



## Libraries into the 21<sup>st</sup> Century

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### Abstract

A long standing colleague discusses developments in informatics in the last quarter century, how these were fostered by the European Commission in general and by Pat Manson in particular.

**Key Words:** Pat Manson; European Commission; Library Research

It was in the middle of the 1980s that I first met Pat. She was at the University of Westminster and I was at Pica, the centre for library automation in the Netherlands. This was the time that the Internet was coming out of the academic environment into the wider world of services, the time before the Web was even there. We talked about Gopher (Wikipedia, n.d., a) and Virtual Terminals (Wikipedia, n.d., b), and the idea of the Web browser was not even known then.

I was involved in connecting university libraries in the Netherlands to the national academic network SURFnet in a project that aimed to build connected services between libraries on a national scale. Projects with names like Picalink or Open Library Network have long been forgotten, but they were the stepping stone to European library networking. One of the first European projects, supported by the European Commission was the ION (Interlending Open Systems Network) project (Costers & Dekkers, 1989) that experimented with distributed searching of library catalogues and with e-mail messaging for interlibrary loans in France, the UK and the Netherlands.

While we were busy finding and solving problems with cross-border cooperation, Pat moved from the UK to Luxembourg to help creating a collaborative environment among libraries in Europe, working for the Unit headed by Ariane Iljon under whose leadership the Telematics for Libraries (Cordis, 1998) programme was developed and implemented. From 1997 to 2000, I was also located in Luxembourg helping Ariane and Pat with the implementation of the programme.

From those early beginnings in the 1990s with libraries extending their digital cooperation, through emergence of hybrid and digital libraries, towards the cross-domain Linked Data of the 21<sup>st</sup> century, Pat was a strong supporter of the continuing leadership of the library community in the digital age. The establishment of The European Library<sup>1</sup> and later of Europeana<sup>2</sup> were major outcomes of the process started in the late 1980s.

It has always interested me to see how technical developments, first on the Internet, then on the Web, always seem to circle back to the need for professional information management, and that's where library and information professionals contribute to making the environment sustainable. This is no different in the developments around the Semantic Web<sup>3</sup> and Linked Data.<sup>4</sup>

It is therefore no surprise to me that the European Library recently announced<sup>5</sup> that they have released one of the largest production-grade Linked Open Data collections currently available: the fourth version of The European Library Open Dataset containing over 109 million records from 31 different data providers, with over 5 billion RDF triples. Also the concepts behind the Functional Requirements for Bibliographic Records (FRBR, see IFLA, 1997), a conceptual entity-relationship model that was initially developed for library cataloguing, get mentioned more and more often in data modelling for the Web.

The next challenge in the Linked Data space is long-term persistence. This is an important issue because without proper attention to long-term availability of resources, the information generated and published today, may not be available to audiences in the future. Already there are calls for stable institutions like libraries and archives to take on the responsibility to manage the Linked Data resources for the long term. The situation currently is that long-term preservation in the eyes of technical advocates of Linked Data can be as short as five to ten years. Fifty years is often considered to be an unrealistic

target, let alone a requirement to preserve today's cultural, scientific and social heritage for eternity.

As far as I am concerned, the Semantic Web and Linked Data are in the early adolescent stage, and it will take quite some further thinking and experimenting to elevate such ideas to a real and stable production environment. Many of the technical decisions are taken ad-hoc and some of those may need to be rethought and revised. Libraries and archives have a long tradition of considering challenges around managing collections of information for discovery, use and long-term availability. The knowledge and experience of these experts will contribute to creating a truly interoperable and reliable environment of linked information in the future.

From those early beginnings in the 1980s of libraries moving into the digital space, we have come a long way in creating more of a global and well-managed environment on the Web, and Pat has been instrumental in setting the library domain in Europe on that road to the future.

## References

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<sup>1</sup> <http://www.theeuropeanlibrary.org>.

<sup>2</sup> <http://www.europeana.eu>.

<sup>3</sup> <https://www.w3.org/standards/semanticweb/>.

<sup>4</sup> <https://www.w3.org/standards/semanticweb/data>.

<sup>5</sup> <http://www.theeuropeanlibrary.org/tel4/newsitem/9800>.