

## **Crime in the Community: Enhancing User Engagement for Teaching and Research with the Old Bailey Online**

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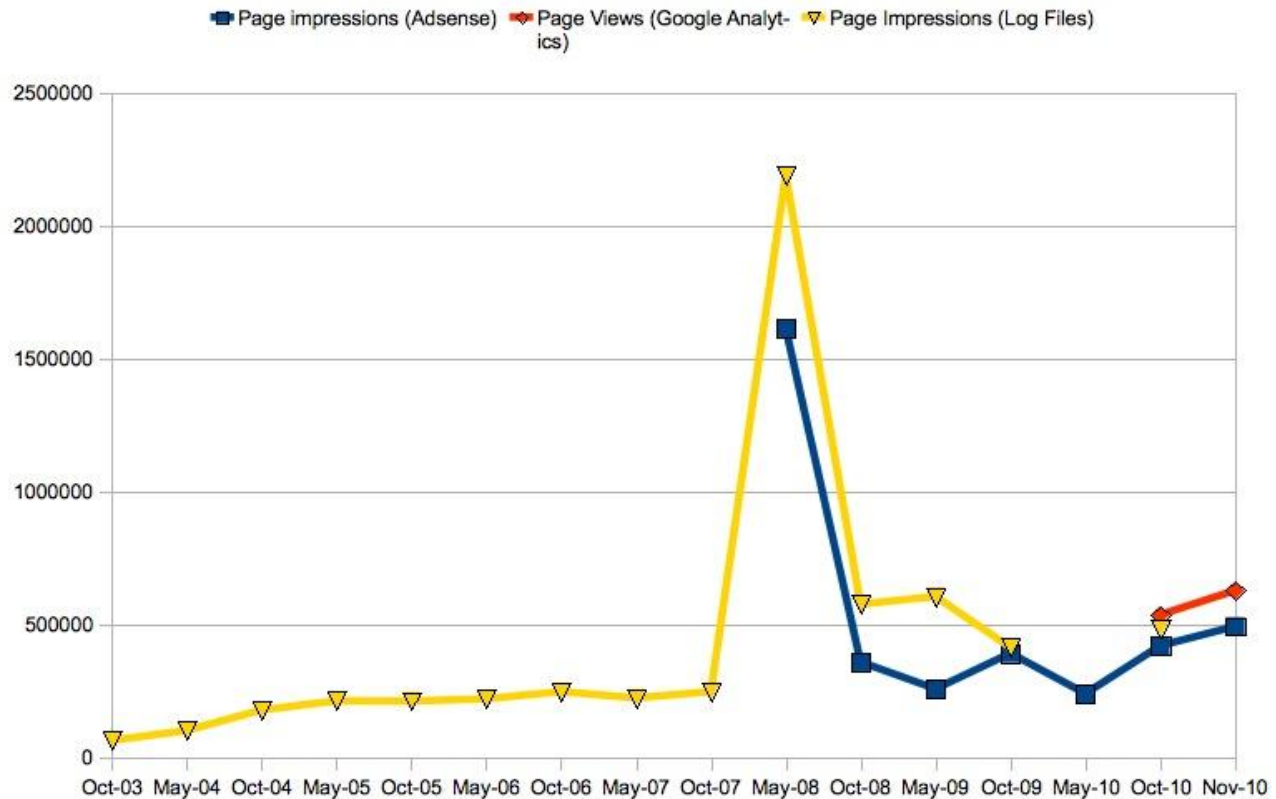
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### Background and context to the project

The Old Bailey Proceedings Online ([www.oldbaileyonline.org](http://www.oldbaileyonline.org)) (OBPO), a fully searchable online edition of all 197,745 trial reports published in the Old Bailey Proceedings between 1674 and 1913, has had over 18 million visits since its initial launch in 2003. Although it has received extensive publicity and is accessed by a wide community, academic users have to date not fully exploited this resource and its high-level search functionalities in their teaching, learning and research. Crime in the Community assessed the ways in which this website is currently used through an extensive survey of past and current use of the website. A proper user analysis had never been carried out, and as a result we did not know precisely who was using this website, and how. This project was intended to fill this gap, and in the process shed light on patterns of user engagement in the digital humanities more generally. On the basis of the information generated by the user analysis, a series of new tutorials and study guides, search refinements, and online facilities were implemented in March 2011 that will allow both educationalists and researchers to make more effective use of the 127 million words of highly tagged and accurately transcribed historical text available through the site.

### Key Findings from the User Analysis

A mixture of qualitative and quantitative methodologies were employed in order to gain both a broad understanding of patterns of use and an in-depth understanding of user experiences. These included statistical analysis of website use through weblogs and Google Analytics; bibliometric analysis of the citation of the resource in academic publications; the posting of an online survey on the website; interviews with ten academics who use the website in their research and/or teaching; and the conducting of two student focus groups.



**Figure 1: Basic Traffic Patterns, 2003-2010**

Statistics on website usage demonstrate the immediate popularity of OBPO from its original launch in June 2003 and the importance of media coverage in generating high levels of use. The original launch received substantial media attention. Despite the fact only a limited amount of material had been posted on the site, it quickly reached 2000 page impressions per day. The traffic grew steadily until it levelled off from 2005, averaging 7500-8000 page impressions per day, until the second launch (when the content was doubled) in 2008. The dramatic spike in visits in May 2008 testifies to the success of the publicity strategy for this event, which received worldwide media coverage (including an editorial in the Guardian and a long feature article on the BBC website). Site usage then levelled off again between late 2008 and early 2010 at around 12,000 page impressions per day. The growth in traffic since the summer of 2010 may reflect the considerable publicity the site recently received via radio and television: the drama series ‘Garrow’s Law’, which was broadcast in November 2009 and November 2010 and drew heavily on OBPO sources, and ‘Voices from the Old Bailey’, a Radio 4 series explicitly based on the site, which aired in July 2010 and was the fourth most listened to programme on BBC radio in 2010. Usage has been very consistent since the completion of ‘Garrow’s Law’ in December. Further series of both shows are planned.

Overall, the OBPO has a wide range of both academic and non-academic users. Although the vast majority come from across the English-speaking world, a small minority come from other countries, notably Germany, Japan, and Sweden. More detailed analysis using Google Analytics found that in the month of November 2010, visitors were located in a total of 153 territories, but the overwhelming majority were from four countries: UK (51445), USA (12531), Canada (6495) and Australia (6071).

Over time, the proportion of non-academic users has grown. According to the weblogs, the majority of referrers have always been non-university domains, but the proportion of non-academic domains has increased from 80% of domains in the early stages of the project to approximately 88% at present. This figure tallies with the fact that 82.3% of web links to the OBP website are from non-academic domains. Given the large number of users, however, that still leaves a large number of academic users. The users who filled in our online survey were almost evenly divided between academic users and those who use the site for family history, personal learning and leisure. Of the academic users, most were postdoctoral researchers (accounting for 39% of responses), with postgraduate students accounting for 28% and undergraduates only 7%. While, given the voluntary nature of this survey and the relatively small number of responses, these percentages should be interpreted with caution, they do suggest that more could be done to encourage undergraduate use of the site.

With respect to academic use, bibliometric analysis demonstrates that the site has dramatically increased use of the Old Bailey Proceedings as a primary source in research. Before digitisation, significant barriers to access meant that the Proceedings were used by few researchers, although this source was widely recognised as important for the study of history of crime and law. According to the Scopus database of journal citations (which is not comprehensive, and fails to capture other forms of publication – especially books), citations of the Proceedings in published work increased from an average of 2.5 citations per year between 1995 and 2002 to 14 per year between 2005 and 2010, with 26 citations found in 2010 alone. The significant increase in citations in 2009-10 suggests that even academic use of the site was encouraged by the extensive media exposure the site has received since 2008. The impact of OBPO may also be inferred from a significant shift in the way scholars refer to this publication. The term used by scholars before 2003, ‘Old Bailey Sessions Papers’, has been almost entirely replaced with the OBPO’s preferred title, ‘Old Bailey Proceedings’. This can be seen as a significant indicator of the success of the website as a ‘brand’, and the effectiveness of the project’s efforts to ensure a consistent identity and terminology. Although we had worried that most academics failed to follow the recommended citation guide provided on the OBPO, most of those we interviewed reported that they followed it closely. One noteworthy point was that some did not include the date consulted, commenting that they didn’t ‘see the point’.

A brief analysis of the content of these publications indicates, as is to be expected, that most publications have been concerned with the history of crime and justice. However, this is not the only use being made of OBPO. Many facets of London life were documented in the Proceedings and its easy searchability has opened the source to research into, for example, gender, sexuality, material culture, ethnic minorities, medicine and science. OBPO has been cited by legal and criminological scholars whose main interests are contemporary but who use it as a historical and comparative source. There is also a significant strand of work in historical linguistics. The sophistication (and extent) of scholars’ engagement with the source is, however, variable. The site facilitates opportunistic and shallow searching as much as intensive and systematic enquiry. It is apparent that historians use keyword searches more or less rigorously to explore the development of terms and concepts of interest to their research, while a smaller number exploit the statistical functions to create tables and graphs. Overall it seems that much work by historians using the OBPO has adopted quite traditional approaches to textual scholarship, which is simply made more convenient by the ease of keyword searching and searches for specific offences and punishments.

The interviews confirmed our previous impression that the OBPO is used in a wide range of university teaching as well as research. Teaching with OBPO is not confined to courses on crime and criminal justice, although this is unsurprisingly the main focus. The site is frequently used in courses that focus on the use of primary sources, such as special subjects, as well as methods and skills courses. Use also extends beyond history courses, being taught to students in historical geography and criminology. Some teachers use the statistics function to introduce students to quantification, noting that it provides an 'unscary' way of introducing students to numerical analysis. The site is often assigned as a key source for pieces of assessed work, including long essays and presentations. In one second year course, rather than conventional presentations, a central assignment is the reconstruction and re-enactment of a trial (or amalgam of trials), in character. Several interviewees mentioned that students largely enjoy using OBPO, find it easy to work with, and that they often go on to choose it as a major source for their final year dissertations.

The students in the focus groups concurred with this view. Both groups were very positive about their experience with OBPO. For all of them, it had been their first real opportunity to engage with a substantial set of primary sources that had not been pre-selected by a teacher. This was something they found exciting and stimulating because it allowed them to find and interpret material for themselves. The innovative teaching possibilities allowed by OBPO were particularly highlighted by the group which had undertaken trial reconstructions.

However, the user analysis identified some aspects of the OBPO which are achieving negligible or low levels of use. The site wiki, introduced in 2008, received low levels of both traffic and user input. Very few of the respondents to our survey reported using it at all: 72.5% of users had never used it, and only 12.5% use it at least 'occasionally'. Those who commented on the wiki said that they did not know what a wiki was, or were not aware of its presence. Some felt that it was too complicated or needed clearer explanations. One felt 'a bit wary of the "wiki" label because of wikipedia being so inaccurate'. Use of the background pages on the main website has also been a little disappointing: according to the weblogs these comprise only 7.3% of the pages viewed. Slightly more than half of the respondents to our survey reported that they rarely or never use these pages.

We also discovered that some aspects of the search facilities are being underexploited. Although there is a significant minority who use the more complex searches, the majority of respondents reported that they do not often go beyond the most easily accessed search options, most frequently using the quick search box on the site homepage and the default search form. Search boxes that are displayed only on the less popular search forms, such as Age range, Occupation, and Location, are used much less frequently. Only 14% reported that they used the statistics page 'often' and one third never use it at all. A few of the comments on the search facilities even showed a lack of awareness of existing search options beyond the main search page. When it comes to advanced search options such as wildcards, phrase searching and Boolean operators, almost half of respondents did not use them. Among the academics interviewed, several mentioned that using the advanced operators had taken some time to get used to, and one said that he did not use them because he did not have time to learn how. While students reported that they made extensive use of keyword searching, they also used the advanced functions relatively rarely. The main area that caused difficulties was the statistics search. Some of this seemed to be an issue of confidence in the face of the complexity of the search, as well as uncertainty about the reliability of the results and how to interpret them.

While levels of user satisfaction with the search facilities were generally high in the online survey, there was some dissatisfaction on the categories 'ease of use', 'options fulfil needs', and 'appropriate results'. A few users complained strongly of problems using Boolean operators to narrow searches that returned hundreds of results, and felt that there should be more help provided for these issues.

The user analysis indicates that there are several different communities of users of the OBPO, with very different levels of skill and ambition. There has been a less than ideal take-up of some advanced functions, and some users who could clearly benefit from these features are not doing so. Overall, these findings suggested that the site needs to move away from a 'one size fits all' approach to providing guidance for searching and using the site and seek instead to provide different types of users with more targeted support, with the goal of helping all users get more out of the site.

### Enhancements to the Resource

In planning Crime in the Community we envisaged the introduction of a number of enhancements to the OBPO. During the user analysis we asked respondents to the online survey and those we interviewed to comment on the proposed changes. Most were widely welcomed, with the ability to save searches and bookmark documents most popular. Of the series of proposed tutorials and study guides, the most popular were 'How to read a criminal trial', 'How to generate valid statistical measures of change in patterns of prosecution and sentencing', and 'Organising research and using OBPO with reference tools such as Zotero and Endnote'. Users were much less interested, however, in a proposed tutorial on using the site with social media (only 20% thought it very/quite useful). Overall, interviewees advised us that new features on the site needed to be quick and straightforward to learn. The students felt that a citation tool would be useful and would save time when writing essays.

We received some suggestions in the interviews for enhancements to the site which we had not considered. Some interviewees reported that the ability to refine searches would be extremely useful. A number of students mentioned that using text from OBPO in essays was made fiddly by having to remove unwanted formatting after copy/pasting into a word processing programme, and it would be useful if there was an option to download text without this formatting. A number of academics also mentioned it would be desirable to have facilities to download text and generate automatic citations. Some performance errors in the search engine were also identified.

On the basis of these findings, and in consultation with our technical staff, we refined the plans for improvements to the website. The core changes implemented during the remaining months of the project were:

- **Search improvements**

We added the ability to refine searches and improved the usability of advanced search operators on keyword searches by including radio buttons for the options AND / OR / PHRASE / ADVANCED.

- **User registration/workspace**

Users are now able to register for user accounts, providing them with a workspace and the ability to bookmark trials and other OBPO documents; save searches; and organise them in folders.

- **Extracting information from the site into other formats**

We created a citation generator for both trials and static webpages, and implemented a ‘print page’ function (with citation) for trials and Ordinary’s Accounts. We also introduced functionality for exporting raw data from the statistics search results, and exporting search results from the workspace.

- **Research and teaching guides**

We introduced a range of guides and tutorials for different levels and types of user, several in the form of video walkthroughs (with text versions). For new users, we created **Getting Started** and **Search Help** video walkthroughs. For research users, we created a series of research guides as video walkthroughs including: **Using the Workspace**, **Doing Statistics**, and **Organising Your Research with Reference Management Tools**. A tutorial on **Using the API to Measure Linguistic Change** is forthcoming.

For university teaching, we created a series of teaching and study guides, including **How to Read an Old Bailey Trial** (as a video walk-through), **Using the Proceedings in University Teaching**, and a guide to **How the Proceedings are Different when Read Online**.

- **User input**

Logged-in users are now able to report corrections by means of a direct link to a form for every trial. The resulting corrections database will be reviewed annually as part of site updates. Users will also be encouraged to suggest new additions to the bibliography by contributing directly to a Zotero group library. Certain advanced features that were requested by some respondents, such as proximity search, could not be included within the current site without work far beyond the scope of this project. However, the Old Bailey API will be launched later in 2011 and will satisfy some of these issues. The API will also make available more sophisticated facilities for extracting and downloading data for external analysis. There was also a clearly expressed desire among many respondents for improved mapping features, but again this would involve far more substantial work than is possible within this project. However, this is a future priority for the site and we have received funding for a mapping project, ‘Locating London’s Past, which will address this and several other issues.

### Evaluation

Draft research and study guides were circulated for comment to the academics who we had interviewed at the start of the project. Their comments were almost uniformly positive, with respondents indicating that they found the explanations clear and informative, and that they anticipated they would use the guides in future research and teaching. One interviewee commented,

Thanks for letting me be a part of this site revision process. It has been really informative for me, and is going to change the way I use the site in my own research and teaching.

For research, there was particular praise for two pages:

The Doing Statistics tutorial was great. It completely removed the intimidation factor for me in using the statistical function of the website.

These pages really showcase some of the exciting new technical developments such as Zotero - which I might have been less confident to use without the detailed guidance.

Others mentioned the relevance of the study guides for teaching:

The How to Read an Old Bailey Trial is going to be extremely helpful in my teaching next year.

Using the Proceedings in University Teaching was similarly inspirational for my future teaching. Everything is explained clearly with great illustrative examples.

I have already used some of the advice/information on digitisation and searching in my digital archives class and found it provided extremely useful [having] specific examples to back up general points I wanted to make. I also think the information on statistics is a very helpful addition - getting students to do statistical exercises caused some problems before - and I will definitely incorporate that into a research skills session on quantitative history.

Following revisions and testing by project staff, all changes to the website were implemented as part of a site update in late March 2011 (version 7.0).

Owing to the short time span of the project, it was not possible to obtain comprehensive user feedback on the improvements. What follows is evidence gathered in the first month following the implementation of the site update; we will continue to monitor usage and feedback over the coming months. Evidence was gathered using Google Analytics and by means of an online questionnaire, which was circulated to all those who filled in the initial questionnaire, the students who participated in focus groups, and the academics we interviewed at the start of the project. To date (a month since the survey was posted), there have been so far only 14 respondents, and some questions had no more than two or three answers, so the results must be regarded as preliminary.

In the first three weeks of use, the workspace facilities recorded small but promising levels of activity, with 19 users adding 223 items to workspaces. Early analysis suggests that use of the new resources tends to occur in concentrated bursts of use, which is perhaps not surprising but does at least suggest that users are finding their new tools easy to work with. The users already seem to be exploiting the workspace facilities to create folders (13 created) and annotate items (62 items had comments added). Users had also contributed 8 corrections to documents.

The new research and study guides received between 35 and 563 page views each, with the most popular pages being 'Getting Started' (563) and 'Organising your Research with Reference Management Tools (i.e. Zotero) (353). The average number of seconds spent on each page varied between 74 and 246, with users staying the longest on 'How are the Proceedings Different when Read Online?' (over four minutes) and reference management tools guide (almost three and a half minutes). These results are encouraging, suggesting that a significant number of users are finding the guides useful, and vindicating our decision to create guides targeted at users with varying levels of experience and computing skills.

This is also suggested by the responses to the online questionnaire, which, like the interviewees' responses, were overwhelmingly positive: the majority of respondents found the workspace functions easy to use and there was substantial approval for the new tutorials and guides. Where respondents evaluated the tutorials and guides individually, most rated them as 'Excellent' or 'Good' on several criteria (coverage, organisation, use of visuals and clarity of explanations). One user particularly praised the workspace as a useful tool for both research and teaching:

This is going to expand the value of Old Bailey for large-scale complex studies that go beyond the use of a few statistical elements to cross over between the various types of accounts with ease. The ability to save a search and come back to it is invaluable. You don't have to rebuild research queries when you've come up with a new angle - you can return to the old search and modify only certain elements.

The workspace is going to be helpful in having students perform projects that endure over the course of a term. In the past, I've run three projects over six weeks and trying to get students to have a persistent understanding of the data use is difficult. Coaching them to rebuild a search and modify it as a result of their in-class development used to be difficult.

Perhaps unsurprisingly, this user wanted more: the ability to make saved searches public or semi-public in order to supply useful examples to students.

#### Challenges Encountered and Lessons Learnt

The challenges we encountered in carrying out the user analysis may provide some useful lessons to those launching new web resources or who wish to carry out user analysis on an existing site. Most important is the need to ensure that appropriate software for measuring site usage is available that will meet the project's needs. Projects should not assume that any standard central web statistics service provided by their institution will be adequate. Having compared logfiles and Google Analytics, it is clear to us that the latter offers far more user-friendly and flexible data analysis options. Second, conducting interviews with site users will normally require an ethics review carried out by the institution, and time needs to be allocated for that purpose. Third, while online questionnaires are extremely valuable, they need to be posted for at least two months (and to be followed up through noticeboard and social software announcements) in order for sufficient data to be collected.

While the results of the user impact analysis confirmed our general impressions about how the website was used, they added considerable detail to our understanding of how the site has been used, and why. What was most helpful were the interviews we carried out with academics and the focus group sessions we held with students. In these not only did we get useful answers to the questions we posed, but several important issues were raised which we had not anticipated.

One of these issues concerned the site wiki. While we were aware (and concerned) about the low response to the wiki, we learned a lot from the user analysis about why this is the case. Academic users are clearly put off by the investment in time needed, firstly to learn how to use a wiki and then to write material and engage with a wiki community. They are unwilling to share rough drafts of work with all comers (and in any case would probably not post anything they may want to publish in a more formal context later on). If a wiki is to be used it needs to be kept very simple and clearly focused, and projects still need to be prepared to invest staff time and resources in writing, editing, administration and especially community-building. We came to the conclusion that simple-to-use structured facilities for activities such as bookmarking, annotation, correction, transcription, and tagging may well offer better Web2.0 models for user engagement. Users seem to prefer these features to be integrated into the resource itself, but some would also like to share and export the information they create. For this reason, the Old Bailey wiki was



withdrawn, its more popular pages were converted into static pages on the main website, and the most important forms of input were recreated in a more structured form.

The most important lesson learned from this project are the benefits to be obtained from consulting users, the wide variety of user competence in exploiting electronic resources, and the importance of providing clear and immediately accessible guides for all levels of expertise. If inexperienced users are to fully exploit an electronic resource, they need clear guidance in how to use its more advanced functions. But because they do not have the patience to read long help texts such advice needs to be provided in a readily accessible and user-friendly format, such as via video walkthroughs. At the same time, more advanced users can be encouraged to adopt even more sophisticated approaches through separate guidance aimed at them.

### Outcomes and Benefits

Time will tell whether the improvements implemented will enhance user engagement with the OBPO in both research and teaching, but preliminary evidence certainly suggests that this will happen. Using the refined and more clearly explained advanced search facilities, we expect that the massive and rich body of evidence incorporated on the OBPO will be analysed in greater depth by both researchers and students. Students who use the website on their courses will gain an enhanced understanding not only of how to use search facilities to exploit the full potential of digital resources, but also of how a historical text is transformed when it is provided in electronic form. In essence, we expect these new facilities and improvements will allow all users to raise their game, regardless of where they start.

Institutionally, our Universities have been reminded of the importance of updating and maintaining the electronic resources they produce: the OBPO is not simply a completed project, the result of now finished labours, but an ongoing resource that can and needs to be developed over time. More than this, we have demonstrated that effective teaching using digital resources requires students to pay careful attention to the methodologies they use in their searches. A generation of students brought up on Google may think they know how to conduct electronic searches, but their approach to keyword searching suggests they have a lot to learn.

### Conclusions

First launched in 2003, the Old Bailey Online is one of the longer-lasting educational resources available on the web, and over the past eight years we have learned three important lessons about making such websites successful. The first is the value of capturing media attention as a means of publicising the resource. While much of the academic use of the OBPO has been achieved through other routes (such as word of mouth and academic publications), the clear spikes in usage generated by media attention have not only served to increase levels of popular use, but they have also helped draw additional *academic* users to the site in the long term. This suggests that 'impact' activities oriented at the general public may actually generate benefits for academic users as well. Second is the importance of implementing periodic improvements to a website. In addition to our practice of scheduling regular annual updates, which are clearly necessary for making corrections and fixing performance issues, the fact we have been able to secure funding for site enhancements over the years has ensured that the OBPO continues to attract new users, and to provide new features for existing users. Without such improvements, it is likely that the site would appear increasingly out of date, and usage would decline. An electronic resource needs a programme of continual attention and

development if it is to continue to be relevant and attractive to its users. Finally, as part of this process, periodic analyses of site usage and consultation exercises with users are essential for assessing user needs and preferences (which can differ significantly from those anticipated by the site's creators), and for building a more committed user community. The user analysis conducted for Crime in the Community was invaluable in helping us plan the site enhancements which will allow the OBPO to be used even more productively in future research and teaching, while also giving users a stronger sense of involvement and ownership of the resource.