CHAPTER 10

EVALUATION OF THE PRINCIPLES

10.1 Introduction

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These schemes have been chosen to demonstrate the viability of the suggested principles as they are familiar to the author, or the necessary literature is available on which to evaluate them.

10.2 Background to the systems

A brief description of the origin, growth and practical use of the systems is given as a background to the following discussion. They are listed in alphabetical order. Examples of the different systems, both descriptive and subject are attached in Appendix 1.

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The Africana Museum, Johannesburg is a municipal museum, founded in 1936. It was established as a section of the Johannesburg Public Library and this is reflected in its approach to museum documentation. A systematic, well organised manual system was instituted early in the institutions's history and has been consistently maintained ever since.

An adaptation of the Dewey Decimal Classification System was developed for in-house museum use. The DDC numbers are used to designate the broad subject categories, while verbal extensions make it applicable to the museum context. It is used for both items, document and photograph collections (L. de Wet 1970: pers comm.).

e.g. Bracelet used by an African woman (tribe unknown) is classified at "572 (391.7) Bracelet" : 572 is the DDC number for anthropology and 391.7 is the number used for jewellery.

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It is a resource for the documentation of materials in the visual arts through a controlled vocabulary. It is intended as a help for institutions that collect art-historical information: it is used by many projects and is a means by which information can be made compatible across multiple data sources (Art 1990: vii).

"It was originally intended as a compendium of subject heading lists used in art libraries. It has evolved into a faceted hierarchical structure that can accommodate diverse levels of cataloguing detail and that explicitly supports the variability in

terminoloy that inevitably arise from institutional preferences or multilingual applications" (Art 1990: viii).

The stated purpose of the AAT now is the construction of a controlled vocabulary, of an indexing system arranged in a known order and constructed so that synonymous, hierarchical and associative relationships among terms are clearly displayed with standardised relationship indicators (Art 1990: 24). Its purposes are to ensure consistency in indexing, especially in information management and retrieval systems, to facilitate the retrieval of information, regardless of the type of material being catalogued or indexed. To determine the essence of meaning within an item or the name and physical characteristics of an item. Users' needs and analysis of the items being indexed must be translated into a consistent and appropriate language (Art 1990: 24). It is the role of the thesaurus to draw together terms scattered by accident of the alphabet or by cultural and function-based biases.

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envisioned as a set of terms that would include the history and making of the visual arts; as a link between objects and bibliographies about them (Art 1990: 5). It would include the geographical and historically comprehensive, but not terminology for iconographical themes. The work was to be reviewed by scholars at all stages. It was later expanded to include architectural and archival information, and visual materials (Art 1990: 19).

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The descriptive documentation is done in card form, with various subheadings, such as name, description, ethnic group, manufacture and origin. See Appendix A.

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by over 500 museums in the United Kingdom and overseas, Zimbabwe and the Netherlands amongst others.

Museum Information Systems South Africa Thesaurus

The Museum Information Systems South Africa Thesaurus (MISSAT) endeavours to provide a thesaurus which amalgamates subject headings and standardised item terms. It is based on:

- Nomenclature for man-made objects,

- Art and Archictecture Thesaurus

- African Museum Classification

- item names and subject headings from the Transvaal Provincial Museum Service documentation system.

The catchwords are slotted into a structured thesaurus, with synonyms, related terms, narrower terms and definitions of chosen terms being given. See and see also references are also incorporated.

It is being produced in draft format, to be tested by a number of museums with Human Sciences collections. The results of the testing should be available in 1994 (Museum Information Systems South Africa, in press).

- National Cultural History Museum, Pretoria (NATCOM)

The Museum was established in 1893 as a department in the Transvaal Museum. But the documentation of collections has had a chequered course over the years, with different manual systems being introduced. Unfortunately none have extended over the entire system, so there are a series of different systems; introduced and stopped at different times. The latest development has been a computerised system which is also being introduced in piecemeal to meet the needs of collections management rather than an overall documentation plan. Finance for staff, and changing managerial priorities seems to be the reason for this approach. The evaluation of the system has been based on the last manual system, as the automated system is not far advanced enough to make its evaluation feasible (G. Balkwill 1993: pers. comm.).

Nomenclature for man-made objects (Nomenclature)

The Nomenclature for man-made objects, was originally produced under the editorship of R.G. Chenhall. It was first published in 1978 (Blackaby 1988: Preface 1). It was first devised at the Strong Museum under the guidance of Robert Chenhall (Blackaby 1988: Preface 1). It was an attempt to meet the needs for consistency which computerisation of records was forcing museums to seriously consider for the first time (Blackaby 1988: 1-1).

It claims to be a "tool for cataloguing museum collections. As such, it helps museums organize their records, retrieve documentary information and connect interrelated data" (Blackaby 1988: 1-1). It seeks to "establish a limited set of acceptable terms to identify objects" (Blackaby 1988: 1-1). The conventions such as inverting object terms and avoiding plural forms of object terms are practised (Blackaby 1988: 1-1). It claims to be like other scientific naming systems, in creating a hierarchy of relationships between the terms it standardises (Blackaby 1988: 1-1). The hierarchy is also convenient for relating similar things. Each level in the hierarchy represents a division that relates

like things together (Blackaby 1988: 1-2). The divisions used are those which seem to offer the most clarity and utility (Blackaby 1988: 1-2). The hierarchy used is based on original function (Blackaby 1988: 1-2).

Nomenclature provides standard object terms for the museum to use in indexing collections. The problem of synonyms for the same object is overcome by the structural list of preferred terms (Blackaby 1988: 1-2). The problem is that the terms used are American English and not standard English which can cause confusion in South Africa. They have also not used library cross referencing techniques with see and see also references which the author has found to be either confusing or inadequate. The terms are accessible through an alphabetic index or hierarchical tables.

The publication has found considerable favour among museums on several continents as it is simple to use, and provides a direct method of naming objects and placing it in a classification category.

Social History and Industry Classification ,UK (SHIC)

In 1978 a meeting under the auspices of the Group for Regional Studies was called in Birmingham (UK) to gauge the reaction of museum professionals to the introduction of a standard classification (for museum collections). The response was positive and a working party was set up to investigate the problem. A draft for consideration by other members was drawn up (Social 1983: p.v).

The purpose was to provide a broad interdisciplinary structure for the arrangement of objects, photographs, archival material, tape recordings, information files and all other forms of museum material in the field of human history. It can cope with abstract concepts and material of a very general nature in addition to more precisely defined terms (Social 1983: vi).

It has a hierarchical structure with levels that run from the general to the more specific. As a rule the higher levels are conceptual while the lower levels are more directly object based (Social 1983: vi). Objects and ideas are grouped according to the

sphere of activity with which they are primarily associated. The aim of the classification is to relate objects to their function, including their context with other objects (Social 1983: vi).

The scheme is divided up into 4 primary headings (sections) covering all aspects of man's activity as a social animal:

- Community life

- Domestic and family life

- Personal life

- Working life

These sections are considered of equal importance, but are not mutually exclusive (Social 1983: vi). The rest of the classification is arranged as a hierarchy with a decimal structure facilitating the use of digital coding. The next 4 levels are known in descending order as: - division, class, group and subgroup. Each heading within these levels is divided into up to 10 subdivisions. (Social 1983: vi).

Transvaal Provincial Museum Service Documentation System (TPA)

The Transvaal Provincial Museum Service started in 1972, and in 1977 a manual documentation system for the use of the museums affiliated to the Service was produced. The manuals have been distributed to many museums throughout the country and so have influenced documentation in general in South Africa. The system has since been successfully automated.

10.3 THE QUESTIONNAIRE

The questionnaire (Appendix B) has been compiled from the suggested Principles. The different systems have been compared to the suggested Principles in Table 3. The results are discussed in the following section.

10.3.1.INFORMATION SYSTEMS

PURPOSE OF INFORMATION SYSTEMS

10.3.1.1. Is the information system organised for collection management, research, education or display?

All the systems mentioned that it was intended to assist in the management, research, education and display of the museums' collections.

As these are the basic objectives of any museum, it is necessary that they be recognised in the objectives of the documentation system.

CONTENT OF INFORMATION SYSTEMS

10.3.1.2. What collections does the system cater for:

Objects: catalogue .....
classification.....
Library: catalogue.....
classification .....
Archive: catalogue .....
classification .....
Other :e.g.event/locality.indexes)

All the Information Retrieval (IR) systems are intended for the descriptive and subject collections of the collections. However only the newer ones include the retrieval of visual material such as photographs in the system. None include conservation records as an integral part of the IR system.

All the systems noted that the Information System was intended for the descriptive (cataloguing) and subject documentation (classification) of the objects in the collections.

Only three museums/systems (TPA, MISSAT, AAT) mention that the IR system should include the library material. It appears in the newer systems which are based on the advent of the microcomputer and the possibility of an integrated information retrieval system. For older systems this possibility was not available.

Interestingly, four museums/systems (TPA, NATCOM, Nomenclature, AAT) expressed the need for the IR system to also include the possibility of retrieving archival material when searching.

Five systems (MDA, TPA, NATCOM, AAT, Nomenclature and MISSAT) mention specifically that the system must be able to cope with information retrieval for photographs. This reflects the emphasis which is currently being placed on visual material.

One aspect of museum work which is not mentioned specifically is the documentation of conservation procedures. MDA provides a record card for conservation, the Getty Foundation runs a conservation program, but it is not part of the AAT. NATCOM, the TPA and the Ethnology Department of the South African Museum keep separate records of the conservation procedures used on items, but they are not part of the general documentation system.

10.3.1.3 Are they treated as an interdisciplinary, multi-media documentation system or as separate entities ?

The newer systems are all treating the IR system as an inter- or multi-disciplinary system, while the older systems treat each type of material separately.

Four of the systems (MDA, NATCOM, Nomenclature, AAT, MISSAT) state that the system is treated as an interdisciplinary or multi-disciplinary system. The other systems (TPA, Africana Museum, Ethnology Department, South African Museum, and the Horniman Museum) all treat each type of material (object, photographs, etc) or discipline separately. This can reflect the age of the systems being considered.

10.3.1.4 What is the stated purpose of the documentation system?

The IR system in the museum is seen to be a necessary adjunct to the functioning of the institution and the security of the collections. The purpose of the system is expressly stated in only four cases (MDA, Ethnology Dept., Nomenclature, AAT) In others, staff all expressed the purpose of the system as being to "assist in the functioning of the museum". It is always stated that it should assist in the research of the museum and security of collections.

10.3.1.5 Is there a policy statement for the documentation system?

The documentation or collections management department has for many years been a step-child in the museum management structure. Only two systems (MDA, AAT) have formal statements of purpose. It is a lack which the managers of the system should look into.

10.3.1.6 What is the staff structure of the documentation system ?

The structure of the staff which administers the system determines to a large extent the time which can be devoted to it, and the resultant excellence of the system. The MDA and AAT are the only organisations devoted exclusively to documentation.

The Nomenclature and MISSAT are systems developed solely by volunteers. Some funding was obtained from grants but, it was developed and subsequently revised by informal groups of colleagues.

Several institutions have a department devoted exclusively to documentation. But the number of staff (the second column) is very small for the size of the collections (the third column).

Institution	Staff	Collections
TPA	4	250,000
NATCOM	4	350,000
Africana Museum	1	300,000
SAM Ethn Dept	1	150,000

If museum documentation is ever to be a field which comes into its own and makes the contribution to museology which it is capabable of, more staff must be allocated to this function.

ECONOMICS OF INFORMATION SYSTEMS

10.3.1.7 What are the expenses of the system (staff, equipment, stationery) ?

No institution was willing to provide figures for their costs, either in staff or equipment expenses. As guestimates would not be meaningful, the matter has not been pursued.

The fact that no museum could state the financial implications of one of its basic functions is indicative of the attitude which does not consider documentation of any importance. It is an aspect which will become of increasing importance in the future as all organisations are compelled to accept financial accountability for all their activities.

COMPONENTS OF THE INFORMATION RETRIEVAL SYSTEM

10.3.1.8 Does it cover:

(i) object records

(ii) subject records

The systems cover subject and object records in both the descriptive and the subject documentaion systems.

All systems claim to cover object records in the IR system. For obvious reasons the descriptive documentation systems have not been considered to include subject records.

The subject documentation systems on the other hand cover both the object and subject aspects of an item's record. The subject documentation will include the specific naming of the item and placing it within its subject context in a broader or narrower extent.

USE OF THE SYSTEM OF INFORMATION SYSTEMS

10.3.1.9 What type of user does the system cater for ?

All the systems claim to cater for the museum staff, researchers and public. But different museums place different emphasis on the section of the public they primarily serve. For instance a national museum, mainly concerned with research will chiefly serve researchers, apart from the general visitors to the galleries.

10.3.1.10 What type of enquiries does the system cater for (superficial/general level; medium level; research level) ?

All the systems try to cater for the general, medium and research level enquiries. These are the levels for which a museum IR system, as a public funded institution must cater. The success with which it is managed will vary according to the staff and the system being used.

Most museums appear to be able to manage the general level queries, but anything further than that, will depend on the time and equipment allotted to the IR system.

SYSTEM SPECIFIC ASPECTS OF INFORMATION SYSTEMS

The following brief discussion is a review of the specific aspects of the IR systems, and so will not be relevant to the general systems which are devised for the use of many museums, such as the MDA, TPA, Nomenclature, AAT, MISSAT and SHIC. They do, however, all make recommendations.

10.3.1.11 What catalogues are there ?

All the descriptive documentation systems have or recommend at least an object catalogue. Three museums (NATCOM, TPA, Africana Museum, and SAM Ethnology Department), have subject catalogues. For the rest both MDA and TPA recommend that indexes for people, places, dates and events are constructed.

In this query no difference was made betweeen full records organised according to a specific method, or indexes also organised to retrieve a specific item of information. Even if this was done it is still possible to see how few systems have more than one or two retrieval systems at their disposal.

10.3.1.12 How quickly do the users want answers to their queries ?

The speed with which an answer is required from the system, does not seem to have received the detailed consideration of the institutions concerned. All said that immediate answer was the preferable time, but many queries can be answered in the medium or long term just as effectively. This is obviously not a factor in the museum information service.

10.3.1.14 Who does the actual query search (staff or researcher) ?

In all cases the staff do the searching of the system in answer to queries. In some cases serious researchers are shown how the system works and then allowed to do their own searching.

The fact that the staff do the searching is indicative not only of small numbers of enquirers, but also of an idiosyncratic system. Both are aspects of the problem of the under utilisation of the museum and its information resources.

10.3.1.15 Which type of system is actually used (alphabetical, dictionary or systematic) ?

There is no uniformity as to the type of system which is used, but a form of systematic catalogue seems to be the current preference.

Most of the descriptive documentation systems appear to use a form of systematic catalogue (NATCOM, Africana Museum, SAM Ethnoloy Dept.). The MDA suggest that a systematic, dictionary or alphabetic arrangement can be used according to the individual institutions' preferences. The TPA suggests that the dictionary arrangement would suit the institutions within its area of influence best.

10.3.1.16 Is depth indexing practised ?

No museum has considered depth of indexing as a theoretical question. This is to be expected in the present situation where the theoretical issues of documentation are not considered to be of importance, and so aspects of the theory of indexing are nor even discussed in the literature and certainly not on an internal basis within an institution.

10.3.1.17 Does this appear to be the type of system actually needed ?

In all cases the institutions concerned were satisfied that the extant type of system met their needs.

Once a system is in place no alternatives or improvements appear to be sought, until automation is considered. It appears to the author to be an alarmingly stagnant situation.

ORGANISATION OF THE RECORD CONTENT OF INFORMATION SYSTEMS

10.3.1.18 Is the record divided into data fields ?

All systems structure their information to a greater or a lessor extent. All the systems studied divide the record into different data fields to structure it.

10.3.1.19 What fields are used ?

The data fields can be grouped into identification, inherent, associated and management fields. The specifics for each system can be seen in the analysis of the data fields in Table.5. All the systems recognise these groupings.

The grouping and theoretical considerations of the fields used in systems, has only become a common concern to the profession since the MDA published its standard in 1980.

10.3.1.20 Are they arranged in a consistent order ?

There does appear to be an element of order in all the systems, in that the fields are arranged in a consistent order.

10.3.1.21 What is the order ?

The order of the data fields varies from system to system. There is no consistent pattern except that all place identification elements first in the record.

10.3.1.22 Are the Essential Information Categories /Recommended Information Categories used (extent of detail)

The Essential Information Categories and Recommended Information Categories were devised by the Documentation Group of the Southern African Museums Association. As such they are an essentially South African device to assist museums in planning

documentation at different levels. The Essential Information Categories are the minimum information fields which should be recorded. They include the identification, inherent and management categories. The associated information is planned for the second phase of any documentation activities. The Recommended Information Categories are those considered to cover the full, detailed documentation of the item. It includes the identification, inherent, associated and management information.

In that these are standards of the Southern African Museums Association Documentation Group they do not apply to the systems developed elsewhere. However in most cases the Essential Information Categories are found in most systems; the Recommended Information Categories are not.

The lack of formal agreed standards for fields is one of the most urgent to require attention in museum documentation.

10.3.1.23 What physical form does the record take (eg card/print-out) ?

The predominant physical form of the system is a card (MDA, NATCOM, Africana Museum, SAM Ethnology Dept.) while TPA, NATCOM, and the MDA also offer the possibility of a computer system and various mechanical output devices.

10.3.1.24 Is the system manual or automated ?

Most systems are card based, although a few are now being automated, it is not yet a general trend.

In four cases the systems are manual (MDA, NATCOM, Africana Museum, SAM Ethnology Dept.), while the TPA, MDA and NATCOM offer an automated alternative to the manual system.

10.3.2. DESCRIPTIVE DOCUMENTATION

PURPOSE OF DESCRIPTIVE DOCUMENTATION

10.3.2.1 What is the stated purpose of the record ?

The primary purpose of descriptive documentation is recognised in all the systems. As this is the basis of museum documentation this recognition is essential if the system is to be maintained.

The primary purpose of descriptive documentation is to record information relating to the item and the management of this item. Four systems (MDA, TPA, NATCOM, SAM Ethnology Dept.) state this as the primary purpose of their systems, however other reasons for descriptive documentation are also given, namely to aid in the use of the collections (two systems) and to ensure the security of the collections (two systems).

10.3.2.2. What are the sources of the information on the record ?

All the systems mention that the most important source of information for the descriptive documentation record is the item itself. The second source is information received from the donor, and finally the documentalist turns to references for further information.

The item is the most important source of information for the record. Secondary sources such as reference works should only be consulted as a second choice.

STRUCTURE OF THE RECORD

10.3.2.3 What record depth is practised (short, medium or full) ?

The two general systems (MDA, TPA) state quite clearly that the depth of record information is an independent decision of the museums which use the system.

The other museum-dependent systems have a varied response to this question; two said they documented items to the fullest extent possible (NATCOM, SAM Ethnology). The Africana Museum aimed to implement medium level documenting at all times.

Again the fact that different levels of information recording are recognised, even in a subject which does not enjoy much attention from the museum profession, is a heartening sign that there is thought on a professional level on the matter.

COMPONENTS OF THE DESCRIPTIVE DOCUMENTATION SYSTEM

10.3.2.3 Are the following record types used in the system ?

Main record.....

Additional record .....

References .....

Analytical records .....

All the systems have a main record (MDA, TPA, NATCOM, Africana Museum, SAM Ethnology); additional records, and references appear in four of the systems (MDA, TPA, NATCOM, Africana Museum). The analytical record appears in only two systems (MDA, TPA).

The main record is the most important record type in any museum system as is manifest by the fact that all systems have one. Some of the systems recognise the fact that additional records are necessary.

10.3.2.4 Is the concept of the above record types recognised ?

The concept of these different types of records is recognised in all the systems examined. In general however there is a lack of appreciation of the different record types which can be used to facilitate the recording or retrieval of information.

MULTIPLE ACCESS POINTS

10.3.2.5. Is there any recognition of the concept of the record being divided into a description and different access points ?

There is a definite recognition of the concept of the record being divided into a description and different access points. Four systems (MDA, TPA, Africana Museum, SAM Ethnology) state this as a definite factor. Only NATCOM stated it as a factor which had not in the past been recognised.

10.3.2.6. If so, which access points ?

The main access point mentioned is item name (MDA, TPA, NATCOM, Africana Museum, SAM Ethnology); another access point is accession number (NATCOM, Africana Museum). The other access points which were mentioned were people, places, events, and dates.

The access point of item name, accession and subject are the main ones recognised and sought by the museums. Although all others are desired, they are not often found in manual systems due to the problem of staff time to implement them.

10.3.2.7 Does the institution wish to have more access points in use ?

Only two of the institutions mentioned a need for further access points (NATCOM, Africana Museum). That more of the systems investigated did not mention the need for more access points could be seen either as lack of interest in them, lack of knowledge about the problem or a realistic assessment that it could not be done within the constraints of staff and time.

10.3.2.8 Is there any recognition of the following concepts:

- One record for each information unit

- The use of a standardised main heading

- The recording of variant headings and listing the standard one

- Is a standard list used

- The idea of additional records under other access points

All of the systems examined recognised the need for one record per item.

All the systems examined recognised the need for a standardised main heading.

The recording of variant headings is not recognised in the descriptive documentation systems, but does appear in the subject documentation systems. The need for the recording of variant headings is, however recognised by all the descriptive documentation systems.

A standardised name list is being used in all the descriptive documentation systems being used (MDA, TPA, NATCOM, Africana Museum, SAM Ethnology).

Other records under other access points appear in all the systems (MDA, TPA, NATCOM, Africana Museum).

The systems all recognise one record per item under a standardised heading. Some use a standardised list for the heading and recognise the usefulness of the idea of recording variants of the heading, just as most would like to have the record available under other headings as well, but neither idea can be practically implemented.

STRUCTURE AND FORM OF STANDARDISED ACCESS POINTS

10.3.2.9 What is the stated purpose of access points ?

None of the institutions surveyed expressed an opinion on this point.

10.2.2.10 Are there any guidelines either internal or external which are used to assist in choosing access points ?

Most systems have some form of guideline for the choice of access points for objects, either internal or external. Four museums/systems (NATCOM, SAM Ethnology, MDA, TPA) mention that they have internal guidelines to assist in choosing the access points for object records. Three of these institutions/systems (TPA, Africana Museum, SAM Ethnology) also have guidelines for the selection of access points for bibliographic materials, incorporating them into the same descriptive documentation system as the objects.

Only TPA and NATCOM also include archival materials in the same descriptive documentation system. The systems being studied (MDA, Africana Museum and SAM Ethnology) specifically exclude archival material from the descriptive documentation system.

10.3.2.11. Are subject access points differentiated from others ?

As a rule the subject access points appear to be treated separately from those which result from the descriptive documentation process. It is usually included in the subject documentation system. Only

The TPA includes the access points from the descriptive and subject documentation procedures in one sequence.

Subject and descriptive access points are treated separately.

10.3.2.12 Is the theory of indexing recognised at all ?

The theory of indexing is recognised by all the institutions involved in survey. But it is practised in a limited way.

10.3.2.13 Is there any discussion of:

1. item/term entry ?

2. derived /assigned indexing ?

3. term/concept indexing ?

There is no discussion of any of the theories of indexing in the surveyed systems. However the subject of indexing has appeared in museological literature during the last few years.

10.3.2.14. Which are used:

1. item/term entry ?

2. derived or assigned indexing ?

3. term / concept indexing ?

In spite of the lack of theoretical considerations of indexing all the studied systems use the above concepts in their systems. Without exception they all use item entries and assigned indexing. The choice between term or concept indexing usually reflects the age of the system: the older systems (NATCOM, Africana Museum and SAM Ethnology) use term indexing, while the newer systems (MDA, TPA) use concept indexing.

Museum systems use item entries, assigned indexing and in the older systems term indexing, while the newer systems use concept indexing. It does show that although there is relatively little discussion of these concepts, the museum documentation system utilises these techniques.

10.3.2.15 Is a standardised list used ?

A standardised list is used in all the museum systems surveyed.

The use of a standardised catchword list, especially during the descriptive documentation process indicates an awareness of the benefits of standardisation.

10.3.2.16 If so, which one is used (homegrown/not)?

Three museums (TPA, Africana Museum, SAM Ethnology) use internal systems, developed in-house. The MDA has been involved in the development of an outside system, the Social and Industrial Heritage Classification and the TPA is consulting on the development of the Museum Information System South Africa Thesaurus. Other systems, such as the AAT and Nomenclature have been developed by groups consulting a wide range of museum professionals, but not linked to a museum in particular.

10.3.3. SUBJECT DOCUMENTATION

The general subject documentation systems being surveyed are all limited to those for Human Sciences, as outlined earlier in this study. They are:

- the Social History and Industry Classification developed in close conjunction with the MDA,

- the Dewey Decimal Classification adaptation used by the Africana Museum

- Nomenclature for Man-made objects edited by J.Blackaby

- Art and Architecture Thesaurus developed by the Getty Art Information Program

- the Museum Information Systems South Africa Thesaurus.

The specialist subject documentation systems are:

- the classification for ethnology developed by Miss E.M. Shaw at the South African Museum Ethnology Dept.

- Horniman Museum classification for anthropology

PURPOSE OF SUBJECT DOCUMENTATION

10.3.3.1 Is there a subject catalogue or indexes ?

All the institutions and systems surveyed have either a subject catalogue or subject indexes. In the general systems, the specific application developed depends on the museum concerned.

10.3.3.2. What form does it take ?

In manual systems it appears that cards are the favoured form, either under subject headings arranged alphabetically or systematically under the appropriate notation. In automated systems the manner of arrangement has not been specified, but is presumed to depend on the programming reports available.

10.3.3.3. What is its stated purpose ?

The systems all recognise the need for subject retrieval of some variety in their documentation systems.

The stated purposes deduced from the statements of intent are variously stated as "make the collections available" (MISSAT), "retrieval of information" (SAM

Ethnology), "for subject retrieval" (NATCOM), "provide a basis for indexing and cataloguing of the collection" (Nomenclature, 1988, p.1.1),

10.3.3.4. What disciplines does it cover ?

In toto the systems surveyed cover the following disciplines: history, social history, anthropology, archaeology, industry, architecture, art, museology, and photography. Exactly which systems cover which disciplines can be seen in the accompanying Table 5. The more recent systems are the ones which cover the most disciplines, made possible by automated manipulation of subject/discipline terms.

10.3.3.5. Is it arranged to be interdisciplinary ?

The museums have until recently not had the means to achieve the detailed interdisciplinary subject documentation systems which automation will allow. This is because the amount of detail and specialised information which these research organisations would need to manipulate in a subject documentation system is beyond the time and staff allowed to this function. Automation has changed the scenario, to

allow the correlation of detailed subject retrieval terms on both a disciplinary and an interdisciplinary basis.

Three systems (AAT, MISSAT, Africana Museum) allow interdisciplinary manipulation of the subject topics.

10.3.3.6. What type of subjects are dealt with (single topic, multi-topical, composite) ?

All the systems deal with single topics; the Africana Museum, AAT, and MISSAT, accommodate the multi-topical and composite types of subjects as well. The newer systems (AAT and MISSAT) are post-co-ordinate systems which allow the easy combinations of subjects; the Africana Museum adopted the system used by the Universal Decimal Classification for the combination of subject notation through punctuation with clearly defined meanings.

The museum documentation system theory does not discuss this facet of subject retrieval at all. It is a topic which could well repay further investigation. From the author's experience it would

appear that museums need systems able to cope with multi-topical subjects, across the interdisciplinary divide.

10.3.3.7. Is there any recognition of the above subject types ?

There is no formal recognition of the above subject types in any of the studied systems, except AAT and MISSAT. As already mentioned these subject types are not discussed in the general museological literature.

10.3.3.8. Does the subject documentation system show affiliations between subject fields ?

Only the AAT shows the relationship between subjects, none of the other systems studied do so.

The suggested interdisciplinary approach to subject documentation is totally lacking in museum documentation. None of the formal systems except AAT make provision for the relationships which can be drawn between subjects.

10.3.3.9 What vocabulary (scientific, common name terms, or notation) is used ?

All the systems studied, except SHIC and Africana Museum, use common name terms, the other two use a notation.

In spite of being used by staff (Question 10.2.1.14) the systems use common name terms. Here there is a lack of specificity in the question, the author should have found out if it is "common names" as understood by the researcher (ie discipline bound) or the layman (colloquial terminology). One assumes it is common names as used by the researcher since staff are the ones who use the systems and they are usually trained in a specific discipline.

10.3.3.10. How are index terms selected, a standardised list or free language ?

The advantages of standardised terminology are clearly realised, and implemented by the museum profession. All the systems studied use standardised lists of terms, except the MISSAT system, which uses free language at present.

10.3.3.11. Which of the following are used:

1. item/term entry ?

2. derived/assigned indexing ?

3. term/concept indexing ?

4. pre/post-co-ordinate system

5. enumerative/synthetic system

All the systems studied (except AAT and MISSAT) use item entries. The AAT and MISSAT use term entries.

Most of the systems use assigned rather than derived indexing methods. Only the Horniman Museum System uses derived indexing.

Term indexing is used in four systems (Africana Museum, SAM Ethnology, Horniman Museum, Nomenclature) and concept indexing in three (AAT, MISSAT, SHIC).

Five systems use a pre- co-ordinate approach to the subject documentation; only two systems (AAT and MISSAT) use a post co-ordinate approach to subject documentation.

An enumerative subject documentation system is used by five systems (Africana Museum, SAM Ethnology, Horniman Museum, Nomenclature and SHIC). Predictably the two systems with a post co-ordinate approach also have a synthetic system.

The systems studied prefer the use of item rather than term entries; assigned rather than derived indexing; term rather than concept indexing; pre- rather than post co-ordinate systems; and enumerative rather than synthetic systems. The exceptions to this picture are the two newest systems, AAT and MISSAT which use term entries,

derived indexing and concept indexing with a post co-ordinate and synthetic system. This is the signpost to future subject retrieval systems, and these systems should grow in popularity.

10.3.3.12. Is control of the terms practised at input/output ?

Most of the systems practise control during the input of terms, but two are especially thorough and practise control at both in and output.

Five systems (Africana Museum, SAM Ethnology, Horniman, Nomenclature, SHIC) practise control of the subject terms at input. Two systems (AAT, MISSAT) practise control at both input and output.

10.3.3.13. What type of access organisation is used (structured/unstructured) ?

The prevalent access organisation is structured, rather than unstructured. It ensures a greater uniformity in the result obtained, but does not easily meet the needs of very detailed subject retrieval.

Six of the systems (Africana Museum, SAM Ethnology, Horniman, Nomenclature, and SHIC) use a structured approach to subject documentation. Only MISSAT is trying an unstructured approach to subject documentation.

10.3.3.14. Is structured or unstructured indexing practised ?

Structured subject retrieval systems naturally enough use structured indexing, while the unstructured system uses unstructured indexing. The same museums practise structured or unstructured indexing in their systems, as described in 10.3.3.13.

10.3.3.15. Are verbal headings used ?

Museum subject documentation practitioners seem to prefer the direct access provided by verbal headings. Only two have chosen the more concise approach provided by a notation. It would appear to confirm the preferance of Human Scientists for a verbal rather than a numerate approach to subject retrieval.

Verbal subject terms and item names are used in all the systems. Only in the Africana Museum and SHIC are the verbal headings an extension of the notation used to denote the broader subjects.

10.3.3.16. Is a classification scheme used ?

All the systems can be said to use a form of classification scheme, if broad subject groups are included in the term "classification scheme", as defined earlier.

Six museums use a classification scheme of some type, even if it is only to indicate broad subject groupings. Only MISSAT does not use a classification scheme, but it does contain broad subject groups.

10.3.3.17. Is a notation used ?

The use of a notation alone does not seem to be favoured by museum documentation systems. All the systems that contain a notation also extend it with verbal headings.

Three systems use a notation (Africana, Horniman, SHIC); four, if one includes the term numbers used in the AAT. Generally the notation is extended with more specific verbal terms, frequently item names.

COMPONENTS OF A SUBJECT DOCUMENTATION SYSTEM

10.3.3.18. What type of system has been built:

1. multi / single medium ?

2. discipline bound / interdisciplinary ?

Only two of the systems (SAM Ethnology, Horniman) are single medium systems, all the rest are multi-medium, catering for a variety of different forms of items (e.g. objects, photographs, documents).

Again only two of the systems are discipline bound, the rest are multi-disciplinary. It cannot be said that this is a modern trend as the Africana Museum System has been in place for at least the last 30 years (however, they can be said to be have been ahead of their time!).

Museum subject documentation systems appear to be multi-medium (accommodating different physical forms of item such as both photographs and objects) and interdisciplinary.

10.3.3.19. Where are the access points taken from, the records themselves or other sources ?

Five of the systems (Africana Museum, SAM Ethnology, Horniman, AAT and MISSAT) state that the source for the access points used in subject documentation should come from the records themselves. The other systems (Nomenclature, SHIC) recommend that other sources also be used, but do not specifically state which sources.

As found during the consideration of the descriptive documentation, the item itself is taken as the source of the access points used in the system. However it should be borne in mind with the subject documentation system that the associated information particularly will play an important role. From the author's experience it can be said that although reference works are used, they are used to confirm the form of an access point, detail concerning it, or related terms which can be used as headings.

10.3.3.20. Are access points derived by manual/ mechanical means ?

All access points, recorded during the normal documentation procedures are derived by manual means in all the systems studied. At the moment optical scanning of documentation records for subject documentation purposes has not yet entered the museum world, as far as the author has been able to ascertain.

10.3.3.21. Are access points derived using subject analysis ?

No museum has demonstrated that it uses formal subject analysis to derive the subject documentation access points. It appears to be done on an informal, ad hoc basis.

10.3.3.22. What indexing policy is used- summarisation or in-depth indexing ?

None of the systems or museums surveyed appear to have a stated indexing policy, whether for summarisation or in-depth indexing. But experience

shows that summarisation rather than in-depth indexing is used, given the time and staff constraints of the museum situation.

10.3.3.23. Is it consistently followed for all collections ?

In view of the negative answer to the above question it was not possible for the museums to answer this question, with any relevance.

10.3.3.24. What type of retrieval language is used: alphabetical or classified ?

The verbal approach to subject documentation and retrieval has again been confirmed by the fact that, although a classified system is used, it is always supplemented by a verbal index and/or headings.

Four museums/systems (SAM Ethnology, Nomenclature, AAT, MISSAT) use an alphabetical retrieval language. Three (Africana Museum, Horniman, SHIC) use only a classified retrieval language with an alphabetical index. Another three (SAM Ethnology, Nomenclature, AAT) use both an alphabetical and a classified approach to the retrieval language.

10.3.3.25. Is the retrieval language used at input :

1. structured /unstructured ?

2. are verbal /coded index terms used ?

3. what level of exhaustivity is used ?

4. what level of specificity is used ?

In the systems reviewed the retrieval language at input is structured; using verbal or a combination of verbal and coded retrieval languages; with generally a medium level of exhaustivity; and a medium level of specificity.

All the systems bar one (MISSAT) use a structured retrieval language.

Three systems (SAM Ethnology, Nomenclature, MISSAT) use verbal index terms. The others (Africana Museum, Horniman, AAT, and SHIC) use a combination of a verbal and coded retrieval language.

The general systems all stated that the level of exhaustivity in a system depended on the individual institution. But three institutions/systems

(Africana Museum, SAM Ethnology, MISSAT) implied that a medium level of exhaustivity was implemented.

The three general systems (AAT, MISSAT and SHIC) all state that the level of specificity is determined by the individual users. The Africana Museum and the SAM Ethnology both implement a medium level of specificity while the Horniman Museum does not state its policy in this connection, but appears to opt for a high level of specificity.

10.3.3.26. Are any methods of measuring the relevance, recall and precision of access points retrieved, used as an integral part of the system ?

None of the museums surveyed use any of the measurements of relevance, recall or precision as integral parts of the system. The author is not aware of any other museums doing so either.

THE STRUCTURE OF THE SUBJECT DOCUMENTATION SYSTEM

10.3.3.27. What retrieval language vocabulary is used:

1. subject

2. main class

3. facet

4. concept

In the systems reviewed the vocabulary of the subject is used as part of the retrieval language vocabulary; most use the concept of a "main class"; most do not include the concept of "facet" in their vocabulary, only the more recent systems such as the AAT and MISSAT do; while none except AAT use the idea of "concept".

All the subjects surveyed use the subject as part of the retrieval language vocabulary.

Only MISSAT does not claim to use the concept of "Main Class" as part of the retrieval language vocabulary; all the other systems do so.

Only the AAT and MISSAT use facets in the retrieval language vocabulary. None of the other systems include this concept in their structures.

At the moment the AAT is the only system to include concepts in the system; MISSAT hopes to do so in the long run.

10.3.3.28. Are any relationships between subject concepts recognised ?

Relationships between subjects is recognised, but only four of the systems implement it in their subject documentation.

Four systems (Africana Museum, Horniman, AAT, SHIC) recognise the existence of relationships between subjects, the other systems do not incorporate this into their structures.

10.3.3.29. If so, which of the following is used:

1. semantic

2. equivalence

3. hierarchical

5. affinitive

6. associative

7. syntactical

The relationship recognised by all the systems is the hierarchical one; some of the systems utilise semantic, associative and syntactical relationships; none of them use equivalence or affinitive relationships.

Only the AAT recognises the use of semantic relationships in the thesaurus. None of the other systems use this relationship.

None of the systems use the equivalence or affinitive relationships. Only the AAT uses the latter.

All the systems use hierarchical relationships in their systems.

Three of the systems (AAT, MISSAT, and SHIC) use associative relationships, the other three (Africana, SAM Ethnology and Horniman) do not.

The AAT and MISSAT use syntactic relationships in the thesauri, the other schemes do not.

10.3.3.30. What principles of division are used :

1. Characteristic of Division

2. Principle of Museum Warrant

3. Principle of Aspect/Entity dichotomy

The Principles of Division recognised by the systems are the Characteristic of Division and the Principle of Museum Warrant. The more modern systems recognise the Principle of Aspect/Entity Dichotomy.

All the systems use the Principle of Museum Warrant as one of the Principles of Division.

The modern systems (AAT, MISSAT and SHIC use the Principle of Aspect/Entity Dichotomy in the construction of their systems. The older systems (Africana, SAM Ethnology, and Horniman) do not.

10.3.3.31. What principles of arrangement are used:

1. Principle of Collocation

2. Principle of Consensus

3. Principle of Dependence

4. Principle of Hierarchy

The Principles of Arrangement used in the systems are the Principle of Collation, Principle of Hierarchy and Principal of Consensus. None of the systems use the Principle of Dependence.

All the systems use the Principle of Collation among the Principles of Arrangement of systems.

All the systems, except the SAM Ethnology, use the Principle of Consensus among the Principles of Arrangement for the systems.

None of the systems use the Principle of Dependence for the systems, except the AAT.

All the systems use the Principle of Hierarchy in the arrangement of their systems.

10.3.3.32. How is the scheme structured ?

All the schemes, except MISSAT which is unstructured, are structured.

10.3.3.33. Are different levels of analysis recognised ?

1. Macro order

2. Micro-order: citation order

3. Micro-order: order-in-array

4. Filing order

In the museum subject documentation systems Macro Order of Analysis is recognised by all of them. Three use the micro-order: citation order of analysis. None use micro-order order-in-array or Filing order as levels of analysis.

All the systems use the macro-order of analysis.

Three systems (Africana, AAT and SHIC) use a micro-order: citation order level of analysis. The other systems do not.

None of the systems except AAT use a micro-order: order-in-array level of analysis.

None of the systems use filing order as a level of analysis.

10.3.3.34. Are different levels of re-organisation recognised ?

1. Macro order

2. Micro-order: citation order

3. Micro-order: order-in-array

4. Filing order

The systems exhibit Macro-order and Filing order as levels of re-organisation utilized. Only the AAT uses the micro-order: citation-order and Micro-order: order-in-array as levels of reorganisation.

Three systems exhibit macro-order levels of re-organisation, and three systems do not.

None of the systems except the AAT uses micro-order: citation order as a level of re-organisation in their system.

Again none of the systems except the AAT exhibit micro-order:order-in-array as as level of re-organisation.

All the systems exhibit filing order as a level of re-organisation in their systems.

10.4 CONCLUSION

The conclusion of this survey will be framed in the same order as the questions and the principles concerned.

It is divided into a consideration of the Information Retrieval, Descriptive Documentation and Subject Documentation Principles mooted in the text. Both general and specific descriptive and subject documentation have been used in the testing phase. They were: Museum Documentation Association (MDA); Transvaal Provincial Museum Service Documentation System (TPA); Africana Museum, Johannesburg (Africana); National Cultural History Museum, Pretoria (NATCOM); Ethnology Department, South African Museum, Cape Town (SAM Ethnology); Social History and Industry Classification, UK (SHIC); Art and Architecture Thesaurus, USA (AAT); Nomenclature for Man-made Objects, USA (Nomenclature); Museum

Information System South Africa Thesaurus, SA (MISSAT); Horniman Museum Classification, UK (Horniman); Shaw Ethnology Classification, South African Museum, SA (SAM Ethnology).

10.4.1 INFORMATION SYSTEMS

Purpose of information systems

All the systems mentioned that the Information Retrieval System was intended to assist in the management, research, education and display of the museums' collections. As these are the basic objectives of any museum, it is necessary that they be recognised in the objectives of the documentation system.

Content of the Information Systems

The IR system in the museum is seen to be a necessary adjunct to the functioning of the institution and the security of the collections.

All the IR systems are intended for the descriptive and subject documentation of the object collections. However only the newer ones include the retrieval of visual material such as photographs in the system. None include conservation records.

The newer systems are all treating the IR system on an inter- or multi-disciplinary basis, while the older systems treat each type of material separately.

The documentation or collections management department has for many years been a step-child in the museum management structure. A formal policy document for the collections management department very seldom exists.

The staff structure which is available for the collections management will naturally determine the system. The MDA and AAT are the only organisations devoted exclusively to documentation, although others have staff in these sections. If museum documentation is ever to be a field which comes into its own and makes the contibution to museology which it is capabable of, more staff must be allocated to this function.

Economics of information systems

No museum could place a price on the cost of its collection management. This is indicative of the attitude which does not consider documentation of any importance.

Components of the Information System

The components of the system are the records it contains, who it serves and the type of service which is provided.

The systems cover subject and object records in both the descriptive and the subject documentation systems.

The people who are served by the system are museum staff, researchers and public. But different museums place different emphasis on the section of the public they primarily serve. For instance a national museum, mainly concerned with research will chiefly serve researchers.

All the systems try to cater for the general, medium and research level enquiries. These are the levels for which a museum IR system, as a public funded

institution must cater. The success with which it is managed will vary according to the staff and the system being used.

System specific aspects of Information Systems

The enquiry covered the type of catalogues in the museums, the speed with which answers to queries are required, who answers the queries, the type of system used, the depth of indexing practised, and whether the combination of options used answer the needs of the users.

All the descriptive documentation systems have or recommend at least an object catalogue, although several systems recommend additional indexes. The type of system used lacks uniformity, but a form of systematic catalogue seems to be the current preference.

Staff do the actual searching in answer to queries. This is indicative of the relatively small number of queries received and often of idiosyncratic systems. These are both problems which contribute to the under utilisation of the museum information resources.

The speed with which an answer is required from the system, does not seem to have received the detailed consideration of the institutions concerned. All said that immediate answer was the preferable time, but many queries can be answered in the medium or long term just as effectively. This is obviously not a factor in the museum information service.

Theoretical issues of documentation are not considered to be of importance, and so aspects of the theory of indexing are not discussed in the literature nor on an internal basis within an institution.

Organisation of the record content of information systems

The manner in which the information is organised will contribute to the type of information it can provide and the ease with which it is extracted.

All systems structure their information to a greater or a lesser extent by dividing the information into fields. The grouping and theoretical considerations of the fields used in systems, has only become

common since the MDA published its standard in 1980. The data fields can be grouped into identification, inherent, associated and management information.

There does appear to be an element of order in all the systems, in that the fields are arranged consistently. The order of the data fields varies from system to system, but all place identification elements first in the record.

The lack of formal agreed standards for fields is one of the most urgent to require attention in museum documentation. The Southern African Museums Association devised two groups of records categories in order to encourage member to document to a general standard. These were the Essential Information Categories and Recommended Information Categories. The Essential Information Categories are the minimum information fields which should be recorded. They include the identification, inherent and management categories. The completion of associated information is frequently planned for the second phase of any documentation activities. The Recommended Information Categories are those considered to cover the full, detailed documentation of the item. It includes the identification, inherent, associated and management information.

They are an essentially South African device to assist museums in planning documentation at different levels.

The predominant physical form of the systems surveyed is a card, while the more recent systems are automated, with various mechanical output devices.

2. DESCRIPTIVE DOCUMENTATION

Purpose of descriptive documentation

The stated purpose of the record and the sources from which the information for the record have been taken are investigated here.

The primary purpose of descriptive documentation is to record information relating to the item and the management of this item; however other reasons for descriptive documentation are also given, namely, to aid in the use of the collections and to ensure the security of the collections.

All the systems mention that the most important source of information for the descriptive documentation record is the item itself. The second source is information received from the donor, and finally the documentalist turns to references.

Structure of the record

That different levels of information recording are recognised, as explained under Information Systems: Organisation of Record Content. The Essential and Recommended Information Categories appear to be of assistance to the museums in South Africa in establishing a benchmark for their recording practice.

Components of the Descriptive Documentation System

The types of records used in the systems and the extent to which they are known to members of the profession are examined.

All the systems have a main record; additional records, and references appear in four of the systems, analytical records appear in only two systems .

The concept of these different types of records is recognised in all the systems examined. But there is a lack of appreciation of how the different record types facilitate the recording or retrieval of information.

Multiple access points

Access points are a feature of both the Descriptive and Subject Documentation, but are treated here as they are frequently considered to be aspects of the Descriptive Documentation record, such as the accession number or the name of the item. The point to which access points are considered, the types used and the use expected of them is also examined.

The concept of the record being divided into a description and different access points is recognised in museum documentation systems. The access point of item name, accession and subject are the main ones recognised and sought by the museums. Although others are desired, they are not often found in manual systems due to restraints of staff and time.

The systems all recognise one record per item under a standardised heading. Some use a standardised list for the heading and recognise the usefulness of the idea of recording variants of the heading, just as most would like to have the record available under other headings as well, but neither idea could be practically implemented.

Structure and form of standardised access points

Most systems have an internal or external guideline for the choice of access points for objects. As a rule the subject access points appear to be treated separately from those which result from the descriptive documentation process.

The theory of indexing is recognised by all the institutions involved in the survey. There is no discussion of any of these theories in the surveyed systems. However museological literature on indexing has appeared in the last few years.

Museum systems use item entries, assigned indexing and in the older systems term indexing, while the newer systems use concept indexing. It does show

that although there is relatively little discussion of these concepts, the museum documentaion system utilises the techniques.

The use of a standardised catchword list, especially during the descriptive documentation process indicates an awareness of the benefits of standardisation. At the moment the list of item names supplied by Nomenclature for Man-made Objects appears to be the favourite list. No list of subject headings appears to be used.

3. SUBJECT DOCUMENTATION

Purpose of subject documentation

Subject documentation is intended to make the subject aspects of the item easily retrievable by users. The methods by which this is done will be examined in the following sections.

The first sign of the recognition of the importance of the systems will be the presence of a subject catalogue or index in an institution's collections management system. All the institutions and systems surveyed have either a subject catalogue or subject indexes.

The stated purposes of these subject retrieval systems can be deduced from the statements of intent as "make the collections available" (MISSAT), "retrieval of information" (SAM Ethnology Department), "for subject retrieval" (NATCOM), "provide a basis for indexing and cataloguing of the collection" (Nomenclature 1988: 1.1).

In manual systems it appears that cards are the favoured form, either under subject headings arranged alphabetically or systematically under the appropriate notation. In automated systems the manner of arrangement has not been specified, but is presumed to depend on the programming reports available.

The systems surveyed cover the following disciplines, history, social history, anthropology, archaeology, industry, architecture, art, museology, and photography. The more recent systems are interdisciplinary. Museums have until recently not had the means to achieve the detailed interdisciplinary subject documentation systems which automation will allow. The amount of detail and specialised information which these research organisations would need to manipulate in a manual

interdisciplinary subject documentation system are beyond their resources of time and staff. Automation has changed the scenario, it allows the correlation of detailed subject retrieval terms on both a disciplinary and an interdisciplinary basis.

The type of subjects dealt with in the system are not discussed in subject documentation theory at all. Subjects may be single topic, multi-topical or composite. From the author's experience it would appear that museums need systems able to cope with multi-topical subjects, across the interdisciplinary divide. None of the formal systems except AAT make provision for the relationships which can be drawn between subjects.

All the systems use common name terms, and not a notation, in spite of being used primarily by the staff.

Creation of a subject documentation system

Most of the Subject Documentation Systems use standardised terminology rather than free language, although the MISSAT system, uses free language at present.

The systems studied prefer the following type of index terms: item rather than term entries; assigned rather than derived indexing; term rather than concept indexing; pre- rather than post co-ordinate systems; and enumerative rather than synthetic systems. The exceptions to this picture are the two newest systems, AAT and MISSAT which use term entries, derived indexing and concept indexing with a post co-ordinate and synthetic system. This is the signpost to future subject retrieval systems, and these systems will grow in popularity in the future.

Most of the systems practise control during the input of terms, but two are especially thorough and practise control at both in and output.

The prevalent access organisation is structured, rather than unstructured. It ensures a greater uniformity in the result obtained, but does not easily meet the needs of very detailed subject retrieval. A structured system requires structured indexing, so one finds structured subject retrieval systems using structured indexing, while the unstructured system uses unstructured indexing.

The question of verbal headings versus notation is a hoary one, but museum subject documentation practitioners seem to prefer the direct access provided by verbal headings. Only two have chosen the more concise approach provided by using a notation. It would appear to confirm the preferance of Human Scientists for a verbal rather than a numerate approach to subject retrieval. The use of a notation alone does not seem to be favoured by museum documentation systems. All the systems that contain a notation also extend it with verbal headings.

All the systems can be said to use a form of classification scheme, if broad subject groups are included in the term "classification scheme", as defined earlier.

Components of a subject documentation system

Museum subject documentation systems appear to be multi-medium (accommodating different physical forms of items such as both photographs and objects) and interdisciplinary system rather than a single medium, discipline bound system (as a rule).

As found during the consideration of the descriptive documentation, the items themselves are taken as the source of the access points used in the system. However it should be borne in mind with the subject documentation system that the associated information particularly will play an important role. In the author's experience although reference works are used, they are used to confirm the form of an access point, detail concerning it, or related terms which can be used as headings. All access points, recorded during the normal documentation procedures are derived by manual means in all the systems.

No museum has demonstrated that it uses formal subject analysis to derive the subject documentation access points. None of the systems or museums surveyed appear to have a stated indexing policy. But experience shows that summarisation rather than in-depth indexing is used, given the time and staff constraints of the museum situation.

The retrieval language preferred by museums is alphabetical and verbal rather than classified. When a classified system is used, it is always supplemented by a verbal index or headings. The retrieval language at input is structured; using

verbal or a combination of verbal and coded retrieval languages; with generally a medium level of exhaustivity; and a medium level of specificity.

None of the museums surveyed use any of the measurements of effectiveness, such as relevance, recall or precision as integral parts of the system. This is an aspect of subject documentation which has been totally ignored by museum documentation to date.

The structure of the subject documentation system

In the systems reviewed the subject is used as part of the retrieval language vocabulary. Most use the concept of a "main class", but do not include the concept of "facet" in their vocabulary. Only the more recent systems such as the AAT and MISSAT include facet in their retrieval language vocabulary. None except AAT use the ideas of "concept".

Relationships between subjects are recognised, but only four of the systems implement it in their subject documentation. The hierarchical relationship is recognised by all the systems. Some

of the systems utilise semantic, associative and syntactical relationships; none use equivalence or affinitive relationships.

The Principles of Division recognised by the systems are the Characteristic of Division and the Principle of Museum Warrant. The more modern systems utilise the Principle of Aspect/Entity Dichotomy.

The Principles of Arrangement used in the systems are the Principles of Collation, Hierarchy and Consensus. None of the systems use the Principle of Dependence. All the schemes, except MISSAT which is unstructured, are structured hierarchically.

In the museum subject documentation systems different levels of analysis of subjects are recognised. The macro-order of analysis is recognised by all. Three use the micro-order: citation order of analysis. None use Micro-order: order-in-array or Filing order as levels of analysis.

The systems exhibit Macro-order and Filing order as levels of re-organisation utilized. Only the AAT uses the Micro-order: citation-order and Micro-order: order-in-array as levels of re-organisation

The questionnaire has revealed that museums are aware of the elementary concepts of an information system and of descriptive documentation, but that they are unaware, or do not utilise the finer concepts of indexing, access points and their organisation or of the general theory subject documentation.

All the systems use the Principle of Museum Warrant as one of the principles of division.

The modern systems (AAT, MISSAT and SHIC) use the Principle of Aspect/Entity Dichotomy in the construction of their systems. The older systems (Africana, SAM Ethnology, and Horniman) do not.

The Principles of Arrangement used in the systems are the Principle of Collation, Principle of Hierarchy and Principal of Consensus. None of the systems use the Principle of Dependence, except the AAT.

All the systems use the Principles of Collation and Hierarchy among the Principles of Arrangement of systems. The Principle of Consensus is also used by all, except for SAM Ethnology.

CHAPTER 11

FINAL CONCLUSION

The purpose of this study has been to examine the problems encountered in museum documentation and to offer possible solutions drawn from Library and Information Science.

The museum has traditionally been an organisation which collects, conserves, researches and exhibits. It is very similar to the library in its objectives (Harrod 1971: 37; Landau 1966: 248-249; August 1983: 141; Southern African Museums Association 1979: 2). It is a service organisation in the community with service rendered through the provision of information which is generated in research and collection activities and marketed in exhibitions, publications, education programmes and the conservation of examples of the natural and cultural heritage. The museum is a storehouse of information. This makes it an important institution in any community because information is a key resource (Turner 1987:1). The availability of information moreover, is the hallmark of a civilised society.

(Kent 1966: 14). As a resource, information assists economic growth and social development (Turner 1987: 1).

Information is a product which can be generated and marketed like any other product. It is characterised as a product which depends on being communicated in order to be used. But unlike other products it cannot be consumed (Ashworth 1979: 37). Museums are fortunate that their product is self renewing and can be used repeatedly.

As one of the primary, public-funded information resources in our society it is essential that the information in the museum is accessible to all and to be accessible it must be organised. The organisation of information implies that it will be analysed, identified and arranged so that it can be manipulated as required. This organisation is called an information system, information retrieval system or documentation system. It can be defined as "a system used to organise the information concerning the museum's collections or of relevance to the museum's curatorial function so that relevant items can be retrieved in answer to a request" (Brown 1976: frame 5; Harrod 1971: 329; Langridge 1973: 23; Roberts 1985: 25).

Information is enhanced by the collection and correlation of isolated facts, by analysis from a certain point of view or being rewritten for a better understanding (Ashworth 1979: 37). All of these activities occur during the research and publication functions of the museum.

Museum records and record-keeping have always been a feature of the standard procedures in museums. But in the post World War II period museums experienced increased donations, increased quantities of data and increased demands, coupled with a chronic lack of funds and staff to deal with it (Light 1986: 2). There was also increasing professionalism among the staff which led to importance being attached to a comprehensive inventory of collections for internal control purposes and to enable museums to demonstrate accountability to outside authorities (Light 1986: 2).

Museums are trying to cope with the problems of today with the techniques of yesterday and so naturally experience difficulties (Vickery 1970: 1). Traditionally the information records in the museum are manual, but there is an increasing trend to

attempt to utilise modern automation techniques to handle the large quantities of information involved.

Automation proved to be more difficult than initially envisaged because a number of problems surfaced which had not previously been recognised (Sarasan and Neuner 1983: 9-20). These relate to:

1) The nature of the collection items: The uniqueness of the collection items proved problematic: the three dimensional items in museum collections are each unique. And this causes problems in documentation because each item must be recorded individually. (Roberts and Light 1980: 58). In libraries the task of creating records for the stock is shared through co-operative cataloguing. In museums this is not possible because each item is unique. Given the backlog that exists, the size of collections (a conservative estimate for South Africa is 20 million items) and the time it takes to document one item (20 - 40 minutes) (figure obtained from the Documentalist, Transvaal Provincial Museum Service (M. Schulze 1989 pers. comm.) it is indeed a mind-boggling problem. There is no easy solution.

2) The nature and size of the records: The nature and size of the museum information unit record, in particular that of the three dimensional item, had also not been examined. They were found to be verbal and extremely dynamic by nature, and to vary in size from 200 - 2000 byte. This made their automation an unexpected challenge.

3) Management problems: The management practices in the past had given collection documentation a low priority. So one found uneven documentation of collections in one institution and in some cases collections which were not documented at all. Traditionally in areas of English influence the professional officer or curator of a collection was responsible for the collection in its entirety, namely the research documentation, and conservation. The level of documentation depended on the curator's interest in this activity. No controls were exercised from top management in any aspect of the work.

Staff often remained at an institution for long periods and relied on memory rather than documentation for the information relating to collections. There is a far greater movement of museum staff now and this creates the danger that a great deal of information will be lost.

Because documentation systems were traditionally manual once a system had been devised and was found to be satisfactory, the theoretical aspects of documentation were never considered further. This led to stagnation from a managerial point of view.

4) Problems with standards : Attempts to automate collection records led to dreams of networks of collection records among departments in one institution and between different institutions becoming an imminent reality. However these proved to be more difficult than anticipated when it was realised that a general standard for museum data had first to be formulated from which common categories for different disciplines could be extracted. This question of an international data standard is currently receiving attention from CIDOC but no finality has yet been reached.

5) Problems of control: The last problem which automation revealed was the need for controls of different kinds during the recording process. These are controls of data fields, control of the nomenclature of items and of classification categories. The first two controls required are closely linked to the development of data standards and apply in all discipline fields. The last two controls required are discipline specific with different stages of development in each discipline. If a general statement can be made, the Natural Sciences have well developed nomenclature and classification systems, but the Human Sciences do not. This situation is currently receiving attention both nationally and internationally.

These problems have all been recognised and are receiving attention at an institutional, a national and an international level. It is hoped they will be solved in due course.

Within the framework of the previously mentioned problems there is a total lack of any body of theory for museum documentation. The author suspected that

the theoretical aspects of library and information science could usefully be harnessed to assist in the developing discussion surrounding the subject. The adaptation of an existing body of theory could prevent the wheel from being re-invented.

There has been a steadily increasing demand for the information which is housed in the museum. This has led to the definition of a museum being broadened to include information from the collections and any other sources which can be utilised in fulfilling the museum's curatorial functions. It represents a shift in emphasis from purely collection management to information and collection management.

The definition of an information system given earlier emphasises this aspect of the changing nature of documentation from collection recording to use in collection management and now information management. This means that the documentation system should be seen as the information system of the museum. If the definition suggested earlier is adopted it will emphasise the information content of the museum in its widest context and the institution's service function in the community.

The nature of the information system can be defined by two parameters. The first is its content and the second are the users:

1) The content of the system: The content of the information system is information relating to "the museum's collections or of relevance to the museum's curatorial function" This information is usually derived from the collections and because they are of a very diverse nature, the term "information unit" is used in this study. It is defined as a discrete unit for which a separate main record is entered into the documentation system.

An information unit may be a three dimensional item (of natural, cultural, industrial or archaeological origin) or two dimensional (bibliographical, archival or documentary) or raw research data. This wide range of material all appears in museum collections and needs to be documented.

A means must be decided on to represent the collections in the system so that the information they contain can be made available to users. This gives rise to the surrogate record. The surrogate record is defined as the "the document or physical

search medium on which information about one information unit is written up and permanently preserved in a structured form". It acts as a surrogate for the information unit in the documentation system.

2) The subject coverage of the system naturally depends on the collections in the institution and its collecting policy. They are likely to include both Natural History and Human Sciences collections and documentary, archival and bibliographic material. They can vary in physical format from conchology to palaeontology ; costume to trains; books to manuscripts and trade catalogues to photographs.

3) The type of system: It is suggested that this physical content and subject coverage will lead the information system to be both multi-media and interdisciplinary i.e. that the records of all types of material be structured on a common data standard so that they are compatible and that it be interdisciplinary so that all collections are included regardless of the discipline to which they are affiliated. The records need a comparable structure so that they

may be manipulated together. The need for a common data structure arises out of the wish to be able to compare records.

4) Manual versus automated system : A further consideration is whether the museum information system should be manual or automated. The general view is that automated systems save time and expense, but this is not always so. Given the costs of automation and the hardware and software involved, a manual system is probably cheaper for a small collection or institution. Automation will not save on costs but it will provide more products for the same expense. It requires a more structured record and requires computer expertise for the museum to take maximum advantage of it.

It is suggested that the finances of the institution and size of its collections be the determining factors. A small institution with a small budget should initially start with a manual system in which the record is structured so that it can easily be automated in the future. If an institution can develop a mechanised system from the start it should do so, but only if finances allow it.

5) Users and their requirements: The second consideration of a system which was mentioned was the institution, its users and their requirements. These will affect the type of system designed, the depth to which indexing is practised and the retrieval methods which are decided on.

The institution to be served will affect the design considerations of the system. As seen in the definition of the museum given earlier, a museum has four basic functions namely to collect, research, conserve and educate. Information is required to accomplish all of them, but the most demanding from an information point of view is research, as it is the most unpredictable. Hence if the system is designed with, for example, depth of indexing, structure of record, and an appropriate level of retrieval, it can meet the demands of research. If it can meet research demands it will be able to meet most other demands made on it.

The institution will also determine the retention or otherwise of information in the system. In the museum world knowledge is seen as a continuum, with the past frequently being more important than the

present. This situation demands a retrospective system and an S.D.I. service to keep abreast of the most recent advances in a discipline.

The user is the other parameter which must be taken into consideration. Museum information systems are essentially instruments for the use of the staff in the execution of the museum's functions. Occasionally visitors may also seek information from the system which could not be obtained from the displays. So it is assumed that the term "system user" will be synonymous with "museum staff".

This will affect the design of the system. For instance:

- Will scientific or common names be used ?

- Will the user operate the system himself or not? It is assumed scientific names will be used and that the user will operate the system himself.

- The number of users

- The estimated frequency of use

(Aitchison 1972: 3)

The number of staff in the institution will probably determine the number of users and the amount of use will depend on how useful the users find it. The frequency with which a manual system is used has proved to be no criterion of the use of an automated system. When users find they can obtain more information from an automated system than they could from a manual one they will naturally use it more.

Experience of the problems in museum information systems over the last twenty five years have led to the formulation of several recommended features for any documentation system which is being developed. They are:

- The system must exhibit infinite hospitality i.e. it must be able to accommodate any number of records. Museum collections grow at an unpredictable rate, ranging from several hundred to several million items. There is not the finance available to redo documentation.

- The system should not require large investments of staff time as few museums have staff whose sole responsibility is the documentation system. So any system must be

easy to maintain with a maximum return for a minimum investment of time and expertise. At the same time the author would argue that the museum should have staff attached to an information centre whose sole responsibility is the management of the information.

The first statement is a recognition of the present reality; the second, the preferable future state towards which one should work. As already pointed out it is in fact happening in some instances.

- The system should be designed to provide easy access to information in it and yet protect sensitive or confidential information such as purchase price or source of item.

- The system should lastly pay attention to the security of the data. There should be control measures which will prevent the removal of entire records or alteration of data on extant records. The methods employed should spread the responsibility for data security among the staff, and make it more difficult for falsification to occur.

The principles which follow must take these features into account when the system is being developed.

As outlined the information system must make information available in a manner which will support the functions and services of the institution. The manner in which it is made available is determined by the particular institution and the users and their needs. In order to meet these parameters it is suggested that the "Principles for a museum information system" postulated in Chapter 7: Information Systems, Chapter 8: Descriptive Documentation and Chapter 9: Subject Documentation should be adopted. They have been tested as outlined in Chapter 10: Evaluation of the Principles. The following is a statement of the principles and a reflection of the findings of the evaluation. Should any changes to the principles, as outlined in the preceding chapters have proved to be necessary, this is clearly stated.

Information Systems: Principle 1 : The purpose of an information system is to make recorded knowledge available to potential users.

Discussion

This principle presupposes that an information system will benefit the museum because it is a storehouse of information. The discussion found that the museum required an information system so that it could pursue its functions of collections management, research, display and education. It is an instrument for the use of a small, diversely and highly educated group which will inevitably affect the system. High levels of performance are required of the system, by the users regarding depth of enquiry, speed of delivery and quality of the end results. All information systems must be tailored to meet the needs of the user.

The survey found that this principle is presupposed by the existence of an information system in the first place. The questionnaire asked respondents to state explicitly the reason for the existence of the documentation system. All mentioned that it was intended to assist in the management, research, education and display of the museum collections. As these are the basic objectives of any museum, it is

essential that they be recognised in the objectives of the information retrieval system. This principle can stand.

Information Systems : **Principle 2** : The function of a museum information system is to be an efficient instrument for assisting in the management and use of the collections. This is done by:

2.1 Providing managerial assistance to:

- aid in the care and control of collections

- aid in the use of the collections

- aid in the preservation of information

2.2 Enabling the user to ascertain:

- the museum's holdings of items sought under their specific name, group name, or subject

- enable the user to find any item under any of these aspects

- assist the user in the choice of items for display, education, or research purposes if it is sought according to its physical nature, or associated or museological information.

Discussion

The functions of the museum information system can be divided between those required for management, and those required for the identification and study of the information units. The Principle spells out in detail the functions which the information system must be able to perform such as for managerial purposes the care and control of collections, assist in the use of collections, and assist in the preservation of information. For the user, the system must to enable him/her to ascertain a museum's holdings from any access point, enable the item to be found, and assist in the choice of an item for any of the museum's functions. These are two complementary and frequently overlapping functions. The one does not occur without the other.

The managerial aspects of the museum information system were dealt with in some detail in the survey. Questions regarding policy, staffing and financing of the information systems were asked. It was found

that there was a lack of interest and specific information about these activities in relation to the information systems.

There would appear to be a lack of clarity on the specific purpose of the systems, as all respondents stated the purpose of the system was to "assist in the functioning of the museum". It appears to be very vague and could well benefit from better formulation.

Regarding policy for the system, only two (AAT and MDA) have statements of policy. This is a sad reflection on the management status of the museum information systems.

Several institutions responded positively to the question of staff employed exclusively for the information system. No institution employed more than 4 staff members for this purpose and they had to administer a maximum collection of 300,000 items. This is a staggering ration of 1 staff member to 75,000 items. No system can function efficiently on this basis. It means the system will always be at an elementary level, as more sophisticated systems require more upkeep.

No institution could specify the expenses of the information system. This is seen as indicative of an attitude which does not consider documentation important enough to even evaluate its financial implications. It is a sad state of affairs.

It is shown that the management aspects of the information system leave much to be desired: there is an apparent lack of interest with staff being overloaded and financially very little is put into the system, once it has been set up.

The user aspect of the system is covered in detail in the questionnaire. As presupposed in the theoretical discussions, the user of the system was revealed to be mainly staff with occasional outside researchers. But the staff always administer the system in order to find the information sought.

The enquiries received are mainly of a medium level of complexity or depth. Theoretically it is considered that the museum must cater for in-depth searches, but in reality it was found that a superficial or medium level of depth in access retrieval will meet most needs of the users.

As can be seen the managerial aspect of the system has received very little attention from the institutions' managements. Though the Principle sets high standards of information availability, in practice it was found that a superficial or medium level of information availability is currently meeting the needs of most museums. This poses the question of is in-depth information availability necessary or on the other hand is the museum not fully utilising an obvious resource. The author is inclined to the latter view, to date nothing better has been available, so more extensive demands are not made on the system.

Information Systems: Principle 3: The components of an information system are:

- the information units
- the records of the information units
- the subject concepts on the records of the information units
- the user and his needs

Discussion

This principle addresses the question of the components of the information system. They are seen to be the information units themselves, the records they give rise to, the subject access points derived from them and the user for whom the system is instituted. The most important aspects are seen to be the information units and the users which will determine how the record is structured and the subject access points utilised. It is a complete circle where each component influences its neighbour and in part determines decisions made throughout the system.

The museum information system is primarily an instrument for the use of the staff in the execution of the museum's functions. As discussed it is an instrument for the use of a small, diversely and highly educated group which will inevitably affect the system. Theoretically high levels of performance should be required of the system, by the users regarding the depth of enquiry, speed of delivery and quality of the end results. All information systems must be tailored to meet the needs of the user.

The survey did not address the question of the information unit being a component of the system or not, as this is assumed to be self evident from the purpose of the system outlined in Principle 1. But the different types of information units included in a documentation system are explored. It was found that all systems catered for the records of the object collections, some for the photograph collections, while the library collections were usually treated as a separate issue. All the systems also catered for the subject records of information items. The users of the systems were found to be the museum staff and occasionally outside researchers and public.

These findings are entirely in keeping with the presuppositions on which the Principle was based, so it can stand.

Information Systems: Principle 4: The structure of the information system consists of:

- the organisation of information unit records

- the organisation of subject concepts

- access information

Discussion

Theoretically the structure of the information system is determined by how the records, subject concepts and access information are organised in order to gain access to the information. This is done by formatting the record in a certain manner and by the techniques adopted to create and gain access to subject access points. These are both topics which are treated in greater detail elsewhere in the study.

In the questionnaire all records were found to be organised into different fields in order to structure the information. The fields used can be broadly grouped into identification information, inherent information, associated information and management information. The records are then in turn organised into a consistent order according to an alphabetic or systematic system. In the survey it was found that both alphabetic and systematic systems are utilised in museums, although there is a preference for systematic systems. In all cases the institutions expressed themselves satisfied with the system at its disposal. Once a system is in place no

alternatives or improvements appear to be sought, until automation is considered. Once again one is faced with a stagnant situation.

Access is provided to the records according to the access points, such as item name, accession number, classification category or subjects.

The survey found that the structure of the information system does indeed consist of the organisation of the information unit records and of the subject concepts. The Principle is valid.

Information Systems: Principle 5: The information system is intended to be able to deliver information of a suitable kind and level to the user as requested. This is achieved through the organisation of the records . It may be either an alphabetic or a systematic organisation.

Discussion

The museum information system consists of the information units and their surrogate records and the actions or demands for information which are made on it. This involves matching the information needs of the users with the information units which

will meet those needs (Turner 1987:3). The nature of both the information units and the requests for information will determine the organisation which is used for the records. Two methods are possible, either alphabetical or systematic.

The systems cover subject and object records in both the descriptive and the subject documentation systems. For obvious reasons the descriptive documentation systems have not been considered to include subject records.

The subject documentation systems on the other hand cover both the object and subject aspects of an item's record. The subject documentation will include the specific naming of the item and placing it within its subject context.

All the systems try to cater for the general, medium and research level enquiries. These are the levels for which a museum information retrieval system, as a public funded institution must cater. The success with which it is managed will vary according to the staff and the system being used.

The organisation considered most suitable is discussed in detail in Chapter 9: Subject Documentation.

The parameters of the proposed system having been established, the next step in developing an information system is to ensure that the information in the system is readily available to the user, so fulfilling its brief to "provide each user with the information he needs in a usable form when it is needed" (Ashworth 1967: 35). This laudable objective is met by:

- identifying the information to be put into the system

- analysing it, so that one knows the type of material being dealt with

- recording it so that the facts are coherently structured

- synthesizing it so that it may be retrieved (Brown 1976: frame 172).

These steps in handling information are in fact dealt with in a different order and frequency to that which appears above, when they are applied in practice. For instance the identification and analysis of types of information is being done on an international level within CIDOC (the Documentation Committee of the International Council of Museums) to produce a general data standard and discipline specific ones.

On a specific level the individual data relating to each information unit must be analysed into its descriptive and subject elements at the time of recording. These aspects are discussed at greater depth under the terms Descriptive Documentation and Subject Documentation. These two terms have been coined to cover the action of compiling a descriptive record of an information unit and recognising and organising the subject access points to the records. They are derived from the library terms "descriptive cataloguing" and "subject cataloguing".

The term "descriptive documentation" is defined as "the process concerned with the identification and description of a unit, recording this information in the form of a record and the selection and

formatting of access points, except subject access points (after Chan 1981: 11; Wynar 1980: 17). The principles for descriptive documentation deal with the creation of the record, different types of record and their uses. From these principles specific rules can be derived as has been done in librarianship in the Anglo-American Cataloguing Rules.

The following general principles are suggested :

Descriptive Documentation :Principle 1: The purpose of descriptive documentation is to provide a surrogate record of the information unit which can be manipulated to meet the user's needs.

Discussion

The primary purpose of descriptive documentation as seen by the profession is to record the information relating to the item, and management of the item. The recognition of the importance of this principle is essential if the system is to be maintained.

All the institutions surveyed noted that there was a need for a surrogate for the information unit so that it could be made accessible through the

different access points, utilised in different sequences (Hoffman 1976: 41-45; Turner 1987: 15). This is not a topic which was dealt with in the survey.

The sources of information which are used to compile the record are important. It will differ from information unit to information unit depending on the type of unit and the discipline to which it is connected. But it is important that a source is recognised and accepted by the profession because it affects the accuracy and acceptability of the data. For museum items the significant attributes of an information unit are:

- the physical attributes

- the associated information (history, use, people, places, dates and events connected to the item)

- the museological information (i.e. how it came into the museum, and its use since then in research, display or conservation) (Transvaal Provincial Administration 1977: v.1 1-2; Southern African Museums Association Documentation Group 1987: 5; Wynar 1980: 18).

The physical information is usually taken from the item itself, sometimes confirmed from secondary sources as well. The associated and museological information can only come from the history of the item recorded when it entered the collections, or accrues to the item during its life in the museum. In any of these cases, neither the item itself nor the recognised secondary sources such as standard reference works will provide the information. The information for the record will come from the item, from standard reference works and from sources originating in the museum itself. These must all be recorded on the record in the appropriate place. The Principle is valid.

Descriptive Documentation: Principle 2: The record must be structured to facilitate retrieval.

Discussion

The structure of the information on the record is of vital importance to the success of the information systems because this will allow information to be accurately located for utilisation. In the library world the factors affecting the content of the record have been established and recognised

internationally for fully 50 years (Chan 1981: 12). The archival record also seems to have a recognised standard although it is not formally recognised by an international body, practical implementation has the same effect.

In the museum world the lack of consideration of these issues caused many of the problems experienced in early efforts to computerise museum records (Sarasan and Neuner 1983: 9-20). However an international standard is being considered by the International Standards Organisation at present.

This will include considerations such as the types of information found on the record, how the information is arranged and the depth to which information is recorded.

The structure of the record was discussed in the questionnaire under Information Systems, where the need and practise of structuring the information was revealed. The way in which the information was arranged is an individual matter for each museum or system.

The depth to which information is generally recorded appears to be to a medium level, although the newer systems such as the MDA and TPA make allowances for greater depth of recording.

This Principle stood the test provided by practice.

Descriptive Documentation: Principle 3: The components of a descriptive documentation are:

- the main record
- the additional records
- the references
- the analytical records

Discussion

There are several different types of records which can be used in an information system to guide and assist the user; they and their projected uses are outlined in this Principle.

The record types are firstly the main record, which is defined as the most complete record of the item made in the museum containing the information necessary for the complete identification of the information unit under a heading according to the main identification element of the discipline concerned (American 1973: 85; Harrod 1971: 407). It is recognised as important in the museum information system because it is the only record type recognised by all the systems.

Additional records are those which record the main entry either in full, or in part under an access point other than the one used on the main record (International Federation of Library Associations 1963: 28). They are intended to provide access to information units under alternate access points. At no time should an additional record be made for information which does not appear on the record (Chan 1981: 97; Wynar 1980: 7). The survey showed that additional records appear in some of the systems, but the costs involved in duplication of records mitigate against it being used in manual systems. In automated systems they are not recognised as separate entry types, but rather as an extension of the main record, merely indexed separately.

The third type of record suggested are references which lead a user from access points not used, to those used and to alternate access points (Harrod 1971: 533). They appear in two forms, the "see" and "see also" references (Chan 1981: 117). It is a means of preventing the undue bulking of the information system (Norris 1960: 29). These references do appear in some systems, but not in many.

The last record type recommended are analytical references. They are used for bibliographic information units which describe a part or parts of a larger unit (Chan 1981: 77). These records only exist in the modern systems (MDA and TPA).

The need for these different types of records cannot be denied, and their lack in descriptive documentation systems highlights once again the need for a sounder foundation for many information systems. They are essential if the system is to function properly, and museum documentation has no body of theory dealing with these matters.

Descriptive documentation: **Principle 4**: The record of an information unit should appear in the information system under a main access point and several secondary access points, if it is appropriate. There should be:

- a record for each information unit under an appropriate access point

- when variants of this heading exist a standardised form must be chosen and adhered to

- appropriate additional records and /or references must be made whenever it is necessary in the interests of the user or because of the characteristics of the information unit.

Discussion

The first state in this Principle is concerned with the records which are obligatory for each information unit, namely that there should be a record for each information unit under an appropriate access point. It is suggested that a

record should appear in a multiple form with a main record under a main access point and additional records under other access points.

This begs a theoretical point which is derived from library and information science, namely the conceptual division of the documentation procedure into a description and an access point (Anglo American cataloguing rules 1978). It is a division which has not yet appeared in museum documentation manuals.

The second statement deals with the need for a standardised access point; this highlights the problems caused by variant access points and introduces the concept of using standard headings in certain circumstances (International Federation of Library Associations 1971: 17). Although the standardisation of headings does not receive much attention in museum documentation, it is not a foreign concept. The survey shows that many systems use standardised lists which provide standardised access points.

The third statement of the Principle specifies that additional records or references should be made. This emphasizes the need to provide further records

which might be necessary in the user's interest or because of the characteristics of the unit. No system in the survey seemed to meet this requirement.

The policy regarding the selection of access points for an information unit has not to date received much attention from museum documentalists. Extant access point systems do not provide cross references to synonyms and related subjects. This is the case in all but one of the printed and the in-house systems used (The exception is the AAT).

The concept of multiple access points to an information unit is shown to be applicable to information systems and the concept of standardised headings is valid. The Principle stands.

Descriptive Documentation: **Principle 5:** There must be a structure and form for standardised access points:

5.1 All information units in an information system should be recorded under a standardised heading or main access point derived from the practices of the discipline or organisation concerned or the subject content of the record

5.2 Records under other access points for the same unit or type of unit should normally take the form of additional records but references may be used, when it can replace a number of additional records under one heading.

5.3 Additional records or in appropriate cases references should be made under all information aspects not revealed by the chosen main heading, but considered necessary for retrieval.

Discussion

The Principle is concerned with the question of standard access points or headings for information units and the different types which may be found. It also deals with the special problems associated with standardised headings in the Human Sciences and proposes a Code of Nomenclature.

From Library and Information Science theory it is suggested that where international rules for the formation of names or access points exist, they be used. Bibliographic and manuscript material can use the Anglo American cataloguing rules. Natural history collections will use the international

nomenclature conventions of the discipline concerned. For the Human Science collections and general access points which do not fall into these two categories, there are no international standards in museology.

All systems recognise that the main record must be recorded under a standardised heading. The main heading is often oriented to the identification of the item rather than the identification of the subjects associated with the item. These, when included are secondary access points.

The recording of secondary access points or references for items is not common practice. A few institutions appear to have internal or external guidelines to assist in choosing access points. Nor do many museums usually include bibliographic, photographic and archival items in the same information system as objects. This makes the comparison of the systems used difficult, but as a rule the subject access points appear to be treated separately from those which result from the descriptive documentation process.

These Principles are derived from the "Paris Principles" which govern library cataloguing. They are eminently suitable for use in the museum information system as has been shown in the survey which has revealed the use of access points for main records and to a lessor extent the use of secondary access points derived during the descriptive documentation process. The use of standardised lists is common. But there appears to be no appreciation of the theories of indexing which underlie the access points selected.

The standards for bibliographic and archival materials are served by the rules of the AACR2 which determine the formulation of access points for personal names and titles of items. The rules were developed over a period of time to cope with the problems presented by bibliographic materials and are entirely equal to the task of providing consistent and standardised records for the bibliographic material if they are consistently applied. It is strongly recommended that the museum world be made aware of these rules and of the advantage of applying them.

Subject access presents different problems which are usually handled during subject documentation. It must again be stressed that subject access is extremely important in any museum. The quality of research done in an institution will often depend on the detail of subject specification in the information system available to the researcher.

An investigation of the types of subject access which can be expected was undertaken from a theoretical point of view. It was postulated that the museum needs a system comprised of item entry, with assigned, concept indexing. The survey however found that there was no discussion of the theoretical aspects of indexing among museum documentation staff or in museological literature. The practice found that museum systems use item entries, assigned indexing and in the older systems, term indexing, while the newer systems use concept indexing. This confirms that the theoretical recommendations are valid in spite of a lack of consideration of these in practice and literature.

The standardisation of the item names is a problem which has until now only been handled on a local institutional level with standardised lists of terms. A Code of Nomenclature for the Human Sciences

is proposed, which has been tested in practise in one institution with considerable success. Other institutional and national systems are discussed in ore detail in Chapter 9: Subject Documentation and Chapter 10: Evaluation of the Principles.

Subject Documentation is an important part of the information retrieval system because it gives the user access to information in, and relating to the information units which cannot be revealed through the name of the unit or the person who created it. Subject documentation has been defined as: "The provision of a logical and meaningful system for the identification of information required by the user and to transform unorganised concepts, impressions or data into recognisable objects and recurring patterns which simplify the process of thought and are retrievable" (Buchanan 1979: 10; Classification 1971: 1; Langridge 1973: 15). In museums subject access is very important, both at the general and specific levels, but it has to date been an underdeveloped aspect of documentation.

Subject Documentation: Principle 1: The purpose of subject documentation is to reveal the subject coverage of the collections. This is achieved by analysing the subject concepts and organising them into a retrievable system.

1. The reason for subject documentation is to organise unorganised subject access points so that they can be retrieved when needed.

2. The purpose of subject documentation is to enable relevant subject matter to be found when needed and to show a collection or an institution's holdings in relation to a given subject.

3. The objectives of subject documentation are :

3.1 To provide access by subject to all relevant materials

3.2 To provide subject access to collections

3.3 To ensure the collocation of related material and separation of like from unlike.

3.4 To show affiliations between subject fields

3.5 To provide entry to any subject field at any level of analysis

3.6 To provide entry through the user's vocabulary

3.7 To provide formal description of subject content

Discussion

The purpose of subject documentation is stated as "to organise the knowledge embodied in the information units in the system into a logical and meaningful system for the identification of information requested by the user" (Turner 1987: 7).

All the institutions surveyed organised their information items according to subject to a greater or a lesser degree through the medium of subject catalogues or indexes. The recognition of the purpose of subject documentation being to reveal relevant subject matter when desired, is subsumed in the action of creating the previously mentioned subject catalogues and indexes.

The purpose of subject documentation was stated with variations, as "making the collections available" or "for information retrieval". This reveals a sound grasp of the idea that subject documentation should "show an institution or collection's holdings in relation to a given subject" as stated in the proposed principle.

The objectives of subject documentation as outlined in Principle 1 are largely supported by the survey. For instance it was found that most Human Science, bibliographic and archival material are covered by the subject documentation systems in the survey. The systems are generally not interdisciplinary although this is a tendency in the newer ones. They all handle single topics and three can accommodate both multi-topical and composite subjects.

The systems claim to provide entry to the subjects through the provision of access points through the use of "common names". Unfortunately the term is not defined and it is assumed that the common names referred to are common within a discipline.

The provision of entry levels to subjects was not handled in the survey, but it can be assumed that the level is fairly high since mainly staff and researchers use the system.

The survey revealed that museum documentation does not at the moment discuss the more theoretical aspects of subject documentation, even though many of the aspects touched on in Principle 1 are revealed in the systems studied. There is a lack of grasp for the theoretical aspects of topics such as the difference between classification for knowledge and classification for the arrangement of knowledge and the units which comprise the building blocks of a subject documentation system. It is postulated that if Principle 1 were implemented in the design and development of a system, this would better meet the needs of the collection or institution it was serving.

Subject documentation: Principle 2: Subject documentation is a means of organising and exhibiting the subject content of information units and their relationships in the collections of a single department, institution or group of institutions. This is best accomplished through indexing.

- the user and the use required of the information system will determine how the subject documentation system is structured and the level of specificity implemented

- certain decisions have to be taken, for instance:

  - will control of the indexing terms be at the input or the output stage of the system

  - during input decisions have to be made on whether term or item entry will be used;
    whether derived or assigned indexing will be practised;
    whether term indexing or concept indexing are practised and
    whether pre-or post-co-ordinate retrieval methods should be implemented.

  - the type of access organisation should also be determined i.e whether alphabetic or structured.

- whether a structured or an unstructured retrieval language is used to organise the index terms

Discussion

Principle 2 states explicitly that indexing is seen as the best method of deriving the subject content of information units and specifies the decisions which should be taken when considering their re-organisation into a system.

Indexing is seen as the process of organising unorganised concepts, impressions or data into a system so that it is retrievable (Buchanan 1979: 10; Langridge 1973: 15). It was presupposed that the users of the system will be museum staff and outside researchers and that it will be utilised for research.

The survey found that the systems were all designed to be used by graduate staff and outside researchers. This was presupposed in the discussion of the Principle. The decisions which have to be taken at both input and output were examined. This led to a number of questions being asked in the

survey. It was found that index terms are usually selected from a standardised list, rather than the use of free language.

Other input considerations are whether the following will be used:

- term or item entry

- derived or assigned indexing

- the technique of term indexing or concept indexing

- pre- or post co-ordinate retrieval methods

It is postulated that the museum subject documentation system will use:

- item entry

- assigned, concept indexing

- post co-ordinate retrieval methods

All the systems studied during the survey prefer the use of item rather than term entries; assigned rather than derived indexing; term rather than concept indexing; pre- rather than post co-ordinate systems; and enumerative rather than synthetic systems. The exception to this picture are the latest two systems, AAT and MISSAT which use term entries, derived, concept indexing with a post co-ordinate and synthetic system. This highlights once again the fact that museum subject documentation systems are not as a role utilising the latest methods in Information Science. It would appear to confirm the thought that much research on museum documentation systems still has to be done (and education of the museum fraternity in the available techniques).

Most of the systems practise control during the input of term with a structured rather than an unstructured access organisation. This ensures a greater uniformity in the result obtained, but does not easily meet the needs of very detailed subject retrieval.

The above findings are not the same as the recommendations made in the Conclusion to Principle 2 where it was suggested that to meet the need of

the specialist user a structured retrieval system with access points at all levels of generality and specificity is required. It was further recommended that item entries using concepts arrived at through assigned indexing are organised using post co-ordinate indexing techniques. The access to the resulting information should be through a systematic structure with an alphabetic index. Finally it is recommended that post co-ordinating techniques will provide a flexible system able to deal with the detailed demands of a museum information system.

A problem with this proposal is that many disciplines already have classification schemes created using enumerative, pre-co-ordinate techniques. The real challenge to the museum world is to find a means to use any combination of the discussed techniques to provide an interdisciplinary and multi-media system.

Subject documentation: Principle 3: The elements of a subject documentation system are:

- the information units which make up the system

- the access points derived from the information units

- the indexing language which analyses and reveals the content of the system.

1. The information units produce access points on a wide variety of subjects and relationships, to be input into the multi-media, interdisciplinary information system.

2. The access points are derived from the surrogate records of the information units.

3. The access points can be derived by manual or mechanical means.

3.1 The access points are derived using the technique of subject analysis.

3.2 The indexing policy should be suitable to the institution it serves, namely an in-depth indexing policy in a research institution.

3.3 The indexing language analyses and reveals the subject content of the information units in the system.

3.3.1 The different types of language should be considered for different purposes.

3.3.2 The input considerations for retrieval languages are:

- controlled versus uncontrolled retrieval languages

- the use of verbal or coded index terms

- pre-or post- co-ordinate verbal headings

- enumerative or synthetic coded retrieval languages

- the level of exhaustivity decided on

- and finally the level of specificity decided on.

3.3.3 The output considerations for a retrieval language are the relevance and recall required for the system.

Each of these decisions must be taken anew with each system designed, because each situation is different. The proposals contained in the discussion of the principles will be reviewed in relation to the survey findings.

The Principle postulates that the subject documentation system is composed of three elements, the information units, the access points derived from them and the indexing language which analyses and reveals the content of the system.

The information units, as outlined earlier are both physical entities and information entities which produce access points based on both the physical attributes and the information, associated, inherent and museological which it contains. This information is the source of the access points which are utilised in the subject documentation system. It is postulated that the system will be multi-media and interdisciplinary. The survey found that the museum subject documentation systems in museums are generally multi-media and interdisciplinary, proving the proposition.

The second element in a subject documentation system are the access points utilised in the system. The term access points refers to "any finite statement at any level of generality or specificity which conveys a fact or item of knowledge which may be sought by the user now or in the future" (Oxford 1964: 42). They are extracted from the surrogate record, and can vary from dates or names to subjects at any level of generality or specificity. The problem lies in choosing the access points which will be required by the user.

The access points are usually chiefly derived from the surrogate record. Sometimes subsidiary references will be used. It should be borne in mind that the associated information will play an important role in the selection of access points for an information unit. From the author's experience, reference works are used to confirm the form of an access point, detail concerning it, or related terms which can be used as access points.

The access points, recorded during the normal documentation procedures are derived by manual means in all systems. The use of automated methods of indexing for the derivation of access points is not yet used in museums, as far as the author has been

able to ascertain. The derived terms are then listed. Frequently standardised lists are used. The list of the Ethnology Department, South African Museum and the Horniman Museum are examples of these standardised lists.

The terms are arrived at using subject analysis methodology (Brown 1976: frame 40). It is defined as "the recognition of attributes and entities, concepts and relationships which the subject concepts inherent in and derived from museum information units, which are likely to be useful ins serving to fulfill the objectives of the specialised information centre" (after Brown 1976: frame 38, 110; Kent 1965: 69; Langridge 1973: 110; Sharp 1965: 28). During the survey no museum demonstrated that it used formal subject analysis to derive the subject documentation access points. It appears to be done on an informal, intuitive basis.

The number and type of access points which are incorporated into a system are determined by the indexing policy of the information retrieval system. It may be either brief, known as "summarisation" indexing or if extensive, known as "in-depth" indexing. It is postulated that the museum as research institution should practise in-depth

indexing. But the survey found that none of the institutions surveyed demonstrated a stated indexing policy. Experience has shown that summarisation rather than in-depth indexing is used, because of the time and staff constraints of the museum situation. This is done for all collections.

The third element in the subject documentation system is the indexing language which analyses and reveals the content of the system. The retrieval language may be a real language, using the sorts of words the searcher uses or it may be a controlled artificial language such as a classification scheme or a thesaurus so that the problems experienced with the meanings of words are reduced and the importance of identifying and showing relationships is enhanced (Turner 1987: 51). The survey found that the museums generally use a classified, structured retrieval language, supplemented by a verbal index or access points.

The principle states that different types of retrieval language should be considered for different purposes. Although different types of retrieval language appear in different museums this

appears to be accidental rather than the intentional choice of a type of language to serve a particular purpose.

The survey found that museum retrieval languages used at input are generally structured; using verbal or a combination of verbal and coded retrieval languages; with a medium level of exhaustivity and a medium level of specificity.

There has been a marked development over the last 30 years in instruments or methods by which the effectiveness of systems can be measured. This is usually done at output through the measurement of recall, precision and relevance. The survey found that none of the museums systems surveyed use any of the performance measurements in their systems. This is entirely in line with the ignorance which is apparent in museum documentation theory of the theory of subject documentation in general as developed in librarianship and information science.

The postulated system should form a theoretical and a practical point of view, structured with verbal rather than coded extensions; with a medium level of specificity and exhaustivity. The museum world does not at this stage practise any measurement of

effectiveness at output, but it would be well advised to take cognizance of the measurements of recall, relevance and precision.

Subject documentation: **Principle 4:** The structure of a subject documentation system is determined by the retrieval language which is composed of:

- the retrieval language vocabulary consisting of the index terms and their relationships.

- the retrieval language syntax consisting of the syntax rules and the "orders" or levels which determine the methods used for recombining the elements.

The nature of the terms and their relationships to each other will determine the retrieval language syntax used in the system.

It is suggested that the following terms are adopted for the different levels of a museum information retrieval system:

- First level: "Subject" It is the term to be used at the most general level of the information retrieval system. It is defined as "the substance

(concrete entity or abstract ideas) or what is found in or derived from an information unit (Harrod 1971: 621; Langridge 1973: 110; Oxford 1964: 1285). In the survey it was found that this term was used to define this level of generality, so its formalised use will not be strange to the information system clients. The use of the term will allow the identification of definite areas of knowledge in the museum which may not necessarily reflect either the museum's departmental arrangement or the academic disciplines associated with them.

- Second level: "Main class" It is the term to be used at the second level of generality. It is defined as "a discrete area of knowledge which is co-ordinated with other main classes and which together exhaust the universe" (Buchanan 1976: 88). It was found in all museum subject documentation systems investigated. In an interdisciplinary, multi-media information retrieval system for an institution it will be the first factor which is sought; in a departmental system it is such a fundamental assumption that it will not even be recorded.

- Third level "Facet" The term "facet" is suggested as the third conceptual level of a system. It is defined as "a grouping of concepts or phenomena applicable to a whole or a large part of knowledge" (Brown 1976: frame 112). It is arrived at by grouping the concepts of a discipline on the basis of shared characteristics. The survey found that most systems do not include the concept of "facet" in their vocabulary, but the exception was the AAT which does. It is suggested that the term "facet" is used for the median group of concepts in a subject documentation system. It is to be preferred to the term "class" which is used in another connotation by natural scientists who deal with the term in the Aristotelian sense.

- Fourth level "concept" The fourth level of analysis suggested is "concept". It is defined as "a sum of recurrent features which enable it to be repeatedly recognised and correctly identified" (Foskett 1977: 59; Shera and Egan 1956: 25; Wynar 1980: 391). In the survey it was found that none of the systems except the AAT recognised the term. It is suggested as the term for the smallest recognisable subject unit in the information

retrieval system. It is a familiar word, used in a familiar sense and embraces the idea of an isolate as well as concrete entities and abstract ideas.

The recognition of the importance of the relationships between concepts cannot be underestimated (Langridge 1973: 38, 41). They are an integral part of the subject analysis of subject units (Brown 1976: frame 122) especially in bibliographic systems where they are seen as the means of making available to the users material which might otherwise be lost, and increasing accessibility. The relationships recognised are semantic, equivalence, hierarchy, affinitive, associative and syntactical.

The survey showed that the concept of relations between subjects is recognised in museum subject documentation systems, but only four of the systems actually use it. The relationship recognised by all the systems is the hierarchical one; some of the systems utilise semantic, associative and syntactical relationships; none use equivalence or affinitive relationships.

One can only assume that this aspect of subject documentation should be further investigated and that it will prove a useful concept in the future.

A theoretical model for the retrieval language is postulated consisting of Principles of Division by which the information units in subject documentation are arrived at and Principles of Arrangement by which the units are recombined into the subject documentation system.

The retrieval language syntax consists of Principles of Division used to divide the subjects into discrete units. Three Principles of Division are suggested: the Characteristics of Division, Principle of Museum Warrant and Principle of Aspect/Entity Dichotomy. The survey found that the Principles of Division recognised by the systems are the Characteristics of Division and the Principle of Museum Warrant. The more modern systems recognise the Principle of Aspect/Entity Dichotomy.

The Principles of Division will all repay further detailed investigation. The Characteristic of Division is already used extensively in both Natural and Human Sciences, it is an essential concept in the process of classification. The Principle of

Museum Warrant is almost self evident in that no documentation system can be constructed without reference to the collection it is being constructed to retrieve (Foskett 1977: 26). The Principle of Aspect/Entity Dichotomy is used in two systems, but should definitely be investigated further for its application in the museum because "entities" are at the centre of any museum information system.

The Principles of Arrangement used are Principles of Collocation, Consensus, Dependence and Hierarchy. They are the methods suggested for the recombination of elements in an index term in a helpful manner at different levels. The survey found that all the systems use the Principle of Hierarchy, the Principle of Collocation and Principle of Consensus. None use the Principle of Dependence, except the AAT.

The Principles of Division and Arrangement provide a useful framework for the development of a theory of retrieval language syntax for use in museum subject documentation. As postulated the Characteristic of Division and Principles of Hierarchy, Museum Warrant and Aspect/Entity are definitely useful in museum subject documentation. Surprisingly, and contrary to expectation the Principles of Collocation and

Consensus were also found. But none use the Principle of Dependence. It is suggested that the Principles of Collocation, Consensus and Dependence should be further investigated.

The concept of "Orders" for a structured information retrieval system is postulated. They are the different levels at which analysis and re-organisation occur (Maltby 1975: 20). The "Orders" suggested are macro-order, micro-order: citation order, micro-order: order-in-array and filing order.

Any structured information system is structured in a linear manner, which presents a problem with which topics are collocated and which are scattered. This is particularly true of compound and complex subjects. These then have to be placed in a particular order (Brown 1976: frame 187; Buchanan 1979: 38). The ideal order is the one which will be most helpful in a particular situation.

The "macro-order" is the arrangement of the main classes (Foskett 1977: 157; Langridge 1973: 71; Maltby 1975: 57). It is important as it determines which subjects are collocated and which are

separated. All the systems surveyed recognised the macro-order of analysis, so it is obviously a useful valid concept.

The micro-order: citation order concept refers to order between facets which is important with the analysis of different facets in compound or composite subjects. Three systems use the micro-order: citation order of analysis. This concept is particularly relevant to documentary materials, in fact the three systems which use it are those which also include documentary materials in an integrated, multi-media information retrieval system.

The micro-order: order-in-array concept refers to the problem of arranging topics which are co-ordinate or of equal rank within a facet (Buchanan 1979: 40-41; Langridge 1973: 73; Maltby 1975: 64). Various forms of organisation can be practised and should be chosen for their helpfulness in a particular situation (Buchanan 1979: 40-41). Some are restricted to a particular discipline or topic (Maltby 1975: 64). No museum uses micro-order: order-in-array in its subject information system,

nor does it appear to be particularly important from a theoretical point of view for museum documentation.

Filing order is the practical arrangement of information units or records in a system (Langridge 1973: 69). Two methods of doing so have been codified in the ALA Filing Rules. They are "general before special" and "principle of inversion". Although the museum systems must use one of these approaches to filing if it has a system, none of the museums surveyed formally recognised filing order as level of analysis.

The same levels are recognised for re-organisation as were postulated for analysis, namely macro order, micro-order: citation order, micro-order: order-in-array and filing order. The survey showed that the synthesis or re-organisation of subject concepts recognised by the systems are macro-order and filing order. Only the most recent system, the AAT uses the micro-order: citation order and micro-order: order-in-array as levels of re-organisation.

The concept of macro-order was postulated as being of considerable use in museum subject documentation systems and the survey has proved it to be so.

The concept of micro-order: citation order is perhaps the most important to be considered because it determines the collocation or separation of subject concepts in the creation of index terms. It is suggested the purpose of the subject documentation system being created will determine the organisation chosen. It is mainly applicable to documentary and bibliographic collections. It is in fact only used by the AAT, presumably for the said documentary and bibliographic collections.

The micro-order: order-in-array concept is concerned with the arrangement of topics which are co-ordinate or of equal rank within a facet. In a museum this will be determined by the disciplines concerned, rather than an arbitrary decision by the documentalist. However the problem still remains of organising subject concepts in an interdisciplinary and multi-media information retrieval system. Only one structured system, the AAT, has so far attempted to solve this problem.

Filing order is the practical arrangement of information units and records in an information retrieval system. It is suggested that the filing order be based on two simple principles, namely the principle of inversion and the concept of general before special. These are both used in museum subject documentation systems, and so the Principle of Filing Order may be said to be applicable to the concept of "Orders".

Conclusion

The Principles derived for museum documentation in the foregoing study have proved to be valid. The study also indicated the extensive similarities between the museum and library/information science/cataloguing and classification. Museum world is many years behind in its development, but can utilise many existing techniques in information science. These should in fact be studied in greater depth and applied in the practical museum situation, it would considerably improve the current standard of museum documentation if this were done. One can hope that this will happen in the future.

TABLE 1: COMPARISON OF INFORMATION INSTITUTIONS

FEATURE	INSTITUTION		
	Library	Archive	Museum
User group	Specialist or general public depending on the institute	Usually Scholarly	Both specialist and general. The specialist does the research (production of information) and the general public "consumes" it in "information products" such as displays, lectures, publications
Aims	Service through the provision of material for reading, study and consultation	Primarily administrative business or legal record of public or private transactions preserved as being of value for future research or administrative reference	Service through collection, preservation and display of material for study, education and enjoyment
Types of records	Books and literary material	Documents, generally of historical value	Collections of cultural and scientific significance (both two and three dimensional)
Services	Collects, preserves, organises and makes available for use	Collects and makes available for study, written or printed documents of transaction	Collects, preserves, researches, communicates and exhibits

TABLE 2: COMPARISON OF INFORMATION CATEGORIES

LIBRARY	ARICHIVAL	MUSEUM
Title and statement of responsibility	Title, Accession number	Identification information (name of item)
Edition statement		
Material Statement		
Publication statement (Place of publication, name of publisher, date of publication)	Date	
Physical description statement	Content, 1	Inherent information (physical nature of item)
Series statement (Title of series, responsibility, ISSN of series etc)	Inventory	
Note statement		
Standard number		
		Associated information (history of people, places events and dates associated with item)
	Donor	Museological, information (accession, display, conservation)
(After Chan, 1980 p. 26-28: Wyner, p. 22)		(After SAMADOC, 1987, p. 5)

TABLE 3: DIFFERENT FILING METHODS

1. Alphabetico-Specific-Sequence:

TABLE 01/376
- dining : walnut veneered, 2x1m.

CHAIR 01/42
- arm : padded, leather covered.

BED 01/103
- day : 2x1.5m, padded, covered in floral material, scroll back and legs.

2. Alphabetico-Classed Sequence:

Furniture : Library 01/42
CHAIR
- arm : padded, leather, covered.

Furniture : dining room 01/376
TABLE
- dining : walnut veneered, 2x1m.

Furniture : Bedroom 01/103
BED
- day : 2x1.5m, padded, covered in floral material, scroll back and legs.

TABLE 4: INFORMATION SYSTEM ACCESS METHODS: ADVANTAGES AND DISADVANTAGES

Systematic Information System	Alphabetic Information System
dvantages	Disadvantages
. The controlled order of the academic disciplines fosters a direct, efficient search for those familiar with the classification scheme	1. The subject matter of the catalogue is fragmented through its arrangement
. Extensive opportunities for in-depth researching	2. Increase of semantic problems. In the absense of short specific words for many subject concepts, awkward compound and prepositional phrase headings soon appear to complicate the filing and confound the user
Use of a notation objectively signifies topics and categories	3. There is an inherent weakness in the lack of a conceptual framework in subject heading lists
Information is collocated as required according to the classification scheme	

Systematic Information System	Alphabetic Information System
. There is a logical relationship in the order of the topics in the catalogue	
vantages	Advantages
Most of our cultural heritage as recorded in documentary collections cannot be satisfactorily systematized ack of classification schemes suitable for museum pplication in the Humanities	
Systematic arrangements are almost never such ready vehicles as is the alphabet	2. Direct Access A consolidated single strike catalogue is often more efficient than a "double look-up" one
Difficulty in introducing new groupings	3. Greater freedom in introducing new groupings

Systematic Information System	Alphabetic Information System
dvantages	Advantages
roblems in achieving efficient automated information etrieval	4. More efficient automated information retrieval
ck of direct access to information	

(After Wyner, 1980, p. 482-485)

Table 4 is a comparison and contrast of the advantages and disadvantages of the two methods of arrangement. The deciding factor in the choice of access method is the group it is intended to serve. As a museum catalogue is intended to serve a specialist user group the systematic arrangement is suggested.

PRINCIPLES OF SYNTAX	PRINCIPLE OF ORGANISATION	General order	Macro-order	Micro-order: Order in array	Micro-order Citation order	Filing order
Arrangement	COLLOCATION		Collocation of Related works/ subjects	Size Spatial proxi-mity		
Arrangement Division	ASPECT/ ENTITY DICHOTOMY		Aspect/entity order		Decreasing concreteness Concrete-Process	Inversion
rrangement	CONSENSUS		Scientific and Educational consensus	Canonical	Consesus	
rrangement	DEPENDENCE		Dependence Evolution Gradation by speciality		Dependence Whole - part Wall -picture order	
rrangement	HIERARCHY	General before Special		Chronology Evolution Increasing Complexity		Broader before narrower
rrangement, ivision	MUSEUM WARRANT	Literary Warrant		Literary war-rant Preferred category		
Division	DIVISION	Caracteristic				

TABLE 6

THE VOCABULARY OF DIFFERENT INFORMATION RETRIEVAL SYSTEMS:

LEVEL	SUBJECT ANALYSIS	FACETED CLASSIFI-CATIONS	SUGGESTED MUSEOLOGICA TERMINOLOGY
Most general	Subject	Subject	Subject
2nd level	Main class	Discipline	Main class
3rd level	Facet	Category	Facet
4th level	Isolates	Concepts	Concept

TABLE 7

THE RELATIONSHIPS FOUND IN INFORMATION RETRIEVAL SYSTEMS

lation-
ip

S E M A N T I C R E L A T I O N S H I P S:
BETWEEN RELATED CONCEPTS

es	EQUIVALENCE	HIERARCHICAL	AFFINITIVE/Associativ
es	Synonym & antonym Quasi synonym Preferred spelling Acronyms, abbreviations Current & established terms Translations	Genus - species Whole - part	Co-ordination Genetic Concurrent Cause & effect Instruments Materials Similarity

(After Foskett 1977, p64)

S Y N T A C T I C L R E L A T I O N S H I P S:

(ARISE BETWEEN UNRELATED CONCEPTS IN COMPLEX AND COMPOUND SUBJECT

Each worker in this field has identified his own categories. There does not appear to be agreement on the categories as yet, except for phase relationships.

PHASE RELATIONSHIPS		
Bias phase Influence phase Tool or exposition phase. Comparison phase		

(After Foskett 1977 p73-74, 91-94; Buchanan, 1979, p19-21; Maltby, 1975, p49-50)

TABLE 8

RELATIONSHIP	EXAMPLE
E Q U I V A L E N C E	
Synonyms & Antonyms	common name - scientific name Cat - Felix
Quasi synonyms Same continuum Overlapping	 raughness - smoothness distance - length
Preferred spelling	labor or labour
Acronyms, abbreviations	NATO North Atlantic Treaty Organisati
Current & established terms	Native, Blacks, Bantu
Translations	Council for Scientific and Indus trial Research Wetenskaplike en Nywerheids Navo singsraad

(after Foskett 1977,p54)

TABLE 9

HIERARCHICAL RELATIONSHIPS

RELATIONSHIP	EXAMPLE
HIERARCHICAL	
Genus - species	Mammal - cat
whole - part	Door, part of a house

(After Foskett,1977,p64)

TABLE 10

SUGGESTED PRINCIPLES OF MUSEUM DOCUMENTATION

Information Systems: Principle 1 : The purpose of an information system is to make recorded knowledge available to potential users.

Information Systems : Principle 2 : The function of a museum information system is to be an efficient instrument for assisting in the management and use of the collections. This is done by:

2.1 Providing managerial assistance to:

- aid in the care and control of collections

- aid in the use of the collections

- aid in the preservation of information

2.2 Enabling the user to ascertain:

- the museums holdings of items sought under their specific name, group name, or subject

- enable the user to find any item under any of these aspects

- assist the user in the choice of items for display,education, or research purposes if it is sought according to its physical nature, or associated or museological information.

Information Systems: **Principle 3**: The components of an information system are:

- the information units

- the records of the information units

- the subject concepts of the on units

- the user and his needs

Information Systems: **Principle 4**: The structure of the information system consists of:

- the organisation of information unit records

- the organisation of subject concepts

- access information

Information Systems: **Principle 5:** The information system is intended to be able to deliver information of a suitable kind and level to the user as requested. This is achieved through the organisation of the records . It may be either an alphabetic or a systematic organisation.

Descriptive Documentation :**Principle** 1: The purpose of descriptive documentation is to provide a surrogate record of the information unit which can be manipulated to meet the users needs.

Descriptive Documentation: **Principle 2:** The record must be structured to facilitate retrieval.

Descriptive Documentation: **Principle** 3: The components of a descriptive documentation are:

- the main record

- the additional records

- the references

- the analytical records

Descriptive documentation: Principle 4: The record information unit should appear in the information under a main access point and several secondary points, if it is appropriate. There should be:

- a record for each information unit under an appropriate access point

- when variants of this heading exist a standardised form must be chosen and adhered to

- appropriate additional records and /or references must be made whenever it is necessary in the interests of the user or because of the characteristics of the information unit.

Descriptive Documentation: Principle 5: There must be a structure and form for standardised access points:

5.1 all information units in an information system should be recorded under a standardised heading or main access point derived from the practices of the discipline or organisation concerned or the subject content of the record

5.2 Records under other access points for the same unit or type of unit should normally take the form of additional records but references may be used , when it can replace a number of additional records under one heading.

5.3 Additional records or in appropriate cases references should be made under all information aspects not revealed by the chosen main heading, but considered necessary for retrieval.

Subject Documentation: **Principle 1:** The purpose of su documentation is to reveal the subject coverage of collections. This is achieved by analysing the su concepts and organising them into a retrievable system.

1. The reason for subject documentation is to organise unorganised subject access points so that they can be retrieved when needed.

2. The purpose of subject documentation is to enable relevant subject matter to be found when needed and to show a collection or an institutions holdings in relation to a given subject.

3. The objectives of subject documentation are :

3.1 To provide access by subject to all relevant materials

3.2 To provide subject access to collections

3.3 To ensure the collocation of related material and separation of like from unlike.

3.4 To show affiliations between subject fields

3.5 To provide entry to any subject field at any level of analysis

3.6 To provide entry through the users vocabulary

3.7 To provide formal description of subject content

Subject documentation: Principle 2: Subject documentation is a means of organising and exhibiting the subject content of information units and their relationships in the collections of a single department, institution or group of institutions. This is best accomplished through indexing.

- the user and the use required of the information system will determine how the subject documentation system is structured and the level of specificity implemented

- certain decisions have to be taken, for instance:

  - will control of the indexing terms be at the input or the output stage of the system

  - during input decisions have to be made on whether term or item entry will be used; whether derived or assigned indexing will be practised;
    whether. term. indexing or concept indexing are practised and
    whether pre-or post-co-ordinate retrieval methods should be implemented.

- the type of access organisation should also be determined i.e whether alphabetic or structure.

- whether a structured or an unstructured retrieval language is used to organise the index terms

Subject documentation: Principle 3: The elements of a subject documentation system are:

- the information units which make up the system

- the access points derived from the information units

- the indexing language which analyses and reveals the content of the system.

1. The information units produce access points on a wide variety of subjects and relationships, to be input into the multi-media, interdisciplinary information system.

2. The access points are derived from the surrogate records of the information units.

3. The access points can be derived by manual or mechanical means.

3.1 The access points are derived using the technique of subject analysis.

3.2 The indexing policy should be suitable to the institution it serves, namely an in-depth indexing policy in a research institution.

3.3 The indexing language analyses and reveals the subject content of the information units in the system.

3.3.1 The different types of language should be considered for different purposes.

3.3.2 The input considerations for retrieval languages are:

- controlled versus uncontrolled retrieval languages

- the use of verbal or coded index terms

- pre-or post- co-ordinate verbal headings

- enumerative or synthetic coded retrieval languages

- the level of exhaustivity decided on

- and finally the level of specificity decided on.

3.3.3 The output considerations for a retrieval language are the relevance and recall required for the system.

Subject documentation: Principle 4: The structure of a subject documentation system is determined by the retrieval language which is composed of:

- the retrieval language vocabulary consisting of the index terms and their relationships.

- the retrieval language syntax consisting of the syntax rules and the "orders" or levels which determine the methods used for recombining the elements.

GLOSSARY

Accessioning procedures

Accessioning procedures are the procedures relating to the allocation of an accessions number to an information unit or group of items and the recording of the details of the number and the item in an accessions book or register (Allen, Owen and Wallis 1960: 40-45; Dudley and Wilkinson 1979: 21-30; Macbeath and Gooding 1969: 50-54; Museum Documentation Association 1980d: 15-20)

Accession number

The accession number is a unique number which is assigned permanently to the item in the museum (Dudley and Willinson 1979: 22-27; Guthe 1970: n.p.).

Accessions register

The accessions register is the book in which the number and the unit information is recorded. (Dudley and Wilkinson 1979: 30; Guthe 1970: n.p.; Lewis 1976: 143-149).

Access organisation

Access organisation is the method of arrangement used in information systems in order to gain access to the information they contain.

Activity documentation

Activity documentation are the records about activities of interest to the museum, e.g. commercial fairs within a geographical region, or the managerial and curatorial activities on the collections, e.g. accessioning, loans, store management, insurance (Light 1988: 48; Roberts 1985: 29).

Affinitive relationships

Affinitive relationships are relationships dealing with co-ordination of different kinds e.g. different kinds of cats , or family co-ordination such as a father and a son (Foskett 1977: 64).

Alphabetic access organisation

Alphabetic access is the use of the alphabet to arrange the record according to a chosen heading

Alphabetic information system

An alphabetic information system is where verbal access records are arranged in alphabetic sequence. They may be partially structured by the use of punctuation or a predetermined order in which concepts are recorded (Wynar 1980: 481).

Alphabetico-classed information system

In the alphabetico-classed information system the records are arranged strictly alphabetically, firstly by broad subjects which are then further subdivided by topics in alphabetical order. (Sharp 1965: 158-159).

Alphabetico-specific information system

In the alphabetico-specific arrangement the heading consists solely of the specific subject and the records are arranged in strict alphabetical order according to the heading (Sharp 1965: 158) with the hierarchical aspect of the scheme being revealed in the relevant references and cross references (Chan 1981: 126).

Analysis

Analysis is the process of identifying the information content of an information unit, analysing it into its simplest elements for the purpose of comparison with other similar records (Oxford 1964: 42; Turner 1987: 4; Vickery 1970: 37).

Archives

Archives are defined :

1) As public records of historical documents kept in a recognised repository.

2) As written records or annexures to them compiled for the purpose of, or used during, a public or private business transaction of which they form a part and which are preserved (Harrod 1971: 50).

Aspect

An aspect is an abstract or disciplinary feature of knowledge or idea such as forms, viewpoints, or theories (Brown 1976: 97; Buchanan 1976: 19; Langridge 1973: 57; Maltby 1975: 55).

Author

The person chiefly responsible for the creation of the intellectual or artistic content of a work (Wynar 1980: 267).

Basic subject

The basic subject is the discipline or discrete area of knowledge to which an information unit belongs (Brown 1976: 123; Buchanan 1976: 21).

Bibliographic classification

Bibliographic classification is concerned with the arrangement of things, either in storage or records in subject access files in an information system which expresses, preserves, and displays knowledge (Wynar 1980: 391, 397).

Biographical documentation

Biographical documentation are the records about people of interest to the museum . They are either people linked to the collections (previous owners, donors, collectors , etc.) or of local historical interest (Roberts 1985: 94).

Category

A category is a group which has a high generality and a wide application. It is arrived at by the exhaustive application of a single characteristic of division and is used to group other concepts (Brown

1976: 115; Harrod 1971: 131; Oxford 1964: 188; Shera and Egan 1956: 27; University 1975: 16; Wynar 1971: 131).

Characteristic

A characteristic is a conceptualized attribute by which classes may be identified and separated into groups or further subdivided by topic, form, location or chronology (Wynar 1980: 391).

Characterisic of division

A characteristic of division is an inherent and distinctive feature (attribute) shared by members of a class which differentiates them from other classes used in assembling things according to a degree of likeness to make a specific class (after Buchanan 1976: 30; Harrod 1971: 138; Langridge 1973: 62; Maltby 1975: 31).

Class

A class is a group of things which share one or more characterisics in common, which is not shared by members of other groups. The members are alike in essentials, characters, properties, and relations by which the group itself is defined (after Buchanan 1976: 33; Harrod 1971: 148; Shera and Egan 1956: 34; Wynar 1980: 391).

Code

A code is a systematic framework of principles which can be used in the construction of rules (Lubetzky 1969: 1; Webster 1974: 216).

Coded retrieval language

A coded retrieval language is when codes are used to represent the access points chosen in an information system.

Collection

A collection is an assemblage of items brought together from diverse sources on one subject, or collected by one person or organisation.

Collection documentation

Collection documentation is the documentation of both three dimensional objects (collection items) and two dimensional objects (bibliographic, archival and audiovisual material) (Roberts 1985: 29).

Collection group documentation

Collection group documentation is the documentation of convenient groups of items e.g. a particular collection, which may be distinct from the acquisition group of records (Roberts 1985: 90).

Collections control

Collections control is the procedures to ensure the interrelation of all records affecting control of collections, be it acquisition, location, or inventory control (Roberts 1985: 98-99).

Composite subject

A composite subject is two discrete subjects which are in a relationship of interaction, between more than one kind of thing: the two subjects are dealt with as the impact of the one on the other or their interaction. It requires phase analysis (Buchanan 1976: 39; 1979: 19; Maltby 1975: 47, 48).

Compound subject

A compound subject is one which deals with more than one subject, usually a basic subject plus two or more concepts from the various facets of a single subject field. It is recombined after analysis according to the established citation order (Brown 1976: 127; Langridge 1973: 63, 67; Maltby 1975: 34).

Concept

A concept is the sum of recurrent features which enables it to be repeatedly recognised and correctly identified. It is generally an intangible "thing" such as a property, action, idea or emotion. It is always found in a certain context or frame of reference which must be recognised (Brown 1976: frame 91; Buchanan 1976: 40; Foskett 1977: 42, 59; Shera and Egan 1956: 25-26; Wynar 1980: 391).

Concrete-process subprinciple

The concrete-process subprinciple is a method of indexing in which the main (first or leading word) is the concrete concept followed by the "process" concepts which describe it (Harrod 1971: 171; Maltby 1975: 132).

Conservation documentation

Conservation documentation is a record of the technical examination and conservation treatment of the two and three dimensional collections (Roberts 1985: 88).

Containing relationships

Containing relationships are those which appear between :

- a main or basic subject class in relation to its subdivision
- a genus in relation to its species
- a whole to a part
- a class in relation to its members

They occur within the Principle of Hierarchy of the retrieval language syntax (Foskett 1977: 137; Langridge 1973: 70).

Control of acquired material

The control of acquired material depends on the procedures used to ensure a paper trail for items from the moment of their entry into the museum (Roberts 1985: 103-104).

Control of non-acquired material

The control of non-acquired material rests on the procedures used to ensure a paper trail for items which both enter and leave the museum. (Roberts 1985: 82, 98-102)

Corporate body

A corporate body is any organisation or group of persons that is identified by a particular name and that acts, or may act as an entity or group of

individuals associated together as an organisational unit, e.g. government, society, institution, convention, committee (Wynar 1980: 268).

Corporate body documentation

Corporate body documentation are records about organisations (corporate bodies) of curatorial interest to the museum. They are either institutions linked to the collection's previous owners, donors or collectors or of general historical interest to the museum within a certain geographical region, or they may be concerned with museums or craft centres or organisations of interest (Roberts 1985: 94).

Data

The term data is a general one used for information which is known to relate to an information unit in an information system. It is used to distinguish input and output information in a system from instructions (Harrod 1971: 200; Oxford 1964: 309).

Database

A database is a unified collection of structured information which can be utilised by different departments and different people for different purposes (Kanter 1972: 12; Ross 1970: 159).

Data element

A data element is the smallest unit of information to which reference is made (Sarasan 1981: 46).

Data field

A data field is a specified area within a record where a particular kind of data (information) are recorded e.g. acquisition (Sarasan 1981: 46).

Data processing

Data processing is the recording of information by some means whereby it (or only some of that stored on the same record) may be obtained immediately by a mechanical or semi-mechanical process.

Data processing controls

Data processing controls are standardised controls used during the automation of records to improve their quality and accessibility (Sarasan and Neuner 1983: 18).

Data standards

Data standards are standardised lists of categories and subcategories for museum records (Roberts and Light 1980:47-48).

Deacquisition controls

Deacquisition controls are the procedures which enable control to be exercised over the records of acquisition of material (Roberts 1985: 108).

Decreasing concreteness subprinciple

The decreasing concreteness subprinciple is that the more concrete should always be cited before the less concrete (Buchanan 1979: 39).

Depth indexing

Depth indexing is the recording of the subject content of an information unit in as many, or all access points as necessary to completely describe it (Langridge 1973: 110).

Descriptive documentation

Descriptive documentation is concerned with the identification and description of an item, the recording of this information in the form of a record and the selection and formatting of access points except subject access points. It creates a master record (Chan 1981: 11; Dudley and Wilkinson 1979: 31-32; Museum Documentation Association 1980d: 20-23; Wynar 1980: 17).

Developmental relationships

Developmental relationships are those relationships which exhibit the concept of a linear movement from one point to another. It may be sequential, or a change from a simple state to a more complex one, and includes concepts such as evolution, chronology, and increasing complexity. They occur within the Principle of Hierarchy, of the retrieval language syntax (Buchanan, 1979: 40; Foskett 1977: 130; Langridge 1973: 72; Maltby 1975: 17, 124-125).

Dictionary information system

In the dictionary information system the records of different types are arranged in a strict alphabetical order under their specific names or subjects. No attempt is made to reveal subject relationships (Chan 1981: 126).

Discipline

A discipline is a distinctive area or branch of knowledge which is basic and relatively stable, distinctive in kind and few in number (Brown 1976: frame 92; Langridge 1973: 36; Oxford 1964: 347).

Discipline data standards

Discipline data standards are standardised lists of categories for the records in a particular discipline (Southern African Museums Association. Documentation Group 1987).

Discipline-oriented documentation problems

In museum information systems discipline oriented problems relating to nomenclature and subject documentation (classification) standards in both natural history and the humanities appear (Immelman 1980: 3).

Divided information system

In the divided information system more than one alphabetical sequence is used i.e. information unit records may be filed separately from subject access points (Chan 1981: 126).

Documentation

Documentation is the analysis, recording, and synthesis of information associated with an information unit (Roberts 1985: 1).

Documetation procedures

Documentation procedures are the procedures for museum documentation such as entry procedures, accessioning or registration procedures, procedures to create a permanent record and indexing procedures (Allen Owen and Wallis 1960: 40-51; Burcaw 1975: 84-92; Chenhall 1975: 13-18; Dudley and Wilkinson 1979: 3-198; Lewis 1976: 141-164; MacBeath and Gooding 1969: 49-58).

Entity

An entity is a concrete feature of knowledge or "thing", such as a car, table or motor car, generally characterised by a specific name, such as those for people, places or items (Brown 1976: frame 97; Buchanan 1976: 53; Foskett 1977: 42; Harrod 1971: 242; Langridge 1973: 57; Maltby 1975: 55).

Entry procedures

Entry procedures are the procedures used on the entry of material into the museum to ensure that it is recorded and its whereabouts are always traceable (Dudley and Wilkinson 1979: 13; Museum Documentation Association 1980d: 12).

Enumerative retrieval language

In the enumerative retrieval language the universe of knowledge is divided up into successive stages of classes and subclasses with a certain characteristic as the basis for each stage (Chan 1980: 210).

Equivalence relationships

Equivalence relationships occur chiefly between synonyms e.g. scientific and common name (Foskett 1977: 63-65).

Event documentation

Event documentation are records relating to events or activities of interest to the museum (such as military campaigns, agricultural, industrial or social activities). The records should be linked to item records to which they are related. This is particularly important in historical collections (Roberts 1985: 94).

Exhaustivity

The exhaustivity of the indexing in a system is the degree to which all or nearly all recognised subject concepts are included in an information system. It will affect the performance of the information system (Brown 1976: frame 48; Langridge 1973: 110; Vickery 1970: 64).

Exit procedures

Exit procedures are those procedures which are applied when an item leaves the collection either temporarily or permanently (Dudley and Wilkinson 1979: 18-19; Lewis 1976: 133-136; MacBeath and Gooding 1969: 58; Museum Documentation Association 1980d: 32; Roberts 1985: 85-88).

Facet

A facet is a group of similar things within a broader topic or discipline which share a characteristic in common. They are always seen within the context of the discipline category or main class to which they belong. (Brown 1976: frame 112; Foskett 1977: 129; Harrod 1971: 252; Maltby 1972: 34).

Filing order

Filing order is the order of arranging information unit records in the information system (Langridge 1973: 69).

General before special subprinciple

General before special is a filing order subprinciple, which states that a general concept is always stated before a more specific one of the same subject (Langridge 1973: 70).

Gradation by speciality

The subprinciple of gradation by speciality is that the more specialised subject should follow the more general one. It operates in macro-order (Foskett 1977: 157; Maltby 1975: 209-210).

Heading

The term "heading" is used to refer to the position on the record where an access point is recorded or to the main access point in the library context .

Heuristic searching

Heuristic searching is where the search is continually modified in the light of knowledge gained (Foskett 1977: 22).

Hierarchical relationships

Hierarchical relationships are those based on the principle of subordination or inclusion (Buchanan 1979: 21).

Humanities subject documentation standards

The humanities subject documentatiohn standards are the standards which can be used to provide subject access to records of humanities collections and information.

Indexing policy

The indexing policy of an institution are the type and number of access points per information unit which it is decided to incorporate into the information system.

Informational system requirements

Informational system requirements are the information derived from the collection items, the museum's cultural and environmental surroundings and the activities which cause interaction between the two.

Information documentation

Information documentation includes information arising from conservation documentation, record photograph documentation, collection group documentation, biographic documentation, corporate

body documentation, locality documentation, event documentation, activity documentation, and information documentation (Roberts 1985: 29).

Information system activities

The activities of an information system are assisting in the curation and control of the collection and its information (Roberts 1985: 25).

Information system communication media

The communication media used in an information system are the physical media used to communicate information at both input and output, such as printouts, cards, signals, type, spoken words or lights (Kirk 1973: 4). See also Recording media.

Information system control

The control aspect of an information system are the procedures used to check and regulate the interaction of men, machines and information (Kirk 1973: 6).

Information system dynamism

The dynamism of an information system is its ability to adapt to, or withstand change externally or internally (Kirk 1973: 4).

Information system equipment

The equipment aspect of the information system includes all equipment used to create and maintain an information system. It can vary from a pencil to a computer (Kirk 1973: 2; Ross 1970: 188).

Information system finance

The financial spect of an information system is that required to develop and maintain the system . It is both a requirement of, and a constraint on the information system (Ross 1970: 189).

Information system limitations

The limitations of an information system are the defined areas of applicability, limitations of interest, and activity .

Information system manpower

The manpower aspect of an information system are the people who recognised the need for a system, developed, implemented and use it. They may be drawn from inside or outside the museum (Kirk 1973: 1; Ross 1970: 190).

Information system objectives

The objectives of the information system are to provide each user with the information needed in a usable form when it is required (Ashworth 1976: 35).

Information system organisation

The organisation of the information system should be integrated into the structure of the institution it is intended to serve (Ross 1970: 189).

Information system security

An information system must ensure the security of the information it manages against loss, physical security , and data security (Orna and Pettit 1980: 43; Roberts 1985: 38-39).

Information system supplies

The supplies aspect of the information system includes all stationery, hardware, software and facilities.

Information unit

An information unit is any discrete unit for which a separate record is entered into the information system. It includes three dimensional collection

items, two dimensional bibliographic, archival and manuscript material and their associated information.

Input terminal

The input terminal is the device by which data is entered into the processor.

Institution

The term institution is used to refer to both libraries and museums.

Integrative levels

The theory of integrative levels suggests that order can be achieved through studying the progression from lesser to greater levels of organisation (Buchanan 1979: 114; Foskett 1977: 207).

Inventory controls

Inventory controls are concerned with the development and maintenance of a comprehensive numerically ordered inventory of the collections in the museum (Roberts 1985: 98).

Inversion subprinciple

The inversion subprinciple is a filing order subprinciple which states that the more abstract concept must always be placed before the more concrete . It operates in the Principle of aspect/ entity dichotomy (Langridge 1973: 73).

Isolate

An isolate is the name of anything (concrete entity or abstract idea) that can exist and behave as a unit, which is defined but has not yet been attached to a given subject context (Buchanan 1979: 46; Foskett 1977: 129; Harrod 1971: 354; Langridge 1973: 63; Maltby 1975: 35).

Item

An object in a collection for which a reord is prepared.

Item record control

Item record control are the procedures which determine the creation and content of the item record and the standards to which it is done and checks on those standards (Roberts 1985: 105-106).

Itinerative searching

Itinerative searching is where the search of the information system is modified at intervals, and not continuously (Foskett 1977: 22).

Library

A library is defined as :

1) A collection of books or other literary material kept for reading, study and consultation (Harrod 1971: 378).

2) An institution which collects, preserves, organises and makes available recorded communication (Landau 1966: 248-249).

Locality documentation

Locality documentation are the details of localities which may be of interest to the museum. They may be linked to the museum collections, its collecting area or local events of importance (Roberts 1985: 90).

Location control

Location control are the procedures for the maintenance of methods of tracking the location of items in the museum (Roberts 1985: 98).

Macro-order

Macro-order is the method of arrangement of the main classes of the structured information system (Foskett 1977: 157; Langridge 1973: 71; Maltby 1975: 57).

Main class

A main class is a discrete area of knowledge which is co-ordinate with other such areas of knowledge and which together exhaust the universe (Buchanan 1976: 88).

Main access point

The main access point is the access point used as a heading on the main record.

Management practice documentation problems

Problems arise in the managerial aspect of documentation due to improperly designed systems, lack of staff or high staff turnover (Sarasan and Neuner 1983: 16-17).

Managerial system requirements

The managerial system requirements are the objectives of the system, the activities it is intended to support, the communications media used,

the dynamics of the system and finally the organisational structure used to support the system's objectives and activities.

Microform

Microform is the generic term for the various products of micrography, including microfiche and microfilm. (Museum Documentation Association 1980d: 5).

Micro-order: citation order

Micro-order: citation order is the order in which elements of concepts for complex or compound index terms are combined (Langridge 1973: 69).

Micro-order: order-in-array

Micro-order: order-in-array is the filing order decided on for co-ordinate classes (Buchanan 1979: 40-41; Langridge 1973: 73; Maltby 1975: 64).

Movement control

Movement control is the procedures used to trace the movement of items both internally and externally (Roberts 1985: 107-108).

Multi-topical subjects

Multi-topical subjects are those which combine elements from different facets in different ways.

Museum

1) A museum is a non-profit making permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits for the purpose of study, education and enjoyment material evidence of man and his environment (August 1983: 141).

2) A museum is a non-profit institution in the service of society and open to the public which acquires, conserves, researches, communicates, and exhibits for the purpose of study, education, and enjoyment, material evidence of man and his environment (Southern African Museums Association 1979: 2).

Museum data standard

The standard supplies the format which is a hierarchical organisation of museum data concepts and a set of recommendations for slotting pieces of museum data into the various concepts headings in the format (Porter 1978: 170).

Museum documentation

Museum documentation is the sum total of all the procedures used by museums to manage information relating to their collections or of reference to their curatorial functions (Light 1986: 1).

Museum information service

The museum information system is a system which records, describes and indexes the resources of a collection, institution or group of institutions in order to assist in the control and use of the collections and to ensure the preservation of information about the use of the system and the cultural and environmental heritage of the community (Anglo-American cataloguing rules 1978: 564; Harrod 1971: 127; Landau 1971: 90; Light 1988: 48; Roberts 1985: 25).

Museum library

The museum library is specialised collection of books, and, may include documents and archival material, maintained by a museum in the fields covered by the collections of three dimensional objects.

Natural history subject documentation standards

The natural history subject documentation standards are the standards which can be used to provide subject access to records of natural history collections and information.

Nature of collection items

The collection items in a museum collection are characterised by their uniqueness (Roberts and Light 1980: 58).

Nomenclature

Nomenclature is the study of the names of things.

Nomenclature systems

Nomenclature systems are the systems used to establish standard names for objects in both the Human Sciences and the Natural Sciences.

Philosophical classification

Philosophical classification organises knowledge itself, registering, evaluating and classifying thoughts, ideas and concepts for the universal purpose of adequately representing the field of human learning (Wynar 1980: 397).

Physical system requirements

The physical requirements of a system are the money, manpower, materials, machines and facilities of the organisation concerned, or devoted to that particular purpose.

Post co-ordinate access points

For post co-ordinate access points the constituent parts of compound subjects are entered into the information system as isolates. They are then combined as required at output (Buchanan 1976: 103; Foskett 1977: 73; Vickery 1970: 129).

Post co-ordinate retrieval systems

The access points chosen during subject analysis are only co-ordinated during the search and output stage of the system (Foskett 1977: 73; Vickery 1970: 129).

Precision

Precision (or relevance) is the measurement used to judge the number of useful replies which are received in answer to a request (Foskett 1977: 14; University of Pretoria 1975: 8).

Pre-co-ordinate access points

For pre-co-ordinate access points the constituent parts of compound subjects are co-ordinated in a standard order and are formed at the time of indexing. The access points appear in pre-established terminology lists (Foskett 1977: 73; Langridge 1973: 114; Vickery 1970: 120).

Pre- co-ordinate subject retrieval system

In a pre- co-ordinate subject retrieval system the constituent parts of compound subjects are co-ordinated in a standard order and form at the time of indexing (Foskett 1977: 73; Langridge 1973: 114; Vickery 1970: 120).

Principles of arrangement

Principles of arrangement are broad groupings of methods suggested for recombining components of a subject in a helpful manner at different levels of the structured information system once analysis has been completed. The levels of analysis recognised produce "orders" which have to be arranged in different ways during recombination.

Principle of aspect/entity dichotomy

The aspect/entity dichotomy uis the decision on whether an information system will use either the aspect (disciplinary/abstract) features of knowledge or the entity (concrete) ones as the primary orientation for organisation (Buchanan 1976: 19; Langridge 1973: 57; Maltby 1975: 55).

Principle of collocation

The juxtaposition of related items according to their degree of likeness in order to display their relationship (Buchanan 1979: 36, 37; Foskett 1977: 157; Harrod 1971: 162; Maltby 1975: 209).

Principle of consensus

The traditional structure of a subject or knowledge in general, as seen by its use by subject specialists or the way in which it is taught. (after Buchanan 1979: 40; Maltby 1975: 208; Foskett 1977: 131, 157 ;Buchanan 1976: 27; Oxford 1964: 174; Langridge 1973: 72).

Principle of dependence

The principle of dependence, defined as where one facet is dependent on, or subsidiary to another, it should follow the one to which it is subsidiary (Buchanan 1976: 46; 1979: 39, 112; Foskett 1977: 135; Langridge 1973: 67, 71; Maltby 1975: 210).

Principle of division

The principle of division is the general criteria used to determine how the structured order of information will be arrived at.

Principle of hierarchy

The principle of hierarchy is a graded order from the simple to the more complex, exhibiting a sequential movement or change in level of complexity, where the broader concept is filed before the narrower (Buchanan 1976: 26, 31, 66, 73-74; 1979: 40; Foskett 1977: 130; Langridge 1973: 71-72; Maltby 1975: 124, 209; Oxford 1964: 419).

Principle of museum warrant

1) The construction of a retrieval language is based on an examination of the records in the information system so that the groups and structure of the retrieval language correspond to the needs of the users

2) The organisation of knowledge according to the records of museum information units present.

Professional practise in museums

The growth of professionalism among museum staff is stimulating the study of theoretical aspects of documentation (Sarasan and Neuner 1983: 17).

Progression of dependence subprinciple

The progression of dependence subprinciple is where one action is dependent upon another i.e. the dependent one should follow the one on which it depends (Foskett 1977: 135).

Recall

Recall is a measurement of the ability of an information system to obtain all or most of the relevant information units in response to a request (Turner 1987: 11).

Record

The record is a description of one information unit and all its associated and museological information preserved in a permanent structured form (Harrod 1971: 537; Oxford 1964: 1034).

Record characteristic

The nature of museum data is verbal rather than statistical, variable, not constant, and dynamic, rather than static (Immelman 1984: 233; Roberts 1985: 40).

Recording medium

The recording medium is the physical material on which the information regarding an information unit is recorded. It may be card, sheet, or book, magnetic media (tape, or disk), or film (Harrod 1971: 537; Kent 1966: 31).

Record photograph documentation

Record photograph documentation is the record made of photographs of items in the collections, which are held for a variety of purposes such as security, insurance, stocktaking, to complement the written descriptions of items, their conservation or their sale (Roberts 1985: 90).

Record size

Records vary in size from 200 - 2000 byte (Roberts and Light 1980: 58; Roberts 1985: 17).

Relationships

Relationships are the way one thing stands, or is related to another; a kind of connection or a contrast (Oxford 1964: 1046; Wynar 1980: 390).

Retrieval language

A retrieval language is the method used to make access points or index terms readily retrievable and reveal the relationship between concepts (Foskett 1977: 98).

Retrieval language orders

The "orders" of a structured information system are the different levels at which analysis and re-organisation occur (Maltby 1975: 20).

Retrieval language relationships

Retrieval language relationships are the different types of connections which exist between concepts and entities in retrieval languages.(Langridge 1973: 38, 41; Oxford 1964: 1046).

Retrieval language syntax

A retrieval language syntax are the methods employed to indicate the relationship between the concepts indexed (Brown 1976: frame 137; Foskett 1977: 98).

Retrieval language terms

The retrieval language terms are the access points selected during indexing (Buchanan 1976: 76).

Retrieval language vocabulary

A retrieval language vocabulary are the terms selected for the indexing of access points (Brown 1976: 137; Foskett 1977: 98).

Retrieval system

An orderly or regular method of arranging access points to recorded knowledge so as to provide easy and convenient access for users. (Kent 1966: 19-20; Oxford 1973: 2227).

Retrospective control procedures

Retrospective control procedures are concerned with the methods used for entering retrospective information into the information system and controls to ensure its accuracy (Roberts 1985: 98).

See also references

See also references act as a guide to further search, referring from a heading under which records have been made to another heading where related records may also be found (Landau 1966: 384).

See references

See references direct attention from a heading under which no records have been made to the appropriate heading where the required records will be found (Harrod 1971: 538).

Semantic relationships

Semantic relationships are found between related concepts e.g. water and sea. They are permanent and arisefrom the definition of the subjects involved and the need to be able to search for alternative or substitute terms (Buchanan 1979: 17; Foskett 1977: 62-63).

Simple subject

A simple subject is a basic subject plus a concept from one facet of that subject field or area of knowledge (Brown 1976: frame 123, 127; Buchanan 1976: 122; Langridge 1973: 63).

Size collocation subprinciple

Size collocation is the increasing size or quasi - arithmetical arrangement of topics. (Buchanan 1976: 124; Foskett 1977: 130).

Spatial collocation subprinciple

Spatial collocation is the arrangement of topics which are physically contiguous e.g. countries or parts of the body (Buchanan 1976: 40, 123; Foskett 1977: 130).

Specificity

The specificity of the retrieval language is the degree of precision with which each concept can be described. And affects the level of precision which users can achieve in the system (Langridge 1973: 110; Turner 1987: 52).

Standards of documentation practice

The lack of standards for museum record data hampered early attempts at automation (Sarasan and Neuner 1983: 17-20).

Structured retrieval language

A structured retrieval language structures and controls the terms entered into the system in order to avoid scattering related subjects under different headings (after Buchanan 1976: 18; Kent 1966: 120).

Subdiscipline

An area of specialisation with a particular field of knowledge. It represents the application of one or more fundamental disciplines to a particular set of things being studied (Brown 1976: frame 92).

Subject

The substance (concrete entity or abstract idea) of what is found in or derived from an information unit (Harrod 1971: 621; Langridge 1973: 110; Oxford 1964: 1285).

Subject analysis

Subject analysis is the process of identifying what an information unit is about and deciding on the kinds of access points which will be used (Turner 1987: 4; Vickery 1970: 37).

Subject concept

A subject concept is any recognisable and finite statement at any level of specificity or generality which conveys a fact or item of knowledge which may be sought by the user now or in the future. They are denoted by terms which may consist of one or more words (Foskett 1977: 59; Oxford 1964: 432).

Subject documentation standards

Subject documentation standards are the selection of a technique to provide subject access points to records.

Subject labelling

Subject labelling is the identification of the concepts in subject access points and labelling them either linguistically or with codes, which will characterise the subject content of the access point (Brown 1976: frame 131; Foskett 1977: 98; Langridge 1973: 112; Turner 1987: 51; Wynar 1980: 609).

Subject organisation

Subject organisation is the arrangement of the labelled subject access points into a system to reveal the relationships between them and allow for their easy retrieval (Orna and Pettit 1980: 3; Painter 1972: 3).

Summarisation

Summarisation is the statement of the total subject content of an information unit in one or two access points (Langridge 1973: 110).

Surrogate record

A surrogate record is a description of an information unit that takes its place in the information system (Harrod 1971: 537; Oxford 1973: vol.2 :2202).

Syntactic relationships

Syntactic relationships occur between unrelated concepts which are co-ordinated to form composite subjects (Buchanan 1979: 17; Foskett 1977: 62-63).

Syntax control

Syntax control is the control of the order in which data elements in a field are entered onto the record. (Sarasan and Neuner 1983: 19).

Synthetic retrieval language

In the synthetic retrieval language the subject is broken up into its component parts (i.e. concepts, entities, and relationships) which are reassembled at output as required, according to the syntax of the retrieval language (Chan 1981: 211).

System

A system is a set or assemblage of connected parts that work together to accomplish a unified purpose or objective (Kanter 1972: 14; Kirk 1973: 1; Ross 1970: 41).

Systematic access organisation

Systematic access oranisation is the access method in which information unit records are arranged according to a particular classification scheme (Chan 1981: 125).

Systematic information system

A systematic information system is when records with coded or classified access points are arranged according to the order of related concepts laid down in the classification scheme (Turner 1987: 54).

System input

System inputs of an information system are the external "things" or events which generate information relevant to the system (Kirk 1973: 5).

System outputs

The outputs of a museum information system is the information required for curatorial or control purposes by the users (Light 1986: 1; Roberts 1985: 25).

System processing

System processing in an information system is when the information which has been entered into the information system is manipulated or processed to provide the output required. (Kirk 1973: 2; Ross 1970: 188).

System requirements

System requirements are the factors which must be present in order for a system to exist in an institution.

Terminology control

Terminology control are contraints used to make the form and content of data fields more precise and consistent, to facilitate automatic information retrieval.

Three dimensional object documentation

Three dimensional object documentation is the documentation of three dimensional objects in museum collections.

Two dimensional object documentation

Two dimensional object documentation is the documentation of two dimensional objects in museum collections.

Unstructured retrieval language

In an unstructured retrieval language individual concepts are selected from the information unit or its record and entered directly into the system without exercising any control over the terms (after Kent 1966: 112).

Verbal retrieval language

In a verbal retrieval language words are used to represent the concepts and entities chosen as access points in the information system.

Vocabulary control

1) Vocabulary control is the control of the content of, or vocabulary used in each data field (Sarasan and Neuner 1983: 18).

2) Vocabulary control is the control of the set of terms-descriptors, specifiers and entry terms which represent concepts in an retrieval language which is used in the subject index that is part of an information retrieval language (Buchanan 1976: 74; Harrod 1971: 325).

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THESAURUS

The thesaurus has been compiled in order to create order out of the terminological confusion which is found in the literature. It naturally reflects the theoretical stance taken by the author in the main body of the text. All terms chosen as index or access terms in the text have been defined in the glossary. Terms listed as synonyms have been taken from the literature.

A thesaurus was chosen as the form for recording these variations in terminology so that consistency can be created and act as a guide for searches in the future.

The terms are placed in a conceptual framework which brings together related terms and aids searches by placing them all into an alphabetical sequence. The standard abbreviations found in thesaurus construction have been used, namely:

BT - Broader term

NT - Narrower term

RT - Related term

UF - Use for

Abstract ideas

BT Phenomena

RT Concrete entity

Access organisation, systematic

USE Systematic access organisation

Access method

USE Access organisation

Access organisation

NT Alphabetic access organisation

Systematic access organisation

RT Subject organisation

UF Access method

Catalogue type

Method, access

Organisation, access

Type, catalogue

Access organisation, alphabetic

USE Alphabetic access organisation

Access point

BT Information system component

NT Access point types

Heading

Main access point

RT Index term

Information units

Records

Users

UF Catchword

Descriptor

Entry, index

Heading, standard

Heading, subject

Heading, uniform

Index entry

Indicator, subject

Keyword

Point, access

Standard heading

Subject heading

Subject indicator

Uniform heading

Access point types

BT Access point

NT Aspect

Entity

Relationship

UF Point types, access

Types, access point

Access point, main

USE Main access point

Access, classified

USE Systematic access organisation

Accession number

BT Accessioning procedures

Identification information

RT Accessions register

Classification code

Information unit name

Institution code

UF Catalogue number

Identity number

Number, accession

Number, catalogue

Number, identity

Number, record

Number, registration

Record number

Registration number

Accessioning procedures

BT Documentation procedures

NT Accession number

Accessions register

RT Creation of permanent record

Descriptive documentation

Entry procedures

Exit procedures

Indexing procedures

Subject documentation

UF Registration

Accessions book

USE Accessions register

Accessions register

BT Accessioning procedures

RT Accession number

UF Accessions book

Book, accessions

Register, accessions

Acquired material, control of

USE Control of acquired material

Acquisition

BT Museological information

RT Conservation record

Activities, information system

USE Information system activities

Activity documentation

BT Information documentation

RT Biographic documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Event documentation

Locality documentation

Record photograph documentation

UF Documentation, activity

Added entry

USE Additional record

Additional record

BT Record types

RT Analytical record

Main record

Reference

UF Added entry

Entry, added

Entry, secondary

Record, secondary

Record, additional

Secondary entry

Secondary record

Affinitive relationships

BT Semantic relationships

RT Equivalence relationships

Hierarchical relationships

UF Associative relationships

Relationships, associative

Relationships, affinitive

Alphabetic access organisation

BT Access organisation

NT Alphabetico-classed information system

Alphabetico-specific information system

Dictionary information system

Divided information system

UF Access organisation, alphabetic

Alphabetic catalogue

Catalogue, alphabetic

Organisation, alphabetic access

Alphabetic catalogue

USE Alphabetic access organisation

Alphabetical controlled vocabulary

USE Verbal retrieval language

Alphabetical indexing language

USE Verbal retrieval language

Alphabetical retrieval language

USE Verbal retrieval language

Alphabetico-specific information system

BT Alphabetic access organisation

RT Alphabetico-classed information system

Dictionary information system

Divided information system

UF Information system, alphabetico-specific

Specific information system, alphabetico

System, alphabetico-specific information

Alphabetico-classed information system

BT Alphabetic access organisation

RT Alphabetico-specific information system

Dictionary information system

Divided information system

UF Classed information system, alphabetico-

Information system, alphabetico-classed

System, alphabetico-classed information

Analysis, subject

USE Structured retrieval language

Subject analysis

Analytical entry

USE Analytical record

Analytical record

BT Record types

RT Additional record

Main record

Reference

UF Analytical entry

Entry, analytical

Record, analytical

Analytico-faceted classification

USE Synthetic retrieval language

Arrangement, canonical

USE Principle of Consensus

Arrangement, principles of

USE Principles of Arrangement

Array, micro-order: order-in-

USE Micro-order: order-in-array

Array, helpful order in

USE Micro-order: order-in-array

Artificial language

USE Structured retrieval language

Aspect

BT Access point

RT Entity

Relationship

Aspect/Entity Dichotomy, principle of

USE Principle of Aspect/Entity Dichotomy

Aspect/Entity order subprinciple

BT Principle of Aspect/Entity Dichotomy

RT Concrete-process subprinciple

Decreasing concreteness subprinciple

Inversion subprinciple

Macro-order

UF Entity subprinciple, aspect

Subprinciple, aspect/entity

Assigned indexing

USE Structured retrieval language

Associated dates

BT Associated information

RT Associated events

Associated people

Associated places

UF Dates, associated

Associated events

BT Associated information

RT Associated dates

Associated people

Associated places

UF Events, associated

Associated information

BT Record information

NT Associated dates

Associated events

Associated people

Associated places

RT Identification information

Inherent information

Museological information

UF Information, associated

Associated people

BT Associated information

RT Associated dates

Associated events

Associated places

UF People, associated

Associated places

BT Associated information

RT Associated dates

Associated events

Associated people

UF Places, associated

Associative relationships

USE Affinitive relationships

Automatic indexing

BT Unstructured retrieval language

RT Catchword title indexing

Citation indexing

Keyword-in-context

Keyword-out-of-context

UF Indexing, automatic

Basic class

USE Basic subject

Basic subject

BT Knowledge

Subject

NT Isolate

Simple subject

RT Composite subject

Compound subject

Main class

Multi-topical subject

Phenomena

UF Basic class

Class, basic

Subject, uni-topical

Subject, basic

Uni-topical subject

Bibliographic classification

BT Classification

RT Philosophical classification

UF Classification, bibliographic

Biographic documentation

BT Information documentation

RT Activity documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Event documentation

Locality documentation

Record photograph documentation

UF Documentation, biographic

Body documentation, corporate

USE Corporate body documentation

Book, accessions

USE Accessions register

Broader-narrower order

USE Inversion subprinciple

Principle of Hierarchy

Canonical arrangement

USE Principle of Consensus

Card, record (museum)

USE Record

Card, catalogue (library)

USE Catalogue card (library)

Card, catalogue (museum)

USE Record

Catalogue card

BT Recording medium

RT Catalogue card (library)

Catalogue card (museum)

Computer disk

Film

Recording form

Tape

Catalogue card (library)

BT Recording medium

RT Record

UF Card, catalogue (library)

Catalogue entry (library)

Catalogue record (library)

Entry, catalogue (library)

Record, catalogue (library)

Catalogue card (museum)

USE Record

Catalogue entry (library)

USE Catalogue card (library)

Catalogue entry (museum)

USE Record

Catalogue number

USE Accession number

Catalogue record (library)

USE Catalogue card (library)

Catalogue record (museum)

USE Record

Catalogue type

USE Access organisation

Catalogue, systematic

USE Systematic access organisation

Catalogue, alphabetic

USE Alphabetic access organisation

Catalogue, classified

USE Systematic access organisation

Cataloguing

USE Descriptive documentation

Cataloguing, descriptive

USE Descriptive documentation

Cataloguing, subject

USE Subject documentation

Catchword

USE Access point

Catchword title indexing

BT Unstructured retrieval language

RT Automatic indexing

Citation indexing

Keyword-in-context

Keyword-out-of-context

UF Indexing, catchword title

Title indexing, catchword

Category

BT Main class

NT Concept

Isolate

Phenomena

RT Class

Facet

Category, favoured

USE Principle of Museum Warrant

Category, preferred

USE Principle of Museum Warrant

Characterisitics, record

USE Record characteristics

Characteristic of division

BT Principles of Division

RT Facet

General order

Principle of Aspect/Entity Dichotomy

Principle of Museum Warrant

UF Characteristic of likeness

Division, characteristic of

Likeness, characteristic

Characteristic of likeness

USE Characteristic of Division

Chronology

USE Principle of Hierarchy

Citation indexing

BT Unstructured retrieval language

RT Automatic indexing

Catchword title indexing

Keyword-in-context

Keyword-out-of-context

UF Indexing, citation

Citation order

USE Micro-order: citation order

Class order, main

USE Macro-order

Class, basic

USE Basic subject

Class, composite

USE Composite subject

Class, main

USE Main class

Class, simple

USE Simple subject

Classed information system, alphabetico-

USE Alphabetico-classed information system

Classification

USE Subject documentation

Classification group

BT Identification information

RT Accession number

Information unit name

Institution code

UF Group, classification

Classification scheme, pre- co-ordinate

USE Pre- co-ordinate retrieval language

Classification scheme, synthetic

USE Synthetic retrieval language

Classification scheme, faceted

USE Synthetic retrieval language

Classification scheme, post co-ordinate

USE Post co-ordinate retrieval language

Classification schemes

USE Coded retrieval language

Retrieval languages

Structured retrieval language

Classification schemes, enumerative

USE Coded retrieval language

Classification, analytico-faceted

USE Synthetic retrieval language

Classification, bibliographic

USE Bibliographic classification

Classification, colon

USE Synthetic retrieval language

Classification, enumerative

USE Enumerative retrieval language

Classification, philosophical

USE Philosophical classification

Classified access

USE Systematic access organisation

Classified catalogue

USE Systematic access organisation

Classified vocabulary

USE Coded retrieval languaage

Code, institution

USE Institution code

Coded index terms

USE Coded retrieval language

Coded indexing language

USE Coded retrieval language

Coded retrieval language

BT Structured retrieval language

NT Coded retrieval language

Enumerative retrieval language

RT Verbal retrieval language

UF Classification schemes

Classified vocabulary

Coded index terms

Coded indexing language

Index terms, coded

Indexing language, coded

Language, coded indexing

Language, coded retrieval

Retrieval language, coded

Schemes, classification

Systematic vocabulary

Terms, coded index

Vocabulary, classified

Vocabulary, systematic

Collection group documentation

BT Collections documentation

RT Activity documentation

Biographic documentation

Conservation documentation

Corporate body documentation

Event documentation

Locality documentation

Record photograph documentation

UF Documentation, collection group

Group documentation, collection

Collection items

USE Three dimensional object documentation

Collection items, nature of

USE Nature of collection items

Collections control

BT Information system control

RT Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Location control

Movement control

Retrospective control procedures

UF Control, collections

Collections documentation

BT Documentation

NT Three dimensional object documentation

Two dimensional object documentation

RT Information documentation

UF Documentation, collections

Documentation, object

Object documentation

Collocation subprinciple, size

USE Size collocation subprinciple

Collocation subprinciple, spatial

USE Spatial collocation subprinciple

Collocation, principle of

USE Principle of Collocation

Colon classification

USE Synthetic retrieval language

Combination order

USE Micro-order: citation order

Communication media, information system

USE Complex subject

Information system communication media

Complexity, order of

USE Principle of Hierarchy

Complexity, increasing

USE Principle of Hierarchy

Components, descriptive documentation

USE Record types

Components, information system

USE Information system components

Information system components

Composite class

USE Composite subject

Composite subject

BT Compound subject

UF Class, composite

Composite class

Subject, composite

Compound subject

BT Multi-topical subject

NT Composite subject

UF Subject, compound

Computer disk

BT Recording medium

NT Floppy disk

Hard disk

RT Catalogue card

Film

Recording form

Tape

Concept

BT Category

Retrieval language terms

RT Isolate

Phenomena

Concrete-process subprinciple

BT Principle of Aspect/Entity Dichotomy

RT Aspect/entity subprinciple

Decreasing concreteness subprinciple

General before special subprinciple

Inversion subprinciple

Micro-order: citation order

UF Concretes-before-processes

Process subprinciple, concrete

Processes, concretes-before-

Subprinciple, concrete-process

Concrete entities

BT Phenomena

RT Abstract ideas

Concreteness subprinciple, decreasing

USE Decreasing concreteness subprinciple

Concreteness, hierarchy

USE Principle of Hierarchy

Concreteness, increasing

USE Inversion subprinciple

Principle of Hierarchy

Concretes-before-processes

USE Concrete-process subprinciple

Consensus, educational and scientific

USE Principle of Consensus

Consensus, principle of

USE Principle of Consensus

Conservation documentation

BT Information documentation

RT Activity documentation

Biographic documentation

Collection group documentation

Corporate body documentation

Event documentation

Locality documentation

Record photograph documentation

UF Documentation, conservation

Conservation record

BT Museological information

RT Acquisition

Utilisation history

UF Record, conservation

Constraints, Information system

USE Information system constraints

Containing relationships

BT Principle of Hierarchy

RT Developmental relationships

UF Relationships, containing

Contiguity, spatial

USE Spatial collocation subprinciple

Control of acquired material

BT Information system control

RT Collections control

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Location control

Movement control

Retrospective control procedures

UF Acquired material, control of

Material, control of acquired

Control of non-acquired material

BT Information system control

RT Collections control

Control of acquired material

Deacquisition control

Inventory control

Item record control

Location control

Movement control

Retrospective control procedures

UF Material, control of non-acquired

Non-acquired material, control

Control procedures, retrospective

USE Retrospective control procedures

Control, deacquisition

USE Deacquisition control

Control, information system

USE Information system control

Control, inventory

USE Inventory control

Control, locations

USE Locations control

Control, collections

USE Collections control

Control, item record

USE Item record control

Control, movement

USE Movement control

Control, syntax

USE Syntax control

Control, terminology

USE Terminology control

Control, vocabulary

USE Vocabulary control

Controlled indexing

USE Structured retrieval language

Controlled language indexing

USE Structured retrieval language

Controlled retrieval language

USE Structured retrieval language

Controlled vocabulary, alphabetical

USE Verbal retrieval language

Controls, data processing

USE Data processing controls

Corporate body documentation

BT Information documentation

BT Activity documentation

Biographic documentation

Collection group documentation

Conservation documentation

Event documentation

Locality documentation

Record photograph documentation

UF Body documentation, corporate

Documentation, corporate body

Creation of permanent record

USE Descriptive documentation

Creation, record

USE Descriptive documentation

Data

BT Record

NT Data identification

RT Record format

Record information

Record structure

Data element

BT Data field

UF Element, data

Data field

BT Data identification

NT Data element

UF Field, data

Data identification

BT Data

NT Data field

RT Record information

UF Identification, data

Data processing controls

BT Standards of documentation practice

NT Terminology control

RT Data standards

UF Controls, data processing

Processing controls, data

Data standards

BT Standards of documentation practice

NT Discipline data standards

RT Data processing controls

UF Standards, data

Data standards, discipline

USE Discipline data standards

Data vehicle

USE Recording medium

Database

BT Informational system requirements

RT Information structure

Dates, associated

USE Associated dates

Deacquisition control

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Inventory control

Item record control

Location control

Movement control

Retrospective control procedures

UF Control, deacquisition

Decreasing concreteness subprinciple

BT Principle of Aspect/Entity Dichotomy

RT Aspect/entity order subprinciple

Concrete-process subprinciple

General before special subprinciple

Inversion subprinciple

Micro-order: citation order

UF Concreteness subprinciple, decreasing

Subprinciple, decreasing-concreteness

Decreasing generality

USE Principle of Hierarchy

Dependence subprinciple

BT Principle of Dependence

RT Gradation by speciality subprinciple

Progression of dependence subprinciple

UF Order, wall-picture

Order, whole-part

Part order, whole-

Picture order, wall-

Subprinciple, dependence

Wall-picture order

Whole-part order

Dependence subprinciple, progression

USE Progression of dependence subprinciple

Dependence subprinciple, serial

USE Gradation by speciality subprinciple

Dependence, principle of

USE Principle of Dependence

Depth indexing

BT Indexing policy

RT Summarisation

UF Indexing, depth

Depth, record

USE Record depth

Derived indexing

USE Unstructured retrieval language

Description, physical

USE Physical description

Descriptive cataloguing

USE Descriptive documentation

Descriptive documentation

BT Documentation

Information system techniques

RT Subject documentation

UF Cataloguing

Cataloguing, descriptive

Creation of permanent record

Creation, record

Descriptive cataloguing

Permanent record creation

Record creation

Record, creation of permanent

Recording results of analysis (information science)

Descriptive documentation components

USE Record types

Descriptive record

USE Full record

Descriptor

USE Access point

Development, order of

USE Principle of Hierarchy

Developmental relationships

BT Principle of Hierarchy

RT Containing relationships

UF Relationships, developmental

Dichotomy, aspect/entity

USE Principle of Aspect/Entity Dichotomy

Dichotomy, principle of Aspect/Entity

USE Principle of Aspect/Entity Dichotomy

Dictionary information system

BT Alphabetic access organisation

RT Alphabetico-classed information system

Alphabetico-specific information system

Divided information system

UF Information system, dictionary

System, dictionary information

Dimensional object documentation, two

USE Two dimensional object documentation

Dimensional object documentation, three

USE Three dimensional object documentation

Discipline

BT Knowledge

Subject

NT Phenomena

Discipline data standards

BT Data standards

UF Data standards, discipline

Standards, discipline data

Discipline oriented documentation problems

BT Documentation problems

NT Nomenclature systems

Subject documentation principles

Subject documentation standards

RT Management practice documentation problems

Nature of collection items

Professional practice documentation problems

Record characteristics

Record size

UF Documentation problems, discipline-oriented

Problems, discipline-oriented documentation

Disk, floppy

USE Floppy disk

Disk, hard

USE Hard disk

Disk, computer

USE Computer disk

Divided information system

BT Alphabetic access organisation

RT Alphabetico-classed information system

Alphabetico-specific information system

Dictionary information system

UF Information system,divided

System, divided information

Division, characteristic of

USE Characteristic of division

Division, principles of

USE Principles of Division

Documentation

NT Collections documentation

Descriptive documentation

Information documentation

Subject documentation

RT Information system

Museum information system

Documentation components, descriptive

USE Record types

Documentation practice, standards

USE Standards of documentation practice

Documentation problems

BT Documentation

NT Discipline-oriented documentation problems

Management practice documentation problems

Nature of collection items

Professional practice documentation problems

Record characteristics

Record size

UF Problems, documentation

Documentation problems, management practice

USE Management practice documentation problems

Documentation problems, discipline oriented

USE Discipline oriented documentation problems

Documentation problems, professional practice

USE Professional practice documentation problems

Documentation procedures

BT Documentation

NT Accessioning procedures

Creation of permanent record

Entry procedures

Exit procedures

Indexing procedures

UF Procedures, documentation

Documentation standards, natural history subject

USE Natural history subject documentation standards

Documentation standards, humanities subject

USE Humanities subject documentation standards

Documentation standards, subject

USE Subject documentation standards

Documentation system

USE Museum information system

Documentation system, museum

USE Museum information system

Documentation techniques, subject

USE Subject documentation techniques

Documentation, biographic

USE Biographic documentation

Documentation, collection group

USE Collection group documentation

Documentation, collections

USE Collections documentation

Documentation, corporate body

USE Corporate body documentation

Documentation, item

USE Three dimensional object documentation

Documentation, locality

USE Locality documentation

Documentation, record photograph

USE Record photograph documentation

Documentation, two dimensional object

USE Two dimensional object documentation

Documentation, activity

USE Activity documentation

Documentation, conservation

USE Conservation documentation

Documentation, event

USE Event documentation

Documentation, information

USE Information documentation

Documentation, object

USE Collections documentation

Documentation, subject

USE Subject documentation

Documentation, support

USE Information documentation

Documentation, three dimensional object

USE Three dimensional object documentation

Dynamism, information system

USE Information system dynamism

Educational and scientific consensus

USE Principle of Consensus

Element, data

USE Data element

Entity

BT Access point

RT Aspect

Relationship

Entity dichotomy, principle of Aspect

USE Principle of Aspect/Entity Dichotomy

Entry (museum)

USE Record

Entry procedures

BT Documentation procedures

RT Accessioning procedures

Creation of permanent record

Exit procedures

Indexing procedures

UF Procedures, entry

Entry, added

USE Additional record

Entry, catalogue (museum)

USE Record

Entry, main

USE Main record

Entry, analytical

USE Analytical record

Entry, catalogue (library)

USE Catalogue card (library)

Entry, index

USE Access point

Entry, secondary

USE Additional record

Enumerative classification

USE Enumerative retrieval language

Enumerative retrieval language

BT Coded retrieval language

Coded retrieval languages

RT Synthetic retrieval language

Synthetic retrieval languages

UF Classification, enumerative

Enumerative classification

Language, enumerative retrieval

Language, enumerative retrieval

Retrieval language, enumerative

Retrieval language, enumerative

Equipment, information system

USE Information system equipment

Equivalence relationships

BT Semantic relationships

T Affinitive relationships

Hierarchical relationships

UF Relationships, equivalence

Event documentation

BT Information documentation

RT Activity documentation

Biographic documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Locality documentation

Record photograph documentation

UF Documentation, event

Events, associated

USE Associated events

Evolution

USE Principle of Hierarchy

Exhaustivity

BT Information system performance

RT Depth indexing

Precision

Recall

Specificity

Exit procedures

BT Documentation procedures

RT Accessioning procedures

Creation of permanent record

Entry procedures

Indexing procedures

UF Procedures, exit

Facet

BT Main class

Retrieval language terms

NT Isolate

Subfacet

RT Category

Characteristics of division

Class

Micro-order: citation order

Facet order

USE Micro-order: citation order

Facet sequence

USE Micro-order: citation order

Faceted classification scheme

USE Synthetic retrieval language

Faceted classification, analytico-

USE Synthetic retrieval language

Favoured category

USE Principle of Museum Warrant

Field, data

USE Data field

Filing order

BT Retrieval language orders

NT Broader before narrower subprinciple

General before special subprinciple

Inversion subprinciple

RT General order

Macro-order

Micro-order: order-in-array

Micro-order: citation order

Principle of Aspect/Entity Dichotomy

Principle of Dependence

Principle of Hierarchy

UF Order, filing

Filing order, general before special

USE Inversion subprinciple

Film

BT Recording medium

RT Catalogue card (library)

Computer disk

Recording form

Tape

Finance, information system

USE Information system finance

Floppy disk

BT Computer disk

RT Hard disk

UF Disk, floppy

Form record, short

USE Short form record

Form record, medium

USE Medium form record

Form, recording

USE Recording form

Format, record

USE Record format

Full record

BT Recording levels

RT Medium form record

Short form record

UF Descriptive record

Record, full

Record, descriptive

General before special filing order

USE Inversion subprinciple

General before special order

USE Principle of Hierarchy

General before special subprinciple

BT Filing order

RT Inversion subprinciple

Principle of Hierarchy

UF Special subprinciple, general before

Subprinciple, general before special

General before specific

USE Principle of Hierarchy

General order

BT Retrieval language orders

NT Characteristic of division

Principle of Aspect/Entity Dichotomy

Principle of Dependence

Principle of Hierarchy

Principle of Museum Warrant

UF Order, general

General, subordination of general to

USE Principle of Hierarchy

Generality, decreasing

USE Principle of Hierarchy

Gradation by speciality subprinciple

BT Principle of Dependence

RT Dependence subprinciple

Macro-order

Progression of dependence subprinciple

UF Dependence subprinciple, serial

Serial dependence subprinciple

Speciality subprinciple, gradation

Subprinciple, gradation by speciality

Subprinciple, serial dependence

Group documentation, collection

USE Collection group documentation

Group, classification

USE Classification group

Hard disk

BT Computer disk

RT Floppy disk

UF Disk, floppy

Heading

BT Record structure

RT Access point

Index term

Heading, standard

USE Access point

Heading, subject

USE Access point

Index term

Structured retrieval language

Heading, uniform

USE Access point

Helpful order-in-array

USE Micro-order: order-in-array

Helpful organisation, principle of

USE Principles of Division

Hierarchical relationships

BT Semantic relationships

RT Affinitive relationships

Equivalence relationships

UF Relationships, hierarchical

History nomenclature, natural

USE Natural history nomenclature

History subject documentation standards, natural

USE Natural history subject documentation standards

History, utilisation

USE Utilisation history

Humanities nomenclature

BT Nomenclature systems

RT Natural history nomenclature

UF Nomenclature, Humanities

Humanities Subject documentation standards

BT Subject documentation standards

RT Natural history subject documentation standards

Subject documentation principles

UF Documentation standards, Humanities subject

Standards, Humanities subject documentation

Subject documentation standards, humanitites

Identification data

USE Data identification

Identification information

BT Record information

NT Accession number

Classification group

Information unit name

Institution code

RT Associated information

Inherent information

Museological information

Identity number

USE Accession number

Increasing-concreteness

USE Inversion subprinciple

Principle of Hierarchy

Increasing complexity

USE Principle of Hierarchy

Index term

BT Information system component

Retrieval language

NT Coded index term

Verbal index term

RT Access point

Heading

UF Index point

Point, index

Term, index

Index entry

USE Access point

Index term

Index terms, verbal

USE Verbal retrieval language

Index terms, coded

USE Coded retrieval language

Index vocabulary, structured

USE Structured retrieval language

Indexing

USE Subject documentation

RT Classification

Subject documentation

Indexing language, post co-ordinate

USE Post co-ordinate retrieval language

Indexing language, pre- co-ordinate

USE Pre- co-ordinate retrieval language

Indexing language, alphabetical

USE Verbal retrieval language

Indexing language, coded

USE Coded retrieval language

Indexing language, structured

USE Structured retrieval language

Indexing language, verbal

USE Verbal retrieval language

Indexing policy

BT Subject analysis

NT Depth indexing

Summarisation

RT Information system performance

Recording levels

UF Policy, indexing

Indexing procedures

BT Documentation procedures

RT Accessioning procedures

Create permanent record

Exit procedures

UF Procedures, indexing

Indexing system

USE Retrieval system

Indexing vocabulary

USE Retrieval system

Indexing, assigned

USE Structured retrieval language

Indexing, catchword title

USE Catchword title indexing

Indexing, natural language

USE Unstructured retrieval language

Indexing, automatic

USE Automatic indexing

Indexing, citation

USE Citation indexing

Indexing, controlled

USE Structured retrieval language

Indexing, controlled language

USE Structured retrieval language

Indexing, depth

USE Depth indexing

Indexing, derived

USE Unstructured retrieval language

Indexing, subject

USE Subject documentation

Indexing, uncontrolled

USE Unstructured retrieval language

Indexing, word

USE Unstructured retrieval language

Indicator, subject

USE Access point

Information documentation

BT Documentation

NT Activity documentation

Biographic documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Event documentation

Locality documentation

Record photograph documentation

RT Collections documentation

UF Documentation, information

Documentation, support

Support documentation

Information inherent

USE Inherent information

Information sources, record

USE Record information sources

Information structure

BT Information system requirements

RT Database

Information system

NT Information system components

Information system constraints

Information system input

Information system output

Information system processing

Information system requirements

Information system techniques

Record

RT Documentation

Museum information system

UF System, information

Information system components

BT Information system

NT Access point

Information unit

Record

User needs

RT Information system constraints

Information system input

Information system output

Information system processing

Information system requirements

Information system techniques

UF Components, information system

System components, information

Information system control

BT Information system constraints

NT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Location control

Movement control

Retrospective control procedures

RT Information system limitations

Information system security

UF Control, information system

System control, information

Information system dynamism

BT Managerial system requirements

RT Information system activities

Information system communication media

Information system objectives

Information system organisation

UF Dynamism, information system

System dynamism, information

Information system equipment

BT Physical system requirements

RT Information system finance

Information system manpower

Information system supplies

UF Equipment, information system

System equipment, information

Information system finance

BT Physical system requirements

RT Information system equipment

Information system manpower

Information system supplies

UF Finance, information system

System finance, information

Information system inputs

BT Information system

RT Information system component

Information system constraints

Information system outputs

Information system processing

Information system requirements

Information system techniques

UF Inputs, information system

System inputs, information

Information system limitations

BT System contraints

RT Information system control

Information system security

UF Limitations, information system

System limitations, information

Information system manpower

BT Physical system requirements

RT Information system equipment

Information system finance

Information system supplies

UF Manpower, information system

System manpower, information

Information system methods

USE Information system techniques

Information system objectives

BT Managerial system requirements

RT Information system activities

Information system communication media

Information system dynamism

Information system organisation

UF Objectives, information system

System objectives, information

Information system organisation

BT Managerial system requirements

RT Information system activities

Information system communication media

Information system dynamism

Information system objectives

UF Organisation, information system

System organisation, information

Information system outputs

BT Information system

RT Information system constraints

Information system inputs

Information system performance

Information system processing

Information system requirements

Information system techniques

UF Outputs, information system

System outputs, information

Information system performance

BT Information system

NT Exhausivity

Precision

Recall

Specificity

RT Indexing policy

Recording levels

UF Performance, information system

System performance, information

Information system processing

BT Information system

RT Information system constraints

Information system input

Information system performance

Information system requirements

Information system techniques

UF Processing, information system

System processing, information

Information system requirements

BT Information system

NT Informational system requirements

Managerial system requirements

Physical system requirements

RT System constraints

UF Requirements, information system

System requirements, information

Information system security

BT System constraints

RT Information system control

Information system limitations

UF Security, information system

System security, information

Information system supplies

BT Physical system requirements

RT Information system equipment

Information system finance

Information system manpower

UF Supplies, information system

System supplies, information

Information system techniques

BT Information systems

NT Descriptive documentation

Subject documentation

RT Information system constraints

Information system inputs

Information system output

Information system processing

Information system requirements

Retrieval methods

UF Information system methods

Methods, information system

System methods, information

System techniques, information

Techniques, information system

Information system, alphabetico-classed

USE Alphabetico-classed information system

Information system, dictionary

USE Dictionary information system

Information system, divided

USE Divided information system

Information system, museum

USE Museum information system

Information system, alphabetico-specific

USE Alphabetico-specific information system

Information systems activities

BT Managerial system requirements

RT Information system communication media

Information system dynamism

Information system objectives

Information system organisation

UF Activities, information system

System activities, information

Information unit

BT Information system components

RT Access points

Records,

User needs

UF Unit, information

Information unit name

BT Identification information

RT Accession number

Classification group

Institution code

UF Name, information unit

Unit name, information

Information, museological

USE Museological information

Information, record

USE Record information

Information, associated

USE Associated information

Information, identification

USE Identification information

Informational system requirements

BT Information system requirements

NT Database

Information structure

RT Managerial system requirements

Physical system requirements

UF Requirements, informational system

System requirements, informational

Informations system communication media

BT Managerial system requirements

NT Recording media

RT Information system activities

Information system dynamism

Information system objectives

Information system organisation

UF Communications media, information system

Media, information system communication

System communication media, information

Inherent information

BT Record information

NT Physical description

RT Associated information

Identification information

Museological information

UF Information, inherent

Input, Information system

USE Information system input

Inputs, information system

USE Information system inputs

Institution code

BT Identification information

RT Accession number

Classification group

Information unit name

UF Code, institution

Integrative levels

USE Principle of Hierarchy

Inventory control

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Item record control

Location control

Movement control

Retrospective control procedures

UF Control, inventory

Inversion subprinciple

BT Filing order

Principle of Aspect/Entity Dichotomy

RT Aspect/Entity order subprinciple

Concrete-process subprinciple

Decreasing concreteness subprinciple

Macro-order

UF Broader-narrower order

Broader order, narrower

Concreteness, increasing

Filing order, general before special

General before special filing order

Increasing concreteness

Narrower-broader order

Order, Broader-narrower

Principle, inversion

Special filing order, general before

Subprinciple, inversion

Isolate

BT Basic subject

Facet

RT Category

Concept

Phenomena

Simple subject

Item documentation

USE Three dimensional object documentation

Item record control

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Location control

Movement control

Retrospective control procedures

UF Control, item record

Record control, item

Items, collection

USE Three dimensional object documentation

Items, nature of collection

USE Nature of collection items

Keyword

USE Access point

Keyword-in-context

BT Unstructured retrieval language

RT Automatic indexing

Catchword title indexing

Citation indexing

Keyword-out-of-context

Keyword-out-of-context

BT Unstructured retrieval language

RT Automatic indexing

Catchword title indexing

Citation indexing

Keyword-in-context

Labelling, subject

USE Subject labelling

Language, artificial

USE Structured retrieval language

Language indexing, controlled

USE Structured retrieval language

Language indexing, natural

USE Unstructured retrieval language

Language orders, retrieval

USE Retrieval language orders

Language principles, retrieval

USE Retrieval language principles

Language relationships, retrieval

USE Retrieval language relationships

Language structure, retrieval

USE Retrieval language structure

Language syntax, retrieval

USE Retrieval language syntax

Language terms, retrieval

USE Retrieval language terms

Language types, retrieval

USE Retrieval language types

Language vocabulary, retrieval

USE Retrieval language vocabulary

Language, alphabetical indexing

USE Verbal retrieval language

Language, coded indexing

USE Coded retrieval language

Language, coded retrieval

USE Coded retrieval language

Language, controlled retrieval

USE Structured retrieval language

Language, enumerative retrieval

USE Enumerative retrieval language

Language, post co-ordinate indexing

USE Post co-ordinate retrieval language

Language, post co-ordinate retrieval

USE Post co-ordinate retrieval language

Language, pre- co-ordinate retrieval

USE Pre- co-ordinate retrieval language

Language, structured indexing

USE Structured retrieval languages

Language, structured retrieval

USE Structured retrieval language

Language, aphabetical retrieval

USE Verbal retrieval language

Language, pre- co-ordinate indexing

USE Pre- co-ordinate retrieval language

Language, uncontrolled retrieval

USE Unstructured retrieval language

Language, verbal retrieval

USE Verbal retrieval language

Languages, synthetic retrieval

USE Synthetic retrieval languages

Languages, retrieval

USE Retrieval languages

Levels, recording

USE Recording levels

Levels, theory of integrative

USE Principle of Hierarchy

Likeness, characteristic of

USE Characteristic of Division

Limitations, information system

USE Information system limitations

Literary warrant, principle of

USE Principle of Museum Warrant

Locality documentation

BT Information documentation

RT Activity documentation

Biographic documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Event documentation

Record photograph documentation

UF Documentation, locality

Locations control

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Movement control

Retrospective control procedures

UF Control, locations

Macro-order

BT Retrieval language order

NT Gradation by speciality subprinciple

Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Consensus

Principle of Hierarchy

Principle of Museum Warrant

RT Filing order

General order

Micro-order: citation order

Micro-order: order-in-array

UF Class order, main

Main class order

Order, main class

Order, macro-

Main access point

BT Access point

RT Index point

UF Access point, main

Point, main access

Main class

BT Class

Retrieval language terms

Subject

NT Category

Facet

RT Basic subject

Composite subject

Compound subject

Discipline

UF Class, main

Main class order

USE Macro-order

Main entry

USE Main record

Main record

BT Record types

RT Additional records

Analytical records

Reference

UF Entry, main

Main entry

Record, main

Management practice documentation problems

BT Documentation problems

RT Discipline-oriented documentation problems

Nature of collection items

Professional practice documentation problems

Record characteristics

Record size

UF Documentation problems, management practice

Practise documentation problems, management

Problems, management documentation

Problems, professional practice documentation

Managerial system requirements

BT System requirements

NT Information system activities

Information system communication media

Information system dynamism

Information system objectives

Informations system organisation

RT Information system requirements

Physical system requirements

UF Requirements, managerial system

System requirements, managerial

Manpower, information system

USE Information system manpower

Material, control of acquired

USE Control of acquired material

Material, control of non-acquired

USE Control of non-acquired material

Media, information system communication

USE Information system communication media

Medium form record

BT Recording levels

RT Full record

Short form record

UF Form record, medium

Record, medium form

Record, selective

Selective record

Medium, searchable

USE Recording medium

Medium, physical

USE Recording medium

Medium, physical search

USE Recording medium

Medium, recording

USE Recording medium

Medium, search

USE Recording medium

Method, information system

USE Information system techniques

Method, access

USE Access organisation

Micro-order: citation order

BT Retrieval language orders

NT Dependence subprinciple

Principle of Aspect/Entity Dichotomy

Principle of Consensus

Principle of Hierarchy

Principle of Museum Warrant

RT Facet

Filing order

General order

Macro-order

Micro-order: order-in-array

UF Citation order

Combination order

Facet order

Facet sequence

Order, citation

Order: micro-order: citation

Order, combination

Order, facet

Sequence, facet

Micro-order: order-in-array

BT Retrieval language orders

NT Principle of Collocation

Principle of Consensus

Principle of Hierarchy

Principle of Museum Warrant

Size collocation subprinciple

Spatial collocation subprinciple

RT Filing order

General order

Macro-order

Micro-order: citation order

UF Array, helpful order-in-

Array, micro-order: order-in

Helpful order-in-array

Order-in-array, helpful

Order-in-array: micro-order

Order: order-in-array: micro-

Movement control

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Location control

Retrospective control procedures

UF Control, movement

Multi-topical subject

BT Subject

NT Composite subject

Compound subject

RT Basic subject

UF Subject, multi-topical

Museological information

BT Record information

NT Acquisition

Conservation

Utilisation history

RT Associated information

Identification information

Inherent information

UF Information, museological

Museum documentation system

USE Museum information system

Museum information system

NT Record

RT Information system

UF Documentation system

Documentation system, museum

Information system

Information system, museum

Museum documentation system

System, documentation

System, information

System, museum documentation

System, museum information

Museum Warrant, principle of

USE Principle of Museum Warrant

Name, information unit

USE Information unit name

Narrower order, broader

USE Principle of Hierarchy

Narrower-broader order

USE Inversion subprinciple

Natural history nomenclature

BT Nomenclature systems

RT Humanities nomenclature

UF History, nomenclature natural

Nomenclature, natural history

Natural history subject documentation standards

BT Subject documentation standards

RT Humanities subject documentation standards

UF Documentation standards, natural history

History subject documentation standards, natural

Standards,natural history subject documentation

Subject documentation standards, natural history

Natural language indexing

USE Unstructured retrieval language

Nature of collection items

BT Documentation problems

RT Discipline-oriented documentation problems

Management practice documentation problems

Professional practice documentation problems

Record characteristics

Record size

UF Collection items, nature of

Items, nature of collection

Needs, user

USE User needs

Nomenclature systems

BT Discipline-oriented documentation problems

NT Humanities nomenclature

Natural history nomenclature

RT Subject documentation standards

UF Systems, nomenclature

Nomenclature, Humanities

USE Humanities nomenclature

Nomenclature, natural history

USE Natural history nomenclature

Non-acquired material, control

USE Control of non-acquired material

Number, accession

USE Accession number

Number, catalogue

USE Accession number

Number, identity

USE Accesion number

Number, record

USE Accession number

Number, registration

USE Accession number

Object documentation

USE Collections documentation

Object documentation, two dimensional

USE Two dimensional object documentation

Object documentation,three dimensional

USE Three dimensional object documentation

Objectives, information system

USE Information system objectives

Order, filing

USE Filing order

Order: order-in-array, micro

USE Micro-order: order-in-array

Order of complexity

USE Principle of Hierarchy

Order of development

USE Principle of Hierarchy

Order of progression

USE Principle of Hierarchy

Order, facet

USE Micro-order: citation order

Order, general before special

USE Principle of Hierarchy

Order, wall-picture

USE Dependence subprinciple

Order, whole-part

USE Dependence subprinciple

Order, broader-narrower,

USE Principle of Hierarchy

Order, combination

USE Micro-order: citation order

Order, general

USE General order

Order, macro-

USE Macro-order

Order, main class

USE Macro-order

Order-in-array: micro-order

USE Micro-order: order-in-array

Order-in-array, helpful

USE Micro-order: order-in-array

Order: micro-order: citation

USE Micro-order: citation order

Order: citation

USE Micro-order: citation order

Orders, retrieval language

USE Retrieval language orders

Organisation, access

USE Access organisation

Organisation, systematic access

USE Systematic access organisation

Organisation, alphabetic access

USE Alphabetic access organisation

Organisation, information system

USE Information system organisation

Organisation, principle of helpful

USE Principle of Division

Organisation, subject

USE Subject organisation

Output, Information system

USE Information system output

Part order, whole-

USE Dependence subprinciple

Part subprinciple, whole-

USE Progression of dependence subprinciple

People, associate

USE Associated people

Performance, information system

USE Information system performance

Permanent record creation

USE Descriptive documentation

Phenomena

BT Discipline

NT Abstract ideas

Concrete entities

RT Basic subject

Category

Concept

Isolate

Philosophical classification

BT Classification

RT Bibliographic classification

UF Classification, philosophical

Photograph documentation, record

USE Record photograph documentation

Physical description

BT Inherent information

RT Associated information

Identification information

Museological information

UF Description, physical

Physical medium

USE Recording medium

Physical search medium

USE Recording medium

Physical system requirements

BT System requirements

NT Information system equipment

Information system finance

Information system manpower

Information system supplies

Informational system requirements

Managerial system requirements

UF Requirements, physical system

System requirements, physical

Picture order, wall

USE Dependence subprinciple

Picture subprinciple, wall

USE Progression of dependence subprinciple

Places, associated

USE Associated places

Point types, access

USE Access point types

Point, access

USE Access point

Point, main access

USE Main access point

Point, index

USE Index term

Policy, indexing

USE Indexing policy

Post co-ordinate classification scheme

USE Post co-ordinate retrieval language

Post co-ordinate indexing language

USE Post co-ordinate retrieval language

Post co-ordinate retrieval language

BT Verbal retrieval language

RT Pre- co-ordinate retrieval language

UF Classification scheme, post co-ordinate

Indexing language, post co-ordinate

Language, post co-ordinate indexing

Language, post co-ordinate retrieval

Post co-ordinate classification scheme

Post co-ordinate indexing language

Retrieval language, post co-ordinate

Scheme, post co-ordinate classification

Practice documentation problems, professional

USE Professional practice documentation problems

Practice documentation problems, management

USE Managerial practice documentation problems

Practice, documentation standards

USE Standards of documentation practice

Pre- co-ordinate classification scheme

USE Pre- co-ordinate retrieval language

Pre- co-ordinate indexing language

USE Pre- co-ordinate retrieval language

Pre- co-ordinate retrieval language

BT Verbal retrieval language

RT Post co-ordinate retrieval language

UF Classification scheme, pre- co-ordinate

Indexing language, pre- co-ordinate

Language, pre- co-ordinate retrieval

Language, pre- co-ordinate indexing

Pre- co-ordinate classification scheme

Pre- co-ordinate indexing language

Retrieval language, pre-co-ordinate

Scheme, pre-co-ordinate classification

Precision

BT Information system performance

RT Exhaustivity

Recall

Specificity

UF Relevance

Preferred category

USE Principle of Museum Warrant

Principle, inversion

USE Inversion subprinciple

Principle of Aspect/Entity Dichotomy

BT Principles of Arrangement

Principles of Division

NT Aspect/entity order subprinciple

Concrete-process subprinciple

Decreasing concreteness subprinciple

Inversion subprinciple

Micro-order: citation order

RT Characteristic of division

Filing order

Macro-order

Micro-order: citation order

Principle of Collocation

Principle of Consensus

Principle of Dependence

Principle of Hierarchy

Principle of Museum Warrant

UF Aspect/Entity dichotomy, principle of

Dichotomy, principle of aspect/entity

Entity dichotomy, principle of aspect

Principle of Collocation

BT Principles of Arrangement

NT Size collocation subprinciple

Spatial collocation subprinciple

RT Macro-order

Micro-order: order-in-array

Principle of Aspect/Entity Dichotomy

Principle of Consensus

Principle of Dependence

Principle of Hierarchy

Principle of Museum Warrant

UF Collocation, principle of

Principle of Consensus

BT Principles of Arrangement

RT Macro-order

Micro-order: citation

Micro-order: order-in-array

Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Dependence

Principle of Hierarchy

Principle of Museum Warrant

UF Arrangement, canonical

Canonical arrangement

Consensus, educational and scientific

Consensus, principle of

Educational and scientific consensus

Scientific consensus, educational and

Principle of Dependence

BT Principles of Arrangement

NT Dependence subprinciple

Gradation by speciality subprinciple

Progression of dependence subprinciple

RT Filing order

General order

Macro-order

Micro-order: citation order

Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Consensus

Principle of Hierarchy

Principle of Museum Warrant

UF Dependence, principle of

Principle of helpful organisation

USE Principles of Division

Principle of Hierarchy

BT Principles of Arrangement

NT Containing relationships

Developmental relationships

RT Filing order

General order

Macro-order

Micro-order: citation order

Micro-order: order-in-array

Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Consensus

Principle of Dependence

UF Broader-narrower order

Chronology

Complexity, order of

Complexity, increasing

Concreteness, hierarchy

Decreasing generality

Development, order of

Evolution

General before special order

General before specific

General, subordination of general to

Generality, decreasing

Increasing complexity

Integrative levels, theory

Levels, Theory of integrative

Narrower order, broader

Order of complexity

Order of development

Order of progression

Order, Broader-narrower

Order, General before special

Progression, order of

Special order, general before

Specific to general, subordination

Specific, general before

Subordination of specific to general

Theory of integrative levels

Principle of literary warrant

USE Principle of Museum Warrant

Principle of Museum Warrant

BT Principles of Arrangement

Principles of Division

RT Characteristic of division

Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Consensus

Principle of Dependence

Principle of Hierarchy

UF Category, favoured

Category, preferred

Favoured category

Literary warrant, principle

Museum Warrant, principle of

Preferred category

Principle of literary warrant

Warrant, principle of Museum

Warrant, principle of literary

Principles, retrieval language

USE Retrieval language principles

Principles of Arrangement

BT Retrieval language principles

NT Principle of Aspect/Entity Dichotomy

Principle of Collocation

Principle of Consensus

Principle of Dependence

Principle of Hierarchy

Principle of Museum Warrant

Principles of Division

RT Principles of Division

UF Arrangement, principle of

Principles of Division

BT Retrieval language principles

NT Characteristic of Division

Principle of Aspect/Entity Dichotomy

Principle of Museum Warrant

RT Principles of Arrangement

UF Division, principle of

Helpful organisation, principle of

Organisation, principle of helpful

Principle of helpful organisation

Problems, discipline-oriented documentation

USE Discipline-oriented documentation problems

Problems, documentation

USE Documentation problems

Problems, professional practice documentation

USE Professional practice documentation problems

Problems, management documentation problems

USE Management practice documentation problems

Procedures, documentation

USE Documentation procedures

Procedures, entry

USE Entry procedures

Procedures, exit

USE Exit procedures

Procedures, indexing

USE Subject documentation

Procedures, retrospective control

USE Retrospective control procedures

Process subprinciple, concrete

USE Concrete-process subprinciple

Processes, concrete-before-

USE Concrete-process subprinciple

Processing controls, data

USE Data processing controls

Processing system, recall

USE Information system processing

Professional practice documentation problems

BT Documentation problems

NT Standards of documentation practice

RT Discipline-oriented documentation problems

Management practice documentation problems

Nature of collection items

Record characteristics

Record size

UF Documentation problems, professional practice

Practice documentation problems, professional

Problems, professional practice documentation

Progression, order of

USE Principle of Hierarchy

Progression of dependence subprinciple

BT Principle of Dependence

RT General order

Gradation by speciality subprinciple

Micro-order: citation order

UF Dependence subprinciple, progression

Part subprinciple, whole-

Picture subprinciple, wall

Subprinciple, progression of dependence

Subprinciple, wall-picture

Subprinciple, whole-part

Wall-picture subprinciple

Whole-part subprinciple

Proximity, spatial

USE Spatial collocation subprinciple

Recall

BT Information system performance

RT Exhaustivity

Precision

Specificity

Record

BT Information system

NT Data

Record format

Record information

Record information sources

Record structure

Recording medium

UF Card, catalogue (museum)

Card, record

Catalogue card (museum)

Catalogue entry (museum)

Catalogue record (museum)

Entry (museum)

Entry, catalogue (museum)

Record card

Record, catalogue (museum)

Record card

USE Record

Record characteristics

BT Documentation problems

RT Discipline-oriented documentation problems

Management practice documentation problems

Nature of collection items

Professional practice documentation problems

Record size

UF Characterisitics, record

Record control, item

USE Item record control

Record creation

USE Descriptive documentation

Record depth

BT Record structure

NT Recording levels

RT Record format

Record information

UF Depth, record

Record format

BT Record structure

RT Data

Record depth

Record information

UF Format, record

Record information

BT Record structure

NT Associated information

Data

Identification information

Inherent information

Museological information

RT Data identification

Record depth

Record format

UF Information, record

Record information sources

BT The record

RT Recording medium

UF Information sources, record

Sources, record information

Record number

USE Accession number

Record photograph documentation

BT Information documentation

RT Activity documentation

Biographic documentation

Collection group documentation

Conservation documentation

Corporate body documentation

Event documentation

Locality documentation

UF Documentation, record photograph

Photograph documentation, record

Record size

BT Documentation problems

RT Discipline-oriented documentation problems

Management practice documentation problems

Nature of collection items

Professional practice documentation problems

Record characteristics

UF Size, record

Record structure

BT Record

NT Record depth

Record format

Record information

RT Data

UF Structure, record

Record types

NT Additional record

Analytical record

Main record

Reference

RT Subject records

UF Components, descriptive documentation

Descriptive documentation components

Documentation components, descriptive

Types, records

Record, analytical

USE Analytical record

Record, catalogue (museum)

USE Record

Record, conservation

USE Conservation record

Record, creation of permanent

USE Descriptive documentation

Record, descriptive

USE Full record

Record, medium form

USE Medium form record

Record, secondary

USE Additional record

Record, short form

USE Short form record

Record, simplified

USE Short form record

Record, additional

USE Additional record

Record, catalogue (library)

USE Catalogue card (library)

Record, full

USE Full record

Record, main

USE Main record

Record, selective

USE Medium form record

Recording form

BT Recording medium

RT Catalogue card (library)

Computer disk

Film

Tape

UF Form, recording

Recording levels

BT Record depth

NT Full record

Medium form record

Short form record

RT Indexing policy

Information system performance

UF Levels, recording

Recording medium

BT The record

NT Catalogue card (library)

Computer disk

Film

Recording form

Tape

RT Record information sources

UF Data vehicle

Medium, physical

Medium, recording

Medium, physical search

Medium, search

Medium, searchable

Physical medium

Physical search medium

Search medium

Search medium, physical

Searchable medium

Vehicle, data

Recording results of analysis

USE Descriptive documentation

Reference

BT Record types

NT See also reference

See reference

RT Additional record

Analytical record

Main record

Register, accessions

USE Accessions register

Registration

USE Accessioning procedures

Registration number

USE Accession number

Relationship

BT Access point

RT Aspect

Entity

Relationships, containing

USE Containing relationships

Relationships, developmental

USE Developmental relationships

Relationships, equivalence

USE Equivalence relationships

Relationships, hierarchical

USE Hierarchical relationships

Relationships, retrieval language

USE Retrieval language relationships

Relationships, semantic

USE Semantic relationships

Relationships, syntactic

USE Syntactic relationships

Relationships, affinitive

USE Affinitive relationships

Relationships, associative

USE Affinitive relationships

Relevance

USE Precision

Requirements, managerial system

USE Managerial system requirements

Requirements, physical system

USE Physical system requirements

Requirements, system

USE System requirements

Retrieval language

RT Index terms

Retrieval language, structure

USE Structured retrieval language

Retrieval language, alphabetical

USE Verbal retrieval language

Retrieval language orders

BT Retrieval language syntax

NT Filing order

General order

Macro-order

Micro-order: citation order

Micro-order: order-in-array

RT Retrieval language principles

UF Language orders, retrieval

Orders, retrieval language

Retrieval language principles

BT Retrieval language syntax

NT Principles of Arrangement

Principles of Division

Subprinciples

RT Retrieval language orders

UF Language principles, retrieval

Principles, retrieval language

Retrieval language relationships

BT Retrieval language vocabulary

NT Semantic relationships

Syntactic relationships

RT Retrieval language terms

UF Language relationships, retrieval

Relationships, retrieval language

Retrieval language structure

BT Retrieval language

NT Retrieval language syntax

Retrieval language vocabulary

RT Retrieval language components

Retrieval language techniques

Retrieval language types

Structured retrieval languages

UF Language structure, retrieval

Structure, retrieval language

Retrieval language syntax

BT Retrieval language structure

NT Retrieval language orders

Retrieval language principles

RT Retrieval language vocabulary

UF Language syntax, retrieval

Syntax, retrieval language

Retrieval language terms

BT Retrieval language vocabulary

NT Concept

Facet

Main class

Subject

RT Retrieval language relationships

UF Language terms, retrieval

Terms, retrieval language

Retrieval language types

BT Retrieval languages

NT Structured retrieval language

Unstructured retrieval language

RT Retrieval language components

Retrieval language structure

Retrieval language techniques

UF Languages types, retrieval

Types, retrieval language

Retrieval language vocabulary

BT Retrieval language

NT Retrieval language relationships

Retrieval language terms

RT Retrieval language syntax

UF Retrieval vocabulary, retrieval

Vocabulary, retrieval language

Retrieval language, pre- co-ordinate

USE Pre- co-ordinate retrieval language

Retrieval language, uncontrolled

USE Unstructured retrieval languages

Retrieval language, coded

USE Coded retrieval language

Retrieval language, controlled

USE Structured retrieval language

Retrieval language, post co-ordinate

USE Post co-ordinate retrieval language

Retrieval languages, enumerative

USE Enumerative retrieval language

Retrieval languages, synthetic

USE Synthetic retrieval languages

Retrieval languages, verbal

USE Verbal retrieval languages

Retrieval methods

USE Information system techniques

Retrieval system

BT Information system

NT Information system components

Information system structure

Information system techniques

Information system types

UF Indexing system

Indexing vocabulary

Retrieval vocabulary

System, indexing

System, retrieval

Vocabulary, indexing

Vocabulary, retrieval

Retrieval vocabulary

USE Retrieval system

Retrospective control procedures

BT Information system control

RT Collections control

Control of acquired material

Control of non-acquired material

Deacquisition control

Inventory control

Item record control

Location control

Movement control

UF Control procedures, retrospective

Procedures, retrospective control

Scheme, faceted classification

USE Synthetic retrieval language

Scheme, pre- co-ordinate classification

USE Pre- co-ordinate retrieval language

Scheme, synthetic classification

USE Synthetic retrieval language

Schemes, classification

USE Coded retrieval languages

Retrieval languages

Structured retrieval language

Schemes, enumerative classification

USE Enumerative retrieval language

Scientific consensus, educational and

USE Principle of Consensus

Search medium

USE Recording medium

Search medium, physical

USE Recording medium

Searchable medium

USE Recording medium

Secondary entry

USE Additional record

Secondary record

USE Additional record

Security, information system

USE Information system security

See also reference

BT Reference

RT See reference

UF Also reference, see

Reference, see also

See reference

BT Reference

RT See also reference

UF Reference, see

Selective record

USE Medium form record

Semantic relationships

BT Retrieval language relationships

NT Affinitive relationships

Equivalence relationships

Hierarchical relationships

RT Syntactic relationships

UF Relationships, semantic

Sequence, facet

USE Micro-order: citation order

Serial dependence subprinciple

USE Gradation by speciality subprinciple

Short form record

BT Recording levels

RT Full record

Medium form record

UF Form record, short

Record, simplified

Record, short form

Simplified record

Simple class

USE Simple subject

Simple subject

BT Basic subject

RT Isolate

UF Class, simple

Simple class

Subject, simple

Simplified record

USE Short form record

Size (in array)

USE Size collocation subprinciple

Size collocation subprinciple

BT Principle of collocation

RT Macro-order

Micro-order: order-in-array

Spatial collocation subprinciple

UF Collocation subprinciple, size

Size (in array)

Subprinciple, size collocation

Size, record

USE Record size

Sources, record information

USE Record information sources

Spatial collocation subprinciple

BT Principle of Collocation

RT Micro-order: order-in-array

Size collocation subprinciple

UF Collocation subprinciple, spatial

Contiguity, spatial

Proximity, spatial

Spatial contiguity

Spatial proximity

Subprinciple, spatial collocation

Spatial contiguity

USE Spatial collocation subprinciple

Spatial proximity

USE Spatial collocation subprinciple

Special filing order, general before

USE Inversion subprinciple

Special order, general before

USE Principle of Hierarchy

Special subprinciple

USE General before special subprinciple

Speciality subprinciple, gradation

USE Gradation by speciality subprinciple

Specific, general before

USE Principle of Hierarchy

Specific information system, alphabetico

USE Alphabetico-specific information system

Specific to general, subordination of

USE Principle of Hierarchy

Specification, subject

USE Subject analysis

Specificity

BT Information system performance

RT Exhaustivity

Precision

Recall

Standard heading

USE Access point

Standards of documentation practice

BT Professional practice documentation problems

NT Data processing controls

Data standards

UF Documentation practice, standards

Practice, documentation standards

Standards, humanities subject documentation

USE Humanities subject documentation standards

Standards, data

USE Data standards

Standards, discipline data

USE Discipline data standards

Standards, natural history subject documentation

USE Natural history subject documentation standards

Standards, subject documentation

USE Subject documentation standards

Structure, record

USE Record structure

Structure, retrieval language

USE Retrieval language structure

Structured index vocabulary

USE Structured retrieval language

Structured indexing language

USE Structured retrieval language

Structured retrieval language

BT Retrieval language type

NT Coded retrieval language

Verbal retrieval language

RT Unstructured retrieval language

UF Analysis, subject

Artificial language

Assigned indexing

Classification schemes

Controlled indexing

Controlled language indexing

Controlled retrieval language

Headings, subject

Index vocabulary, structured

Indexing, controlled

Indexing language, structured

Indexing, assigned

Indexing, controlled language

Language indexing, controlled

Language, artificial

Language, controlled retrieval

Language, structured indexing

Language, structured retrieval

Retrieval language, structured

Retrieval language, controlled

Schemes,classification

Structured index vocabulary

Structured indexing language

Subject analysis

Subject headings

Vocabulary, structured index

Subject, uni-topical

USE Basic subject

Subject

BT Retrieval language terms

NT Basic subject

Discipline

Main class

Multi-topical subject

RT Knowledge

Subject, composite

USE Composite subject

Subject, simple

USE Simple subject

Subject analysis

BT Subject documentation techniques

NT Indexing policy

RT Subject labelling

Subject organisation

UF Analysis, subject

Specification, subject

Subject specification

Subject cataloguing

USE Subject documentation

Subject documentation

BT Documentation

Information system techniques

NT Subject documentation standards

Subject documentation techniques

RT Descriptive documentation

UF Cataloguing, subject

Classification

Documentation, subject

Indexing

Indexing procedures

Indexing, subject

Procedures. indexing

Subject cataloguing

Subject indexing

Subject documentation standards

BT Discipline-oriented documentation

NT Humanities subject documentation standards

Natural history subject documentation standards

RT Nomenclature systems

Subject documentation principles

UF Documentation standards,subject

Standards, subject documentation

Subject documentation standards, Humanities

USE Humanities subject documentation standards

Subject documentation standards, natural history

USE Natural history subject documentation standards

Subject documentation techniques

BT Subject documentation

NT Subject analysis

Subject labelling

Subject organisation

UF Documentation techniques, subject

Techniques, subject documentation

Subject headings

USE Access points

Verbal index terms

Subject headings (a system)

USE Structured retrieval language

Subject indexing

USE Subject documentation

Subject indicator

USE Access point

Subject labelling

BT Subject documentation techniques

RT Subject analysis

Subject organisation

UF Labelling, subject

Subject organisation

BT Subject documentation techniques

NT Access oranisation

RT Subject analysis

Subject labelling

UF Organisation, subject

Subject specification

USE Subject analysis

Subject, compound

USE Compound subject

Subject, basic

USE Basic subject

Subject, multi-topical

USE Multi-topical subject

Subordination of specific to general

USE Principle of Hierarchy

Subprinciple, general before special

USE General before special subprinciple

Subprinciple, aspect/entity order

USE Aspect/entity order subprinciple

Subprinciple, concrete-process

USE Concrete-process subprinciple

Subprinciple, decreasing concreteness

USE Decreasing concreteness subprinciple

Subprinciple, dependence

USE Dependence subprinciple

Subprinciple, gradation by speciality

USE Gradation by speciality subprinciple

Subprinciple, inversion

USE Inversion subprinciple

Subprinciple, progression of dependence

USE Progression of dependence subprinciple

Subprinciple, serial dependence

USE Gradation by speciality subprinciple

Subprinciple, size collocation

USE Size collocation subprinciple

Subprinciple, spatial collocation

USE Spatial collocation subprinciple

Subprinciple, wall-picture

USE Progression of dependence subprinciple

Subprinciple, whole-part

USE Progression of dependence subprinciple

Subprinciples

BT Retrieval language principles

NT Aspect/Entity dichotomy subprinciple

Concrete-process subprinciple

Decreasing concreteness subprinciple

Inversion subprinciple

Summarisation

BT Indexing policy

RT Depth indexing

Supplies, information system

USE Information system supplies

Support documentation

USE Information documentation

Syntactic relationships

BT Retrieval language relationships

RT Semantic relationships

UF Relationships, syntactic

Syntax control

BT Terminology control

RT Vocabulary control

UF Control, syntax

Syntax, retrieval language

USE Retrieval language syntax

Synthetic classification schemes

USE Synthetic retrieval language

Synthetic retrieval language

BT Coded retrieval languages

RT Enumerative retrieval language

UF Analytico-faceted classification

Classification scheme, synthetic

Classification scheme, faceted

Classification, analytico-faceted

Classification, colon

Colon classification

Faceted classification scheme

Faceted classification, analytico

Language, synthetic retrieval

Retrieval language, synthetic

Scheme, synthetic classification

Scheme, faceted classification

Synthetic classification scheme

System activities, information

USE Information system activities

System communication media, information

USE Information system communication media

System components, information

USE Information system components

System constraints

BT Information system

NT Information system control

Information system limitations

Information system security

RT System requirements

UF Constraints, system

System control, information

USE Information system control

System dynamism, information

USE Information system dynamism

System equipment, information

USE Information system equipment

System finance, information

USE Information system finance

System input

USE Information system inputs

System limitations, information

USE Information system limitations

System manpower, information

USE Information system manpower

System methods, information

USE Information system techniques

System objectives, information

USE Information system objectives

System organisation, information

USE Information system organisation

System output, information

USE Information system output

System performance, information

USE Information system performance

System processing, information

USE Information system processing

System requirements

NT Informational system requirements

Managerial system requirements

Physical system requirements

RT System constraints

UF Requirements, system

System requirements, managerial

USE Managerial system requirements

System requirements, physical

USE Physical system requirements

System security, information

USE Information system security

System techniques, information

USE Information system techniques

System, alphabetico-specific information

USE Alphabetico-specific information system

System, indexing

USE Retrieval system

System, museum documentation

USE Museum information system

System, retrieval

USE Retrieval system

System, alphabetico-classed information

USE Alphabetico-classed information system

System, dictionary information

USE Dictionary information system

System, divided information

USE Divided information system

System, documentation

USE Museum information system

System, information

USE Information system

System, museum information

USE Museum information system

Systematic access organisation

BT Access organisation

RT Alphabetic access organisation

UF Access organisation, systematic

Access, classified

Catalogue, classified

Catalogue, systematic

Classified access

Classified catalogue

Organisation, systematic access

Systematic catalogue

Systematic catalogue

USE Systematic access organisation

Systematic vocabulary

USE Coded retrieval language

Systems supplies, information

USE Information system supplies

Systems, nomenclature

USE Nomenclature systems

Tape

BT Recording medium

RT Catalogue card (library)

Computer disk

Film

Recording form

Techniques, information system

USE Information system techniques

Techniques, subject documentation

USE Subject documentation techniques

Term, index

USE Index term

Terminology control

BT Data processing controls

NT Syntax controls

Vocabulary control

UF Control, terminology

Terms, coded index

USE Coded retrieval language

Terms, retrieval language

USE Retrieval language terms

Terms, verbal index

USE Verbal retrieval language

Theory of integrative levels

USE Principle of Hierarchy

Three dimensional object documentation

BT Collections documentation

RT Two dimensional object documentation

UF Collection items

Dimensional object documentation, three

Documentation, item

Documentation, three dimensional object

Item documentation

Items, collections

Object documentation, three dimensional

Title indexing, catchword

USE Catchword title indexing

Topical subject, multi-

USE Multi-topical subject

Two dimensional object documentation

BT Collections documentation

RT Three dimensional object documentation

UF Dimensional object documentation, two

Documentation, two dimensional object

Object documentation, two dimensional

Type, catalogue

USE Access organisation

Types, access point

USE Access point types

Types, record

USE Record types

Types, retrieval language

USE Retrieval language types

Uncontrolled indexing

USE Unstructured retrieval language

Uncontrolled retrieval language

USE Unstructured retrieval language

Uncontrolled vocabulary

USE Unstructured retrieval language

Uni-topical subject

USE Basic subject

Uniform heading

USE Access point

Unit name, information

USE Information unit name

Unit, information

USE Information unit

Units, information

USE Information units

Unstructured retrieval language

BT Retrieval language type

NT Automatic indexing

Catchword title indexing

Citation indexing

Keyword-in-context

Keyword-out-of-context

RT Structured retrieval language

UF Derived indexing

Indexing, uncontrolled

Indexing, word

Indexing, derived

Indexing, natural language

Language indexing, natural

Language, uncontrolled retrieval

Natural language indexing

Retrieval language, uncontrolled

Uncontrolled indexing

Uncontrolled retrieval language

Uncontrolled vocabulary

Vocabulary, uncontrolled

Word indexing

User needs

BT Information system components

RT Access point

Information unit

Record

UF Needs, user

Utilisation history

BT Museological information

RT Acquisition

Conservation record

UF History, utilisation

Vehicle, data

USE Recording medium

Verbal index term

RT Access point

Index term

Verbal indexing language

USE Verbal retrieval language

Verbal retrieval language

BT Structured retrieval language

NT Post co-ordinate retrieval language

Pre- co-ordinate retrieval language

RT Coded retrieval language

UF Alphabetical controlled vocabulary

Alphabetical indexing language

Alphabetical retrieval language

Controlled vocabulary, alphabetical

Index terms, verbal

Indexing language, alphabetical

Indexing language, verbal

Language, alphabetical indexing

Language, alphabetical retrieval

Language, verbal retrieval

Retrieval language, alphabetical

Retrieval language, verbal

Terms, verbal index

Verbal indexing language

Vocabulary, alphabetical controlled

Vocabulary, retrieval language

USE Retrieval language vocabulary

Vocabulary control

USE Structured retrieval language

BT Terminology control

RT Syntax control

UF Control, vocabulary

Vocabulary, alphabetical controlled

USE Verbal retrieval language

Vocabulary, indexing

USE Retrieval system

Vocabulary, systematic

USE Coded retrieval language

Vocabulary, uncontrolled

USE Unstructured retrieval language

Vocabulary, retrieval

USE Retrieval system

Vocabulary, structured index

USE Structured retrieval language

Wall-picture order

USE Dependence subprinciple

Wall-picture subprinciple

USE Progression of dependence subprinciple

Warrant, principle of literary

USE Principle of Museum Warrant

Warrant, principle of Museum

USE Principle of Museum Warrant

Whole-part subprinciple

USE Progression of dependence subprinciple

Whole-part order

USE Dependence subprinciple

Word indexing

USE Unstructured retrieval language

Word, key

USE Access point