

Studying Variations in Culture and Literature: Visualizing Translation Variations in Shakespeare's Othello

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ABSTRACT

Shakespeare's Othello, along with much of his other work, has been translated by many people over the last 300 or so years. The variations in these translations provide a powerful platform to study the literature in more detail, as well as the changes in culture and society over time. Further, recent developing phenomenon on the Web now provide new technologies and opportunities to study these varying translations at global scale, as well as creating a domain to further study the evolving Web. This paper describes a new project that aims to leverage recent developments in the Web to help understand both literature and cultural history in unprecedented ways. We believe that our work can then generalize to other literature.

ACM Classification Keywords

H5.4. Hypertext/Hypermedia: User Issues.

Author Keywords

Web Science, Social Web, Open Data, Literature, Culture

INTRODUCTION

The evolving Web continues to provide us with new opportunities to study and understand the many different forms of culture, art, and society; across the world, and over time. The Web, like never before, provides a platform to access new information and leverage online communities to understand them. We are embarking on a project to use recent developments on the web, such as Open Data and Social Computation, to study both culture and literature,

*If virtue no delighted beauty lack,
Your son-in-law is far more fair than black.*

Figure 1: An example line in Shakespeare's Othello that has created a high variation across translations.

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and how each can reveal insights into the other. Our planned project outputs include an online resource that will allow users to explore how translations vary over time and space, and in the context of cultural and societal changes.

USING OTHELLO AS A PLATFORM

Being a global icon, Shakespeare's plays have been translated into many languages over the last 300 or so years. Further, there are many re-translations to the same language. There are more than 60 translations into German of William Shakespeare's play Othello, for example, and every translation contains a different interpretation of the play. The variations in these translations reflect the changes in culture and society over time, or even express the individual thoughts of the authors. As a starting point for using the Web to study culture and literature, we have collected a large number of these translations, digitizing them, and creating relevant metadata about them.

While we digitize the German translations of Othello, we have begun analyzing the variation of a specific piece of the play that is potentially controversial, as shown in Figure 1, and has created a high variation across translations. As may be expected, this line has, over time, been translated with racial terms and with different linguistic references to religion, femininity, and even moral standard. Further, some translations presume this line to be read jovially, while others translate it as a serious criticism. To collate these interpretations, a website¹ has been created to allow a motivated online community to submit understandings of different translations of this one phrase, from any source. This latter point highlights that this process is highly affected by the way that we re-translate German translations back into English, which is also subject to interpretation in different English-speaking cultures across the world.

VISUALISING THE TRANSLATIONS

In recent years, we have witnessed a rapid increase in the number of off-the-shelf text visualization tools. The release of simple tools from IBM's ManyEyes project has provided techniques such as WordTrees, Wordles and Tag Clouds

¹ <http://www.delightedbeauty.org>

[1]. Further, visualisations like tag clouds are often combined with other techniques, such as Parallel Tag Clouds [2] and SparkClouds [4]. Parallel Tag Clouds combines the parallel coordinates and tag clouds to provide a rich overview of a document collection and build up the connections among various documents [2]. SparkClouds integrates sparklines into a tag cloud to convey trends over time between multiple tag clouds [4]. Another possible visualization is DocuBurst [3], which uses a radial, space-filling layout to visualise structure and semantic relationships within the text, such as ‘related-to’.

So far, we have begun enumerating these visualisations in order to leverage their concept-ideas to create a novel visualization focused on translations. In particular, we intend to learn more about which content varies highly with each translation, and which content remains stable. We would also like to let users form hypotheses as to the implications behind these variations. One existing project on visualizing Shakespeare texts² has also provided insight into possible methods for visualization translations.

To create the metadata about the different translations, we have created a metric of variation. **Error! Reference source not found.** shows the amount of variation between translations, plotting them by type and over time. We hope that a visualization of this nature, combined with text visualizations of the translations themselves, will begin to provide insight into both the piece of literature itself and the cultural and societal reasons for their variations. It is this reflection and understanding, however, that requires the power that recent developments of the Web can now afford.

LEVERAGING THE WEB

There are two developing phenomenon the Web that we intend to leverage: social computation and open data.

Social Computation. As with our current website, we intend to crowd-source the understanding of these translations. Although, we can collect, present, and visualise translations and variations, the understanding of texts is something that computers cannot perform like humans. Automatic reverse translations of German text would be inaccurate, and so human understanding is required to explain what the German translator is trying to convey. Consequently, large-scale social computation is required to comprehend and understand the 20+ translations that we have so far collected in several languages. We intend to allow users of visualization to make annotations and provide clarifications, as well as using social computation methods to encourage people to do so. In terms of Web Science, this will provide us with a platform to study social computation and crowd-sourcing methods.

Open Data. There are two aspects of the project that relate to the increasing amounts of open data available. First, we want to make our data and subsequent social annotations

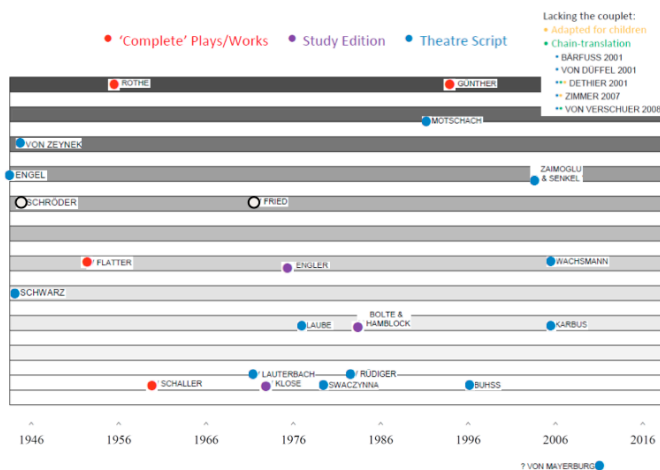


Figure 2: A visualization of the variation within translations over time, and by type.

open in such a way that both the authors and others can benefit from the growing understandings of both the literature and historical cultures. This will allow us to study the use of our data across the Web. We also hope, however, to leverage existing open data, such as geographical and historical datasets. The investigation of possible datasets for integration will be investigated after our current digitization phase, but we expect this part of our research plan will be supported by the growing trend of releasing open datasets.

CONCLUSIONS

This research is in the very early stages, where we will soon begin creating an initial demonstrator to visualize variations in translations of Othello. Following on from this iconic starting point, however, we intend to expand our methods to study how this inspection of both culture and literature can generalize to other cultures and different forms of creative and expressive work. In the long run, we aim to show how the increasingly powerful and social web can be used to reflect on the creative arts, culture, and society.

REFERENCES

- [1] Viegas F.B., Wattenberg M., Van Ham F., Kriss J., McKeon M. ManyEyes: A Site for Visualization at Internet Scale. *IEEE Transactions on Visualization and Computer Graphics* 13, 6 (2007), 1121–1128
- [2] Collins C., Viegas F.B., Wattenberg M.: Parallel Tag Clouds to Explore and Analyze Faceted Text Corpora. In *IEEE Symposium on Visual Analytics Science and Technology* (2009), Computer Society, pp. 91–98.
- [3] Collins C., Carpendale M. S. T., Penn G.: DocuBurst: Visualizing Document Content using Language Structure. *Computer Graphics Forum* 28, 3 (2009), 1039–1046
- [4] Lee B., Riche N. H., Karlson A. K., Carpendale M. S. T.: SparkClouds: Visualizing Trends in Tag Clouds. *IEEE Transactions on Visualization and Computer Graphics* 16, 6 (2010), 1182–1189.

² www.understanding-shakespeare.com