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Some Reflections on Teaching Subject Analysis in the Field of Documentation[1]

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The paper discusses some preliminary questions which arise when a curriculum for the field of subject analysis is being planned: Which skills are needed? What can be taught? Which are the appropriate teaching objectives, its subjects and its methods? Thirty-three teaching objectives are specified. Teaching subjects are shown also in a graphic display. (Author)

1. Prefatory Note

Subject analysis (content description, indexing) is one of the most important, demanding, time-consuming and costly operations in documentation centers. Therefore this activity deserves most careful consideration with regard to the training of documentalists. In this context the following questions arise: What are the skills of this job? What can be taught? What are the teaching objectives, the subjects and their methods?

It is not the aim of this paper to present a curriculum for teaching subject description. Appropriate curriculum planning is dependent on and conditioned by a number of influencing factors, e.g. qualification and preparatory training of students, quantity of lessons available, technical equipment of the training institution, etc.

It is rather my intention to discuss some reflections which seem to be helpful before a curriculum is to be planned. Moreover, I would like to submit some ideas on the teaching methods of this subject being practised at the Lehrinstitut für Dokumentation (LID) of the Deutsche Gesellschaft für Dokumentation in Frankfurt/Main.

2. Methods of Subject Description and Qualifications Needed

The main methods of subject description are Abstracting and Indexing in various forms. The purposes of these activities are (1) information of users, (2) construction of a subject arrangement of units, and (3) adaptation of the system to the retrieval of documents.

What is it that a documentalist must know, what must he or she have learned beforehand? What enables him or her to analyse and to describe the contents of a document and - in addition - to "understand" what he or she is doing? How should he or she think about what he or she is doing from a critical point of view, and —

perhaps — be able to change and to improve what he or she is doing?

As far as I can see there are three necessary items to know, namely:
(1) the branches of knowledge a documentation center is dealing with,
(2) the given facts and demands of a documentation center, and
(3) the documentation methodology including theoretical fundamentals.

3. What Can be Taught?

Is a training institution for documentalists competent to provide these preconditions? Perhaps not in all of them. Nevertheless, let us return to the three points mentioned above, concerning the questions: What can be taught? What cannot be taught?

(1) Special subject knowledge demanded in some centers: In the Federal Republic of Germany, esp. in Hannover, Ulm, Gießen, there are curricula for documentalists which include some teaching in the fields of bio-sciences and medicine. However, normally, special scientific knowledge is not the subject of training courses in documentation. Those of the students who had studied a special field beforehand (at universities, etc.) do not need further instruction in that field. Those who had not done so must try to compensate this deficiency later on the job - if this is possible. Also the missing knowledge in foreign languages has to be acquired by each student on his own.

(2) Given realities and demands of the documentation center: Evidently it is highly important for a documentalist in analysing and describing the subjects of documents, that he or she is well acquainted with the needs of the users of a given center, with the types and frequency of their requests, with the facilities of the retrieval system used, with the demands for recall and precision rates, and with the printed documentation services (cf. indexes) which are published by the center currently. Moreover, a documentalist should be familiar with (a) the center's tools for subject analysis (classification system, thesaurus, etc.), (b) the special procedures utilized at the center, (c) the daily work load, i.e. how much time can be devoted to the analysis of a document, etc. Much more could be said about this in a given job situation itself, however, most of such possibilities can be taught beforehand only to a certain extent.

If it can be admitted that points (1) and (2) above are not — or not sufficiently — "teachable" I will turn to item (3) "Documentation methodology and its theoretical fundamentals". The following teaching objectives and teaching subjects refer only to this topic.

4. Teaching Objectives

4.0 The teaching objectives may be well understood under the following eight headings which could also serve to structure the teaching subjects themselves (for these see the next section).

Well trained students should have abilities concerning:

4.1 General questions
— to name criteria for the validity of documents
— to suggest adequate methods of document description for special projects
— to list some literature on subject description and related topics.

4.2 Abstracting and Abstracts
— to differentiate between types of abstracts as described in DIN 1426 (1)[2]
— to compose indicative and informative abstracts of popular documents
— to modify the abstracts of authors with respect to documentation purposes
— to sketch a structure for positioned abstracts (i.e. abstracts which are composed following a certain sequence of topics)

4.3 Communication
— to describe the concept "communication" in general and with respect to documentation procedures
— to define "concept", "characteristic", "intension", "extension", according to DIN 2330 (3), to describe the types of concept relationships and to give reasons for their documentary relevance
— to distinguish between types of terms and to define "natural" and "artificial language"
— to characterize "polysemes" and "synonyms" and their variants
— to differentiate between linguistic disciplines and to explain their applicability in documentation

4.4 Documentation Language
— to describe the role of the documentation language and to characterize the different documentation languages
— to differentiate between independant and dependant elements of the documentation language and to be able to give examples
— to report on the most important regulations of the Berlin Subject Heading Rules (6)
— to describe the different methods of indexing according to DIN 31 623 (4)
— to describe the methods of syntactic indexing and to show the advantages of these methods in given situations
— to define indexing measures and to apply them
— to explain the starting points, methods and tools of automatic indexing
— to describe the thesaurus as a controlled vocabulary; to list the fundamental principles for collecting, selecting and formation of descriptors according to DIN 1463 (2)
— to describe the parts of the thesaurus and their structure
— to outline the steps of thesaurus construction in a flow chart
— to delineate the difference between a thesaurus with and without preferred terms
— to recognize differences between existing thesauri and the ones recommended in DIN 1463 (2) and to interpret such differences

4.5 Subject Order
— to define "pre-" and "post-coordination" and to give examples
— to differentiate and exemplify the components of ordering procedures
— to describe the interdependence of aspects, storing device, and ordering system
— to characterize the four different ordering methods
— to describe the principle and structure of the hierarchical and facet classification
— to sketch the fundamental procedure and purpose of cluster analysis

4.6 Storage
— to describe different storage devices with respect to pre- and postcoordination

4.7 Ordering Systems
— to describe existing classification systems, among them UDC and indexing languages such as some existing thesauri

4.8 Special Fields
— to characterize the specialties of subject analysis and ordering in classical archives, press archives, picture collections, collections of films and audio-visual materials

5. Teaching Subjects

The elements of teaching subjects can also be shown as figures in a graphic display (see below). "Points of crystallization" are the groups No.1-8 of Section 4 (teaching objectives). The scheme shows not only the subjects themselves but also coherences. So it can serve as a kind of "road map" when travelling through the interesting country-side of subject analysis and surroundings. There is also a division into four "provinces": "General", "Language", "Structure", and "Special".

6. Teaching Methods

The basic methods of theoretical instruction at the LID in Frankfurt are lectures and discussions. As the students are given a written version of most of the topics (5) the emphasis is sometimes laid more on discussion.

Another form of teaching are exercises which are carried out by the students individually or in team-work, in plenary meetings or in combination of all of these possibilities. In the field of subject description exercises refer to abstracting, classing, indexing (using a free or a controlled vocabulary), construction of thesauri, evaluation of classing and indexing, and evaluation of classification systems and thesauri. Such exercises must be accomplished according to an obligatory program fixed beforehand. (There exists, for instance, at the LID a schedule for a three-day's exercise consisting of 21 steps.)

Furthermore, a seminar has proved to be an effective form of learning: for emphasizing special questions, for the presentation and interpretation of the results of one's own research.

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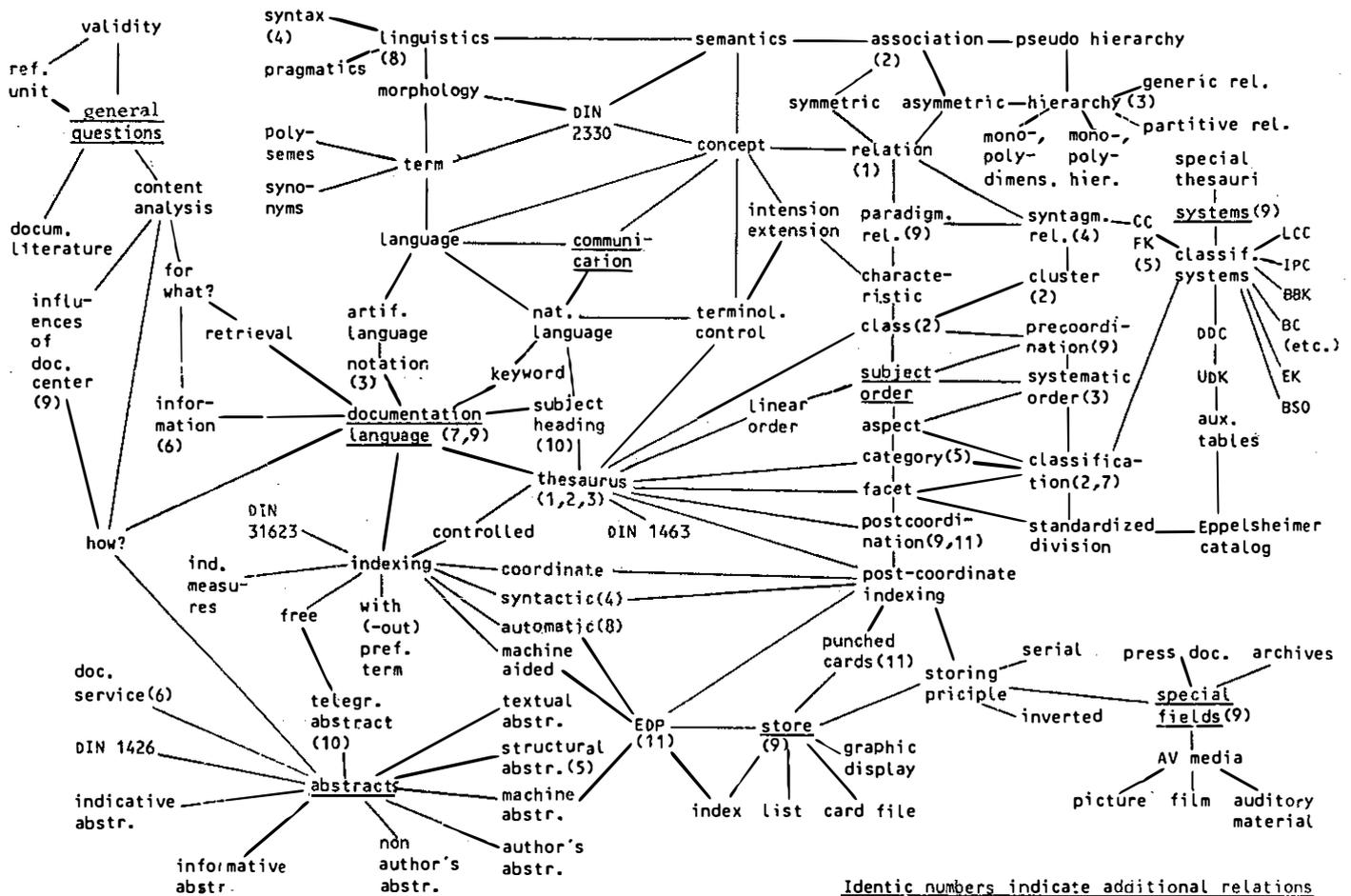
Finally, an eminently efficient method is also the socalled project work, established for a longer period (e.g. building up a data base, a data bank, composing an abstract journal, constructing a thesaurus, etc.). Such work seems to be also a way to fill at least part of the gap diagnosed in Section 2.

Notes:

1 Slightly changed and abridged version of a paper presented at the 7th Annual Conference of the Society for Classification, Königswinter, FRG, 5–8 April 1983.
2 This paper cites the standards of the German Standardization Institute (DIN). For almost all of the standards cited, corresponding versions on the international level exist in English, French and Russian through the services of ISO (Int.Organisation for Standardization).

References:

(1) DIN 1426. Inhaltsangaben in Information und Dokumentation. Berlin, Köln: Beuth Verl.1973.
(2) DIN 1463. Richtlinien für die Erstellung und Weiterentwicklung von Thesauri. Berlin, Köln: Beuth Verl.1976.
(3) DIN 2330. Begriffe und Benennungen. Allgemeine Grundsätze. Berlin, Köln: Beuth Verl.1979.
(4) DIN 31 623. Indexierung zur inhaltlichen Erschließung von Dokumenten. T.1: Begriffe, Grundlagen; T.2: Gleichordnende Indexierung mit Deskriptoren. Berlin, Köln: Beuth Verl.1983.
(5) Greiner, G.: Allgemeine Ordnungslehre. Frankfurt/Main: 1978.
(6) Regeln für den Schlagwortkatalog. RSWK. Entwurf. Bearb. von der Kommission des Deutschen Bibliotheksinstituts für Sacherschließung. Berlin: Dt.Bibliotheksinstitut 1982.

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