

Mapping the Motor City's Cinemas: A Collaborative Digital Humanities Project

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"Mapping the Motor City's Cinemas" is a digital humanities collaborative project in progress at the University of Michigan. This joint venture between a film studies librarian and a spatial and numeric data librarian aims to contribute to our collective understanding of the movie going experience in 20th century America and to inspire others to think about ways they can contribute to more thoroughly and preserving the past, understanding its impact and making inaccessible materials available. Multifaceted in scope, it attempts to reveal the intersection of geographic location and film exhibition schedules to see what they can tell us about both film and urban life in the 20th century. Previously difficult to access materials used with new technology will enable researchers and scholars to visualize the patterns of exhibition trends in new and different ways and come to new conclusions that were until now too difficult to make.

Still in its early infancy, the project's initial goals are three-pronged. First, we are mapping out the movie theaters of selected U.S. cities throughout the 20th century. Second, we are constructing a database that details all of the films that played in each of those individual theaters so that the exhibition patterns are clear and specific. If, for instance, you want to know where and when *The Wizard of Oz* played, you can see precisely on which days it played and the exact theaters where it was shown. Ultimately this allows researchers to visualize stacks of raw data, making them come alive and allowing for multiple interpretations

and new conclusions. Third, we are learning firsthand what it means to collaborate across disciplines, which both allows us to produce something not possible on our own, and also gives us perspective in our role of supporting the research enterprise.

Why Detroit?

The initial focus of the project is Detroit, Michigan. Several reasons should be noted for our selection of the Motor City as our starting point. The obvious justification is that Detroit is the largest metropolitan area closest to our institution, the University of Michigan. We are familiar with it and understand its history and geography. More importantly, it is under-represented and under-theorized in a variety of fields and disciplines. Film historians and scholars have detailed for some time now how the rise of the movie industry, one of the most successful and influential of all U.S. industries, is tied most heavily to the immigrant populations that flocked to America at the turn of the twentieth century and populated America's largest cities. Ben Singer, for example, has written extensively about the historical connections between the rise of the early nickelodeons in Manhattan and the growth of mass entertainment in the U.S. and how it influenced the lives of new immigrants and working people. His work has focused specifically on how the expansion of nickelodeons helped to shape our understanding of early film history as well as American social history. In doing so, his research has focused on

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questions such as “What was the make-up of the nickelodeon’s audience in terms of both class and ethnic composition?” and “In what kinds of neighborhoods were nickelodeons located, and what explains their distribution?”¹

Our project will renew and broaden these questions posed nearly two decades ago by allowing the next generation of researchers and film scholars to understand more fully the relationship of the theater to its specific locale. Mapping technology has developed greatly and can be used in a variety of new ways that no one anticipated in 1995 when Singer first published his piece. A greater sense of interactivity and connection to the material can now be achieved by using geographic information systems (GIS) to create and store geospatial locations that ultimately provide the researchers with visual evidence and spatial analysis possibilities.

Moreover, Singer’s work and that of many other film scholars has been New York-centric, or L.A.-centric, or Chicago-centric. The reason is obvious: those cities were the center of production of film and entertainment within the U.S. But what may not be as obvious, at least to people outside of film studies, is that these scholars who directed film studies into the arena of exhibition are also based for the most part in New York, Los Angeles, and Chicago as well. While film production is concentrated in these cities, film audiences are everywhere. We want to look at what movie goers can tell us about Detroit.

One can argue that scholarly trends are often started because an individual researcher works with what historic data or information is available at his or her local library. Neither of Detroit’s two major newspapers of record, *The Detroit Free Press* and *The Detroit News*, has even been electronically indexed for the bulk of the 20th century, much less had the full text scanned and made available. An institution like the University of Michigan, which was not part of the original exhibition and immigration mapping dialogue, can now make valuable contributions to the conversation by capturing information contained in its collections that can expand the debate and take it in new directions. The availability of these materials electronically will extend the argument beyond the coasts and into the center of the country, starting to create a national discourse over an issue that has been regionally specific until now.

We have started the project by first looking at Detroit’s movie theaters in the 1930s. During this de-

cade, Detroit was the fourth most populated city in the U.S.² Between the 1910 and 1920 censuses, Detroit almost doubled its land area via annexation and also more than doubled its population.³ In 1930 it went over the one million mark for the first time and peaked in the 1950 census at 1,849,568.⁴ It stayed in the list of top ten U.S. cities with the highest population through the 2000 census.⁵ In the 1930s over 100 movie theaters were in business in metropolitan Detroit. Today there are only two operating movie theaters within the city limits and the population has declined dramatically, dropping to the eighteenth most populated city in the nation according to the 2010 census with a population of 713,777.⁶

From a film studies perspective, the 1930s represent an important era of change, innovation and adaptability. Often referred to as the start of Hollywood’s “Golden Era,” studio executives of the American film industry centered in Los Angeles were laden with a large number of issues to contend with: the transition from producing silent to talking pictures; the need to hire new directors, writers and actors who could adapt to the new technological demands; European film studios trying to catch up with the new sound craze; religious organizations wanting stricter codes of decency imposed on productions; and most dramatically, the country facing an economic depression that left many out of work. Concurrently, Detroit had its own challenges in this decade: car production dropped by nearly two million vehicles following the stock market crash and unemployment became rampant; unemployment demonstrations were frequently held; conflict between corporations and workers caused upheaval; and tax delinquencies created a shortage of money to keep the city going. Holding the city together was the diversity of its immigrant population and the willingness of its people to help one another through food drives and other charitable demonstrations of hope.⁷ One of our goals is to provide data that will allow researchers to make connections between Los Angeles and Detroit and their respective industries.

Data Collection

The project consists of two distinct parts. The first is the geographic component which consists of making a comprehensive database of movie theaters in Detroit starting in 1906 and continuing to today. Doctoral student Ben Strassfeld has done the majority

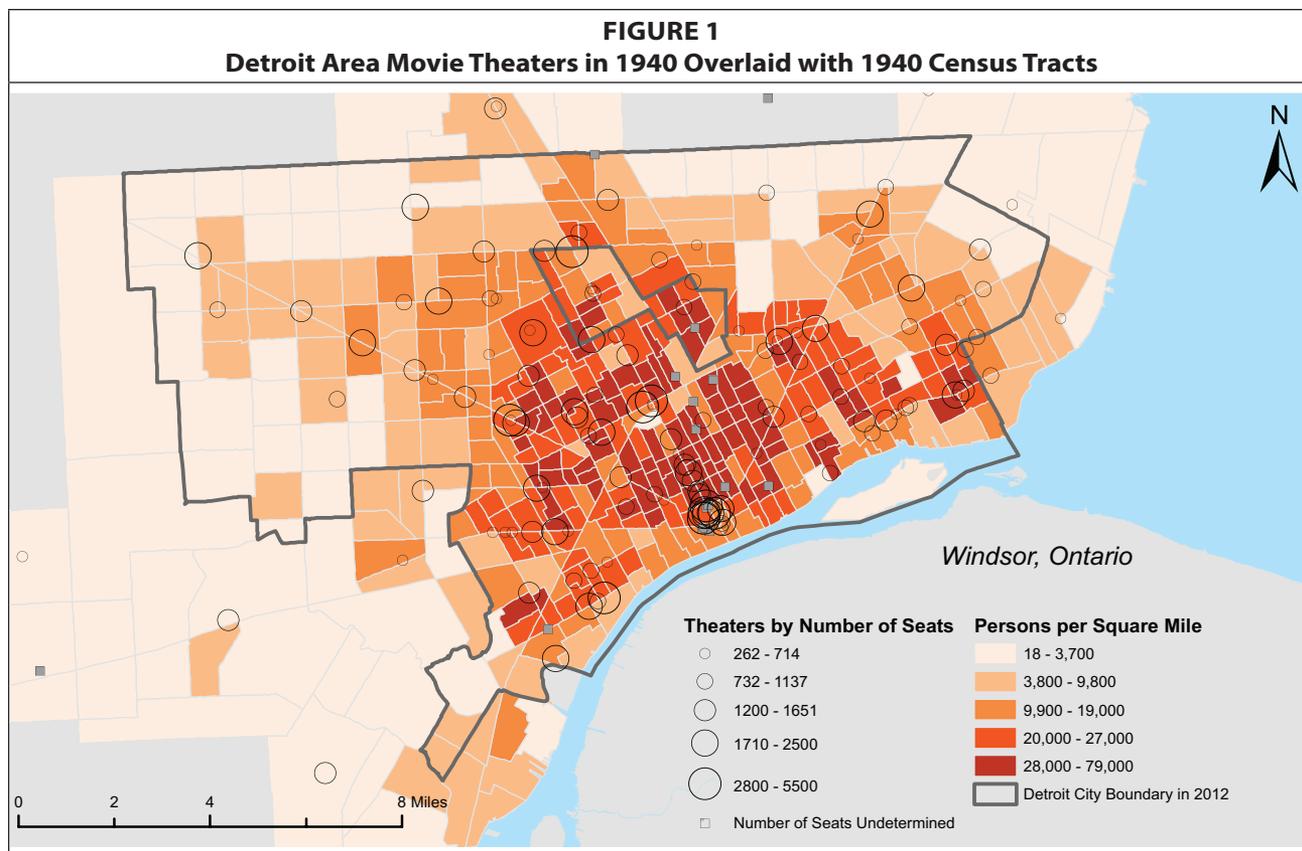
of the work on this component to date. He initially populated the entries from a project published in 1994 by Stuart Galbraith IV, whose book *Motor City Marquees: A Comprehensive, Illustrated Reference to Motion Picture Theaters in the Detroit Area, 1906-1992* provided a foundation upon which we could build and expand. *Motor City Marquees* lists theaters in the Detroit metro area, including name, address, and year opened, and sometimes also includes seating capacity, architect, and other information.⁸ Ben then consulted several years' editions of the *Polk's Detroit City Directory* (1923-24, 1929, 1935, 1940, 1948-49, 1953, 1968 and 1973) to add to Galbraith's list and further refine opening and closing dates, as well as theater name changes. Two websites, waterwinterwonderland.com and cinematreaasures.org, also provided information incorporated into the database. While neither scholarly nor primary source resources, these are nonetheless valuable additions and incorporate a crowd-sourcing element into the project. Information added to the database is always coded to indicate the source from which it comes. In the case of multiple conflicting pieces of information, such as for closing year, a determination is made and also recorded. Making such a determination is a complex process, and involves deciding which sources might be more authoritative than others. By recording for each conflicting item which source(s) trumped the others, we might ultimately be able to come up with a weighting system of authority.

The process of turning an address into a point on a map is called geocoding. For many of these theaters, geocoding was a straightforward process done in the ArcGIS Desktop software program using the address recorded. In some cases, however, the geocoding process would fail on an address, or the result would otherwise raise suspicion. In these cases, a point was created manually after consulting a pre-1920 map, a pre-highway map from the 1950s, or a text that describes the change in addressing for most streets in Detroit circa 1920. In all cases, whether an automated geocoding process or manual process was used, we then extracted the coordinates to put them into the database. By querying the point data for theaters that were in operation for a given period of time based on the opening and closing dates in the database, we can create static maps that show only the theaters open in, for example, 1932 or at any point in the 1930s. We can also use animation features built into GIS software to

animate the opening and closing of theaters. Any element in the database can be used to drive visualization of the theater locations. For example, the seating capacity field can be used to vary the point size to give a quick sense of the size of theaters in different parts of the city.

Census data and other data sources that have a geographic component allow us to further visualize and potentially analyze the relationship between demographic information and the theater locations and characteristics. For example, we can overlay theaters open in 1940, with point size varying by seating capacity, over 1940 Census data by tract showing population density (see Figure 1).⁹

The second component of our project is the construction of a database that details when and where individual films screened. The process involves reading information from Detroit newspaper advertisements and movie listings and entering this information manually into a structured database. We first scanned pages containing movie listings from microfilm of *The Detroit Free Press* for the entire decade of the 1930s. Optical character recognition (OCR) technology is not useful for converting this content into machine-encoded text, as it has not yet evolved much past being useful for paragraph-based text. In this era, neighborhood movie theaters would change programs three times per week so some 156 scans were needed to capture the films shown in a single year. Data entry has proven to be a more daunting task than initially expected. During the initial weeks of data entry, we frequently updated the database schema to accommodate elements we had not yet predicted, or ones we decided were too cumbersome to capture. Often the films playing downtown in the movie palaces are not listed in the newspaper's movie guide but are instead listed in separate individual ads for individual theaters, so the data entry process is complicated by the need to check different possible locations for information. Important details are often buried in very fine print and the small font size necessitates that we enlarge it to 200%-400% to be able to read it accurately. In addition to changing programs three times per week, most neighborhood theaters would have a double feature of two movies, one or two shorts, and a cartoon. All titles indicated in the listings with an exact title are included as a searchable item. If the listing merely indicates something more generic it is ignored unless it was clear what the title was. We chose to not



create a searchable listing for items described generically as: “added attractions;” “cartoon;” “pictorials;” “news;” “comedy short;” “screen novelty;” “short subjects;” “screen song;” “fables,” etc. In all, we estimate that there are approximately 15,000 entries required to document what was shown in Detroit’s theaters in a single year during the 1930s. Manual transcription of this kind of information inevitably produces errors. There are multiple ways to approach avoiding and cleaning up these errors and doing quality control, and this is something that we need to consider carefully as we continue with data entry in the project.

Until the late 1930s, most of the theaters in the downtown district featured live entertainment. Local talent was hired to entertain audiences prior to the start of the main feature and upwards of eight acts might appear prior to the start of the film. Because the studios valued Detroit as a market, they would send actors starring in the movie currently showing at the downtown movie palaces to promote and appear on stage “in person” as an added lure to attract patrons. The use of live entertainment in the downtown movie palaces in the beginning of the decade was a carryover of the vaude-

ville tradition of the ‘10s and ‘20s. Some neighborhood theaters would also feature vaudeville acts in limited rotation as well. As the 1930s progressed, live acts were no longer featured as part of the movie going experience. Instead big band acts started to appear in newly created clubs and concert halls built throughout the city which actively competed for the same audiences. The data entry process requires a keen eye for detail and looking in various parts of a newspaper’s entertainment section for the needed information, further slowing down and complicating data entry.

Initial Findings

Examining 1932, one of the years we have completed, reveals some interesting observations that may address one of our big research questions: Does a regional focus reveal anything new to add to our understanding of audience, exhibition and industry studies? After entering data, what is clear is that certain films began their run in downtown movie palaces and played for two or three weeks in these mammoth theaters to thousands of people per day. Often they then returned several weeks later and began playing at various neigh-

borhood theaters. One of the big studio films could be in circulation, although non-continuously, for up to six months. In contrast, lower budgeted movies produced by the non-dominant studios of the time opened for shorter runs at the neighborhood theaters initially for a week or less and then disappeared much more quickly. By linking other movie databases to our listings database, we can potentially see what the relationship is between the length of time a film played in theaters versus what studio produced the film. Our mapping procedure in concert with the listings database may allow us to determine if some kind of exhibition pattern starts to emerge, and potentially to compare it to other cities to see if a same or different pattern emerges. We will then be able to see if circulation of a title is based on a variety of questions: Does a film's length of engagement at a given theater have anything to do with the studio that produced it? Is it connected to which company owns the theater? Is the theater part of a chain? What features of Detroit's demographics or spatial layout might affect exhibition patterns?

One example from 1932 that surprised us is the case of the film *Broken Lullaby*. Directed by popular director Ernst Lubitsch, the film is based on a play by Maurice Rostand and concerns a French soldier who is haunted by guilt for having killed a German soldier during World War I. He confesses his feelings to a priest and then travels to Germany to find the dead soldier's family.¹⁰ The film is largely forgotten today and has not yet been released on DVD in the U.S. Yet as we examined the list of films with the most bookings in 1932 (see Table 1), we discovered *Broken Lullaby* had the longest run of any film screened in Detroit in 1932 and played at more venues and the widest range of theaters than any other film that year. It may prove impossible to determine why *Broken Lullaby* was so popular but one possibility may be found in the subject matter and the connection to the local population. At the time Detroit had a large German population. According to the 1930 census, of the 1.57 million Detroiters, 32,716 were foreign-born white from Germany, and another 93,999 native white with foreign or mixed parentage including Germany, and totaling 8.1% of all Detroiters. Of the countries of origin or parentage listed in the 1930 Census, only Poland and Canada are represented in larger numbers than Germany.¹¹ Detroit had not yet been tracted in 1930, so the first available sub-city geographies come from the 1940 census. Data for the number of indi-

viduals born in the United States and of German or Austrian parentage is not available by census tract for 1940. Figure 2 shows a map of census tracts with the foreign-born population likely to speak German, those from Germany and Austria, overlaid by the theaters showing *Broken Lullaby* in 1932, symbolized by number of seats in the theater, with the boundary of modern-day Detroit overlaid.¹²

TABLE 1
Feature Films Booked At Least 25 Times in 1932 and Advertised in The Detroit Free Press

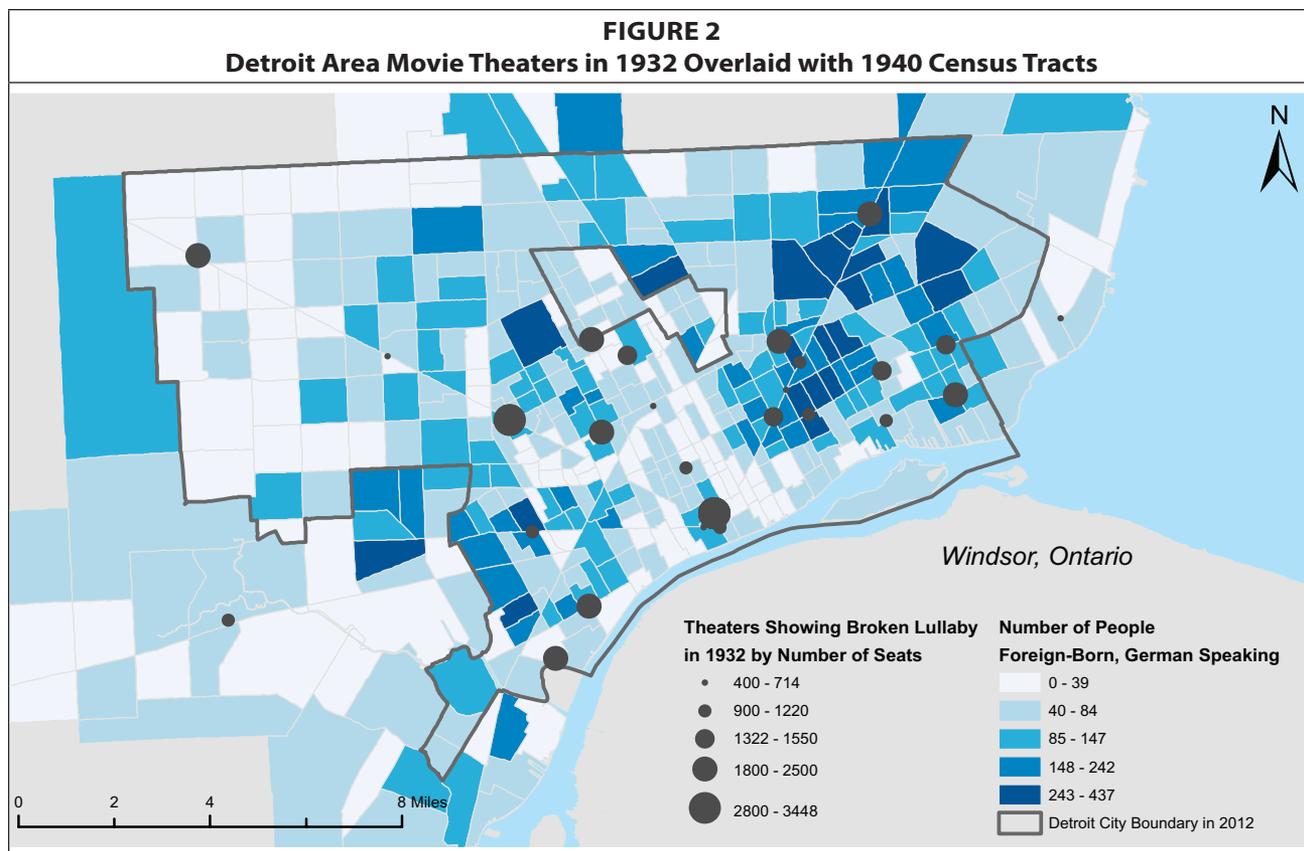
Feature Film Title	# of Bookings
Broken Lullaby	33
Wayward	32
Two Kinds of Women	31
Husband's Holiday	30
Behind the Mask	29
Lady & Gent	29
Attorney for the Defense	28
Million Dollar Legs	28
Gay Caballero	27
Scarface	27
Thunder Below	27
Working Girls	27
Cheat	26
Dancers in the Dark	26
Greeks Had a Word for Them	26
Misleading Lady	26
This is the Night	26
What Price Hollywood	26
Wiser Sex	26
By Whose Hand?	25
Congorilla	25
Dr. Jekyll and Mr. Hyde	25
False Madonna	25
Horse Feathers	25
Man From Yesterday	25
Sinners in the Sun	25
Sooky	25
Tenderfoot	25
Tip Off	25
War Correspondent	25

Pedagogical Implications

The future effects of this project are difficult to gauge and its impact is hard to predict, but the initial use of it has already yielded promising results. One example of its efficacy for pedagogy has already been demonstrated. University of Michigan Screen Arts & Cultures professor Matthew Solomon required students to use our project for his course on film history from 1930-1960. Students picked one film from a list of 40 titles we provided and traced when and where it played in Detroit. They were instructed to use outside sources such as ProQuest's *Historical Newspapers* databases to see how the film was received and screened in other cities such as New York and Los Angeles, and were directed to create an exhibition history of the film. The results were amazing. One student chose Soviet director Sergei Eisenstein's first sound film, *Alexander Nevsky*. The film opened in Detroit on May 6, 1939 at the *Cinema*, an intimate Spanish revival-style theater and the smallest theater in the city with only 600 seats. In unpacking the exhibition of this film, the student discovered that the theater, previously called

The Little Cinema, was part of an informal national "chain" of theaters that comprised "the Little Theater Movement." He discovered that Detroit was one of several U.S. cities to participate in this movement to bring to America films that were not part of the Hollywood system but instead strived to be more personal in style and aimed to achieve something akin to the fine arts. These theaters, according to librarian Tony Guzman, "catered to an educated, often wealthy audience comprised of the cultural and intellectual elite as well as the radical left that were alienated by Hollywood."¹³ The student was able to trace the other films that screened in this theater and observed that for many years a majority of the films were primarily operetta type films from Germany or Austria. This will be one of our key research questions developed as we compile more data: How did Detroit factor into the exhibition of foreign films and what is the relationship between the origin of these films and the ethnic population of the city? Did more Polish language films play in 1930s Detroit based on the fact that Detroit had a large Polish speaking population?

FIGURE 2
Detroit Area Movie Theaters in 1932 Overlaid with 1940 Census Tracts



Another student commented that this assignment for the first time provided her with the opportunity to impart her own judgments upon data and forced her to reach her own conclusions rather than merely summarizing someone else's research. She chose the film *Freaks*, and discovered that the film had an extremely short run in Detroit which belies its present day reputation as a canonical horror film. In reconstructing its exhibition history, she discovered that the film opened in Detroit prior to its premiere in New York on July 8, 1932. Her research showed how a very long *New York Times* piece by critic Vincent Canby, published in 1970,¹⁴ may have impacted the present day appreciation of the film and influenced cinephiles and scholars to reconsider the merits of the film previously dismissed by its original audiences decades earlier.

Collaboration and the Research Process

We could not have embarked on this project without existing relationships and also the funding opportunity that spurred us into transforming this from idea into action. Seed funding for this project came from the University of Michigan Library's Research and Creative Projects Fund. The most abstract goal of our project has been to watch ourselves as we collaborate across disciplines and let this experience impact our public service work as librarians.

Historically academic collaborative research projects have been limited primarily to the life and social sciences. According to Emory University biologist Leslie Real, "among scientists, collaboration is a way of life, and we seldom reflect on collaboration as an activity within our everyday professional lives. It is like breathing."¹⁵ Ask a humanist how often he or she has collaborated on a research project and you will get a very different response. As noted Princeton University history professor Stan Katz points out, the stereotype is that humanist scholars "are necessarily, inevitably, loners—that they work in splendid isolation."¹⁶ To succeed, he adds, "their requirements are minimal: good libraries, paper for taking notes and modest research funds for travel."¹⁷ Their natural and social scientist colleagues, on the other hand, take a different approach. Katz observes the conventional stereotype concerning scientists is that they "are not very dependent upon books and serials, require expensive computing equipment and support, work in groups, and live in a preprint communication world,

in which the final form of scholarly communication has mainly an archival function."¹⁸

Our project straddles these worlds. We are working as a team, relying upon books and serials, networked computing environments, data schemas, and the narrative of Detroit. In learning to work together, our conversations are sometimes more polarized, where one person focuses on structure and process, the other on narrative and nuance of context. But slowly we are picking up each other's ways of thinking, which expands our vocabulary of approaches to scholarship. Collaboration is not without its challenges. Sometimes we are pigeon-holed into roles as storyteller or technician, and have to work to pull ourselves and each other into a more holistic mode in which we acknowledge and make effective use of these new languages we are learning. We are constructing histories, capturing structured data, and allowing these two activities to affect one another and create a new story or revise the existing story. The students who do data entry for us and the students who are impacted through coursework are similarly affected. By making our data publicly available, we can further impact the research enterprise both through the data itself and the example it contributes to digital humanities collections.

These initial successes have confirmed the promise of our project and are motivating us to proceed. Once we have completed the data entry for the 1930s, we will post the data online in order to share what we have learned thus far and generate interest from others. Upon completion of the 1930s we will have a solid body of data so that we can continue the process of running analysis and determining exhibition patterns. Future paths for the project could include continuing with the same process or developing crowdsourcing techniques or something else we have not yet dreamt up, but repeating for future decades and other cities.

The advent of Web 2.0 information technologies and social media over the last decade and a half has created a new landscape of learning, teaching, and research approaches and opportunities for scholars of all disciplines. Networked digital environments are pushing traditionally isolated humanists to consider a community based approach to their own work instead of the single author model where scholars work alone, ensconced in their individual pursuits. Librarians have long been cast in a supporting, more reactive, role for humanities research, but the collabora-

tive nature of 21st Century technology is positioning information specialists in a new arena as well. In addition to searching, organizing, collecting and preserving information, librarians are now poised to engage with and initiate such projects, transform scholarly communication and effect change, and in the process create new opportunities for the research enterprise.

Notes

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