

BIBLIOGRAPHIC AUTOMATION IN LIBRARIES IN JAPAN

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In the '80s the computer has become increasingly familiar to ordinary people in Japan along with the spread of personal computers. Now computers seem to be appearing everywhere, libraries included. People working for libraries in Japan have been going through changes of unprecedented speed and size in their working environment.

The 1989 edition of *Nihon no Toshokan* (Statistics on Libraries in Japan) shows that about 35 percent of public libraries and 60 percent of academic libraries in Japan have introduced computers into their work places. According to the 1983 edition, 10 percent of public libraries were said to have done so. Even from this fact alone we can see the rapid advance of computerisation in Japanese libraries. The introduction of computers, however, differs according to the type and scale of the library.

In this report I would like to present a brief introduction to the present state of bibliographic automation of Japanese libraries according to type.

1. The National Diet Library

The National Diet Library is the only national library in Japan. It has a collection of about four and a half million titles for use by both the National Diet (Japanese Parliament) and the general populace. Since the mid '60s the Library has been investigating automation in order to control its huge collection. At that time the greatest obstacle towards processing Japanese-language information was Kanji (Chinese characters) which had not yet been dealt with successfully anywhere else in the world. Thus the Library became the pioneer in that field. After some experiments, the Library succeeded in developing a Japanese-language information processing system under which Kanji could be input into large-capacity disks using a multishift type Kanji input terminal. The Library started producing its *Japanese National Bibliography Weekly List* in machine-readable form in 1977. Since then the Library has been accumulating the bibliographic records which comprise JAPAN MARC.

The input terminal used in this system stores about 3,400 characters in its memory and is so complicated to operate that the Library has assigned this job to a private company which trains keypunchers specially for that purpose. Consequently Japanese materials have been catalogued off-line so far, whereas Western-language materials are now being catalogued online, using US MARC and GPO MARC as a source of copy cataloguing.

The Library has developed databases such as Japanese monographs (JAPAN MARC), Japanese serials (JAPAN MARC Serials), foreign monographs and serials, a Japanese periodicals index, debates of the National Diet, braille and recorded books, doctoral dissertations, authorities for cataloguing, and so forth. Although most of these databases are for inhouse use, JAPAN MARC records are distributed on magnetic tape and the Library has started making the JAPAN MARC online service available to the public as an experiment. JAPAN MARC has been highly valued for its wide range of material which is due to the Library's position as a national deposit library. Also, conversion into machine-readable form of records of older materials dating back to the Meiji Era is under way. Thus JAPAN MARC will be more effective for retrospective searching and cataloguing.b

With JAPAN MARC, however, the whole process of cataloguing and distributing new title information is a very lengthy one. This is due to the explosive increase in publications in Japan (approximately 60,000 titles a year at present) while the number of cataloguing staff remains almost the same. Mainly for this reason, JAPAN MARC records have not been used much by public libraries which have to meet large demands for very new titles. However, since the Japan Library Association began to distribute reasonably-priced J-BISC (the CD-ROM conversion of JAPAN MARC) in 1988, public libraries seem to have started showing interest in JAPAN MARC. This is because J-BISC is compatible with more than 90 percent of the personal computers used in Japan; it can also be downloaded into local systems so that libraries can use it as a source of retrospective searching and cataloguing without worrying about connect time. Moreover, J-BISC has more access points than the original JAPAN MARC, such as subtitle and publisher's name. Thus J-BISC has great potential to extend the use of the record in JAPAN MARC.

In the draft plan of the Second National Diet Library, which is to be built in the western part of Japan, they are aiming for a more computerised service, from

selection and acquisition through to service and preservation of the Library collections, utilising updated electronic technology.

2. Academic libraries

As mentioned above, about 60 percent of the 800 academic library services in Japan now use computers. Although the method of computerisation varies according to the type and scale of the library, the first three purposes of computerisation in academic libraries are information research, cataloguing and serials control.

The most spectacular event in the automation of academic libraries in the last ten years was the launch of the National Centre for Science Information System. In the academic spheres of Japan it was considered essential to establish an efficient nation-wide academic information system from the early stages of automation. In 1980 the Academic Council, a consultative organ of the Ministry of Education, submitted a report in which they made a blueprint for a desirable national system of academic information. Following the recommendations of this report, the Documentation Information Centre was established at Tokyo University in 1983 as the centrepoint of a nation-wide academic information network. Later this Centre was reorganised to become independent of Tokyo University and has been run under the name of the National Centre for Science Information System (NACSIS) as the joint utility for Japanese universities. NACSIS aims for an effective production and distribution of academic information throughout the country by networking universities and research institutes. The networks are run from large computers installed in seven national universities in each area of Japan.

The wealth of Japanese research and development in science and technology which is available on NACSIS has now become accessible through satellite links to researchers in the US at the National Science Foundation, and in the UK at the British Library. The system can provide information on dissertations, conference papers in electronics and chemistry, and a database of research reports from various Japanese universities and research laboratories. There is a lesser coverage of the social sciences and humanities.

As one of its functions in achieving its goals, NACSIS aims to produce a national union catalogue database and to rationalise and save resources and labour in each library by sharing the acquisition and cataloguing of materials.

This shared cataloguing system, called Bibliographic and Holding Information System, enables each participant library to produce its own catalogue, at the same time contributing to the national union catalogue. The system provides several referral databases such as JAPAN MARC, TRC MARC (one of the commercial MARCs produced by Tosho Ryutsu Centre), LC MARC, GPO MARC and UK MARC, as a source of copy cataloguing. The system, started in 1985, has been joined by 112 universities all over the country and had accumulated about 2,630,000 records in the union catalogue database as of February 1990. So far the participants have mainly been national universities and relatively large private universities.

Meanwhile some of the private universities have started connecting themselves to overseas bibliographic networks such as OCLC and UTLAS. Japanese universities are run by various kinds of bodies such as national, prefectural, municipal and private bodies. This is what makes it somewhat difficult to unite all university libraries to form one network. Also, there is a tradition among Japanese academic libraries of each working on their own rather than together. Besides, it is said that the system needs to be improved to be more effective. Nevertheless this system is the first nation-wide library network in Japan and has great potential for the future.

3. Public libraries and school libraries

As mentioned above, public libraries in Japan have been introducing computers quite rapidly. As in academic libraries, there are various ways of introducing computers into public libraries. Some libraries have computerised on their own while others have used the ready-made computer packages available on the market. Usually the computerisation of public libraries centres around the circulation of materials. To perform cataloguing, public libraries apparently use commercial MARC much more than JAPAN MARC.

School libraries have been relatively slow to develop in Japan. Generally speaking they have not established enough independence to opt for automation. Yet there are some studies under way on automation in school libraries.

The present state of Japanese MARC

Generally there are two kinds of MARC records in Japan. One is JAPAN MARC and the other is commercial MARC produced by commercial companies. As mentioned above, JAPAN MARC has a good coverage of materials because its producer, the

National Diet Library, contains a great many government publications and research reports which are not always available in the marketplace and therefore are not necessarily included in the commercial MARCs. However, there is quite a long time lag, usually about three months, for new publications. The commercial MARCs, on the other hand, which include such formats as Osakaya MARC, Nippan MARC and TRC MARC, can provide MARC records much sooner than JAPAN MARC. Besides, by using these services, a library can get not only the cataloguing records they want, but also books ready for shelving complete with labels and other necessary products. These commercial MARC record producers, especially Nippan and TRC, are subsidiary companies of big book distributors and can provide a quick and complete service using the marketing system of their parent companies. TRC provided six million records for its users in 1988, which is ten times as many as in 1983. They provide records not only for new titles but also for older titles. The quality of TRC MARC is said to be almost comparable with JAPAN MARC and it has more access points than JAPAN MARC.

According to the 1988 edition of *Nihon no Toshokan*, 338 libraries in Japan utilise commercial MARC records. The number of libraries using commercial MARC records has increased ten times in three years and it is highly likely to keep on increasing in the future.

However, while the importance of networking various kinds of libraries has been increasingly recognised, the differences in description and format among the MARC records have become obstacles to the exchange of records. Therefore the standardisation of Japanese MARC formats has gradually become an important issue in the library world in Japan and several discussions on standardisation have been held between the Japan Library Association and the commercial MARC producers. As a result, Shoseki Joho Centre (the Book Information centre) was established in 1987 and it will take the lead in producing Hyojun MARC (Standard MARC).

The procedure for producing Standard MARC will be as follows:

- 1) Each book distributor collects information on new titles before publication in cooperation with publishers, and sends it to the Shoseki Joho Centre.
- 2) The Centre catalogues these new titles and creates MARC records in JAPAN MARC format. The TRC is currently assigned this task.
- 3) The Japan Library Association supervises the quality of the product.

- 4) Each producer purchases this Standard MARC and from it produces and distributes its own MARC.

This plan of standardisation should be a significant step towards a nation-wide bibliographic network in Japan. Although the National Diet Library has not decided whether it should be involved or not for various reasons, the plan is now under way.

In Japan a nation-wide bibliographic network such as the Australian Bibliographic Network has not yet been developed. However, some of the prefectures or areas in Japan seem to have started investigating the development of local library networks. These would have the potential to be incorporated in a wider network covering the country in the future.