

THE INTERNATIONAL AFTERLIFE OF A BROADWAY MUSICAL

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Production Website

<https://nancyzhao888.github.io/thesis/work/broadway/>

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INTRODUCTION

Broadway is no longer contained within just the 12 blocks and 40 theatres of New York. It is a form of cultural export, a powerful “brand” that is well-known across the entire world. Through international touring and international productions, each musical theatre piece has become a “brand” of its own, creating a global network of audience. However, while lots of eyes and ears are on the Great White Way, the theatre industry has hardly examined this mechanism of international business and Broadway’s cultural impact. With this project, I propose that a better understanding of the transnational networks of international theatre touring is critical to placing Broadway within larger theatrical and cultural systems.

This project follows Broadway musical titles through its lifetime, its Broadway performance, and international touring across continents to visualize the dynamics of cultural transmission, the global musical theatre ecosystem and more importantly to understand the motivation behind this global distribution. The research aims to discover a better way for producers and authors of Broadway shows to branch out into foreign markets, for presenters to more effectively assess the competitive landscape and market interest for Broadway musical titles.

The following sections of this paper will 1) give context to the existing literature review and related work 2) explain the types of data required and the methodology for obtaining the datasets 3) break down the design concept for each visual perspective and functionality in this visualization 4) discuss key takeaways and future improvements to be made.

LITERATURE REVIEW & RELATED WORK

In a review article of the digital humanities, Debra Caplan identifies AusStage as “among the most sophisticated and promising efforts to develop a digital database for theatre and performance research.” (Caplan, 2015) AusStage is the online database which records information about live performances in Australia. It provides records of productions from the beginnings of theatre in Australia to the present in collaboration with a group of theatre

researchers around Australia. This comprehensive database has contributed tremendously to research projects including linking bibliographic resources in collections; mapping the distribution of performance events through space; exploring the “value ecology” of support, infrastructure, and relationships in the performing arts; revealing changes in company programming and repertoire choices over time; digitizing photographs and videos of performance; and interrogating archival practice in the performing arts. (Bollen, 2016). Caplan observes that AusStage addresses research problems in “a way that could be expanded to include data on other subfields and theatre in other geographical locales,” and that the data model developed by AusStage “could have broad application for our field, perhaps even reshaping the way we think about preserving, examining, and cataloging performance ephemera” (Bollen, 2016). Caplan concludes by posing a question for future research: “[i]f other scholars were to build on AusStage’s excellent model, creating other, interconnected databases of performance records in other countries around the globe, what kinds of trends and patterns might we see anew?” (Caplan, 2015)

Similarly, The Broadway League also records comprehensive performance and financial data on a weekly basis for shows on Broadway. The lack of database as such beyond the established markets of U.S., U.K., and Australia, drew my attention to the need of sharing information about performance data in theatre research around the world, calling for a global “hub” and “interconnected” databases of performance that, in Caplan’s vision, could span “the globe.”

Existing work on visualizing cultural transmission in general is very limited and generally ineffective. Look at the similar concept in a concert touring industry, some visualizations cover reasonably sized datasets but lack any type of fluid interactivity. Views are static and the level of granularity in most of the views does not allow interesting trends to emerge (Maurer and Seira, 2016).

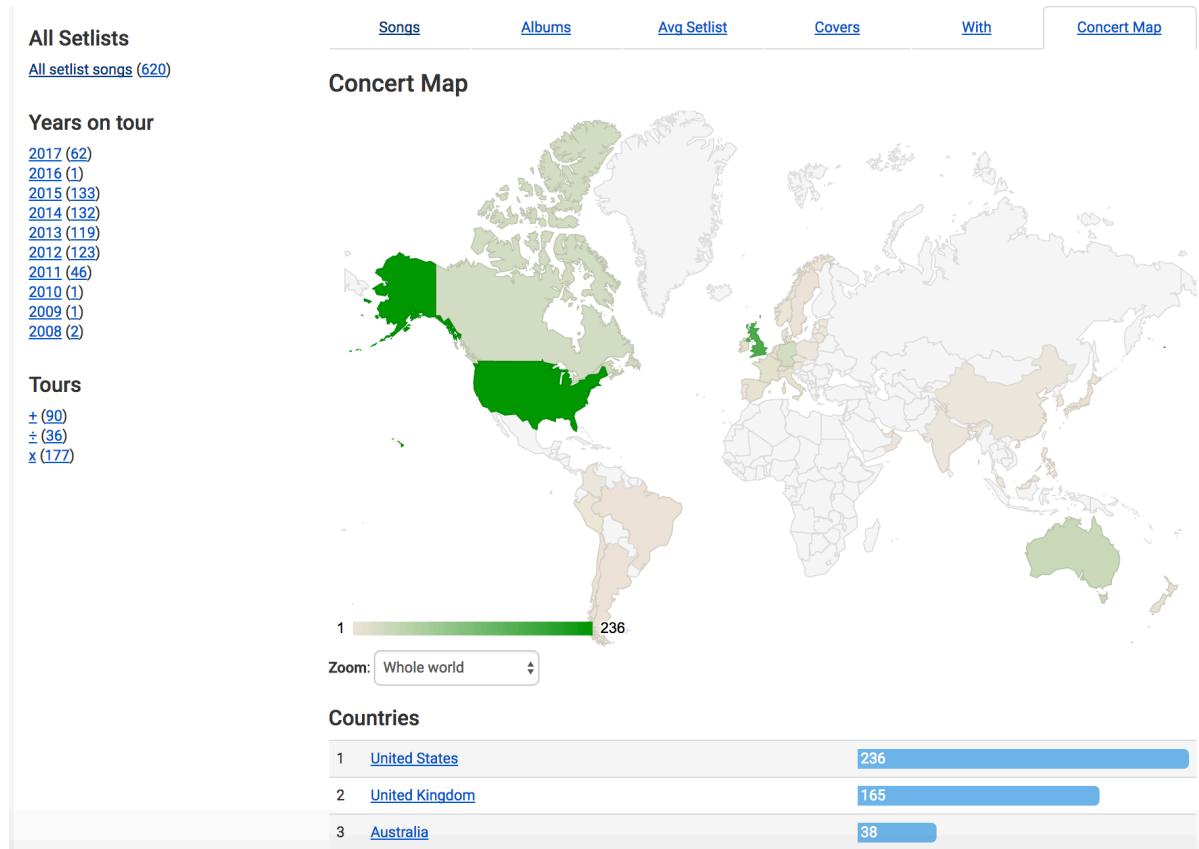


Figure 1

The visualization above (Figure 1) is from setlist.fm maps the frequency of concert touring at the national or state-levels. Most popular artists of the past half-century have toured extensively in the United States. As a result, the visualizations for these artists looks similar, and the touring data for United States overshadows any significant regional variation at a global scale throughout their career. The heat map approach also deprives the temporal aspect from the visualization, making it difficult to gain a sense of progression and changes across years.

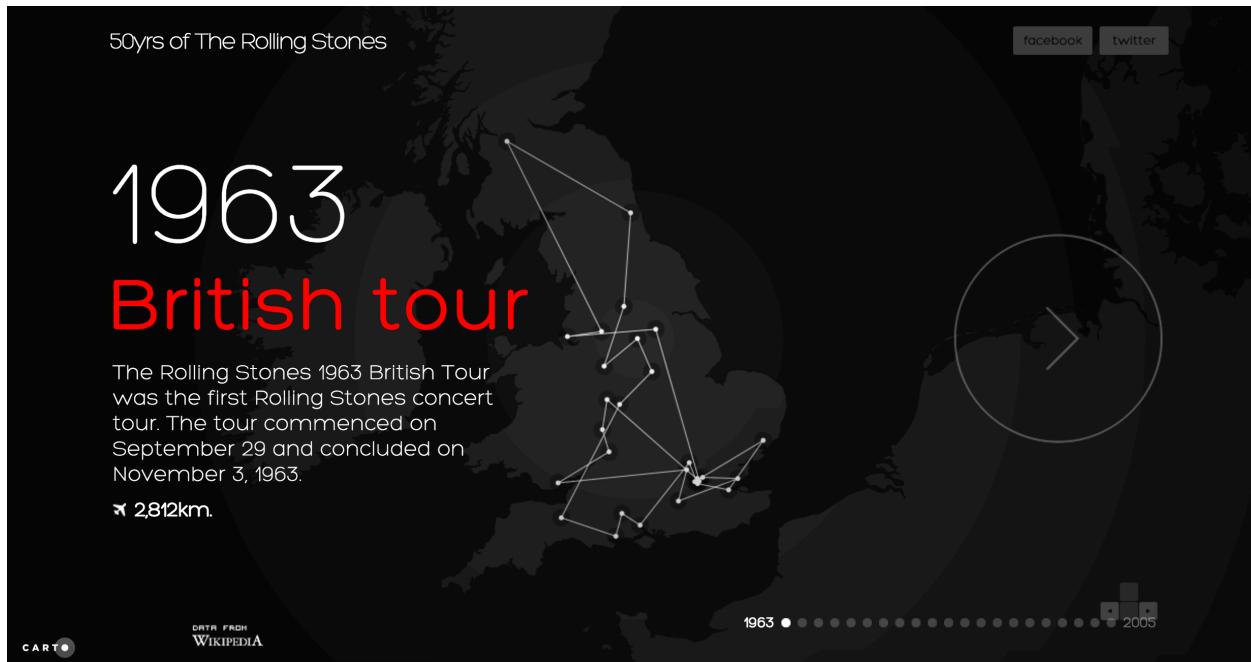


Figure 2

Other visualizations focus on a hub-and-spoke type visualization (Figure 2) (Maurer and Seira, 2016). Although they provide an accurate account of geographical movement, these visualizations emphasize more the paths travelled by artists between venues, which may appear visually interesting but do not contain substantial. Such visualizations can be reflective of more standardized transmissions such as flight paths. However, concert touring routes as well as theatrical touring routes are hardly systematic nor predictive, as they depend on a variety of factors such as what venue at what cities are available at what time. This information may also not be of interest to the prospective users of the visualization.

No visualizations that was found online attempted to visualize theatre touring data that I aim to aggregate and visualize in this project – this is true not only on a domestic scale let alone internationally. Given the scarcity of related scholarly projects, I began to expand my scope of intellectual inquiry in an uncharted field of research, with hope to contribute to creating a new database that amalgamate world touring and production data for Broadway musicals.

DATA AND METHODOLOGY

1. Title Selection

Broadway musical is an art form that has existed since the late 1800s. In the period of 1984-2017 alone, there are 378 unique musical titles on Broadway. For the purposes of the initial tool created, gathering international performance information on every single known musical may be an unnecessary burden. Focusing my efforts on a handful of epitomic titles would allow for more rapid prototyping. Six musical titles - Ghost, Wicked, Sister Act, Once, Shrek, Matilda, are chosen to represent a range of the scope for international presentation and productions, as well as covering the categories examined below.

2 The Data

2.1 Temporal and Geographic Distribution

In creating a tool that would allow for the visualization of the global distribution of Broadway musicals, the first and maybe most obvious element required is temporal and geographic information. The international touring and localized productions of Broadway musicals can happen after its Broadway runs, or for long-running shows on Broadway, during its Broadway run. From a licensing perspective, the licensor or licensing company does not usually restrict the number of productions of the same title performing simultaneously around the globe. However, exclusivity is given to only one production for each territory, usually defined by a country. For this project, information of each city within a country, and opening and closing dates for the city is required to achieve a desirable level of granularity for the scope of the global distribution.

2.2 Descriptive Data

2.2.1 Show Type

Following Reddy et al. (1998)'s analysis on Broadway, the type of musical is also used here through an international lens as a potential driver of show longevity. Musicals embody stories that range widely from love, to fairy tales, to autobiographies, to historical events – each may attract a different audience and be relevant to a different culture. For this project, musicals are classified into the four broad and main categories used in the Samuel French (Broadway licensing company) website—romantic drama, biopic, comedy, and family-oriented.

2.2.2 Source Material

Literature, movie, and popular music catalogs are favorable sources for authors and composers. Given a musical's considerable expense to produce and risk of cultural unfamiliarity at a global level, international touring producers and local production producers often manage risks by producing works of readily available source material and instant name recognition to secure a large potential audience.

2.2.3 Critical Acclaim – Tony Awards

Following Simonoff and Ma (2000), the importance of awards' effect on the success of a show is assessed by Tony Award wins in the major categories of best musical (revival and non-revival), best director (musical and play), leading actor and actress (musical and play), and featured actor and actress (musical and play). Winning the most important of Broadway theater awards serves as a powerful endorsement not only for a Broadway audience, but also for an international audience.

On Broadway, Tony Awards can be predictive of a show's success. Shows that are nominated usually are kept open until the awards are given; While winners will often see increases in box office receipts and might benefit from awards-related advertising, losers often close almost immediately (McKinley 1999).

At a global level, a Tony Awards stamp can make up for the lacking recognition of the show title and the story itself. By leveraging the prestige of the Tony Award brand, producers often hope to tap into a “must-see” mentality of these far away audiences.

2.2.4 Gender of Lead Cast

Gender diversity is a highly discussed issue in TV & film, however less so in theatrical works especially at an international scale. The question of whether trends or appetite exist for more strong female-leading works, strong male-leading works, or mixed cast productions is examined.

This research question emerged from the Chinese phenomenon of "Little Fresh Meats". The coined term has risen with the growing popularity of a certain group of leading actors/male singers (in TV, film & pop music) in the past few years. It's highly driven by the K-pop ("Boy Band") phenomenon around Asia and inspired by Korean aesthetics. It describes young men of boyish charms but slightly feminine features, with fair and sometimes porcelain skin and a tall & fit physique. Building off of this trend is an increase in popularity of titles with strong male leads in China, for example, Jekyll & Hyde, Thrill Me.

2.2.5 Version

In general, a Broadway musical title may appear in two formats around the world – English touring version and localized version. The former is defined as international commercial touring productions, with a cast of English or foreign language speaking actors. The script, music, lyrics often stay true to its original (eg. Broadway or West End) counterpart. Localized versions are defined as locally licensed commercial touring production, with a cast of local language speaking actors. The book and lyrics are commonly translated into the local language and slightly modified to fit the any governmental censorship requirements, to better fit phonetics and pronunciation patterns, and to have more cultural resonance by incorporating local slangs and or cultural references. Therefore, whether global recognition of a musical is driven more by English touring productions or localized versions is examined in this project.

3 Construction of Data

Databases for theatrical performances can be territory specific and proprietary in established markets such as U.S., U.K., and Australia. They can be non-existent for more developing markets such as China and India. Currently, there is no existing database that archives performance data for Broadway musicals comprehensively beyond the two established markets of U.S. and the U.K. nor examines this global cultural impact.

Given this limited documentation, not to mention pre-collated digital data, it is important that the scope of this project not be limited by letting data lead. Instead, I begin by collecting data through traditional archival research with the intent of eventually making the datasets themselves

available to other researchers in future. Given the labor intensiveness of collection, the resulting datasets is quite small initially, a mere subset of the hundreds of musicals born and rise on Broadway, but they reflect an investment in the future of a field where historical datasets in an international lens are scarce. Whatever the source, creating new datasets from archival materials rather than “scraping” already digitized information reminds us, as Lev Manovich cautions, that “data does not just exist—it has to be generated. Data creators have to collect data and organize it, or create it from scratch” (Manovich, 2001). Therefore, an important method for my data collection is culling information from different sources and cross-verifying to ensure accuracy.

As a crowdsourcing encyclopedia platform, Wikipedia hosts a page for all Broadway musicals, documenting more or less the various productions worldwide of this particular title. The format is however non-standardized and unpredictable, ranging from the very few detailed table of location, city, opening night date, closing date and language for each production, to a majority of short paragraphs that list past and present tours or productions. Despite the less than satisfying level of standardization and granularity, Wikipedia provides a solid framework and comprehensive recap of international performances.

Performance posters and official websites, if existing, provide extensive information about title being performed, engagement period, location, language of production. Therefore, using Wikipedia pages as a roadmap, posters and production websites are then searched, mined and collated to fill missing data points and to also verify reliability and accuracy of Wikipedia due to its crowdsourcing nature. The posters and websites also assist to distinguish between international touring versions and local language productions.

The final JSON object contains the musical title name, its temporal and geographic information for international touring and local productions (city, country, opening date, closing date, version), show type, gender of leading cast, type of source material it is based on, and status on Tony Awards received. To accommodate the usage of force-layout in D3.js, the JSON object is created in a node-link structure.

DESIGN STUDY

This project intends to allow users to explore the international afterlife of musical titles not only in terms of geographic distribution but also of a musical's performance history, and also to explore the motivation behind the global distribution. As sketches and prototypes were created and revised, these three overarching research questions led to the three visual perspectives in this visualization.

1 Aggregated View

The At-A-Glance overview allows users to gain a sense of the sheer scale of global distribution and engages users in the question of where a Broadway musical has been around the world (Figure 3). Hovering over each musical title represented by a gold node in the center, the users can get a more focused look at the show's footprints across various cities which are indicated by nodes on the outer circle (Figure 4). Each city is color coded by its respective country. At this aggregated level, it is believed that users are more interested in understanding the length of the performances by some "ballpark" representation of time instead of limiting the search to very specific dates. Therefore, the weight of each line indicates the total length of the title's performances in the particular location. Geographical pattern of the distribution is the main focus for this first visual perspective.

A map was initially considered to give users a more straightforward understanding. However, as multiple shows can perform at one geographic location at the same timeframe, a map has limited capability of presenting this complexity. Feedback from test users also indicate less interest and less necessity in visualizing where each city is with geographical accuracy. A node-link force layout is more effective in visualizing a global network.



Figure 3



Figure 4

2 Clustering by Attributes

The second visual perspective and feature aims at examining the key drivers of a successful musical brand and its global distribution. By clicking one of the “Group by” buttons highlighted in gold (Figure 5), the user can group the musical titles by different attributes (Figure 6), for example:

- Tony Award winning VS Non Tony Award-winning (Appendix 1);
- Adapted from a Book VS a Movie VS a Music Catalog (Appendix 2);
- Strong Female Lead VS Strong Male Lead VS Mixed Leading Cast (Appendix 3);
- Romantic-Drama VS Comedy VS Family-oriented Show VS Biopic (Appendix 4),

the user can explore questions such as:

- Does Tony-award winning musicals have more overseas presence?
- Can the popularity of a musical's source material, may it be movie or book or music catalog, live on through this live art form?
- Is gender diversity worth examining in international musical theatre world? Is there a trend for more works of strong female lead, male lead or mixed cast in certain territories?
- Is there more appetite for a certain type of musical theatre in different territories?



Figure 5

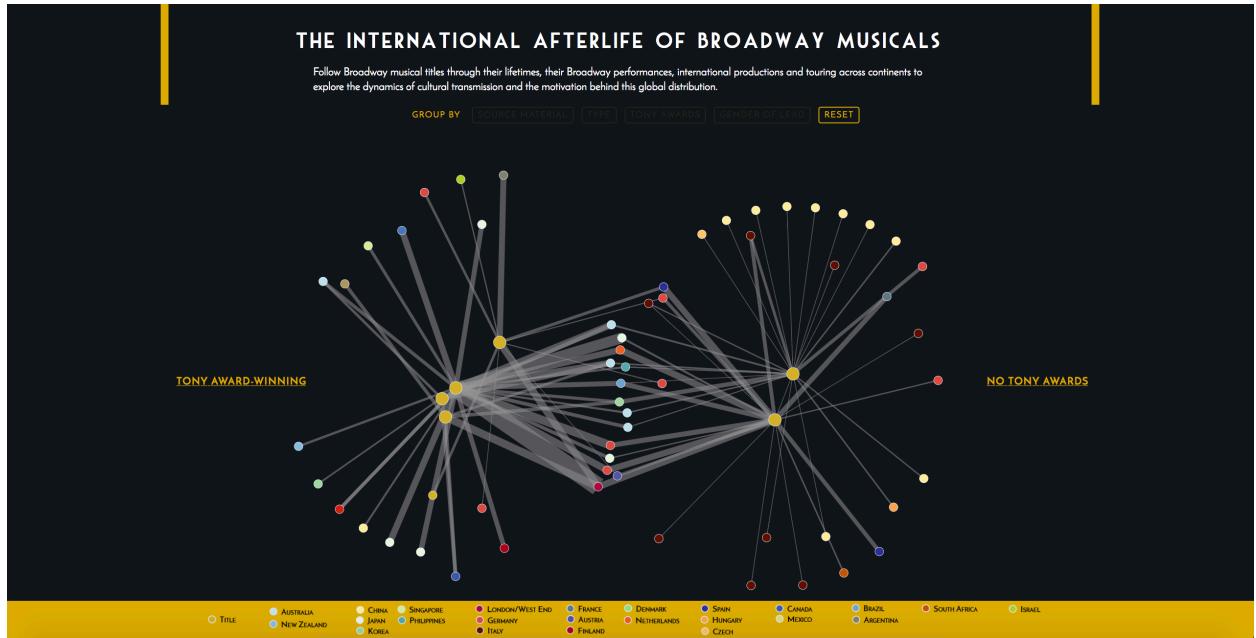


Figure 6

3 Timeline View - Title Deep Dive

Upon clicking the title nodes in the center of the force layout, the user enters a new visual perspective (Figure 7). The overall context of the artist's performing history and the progression

of a title's cultural impact as well as its commercial appeal are displayed through a minimized timeline, drawing inspiration from a deep dive visualization into Hamilton's lyrics created by Shirley Wu (Wu, 2014). Each row in the timeline represents one year. Multiple cities can be simultaneously hosting the performances of the specific title during the same year. Therefore, there are multiple lines in each year row that indicates a different city. The various length of each line segment represent the period of time which the musical performed in the respective city, in the respective year.

The line segments for each performance period is color-coded to indicate the version of the production. Four broad versions are examined – Broadway version (dark gold), West End version (lighter gold), English touring version (dark red), and localized version (lighter pink).

The user is invited to explore the timing when a title became popular in an international market after its Broadway debut, to question whether a long Broadway run or a transfer to West End can indicate longevity abroad, to examine whether global recognition of a musical is driven more by English touring productions or local-language versions.



Figure 7

The web application also consists of a welcome page (Figure 8), the background of which is a photo of the Great White Way in credits to the photographer Gary Ricketts. The title of the welcome page states “The International Afterlife of Broadway Musicals”. Typeface used in this project are Mouse Deco and Josefin, the art-deco and modern style of which matches that of Broadway. The user is given three options to view an “About” video that gives context to the project, a “Demo” video that walks the user through all the functionalities of the web application, or to go straight to exploration mode.



Figure 8

DISCUSSION

1 Takeaways

Given the significantly small dataset at hand, it is challenging at this moment to conclude any insights. However, Compare and contrast can be a great technique used in conjunction with this web application to gain initial hypotheses. Taking the internationally beloved musical Wicked as an example, the title has been performed professionally and in substantially long engagements in 24 cities, whereas the screen to stage musical Ghost has been staged professionally in 22 cities but overall length in each city is much shorter. The difference here may be explained by the mere fact that Wicked (2003) is a much older show than Ghost (2012), but it could also raise the question

whether family-oriented shows such as Wicked are more suitable for longer engagements internationally.

As mentioned above, the interesting components of the timeline deep dive are to examine the timing of a title's popularity, and whether global recognition of a musical is driven more by English touring productions or local-language versions. Take Wicked for example, which started touring during its run on Broadway and at one point in 2011 was simultaneously being performed in 7 different countries. Over its lifetime, Wicked had a fair mix of both English touring productions as well local language versions. However, the musical Sister Act is a different story, as most of its performances has been adapted to suit the local language and audience.

2 Future Directions

My current project sits on a subset of the hundreds of musicals born on Broadway. As this project grows in the future, the goal is to continue to expanding the datasets. Currently, only six musical titles are examined and this limits any insights that can be deducted from the project.

Moving forward, given the interesting phenomenon of “new works VS revivals”, it would be useful to add a functionality to cluster musical titles by the period it was born in – Classic, Modern and Contemporary, and also indicating revival performances on the timeline deep dive. For example, the original Broadway production of Chicago opened on June 3, 1975. It received mixed reviews and encountered multiple setbacks during its run. However, the 1996 Broadway revival was jaw-droppingly successful and thus kicked off its international life. Examining the timing of when a title is born and revived on Broadway in relation to its international performance can shed more light on the drivers of global distribution.

As it grows, I hope this can become a tool for authors, composers to see the impact of their creations. A tool for producers & presenters to not only more effectively assess the international competitive landscape, but to understand what musical stories resonate with different audiences of different cultures.

REFERENCE

Debra Caplan, “Notes from the Frontier: Digital Scholarship and the Future of Theatre Studies,” *Theatre Journal* 67, no. 2 (2015): 347–59, quote on 357.

Jeffrey S. Simonoff, Lan Ma, “An Empirical Study of Factors Relating to the Success of Broadway Shows”, *Statistics Working Papers Series*, Vol. , pp. -, (2000).

Jonathan Bollen, “Data Models for Theatre Research: People, Places, and Performance”, *Theatre Journal* (Baltimore), vol. 68, pp. 615 – 632 (2016), <http://dx.doi.org/10.1353/tj.2016.0109>.

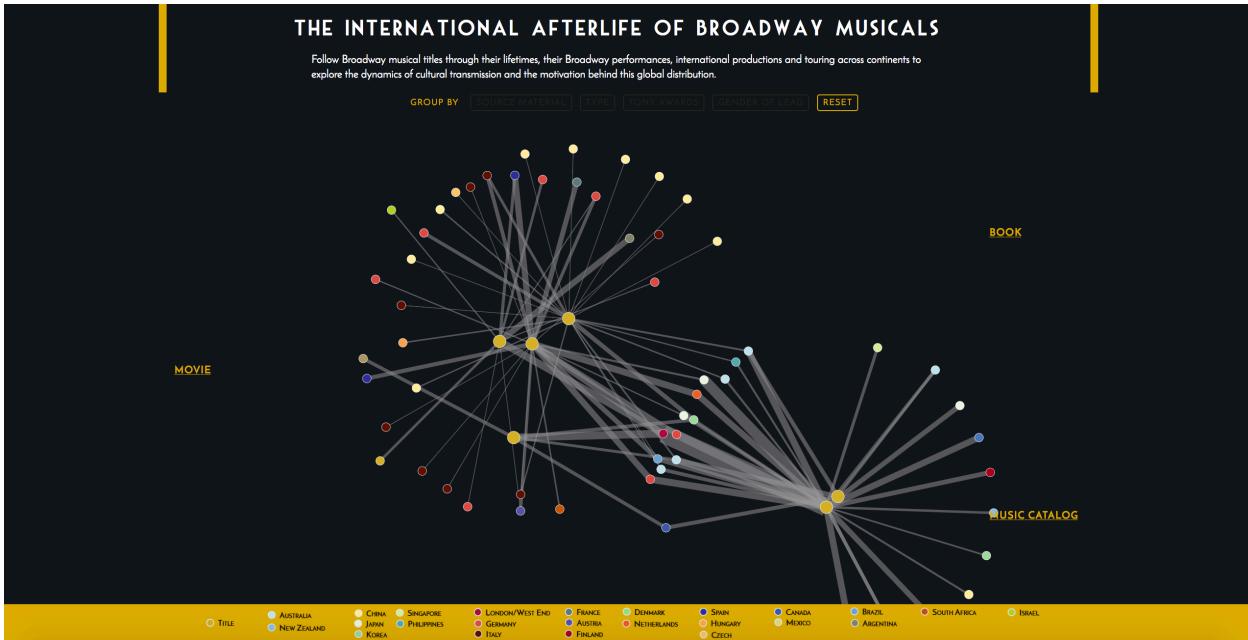
Lev Manovich, *The Language of New Media* (Cambridge, MA: MIT Press, 2001), 224.

Reddy, S. K.; Swaminathan, V.; and Motley, C. M. 1998. Exploring the determinants of Broadway show success. *Journal of Marketing Research* 35:370–83.

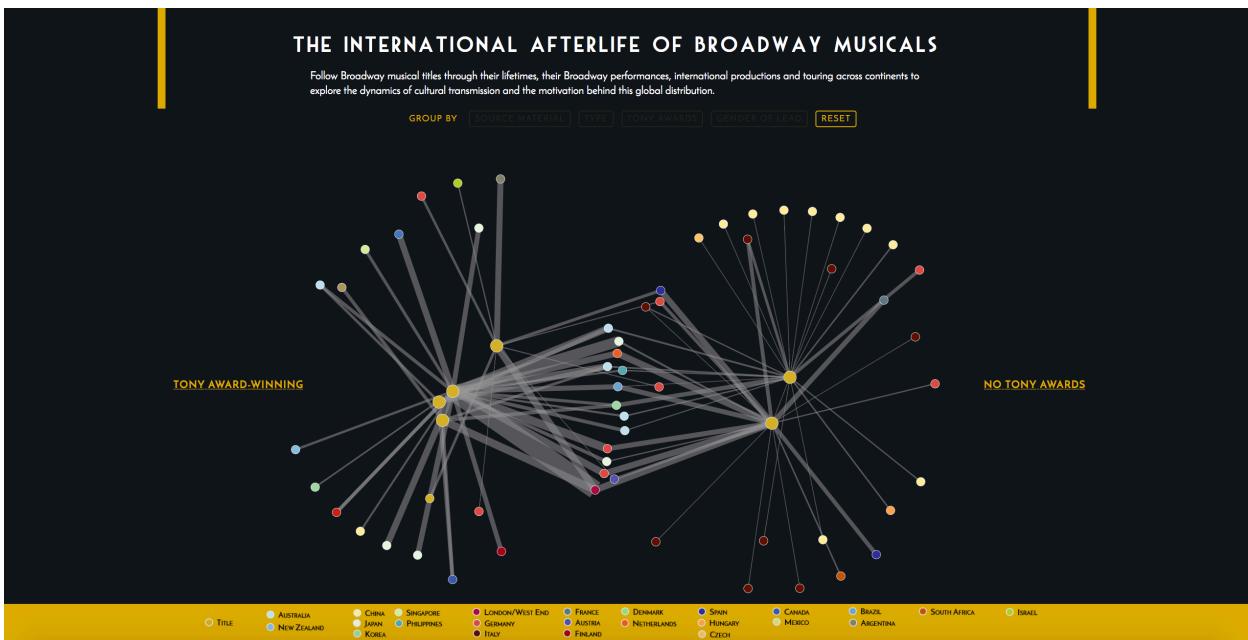
Zach Maurer, Santiago Seria, “Tourviz: Visualizing Music History Like Never Before”, Stanford University CS448B (2016).

APPENDIX

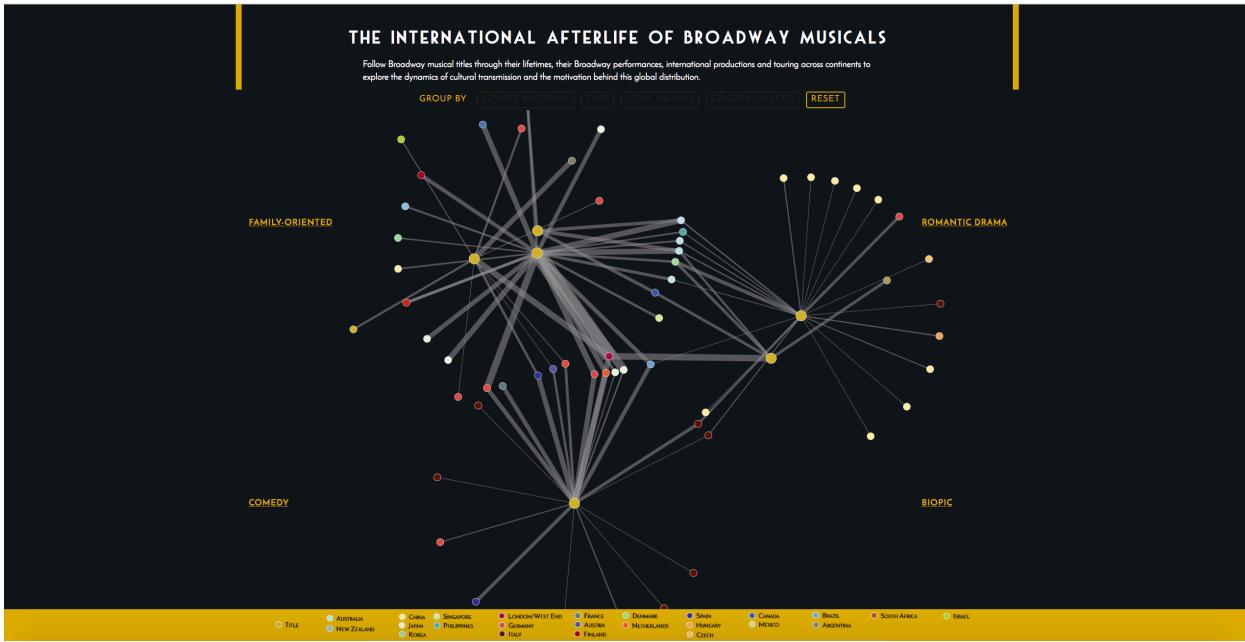
1. Cluster by Source Material:



2. Cluster by Tony Awards Wins:



3. Cluster by Show Type:



4. Cluster by Gender of Leading Cast:

