The Case of Tweddle-Dee and Tweddle-Dum: authority control in a retrospective database

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Even though some continue to question its use, authority control is increasingly becoming accepted as a necessary element in the design of online catalogues and databases. Over the past five years there has been a flurry of publications dealing with authority work. Many of these publications deal with databases of current day literature and most often are concerned with online catalogues. Much less attention has been given to literature of a retrospective nature where problems unique to such information is encountered. In this paper we describe authority control applied to the Bibliography of Canadian science and technology, pre-1914, a database that contains over 58,000 records of the primary literature published during three centuries prior to the First World War. Most of the records arise from periodical articles published between 1850 and 1914 and cover a wide range of scientific and technological topics. Entries were created for works published in Canada or abroad written in English, French, or other languages – with the vast majority being in English.

The Bibliography is designed primarily for use by historians of science and technology and with this in mind several access points have been built into the structure of the database. Authority control was applied to three aspects of the Bibliography, namely, author names, subject categories, and serial titles. Extensive work was required to build the authority file for each aspect because previously published files were inadequate for out purposes or, more importantly, were largely non-existent.

To permit author access to the Bibliography, approximately 11,000 author name authorities were created consisting of both personal and corporate names. With the type of literature identified in the Bibliography, a number of problems with authors were encountered. Many works published prior to the twentieth century, particulary periodical articles, were brought out anonymously and some were only identified with the initials of the author. Most records in the Bibliography with known authors came from the periodical literature and for many of these there are no previously published name authorities. In this section of our paper we will describe the process by which name authority records were created, how the records were built into an authority file, and note the links to the bibliographic records. In addiction, we will provide an analysis of the name authority file indicating, for example, the number of authority records retrieved from previously published authority files, the number of those uniquely created for this Bibliography, and the number of personal name authorities vs. corporate name authorities.

Since the subject of the publications is another access point to the Bibliography, authority control applied to the subject categories was also necessary. A subject scheme that could be used for publications spanning more than three centuries during which science and technology changed dramatically was not readily available. The decision was made to build a scheme appropriate for the Bibliography which contains approximately 175 subject descriptors. In this section of the paper we will provide a brief description of the process by which the scheme was built and then note its structure and links to the bibliographic records.

Authority control for titles of early Canadian serials has not as yet been extensively developed. It was, therefore, necessary to develop an authority file (over 400 records) for the titles of periodicals that were systematically searched for records for the Bibliography. Similarly, as in the previous two sections of the paper, we will describe here the process by which the authority file was created, its structure, and links to the bibliographic records.

Authority control was a major element in the design of the Bibliography of Canadian science and technology - pre-1914. Since its application to this retrospective database may have implications for the design of similar databases, the paper will conclude with a discussion of authority control, problems, and solutions.