in 1974, does not have a regular published index, and as a result the full potential of this journal as a research resource is lost. In the 1990s even reputable publishers were publishing books without an index; see for example Standing (1999). A reviewer in the labour field bemoans the fact that the book he is reviewing otherwise quite favourably does not have an index. Of *Twenty years in the labour movement: the urban training project*, published in 1999, he says: 'It's a great pity, though, that a book of about 343 pages does not have an index!' (Buhlungu 2000:71). Even into the 1990s the value of an index was still not fully appreciated.

More recently the Congress of South African Trade Unions (COSATU) website (www.cosatu.org.za) has become a resource for online users, using the Google search engine on its site. When launched this site was accorded the 'Labour Site of the Week' award by an international labour website evaluator. It is a valuable source of documents for researchers and labour activists, and includes the COSATU journal, *The Shopsteward*, which is also searchable via Google. Another recent development is the Digital Imaging South Africa (DISA) project 'Southern African Freedom Struggles 1950-1994'. DISA staff have been responsible for indexing (among many other journals) six labour newspapers such as *Fosatu Workers News*, *NUM News* and *Cosatu News* online. Up to now these have been difficult to locate but they are now available in full text.

Indexing Difficulties, Unique and not so Unique

Audience

Identifying one's audience is an essential prerequisite for an indexer. These are likely to be students and academics, union officials and members, activists, NGOs and employers. Certain material is produced for a union audience alone ('How to cost a wage demand'), while others are designed to be read by anyone involved or interested in industrial relations, for example the *South African Labour Bulletin*, or the annual proceedings of the Labour Law Conference held in Durban since the late 1980s. Some material is scholarly, some political, mainly written in English, but increasingly from the 1970s and 1980s in indigenous languages to overcome workers' lack of proficiency in English. Assessing the potential audience accurately is an essential key to a good index.

Indexing for the Internet particularly raises questions of this nature: Who is the audience – local or international, or both? How does one achieve the consistency or control of keywords evident in a book index? In addition, which education level is one aiming for? Another problem area in a multiple indexing project is skills training and quality assurance. These are necessary elements since not every indexer approaches the area in the same way; consistency across the project needs to be ensured.

Choice of Terms

This is governed by knowledge of the field and its nuances, the text to be analysed for indexing, and its purpose, as well as an understanding of the audience. Questions to ask when choosing terms: How will the material be used? For what purpose and by whom? There are broadly two types of material: on or about labour, as distinct from material written for the labour movement. Much material analysing the economy of South Africa and industrial restructuring was produced at a time (the 1990s) when COSATU was influential in the creation of economic strategy and the Reconstruction and Development Programme (RDP). This type of index requires a combination of conventional economic terms (e.g. investment, inflation, unemployment) and terms unique to the labour movement or broader social movements. (For example: 'Neoliberalism; September Commission of 1997 – Commission headed by Connie September, that is, not the month of the year.' At the time the significance of the 'September' in the 'September Commission' was well known within the labour movement, but may not have been familiar outside of it.) A possible conflict exists between common terms that have an activist flavour, and may also be specific to that time period and terms which will have a more neutral meaning and will last longer and have wider applicability. Labour discourse, because of its political nature, has tended to reflect rapid shifts and changes in meaning. Terminology and rhetoric can change from year to year. A familiarity with current expression and terminology, and a sense of its purpose, is required. Good indexing presupposes more than pure technical skill – knowledge of the field is essential. Jargon and abbreviations which are unfamiliar to a wider audience should be avoided, for example EPZs (export-processing zones) or ESOPS (employee share ownership programmes). Even the familiar acronyms NEPAD and GEAR will lose currency and meaning over time.

Partly due to the politicised nature of the material the choice of terms also depends upon one's orientation. For instance, the term 'capital' may not have the same meaning for union activists and their counterparts in business. The indexer should be aware of bias.

Acronyms, Inconsistencies and the Alternative Press

Before professionalisation of the independent trade unions occurred many of the publications for labour, especially emanating from the unions, were published by the alternative press. This often meant there was no index, and/or inconsistencies with regard to page numbering. In addition, while the material produced by the union movement or its scholars comprises a sizeable chunk of the South African alternative press output, its purpose was to campaign or educate. Supporting scholarly work does not exist in the form of reference books. Reference books to which an indexer can refer are few and far between. See the bibliography for a selection of those which do exist.

There are many different organisations in this field, and acronyms can litter a text. (A current example is a recently published book on South Africa, *State of the nation*, which has four pages of acronyms listed in the preface.) For indexing purposes, reference lists of names of trade unions and other organisations may have to be created independently. This is because material was often directed at the 'converted' reader and so acronyms of organisations or unions were not listed in full in the text as it was assumed they were

known to the reader. On top of this, organisational mergers and changes of name occur with frequency, so tracking the earlier names can be difficult.

In the case of journals, the numbering of issues may be unreliable, and page numbers awkward. Articles may begin on one page and continue several pages later on in the publication. This could create difficulty for the indexer of articles.

Promotion of Indexing in the Mainstream Press or Otherwise

It is surprising, given the awareness of the educational purpose of publications in this field, that indexing has been somewhat overlooked. We look forward to a time when more publications (especially from NGOs and trade unions) include an index.

Practical Guidelines

- Have a well-developed sense and understanding of the overall project and its purpose. This may only be gleaned from reading the text to be indexed. Occasionally there is an opportunity to consult the author.
- Ascertain the possible audience, and have a sense of how the material will be used. The indexer should be guided by the following questions: What will the reader want to know? What is significant in the text? Who is the author addressing? Who is the audience?
- Familiarity with the subject is an advantage in order to comprehend the different levels of possible indexing, the significance of concepts and the nuances of terminology.
- Make use of reference books or key texts available.

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