"Deus ex, et in machina": some technical problems and solutions for an On-line Union Catalogue of Italian Periodicals.

by

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Ladies and gentlemen first of all I would like to take this opportunity to thank the Organising Committee of this Conference, and Prof. Mauro Guerrini in particular, for inviting me to address you. When Mauro first approached me last November, at a Conference on Italian Studies Periodicals held in Naples, I was very flattered to be asked to address such a prestigious gathering and to take part in what clearly promised to be a very interesting and stimulating event, although, I must confess, I was a little daunted when I was asked there and then to provide a title for my paper, but I suppose being put on the spot to provide a title immediately is rather like the threat of execution, it "concentrates the mind, wonderfully" as the English say.

In a recent publication "What use is a librarian in a library ?" (1) the British Library's Chief Executive, Lynne Brindley, made the statement that it is essential for a librarian to know the needs of his or her usership well in order to be of real benefit to that usership. I agree entirely with this statement and I hope that I can demonstrate that I have endeavoured to put this into practice.
I would now like to make what may appear, at first, to be a brief aside but which I hope to show is very relevant to what I will be discussing. For a number of years now it has been a cherished dream of mine that a definitive on-line Union Catalogue of ALL periodicals published throughout the world should be created. This On-line Union Catalogue would include details of title of periodical, publisher, place of publication, frequency of publication, ISSN, etc. plus shelf mark and holdings of all major libraries and academic institutions world-wide. I fully realise that this is a very ambitious and daunting project which will necessitate very considerable resources. However the task on reflection, might not be quite as daunting as on first examination, hence the title of my paper.

Referring back again to my main subject matter, two years ago I saw a "window of opportunity" for embarking on a project which would be of great help to users within my own area of specialism, - Italian studies. I had been aware for a considerable period of time that academics, librarians and indeed anyone with an interest in Italian studies in the widest sense of the word, that is to say in the study of Italy, Italian language and culture and Italian civilisation in general, e.g. Literature, Art, Architecture, History etc., etc., would greatly benefit from an on-line catalogue of all periodicals of interest to Italianists published world- wide and in all major languages.

As early as 1983, Brian Cainen, a former academic in the Department of Italian at the University of Wales, at Swansea, had compiled and edited a hard-copy, cyclostyled "*Catalogue of periodicals of interest to Italianists held in Universities in the British Isles".* This was revised again in 1987. This Catalogue was originally modestly produced on a word processor, and printed on paper, and was bound in a light card binding held together by a plastic spiral binder.
This paper catalogue ran to some 64 pages and listed in all over 611 periodicals, in all the major languages, of interest to Italianists. It had the additional advantage of listing the periodical holdings of all of the universities in the British Isles.
As we all know, periodical holdings of large libraries change considerably over the years and I have thought for some time that it would be very useful to update this catalogue and expand it to include the holdings of other organisations and to make it universally available electronically On-line. Being a fairly practical person, I realised that in order to bring this project to fruition, considerable resources would be required. I couldn't coun-

tenance starting, let alone completing, such a project on my own, although I have already compiled a catalogue of current Italian periodicals held at the British Library, which incidentally number 614, on a database. (2) Help was at hand from the British Library in 1999 when it announced that it was prepared to support bids for financial assistance in cataloguing projects as part of its Co-operation and Partnership programme. Following the advice given in the well known proverb "nothing ventured nothing gained", but I personally much prefer the Italian version "chi non risica non rosica" (which apart from its alliteration, is much more positive and immediate), I decided to approach the Committee of the Society for Italian Studies, the ultimate authority for Italian Studies in the British Isles, to ask for their assistance in preparing a bid and in trying to find an external partner with whom the bid could be made. The Department of Italian and the Brotherton Library at the University of Leeds (in Yorkshire, UK) was chosen because of the excellent computing facilities there and because the Society for Italian Studies web site was designed and is still maintained there. I am delighted to report that the bid to the British Library was successful and the sum of £32,000 (approximately one hundred million lire) was awarded in 2000 to the University of Leeds for this project which is due to last for a period of two years.

The project is administered jointly by the British Library and the University of Leeds and is headed by Professor Brian Richardson of the Department of Italian, at Leeds. Dr Guyda Armstrong , a post doctoral research fellow, has been engaged since September 2000 to compile the Catalogue. Considerable progress has already been made in the compilation of this Catalogue.

Some technical problems have already been encountered in the project and doubtless others may arise in the future. The first of these has been the considerable range and variety of the cataloguing records held by the many different organisations contributing records. One or two institutions even still use manuscript records held on card indexes. These are difficult to capture (and in some cases have been left to the end of the exercise as electronic records for these items may be generated from other sources and so only the holdings statements of these institutions need to be added to the database).

Some organisations are using UKMARC records, whereas others are using UNIMARC records. It has been decided to record all periodical titles under the Anglo-American Cataloguing Rules (AACR2) and to hold the data in UKMARC format . This conforms to current standard practice among Higher Education (HE) and research libraries in the UK and provides a reliable safeguard for long-term access to the data collected. Each bibliographic record, incidentally, will be supplemented by the use of a local tag (981) allowing the summary holdings of each relevant library to be listed. There has been some improvement in the standardisation of records from UKMARC to MARC 21 format in recent years with many libraries, particularly university libraries, notably Oxford, Cambridge and Leeds etc., plus the National Library of Scotland and others having gone over to using MARC 21 which bodes well if the project is extended. At some stage in the future it is intended to include the holdings of institutions across the Atlantic, which is another reason of course, for ensuring that records on the database are Z39 50 compatible thus enabling access to records held on databases in the USA making them available and loadable. Eventually it is intended to convert all data to MARC 21 format, this will provide an ideal vehicle for long-term maintenance and preservation of the database.
The entire database, incidentally, will also be output in MARC exchange format and will be stored within the University of Leeds archival filestore system, along with all the necessary metadata and additional documentation. The University of Leeds, it should be noted, is also a partner in the eLib CEDARS project, and metadata produced will conform to current best practice within the UK Higher Education community. These files will also be offered to the British Library for preservation.

For the purposes of public access, relevant data fields in the MARC record will be imported into a specially-developed Access database, which will be used as the source data

for Web based querying. The online search interface will be located on a server in the University of Leeds, but the principal point of access will be a hyperlink from the British Library website. Searchable fields include journal title, issuing body, publication details, ISSN and keyword. Access will also be possible via the holding libraries, so users can, for example, check the availability of a certain title in a specific library or learned institution.

A series of web pages will accompany the On-line Catalogue, recording the scope of the project, the data formats used, and additional "help" pages to assist searching by the user community. The underlying database, the Advance Server Protocol (ASP) scripts and the accompanying web pages will also be archived but these do not represent the primary record of the project's data compilation since the MARC exchange file fulfils this function.

We have also had to bear in mind the possible expansion of the project to include the holdings of Italian periodicals in other countries, particularly the greatest source of holdings of Italian periodicals at the National Libraries of Rome and Florence. Last year I had the opportunity to visit both these institutions the Biblioteche Nazionali Centrali at Florence and Rome and met with Dottoressa Antonia Ida Fontana and Dottoressa Livia Borghetti their respective Chief Executives, in order to discuss whether the bibliographical records of the immense number of Italian periodical holdings from these two important institutions could be added to the database. I am pleased to report that the Chief Executives of both of these celebrated institutions are happy to include the holdings of their libraries in an extended database, or more correctly, should I say, would be willing to add the UK Italian holdings to their considerably larger databases.

Another intriguing and unexpected technical problem experienced in the Project was connected with the concept, costing, and design of the "portals", that is to say, the electronic interfaces to the On-line Catalogue. It is interesting to note that at the most recent Malibu conference held here in London, the general consensus of the delegates was that the British are generally accepted to be the best at producing portals - it is gratifying to know that there is still something that the British are good at. Colleagues at Leeds and my colleagues and I in London met up soon after the successful bid was announced in order to draw up some of the technical specifications and needless to say the subject of portals soon appeared on the agenda.

The problem was compounded because the web site was designed to be hosted on two servers one at Leeds and the other on the BL's web site. The BL's web site is quite sophisticated and has some demanding technical specifications. Colleagues at Leeds assumed that the portals would be designed by BL staff but unfortunately, because of limitations of BL IT resources, there was no spare capacity for BL staff to be allocated to this task and so the services of external professionals would be required. We were rather surprised, or should I say stunned, by the quotations given by some of the independent portal design specialists who we contacted they were quoting something in the region of £700 to £800 per day for their services. Even the most rudimentary mental arithmetic calculation alerted us to the inescapable fact that we could not afford the services of such professionals otherwise a very significant proportion of the BL grant would have been eaten up quite quickly. We decided that the best course of action would be to see whether our colleagues at Leeds, in consultation with BL technical staff, could design and build a suitable portal "in house" to meet the BL's specifications. I am pleased to report that this approach was successful, and in my view, our colleagues at Leeds produced an admirable portal, at a fraction of the cost quoted by these so called external professionals. You can judge just how successful they have been for yourselves by looking at the link we have established today for the purpose of this demonstration. If you would like to explore the site at your convenience, the address is: <http://ipcat.leeds.ac.uk> .

Another technical problem which had to be overcome was the maintenance and updating of the website for the future. Clearly alterations and updates to the Catalogue would have to be considered especially if a new bid for further funding were successful - but

more about this later. Since the periodical holdings of institutions change fairly constantly, and it is envisaged that we would record the holdings of approximately 65 institutions in this first stage, it is inevitable that the database would have to be maintained and updated on a regular basis for some time to come. This activity could be costly and could have placed aconsiderable demand on the British Library's financial resources. However to my great surprise, the University of Leeds offered to update and maintain the web site in perpetuity for the very modest sum of £200, as a once and for all payment which, to my mind, represents exceedingly good value .

Tempus fugit - well that's enough for the time being of some of the technical problems experienced in the project- what about the future? As I have already stated, considerable progress has been made, but there is still a long way to go in order to achieve our goal and to fulfil that dream of a Universal On-line Union Catalogue of all periodicals. However there are some good omens. Considerable interest has been shown in the On-line Catalogue of Periodicals of interest to Italianists, jointly produced by the British Library and the University of Leeds, so much so, that this On-line Catalogue is now being cited and used as a model for other languages and subject areas, not only in the Humanities and Social Sciences, the potential has also been recognised for other disciplines, especially the Pure and Applied Sciences. There has also been great interest in the project from several other countries on both sides of the Atlantic, and there have been several expressions of willingness to participate in future co-operative ventures.

Perhaps the most positive news about the project is the decision by the authorities at Leeds University, who have been so impressed with the Catalogue and its potential, that they have drawn up a new bid for funding to extend the life of the project for a further three years (from the end of 2002 to 2005 inclusive) To this end a new detailed bid for funding from the British Government has been submitted by the University of Leeds for the sum of £100,000 in order to extend the remit of the project and to enable the project team to be expanded. The closing date for the receipt of bids was 31 May 2001 and at present the bid is still being evaluated by assessors. The outcome of the bid should be known over the next few weeks. If the bid proves to be successful then it is intended to include the Italian periodical holdings of every major institution in the British Isles and to extend the database to include the holdings of other countries beginning with the periodical holdings of institutions and libraries in Italy, naturally.

The beauty of On-line catalogues is that once the basic preparatory and preliminary work or the "spade work", as the British like to call it, has been completed, and the design of sites and portals has been carried out and the On-line catalogue is up and running successfully, it is relatively easy to expand the database to include the records of other institutions, of other disciplines, faculties, institutions and other countries even other continents, so long as the data which is to be included is compatible, of course. The comparative ease with which it is possible to download records from one database to another and to transfer data with ease, makes one really appreciate the "Godlike" qualities of the machine - in this case the computer. In this day and age when we almost take for granted the fact that a relatively straightforward computer can design, let alone build, fly and land a Jumbo jet, can land a man on the moon and can help to save and prolong human life, the task of creating and expanding databases so long as we abide by the obvious basic criteria and technical rules, is a relatively simple, some would say even mundane, task for this "Godlike" power.

The power of computers was brought home to me forcibly, if not graphically, a few years ago when I was invited to deliver a paper on eighteenth -century books and pamphlets printed in the Romagna held in the British Library, at a very successful Conference organised by Lorenzo Baldacchini in Cesena.(3) Before the advent of the computer and the retrospective conversion of the holdings of the British Library, I would have been confronted with the unenviable even formidable task of having had to read all 366 volumes of the British Library's Catalogue. A mathematician friend of mine calculated that if I had been physically capable of reading a catalogue entry each second, it would have taken me approximately 166 days and nights of continuous reading, a physically impossible

task for one human being. With the assistance of a computer I was able to programme a search and print out all the records in two hours flat- "Godlike" qualities indeed!

There can be little doubt that the future of the computer in general and of machine readable On-line catalogues, in particular, are assured. Computers are now so powerful that they can assist us so much and in so many ways that it would be extremely crass of us not to harness their immense power and potential to our own ends. As long as we respect the basic rules of cataloguing and some fairly simple technical rules and regulations that are a prerequisite for international co-operation, the computer frees up our own human time and enables us to do what we are best at - contacting each other, networking, planning new catalogues and co-operating with each other. On the subject of co-operation this prompts me to admit that I am eagerly awaiting to hear Marco Santoro's paper in which I am sure he will be talking about further and future possibilities for co-operation. In short the On-line catalogue and the computer that generates it are both very powerful tools at the service of scholars, librarians, students of any age and expertise, indeed they are at the service of anyone with an enquiring mind; - why doesn't man accept this fact once and for all and exploit the "godlike" qualities of the machine whilst still accepting that these almost "godlike" qualities certainly exist? - there are no longer "ghosts in the machine" but rather a "deus in" as opposed to a "deus ex machina" and finally let us briefly reflect, - if we accept what theologians say is true and that we humans have a divine origin, then surely the products of our creative and inventive minds, in this case, the computer, must also, by definition, have a divine origin? (3,274)

(1) Brindley, Lynne, "What use is a librarian in a library?", in *Relay- The Journal of the University College and Research Group of the Library Association*, Spring, 2001, vol. 51, p. 9-11.

(2) Reidy, Denis V, *A Catalogue of Periodicals in the Humanities and the Social Sciences published in Italy and currently held at The British Library compiled and edited by Denis V. Reidy*, London, The British Library, 2000, p. 93.

(3) Reidy, Denis V., "Le settecentine romagnole della British Library - un primo sondaggio", in *Il libro in Romagna -Produzione, commercio e consumo dalla fine del secolo XV all'età contemporanea, Convegno di studi (Cesena, 23-25 marzo 1995)* a cura di Lorenzo Baldacchini e Anna Manfron, Firenze, Leo S. Olschki, 1998, Vol. 2 (Storia della tipografia e del commercio librario, no. 2), p. 421-452.