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The Thesaurus Linguae Graecae®: How a Specialised Resource Begins to Address a Wider Audience

Case Study Update 2011

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The Thesaurus Linguae Graecae® (TLG) provides an example of a specialised resource which draws on multiple revenue streams for its sustainability model. This collection of digitised ancient Greek texts is considered essential for scholars of the classics, which has allowed the project to successfully implement a fee for access despite appealing to a relatively small primary audience. In addition to subscription fees from institutions and individuals, income from an endowment and funding from the University of California, Irvine (where it has been housed since its inception) support the project. As TLG approaches its fortieth anniversary, support from the University has been reduced, and the project is now more reliant than ever on subscription income and endowment payouts to cover its expenses.

The Thesaurus Linguae Graecae® (TLG) is a comprehensive online corpus of works of Greek literature, including works from the ancient era through the fifteenth century CE.[1] Founded in 1972 by Marianne MacDonald, then a classics graduate student, and directed by Theodore Brunner, a classics scholar at the Irvine campus, the project is now led by Irvine classics professor Maria Pantelia. The resource already includes a digital edition of nearly every extant work of literature from ancient Greece, with progressively later works now being entered – approximately 15,000 works by 4,000 authors, with new sets of more than 100 texts added to the resource three to four times per year. The project also makes a selection of approximately 1,000 core texts freely available, including works of interest to general and secondary school audiences, such as Sophocles' *Oedipus Rex* and *Antigone*.

The value of the resource is not just in its comprehensiveness, but in the project team's attention to the needs of researchers. The project leader and researchers

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select specific editions of the texts for digitisation, and the project team carefully edits the digitised texts before they are presented on the TLG site. (Rather than displaying page scans, TLG displays the texts in a standardised Greek font.) Beyond the editing, the resource's searching and browsing functionality has been developed to meet the needs of classics researchers, and includes the ability to search by letters of either the Latin or the Greek alphabet. Indeed, even the project's programmers are literate in ancient Greek, underscoring the importance of scholarship to every aspect of the project's development.

Original sustainability model (2009)

TLG relies on three streams of revenue to cover its direct budgeted costs: university funding, payouts from a project endowment, and subscription fees.

1   Matthew Loy, 'The Thesaurus Linguae Graecae®: Specialised Historical Content for a Niche Audience' (New York: Ithaka S+R, July 2009), **www.ithaka.org/ithaka-s-r/research/ithaka-case-studies-in-sustainability/case-studies/SCA_BMS_CaseStudy_TLG.pdf**

In 2009, Ithaka S+R published twelve detailed case studies of online digital resources, exploring the strategies project leaders were using to sustain those projects for the long term. All of the case studies have been updated in 2011, to revisit the original sustainability models and see how they have fared over the past two years. To read the original case studies, please visit: **www.ithaka.org/ithaka-s-r/research/ithaka-case-studies-in-sustainability**

First, the University of California at Irvine has traditionally provided approximately a quarter of the project's revenue. This source of funding has decreased as public universities in California grapple with a budget crisis. In 2011, university funding provided only 15% of the project's revenue ($88,000 out of $585,000 in total revenue), a decline from 2008-2009 when we last examined the project, when the University contributed nearly 22% of the project's direct budget ($108,000 out of $500,000 in total revenue).

Second, TLG has a project endowment, which has been funded in large part by grants (including a National Endowment for the Humanities Challenge Grant) and philanthropic gifts since its inception in the mid-1990s. The project endowment is managed by the University of California Office of the President. Many endowments in higher education have experienced fluctuations in the several years, but because fund managers generally pay out returns using a practice known as 'smoothing' – that is, making payouts from an endowment based on an average of the past several years' returns, rather than on the immediate prior year's returns alone – the effects of the economic downturn on TLG's budget will be spread over several years, dampening the effects of an extraordinarily bad or good investment year on the yearly payout that TLG receives. In addition, the project has been able to increase the principal of the endowment. Together, these factors contributed to an overall increase in the amount of the endowment payout from our last study of the project in 2008-2009.

Third, TLG sells access to the database to approximately 2,000 institutions and individuals around the world; these subscriptions account for more than half of the project's revenue. TLG has been able to successfully operate as a subscription resource in part because of its highly specialised content; many classics scholars consider the resource indispensable for their research, and so academic libraries are willing to fund ongoing subscriptions.

How the model has fared

Since 2008, the project's three revenue streams have fared differently from one another. As noted above, the value of the project's endowment has fluctuated over the past two years, although the payouts for the last year represent an increase from our first study of the project. The same factors that affected the project endowment were felt by the University as a whole, and the project's direct funding from Irvine has been reduced as a result: when we first began to study TLG in late 2008, the University's subsidy to the project was approximately $120,000; by the time we completed the original case study research, the University's support had dropped to $108,000; and by 2011, that contribution had declined further, to $88,000. This is in line with the broader, bleak picture for public university budgets in the state of California, which has put in place significant decreases in

Detail from the Elgin Marbles at the British Museum. Flickr / Chris Devers

higher education funding.[2] The Irvine campus does continue to provide valuable in-kind support for TLG, such as office space and certain administrative costs. Pantelia does not believe that all aspects of the reduction in university support will be permanent, and feels the project can make up the shortfall with subscription revenue.

Subscription revenue, which historically constitutes more than 50% percent of TLG's income, has increased by 30% over the past two years, according to Pantelia. However, there is some concern that the economic climate could have an impact on subscription renewals: when possible, TLG sets prices for customers in five-year billing cycles, meaning that subscriptions of institutions that have been affected by the challenging economy of the past few years may only now be coming up for renewal. Academic libraries with straitened budgets may be particularly sensitive to increases in subscription prices, challenging TLG's ability to offset the decline in university funding and endowment payouts with higher subscription revenues.

Changes in direction and new initiatives

The TLG project team has continued to add new content, including a dictionary meant to help broaden TLG's appeal to non-expert users, and to advocate for the resource with their colleagues in the Irvine administration.

Continuing to add historical texts to the database. Because nearly all the literary works from the ancient Greek period have now been digitised for TLG, the project team has expanded the original scope of the resource to include works from the Byzantine period through the seventeenth century. The intention is to continue moving the project's content scope forward in time, with the expectation that an expanded database will also expand the user base.

2   At the time of this research in early 2011, one proposal called for a reduction of $1 billion in state funding for higher education. See Larry Gordon, 'California Higher Education Leaders Warn of Further Tuition Increases', *Los Angeles Times*, 8 February 2011) available at **http://articles.latimes.com/2011/feb/08/local/la-me-universities-20110208**

Sustainability dashboard

	2009 Case Study*	2011 Update**	What's Changed?
Content	Over 15,000 ancient Greek works	■ Over 15,000 works ■ Online version of a well-known Greek–English dictionary	Continued growth in content and addition of a new resource type
Functionality	Searchable by standard and specialised criteria	Redesigned interface; addition of customised interface to support use of the lexicon	Significant additional functionality
Costs	$500,000	$530,000	+6%
Sustainability Model	■ Subscription fees ■ Endowment payouts ■ University support	■ Subscription fees ■ Endowment payouts ■ University support	No significant change in model
Revenue	$500,000	$585,000	+17%
Impact	2,000 institutional and individual subscribers	Approximately the same number of subscribers	Maintaining existing subscriptions during a period of library budget cuts
Sustainability Bottom Line	Multiple revenue streams cover costs of project, with any excess reinvested in endowment	The existence of multiple revenue streams continues to be a strong factor in sustaining the project, allowing it to weather a downturn in any one stream	

* These costs and revenues reflect the project's 2008-09 fiscal year.

** These costs and revenues reflect estimates for the project's 2010-11 fiscal year.

Linking resources. Perhaps more significantly, the project team recently brought online a freely available reference work: a digitised and edited version of the Liddell–Scott–Jones Greek–English lexicon. The reputation of the Liddell–Scott–Jones lexicon is well established in the classics community (the first edition was published in the 1840s). The work, which according to Pantelia comes to approximately 2,200 pages in print format, took approximately five years for the TLG project team to edit and develop for online use. They have hyperlinked the references from the lexicon's entries to the historical texts in TLG, providing a path from the open-access content into the subscription texts. The reference source will, Pantelia hopes, be invaluable for users who are interested in Greek texts but lack the literacy level of research scholars. In this way, the lexicon provides a new point of entry to TLG for an audience wider than that of advanced classics scholars, including religious studies scholars and students and lay readers of Greek. 'If we appeal only to classicists, we're finished', Pantelia says of the decision to digitise the Liddell–Scott–Jones for the benefit of a broader audience.

Importance of continued outreach to institutional administrators. TLG has a long history on the Irvine campus and has consistently received support from the University's administrators. 'We've always been treated as an exception, as a boutique project that the University wants to support', Pantelia says. This is reflected not just in the University's direct contributions to TLG's budget and its in-kind contributions, but also in the fact that the TLG directorship is part of a tenured faculty position – giving the project a clearer succession plan and a more assured on-campus future than

many university-based digital resources can claim. But in a difficult economic environment, Pantelia feels that it is even more important to advocate on behalf of the project to administrators. This is a continuous process: she notes that a regular influx of new administrators may not be familiar with the project, so 'educating' them about TLG must be a priority.

Sustainability outlook

Today, TLG's diversity of revenue sources helps to guard against declines in any one source. In the original case study on the resource, we highlighted its three relatively large revenue sources as a strength. Indeed, in the two years since then, the project's access to a variety of funding streams clearly seems to have been beneficial. (As a hypothetical, imagine the impact of a 35% decrease in university funding if that support had accounted for nearly all of the project's budget, rather than just a quarter of the overall budget.) Although attending to each of these revenue sources takes time, this diversity has helped TLG to weather the past two difficult years.

Looking ahead, TLG may face difficulty in attracting a greater number of institutional customers if the resource is seen as serving only classics departments – this is a known and circumscribed market. Additionally, so far TLG has had little in the way of direct online competition, in part because of the project's 'first-mover' advantage in digitising Greek texts decades before widespread internet access came to university campuses. Pantelia acknowledges, however, that the potential for a direct competitor to TLG exists – if not

from a mass digitisation project like Google Books, then from scholarly publishers that issue print editions of classical texts. To meet this challenge, TLG's project team plans to continue to improve its functionality, add new features, and expand the range of the database, all of which will be difficult to accomplish if funds are not available for investment.

Lessons learnt over the past two years

- Multiple revenue streams help protect a project in difficult economic times

- Outreach to institutional administrators is even more important during a difficult time for university budgets

- Even for very specialised content resources, project teams should reach out to new audiences in order to broaden their appeal and their value proposition

Interviewee

Maria Pantelia, Director of the Thesaurus Linguae Graecae® and Professor of Classics, University of California, Irvine, 14 April 2010 and 31 March 2011

This case study update was researched and written by Matthew Loy as part of the Ithaka Case Studies in Sustainability project.

"Chalkidian" Black Figure amphora. Flickr / Dan Diffendale

Summary of revenues and costs

	2008-2009	2010-2011	Comments
Total revenue	**$500,000**	**$585,000**	**+17%**
Subscription fees	50%	55%	
Endowment payouts	29%	30%	
University support	22%	15%	
Total costs	**$500,000**	**$530,000**	**+6%**
Personnel costs	80%	80%	
Non-personnel costs	20%	20%	
Number of staff	7.15 FTE	5.25 FTE	
In-kind/volunteer contributions	**Half of management salaries paid by UC-Irvine; endowment management provided by University of California Office of the President**		

Explanatory note

The information presented in this table is intended as a broad picture of revenues and budgeted costs associated with the project, not as a detailed financial report. It does not include in-kind contributions or other unbudgeted items, though these are described where they are known. The financial data, which are presented in the currency in which the project reported the information, were compiled as part of the interview process with project leaders and staff, and in some cases were supplemented with publicly available documents, such as annual reports. Many of the figures are rounded or best estimates. Some leaders preferred not to offer figures at all, but suggested percentages instead. Because of the variability in the way each institution estimated the various categories of revenues and costs, the information presented in the table is of limited value for detailed cross-project comparisons.