Disciplinary Boundaries in an Interdisciplinary World

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Disappearing disciplinary borders in the social science library - global studies or sea change?

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Introduction

Interdisciplinary studies are being encouraged and supported across many academic and governmental institutions. At the University of Oxford, topics such as AIDS, internet studies, criminology, climate change and other environmental issues are being addressed by academics from a wide range of disciplines. Research centres and specially funded projects are being set up to provide the infrastructure to support interdisciplinary studies. Current technological advances facilitate working across disciplinary boundaries. Search engines and web tools encourage seamlessness.

Research today is all about expanding disciplinary boundaries. The stress on interdisciplinary collaboration brings challenges to librarians. The nature of enquiries change when our readers have different agendas. The reader services librarian has to know how to find materials across a wide variety of disciplines. The “Politics Librarian” has to know about data and the “Economics Librarian” has to know about mapping and climate change.

This paper will begin with a whirlwind definition of “an academic discipline” before considering what is currently meant by interdisciplinary research and teaching in the social sciences. I will argue that disciplinary boundaries do continue to exist and do play a vital role in the quality of interdisciplinary studies. This argument will be based on academic writings, administrative documents, library surveys and discussions that took place in a series of Research Fora instigated by the University of Oxford’s Vice-Chancellor in 2006, on topics of national and international significance. The aim of these
Fora was to increase the awareness and appreciation of the research strengths in the different divisions and the potential for cross-disciplinary research.¹

Once we have defined and described what is meant by cross-disciplinary research in the social sciences, we then need to consider how librarians and information specialists might best support interdisciplinary research. The ACRL’s Environmental Scan² notes:

- Interdisciplinary studies...and newly developed areas of inquiry will stretch library resources and service models.
- The focus for academic libraries will shift from the creation and management of large, on-site library collections to the design and delivery of library services.

This paper will suggest ideas for supporting interdisciplinary teaching and research. Many more ideas will be described and explored by the other speakers and participants at this conference. I have great hopes that this gathering will provide examples of best-practice that we can all take back to our home institutions.

**Part I : Defining the disciplines**

Between 1613 and 1619, the University of Oxford constructed a two-storey quadrangle around Duke Humphrey’s Library (now the Bodleian) to provide space for the delivery of lectures. Each discipline taught in the University was clearly denoted by an inscription over a doorway in the quadrangle, i.e. *Schola Moralis Philosophiae* (School of Moral Philosophy), *Schola Musicae*, *Scola Naturalis Philosophiae*, *Schola Grammaticae et*

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¹ Letter from the Vice-Chancellor, John A. Hood, to those invited to the Research Fora, 13 March 2008.
Historiae, Schola Linguarum (Hebraicae et Graecae), Schola (Geometricae et Arithmeticae), Schola Metaphysicae, Schola Logicae, Schola Astronomiae et Rhetoricae, Schola Vetus Medicinae, Schola Vetus Jurisprudentiae. These original disciplines were the accumulated wisdom of people who had studied a subject. The discipline existed as a framework within which you could expand your thinking.

Secularization of the classical curriculum in the late 19th century and the creation of new disciplines in the 20th century greatly expanded the number of disciplines that could be studied. Recently, an academic working party considering the role of interdisciplinary activities in college life concluded that “subjects and disciplines inherited from the 19th century are evolving: interdisciplinarity works best when grounded in strong disciplinary collaborations.”

Some of the 20th century disciplines were created as a product, packaged for consumption in the preparation for certain careers and professions, such as social work or teaching. There was also a growth in new disciplines that focused on specific themes, such as refugee studies, environmental studies, media studies and women’s studies. The teaching and research associated with these new disciplines were by nature “interdisciplinary” because they brought together academics from different disciplines. Each academic brought their own disciplinary approach to the same topic. The “discipline” became a way of thinking or a way of approaching a particular problem. It was no longer defined simply by the knowledge of a subject.

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In Oxford, in the year 2000, five academic divisions were created to group together related departments, faculties and research centres. As of 2008, the Social Sciences Division included Anthropology, Archaeology, Geography and Environmental Science, Development Studies, Economics, Education, Internet Studies, Law, Management Studies, Politics & International Relations, Social Policy & Social Work, and Sociology. Interdisciplinary work is, of course, strongly encouraged.

Interestingly, the Division also includes the School of Interdisciplinary Area Studies which is devoted to understanding “the complexity and the interrelatedness of society through anthropology, economics, politics, history, sociology and culture.” The associated units are defined by geographical or political links. In the Social Sciences, we have Research Centres devoted to African Studies, Latin American Studies (including Brazilian Studies and Mexican Studies), Japanese Studies, Contemporary China Studies, Russian and East European Studies, and Contemporary Indian Studies.

**Part II: What is interdisciplinary research and teaching and how might libraries play a supportive role?**

One sunny May lunchtime, I was in conversation with a former Head of the Social Sciences Division and he postulated that no one does real interdisciplinary research because they are too involved in their own discipline. The interdisciplinary research centres in the Division involve academics from different disciplines looking at the same problem, for example, forced migration. But if each academic sticks firmly to their disciplinary perspective, are they really producing interdisciplinary work? Surely it is the accommodation of several approaches that will produce truly interdisciplinary work?
research? Do we have to wait for the return of a Renaissance man (or woman), such as Thomas Linacre (c. 1460 – 1524) who was both a humanist as well as a physician?

Defining what is meant by “interdisciplinary” is a challenge for this conference. The following Illustrations will provide some clues.

**Illustration 1**: A Research Forum on Forced Migration included anthropologists, lawyers, political scientists and economists. Each speaker approached the issue from their disciplinary perspective. The lawyer looked at issues from a human-right perspective, the anthropologist was interested in what “community” means to displaced migrants, the political scientists explored the historical context of “banishment” and an economist discussed how the Prisoner’s Dilemma was used to explore the possibilities for cooperation between “north” and “south”. This strict disciplinary approach heightened our awareness and appreciation of the contributions that were being made to the same issue.

However, it was a talk by Jason Hart, an anthropologist, that demonstrated the significance of a more deeply interdisciplinary approach in understanding and explaining the problems faced by Palestinian refugees in Jordan. He argued that, without knowledge of the history, the socio-economic situation, the ethnographic, legal and political work associated with the situation, he could not have done his work. His study incorporated an examination of familial relationships and the generational reaction to refugee status (anthropology), the effect of space and crowding (geography), the

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4 Conversation between Donald Hay and Margaret Robb, 8 May 2008.
5 Vice-Chancellor’s Research Forum on Forced Migration, 4 March 2008.

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destruction of the ability to imagine a community (psychology), the socio-economic situation facing each generation (economics) and the role played by countries (international relations).

*How can libraries support this style of interdisciplinary research?* By creating a library centred on a topic which collects everything and anything associated with that topic. For example, the Oxford University Refugee Studies Library houses the largest collection of materials worldwide relating to the causes, experiences, consequences and implications of forced displacement. It has books and journals on the topic but more invaluable is its extensive collection of grey literature which is gradually being digitised so it is available in the field to academics, researchers and students, policy makers, service agencies, the general public and refugees themselves. This encourages interdisciplinary research by its focus on a topic, rather than on individual disciplines. Knowing the increasing importance of obtaining information on the web, many libraries have digitisation projects, particularly as a way of making special collections more visible to the research community.

**Illustration 2:** Interdisciplinary research based on “a central distinguishing theme” was explored in the Vice Chancellor’s Research Forum on Global Health. Though the medical doctors, psychiatrist, demographer, philosopher and political scientist spoke about their work individually, it was clear that the success of their work was based on integrating the contributions from different disciplines. The strength of each discipline

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fed into finding solutions to the complex problems associated with solving global health problems.

For example, there are ethical issues associated with managing health data and the design of consent forms. Demography is crucial to understanding the effectiveness of vaccines, and engineers (who understand the medical problem) have designed tools that are solving health problems in countries lacking infrastructure. Criminologists are involved in examining global health corruption, such as the production and marketing of counterfeit drugs. Twenty-five years ago the medical scientists “got on with the science” but now, policy issues are crucial to the implementation of a medical solution. Social Scientists are needed to help create and implement the policies that will support global health solutions. The Forum provided a good example of where an equal partnership “with a mutually intelligible language of communication, agreed objectives and equal inputs” could lead.

How can libraries support this style of interdisciplinary research? The key here is in providing a “language” that can be understood by the very different communities. Librarians spend much time selecting subject headings (e.g. LC, MESH) and database suppliers create thesauri to group together items on a similar topic.

Resource discovery software, such as ExLibris’ Primo, offers readers even more opportunities to expand their knowledge of related items. Faceted classification is ideal for an online world in which multiple navigational paths might be assigned to a single

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item. There is no longer the same constraint as one has with a class mark which determined a book’s single location on a shelf. However, faceted systems do require a decision about which facets will be applied and displayed in the database. Another development that will encourage interdisciplinary exploration is the option for library users to “tag” an item with their own terminology. This encourages our readers to share their own knowledge about a book or online resource with each other. Tagging is a way of expanding on the subject headings assigned by cataloguers who will not know a subject as well as a specialist researcher. The assignment of authoritative subject headings will group together materials while tagging, and faceted searching will expand the links between items. Both are necessary to the support of interdisciplinary research.

Illustration 3: In 2006, Oxford University founded the Extra-Legal Governance Institute (EXLEGI). It is the study of governance where state protection is ineffective or absent. Examples of such groups include the Mafia and Al-Qaeda. It is an interdisciplinary institute founded by sociologists and an economist with links to the Law Faculty. One of the founders, Federico Varese, began a seminar by noting that “disciplines are a smokescreen – you need to approach your research by topic”. When they set up their centre they were very keen on having the Library of Congress create a new subject heading in support of the concept of “extra-legal governance”. Our cataloguer has been working with the Centre to find evidence of the significance of this topic so that permission will be granted to create a Library of Congress Subject Heading for this area of research. The inclusion of this term in the Library of Congress’s Authority Files was seen by the academics as an important marker for defining this as a recognised research topic that would be then used to group together resources.
How can librarians support this style of interdisciplinary research? First, by keeping up-to-date with new areas of research by attending seminars, talking with members of new research centres, checking faculty web-sites to see how academics describe their areas of research, etc.

Secondly, we can inform researchers of library holdings with new book displays, RSS feeds of new acquisitions, email alerts of a new e-resource, etc. However, these are usually discipline-based. How might these be more interdisciplinary? The Oxford University Library Services began by developing a long list of subject and geographical area codes to mirror the University’s curriculum and academic departments. Each new acquisition is assigned a code. This makes it possible to create accessions lists automatically on “South East Asia” or on “Politics” or on “Refugee Studies”. The codes bring together onto a single list the items purchased by any of the thirty-nine University libraries so the researcher is better informed about relevant holdings in all libraries. A pivot table in Excel also allows lists to be created dynamically, e.g. “all items in French published in Africa on Politics and Health Care”. This process allows us to create accessions lists that are interdisciplinary and relevant to research topics.

Finally, an old-fashioned library guide listing bibliographic databases with materials on a topic will inform academics from different disciplines about e-resources they might not normally use. A guide listing Library of Congress classification numbers that are relevant to a topic can also be invaluable for researchers just used to “their part of the library”. And of course, we should put the guide online so that it can be found via a search engine.

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Illustration 4: In the United Kingdom, the distribution of research funding between Universities has been based on the results of a “Research Assessment Exercise” that used peer-review panels made up of academics to determine the quality of research for each department in each University. The Funding Councils are now considering a new bibliometric model to replace the current system. Literature on the topic indicates that using bibliometric indicators (such as those provided by Web of Science or SCOPUS) will provide a disincentive to interdisciplinary research. This is largely because current citation measures are discipline-based. What happens to disciplines that are less reliant on journal publications? While the government and the research funding bodies encourage interdisciplinary research, the means by which funding is actually allocated will be based on a system that rewards discipline-specific research.  

How can libraries help promote interdisciplinary research in a world where discipline-based citation counts skew the picture?

Institutional Repositories are being seen as a way of promoting an institution’s research. The “Oxford University Research Archive” offers searching options that allow for departmental, disciplinary and cross-disciplinary searching. The Social Science Library is involved in a European Union project which is aiming to create a subject-specific repository, Economists Online, which will include the holdings of RePC as well as the publications of the economists associated with selected Universities across Europe. The Project Manager points out that “…it is vital to address the diversity between disciplines

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and their needs, realising that there is no ‘one size fits all’ solution for incentives to deposit material. Bio-chemists, economists, physicists, geographers, historians all follow different research work processes, the way they organise their research and their networks differ, and the way they disseminate that output varies. These aspects need to be considered when creating advocacy programmes, designing deposit or end user information retrieval service interfaces...”

**Illustration 5:** The creation of a new Management course in the Social Sciences Division offered the opportunity for an interesting discussion about the challenges presented by a cross-disciplinary course. The course proposal noted that many of the students entering such an interdisciplinary course will be expected to move away from their original domain of expertise while appreciating how management research is embedded in the social sciences and in policy and practice. This would be achieved by “providing courses that cover a wide range of practical topics, with each being covered in depth and with critical engagement. The cross-linking platforms of managing performance, globalisation, risk management and research methods will provide opportunities for students to appreciate the similarities and differences between the models that underpin these topics, while placing them within the context of the social sciences...Students must acquire an awareness of the contrasting epistemological perspectives on management, enabling them to move beyond their original parent discipline...Trans-disciplinary research employs a mixture of theories and techniques from more than one discipline. Students will be encouraged to experience directly the

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9 Vanessa Proudman, “What Can We Learn from Europe in Our Quest for Populating Our Repositories?”, *Open Repositories* (2008), 9 (P1, section 7.1).
difference of approach that different specialties and epistemological models can bring to solving a problem”.

How can libraries support this style of interdisciplinary research? Librarians must be involved in contributing to the development and the teaching of the methodology courses that are a requirement for all post-graduate students. Information skill training should include an explanation of the difference between browsing and searching, between using a title or a subject index, between a bibliographic database and a full-text e-journal package, and between using a thesaurus and an index. We should give tips on locating quality resources on the Internet and explain how to make the most of searching Google. We should work with the academics in detecting plagiarism and work with the students to help them understand what is meant by plagiarism.

The Social Science Librarian-in-Charge, Louise Clarke, is working with academics across different departments to provide a joined-up programme of search clinics. Masters students preparing for their thesis will be able to select the workshops that best match their dissertation topics, though these might fall outside the resources traditionally associated with their discipline\textsuperscript{11}. For example, a student researching their thesis topic for the Evidence-Based Social Policy course might need to use Criminology or Health Care resources. They would be able to attend a search clinic covering these information resources.

\textsuperscript{10} University of Oxford Social Sciences Divisional papers, 17 January 2008, pp. 95-96.
\textsuperscript{11} Outcome of meeting between Paul Montgomery and Louise Clarke concerning the Evidence-based Social Policy course on 8 May 2008.
Illustration 6: One of the changes we have noticed across the social sciences is the growing use of data by all social scientists. For example, over the past three years, Oxford’s Social Sciences Subject Consultant has noticed that the percentage of enquiries from researchers, academics and post-graduates related to the discovery and access of data has increased. As a result of this increase, a Data Survey was conducted in 2007 across the Social Sciences Division. It showed that “a high percentage of respondents (78.5%) are collecting and using their own data for research, with an almost equal percentage (77.8%) using existing data.”¹² The survey also showed that Google, known websites and journal articles were the most common means of locating data. This worried us because Google “does not yet include sufficient information about the content of data archives or the many commercial data resources that we subscribe to and this leads to confusion about what is available. There is also some inconsistency in the way that numerical data sources are handled by the Google engine.”¹³

What can libraries do to help the social scientist looking for data?

The Universities of Harvard and Yale separately developed data catalogues in an effort to increase the visibility of their data resources. The London School of Economics has a web page devoted to the location and use of data. The Social Science Library (after trying many other solutions) decided to use Google Custom Search to offer enhanced searching of data resources. The Survey showed that researchers are going to Google,

so shouldn’t we use Google to help them improve their search results? Mark Janes has now added 1,200 sites that contain statistical data using Google Custom Search (http://www.ssl.ox.ac.uk/advanced_search.html). He has specified keywords and tagging for post-search refinement. Of course, there are limitations to this service because only items indexed by Google can be included and we lack control over the ranking of results. However, we are in correspondence with Google and hope that we might be able to assist with deeper indexing through the addition of metadata.

Illustration 7: The University of Oxford decided to build a new multidisciplinary centre for the Social Sciences in Oxford. The building was designed by Lord Foster & Partners and included academic and administrative offices, seminar rooms, lecture halls, teaching rooms with IT facilities, a café and a library. By bringing together on one site many social science departments, it was hoped to increase interdisciplinary research. A new Social Science Library was created to support interdisciplinary research. It houses in one location, all the collections from eight separate departments. Responsibility for the design of the space and decisions about the provision of services was handed over to the Librarian who was expected to liaise with the relevant departments and the current library users so that all needs would be met by the new library.

What did we do to support interdisciplinary research?

On 1\textsuperscript{st} October 2004 the University of Oxford opened its first Social Science Library. Integrating the collections of eight separate departmental libraries into a single whole was accomplished by means of the Library of Congress Classification scheme which
allows us to arrange the books “in a logical order according to their degrees of likeness.”\textsuperscript{14} This then supports individual disciplines while allowing for easy browsing between disciplines. It was interesting that all of the departments were amazed that “their” collection had grown as a result of the move into the Social Science Library.

In contrast, the print journals are filed alphabetically because trying to assign a single subject to a social science journal appeared to help no discipline. Academics have commented on how this arrangement has increased their knowledge of related subject areas as they browse to either side of “their” journal. One might argue that this works well because all the titles are in support of the social sciences.

The Bodleian Library, created in 1602, has used a wide variety of classification schemes over the centuries but the most enduring is one that classifies by size. This is of course an efficient means of storing books in stacks that are closed to readers. The modern reader uses the online catalogue to find books by means of many different indexes. The book can then be requested and delivered to the reading room or library selected by the reader. If a book is on an “open shelf” it might be a lending copy or a copy confined to the library but it cannot be delivered to another library. Therefore, the interdisciplinary researcher prefers to have interdisciplinary books held in the closed stack so they can be delivered to the library of choice. For example, an academic working on Eastern Europe might be a humanities scholar or a social scientists. She or

\textsuperscript{14} Harrod’s Librarians’ Glossary, 1995.
The distribution of funding determines how a subject is supported. We have retained discipline-specific budgets for printed materials and where possible, for electronic resources. The key to our success has been to have a single subject consultant, Mark Janes, who manages and spends up to twelve separate budgets. We have found this to be efficient and productive. The overlap between Economics and Development Studies, between Sociology and Anthropology is considerable. When we had more than one subject consultant much time was wasted liaising between librarians to work out who should pay for what. It is much better to have one person looking after all the budgets, with a vested interest in all the subjects. Of course, he has to be an interdisciplinary renaissance man…! He has two main rules. He considers the purpose of a purchase rather than its subject, and when trying to differentiate between related subjects, such as politics and modern history, he considers the approach of the author rather than the subject of the book.

A recent document from the Social Sciences Division supports this approach: “Common to every discipline is a methodological debate about whether problems and their solutions are best understood using formal models, using quantitative analysis, using ‘evidence-based’ analysis, or by using other qualitative methods, such as structured
Electronic resources support interdisciplinary research in a number of ways. First, the publisher deals mean that a library often finds it is less expensive to buy all the journal titles of a particular publisher rather than to buy individual titles. This has increased the range of titles available to our readers. For example, many academics have told me about how cross-searching of journals in JSTOR has resulted in their reading more widely. Academics also told me how the ease of finding and reading abstracts on the Web of Science has changed the speed with which they can gain an overview of a new subject or topic.

Requests for full-text e-journals and e-books have escalated in the social sciences. Meanwhile, fewer and fewer researchers appear to be using bibliographic databases. As a result, we are spending more money buying primary and secondary data and e-journal packages. Bibliographic databases devoted to a particular discipline, such as EconLit, are still used but the real demand is for full-text.

**Illustration 8:** Archaeology is a discipline that straddles the Humanities, Social Sciences and Sciences. The Head of the Archaeology Department at the University of Oxford, Mark Pollard, noted that what is “increasingly important in archaeology is how we can encourage researchers to contribute to group solutions of problems and cross outdated disciplinary boundaries.” He argues, with co-author Peter Bray, that “progress...
has not been dependent on overcoming supposed fundamental differences between the humanities and sciences; instead it has been based around cooperation on the vast tracts of common ground.”\textsuperscript{16} Instead of concentrating on inter-disciplinary or cross-disciplinary research, the authors look at the integration of approaches and the possibilities for equal partnerships between different academic approaches.

Let’s return to the idea of a Renaissance man or woman and consider the following statement: “If we assume...that all knowledge can no longer be encompassed by a single skull, then the key question is how can cooperation between individual specialists be made to achieve results...the overall lesson is that we must act to ease the sharing of information rather than passively extolling the virtues of cooperation. As with all communication, this demands a mutual respect and understanding of the various languages involved. Therefore, the multilingual translator — not a renaissance person, but someone who can fluently move between disciplines — plays a key role.”\textsuperscript{17}

This is an encouraging statement since the aim of most librarians is to share information! We need to consider how we might provide a translation service to help our social scientists move fluently between disciplines.

**Conclusion**

The Pro-Vice-Chancellor for Research, Ewan McKendrick, argues that the “problems that confront our society increasingly defy disciplinary boundaries and much of the

\textsuperscript{16} Abstract for AMark Pollard and Peter Bray, art. cit..
\textsuperscript{17} A. Mark Pollard and Peter Bray, art. cit., p. 2.
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world-class, cutting-edge research...is taking place across the disciplinary divides.”

The Social Science Division believes that “social scientists should be playing a more significant role in policy formation, including the provision of good-quality evidence, based on methodological rigour”.

Librarians and information specialists have a crucial role to play in supporting interdisciplinary studies, a form of research and teaching where each discipline continues to be separate and distinct in its approach to a subject, but where the findings of each discipline are integrated so that creative and practical solutions are found to solve a problem. We can do this by the following means:

- create library spaces conducive to interdisciplinary studies
- organise our print collections to encourage interdisciplinary conversations
- provide a translation service that aids in the location of related materials to expand the real and virtual interdisciplinary collection
- package our documentation and training to support interdisciplinary teaching
- use the Internet creatively to provide additional links and services
- re-use the services familiar to our readers to promote our e-resources
- create our own IT services to support interdisciplinary studies

Librarians can play a significant role in encouraging interdisciplinary research and teaching by providing both reactive and proactive support to our library users.

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18 Oxford University’s submission to REF consultation, 14 February 2008: reply to consultation question 1a by Ewan McKendrick.
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