# Standardized creation of headings: The Change toward effective, organized an accessible information

#### 1. Introduction

In the field of records management and archives we can very early find tendencies to provide faster access to documents, including the problems of creating headings, thesauri, classifications and indexes of archival finding aids. These tendencies have been exercised in different ways, which led to the development of various systems for managing content of documents, both in classical as in electronic form (Vilfan, 1956; Subject Indexing for Archives, 1992, Duranti 2000). Methodological problems were solved individually, while looking for a good solution and thus creating own systems. However, these systems were sufficient only to provide faster access to documents described in traditional, paper based finding aids. With the introduction of new IT solutions, especially in building shared archival databases, such method is not only unsuitable, but also inefficient and ineffective. Due to the mutual incompatibility of local systems, it is often a barrier to the development of shared systems (Novak, 2007).

Systems for content identification may be systemized according to the purpose, objectives and implementation to a thesaurus, thesauri and classifications (Urbanija, 1996, Šauperl 2000, 2007). Each of them has its own internal logic of creation and use. Their importance within the contents of archival value lies in the rational placement into the system of managing the whole of archival material and also in the system of professional work. Thesauri and classifications are in fact crucial in the arrangement, description and transfer of records and archives (Novak, 2007).

Systematic approach to the creation of headings, classifying and creation of systems for content identification in the contents of archival value represents only one of the solutions in the treatment and maintenance of records and archives. The basic frame for the implementation of rationalization represents a standardized form of records on the contexts in which the material is located. These standardized records are created in generally accepted archival standards ISAD(G)2 – General International Standard Archival Description, Second Edition, ISAAR(CPF)2 – International Standard Archival Authority Record for Corporate bodies, Persons and Families, ISDF – International Standard for Describing Functions and ISDIAH – International Standard for Describing Institutions with Archival Holdings. Those standards enable the creation of archival information systems based on standardized data structures. However, the successful mapping of archival content in a standardized data structures is of great importance because it is the only means of successful data exchange [ISAD(G) 2, 2000, ISAAR CPF 2, 2004, ISDF, 2008 ISDIAH, 2008].

However, new ways of organizing information and consequently providing quicker and easier access to content that is stored require integration with other disciplines and adaptation of experiences and examples mainly from the records management, librarianship, information science, etc. This is even more true for the creation of headings and the construction and use of thesauri, where the experiences from the librarianship and administration come to effect (Regulation on establishing retention periods of documents, 2009; Kajič, 2004; Vrezec 2004; Biziak, 2007: Kopač 2007).

### 2. The use of headings in archival theory and practice

On the basis of practical experiences when describing archives between the years 2006-2009, it was proved in practice, that there is a real need for an in-depth treatment of problems relating to the creation of headings, descriptors and thesauri. It is therefore necessary to establish and standardize guidelines for creating headings and thesauri, which must be designed in such a way, that they will be suitable for the user on one and for professionals on the other hand. In doing this it should be considered that a certain term can have in a given context the same meaning for the user and experts/archivists while in different context the expert/archivist would need more detailed definition of that same term, or just on the contrary, the user would need detailed clarification of that same term. In other words, it is necessary to establish a relationship between a single concept, users and experts/archivists (user  $\leftarrow$  term  $\rightarrow$  expert/archivist: expert/archivist = user: the user > expert/archivist; user < expert/archivist). This is just one aspect, which was presented by Zeng and Žumer (2009a and b), where the meaning of the certain term varies according to different circumstances. The library science theory and practice deals guite a lot with this question in recent years (see e. q. Hjørland, 2009; Rorisa & Iyer, 2008). It is a solution for which it makes sense to transfer it to the archival field.

The creation of authority records of corporate bodies, personal and family names, geographical names and subject headings in archival theory has several dimensions. In traditional archival theory and practice the creation of authority records is, as a rule, limited to the authorized forms of the names of creators of archival fonds and collections, but at lower levels of the description it has not yet been carried out in the relevant range (Novak, 2007). That is the reason of frequent problems faced by users when looking for certain material that is not properly defined with a specific keyword or heading. And this inappropriate definition is what causes problems for users and experts/archivists. Let me give an illustration of some examples. Users often encounter problems of the same description of places in different locations or the same description of the various geographic terms, e. g. Mirna – the name of the place<sup>1</sup>, Mirna – the name of the

<sup>1</sup> Mirna is a small town in Slovenia situated along the road Trebnje-Sevnica and along the river with the same name as the town.

river<sup>2</sup>; Lipnica as Slovenian form of the name of the town Leibnitz in Austria<sup>3</sup>, Lipnica, near Tuzla<sup>4</sup>, or place with the same name in different locations, e. g. Apače (near Kidričevo)<sup>5</sup>, Apače (in Apaško polje)<sup>6</sup>. Users often find also two or more persons of the same name and surname, e. g. Janez Novak – in one case, an oncologist, and the other an expert in the field of metrology and the third a lawyer. Without additional elements that explain who is who, it is impossible for the user to determine the right person<sup>7</sup>. At the end we must not forget even the most complex problem we are facing in the archival science, the location of individual terms in space and time. E. g. the municipality in 1850 represents in a given time and place another entity as a whole rather than the municipality in 1941 or after 1995, etc.

That is the issue of extreme complexity; indeterminate and confused situation in this area makes the unified description and dealing with archival content impossible. In particular, this problem comes to light when starting to describe archives with using specialized computer programs for the description and consequently starting with the construction of shared databases.

# 3. The current state in creation of headings in slovenian archival theory and practice

Since the Slovenian public archives started with the description of archives with the selected software tool within the system SIRA\_net (Archival Information System of Slovenian Regional Archives), there was a need for a joint discussion regarding the use of keywords and headings and their process of creation as well as their use in daily professional work. Therefore a workshop on the creation and use of various types of headings that can be used by active users in the information system was organized. The workshop which was attended by representatives of all Slovenian archives, highlighted practical experience in the design of headings and the problem of creation of individual types of headings in accordance with international standards, their interconnection and integration with the units of description and the reasons for the introduction of authority control regarding headings in the shared database within the system SIRA\_net.

The discussion revealed quite different views on the meaning and purpose of the use of headings, but especially on the intensity and depth of the description of individual headings and on the creating of authority records of individual heading. It turned out that differences arise primarily from the different current

<sup>2</sup> Mirna is a 44 km long river in Slovenia.

<sup>3</sup> Lipnica (Leibnitz) is a small town in south of Austria on the border with Slovenia.

<sup>4</sup> Lipnica is a small town in the municipality of Tuzla in Bosnia and Herzegovina.

<sup>5</sup> Apače is a small settlement in the municipality Kidričevo.

<sup>6</sup> Apače (German: Abstall) is a bigger settlement in the municipality Apače, in the near of the border with Austria.

<sup>7</sup> Novak, Janez / 1941 (Oncology), Novak Janez / 1955 (Metrics), Novak, Janez / 1939 (Law). See <a href="http://splet02.izum.si/cobiss/BibPersonal.jsp?apl=InputForm.jsp">http://splet02.izum.si/cobiss/BibPersonal.jsp?apl=InputForm.jsp</a>. Novak is the most repeated family name in Slovenia.

professional practice in the use of headings, which have so far been largely limited to creation of traditional indexes of paper based archival finding aids.

With the construction of shared database of Slovenian public archives headings received beside already known also a new dimension of usability. Either they are one of the tools that help to deal with contexts, or they represent an important tool for searching within large databases. For this reason, a request to define the professional archival standards concerning the creation and use of headings appeared at the end of the workshop.

Problem archivists are facing unlike librarians who have used since a long time so called catalog cards and keywords, is also that in the past, when archives were described and processed traditionally, we did not use the system of headings and keywords, as their creation was meaningless because of a large quantity of material. That led in the most cases to the lack of appropriate theoretical knowledge on which it would be possible to build up the adequate system.

As mentioned earlier, has the creation of authority records of corporate bodies, persons and families, geographical names and subject headings in archival theory, multiple dimensions.

In practical work archivists have at the moment the least difficulties when creating authority records of corporate bodies. They have more problems with the creation of authority records of persons and families, and geographical names, but most problems occur in the creation of subject headings.

The problem archivists are facing when creating headings, is the fact, that we have to manage not only the content but also the context, which means the positioning of archives and the establishment of appropriate links between content and context, which allows users a proper understanding of archival material in a given space and time.

#### 3.1 The creation of authorized names of corporate bodies

The theoretical foundations for the creation of authority files of corporate bodies, persons, and families, are given in the standard ISAAR(CPF)2. When capturing data about corporate bodies, specific criteria, on which we can define a corporate body, should be considered. In traditional archival theory and practice, before the introduction of ISAAR(CPF)2, the system for the creation of authorized names of corporate bodies on the level of fond was fairly well designed. During the transition to the description in the framework of a shared database, it was therefore only upgraded, which did not, as it can be seen from the created authority records of corporate bodies, cause major problems. In the new database other authority data, such as the history, places, internal structure, mandates/sources of authority, functions, occupations and activities were added to the existing data of corporate bodies. Doing this, we got the standard consistent authority record of corporate body, which can be used by users of the system. A few more problems appear in understanding the fact, that on different levels of description also creators can change, that means that beside the creator of the fond, other corporate bodies or individuals can appear which of course does not affect the

Osnovni podatki	
Geslovnik:	korporativno telo
Ime:	Okrajni urad Maribor
Popisovanje:	Državno oblastvo Habsburške monarhije v času od 1854-1868.
Področje opisa	
Obdobje obstoja:	1854 - 1868
Historiat:	Ustanovitev »mešanih okrajnih uradov«, ki so nadomestili stara okrajna glavarstva in okrajna sodišča, je predvidevala Uredba o organizaciji in pristojnosti okrajnih uradov z da in okrajna sodišča, je predvidevala Urvedba o organizaciji in pristojnosti okrajnih uradov z da in sodna oblast. Okrajni uradi so pričeli s svojim delom na podlagi Ukaza ministrov notranjih in pravosodnih zadev o začetku delovanja okrajnih uradov na Štajerskem, Koroškem in Kranjskem (RGBI LOXCII/241, 1854). Z uredbo ministrstev za notranje zadeve, pravosodje in finance o politični in sodni organizaciji Stajerske z dne 31. januar 1854 (RGBI UVII/27, 1854) je bilo na področju celotne štajerske ustanovijenih 64 okrajnih uradov. Mariborsko okraže je bilo razdeljeno na dvajset okrajev in sicer: Maribor, Sv. Lenart, Slovenska Bistrica, Konjice, Rogatec, Ljutomer, Ormož, Gornja Radgona, Ptuj, Slovenj Gradec, Šoštanj, Marenberg (Radlje ob Dravi), Celje, Vransko, Jelšovec, Gornji Grad, Brežice, Sevnica in Kozje. Njihove kompetence so se nanašale tako na upravo, kot tudi na področje civilnega in kazenskega sodstva. Okrajni uradi so v svojih okrajnih predstavljali najnižijo stopnjo oblasti. Na področju uprave so bili podrejeni okrožnim uradom, za občine pa so v določenih javnih zadevah predstavljali višjo instanco oblasti. V zvezi z delom so bili podrejeni višjim upravnim, sodnim in davčnim organio.
	Okrajni urad Maribor je začel delovati leta 1854 na podlagi uredbe ministrstev za notranje zadeve, pravosodje in finance o politični in sodni organizaciji Stajerske. Teritorialno je obsegal področje 91 občin, sodno oblast na prvi instanci pa je izvajalo okrožno sodišče v Celju. Sodil je k mariborskemu okrožju. Okrajni uradNanbor je prenehal z delovanjem leta 1868, ko je bila dokončno utemeljena ločitev uprave od sodstva in so bila ponovno uvedena okrajna glavarstva.
	VIRI:  - Ukaz ministrov notranjih in pravosodnih zadev o začetku delovanja okrajnih uradov na Stajerskem, Koroškem in Kranjskem (RGBI LXXXII/241, 1854).  - Uredba ministrstev za notranje zadeve, pravosodje in finance o politični in sodni organizaciji Stajerske z dne 31. januar 1954 (RGBI VIII/27, 1954).  - Uredba o organizaciji in pristojnosti okrajnih uradov z dne 19. januarja 1853 (RGBI IV/10, 1853).  - Zontar J. (Ur.)(1988). Handbücher und Karten zur Verwaltungsstruktur in dentändern Kärnten, Krain, Küstenland und Steirmark bis zum Jahre 1918. Ein historischbibliographischer Führer/ Priročniki in karte o organizacijski strukturi v deželah Koroški, Kranjski, Prinorju in Stajerski do leta 1918: zgodovinsko-bibliografski vodnik/ Manuali e carte sulle strutture amministrative nelle province di Carinzia, Carniola, Litorale e Stiria fino al 1918:guida storico-bibliografica (375 str.).Graz: Steiermärkisches Landesarchiv.
	Avtor vsebine: Zdenka Semlič Rajh, 2009
Pooblastila:	Pristojnosti okrajnih uradov so bile razdeljene na upravne zadeve, sodne zadeve in finančno- davčne zadeve, med katerimi je bilo področje upravnih zadev najobširnejše. Med le-te je sodi neposredni nadzor nad izvajanjem zakonov, navodil in predpisov višjih instanc in njihovo razglašanje znotraj okrajev ter zadeve v zvezi z nadzorom občinskih in deželnih meja. Izvajali so nadzor nad gozdarskimi, poljedelskimi in lovskimi zadevami, nadzor nad vzdržavanjem cest in stanjem vodograđenj (mlini, žage, nasipi, napajališča, vodne zapornice, ter nadzor nad trgovino in obrtjo (podeljevanje trgovskih in obrtnih dovoljenj, nadzor nad cenami in taksami itd.). V okviru njihovih pristojnosti je bilo tudi izdajanje poročnih dovoljenj, izvajali so nadzor nad tiskom in časopisjem, ki je izhajalo v okviru okraja, nadzor nad delovanjem društev, odgovorni so biliza cerkvene in šolske gradnje, prav tako pa so bili aktivni na področju verskih zadev. Izdajali so upravna gradbena dovoljenja, strovono pomoč pa so jim zagotavljali pristojni stavbni uradi. Nadzirali so tudi izvajanje požarnovarstvenih predpisov. V primeru naravnih nesreč so bili bora jini uradi dolžni sodelovati pri ocenitvah škode in organiziranju pomoči. Na področju zdravstva in sanitete je bilo v njihovi pristojnosti izvajanje nadzora nad oskrbo bolnikov, cepljenjem in nadzor porodničarstva. V primeru pojave epidemij in širjenja kužnih bolezni sobili dolžni izpolnjevati

Creation of authorized names of corporate bodies within the SIRA\_net system (retrieved 24. 01. 2011 from http://www.siranet.si/deskriptordetail.aspx?ID=59294)

creation of authority records of corporate bodies. This is the consequence of the fact, that archivists were used to describe fonds at higher levels and in larger completed units, however, the description at the lowest level was restricted to those archives that were more frequent or more important.

However, difficulties in designing and querying for information in connection with corporate bodies are caused also by inconsistent capturing of authority

data of authority records themselves, as well as of the content, Although the data model and data capturing, supported by ISAAR(CPF)2, are standardized, a series of problems such as large amounts of corporate bodies, to be captured. then lack of resources and references mainly for the older period, and the difficulty of a clear recognition of forms of the content of descriptors in time and space, occurs8.

#### 3.2 The creation of personal and family names

As mentioned previously, the archivists face more difficulties in the creation of personal and family names as in the creation of authorized names of corporate bodies. In addition to large number of people the data of which need to be captured and placed in time and space, the problem often lies in the fact, that, when describing the content of archives, we often have to deal with people, who have the same name and surname (e. g. more people with the name Janez Novak) or persons, where due to inconsistent writing or transcription of the name archivists doubt whether they have to deal with one or several persons (e. g. Otmar Reiser, Otmar Reisser or Otmar Reißer). In these cases, users are confronted with the problem, since it is impossible to establish whether we deal with one or more persons. In addition, archivists must also consider the fact, that each person appears in conjunction with very different content in different types of material, and proper placement and connecting people with content is of course a big challenge for archivists.

The standard ISAAR(CPF) tried to eliminate that problem by providing additional attributes. To successfully solve these problems, it is necessary to identify a person in space and time, to determine its relationship to the archives, the relationship to an event or situation, that has created the preserved archival material, and relationship to other people who are in a relationship to the person (Novak, 2007, p. 126).

Looking at the current situation, we see that the practice in the Archives is very different. At the moment, it is commonly adopted, but the unwritten rule that we have for technical reasons of the system, deviated from the natural sequence (e. g. Janez Novak) of formation of personal names. Thus, in all Archives personal names are formed in accordance with the Slovenian Orthography in inverted form (e. g. Novak, Janez). The first difference appears already in use of punctuation, as some archivists do not use it, therefore it is often difficult to distinguish the name from the surname and vice versa – e. q. Bello del Nicolo', John James etc.

Often we come across the entries, for which after the reviewing the authority record it can be proved, that we are dealing with the same person, such as e. q. entries belonging to Mozart. The first entry: Mozart, Wolfgang Amadeus, and the second: Mozart, Wolfgang – in a different context and using different names. In this case we have to deal with the inconsistency of the archivist, as by performed

<sup>8</sup> Cp. Novak, 2007, pp. 123-125, pp. 127-128.



Creation of authorized personal names within the SIRA\_net system (retrieved 24. 01. 2011 from http://www.siranet.si/deskriptordetail.aspx?ID=61377)

comparing of the dates of birth one can soon find out, that it is the same person. There are two possible solutions:

- First: the different form of the name should be specified in the authority record of a person as another form of the name, which enables, as a cross-reference the search.
- Second: one valid name should point with the see-also-reference to another closely related and a valid name, depending on how the query is set up in the system.
- The librarians are solving the issue by adding the year of birth and death (in the case of an already deceased person), but they use also other qualifiers, such as the profession.<sup>9</sup> Taking into account that we basically already closely approached that rule, as developed by librarians, it would be useful to introduce it also in archival theory and practice.

## 3.3 The creation of geographical names

The creation of geographical names includes places/towns/villages, their parts, streets, squares, roads, countries, regions, rivers, seas, canals, waterfalls, lakes, oceans, hills, valleys, mountains, forests, parks, caves, deserts, continents, buildings and other independent facilities. Based on the classification of geographical names in the Register of Geographical Names, maintained by the

<sup>9</sup> Cp. Šauperl, 2003.

Mapping Authority of the Republic of Slovenia, we created various classes of geographical names<sup>10</sup>:

- Domicilonimi: this class includes all geographical names of towns, markets, villages, hamlets, parts of cities, neighborhoods, streets, and squares. Here we took over from an external source the official list of all settlements in the Republic of Slovenia<sup>11</sup>, as it turned out, that it does not make sense, to create own Glossary of geographical names of settlements.
- Domusonimi: this class of geographical names includes public buildings, private buildings, religious buildings, castles, farms, churches and other important facilities.
- Hidronimi: this class of geographical names includes running water, rivers, streams, torrents, unsteady flows, canals, springs, estuaries of the delta, falls, waterfalls, river ferries and river ports, lakes, parts of lakes, lake inlets, lake ports, less standing water, ponds, puddles, reeds and seas, part of the sea, sea bays, sea harbors, and saline. Since partially relevant glossaries already existed<sup>12</sup>, they were imported into the system from external sources to avoid duplication and to simplify the work of archivists.
- Insulonimi: the class includes islands, the lake islands, river islands, dunes in the middle of the river, rocks, shoals, and reefs.
- Oronimi: the class includes mountains, hills, hill tops, hill, plateaus, ridges, passes, parts of the hills, hillsides, backs, ridges, valleys, ravines, gorges, capes, peninsulas, caves, sinkholes, sinks, lonely rocks, and boulders. Also here relevant glossaries already existed and were imported into the system<sup>13</sup>.
- Regionimi: the class includes states, municipalities, cadastral municipalities, administrative units, landscapes, wasteland, and forest area including their historical forms.

However, doing their work, archivists place geographical names in space and time, therefore in creating them they often face problems, such as changing of individual geographic entities through time and consequently the growth and development of these, with renaming, combining, identification of predecessors and successors, and relationships between subordinated and superior units.

Because archivists when dealing with geographical names get in touch also with historical names of individual geographic entity, the historical descriptions, so called "arheotoponimi" were added in addition to all previous mentioned geographical name forms. The concept of the word derives from the term "archaic"

<sup>10</sup> Since it was not possible to find the correct English translation for all listed classes, they are given in the original language.

<sup>11</sup> Basic data (the name of the settlement, the name of municipality and the link to an external source) were given for use on 29. 10. 2009 by the Society for the digitisation of Slovenia, Geopedia.

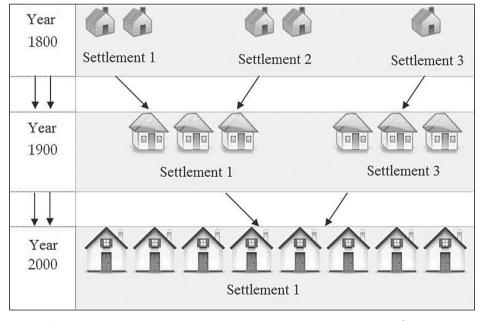
<sup>12</sup> The names of lakes, imported from http://sl.wikipedia.org/wiki/Seznam\_jezer\_v\_Sloveniji on 28.

<sup>13</sup> The names of mountains, imported from http://www.hribi.net/gorovje/julijske\_alpe/1 sneto 2. 11. 2010.

Osnovni podatki	
Geslovnik:	zemljepisno ime
Ime:	Maribor [Maribor]
Popisovanje:	Maribor je drugo največje mesto v Sloveniji in središče Mestne občine Maribor. Leži na 273 n nadmorske višine, 15° 39' 12" zemljepisne dolžine in 46° 33' 39" zemljepisne širine.
Vir:	Geopedia, 2009; Obširen imenik krajev na Štajerskem (1883); Verordnungs- und Amtsblatt des Chefs der Zivilverwaltung, 24/1943; Ortsverzeichnis zur Gemeindegrenzkarte von Untersteiermark, Mießtal und Übermurgebiet (1940); Snoj (2009). Etimološki slovar zemljepisnih imen. Krajevni leksikon Slovenije.
Področje normativne kontrol	le
Oblike zemljepisnega imena:	Marpurch (1145, 1159-1173)
	Marchburch (1164)
	Marburc (1195)
	Marhpurch (1243)
	Marburg an der Drau (Nemško ime mesta, uradno veljavno do 1919, 1941-1945)
	Márprog (vulgo poimenovanje)
Geografski kontekst (mapa):	http://www.geopedia.si#L410 F10147719
Zunanje povezave:	http://sl.wikipedia.org/wiki/Maribor

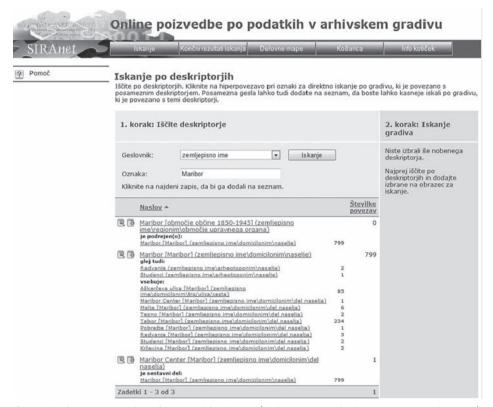
Creation of authorized geographical name within the SIRA\_net system (retrieved 24. 01. 2011 from http://www.siranet.si/deskriptordetail.aspx?ID=58722

(ancient, old fashioned, outdated, originally), so this class only includes outdated forms of geographical names that are no longer in use, or names that are still used, but do not form an geographical entity, but over time became part of other, larger geographical entities.



Model of the settlements development and their amalgamation during the time (Source: Novak, 2007, str. 130)

Since in practice we have to deal with geographical entities, which have been changed through time and space, simple glossary is not very useful, because without adequate conceptual and contextual links users, among which, of course, the archivists consider themselves, will not get adequate information. In designing of glossaries of geographical names, archivists must keep in mind, that the majority of users do not know the former names for individual geographical entity appearing in the archives, but conduct the search with today's names. It is therefore necessary to help users to get the desired information and desired archives.



Example of correct creation of geographical name (and consequently the correct report in query) that enables the user to get the requested result without previous knowledge of historical forms of geographical name

## 3.4 The creation of subject headings

Subject headings are words or phrases which characterize the content and are usually expressed in normal Slovenian. Subject headings are used to provide access to the contents of archives, since they reflect the content of the material. The purpose of the creation of subject headings is to help the user to find the

desired archives easily and quickly. This is a controlled vocabulary of terms and the corresponding structure of semantic links<sup>14</sup>.

In archival theory and practice subject headings mean all those keywords and headings that are not geographical names or names of companies, persons and families. For subject headings nouns, adjectives, verbs and adverbs can be used, as an integral part of it, but as the exception rather than the rule, also conjunctions can be used.

The issue of creating subject headings is fairly new field for the archival profession, with which theoretically archivists are not engaged indeed. Although the tradition of such systems is already very old for librarians, archives have never developed it, because of the nature of the material they work with.

In processing of archives and setting of subject headings, archivists must be aware, that the purpose of their creation is providing access to material, as they allow the querying for subjects in the archival database. Their design represents a special form of setting keywords using one or more standard words to give concise document content. The objective of creating a subject heading is certainly the identification of the subject, discussed in the material. However, we should not forget the links with other subjects. Archivists have to be aware that users have increasing demands, and at the same time they also expect a rapid response to their inquiries. Therefore a serious and thorough approach to the question of creation of subject headings is required.

Archivists are constantly faced with new contents, which of course require new subject headings. Here we face a whole range of problems, such as:

- changing of the meanings of subject headings through history, which in practice requires the construction of complex glossary of subject headings, where individual subject headings must include additional explanation or specific time frames;
- changing of the subject headings in space, like e. g. use of dialect or slang, and
- obsolescence of subject headings and content, which characterize it (Novak, 2007, p. 134).

There are two ways of creating subject headings. They can be created by index creators according to specific procedures based on textual designed databases or by describers on the base of documents. However, if we deal with relational databases and the like, the subject headings can be chosen from a special premade list, which may be normative or not.

The authority file allows the control of subject headings, it can act as a thesaurus, which connects the related, subordinated and superior terms. In determining subject headings relating to the contents of archives, archivists have to deal with the subject headings that are unknown to the majority of average users, or misleading, since the same subject heading can have different meaning. For

<sup>14</sup> Cp. Novak, 2007, pp. 134-138.

this reason, in the practice, it makes sense to use authority subject headings in archival theory and practice.

For the same reason the given subject headings must be also very accurate. just in case this is not possible, we can use the more general designation. Thus, the subject headings may consist of one word and then we talk about simple headings, or are composed of several words. In this case we are talking about composed headings15.

Creation of subject headings raises also the question of the use of singular or plural as well as natural and invert order or sequence.

The creation of subject headings, especially controlled, is an extremely complex process in which we must always keep in mind the importance of subject headings for searching for relevant information. In any case, the creation of a subject headings system brings many positive attributes, which archivists at the moment are not sufficiently aware of.

#### 4. Conclusion

Without a doubt we can assert that headings and descriptors represent an important tool in the process of creation of objective information on the archives. As such, they serve different purposes in the system of arrangement, description and use of the preserved archives. Therefore, the values of individual headings and descriptors must be standardized in both content and also in terms of the creation of their recording in the system. For this reason, it would be beneficial for the Slovenian archival service to continue with good practice of adapting and importing descriptors from trusted external sources and their integration into the Slovenian archival information system. In the case when the import from external sources is not possible or not meaningful, it is necessary to create them in the process of capturing data freely but in accordance with the needs and demands of professional standards. In doing so, archivists must follow the rules of capturing data in the respective system. Connectivity between the headings themselves or headings and other entities in the information system must be done so that there will be no misunderstanding as to the content as well as the appearance whether in the process of their capturing, amending and use. Archivists are to decide in which cases and how many additional headings they will use.

However there remains a whole range of important issues, such as whether it would be necessary to standardize different types of headings, which should be mandatory to use at different levels of description within fonds or archival collections. Also the question of creating subject headings remains open, especially according to the possibility of a combined inquiry by title, content, etc. and the technological environment that enables only the creation of a simple system of headings, without the possibility of establishing complex relationships, as this is, for example, allowed by the visual thesaurus.

<sup>15</sup> More about headings see Šauperl, 2003, p. 83.

The objective in establishing a unified system of headings should be the preparation of guidelines for the creation of descriptors and thesauri at the contents of archival value, which can be used in practice for the description of archives by any software tool. Since it is likely that the software tool will change, it is necessary to provide such a processing of the contents that will not be affected by the change of the system. However, since the same system for the description of archives is used in all Slovenian public archives, the results must be searched for in the unification of the system of the creation of headings and the establishment of a common thesaurus in a common data base.

According to relatively limited experiences in archival theory and practice, it will be necessary to lean on the methodological principles for subject headings used by librarians (Kovač, 2001, Zalokar, 2004). However, one should not talk about an easy transfer of theoretical and practical knowledge of librarians, since the nature of archival and library material requires different solutions. This was confirmed also by the comparison of library and archival standards for the description of the material and its creators carried out in 2009 (Semlič Rajh & Šauperl, 2009). Because of the lasting nature of archives, the processing of the contents raises questions the library profession does not need to answer.

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#### **Summary**

#### Standardized creation of headings: The Change toward effective, organized an accessible information

In the field of records management and archives we can very early find tendencies to provide faster access to documents, including the problems of the creation of headings, thesauri, classifications and creation of indices of the archival finding aids. These tendencies have been exercised in different ways, which led to the development of various systems for managing content of documents, both in classical as in electronic form. Encountered methodological problems were solved individually, while looking for a good solution and thus creating own systems. However, these systems are sufficient only to provide faster access to documents described in traditional paper based finding aids. With the introduction of new IT solutions, especially in building mutual archival databases such method is not only unsuitable, but also inefficient and ineffective. Due to the mutual incompatibility of local systems it very often means a barrier to the development of common systems.

Systems for content identification may be systemized according to the purpose, objectives and implementation to a thesaurus, thesauri and classifications. Each of them has its own internal logic of the creation and use. Their importance within the contents of archival value lies in the rational placement into the system of managing the whole of archival material and also in the system of professional work. Thesaurus, thesauri and classifications are in fact crucial in the arrangement, description and transfer of records and archives.

Rationing in the field of the creation of headings, classifying and creation of systems for content identification in the contents of archival value represents only one of the solutions in the treatment and maintenance of records and archives. The basic frame for the implementation of the rationalization represents a standardized form of records on the contexts in which the material is located. These standardized records are created in generally accepted archival standards ISAD(g)2 – General International Standard Archival Description, Second Edition, ISAAR(CPF)2 – International Standard Archival Authority Record for Corporate bodies, Persons and Families, ISDF – International Standard for Describing Functions and ISDIAH – International Standard for describing Institutions with archival holdings. Those standards enable the creation of archival information systems based on standardized data structures. However, the successful mapping of archive content in a standardized data structures is of great importance because only in this way one can successfully exchanged data.

New ways of organizing information and consequently enabling quicker and easier access to content that is stored, however, require integration with other disciplines and overtaking of experiences and examples mainly from the records management, librarianship, information science, etc. This is even more true for the creation of headings and the construction and use of thesauri, where the experiences from the librarianship and administration come to effect, for example classification plan for state administration bodies.

Without a doubt we can assert that the descriptors represent an important tool in the process of the creation of objective information on the archives. As such, they serve different purposes in the system of arrangement, description and use of the preserved archives. Therefore, the values of individual descriptors must be standardized in both content and also in terms of the creation of their recording in the system. For this reason, it would be good that the Slovenian archival service continues with good practice of overtaking and importing of descriptors from trusted external sources and their incorporation into the Slovenian archival information system. In the case the import from external sources is not possible or not meaningful, it is necessary to create them in the process of capturing of data freely but in accordance with the needs and demands of professional standards. In doing so, archivists must follow the rules of capturing of data in the respective system. Connectivity between the descriptors themselves or descriptors and other entities in the information system must be done so that there will be no misunderstanding as to the content as well as the appearance whether in the process of their capturing, amending and use. Archivists are to decide in which cases they will use additional descriptors and how many they will use.

However there remains a whole range of outstanding issues, such as whether it would be necessary to standardize different types of descriptors, which should be mandatory to use at different levels of description within a fond or archival collections. Also the question of creation of subject headings remains open. especially according to the possibility of a combined inquiry by title, content. etc. and the technological environment that enables only the creation of simple system of headings, without the possibility of establishing complex relationships, as this allows for example the visual thesaurus.

The objective in establishing a unified system of descriptors should be the preparation of guidelines for creation of descriptors and thesaurus at the contents of archival value, which can be used in practice for the description of archives by any software tool. Since it is likely that the software tool will change. it is necessary to provide such a processing of the contents that will not be affected by the change of the system. However, since the same system for the description of archives is used in all Slovenian public archives, the results must be searched for in a unification of the system of the creation of headings and the establishment of a common thesaurus in a common data base.

According to the relatively limited experiences in archival theory and practice it will be necessary to lean on the methodological principles for subject headings used by librarians. However, one can't talk about the easy transfer of the theoretical and practical knowledge of librarians, since the nature of archival and library materials require different solutions. This was confirmed also by the comparison of library and archival standards for the description of the material and its creators carried out in 2009 by Semlič Rajh & Šauperl. Because of a lasting nature of archives, the processing of the contents raises the guestions the library profession doesn't need to answer.

#### Zusammenfassung

# Die Bildung von kontrollierten Stichwortregistern: Die Wende zu effektiven, organisierten und zugreifbaren Informationen

Schon sehr früh traten auf dem Gebiet der Organisation des Schrift- und Archivguts Bestrebungen der Sicherung eines rascheren Zugriffs auf Dokumente auf einschließlich der Problematik der Stichwortbildung, des Aufbaus verschiedener Thesauri, einer fortschrittlicheren Verwendung der Klassifikationszeichen und auch der Schaffung von Verzeichnissen archivischer Findmittel. Diese Bestrebungen wurden auf verschiedene Weise realisiert, was zur Entwicklung unterschiedlicher Managementsysteme zur Verwaltung der Dokumenteninhalte sowohl in klassischer als auch elektronischer Form führte. Die dabei entstandenen methodologischen Probleme löste jeder selbst, wobei geeignetste Lösungen gesucht wurden und ieder ein eigenes System schuf. Diese Systeme reichten iedoch nur zur Sicherung eines rascheren Zugriffs auf das Archivgut bei den klassischen archivischen Findmitteln, die auf Papier erarbeitet wurden. Mit der Einführung neuer Informationslösungen, vor allem beim Aufbau relationaler archivischer Datenbanken, ist eine solche Vorgehensweise nicht mehr geeignet, geschweige denn wirksam und rational. Die reziproke Unvereinbarkeit der lokalen Systeme bedeutet oft ein Hindernis in der Entwicklung gemeinsamer Systeme.

Systeme zur inhaltlichen Kennzeichnung können hinsichtlich Zweck, Ziel und Ausführung in Stichwortregister, Thesauri und Klassifikationen systematisiert werden. Jedes dieser Systeme besitzt eine eigene innere Logik des Aufbaus und der Anwendung. Ihre Bedeutung liegt vor allem in der rationalen Integration in ein Managementsystem zur Verwaltung der Gesamtheit des Archivguts und damit auch in ein System der fachmännischen Archivarbeit. Stichwortregister, Thesauri und Klassifikationen sind nämlich bei der Ordnung und Vermittlung des Schrift- und Archivguts von entscheidender Bedeutung.

Die Rationalisierung auf dem Gebiet der Stichwortbildung, Klassifikation und Schaffung von Systemen zur inhaltlichen Kennzeichnung stellt nur eine der Lösungen zur Behandlung des aufbewahrten Schrift- und Archivguts dar. Eine standardisierte Form der Aufzeichnungen über den Kontext, in dem sich das Archivgut befindet, stellt die grundlegende Rahmenbedingung zur Durchführung dieser Rationalisierung dar. Diese standardisierten Aufzeichnungen wurden in den allgemein anerkannten Archivstandards festgelegt, und zwar im Allgemeinen internationalen Standard zur Verzeichnung von Archivgut [ISAD(G)2], im Internationalen Standard für archivische Normdaten (Körperschaften, Personen und Familien) ISAAR(CPF)2, im Internationalen Standard zur Verzeichnung von Funktionen (ISDF) und im Internationalen Standard zur Beschreibung der Einrichtungen, die Archivgut aufbewahren (ISDIAH). Die genannten Standards ermöglichen die Schaffung archivischer Informationssysteme auf der Grundlage standardisierter Datenstrukturen. Dabei ist die Abbildung der archivischen Inhalte in standardisierten Datenstrukturen von großer Bedeutung, da nur auf diese Weise ein Datenaustausch möglich ist.

Die neuen Methoden der Datenorganisation und damit die Ermöglichung eines rascheren und leichteren Zugangs zu den Inhalten, die aufbewahrt werden. erfordern aber eine Verbindung mit anderen Disziplinen und die Übernahme von Erfahrungen und Leitbildern vor allem aus der Dokumentationswissenschaft. Bibliothekswissenschaft, Informatik usw. Insbesondere gilt dies für die Stichwortbildung und für den Aufbau und die Verwendung von Thesauri, wo Erfahrungen auf dem Gebiet der Bibliothekswissenschaft und der Verwaltung von Bedeutung sind, beispielsweise das einheitliche Klassifikationsschema der Organe der Staatsverwaltung.

Zweifelsohne kann behauptet werden, dass die Deskriptoren ein wichtiges Werkzeug im Prozess der Gestaltung objektiver Informationen über Archivgut darstellen, basieren doch alle modernen Systeme zur Informationsverarbeitung auf Deskriptoren-Systemen, die eine entscheidende Rolle spielen. Als solche dienen sie verschiedenen Zwecken im System der Ordnung, Verzeichnung und Benützung des aufbewahrten Archivauts.

Die Deskriptoren stellen aber ungeachtet ihrer Systematisierung auch ein wichtiges Suchkriterium (access point) für die Recherche in den archivischen Informationssystemen dar, somit einen Ausgangspunkt zum Verständnis des Kontextes für die weitere Recherche nach Inhalten und Verzeichnungen des Archivguts. So wie die übrigen Suchkriterien im archivischen Informationssystem müssen auch diese dem Benutzer die Fortsetzung der Recherche (Browsing) sowohl im kontextuellen als auch im deskriptiven Teil des archivischen Informationssystems ermöglichen. Zu diesem Zweck muss eine entsprechende Menge von Informationen über den normativen Inhalt des einzelnen Deskriptors erfasst und gleichzeitig müssen zwischen den Deskriptoren und den Verzeichnungseinheiten entsprechende Verbindungen geschaffen werden, die dann über das Internet als Unikate URL wiedergegeben werden.

Die Werte der einzelnen Deskriptoren müssen deshalb sowohl inhaltlich als auch bezüglich ihrer Aufzeichnung im System normiert sein. Deshalb wäre es von Vorteil, dass der slowenische Archivdienst die Praxis der Übernahme und des Einspielens von Deskriptoren aus vertrauenswürdigen externen Quellen und deren Integrierung in das slowenische archivische Informationssystem fortsetzt. Wenn das Einspielen der Deskriptoren aus externen Quellen nicht möglich oder nicht sinnvoll ist, müssen diese im Einklang mit den Erfordernissen und Anforderungen der Fachstandards im Prozess der Erfassung von Daten zum Archivgut frei indexiert werden. Die Archivare müssen dabei die Regeln der Datenerfassung im Rahmen des jeweiligen Systems berücksichtigen. Die Verbindung zwischen den Deskriptoren selbst oder den Deskriptoren und anderen Entitäten im Informationssystem muss so ausgeführt werden, dass es weder vom inhaltlichen noch vom Standpunkt der Erscheinungsform zu Missverständnissen kommt, und zwar weder beim Prozess ihrer Erfassung, bei der Ausführung von Ergänzungen noch in den Prozessen ihrer Verwendung.

Dabei bleibt natürlich noch eine ganze Reihe offener Fragen. Das Ziel bei der Einführung eines einheitlichen Deskriptoren-Systems musste die Vorbereitung von Leitlinien zur Stichwortbildung und die Schaffung von Thesauri bei den

archivischen Inhalten sein, die in der Praxis verwendet werden können, und zwar bei der Verzeichnung von Archivgut mit jeder Software. Da es sehr wahrscheinlich ist, dass sich die Software in Zukunft verändern wird, muss eine inhaltliche Verarbeitung sichergestellt werden, die von einer Systemänderung nicht betroffen wird. Da aber dasselbe System zur Verzeichnung von Archivgut in allen slowenischen öffentlichen Archiven verwendet wird, muss auch eine Vereinheitlichung des Systems der Stichwortbildung und die Schaffung eines gemeinsamen Thesaurus in einer gemeinsamen Datenbank versucht werden.

Im Hinblick auf die relativ beschränkten Erfahrungen in der Archivtheorie und Archivpraxis wird man sich auf die methodologischen Grundsätze der Objektbezeichnung stützen müssen, die von den Bibliothekaren verwendet werden. Dabei kann es aber nicht um eine einfache Übertragung theoretischer und praktischer bibliothekarischer Erkenntnisse gehen, da die Natur des Archiv- und des Bibliotheksguts unterschiedliche Lösungen erfordert. Dies hat sich auch im Vergleich der Bibliotheks- und der Archivstandards zur Verzeichnung von Schriftgut und dessen Urhebern bestätigt. Aufgrund der dauerhaften Natur des Archivguts stellen sich bei der inhaltlichen Verarbeitung Fragen, mit denen sich die Bibliothekswissenschaft nicht auseinanderzusetzen braucht.