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Two Cities, Five Industries: Similarities and Differences within and between Cultural Industries in New York and Los Angeles

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Abstract

Recent work has pointed towards the possibility that industries are not tied to their specific urban location as much as to their linkages with particular types of infrastructure and to their social and economic networks. Industries have similar clustering patterns even in very different cities. Using Bureau of Labor Statistics data, we conducted geographic information systems (GIS) analysis to compare cultural industries in Los Angeles and New York City, two cities with very different types of geography and urban environments. Two distinct findings emerged: (1) when cultural industries are disaggregated into distinct industrial subsectors (art, fashion, music, design), important differences among them emerge; and (2) cultural industries "behave" similarly in each city because their subsectors tend to colocate (e.g., art with design; music with film) in similar ways, and this colocation pattern remains consistent in both locations. Such notable clustering tendencies of cultural industries help inform future research and further enlighten our understanding of their location patterns.

Keywords

cultural industries, GIS analysis, economic development, Los Angeles, New York City

Planners and geographers have long been interested in how space (and place) impacts economic functions and vice versa (Massey 1984; Piore and Sable 1984; Storper 1997). It has long been assumed that geography shapes industrial dynamics. Yet recent work has pointed towards the possibility that industries are not tied to particular locations as much as to their distinct linkages with particular types of infrastructure and their social and economic networks (Saxenian 1994; Porter 1998). Industries have similar clustering patterns even in cities that have very diverse overall typologies (Currid and Connelly 2008).

Such relationships are particularly clear in the spatial patterns of artistic and cultural industries. Recent work emphasizes that cultural industries exhibit intense concentration patterns in a handful of metropolitan areas (Rantisi 2004; Scott 2005; Currid and Connelly 2008). While some work on arts and culture indicates that different metro areas possess different degrees of and specialty in the arts, cultural industries and producers still tend to cluster in close proximity to one another (Markusen and King 2003; Markusen and Schrock 2006a, 2006b; Currid 2006).

The patterns of cultural industry clustering and location have become increasingly significant in economic development literature and practice, as arts and culture have become central players in the revitalization of urban centers.

Yet despite the unique, taste-driven nature of cultural industries and their goods and services, like other sectors, the arts depend heavily on agglomeration and the external economies associated with high concentrations of labor pools, firms, and industry-specific resources that produce important benefits to physically "being there" (Becker 1982; Storper 1997; Porter 1998; Gertler 2003; see also Marshall [1890/1920] for his influential discussion of the benefits of agglomeration). Becker's (1982) seminal work on "art worlds" documents the way in which artists rely on codified organizational structures and networks to create, evaluate, and distribute cultural goods, a finding corroborated in subsequent work on the arts (see Faulkner and Anderson [1987], Rantisi [2004], and Currid [2007] among others). And thus, despite the current consumption oriented approach towards

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cultural planning, economic development involving the arts may be most effective if the arts are targeted like any other industry by focusing on how the industry works and organizes itself, in addition to the study of how it is consumed.

Recent work looking at the spatial patterns of cultural industries indicates that they exhibit mono-nucleated tendencies across metropolitan regions. Even in urban areas that tend to possess multinodal tendencies in other industries (e.g., finance, professional services), art and culture remain significantly clustered and concentrated in the urban core, exhibiting strong "hot" spots within the broader metropolitan area (Currid and Connelly 2008). In this article, we uncover how such clustering dynamics play out at a more micro level and compare the clustering patterns of each distinct subsector of the cultural industries. In other words, while cultural industries have been looked at as a whole sector, how do distinct industries interact similarly or dissimilarly from each other on the scale of a city neighborhood? We begin by placing cultural industries in the context of the larger literature on economic geography and agglomeration. We then outline our data and methodological approach for analyzing cultural industries in Los Angeles and New York City. We conclude with our results and their implications for research on cultural industries.

Using 2005 Bureau of Labor Statistics (BLS) firm location data at the zip code level, we have conducted geographical information systems (GIS) analysis, including spatial-autocorrelation and Pearson correlations to compare Los Angeles and New York City, two very different types of geography and urban environment that are significant centers of artistic and cultural production in the United States. Two distinct findings have emerged: (1) While in recent years cultural industries have been studied in the aggregate, when they are disaggregated into distinct industrial subsectors (art, fashion, music, design), important differences among them emerge. (2) Cultural industries "behave" similarly in each city because their subsectors tend to colocate (e.g., art with design; music with film) in similar ways, and this colocation pattern remains consistent in both locations.

Qualitative work studying the dynamics of creativity and cultural industries may inform these industrial spatial patterns (Baumol and Bowen 1965; Becker 1974; Faulkner and Anderson 1987; Florida 2002; Rantisi 2004; Scott 2005; Currid 2007). Firms and workers in the cultural sector desire dense industrial and social networks that rely on ad hoc labor pools and informal social exchanges for career mobilization. They tend to seek out and cluster around particular types of high-value infrastructure (e.g., recording studios, film sets). Due to the taste-driven nature of cultural goods and services, being in close proximity to create, evaluate, and distribute may matter more to the production chain than other industrial groups (Caves 2000; Currid 2007). We briefly discuss these attributes and consider how unpacking the spatial configurations and social and economic dynamics associated with cultural production may help inform research practices on art and culture.

Theories and Concepts

Art and Human Capital

Art and culture have long been considered a vital part of urban life. Cities are the central node for artistic expression, production, and consumption; they are the places where great orchestras play, symphony halls are built, starving (and famous) artists congregate, and world-renowned museums are situated. Yet while art and culture are positive amenities in the urban composition, certainly in the United States, they have been considered more as "extras" rather than as critical components of city development. More recently, however, the perspective has shifted, and art and culture have become key players in the economic development arms race as cities and regions seek to define their uniqueness and "distinction" (Markusen 2006b) and attract high-skilled human capital (Florida 2002).

This latter angle has been of particular importance as cities have evolved from being centers of manufacturing and physical production to being powered by human capital and ideas (Hoover and Vernon 1962; Bell 1973; Florida 2002; Glaeser 2003). As this line of argument goes, cities compete with one another to attract human capital and firms. Such efforts involve a broader strategy of amenity building (Clark 2004) and consumption-driven development, which is argued to be significant in the location decisions of high-skilled human capital (Brooks 2000; Florida 2002). Glaeser, Kolko, and Saiz (2001) found that cities that possess greater levels of amenities grow faster and are more productive than those possessing fewer amenities. Clark (2004) argues that not only are amenities significant in attracting human capital but specific types of amenities are of interest to different kinds of human capital.

Art as Development Tool: Benefits and Backlash

As a result, economic development strategies have increasingly sought to cultivate quality-of-life initiatives, in which art and culture play a significant role (Fainstein 2001). With regard to the arts, strategies appear to fall into two distinct categories: (1) constructed art and culture institution building (Russell 1999; Strom 2002; Plaza 2006; Smothers 2006; Wakin 2006; Grodach and Loukaitou-Sideris 2007) and (2) cultivation of local cultural "authenticity." It should be noted that both types of initiatives also have the spillover effect (sometimes intentional and sometimes not) of tourism generation and gentrification (Sorkin 1992; Judd and Fainstein 1999; Stern 2002; Evans 2003).[1]

Much of economic development's focus on art and culture has been targeted toward consumers and market interests, as opposed to the immediate needs of the industries, particularly

because as Mommaas (2004) articulates, cultural production has become increasingly aligned with the market**.** Undoubtedly, artists have long received housing subsidies and the film industry receives tax breaks, for example, New York City's artists-in-residence program, which rezones manufacturing areas as artists' work-live spaces. Yet in terms of general economic development, art and culture are much less likely to be the recipients of conventional industrial policy and more likely to be incorporated into strategies for local and tourist consumption. Part of this has to do with the hybrid and unique position that the arts occupy in urban economies. At once the arts produce goods and services that can be produced and distributed on a global marketplace while also being locally consumed (Pratt 1997; McCarthy 2006). There is also the almost intangible attraction of the arts as a desirable neighborhood or city attribute (as Florida [2002] points out, inhabitants seek to be near the arts even if they choose not to actually consume them). Certainly, in this respect, law and financial firms do not have quite the same appeal. Thus, economic development of the arts tends to wrestle with the tension between the arts as targets of economic development in their own right (similar to finance or biotechnology) or whether the arts should be cultivated as an ancillary actor to attract firms and human capital. Certainly, the latter approach has been adopted more ubiquitously, in part because development of cultural amenities has been hailed (and criticized) as being perceived as a magic, cost-effective elixir of urban blight and attractor of the "creative class" (see for example Florida 2002; but also Peck 2005; Kotkin 2006; Markusen et al. 2006; Trip 2007).

But there is reason to believe that the rationale behind making the arts targets of economic development needs to be reexamined, or at least expanded. First, there has been significant research outlining the notable economic impact of the arts with regards to generating revenue, jobs, and competitive advantage (Markusen and Schrock 2006a, 2006b; Currid 2006; Alliance for the Arts 2007; Otis College of Arts and Design and the Los Angeles Economic Development Corporation 2007). Second, recent work studying cultural industries indicates that their location decisions are reflective of a desire to cluster with likeminded firms, in places that offer thick labor markets and the ability to cross-fertilize with other cultural fields, and in places with other industries that may seek out artistic skills on an ad hoc basis (Caves 2000; Markusen and King 2003; Rantisi 2004; Scott 2005; Currid 2007). Thus, art and culture sectors reflect the same economic dynamics that have been observed in other industries, particularly the desire to cluster firms, labor, and other forms of capital (Saxenian 1994; Storper 1997; Porter 1998).

Industrial Clustering and Development

Clustering has long been understood as a central part of economic development. The concentration of firms (and related industries) has the potential to produce what Castells and Hall (1994) call "perpetual innovation," resulting in new divisions of labor, additional revenue streams, and increased productivity (for a more detailed account of the agglomeration literature, please see Marshall 1890/1920; Piore and Sabel 1984; Storper 1997, Scott 1993; Porter 1998; Martin 1999). Several significant benefits outlined in the literature are the ease of buy-sell relationships (Hill and Brennan 2000; Thompson 1965); the ability for firms to diffuse innovation risk by sharing infrastructure, technology, research and development, responsibilities and resources (Jacobs 1969; Piore and Sabel 1984; Saxenian 1994); along with firms' being able to act as support systems for one another, as Sassen (1991) puts forth in the case of high-level producer services and finance in "global cities." In addition to these more tangible and physical benefits, other scholars have noted the "tacit" and "uncodified" benefits to colocation and their impact on economic development (Porter 1998; Gertler 2003) or what Storper and Venables (2004) call "buzz."

More recently, research on industrial clustering has sought to articulate the precise dynamics and patterns of industrial geography and location. Audretsch and Feldman (1996) argue that industries tend to spatially concentrate their innovation practices in different locations from their production processes (and that innovation activities must be concentrated to maximize benefits), a result that Massey (1984) also found in her study of the electronics and automobile industries. Saxenian (1994) documents the way in which Silicon Valley was able to produce rapid innovations through the geographic linkages between the labor pools generated from Stanford University, the financial resources of San Francisco, and the entrepreneurial startups emerging from San Jose. Porter (1998) notes similar geographic-dependent industrial clusters in his now seminal study of the northern California wine industry.

Cultural industries may require more concentration for their economic and social transactions (Banks et al. 2000). Rantisi (2004) observes similar types of colocation in her study of New York City's cultural industries, but she also noted linkages between the major art and design institutes, the fashion industry's Seventh Avenue (and the establishment of the Museum of Modern Art and the Metropolitan Museum of Art), and the subsequent clustering of fashion and art media, the latter being a significant conduit in cultivating the "New York brand." These developments solidified the city's position as one of the world's leading centers of artistic production. Molotch (1996, 2002, 2003) argues that the agglomeration of innovation and production processes within one geography generates place-based reputation or "place in product." This dynamic has pronounced implications for development: cultivating this reputation enables one place to gain advantage in production (and selling) of a particular good (e.g., wine, art, designer shoes)

over other places specifically because it was produced in that place. Unique to cultural industries is the need to locate near gatekeepers, generate geographic branding, and establish artistic distinction over other goods (Scott 1996; Power and Scott 2004). Furthermore, cultural goods are simultaneously produced and consumed at the same time, and thus their production and consumption often occurs in the same locale (Crew and Beaverstock 1998).

As such, economic development of the arts may be particularly effective if it focuses on unpacking the industry (production) dynamics so central to their economic and social behavior. To establish effective economic development, understanding the clustering patterns of arts and culture is an important first step. Currid and Connelly's (2008) study of "advanced services" highlights the distinctly different types of industrial clustering that finance, professional services, and the arts have across different metropolitan areas, indicating that economic development ought to be both sector- and place-specific and that previous conceptions of clustering may in fact be inaccurate and policy thus less effective (e.g., contrary to our anecdotal evidence of finance's central city clustering, the industry actually tends to have many different nodes throughout a region, which may explain why tax breaks to keep financial firms in the central city are unsuccessful).

In this article, we seek to look at how the location patterns of cultural industries may help inform economic development. Particularly, we build on previous work studying spatial patterns on a macro level and the qualitative research conducted on the social and economic attributes of cultural industries, both of which have been documented above. Merging these two streams of research, we look at the micro- and neighborhood-level clustering patterns of cultural industries in Los Angeles and New York City, two cities that are simultaneously the most concentrated centers of artistic activity in the United States (Markusen and Schrock 2006b; Currid 2006) and also paradoxically exhibit opposing urban and spatial configurations (e.g., Los Angeles's sprawl, large geography, and automobile-dominated metropolis versus New York's density and public-transit-oriented emphasis). We seek to understand some basic tenets of cultural industry clustering that we hope will inform future research and economic development policy towards the arts.

Data and Methods

Previous research has begun to tease out the aggregate spatial dynamics of cultural industry firm location patterns. To understand these spatial patterns, this study broke the industry data down in two ways: (1) by cultural industry sector: disaggregating cultural industry firm counts into their respective subsectors (e.g., fashion, art, music, film, design, performing arts); and (2) by scale: looking at these cultural industry subsectors on a more fine-grained geographical scale, using zip codes as a proxy for neighborhood rather than community districts, which are often too large to allow for interpretation of local patterns. We believe analyzing cultural industries as subsectors might illustrate and further explain the overarching mono-nodal clustering patterns. Focusing on two distinctive cities was an important approach for this study because it would allow for a more detailed analysis of how arts industries operate given each city's unique spatial dynamics. We chose Los Angeles and New York City because they are both important centers of artistic and cultural activity in the United States (Markusen and Schrock 2006a; Currid 2006) and yet exhibit distinctly different spatial, political, urban, and geographic configurations. Looking at these two cities enabled us to study whether cultural industry clustering is a function of unique place-specific spatial conditions or a function of larger industrial socioeconomic dynamics that manifest despite differences in place.

Given the interest in understanding local relationships of the art and culture industries, we chose zip code level data as a proxy for measuring industrial clustering at the neighborhood scale. While zip codes are not a perfect match to neighborhood boundaries, in most cities they are a good proxy for local analysis. We used spatial statistics to determine the extent to which the different subsectors of cultural industries cluster overall (global Moran's I stat) and then to identify particular "hot spots" (Getis-Ord or G*i Stat), or localities in which there was a significantly higher presence of a particular industry subsector. Spatial correlation tests, using the Pearson correlation method, were used to analyze the interplay of the arts and culture industries by measuring whether the industry subsectors tended to colocate. The scale of the analysis, both geographically and in terms of the industry variables, allowed for a neighborhood level investigation, where localities within each city were identified as having high concentrations of particular arts and culture industry subsectors.

Geographic and Industry Focus: Los Angeles and New York Cultural Industries

We chose to look more closely at the arts and culture industries in New York and Los Angeles because of these cities' similarities and differences. Both cities are known for their arts-based economies, yet the manifestation of the two industries are different. L.A. is dominated by film and music, and New York is dominated by art and design (Markusen and Schrock 2006a; Currid 2006). Both cities also have similar mono-nodal clustering tendencies with the arts and culture industries yet exhibit very different urban forms and disparate regional clustering patterns in their other industries—with New York being mono-nodal and L.A. being multinodal (Currid and Connelly 2008). These two cities' similar distribution of the arts industries on a macro scale, coupled with their distinctly opposing spatial configurations (urban form), made these two cases a useful tool for

understanding what local or economic conditions might cause art and culture industry subsectors to exhibit similar clustering patterns despite their different urban configurations. In this analysis, we were particularly interested in the central-city clustering patterns exhibited in New York and Los Angeles as opposed to a metropolitan regional expression of these patterns.

Spatial Statistics Employed

After collecting 2005 industry firm location data from BLS at the zip code level, we analyzed the industry codes and identified those industries relating to art and culture. Table 1 illustrates how we broke down industry codes for each arts industry subsector.[2]

We used the global Moran's I statistical tests to determine whether spatial autocorrelation (clustering) occurs based on feature locations and attributes. The result explains the level of clustering, dispersion, or random nature of the data.[3] Based on a fixed Euclidian distance of ten miles for both New York City and Los Angeles County, the results of the Moran's I show that spatial clustering occurred for most arts industry subsectors (see Table 2).[4] While both cities exhibit clustering tendencies with statistical significance, the Moran's I values show that these tendencies are weaker in New York City than Los Angeles. This result indicates that Los Angeles exhibits greater tendency for arts and culture subsectors to cluster (except in the fashion and music subsector). While the degree to which arts and culture "global" clustering varies, this study set out to understand the "localized" nature of the arts and culture firm locations. Therefore, we continued with the Getis-Ord, G*i, more commonly referred to as the hot-spot statistics, to look at the more localized spatial clustering patterns.[5]

After performing the Getis-Ord analysis,[6] we identified the neighborhoods in which hot spots existed (Table 3), and the identification highlighted that particular industry subsectors had tendencies to colocate (Table 4). For example, in Los Angeles, the neighborhoods identified as highly concentrated for music were also high for film. Patterns began to emerge from the neighborhood identification suggesting a spatial relationship between hot spots and different arts industries. To determine whether this colocation was significant, a Pearson's correlation test was performed to identify the relationship between the subsector hot spots.[7]

The analysis showed that specific industry subtypes operated in very similar ways in both cities. Arts industries that colocated in New York also did so in Los Angeles, highlighting the fact that the industries operate in similar ways regardless of the spatial configuration. These cross-comparisons also looked more closely at the localities themselves to compare physical and social elements that might have contributed towards their identification as industry hot spots.

Table 1. Distribution of Firm Type by Sector (with Associated NAICS Code)

NAICS code	Code description
Art	
712110	Museums
611610	Fine Art Schools
453920	Art Dealers
541922	Commercial Photography
Design	
541310	Architectural Services
541320	Landscape Architectural Services
541410	Interior Design Services
541420	Industrial Design Services
541430	Graphic Design Services
Fashion	
541490	Other Specialized Design Services Includes: Clothing Design Services Costume Design Services Fashion Designer Services Float Design Services Fur Design Services Jewelry Design Services Shoe Design Services Textile Design Services
Music	
711130	Musical Groups and Artists
512210	Record Production
512220	Integrated Record Production/Distribution
512230	Music Publishers
512240	Sound Recording Studios
Performing Arts	
711110	Theater Companies and Dinner Theaters
711120	Dance Companies
711190	Other Performing Arts Companies
Film	
512110	Motion Picture and Video Production
512191	Tele-Production and Other Postproduction Services
512199	Other Motion Picture and Video Industries
Independent Artist	
711510	Independent Artists, Writers, and Performers

Source: Bureau of Labor Statistics firm location data, 2005.
NAICS = North American Industry Classification System.

Results: Neighborhoods and Cultural Industry Clustering

Cultural industries tend to cluster in central locations within Los Angeles and New York City. This finding corroborates previous research on the concentration of cultural industry activities in U.S. metropolitan regions (Markusen and Schrock 2006a; Currid 2006; Currid and Connelly 2008) and also work done on cultural industries in the United Kingdom (Pratt 1997; McCarthy 2006) and the Netherlands (Mommaas 2004). When cultural industries are disaggregated into subsectors,

Table 2. Moran's I Statistical Score by Cultural Industry Subsector

	New York		Los Angeles County	
Art industry	Moran's I value	Z-score (Moran's I)	Moran's I value	Z-score (Moran's I)
Music	0.02	4.70	0.06	18.75
Film	0.03	6.69	0.34	36.92
Design	0.03	5.48	0.21	23.18
Art	0.02	4.42	0.29	31.49
Performing art	0.01	3.45	0.28	30.81
Fashion	0.01	3.11	0.09	8.09

Source: Bureau of Labor Statistics firm location data, 2005.
Note: The z-scores establish that there is a 99 percent confidence level that clustering in these industry subsectors did not happen by random chance.

Table 3. Neighborhoods Exhibiting High "Hot Spot" Values (G*i z-scores)

Art industry	New York	Los Angeles
Music	8.50—Midtown	8.30—West Hollywood & Encino
Film	4.97—Chelsea	5.80—Encino
Design	6.64—Chelsea	5.30—Santa Monica
Art	6.21—Chelsea	7.02—Santa Monica
Performing arts	10.66—Clinton	7.22—Beverly Hills
Fashion	10.68—Clinton	8.70—Fashion District

Source: Bureau of Labor Statistics firm location data, 2005.
Note: All values exhibit a 99 percent confidence that a particular industry clusters in that neighborhood. Please see Appendix for values of the top five neighborhoods for each industry subtype.

Table 4. Los Angeles County: Cultural Industry Subsector Hot Spots (Pearson's Correlation Coefficient)

	Art	Design	Performing arts	Music	Film	Fashion
Art	1.000	0.781	0.505	0.501	0.645	0.294
Design	0.780	1.000	0.545	0.534	0.687	0.362
Fashion	0.294	0.362	0.302	0.231	0.298	1.000
Film	0.645	0.687	0.847	0.901	1.000	0.298
Music	0.501	0.534	0.863	1.000	0.901	0.231
Performing arts	0.505	0.545	1.000	0.863	0.847	0.302

Source: Bureau of Labor Statistics firm location data, 2005.
Note: All values represent a 95 percent confidence that the occurrence of the two arts industry subsectors did not happen by random chance.

however, discrete patterns are exposed. In particular, the following findings emerge: (1) The distinct cultural subsectors of fashion, art, film, music, design, and performing arts produce different geographic clustering patterns from one another. (2) These distinct clustering patterns appear similar in Los Angeles and New York City because the hot spots of the cultural industry subsectors tend to colocate in similar ways in both cities. We will discuss these in turn.

Table 5. New York City: Cultural Industry Subsector Hot Spots (Pearson's Correlation Results)

	Art	Design	Performing arts	Music	Film	Fashion
Art	1.00	0.761	0.394	0.587	0.805	0.518
Design	0.76	1.000	0.382	0.579	0.790	0.653
Fashion	0.52	0.653	0.487	0.404	0.566	1.000
Film	0.81	0.790	0.697	0.854	1.000	0.566
Music	0.59	0.579	0.767	1.000	0.854	0.404
Performing arts	0.39	0.382	1.000	0.767	0.697	0.487

Source: Bureau of Labor Statistics firm location data, 2005.
Note: All values represent a 95 percent confidence that the occurrence of the two arts industry subsectors did not happen by random chance.

The Geography of Culture: Different Industries, Different Patterns

While all cultural industries subsectors tend to exhibit concentrated spatial patterns, this concentration varies both in degree and number of industrial nodes throughout the city. Overall, both New York and Los Angeles possess neighborhoods that are particularly endowed in cultural industry concentration. Within Los Angeles, Beverly Hills, Santa Monica, and West Hollywood have the greatest number of high concentrations of cultural industries. In New York City, Midtown on the west side, Chelsea, and Soho are the most concentrated cultural neighborhoods (See Table 3).

We believe there are two plausible explanations (both of which will be discussed in more detail later). First, unlike other postindustrial, high-skilled industries, cultural industries require an immediate consumer base, which means that they tend to locate where demand is concentrated. Thus, cultural production and consumption often occur simultaneously. Consumers of cultural goods tend to be those possessing enough disposable income that they are able to purchase "postscarcity" goods (Inglehart 2000), such as the arts. Thus, neighborhoods possessing high concentrations of cultural activity are also neighborhoods with high-income residents.[8] Second, cultural industries also seek out particular types of infrastructure that enable them to "produce" their art, which includes concert halls, theaters, museums, and so forth. As such, cultural industries tend to locate in places where cultural performance infrastructures are also present, the latter again being located in neighborhoods where demand for their goods and services is high. Beyond the global clustering patterns highlighted by the Moran's I test, each industry subsector exhibits its own unique clustering tendencies. The spatial colocation of these subsector clusters are similar in Los Angeles and New York.

Music, art, and film produce similar types of industrial clustering patterns, though these patterns do not necessarily show up in the same neighborhoods. All of these industries

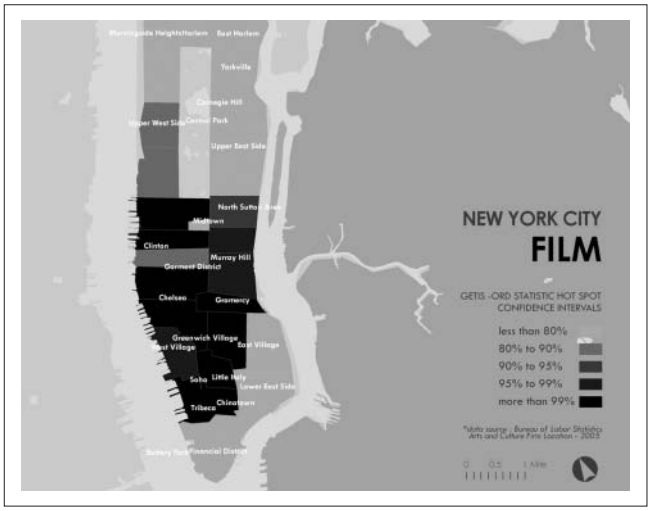

Figure 1. New York City film industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

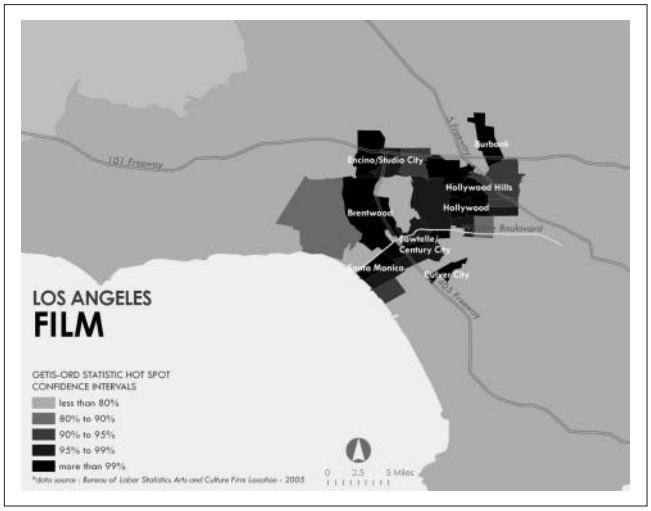

Figure 2. Los Angeles film industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

Figure 3. New York City fashion industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

tend to produce two large nodes of concentration that encompass several congruent zip codes. For example, Los Angeles's film industry exhibits a dual-nodal clustering pattern that shows up in two distinct zip code clusters: the west side of Los Angeles and the San Fernando Valley (e.g., "the Valley"), which includes Burbank and Encino (see Figure 2). Again, in New York City, the film industry has two distinct nodes (Midtown and Chelsea), and each of these clusters is large, representing two zip codes and several Manhattan neighborhoods (see Figure 1). While in both cities the film industry locates in just two nodes, these centers spill over into several different neighborhoods (e.g., zip codes), creating large industrial districts. Overall, these industries exhibit the need to be around a consumer base and high-value infrastructure necessary to their cultural production (e.g., stages, music halls, recording studios, and galleries). For example, New York's Midtown is home to some of the most significant cultural infrastructures in the city (e.g., Carnegie Hall, Broadway Theaters, and Lincoln Center) and is the most concentrated center of music and performing arts activities. These clustering patterns also demonstrate the evolution of the industry over time and its migration towards other parts of the city that are able to facilitate cultural production. Case in point: as has long been documented, New York City's arts district was initially in Soho as a result of the abundant and inexpensive warehouse space left over from the manufacturing industry. Artists flocked to this infrastructure as it offered the ample space they needed to do their work (Zukin 1989; Molotch 2007). Later, as the price of real estate increased, artists moved northwest (but not too far away) to Chelsea, which also offered copious amounts of old manufacturing space that could be converted into studios and galleries. Los Angeles's film industry, once dominating the west side of the city, moved to the Valley in part as a result of needing more space.[9] The San Fernando Valley has long been an instrumental part of the Los Angeles region's economy, while still being less cost-prohibitive than Los Angeles's other districts.

Design and fashion exhibit converse clustering patterns that capture more extreme types of clustering behavior than exhibited by music, film, or art. Fashion is mono-nucleated in New York City and has three small nodes in Los Angeles; in both cities these centers are represented by a much smaller geography (e.g., only one zip code per node) than other cultural industries. In New York City, fashion's only hot spot resides in the Clinton zip code that is a part of the city's

Figure 4. Los Angeles fashion industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

Figure 5. New York City design industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

historical Garment District area (see Figure 3). In Los Angeles, while the fashion industry is both in the west side neighborhoods of West Hollywood and Beverly Hills and also in the downtown Fashion District, both nodes are remarkably small in comparison to the other studied industries (see Figure 4). We believe fashion has a unique clustering pattern due to its hybrid position as an art form but also a commodity with a traditional production process. At the same time, clothing design and production tends to tie into manufacturing, and thus, even though much of "fashion" is more design-driven in both cities, the heritage of the Garment District in Manhattan and downtown Los Angeles as a manufacturing centers remains. Furthermore, while New York's fashion manufacturing is almost nonexistent (and replaced by high-end fashion design studios), Los Angeles is still a notable center of clothing manufacturing, much of which is produced in downtown Los Angeles (Otis College of Arts and Design and the Los Angeles Economic Development Corporation 2007).

If fashion represents the most concentrated type of cultural industry, design is certainly the most ubiquitous. Design industry in both New York City and Los Angeles tends to locate not just in multiple nodes but also across vast swaths of the cities' geographies. While most of its industrial activity can be found in the mid to lower part of Manhattan (as is, indeed, the case with all of the cultural industries), design's presence is pronounced in zip codes that also spill east to west from Murray Hill to the Garment District (see Figure 5). Similarly, in Los Angeles, while design does not appear significantly concentrated in the Valley, its presence can be found in neighborhoods stretching all the way west from Venice Beach into east side neighborhoods such as Pasadena (see Figure 6). We believe that the ever-present clustering of the design industry is a function of the universal need for

Figure 6. Los Angeles design industry hot spot map
Source: Bureau of Labor Statistics firm location data, 2005.

design skills in many different industries and reflects residential demand. Furthermore, while design firms certainly need studios and infrastructure to do their work, a significant part of design is contract work, whereby a design firm (or designer) works on a site-specific project, which both allows and encourages design industry clustering in multiple neighborhoods where its services would be in demand.

Colocation of Cultural Industries

On a general level, cultural industries tend to cluster in the same neighborhoods, and this can be explained by both demand and supply factors. Anecdotally we observe that certain neighborhoods are "hip" or "hot," and often part of these

districts' appeal are their abundance of cultural consumption from music venues to art galleries. Part of this trend is a result of the shared need to locate near a cultural consumer base, and likely those who go to the theater may also be inclined to visit galleries, attend the opera, and so forth—what Clark (2004) has called the "city as entertainment machine."

Overall, we find that cultural industry subsectors exhibit statistically significant colocation patterns (see Tables 4 and 5). The cultural industry subsectors with strong geographic correlations are performing arts and music, music and film, art and design, and art and film, all of which have correlations greater than .75 (see Tables 4 and 5). We believe there are strong social and economic explanations for these relationships, many of which have been qualitatively reported in the literature.[10] Design and art, music and film, and performing arts and music are the most salient linkages. Each of these sectors tends to borrow and exchange skills from their colocating counterpart. Performing arts and music are at times interchangeable (one could easily argue that music is a performing art), and performing arts (like film) needs music in many forms of its production. Design and art not only share skills, but design is often considered art. Artists unable to make a living solely in fine arts often use their skills to work in design firms, and there is an increasing trend towards more design-oriented art forms that can be more easily commodified (Currid 2007). More broadly, these relationships indicate the cross-fertilization of skill sets in cultural industries—what Markusen et al. (2006) have called "crossover" and Currid (2007) the "flexible career path." Thus, the geographical concentration of industries and labor pools both seeking and supplying artistic skills makes such exchanges far more efficient and facile.

The colocation of music and performing arts and music and film in Midtown New York may be explained by the presence of Carnegie Hall and the Lincoln Center, which are important places for musical, film, and performing arts events. Conversely, as fashion is unique to all other industries in its production, infrastructure needs, and relationship to the market, it does not exhibit any strong correlations with other industries, with design being its closest brethren. Again, such results make sense: of all of the industries, design by far is the most like fashion in its production and market dynamics. Both industries are fundamentally market-driven (as opposed to "art for art's sake"; Bourdieu 1993), and both produce physical, tangible goods for the most part.

Implications for the Study of Cultural Industries

We believe that these results provide some significant implications for economic development and policy. Particularly, these implications give us new directions for how to form development policies targeted both at geography and industry.

In recent years, researchers have become particularly focused on the importance of the arts in the revitalization of blighted and depressed areas, luring of high-end labor pools and firms, and generation of tourism revenue. Many of the efforts resulting from such research implicitly (if not explicitly) are aimed at boosting consumer demand, drawing well-heeled and highly skilled residents, and facilitating the marketplace. Arts-oriented economic development often comes in the forms of tax breaks for film, subsidies for artists' dwellings, and grants for public art. While such approaches are significant, our research indicates that both policy and future research ought to focus on the central means by which cultural industries organize themselves and their production processes, how this organization is reflected spatially, and how they impact the neighborhoods and cities in which these industries set up shop.

Such analysis has been done on cultural industries in general and their impact on the region as a whole. Yet as this article demonstrates, when cultural industries are disaggregated and looked at on a micro-level, their industrial organization and clustering patterns are quite different from each other. This sheds light on why economic development towards "the arts" may be less effective than policy that is directed towards each subsector and its unique industrial organization. We say this because, as long documented in the literature, the clustering of industrial activities has significant impact on the ease of knowledge transmission, access to labor markets, and ability to advance research and development efforts. In addition, Becker (1974, 1982) and later Pratt (1997) and Currid (2007) note that the arts are not produced by lone individuals but, instead, rely on a context and organization of cultural production that is significantly "embedded," to use Granovetter's (1985) term, within a social infrastructure and milieu. These industries have their own clustering patterns, much the same way finance clusters differently from law or the wine industry. Paradoxically, our work also demonstrates that certain subsectors (like music and film) appear to seek out similar types of places and spatial configurations no matter where they locate. We believe that this tendency largely has to do with these industries' unique dependency on high-value infrastructure that is necessary in the production and consumption of their goods and services.

Similarly, the significant tendency of colocation between certain subsectors suggests that some establish symbiotic relationships with each other. Such a result corroborates Pratt's (1997) Cultural Industry Production System model, whereby he posits that interaction across cultural subsectors along with maximizing links between their production processes and local tourism and development efforts can produce positive economic outcomes. On the whole, we speculate that the subsectors within cultural industries have mutually beneficial outcomes in colocating, which, as previously discussed, is an observation long documented in the qualitative research conducted on cultural industries.

We also believe that cultural industries depend significantly on an immediate consumer base, a condition unique with regard to other postindustrial sectors that often transmit their goods immediately to a global marketplace. While cultural industries also have a global market, many of them involve performance, whether gallery openings or music shows, which means they need patronage in their immediate surroundings (whether this comes in the form of local residents or a constant flow of tourists).

Finally, as place-specific as cultural production is and as different as the aesthetic of Los Angeles art is from that of New York, art and cultural subsectors tend to have consistent ways of organizing themselves. Los Angeles and New York City could not be more different in terms of their geographical size, public transportation (or lack thereof in Los Angeles), and means by which the political system is run (consider that Beverly Hills, Santa Monica, West Hollywood, and Pasadena all have their own governments, municipalities, and budgets and yet are all a part of Los Angeles County and seamlessly linked in economic, cultural, and social norms to our idea of "Los Angeles"). Those who study cultural industries may remark on the distinctly different forms of symbolic capital produced in the two cities (e.g., West Coast rap versus East Coast rap; sportswear fashion in L.A. versus prêt-a-porter in New York). Yet despite these very stark differences, cultural industries produce more or less consistent organization patterns and exhibit remarkably similar clustering and colocation characteristics in the two metropolises. We believe that these results are indicative of some of the basic properties of cultural industries, which include their need for ad hoc, instantaneous labor pools; the ways in which they cross-fertilize skills and careers in multiple sectors; and the embedded nature of their economic actions in their social institutions.

Our research demonstrates that despite the plethora of detailed place-specific research conducted on cultural industries, we can begin to draw more meta-conclusions and theories about their social and economic dynamics. Cultural industries demonstrate a remarkable ability to organize themselves similarly across place and geography, despite the fundamental uniqueness of localities. Art and culture have always been a significant part of the urban experience, but more recently their impact has been more tangible and measured in concrete economic terms. Our study of cultural industries will help inform future research and further enlighten our understanding of their location patterns.

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Appendix

Table A1. New York City Top Neighborhood Hot Spot Locations

Zip code	Approximate neighborhood description	G*i z-score[a]
Design		
10001	Chelsea	6.64
10013	Tribeca	4.77
10010	Gramcery	4.38
10003	East Village	4.24
10016	Gramercy/Murray Hill	4.02
Performing Arts		
10036	Clinton	10.66
10019	Midtown	5.20
10003	10003 Greenwich/ East Village	2.55*
10018	Clinton	2.47*
10013	SoHo/Tribeca	1.81*
Music		
10019	Midtown	8.50
10036	Clinton/Midtown	4.50
10023	Upper West Side	3.40
10010	Gramercy	2.90
10017	Midtown/Murray Hill	2.60*
Film		
10001	Chelsea	4.97
10011	Chelsea	4.67
10019	Midtown	4.62
10036	Clinton/Midtown	4.17
10012	SoHo/West Village	3.57
Fashion		
10018	Clinton	10.68
10001	Chelsea	5.09
10036	Clinton/Midtown	2.96
10011	Chelsea	2.48*
10003	East Village	1.89*
Art		
10001	Chelsea	6.21
10011	Chelsea	5.76
10021	Upper East Side	5.41
10012	Soho/West Village	5.01
10013	SoHo/Tribeca	3.94

[a]An asterisk (*) represents a 95 percent confidence that the values are not a result of random chance. Otherwise, there is a 99 percent confidence that the values were not a result of random chance.

Table A2. Los Angeles County Top Neighborhood Hot Spot Locations

Zip code	Approximate neighborhood description	G*i z-score[a]
Design		
90404	Santa Monica	5.30
90291	Venice	4.76
90069	West Hollywood	4.50
90025	Sawtelle / Westwood / West L.A.	4.00
90048	Mid-city	3.80

(continued)

Table A2. (continued)

Zip code	Approximate neighborhood description	G*i z-score[a]
Performing Arts		
90212	Beverly Hills	7.22
91436	Encino	6.74
90025	Sawtelle / Westwood / West L.A.	4.81
90067	Century City	3.85
90069	West Hollywood	3.85
Music		
91403	Encino	8.30
91436	Sherman Oaks	5.20
90025	Sawtelle / Westwood / West L.A.	4.90
90067	Century City	4.60
90069	West Hollywood	4.00
Film		
91436	Encino	5.80
90025	Sawtelle / Westwood / West L.A.	5.10
91505	Burbank	5.00
90069	West Hollywood	3.50
90049	Brentwood (small part of Bel Air and Westwood)	3.50
Fashion		
90014	Downtown / Fashion District / Wholesale District—Skid Row)	8.70
90015	Fashion District / South Part (very small part of Westlake)	8.70
90046	Hollywood Hills/ Hollywood / West Hollywood	5.30
90025	Sawtelle / Westwood / West L.A.	3.30
90048	Mid-city	2.46
Art		
90404	Santa Monica	7.02
90036	Mid-city west / (Part of Mid Wilshire)	5.40
90069	West Hollywood	5.40
90048	Mid-city	4.30
90046	Hollywood Hills / Holly Wood / West Hollywood	3.60

[a]There is a 99 percent confidence that the values were not a result of random chance.

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Notes

1. While this article will not go into detail on the topics of gentrification and tourism, please see Fainstein and Judd (1999) and Harrill (2004) for discussions on tourism development. Please see Zukin (1989) and Lloyd (2005) for discussions on the impact of arts on development and ensuing gentrification.
2. It is important to note that retail sectors of the industries were not included, as this sector would have identified the marketplace for art and culture rather than where the industry's production activities occur. This study selected only industries that substantially employed cultural workers. The six categories were titled Art, Design, Fashion, Music, Performing Arts, Film, and Independent Artist. We created our own cultural industry groupings, which at times differ from the North American Industry Classification System (NAICS) categorization, because we sought to capture all cultural industries, some of which are not coded as such in the NAICS coding system.
3. Spatial autocorrelation tells us whether there are spatial associations among geographic entities, and it helps to explain how random these connections may be. According to Harvey Miller (2004, 284), spatial autocorrelation is essentially based on Tobler's first law of geography "that everything is related to everything else, but near things are more related than distant things."
4. It should be noted that the fixed Euclidian distance was used to account for the differences in scales between the two data sets. It should also be noted that the results of the Moran's I explains whether global clustering patterns are exhibited or, in other words, whether the data set overall has similar values and they have a spatial relationship to one another. The reason that we see higher numbers in L.A. is because the variables fit throughout the ten miles. In other words, you see similar values throughout the geographic extent established. While the smaller numbers in New York explains that the variables do not fill out the complete geographic extent of ten miles, yet there is still some tendency for the data to cluster, maybe in a more localized way in that extent.
5. It is generally thought that when global spatial statistics tests like the Moran's I illustrate patterns of clustering, local statistics such as the Getis-Ord G*i can than be employed to help decipher whether the same study areas are homogeneous or contain particular locations or "hot spots." Local statistics like the Getis-Ord G*i also help to test whether the global statistic employed contained significant outliers that could skew the initial results (Rogerson 2001). Using a combination of global and local spatial statistics allows for more confidence in identifying specific clustering patterns.
6. The Getis-Ord or G*i statistic is used to determine "hot spots" or areas that have values higher than you might expect to find by random chance and outputs a *z*-score that represents the significance of clustering at a specified distance. It should be noted that G*i is also good at identifying those localities that have significantly lower values than might occur by random chance or low-spots. Low-spots tell us it is significant that a particular locality is missing a specific characteristic.
7. In this research we used the Pearson correlation with a two-tailed significance test. The results of the test illustrated the colocation of several art industries; it also identified that fashion appeared to have a weaker link to other arts industries.

8. Interestingly, such a relationship seems to challenge the conventional wisdom that artists reside in poor neighborhoods. This discrepancy can be explained by the difference between artists and art industries. The former can be freelance, unemployed, "starving artists," so to speak, while arts industries are the actual firms and establishments involved in cultural production. The former is captured by Census data, the latter by the Bureau of Labor Statistics, and they measure very different things: the individual versus the firm, which of course complicates measuring cultural activities. Please see Markusen and King (2003) for a good discussion on problems with data collection on the arts.
9. It should also be noted that the San Fernando Valley is the pornography industry's headquarters, which conflates our results somewhat. Bureau of Labor Statistics data do not make distinctions as to what type of film is being produced, and thus the Valley's film concentration is indicative of both the natural extension of Hollywood and also highlights the porn industry's concentration.
10. It is worth noting that film's correlation with most industries may also be a result of its industrial concentration in many different zips, thus skewing the results somewhat.

References

Alliance for the Arts. 2007. *Arts as an industry: Their economic impact on New York City and New York State*. New York: Alliance for the Arts.

Audretsch, D. B., and M. Feldman. 1996. R&D spillovers and the geography of innovation and production. *American Economic Review* 86 (3): 630-40.

Banks, M., A. Lovatte, J. O'Connor, and C. Raffo. 2000. Risk and trust in the cultural industries. *Geoforum* 31:453-64.

Baumol, William J., and William G. Bowen. 1965. On the performing arts: The anatomy of their economic problems. *American Economic Review* 55 (2): 495-502.

Becker, Howard. 1974. Art as collective action. *American Sociological Review* 39 (6): 767-76.

Becker, Howard. 1982. *Art worlds*. Berkeley: University of California Press.

Bell, Daniel. 1973. *The coming of post-industrial society: A venture in social forecasting*. New York: Basic Books.

Bourdieu, P. 1993. *The field of cultural production*. New York: Columbia University Press.

Brooks, David. 2000. *Bobos in paradise: The new upper class and how they got there*. New York: Simon & Schuster.

Carr, James, and Lisa Servon. 2007. Cultural authenticity and urban economic development. Presented at the ACSP Annual Meeting, Milwaukee, WI, October.

Castells, Manuel, and Peter Hall. 1994. *Technopoles of the world: The making of 21st century industrial complexes*. London: Routledge.

Caves, Richard. 2000. *Creative industries: Contracts between art and commerce*. Cambridge, MA: Harvard University Press.

Clark, Terry N. 2004. *The city as an entertainment machine*. Oxford, UK: Elsevier.

Crew, L., and J. Beaverstock. 1998. Fashioning the city: Cultures of consumption in contemporary urban spaces. *Geoforum* 29 (3): 287-308.

Currid, Elizabeth. 2006. New York as a global creative hub: A competitive analysis of four theories on world cities. *Economic Development Quarterly* 20 (4): 330-50.

Currid, Elizabeth. 2007. *The Warhol economy: How fashion, art and music drive New York City*. Princeton, NJ: Princeton University Press.

Currid, Elizabeth, and James Connelly. 2008. Patterns of knowledge: The geography of advanced services and the case of art and culture. *Annals of the Association of American Geography* 98 (2): 414-34.

Evans, Graeme. 2003. Hard-branding the cultural city—From Prado to Prada. *International Journal of Urban and Regional Research* 27 (2): 417-40.

Fainstein, Susan. 2001. *The city builders: Property development in New York and London, 1998-2000*. Lawrence: University Press of Kansas.

Fainstein, Susan, and Dennis Judd. 1999. Global forces, local strategies and urban tourism. In *The tourist city*, ed. Dennis Judd and Susan Fainstein, 1-20. New Haven, CT: Yale University Press.

Faulkner, Robert, and Andy Anderson. 1987. Short-term prospects and emerging careers: Evidence from Hollywood. *American Journal of Sociology* 92 (4): 879-909.

Florida, Richard. 2002. *The rise of the creative class: And how it's transforming work, leisure, community and everyday life*. New York: Basic Books.

Gertler, M. 2003. Tacit knowledge and the economic geography of context, or the undefinable tacitness of being (there). *Journal of Economic Geography* 3:75-99.

Glaeser, Edward. 2003. The rise of the skilled city. Working paper, Harvard University, Cambridge, MA.

Glaeser, Edward, Jed Kolko, and Albert Saiz. 2001. Consumer city. *Journal of Economic Geography* 1 (1): 27-50.

Granovetter, Mark. 1985. Economic action and social structure: The problem of embeddedness. *American Journal of Sociology* 81 (3): 481-510.

Grodach, Carl, and Anastasia Loukaitou-Sideris. 2007. Cultural development strategies and urban revitalization. *International Journal of Cultural Policy* 13 (4): 349-70.

Harrill, Rich. 2004. Residents' attitudes toward tourism development: A literature review with implications for tourism planning. *Journal of Planning Literature* 18 (3): 251-66.

Hill, Edward W., and John F. Brennan. 2007. A methodology for identifying the drivers of industrial clusters: The foundation for regional competitive advantage. *Economic Development Quarterly* 14 (1): 65-96.

Hoover, E. M., and R. Vernon. 1962. *Anatomy of a metropolis: The changing distribution of people and jobs within the New York metropolitan region*. New York: Anchor Books and Doubleday.

Inglehart, R. 2000. Globalization and post modern values. *Washington Quarterly* 23 (1): 215-28.

Jacobs, Jane. 1969. *The economy of cities*. New York: Random House.
Judd, Dennis, and Susan Fainstein. 1999. *The tourist city*. New Haven, CT: Yale University Press.
Kotkin, Joel. 2006. Urban legend. *Democracy Journal* 2 (Fall). http://www.democracyjournal.org.
Lloyd, Richard. 2005. *Neo-bohemia: Art and commerce in the postindustrial city*. New York: Routledge.
Markusen, Ann, Sam Gilmore, Amanda Johnson, Titus Levi, and Andrea Martinez. 2006. *Crossover: How artists build careers across commercial, nonprofit and community work*. Minneapolis: Project on Regional and Industrial Economics, Humphrey Institute of Public Affairs, University of Minnesota.
Markusen, Ann, and David King. 2003. *The artistic dividend: The arts' hidden contributions to regional development*. Minneapolis: Project on Regional and Industrial Economics. Humphrey Institute of Public Affairs, University of Minnesota.
Markusen, Ann, and Greg Schrock. 2006a. The artistic dividend: Urban specialization and economic development implications. *Urban Studies* 43 (10): 1661-86.
Markusen, Ann, and Greg Schrock. 2006b. The distinctive city: Divergent patterns in growth, hierarchy and specialization. *Urban Studies* 43 (8): 1301-23.
Markusen, Ann, Greg Schrock, and Martina Cameron. 2006. Urban development and the politics of a creative class: Evidence from a study of artists. *Environment and Planning A* 38:1921-40.
Marshall, A. 1890/1920. *Principles of economics*. London: Macmillan for the Royal Economic Society.
Martin, R. 1999. The new "geographical turn" in economics: Some critical reflections. *Cambridge Journal of Economics* 23:65-91.
Massey, Doreen. 1984. *Spatial divisions of labor*. New York: Methuen.
McCarthy, John. 2006. The application of policy for cultural clustering: Current practice in Scotland. *European Planning Studies* 14 (3): 397-408.
Miller, Harvey. 2004. Tobler's first law and spatial analysis. *Annals of the Association of American Geographers* 94 (2): 284-89.
Molotch, Harvey. 1996. L.A. as design product: How art works in a regional economy. In *The city: Los Angeles and urban theory at the end of the twentieth century*, ed. Allen J. Scott and Edward W. Soja. Los Angeles: University of California Press.
Molotch, Harvey. 2002. Place in product. *International Journal of Urban and Regional Research* 26 (4): 665-88.
Molotch, Harvey. 2003. *Where stuff comes from*. New York: Routledge.
Molotch, Harvey. 2007. Art in merchandise: The New York story. Presented at the American Sociological Association Annual Meeting, New York, August.
Mommaas, H. 2004. Cultural clusters and the post-industrial city: Towards the remapping of urban cultural policy. *Urban Studies* 41 (3): 507-32.
Otis College of Art and Design and Los Angeles Economic Development Corporation (LAEDC). 2007. *Report on the creative economy of the Los Angeles region*. Los Angeles: LAEDC for Otis College of Art and Design.
Peck, Jamie. 2005. Struggling with the creative class. *International Journal of Urban and Regional Research* 29 (4): 740-70.
Piore, Michael J., and Charles F. Sabel. 1984. *The second industrial divide: Possibilities for prosperity*. New York: Basic Books.
Plaza, Beatrice. 2006. The return on investment of the Guggenheim Museum Bilbao. *International Journal of Urban and Regional Research* 30 (2): 452-67.
Porter, Michael. 1998. Clusters and the new economics of competition. *Harvard Business Review* 76 (6): 77-90.
Power, D., and A. J. Scott. 2004. *Cultural industries and the production of culture*. London: Routledge.
Pratt, Andy. 1997. The cultural industries production system: A case study of employment change in Britain, 1884-91. *Environment and Planning A* 29 (11): 1953-74.
Rantisi, Norma. 2004. The ascendance of New York fashion. *International Journal of Urban and Regional Research* 28 (1): 86-107.
Rogerson, Peter A. 2001. *Statistical methods for geography*. London: Sage.
Russell, James S. 1999. Performing arts centers: Using art to revive cities. *Architectural Record* 187 (5).
Sassen, Saskia. 1991. *The Global City.* Princeton, NJ: Princeton University Press.
Saxenian, Annalee. 1994. *Regional advantage: Culture and competition in Silicon Valley and Route 128*. Cambridge, MA: Harvard University Press.
Scott, Allen. 1993. *Technopolis*. Berkeley: University of California Press.
Scott, Allen. 1996. The craft, fashion and cultural products industries of Los Angeles: Competitive dynamics and policy dilemmas in a multi-sectoral image-producing complex. *Annals of the Association of American Geographers* 86 (2): 306-23.
Scott, Allen. 2005. *Hollywood: The place, the industry*. Princeton, NJ: Princeton University Press.
Smothers, R. 2006. Arts center has a plan to help Newark revive. *New York Times*, March 16.
Sorkin, Michael. 1992. *Variations on a theme park: The new American city and the end of public space*. New York: Hill and Wage.
Stern, Michael 2002. *Performing miracles*. New York: Center for an Urban Future.
Storper, Michael. 1997. *The regional world: Territorial development in a global economy*. New York: Guilford.
Storper, M., and A. Venables. 2004. Buzz: Face-to-face contact and the urban economy. *Journal of Economic Geography* 4 (4): 351-70.
Strom, Elizabeth. 2002. Converting pork into porcelain: Cultural institutions and downtown development. *Urban Affairs Review* 38 (1): 3-21.
Thompson, Wilbur R. 1965. *A preface to urban economics*. Baltimore: Johns Hopkins Press for Resources for the Future, Inc.
Trip, Jan Jacob. 2007. Assessing quality of place: A comparative analysis of Amsterdam and Rotterdam. *Journal of Urban Affairs* 29 (5): 501-17.
Wakin, D. 2006. In cities across the United States it's raining concert halls. *New York Times*, September 3.
Zukin, Sharon. 1989. *Loft living: Culture and capital in urban change*. New Brunswick, NJ: Rutgers University Press.

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