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The geography of buzz: art, culture and the social milieu in Los Angeles and New York

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Abstract

Social scientists have long sought to understand the cultural production system. Such research elucidates the importance of the social milieu to cultural industries. We capture aggregate patterns of the social milieu and the geographical form it takes. We use a unique data set, Getty Images and geo-coded over 6000 events and 300,000 photographic images taken in Los Angeles and New York City, and conducted GIS and spatial statistics to analyze macro-geographical patterns. The five important findings include: (i) social milieus have nonrandom spatial clustering; (ii) these clustering tendencies may reinforce themselves; (iii) event enclaves demonstrate homogeneous spatial patterns across all cultural industries; (iv) the recursive nature of place branding may partially explain resulting cultural hubs; and (v) the media also clusters. These results have unintended consequences for our understanding of clustering more generally and place branding. The use of Getty data provides a new spatial dimension through which to understand cultural industries and city geographic patterns.

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1. Introduction

Social scientists have long made great efforts to understand the dynamics of the cultural production system and the basic economic principles by which 'art' is made and distributed throughout society. We have, through these many lenses, sought to capture how 'art worlds' (Becker, 1982) work.

In this process, we have become abundantly aware of the importance of the social milieu to the cultural industries. Production and supplier agglomerations matter in most industries, as do the geographical concentration of social networks—as noted most famously in Marshallian (1890) industrial districts. And while social agglomeration matters in all industries it is the *raison d'etre* of cultural goods, enabling many of the mechanisms necessary in the creation and maintenance of cultural industries (Becker, 1982; Lloyd, 2005; Currid, 2007). Because of their taste-driven nature, the social milieu plays a key role in the production, consumption and valorization of cultural goods. The social milieu establishes 'conventions' for appraising art

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(Becker, 1982), facilitates establishment of taste and genre classification (DiMaggio, 1987; Caves, 2000) and allows access to gatekeepers (Blau, 1989; Crane, 1989). Some have also noted the relationship between cultural product value and the geographical places in which they are consumed and produced (Molotch, 2002; Scott, 2005). Most fundamentally, people consume cultural goods socially. In that process they create buzz, through word of mouth and media documentation, surrounding particular types of cultural goods. This buzz motivates consumption of cultural goods and generates aesthetic and market value (Caves, 2000). For cultural industries, the social context of consumption matters as much as production.

While all agglomerations inherently rely on a closeness of production activities that enable economies of scale and efficient trading of information and resources, the social milieu requires a particular type of dense proximity. People need to be in the same geographical place, at the same time, constantly interacting. Social interaction, in other words, acts *in situ* and in real time. Implicit in this characterization is that the social milieu is dynamic (not static): it moves to different locations—depending on gallery openings, film premiers and fashion shows—and involves many different people at different points. The social milieu is always geographically and interpersonally in flux.

Such a quality makes studying the geographical form of the social milieu a virtually impossible task to perform in the aggregate. We can ethnographically observe unique art worlds, such as Wicker Park (Lloyd, 2005), British punk subculture (Hebdige, 1979), the design industry of Los Angeles (Molotch, 1996) or the neighborhoods of New York City (Currid, 2007), but these studies have the 'small number' problem. These small sample sizes can tell us a lot about a little but not a lot about a lot. They provide much information about specific places or industries but lack a comprehensive vantage point and large sample size of many different variables and locations through which we can draw general conclusion about the cultural industries across disparate geographies. Place-specific ethnographic data inherently lack a counterfactual by which to judge whether the findings are part of a larger pattern or a story about the chosen studied location. In efforts to counteract these limitations, we create theoretical frameworks for how the social world might work as a part of the cultural production system (Simmel, 1901; DiMaggio, 1987; Salganick et al., 2006), but these efforts are a few steps removed from real places and real people. Others have looked at firm and occupational data, essentially where cultural production sets up shop (Markusen and Schrock, 2006; Currid and Williams, 2008), but this approach is static and indirect. And thus, limitations to understanding cultural social milieu have always been a problem of measurement. We have not had a method for assessing the aggregate geographic form that the social milieu takes in order to understand broad patterns of cultural industry clustering, social dynamics and the implications of these behaviors on the development of the places in which they occur.

In this article we seek to capture the spatial and geographic dimensions of the social milieu associated with cultural industries using a unique data set and methodological approach that allows for large numbers of places and industries to be analyzed simultaneously. In that process we have also discovered important implications for other important lines of research inquiry. Our research has helped articulate the links between cultural industries and the media and the unintended consequences of these linkages to the development of place. Our approach is not an all encompassing analysis of cultural production, but provides a lens into commodified cultural production.

We are fully aware that our approach and data set limits us from subculture, the creative class, or Bohemia.

We have established a method by which we are able to approximate the links between the cultural industries and their social worlds. Though it is impossible for one individual to be simultaneously in several social milieus recording many social interactions at the same time, a team of people recording multiple social events simultaneously begins to create possibilities for just-in-time *in situ* analysis of the social context of cultural production. Through the use of Getty Images photographic collection, we have created a database of approximately 6000 events with 300,000 images of these cultural social events. These events are affiliated with fashion, art, music, film and design industries. While this data base does not capture every social event associated with cultural industries (we do not claim this analysis to measure Bohemia or subculture), it captures a particular kind of social event associated with the valorization of cultural industry goods and services and distribution of information about them to a larger audience through media images. Because Getty is a market-driven database, its photographers tend to photograph events that are of media and public interest, a good proxy for 'buzz-worthy' social contexts and the products and events that appeal to a mass market. Using Geographical Information Systems (GISs) we have mapped every cultural and artistic social event recorded by Getty in New York City and Los Angeles from March 2006–2007. While this approach is still a proxy for the social milieu, we believe that this large data set of events and people documented in a multiple of unique and diverse places may provide an aggregate understanding of the social context of cultural production.

Our analysis provides five broad findings: (i) The social consumption of art and culture is not spatially random: cultural events appear to locate in particular nodes within the city—within very narrow geographical spaces. Using spatial correlation we have found that not only do we observe a co-incidence of events in particular nodes but also that these concentrations exhibit statistically significant clustering patterns. Furthermore, we observe that even secondary cultural nodes are statistically linked to the major hubs, indicating that they may spatially locate near these hubs to capture spillover benefits of association. (ii) We speculate that there is a recursive mechanism that reinforces particular places the centers of social activity, which may be linked to the broader notion of 'place in product' (Molotch, 2002, 2003), whereby particular cultural goods wish to be linked with particular places in order to attain greater value or buzz. (iii) 'Event enclaves' demonstrate homogeneous spatial patterns across all cultural industries. In other words, whether fashion, music, art or design these industries tend to locate their social events in the same geographical nodes. (iv) Iconic infrastructure and historically significant sites may play a key initial role in the cultivation of 'place branding' (Molotch, 2002, 2003; Scott, 2005). The consumption and social milieu for particular types of cultural goods requires particular types of space (film needs theaters, fashion needs runways) and thus the outcome of a particular place being 'branded' as an important social milieu may be linked to the more practical matter of where such activities can logistically occur. Consequently, these required nodes of infrastructure often become iconic symbols of cultural production: Hollywood's Kodak Theater, New York City's Lincoln Center and so forth. (v) The clustering of the social milieu also implies a clustering of the media and geo-referencing the Getty Images database therefore allows us to understand the spaces that attract media. Besides informing the longstanding literature on cultural industries and art

worlds, the geographical form of the cultural social milieu has unanticipated outcomes, particularly for the clustering of the media and its impact on the construction and development of place. We argue that those not conventionally involved in city development (paparazzi, marketers, media) have unintentionally played a significant role in the establishment of buzz and desirability hubs within a city. Thus, these findings also have implications for city development, consumption and the fetishizing of particular places. We speculate that our findings on the cultural industries may tell us something important about the geographical form of industrial social clustering more generally. We will discuss these implications in turn.

2. Theories and concepts

2.1. Cultural consumption and cultivating value

As early as Veblen (1899), the role of cultural goods has been studied for their import in economy and society. Veblen, initially coining the term 'conspicuous consumption' and later Simmel (1901) and Robinson (1961) were particularly interested in the way in which cultural goods could be used in class differentiation. Simmel argued that fashion would not exist in a classless society. As Robinson (1961, 383) puts it, '... new fashions tend to filter down by stages through levels of affluence ... For an object to lose its meaning for the top most classes it is only necessary for it to be taken up by the second most and so on ...' Later Blumer (1969) and Hirsch (1972) argued that cultural goods' success tended to rely on what Blumer called 'collective selection', or what more contemporarily has been conceptualized as 'the tipping point' (Gladwell, 2000).

Implicit in discussing cultural goods is their uncertain and taste-driven nature and the ambiguity of attaining value. Their performance and quality cannot be accurately measured. There is an often irreconcilable clash between 'symbolic' ('art for art's sake') production and 'large-scale' or economically viable cultural production (Bourdieu, 1993). Even the finest symphony or dress made of beautiful materials is still selected for aesthetic and subjective reasons (because there are, of course, many other melodies and dresses of equal 'quality' to choose from). Thus, central in understanding cultural industries is how do we measure the output? What do we mean by 'good art'? This of course is a very unclear business. Artists and those who consume, judge and create art have created mechanisms by which the process of valorization might occur. There are two approaches, not mutually exclusive: the role of the gatekeeper and the role of the collective consumer. Gatekeepers—those whose official role is to make judgments about art (art dealers, curators and so forth)—are considered crucial as informants to the public (Becker, 1982; Crane, 1989; Caves, 2000). They establish the 'conventions' that then construct and shape the art world. Or as Becker (1982, 131) notes,

> Aestheticians study the premises and arguments people use to justify classifying things and activities as 'beautiful' or 'bad art'. They construct systems with which to make and justify ... Critics apply aesthetic systems ... those judgments produce reputations for works and artists. Distributors and audience members take reputation into account when they decide what to support emotionally and financially, and that affects the resource available to artists to continue their work.

Conversely, collective consumption as conceptualized by Blumer indicates that mass consumers ultimately make decisions and dictate what good and bad art is by either

deciding to consume it or not. Rosen (1981) posits that cultural goods (in his case 'superstars') attain their value through cumulative collective consumption, whereby people lower their search costs by consuming the same cultural good as everyone else. In other words, if you can believe, Britney Spears is not the most talented pop star. But it is just that much easier to listen to her music than to find another musician equally as good, and we tend to find collective listening more fun than listening to someone else on our own (Elberse, 2008). Thus by a cumulative series of efficient consumer and utility maximization choices, Spears becomes the most popular musician. In a controlled empirical music experiment, Salganik et al. (2006) corroborate this hypothesis by showing that the most popular songs tended to reinforce their popularity when new listeners were able to see which songs were already ranked highly, which consequently encouraged more listeners to rank those songs highly as well. Because cultural goods are uncertain, many decisions about what to consume may rely on a series of subjective and arbitrary signals such as gatekeeper approval, what previous consumers have selected, exclusivity or where a product is produced.

2.2. The cultural production system

Others have looked at the cultural industries as a production system, focusing less on consumers and more on how cultural products are made. Caves (2000) has outlined the basic economic principles of how cultural goods are created, arguing that they are taste driven, and their success is predicated on a 'nobody knows' condition. Similarly, the vast product differentiation of cultural goods relies on a 'motley crew' assemblage of different suppliers who are able to form ad hoc production networks that mobilize around a project at a moment's notice, a point that Scott (2005) has made with regard to the film industry. Christopherson and Storper's (1986) seminal analysis of the film industry documents the vertically disintegrated production process through which movies are made, arguing that smaller firms tend to organize themselves within geographically concentrated industrial agglomerations, most famously Hollywood. Rantisi (2002a, 2002b) has also noted the 'localized' network of suppliers and innovation in New York City's fashion industry, particularly the use of the city's grittier neighborhoods (e.g. the Lower East Side) as sources of design ideas. This work notes the need for localized inputs to produce geographically distinct globalized goods. Thus, a brand or product gains value from where its production system is geographically located. For example, French perfume and New York art are immediately imbued with something greater than the product itself. As Molotch (2002, 684) writes of luxury goods, 'Although more expensive than they would be if made elsewhere, would not be the same if made elsewhere'.

2.3. Cultural industries as the urban development elixir

In the sea change transforming the global economy from being driven by widgets to ideas, or what scholars call the 'knowledge economy', cultural industries, and the arts in general, have become crucial players in cultivating of the types of places that can attract footloose high-skilled workers and idea-driven firms. Contemporary models of development argue that in order to attract people, cities must cultivate places (and images of those places) that offer the qualities that people want in a place to live and work (See Brooks, 2000; Glaeser et al., 2000; Florida, 2002; Clark, 2004). Historically,

such image-building has involved constructing particular amenities to achieve what Florida (2002) has called 'quality of place' or Clark (2004) 'the city as entertainment machine'. As such, urban boosters champion high-end coffee shops, retail investment and cultural 'hard branding' (Evans, 2003) in the form of museums (e.g. the Guggenheim chain) and entertainment centers (e.g. Times Square's Disneyfication, Los Angeles' 'LA Live'). These efforts portray a city as consumption and amenity filled, thus attracting the well-heeled and highly skilled. In other words, whether these places are actually used by residents or not, people like to be in places that have these amenities and the social buzz that surrounds them (Florida, 2002).

2.4. Cultural production and the importance of 'being there'

The aforementioned literature emphasizes the tendency for cultural industries to concentrate geographically and the benefits captured by doing so. In other words, being there counts. In this respect, the production of cultural goods is not unlike other industrial production systems that require an agglomeration of resources, product-specific infrastructure, economies of scale and efficient product differentiation (Scott, 2000). Similarly, cultural industries also benefit from the tacit knowledge and uncodified information captured by co-location (See e.g. Dosi, 1984; Storper, 1997; Gertler, 2004; Storper and Venables, 2004 for in-depth study of the social and knowledge benefits of geographical industry clustering).[1]

While buzz and face-to-face contact is important in lots of industries, these interactions perform important discrete functions in the valorization of cultural goods and the places in which they are produced. This distinction is a function of two characteristics of cultural goods and production: first, value is significantly more uncertain and taste-driven (as opposed to performance-driven) than in other industries. Second, we are social animals and we tend to want to consume, form tastes and share cultural goods as a collective (Elberse, 2008). Cultural goods tend to act as conduits for social relationships (DiMaggio, 1987) and can send signals (tolerance, diversity, multiculturalism and so forth) about the social milieu of particular geographical places (Florida, 2002). Additionally, social consumption and the buzz surrounding cultural goods are instrumental in signaling a various number of social and economic markers (e.g. Who else attended the art opening? Which critics showed up? Was there a line of people waiting to get in?). The social consumption context—the opening, the runway show, the symphony—is significant in the cultural production system. Much of the valorization process (whether gatekeepers or collective consumers) requires a social milieu and thus close proximity. As Becker (1982) and later Currid (2007) argue, many of the conventions, aesthetic judgments, access to consumers and gatekeepers and innovation processes within cultural industries tend to occur within a collective social milieu. Cowen (2002) conjectures that 'hobbyists' attending cultural events both influence gatekeepers and report back information to possible consumers. DiMaggio

1 Of course, while geographically based networking is essential to a lot of industries, many authors have noted the role of networking that is not affiliated with particular locales. For example, Amin and Cohendet (1999) argue that tacit knowledge does not necessarily have to be transferred geographically. Perhaps most famously, Granovetter (1973), theorizes the way in which 'weak ties' work contextually. Recently, Salganick et al. (2006) have noted the way in which networks organized on the Internet allow music listeners to form preferences and pick hits.

(1987) notes that social contexts enable consumers of culture to establish genres and cultural taste. In their study of Soho and Chelsea's art market, Molotch et al. (2008) demonstrate that more than economic forces (rent, infrastructure and gentrification), the social scene dictates the permanence (or fleeting nature) of where art worlds set up shop. Or as Caves (2000, 173) puts it:

> Consumption of creative goods, like all other goods, depends on 'tastes', but for creative goods those tastes emerge from distinctive processes. People invest in developing and refining their tastes for creative goods. They consume them in social contexts, and the 'buzz' that circulates among them is important for organizing production. Although nobody knows its fate when a new creative good appears, social contracts transmit consumers' appraisals at a very low perceived cost to them, giving 'word of mouth' its importance of a creative good's ultimate success.

2.5. The role of media in cultural industries

Implicit in Caves' (2000) discussion is the role of the media, which is composed not just of newspapers, magazines and television but also of the critics, editors and other gatekeepers that are critical anatomical parts of the media system. Thus, the success of such social milieus generating the requisite buzz depends on the cooperation of the media in distributing information, and thus this intermediary's co-location with cultural industries becomes a significant part of the success of commodified cultural production. The media plays a significant role as reporter of social events and cultivator of buzz for cultural industries, whether fashion runway shows in Milan and New York or the Oscars in Hollywood. We, the public and mass consumers of popular culture, are not aware of these events without the media's role in documenting them. Part of this necessity is explained by the subjective value of cultural products and the social nature of consumption. Thus, in its documenting of particular places and reportage of some events over others the media increases information and buzz about particular cultural goods and industries. The media is very clearly a gatekeeper and dictator of messages to the public, much in the way that McLuhan (1964, 1967) famously portrayed the 'media as the message'. This power is not underestimated by those industries that require media reporting as a part of their distribution, and thus create 'pseudo-events' (Boorstein, 1981) for the media to report on. The 'image' of the social event becomes a powerful influential in dictating how consumers view particular industries and the subsequent value (both aesthetic and market) imbued upon them.

Similarly, the media is important in cultivating the image of a city in order to attract highly skilled workers and the 'creative class' (Florida, 2002). Current economic development, couched in arguments to create rich consumer environments with dense and exciting social milieus, is greatly affected by how potential residents view cities, much of which is captured through media imagery. The media is a conduit in image building and distributing information about particular locales. In much the same way that economic development efforts have created the 'fantasy city' (Hannigan, 1998) or 'variation on a theme park' (Sorkin, 1992), made up of chain restaurants and consumption activities that do not reflect the localized cultural of a place, the media also creates simulacrums of real places through the images of place, a point we will revisit later in our discussion.

2.6. The general importance of the social milieu to innovation

Undoubtedly, the business-to-business market of Silicon Valley is a different type of market than that of business-to-consumer relationship and media-dependence of many cultural industries, but the need for immediate information about new products and the development of buzz around some products over others is undeniably a similar process (Storper and Venables, 2004). First, much as cultural industries tend to have hubs of social activity, so do other industrial sectors. As Saxenian (1994) noted, key social institutions in the Silicon Valley area were critical nodes of information exchange. Second, the geographical distinctions across parts of the production process are evident in a variety of knowledge-intensive industries. More generally, Audretsch and Feldman's (1996) study of the geographical form of R&D activities indicates heavy clustering of innovation in locales distinct from production processes. Massey (1984) found similar results in her study of the auto industry, and Nelson (2003) in her work on pharmaceutical company location. Finally, place branding is not unique to cultural industries. In the way that New York is home to fashion and Los Angeles to films, Silicon Valley has branded itself as the center of technology and New York and London as the world financial centers (Sassen, 2001). These place-brands are an outcome of geographical concentration of innovation and social activities tied to the industry but in turn such activities produce a longstanding cumulative advantage, most eloquently outlined in Arthur's (1990) 'Silicon Valley outcome', whereby a place may initially attain stochastic advantages that in turn reinforce and lock-in place-based dominance in particular industrial sectors, attracting more of the same inputs (in the case of Silicon Valley, venture capitalists and computer scientists). We have traditionally observed these dynamics with regard to production processes, but the same holds true for social processes as well. Molotch (2002) has crystallized these linkages in his discussion of 'place in product', arguing that products attain value seemingly by association with places that have a global reputation for a particular industry. Part of this reputation is attained through the buzz cultivated through the social milieu.

These interactions rely on close spatial proximity of people, events and institutions that are perpetually in flux (Becker, 1982; Lloyd, 2005). There are two salient findings in the literature: first, cultural industries have important economic and social impacts; and second, the social milieu is a decisive means by which economic transactions occur both in cultural industries and knowledge-intensive sectors more generally. However, the means to analyze these dynamics have been somewhat limited. Ethnographies attend to specific cases that are rarely transferrable to other locales, and aggregate data on firm location are static and do not get at the 'dynamic' social buzz necessary to production and consumption processes. More concisely, attaining a broad understanding of the social context is a measurement problem. We know that the social context matters; we just do not know how to quantify it or make more general and comparative across places or industries.

In this article, we seek to establish a new methodological approach to analyze the social milieu that we hope allows for comparison across place and industry and enables us to draw more general conclusions about the social milieu and the diverse actors and variables necessary in its cultivation. While we have an advantage in studying cultural industries because their social milieu is more documented and public (particularly due to their relationship with the media), our analysis may have

implications for the larger study of innovation and knowledge-driven industries. We will now turn to our approach.

3. The dataset: Getty Images as proxy for social milieu

This research set out to quantify the social and spatial dynamics of cultural industries or what Storper and Venables (2004) call 'buzz'. We hope that our approach helps establish a systematic methodology that enables comparative analysis across varied industries and geography. We believe that the link between cultural consumption and social events has much to do with the longstanding conjecture in the social sciences (very clearly affirmed empirically and anecdotally) that cultural goods tend to be consumed in social realms and tend to attain value through the social buzz associated with them (Becker, 1987; DiMaggio, 1987; Caves, 2000; Currid, 2007).

Using a unique and large data set, Getty Images photographs, we seek to create a tool for measuring the social milieu of cultural industries within a geographical context. Getty Images is the creator and distributor of a comprehensive and expansive image collection, and employs editorial photographers to cover a wide range of events, including news, sports and entertainment. Because Getty Images photographs arts and entertainment social events being held in particular places, it can be used to spatially reference some of the social dynamics of the cultural industries' social milieu. To quantify events we acquired the photographic database of all photos catalogued as arts and entertainment.[2] We used photographed cultural entertainment-related events as a proxy for the 'buzz' and social milieu associated with cultural industries. We then added a 'geo-code' to all of the photographs collected in order to geographically pinpoint where these cultural events occur.

We recognize that our approach, while producing important aggregate and comparative results, is limited to a particular aspect of the cultural industries. We aim to assess a specific realm of the cultural industries' social milieu and a particular kind of cultural production. We are aware that this research does not capture the social dynamics of Bohemia (Park et al., 1925; Bourdieu, 1993; Lloyd, 2005) or the widely debated 'creative class' (Florida, 2002), nor are we measuring the concentration of creative industry firm location (Storper and Christopherson, 1986; Scott, 2000, 2005; Currid and Williams, 2008). Instead, we are interested in commodified cultural production, and the events and cultural producers that produce the most significant economic impact to the arts, culture and entertainment sector. As commodified cultural production relies extensively on a mass audience, its goods and events (e.g. popular culture) rely on visibility in generating buzz and subsequent market demand. Photos are an important currency in drumming up this visibility and cultural value to a mass market. Thus the use of the Getty Images data set captures the fundamental essence of this particular segment of cultural industries.

The usefulness of Getty Images for our research purposes is 3-fold. First, since it is a very large database that catalogs photographs from thousands of different cultural

2 While those who are in attendance at Getty events may be an elite bunch, Getty photographers are interested in images of people and events that are marketable and thus the events photographed often have a mass audience of people interested in the photos and the brands, products and people associated with these social events.

events in many different cities and regions around the world, it may tell us something systematic about the dynamics and structure of the social milieu in a comparative and aggregate way across different geographies. Second, because Getty Images hire many different photographers at any given time to record multiple social events, the database measures dynamic social interaction at multiple places at the same time. Finally, by virtue of Getty's motivation as a market-driven business, its database is an accurate measure of what one might call the 'events that matter'. In other words, because cultural industries are highly visible and significantly documented by the media, the most important people and events within cultural industries are accurately gauged through media attendance. Images that people pay for—and the images themselves—are a slice of the value of cultural industries. There is a direct linkage between the value of the cultural producer (their image) and value to the cultural industry they participate in. By and large, images of the actress Angelina Jolie are more valuable because she is very valuable to the film industry. Jolie's films bring in huge box office sales and she has consistently been nominated for (and won) Oscars. In this respect, Getty Images operates as a secondary market of culture—what one might call a 'cultural stock market'.

Thus Getty's data operate in three important capacities: first, it is unique in its ability to capture the spatial dynamism of simultaneously occurring events within the social milieu, and second, in its measure of the importance of particular types of commodified cultural production, cultural events and cultural producers. Getty Images tells us something about 'large-scale' (Bourdieu, 1993) commodified cultural production spaces and the social milieus that generate market valorization and buzz for goods and events that have a large audience and more widespread distribution. Finally, we believe that the effective use of this market-driven data set, which was cataloged and collected by Getty Images, is an important step toward developing new methods for analyzing the vast amount of data collected by industry. We will now turn to our methods and analysis.

4. Methods: spatial tools for analyzing Getty Images data and the 'geography of buzz'

Extending the aforementioned theoretical arguments that cultural consumption and valorization occurs through social contexts, we attempt to capture these processes empirically and through a systematic comparative analysis. We chose to look at Los Angeles and New York City as case studies of how buzz and cultural valorization are constructed through social consumption. We chose these cities because of their highly documented position as centers of cultural production and consumption (Rantisi, 2004; Scott, 2005; Currid, 2006).

One of the challenges in studying the social milieu of the creative industries is establishing a methodology and data set by which to aggregately measure these dynamics in particular places. In the past, attempts to study the social milieu have been made largely through ethnographic studies and interviews, focusing on a limited number of points of observation which are limited in their implications to the particular places of study. Attempts to spatially analyze these dynamics have been hard to make on a scale smaller than the boundaries of the city itself. While spatial analysis of cultural industries has been limited by data scale it has also been limited to certain areas of the

industry production chain, documented through firm location and worker residence (Scott, 2000, 2005; Currid and Williams, 2008). The uniqueness of the Getty Images database itself allows us to broaden our spatial analysis beyond the study of industry location into the realm of studying the geographical dimensions of social networks and events. At the same time the data are collected at a smaller geographic scale, where the locations of events are identified by actual addresses rather than being aggregated by census tract, zip code or county boundaries. This geographic scale allows one to better analyze the spaces the social milieu acquires, where even adjacent blocks can play drastically different roles.

It should be noted that while the scale of the Getty database is unique for analyzing cultural industries, the existence of this type of data set in the urban realm is becoming increasingly prevalent (Miller, 2003; Goodchild, 2007). From the deliberate (geo-tagging a vacation photo) to the incidental (swiping a subway card), our virtual footprints are everywhere.[3] Put into context with our daily interactions with the built environment, these tracings create an image of our maneuvers through space. Much interest about these 'data shadows', a term coined by Zook et al. (2004) to describe this data, has been focused on how industries can analyze these datasets to improve efficiency and streamline service delivery. However, less literature has focused on how these types of datasets can be used to explore unique spatial dynamics in cities (Ibid). Therefore, use of the Getty database in this study is unique in that it not only allows us to understand the extremely localized spatial/social dynamics of the social milieu, but also establishes the spatial analysis potential for the wealth of data that is currently being collected as we navigate the urban environment.

4.1. Understanding the dataset: a brief history and description of Getty Images

Getty Images is a high-profile creator and distributor of still imagery, footage and multi-media products that was co-founded in 1993 by Mark Getty, the company's current chairman, and Chief Executive Officer Jonathan Klein. The company employs over 250 staff and freelance photographers who submit between 700 and 1000 live photos a day. Over the past 15 years, Getty Images has acquired a considerable number of its competitors, including MediaVast and Jupiterimages for $207 million and $96 million, respectively. Under the terms of a 2003 partnership agreement, the news agency Agence France-Presse began marketing Getty Images' North American photography to its daily newspaper subscribers around the world.[4] In February 2008, Getty Images itself was acquired by affiliates of the private equity firm Hellman and Friedman in a transaction valued at approximately $2.4 billion.[5] Because it is the largest and most comprehensive photographic agency in the world, Getty Images is a recognizable brand in its own right that cuts across various media-related platforms, from personal blogs

3 See Cohen (2009) and Markoff (2009) for recent discussions of applications of large public datasets.
4 Available online at: http://media.gettyimages.com/article_display.cfm?article_id=66
5 http://media.gettyimages.com/article_display.cfm?article_id=171

to major daily, weekly and monthly publications. The company is particularly notable for its all-digital offering and a powerful, comprehensive website.[6]

We contacted Getty Images to attain their methodology for art and entertainment event coverage. A Getty representative specified that they have two main approaches for deciding what/where images are collected. On the more formal side, they have all the big events ('thousands' according to the representative we spoke with) that they go to as a rule, the awards ceremony red carpets and parties, big premieres, openings, galas and so forth. On the more informal side, they let their contracted photographers pick things on their own based on what they know about (music, fashion, etc) and then submit images to Getty. Additionally, a public relations firm can request that Getty attend an event by contacting the main office in Seattle and making sure that their event is on Getty's calendar.

Getty Images' online database not only lists arts and entertainment events, but it also records the number of photographs taken at each event—these data allow one to identify the relative interest in particular events within the database. Data were collected for arts and entertainment events in New York and Los Angeles from March 2006 to March 2007. During this time, the listing of arts and entertainment events acquired from Getty Images included 6004 events with a total of 309,414 images. Each logged event specified where an event took place, what the event was and who was captured in the photograph. Because photographs taken by Getty represent dynamic moments of social interaction and consumption channels (many people interacting in a particular place at a particular time), events captured by Getty images make a rich and unique source of data to study aggregate patterns of social interaction.

After the data were collected we cleaned and categorized each event record according to a series of established criteria. First, we identified whether a photo represented an actual event or simply a sighting of someone the media reports on (e.g. in common parlance, a 'celebrity', or notable cultural figure appearing alone at a noncultural event). We removed 'celebrity sightings' from the database because they did not represent the cultural social milieu we were attempting to study. After these sightings were deleted the remaining events were coded into several arts and entertainment categories developed to allow for a more detailed analysis of cultural industry sub-groups. The following cultural social event categories were identified: fashion, film, television, theater, art, magnet and hybrid. An event was categorized into one of these sub-groups if the host or organizer of the event was part of a particular industry sub-group. Fashion, film, television, theater and art are fairly straight forward and events associated with these particular industries were categorized as such. There were, however, many events in which a particular industry sub-group could not be identified. For these events we created two categories: 'hybrid', which represents an event that crossed two cultural industry sectors, and 'magnet', which is a social event that drums up buzz and media attention and includes appearances by numerous cultural producers but is not affiliated with a particular industry. To elaborate, a 'magnet' is an event that does not appear to be supporting or featuring a particular type of cultural production (e.g. fashion, art and so forth), yet is concentrated with cultural producers and is significant in importance, given the number of photographs

6 http://company.gettyimages.com/section_display.cfm?section_id=244

taken at the event. For example, the opening of a restaurant or nightclub and particular charity events that attract significant numbers of cultural producers would be included in this category. Once the Getty Images database was categorized the physical location of each event was identified and mapped.[7] By enriching the Getty database with location information we were able to determine the spatial configuration of social events for cultural industries in Los Angeles and New York.

Spatial interpretation of the events in the Getty database is closely tied to how a photograph eventually gets logged into the database. Given Getty's interest in selling their photographs, the Getty database captures a particular type of cultural social milieu. Thus the database disproportionately records events that appeal to a broad market and have a greater likelihood of their images being sold. Given this incentive, it is clear that events identified in the Getty database are not necessarily explaining the small-scale social/spatial dynamics of cultural and entertainment-related events but rather the larger events commodified for a global marketplace beyond the city. This approach carries a set of implications in the larger discussion of our understanding of global cultural production, which we will revisit later.

5. Spatial analysis: finding 'hot spots' and identifying 'event enclaves'

One of the unique characteristics of analyzing the Getty database spatially is that each event has a unique map location. This is different from many other urban datasets that usually aggregate data to the zip code or census tract.[8] Given that our data represented individual locations rather than larger geographies (e.g. zip codes, MSAs), we indentified spatial analysis strategies that were most suitable for this type of data. Examples of spatial analysis methods for address coded data, similar to the one we developed, can be found in urban crime analysis (See e.g. Craglia et al., 2000; Goldsmith et al., 2000; Goodchild et al., 2000; Hirshfield and Bowers, 2000; Vann and Garson, 2001).[9] Using a similar approach, density and hot spot maps were created for Getty events as a way to establish where social events occur in New York and Los Angeles. These maps indicated areas where events take place more often relative to the rest of the city. Each sub-industry category was analyzed using similar methods in order to understand whether a particular sub-industry dominated the overall events geography.

Hot spots analysis is a term that encompasses a series of spatial statistical processes that help to identify locations where it is spatially significant that a pattern occurs more or less often than what would be normally expected. Before the hot spots test was employed in this study, we applied the Global Moran's I statistic test, in order to determine whether the data exhibited any overall clustering patterns. The Global

7 For example, if an event was held at Cipriani's on Wall Street, we identified the address as 55 Wall Street, geo-coded the address to convert it to a Latitude and Longitude position, and then added it to a GIS database for spatial analysis.

8 This aggregation is largely due to survey numbers and being able to apply the proper sampling techniques.

9 The majority of spatial analysis of crime sets out to establish those areas in the city where crime happens more often, on average, or what is often referred to as 'crime hot spots'. Most statistical analysis for address-based spatial analysis comes from crime statisticians, who also create crime density maps that allow them to analyze the overall geography of crime in the city.

Moran's I statistic tests whether spatial autocorrelations occur based on feature locations and attributes and provides a result that explains the level of clustering, dispersion or random nature of the data. The calculation produces a Moran's I value, where a value near +1.0 indicates clustering and a value near –1.0 indicates dispersion (Rogerson, 2001; Anslien et al., 2008). The results of our analysis showed that events logged in the Getty database had a tendency to spatially cluster. In order to better understand the localities where this spatial clustering occurred, we employed the Getis-Ord or G*i statistic. The G*i statistics is commonly known as the 'hot spots stat' because of its ability to locate 'hot spots' or areas that have values higher than you might expect to find by random chance. The output of the calculation produces a Z score which represents a significance of clustering at a specified distance. Areas identified as hotspots in the G*i statistic not only explain why values in a particular area are high, but also explain that given the values surrounding that area it is significant that high values are appearing at that location (Rogerson, 2001; Anslien et al., 2008). The results of the hot spots analysis performed on the events in the Getty database helped to delineate areas in the city where events happen at a statistically higher rate, we call these localities 'event enclaves'.

6. Results

The results of the hot spot analysis using the Getty Images data showed that both Los Angeles and New York have unique 'event enclaves', or locations in the city where events of interest to Getty photographers happen at a statistically higher rate than the rest of the city. While each separate cultural industry event category (e.g. Fashion, Art, Music) showed some tendencies toward specific geographic locations, overall, the 'event enclaves' of all the industries could be found in very similar locations. In Manhattan, the event enclaves are located on Fifth Avenue between Rockefeller Center and Central Park, midtown west near Lincoln Center, down Broadway, the main artery of Manhattan, into Soho and then west into the West Village and Chelsea. In Los Angeles the event enclaves are primarily located along the spine running through Beverly Hills and Hollywood, along Hollywood and Sunset Boulevards (Figures 1 and 2). On the whole, the 'magnet' sub-category (events that create buzz but are not identified with a particular cultural industry) most closely corresponded to the overall 'event enclaves' in both Los Angeles and New York as they are present near all the sub-category hot spots.

Our analysis revealed that there were two types of event locations: (i) overly frequented locales hosting multiple social events, and (ii) places where major events are held annually or semiannually. There are rarely events that fall in between these two categories: identifying these popular event locations was important for two reasons: (i) Determining that there are particular locations where events happen more often establishes that there are a select few venues and micro-geographical nodes that are utilized for the social milieu of cultural industries in general. (ii) The fact that a particular location is host to several events could have an effect on the spatial statistics perhaps even skewing the hot spot analysis toward specific event venues rather than the overall neighborhoods that hold the venues. Exposing this pattern allowed us to run analysis to test whether popular venues might be skewing our initial results. Simultaneously, venue clustering could establish that smaller or less popular venues were interested in locating near larger more popular venues, a similar type of location

Figure 1. Map illustrating the density of 'magnet' events in Los Angeles with image locations layered on top.

pattern observed in traditional industrial clustering (Marshall, 1890; Saxenian, 1994; Scott, 2000, 2005, among others).

To determine whether popular event locations had a statistical effect on the results of the spatial analysis, venues that had statistically higher number of events were removed from the data set, and a hot spot analysis was performed on the 'less popular' event locations. When the results from this analysis were compared to the results from the previous analysis, we found that the hot spots for 'less popular' event locations corresponded to the same geographies identified in the original hot spot analysis. This illustrated that the popular event locations were not skewing the original analysis. Additionally, this analysis helped to illustrate that the events overall (both big and small) were spatially linked. These statistical results demonstrate that it is likely that less popular venues will be found near popular event hubs (Figure 3). Given that buzz has been thought to lure desirable populations (Florida, 2002, Lloyd, 2005) and tends to exhibit recursive qualities, the spatial linkages may be illustrating that smaller venues seek to be close to more popular venues or in 'buzz' neighborhoods in an effort to capture the spillover benefits from spatial co-location.

Building upon this explanation, we believe looking at the relationship between popular and less popular venues helps to illustrate issues around spatial choice for event venues overall. One explanation may be that because 'less popular' venues can be found near popular venues, there is a tendency for clustering around these popular event enclaves (e.g. 'Hollywood' or 'Times Square') providing positive association

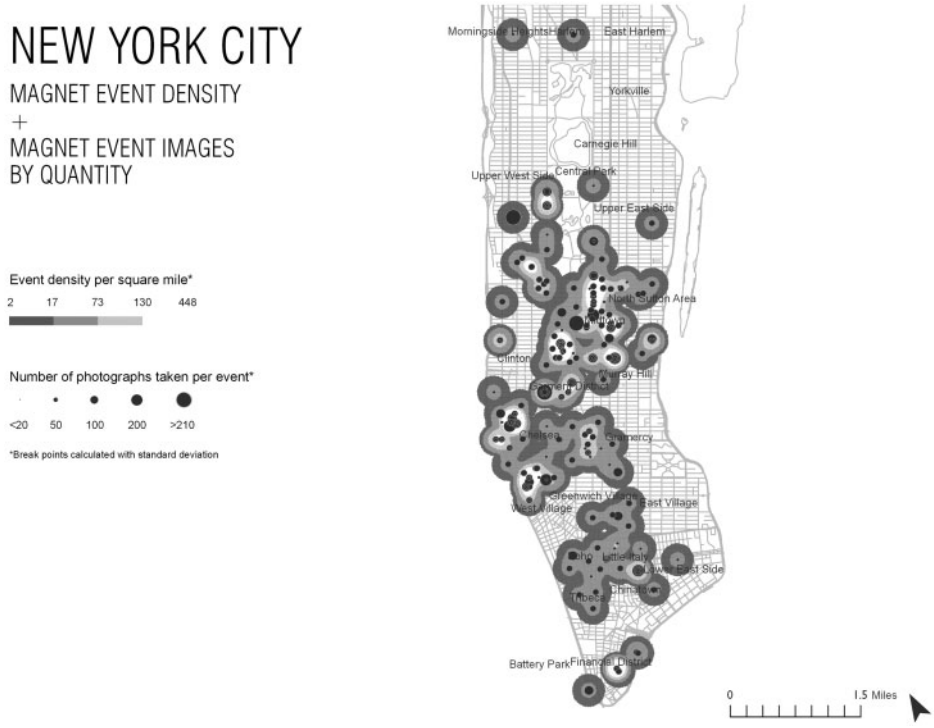

Figure 2. Map illustrating the density of 'magnet' events in New York with image locations layered on top.

through proximity. However, equally plausible is that the spatial locations themselves (Hollywood Boulevard and the Sunset Strip) become attractors by virtue of development activity, revitalization efforts and so forth, and therefore, events then cluster around culturally rich and redeveloped neighborhoods, thus reaffirming the popular perception of the neighborhood's cultural activity. Much like Molotch's (2004) discussion of 'place in product', whereby he argues that products become branded by the places they are produced, we believe that places become products themselves, and that those who plan these cultural events might seek to locate events near branded locations within the city. We will elaborate on this point in our final section of the paper.

Popular event venues appear to be important in their own right as they have become important branded locations that cultural industries seek to be associated with. For example, some of the most popular places in Los Angeles (Beverly Hills Hilton, Hollywood and Highland/Kodak Theater, the ArcLight Theater, Grauman's Chinese Theater, Regent Beverly Wilshire Hotel) are locations that are recognizable cultural spaces and by extension likely linked to preconceived ideas of what these places represent (Figure 3).[10]

10 Someone looking at a Getty photograph taken at the Regent Beverly Wilshire Hotel might associate the event with celebrity, glamour and the 'rich and famous' as the Hotel's name is synonymous with this type

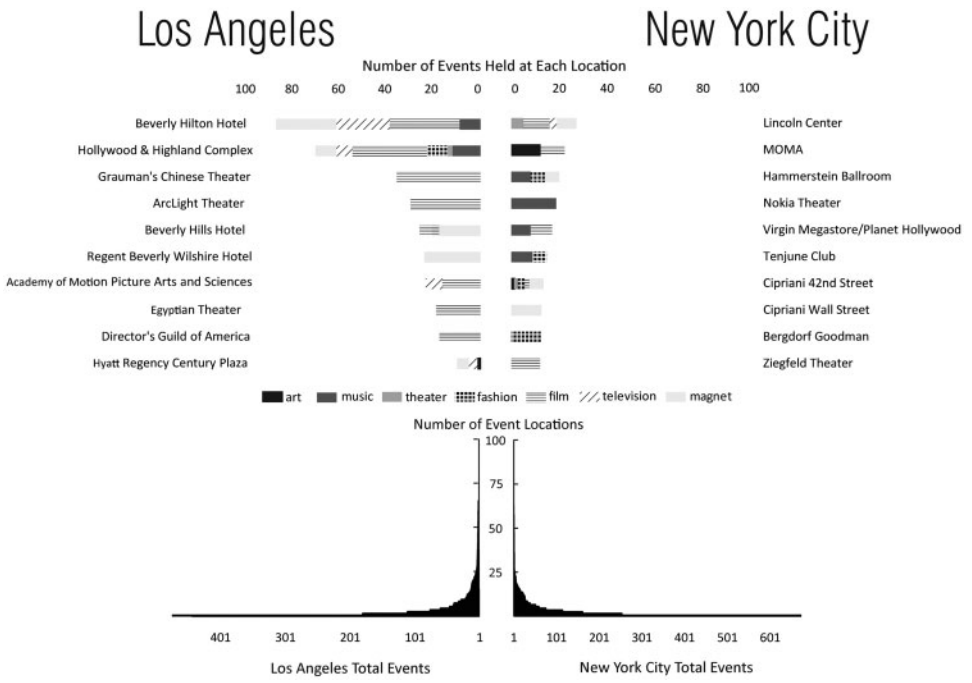

Figure 3. The chart (top) illustrates the number of events (categorized by industry sub-type) held at the top ten event location in New York and Los Angeles. The chart (below) illustrates the total number of event location categorized by the frequencies that an event might happen at a particular location. The bottom chart illustrates there are a few venues that are repeatedly used by cultural industries.

6.1. Typologies of event enclaves

The event enclaves identified are made up of two typologies: (i) Nodes within the city that are physically and architecturally removed from the traditional urban landscape. (ii) Urban neighborhoods more typically associated with the consumption and social milieu of cultural goods than any other type of activity. What both typologies have in common is that they represent locations where cultural industries present their goods to their larger market. In the first instance, event nodes are largely made up of hotels, malls or events complexes like Hollywood and Highland and Times Square. These places are often established purely for the consumption of cultural products and events, and have no relationship to the production of the cultural goods themselves or the urban centers in which they are located. The second type of event geography is demonstrated through geographic nodes or neighborhoods more typically associated with cultural commodification and social events associated with cultural goods, and thus have the infrastructure for just-in-time cultural consumption (i.e. galleries, theaters and music halls). We have also noted that in both types of event enclaves particular types of infrastructure play dual roles: infrastructures as prosaic as shopping malls can

of clientele. It's worth noting that this hotel has been the film industry's backdrop to epitomize Los Angeles glamour, most notably *Pretty Woman*.

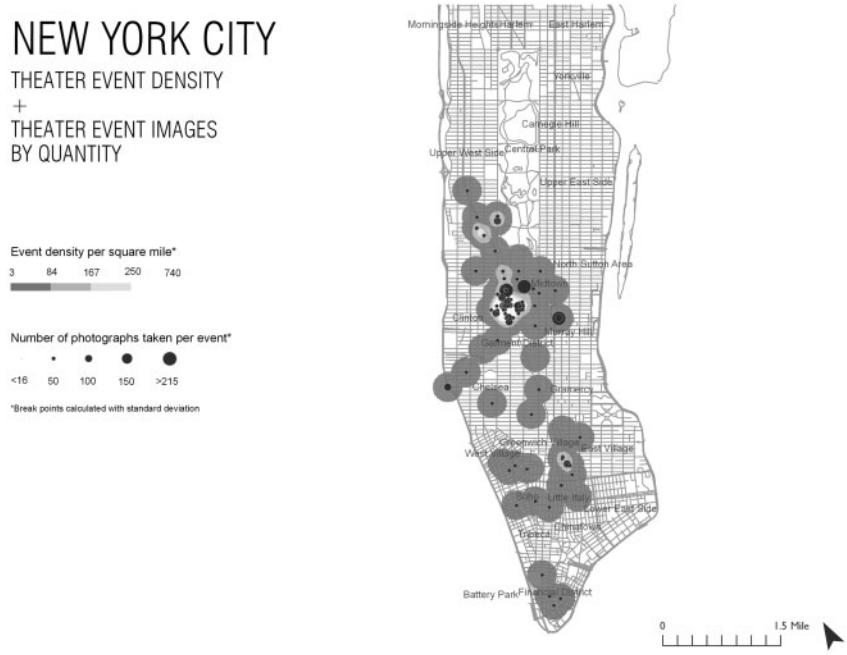

Figure 4. New York City 'theater' event density map with event locations layered on top.

become important pieces of the cultural infrastructure, particular for cultural events that are mass-marketed.[11] More concisely, these types of event enclaves illustrate how places can help brand cultural goods beyond conventional constructs of how and where cultural consumption and production occurs (Figures 4 and 5, for additional spatial results of industry related social milieus please see A1–A4).

A final point on the origins of our dataset: our data are fundamentally composed of photographs taken by the media. Getty is widely understood to be the most comprehensive photographic media agency in the world and thus has unique qualities (market-driven, thousands of data points to analyze, many different geographical and industrial categories) which allow it not only to shed light on particular realms of cultural production, but it also is important in what it tells us about the media. The clustering of particular social milieu is simultaneously a clustering of the media, as they are the very actors recording these cultural events. Thus, what we also find in our analysis is that the media too tends to cluster in a finite number of geographical nodes. Next we will discuss possible explanations for these results.

11 For example, in New York, fashion event locations largely appear on Fifth Avenue near the high end luxury stores, Bergdorf Goodman's and Tiffany's, along with two wealthy residential and retail enclaves: the West Village, and Soho. All these locations represent places where goods are presented to the consumer. Some of these places are more formalized typologies than others, e.g. Fifth Avenue represents New York City's version of the suburban mall (Sorkin), while the West Village might be considered a consumer area with a very unique character.

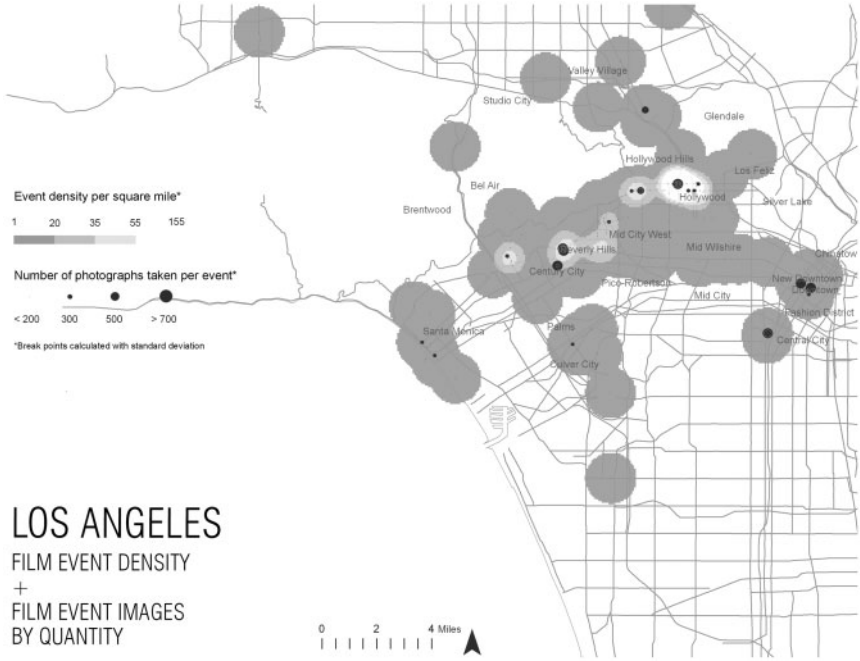

Figure 5. Los Angeles 'film' event density map with event locations layered on top. The two maps above show that theater industry in New York and film industry in LA have very narrow 'event enclaves' that relate to the iconic infrastructure used in these industries. The Theater district in New York, and the Hollywood and Highland Film Complex in Los Angeles.

7. Implications

This research has produced five important results: (i) Social milieus have nonrandom spatial clustering tendencies. (ii) These clustering tendencies may reinforce themselves as each social event further brands particular locations as sites of cultural activity. (iii) Event enclaves demonstrate homogeneous spatial patterns across all cultural industries. (iv) The recursive nature of branding particular locations as cultural hubs may partially explain why some places within a city are important consumption sites. (v) Part and parcel of the type of dataset we employed, we find that the media also tends to cluster, and consequently plays a critical role in cultivating social agglomerations and has unintended consequences for development of place and place branding.

These results have implications outside of cultural industries. Because our data source is recording cultural activities for market-driven purposes (Getty wants to sell pictures after all), and Getty is an outside actor (as opposed to being one of the industries it documents), there are other implications to this analysis that are not strictly related to cultural production. Namely, we believe that these results give us a deeper understanding of the relationship between media and city development, and the role cultural social agglomerations might play in image building and branding of cities.

7.1. Getty as new geographical dimension

The successful use of Getty Images data to study the spatial dynamics of economic and social functions of the cultural industries is an important implication to this research. The fine-grained social and spatial perspective that the Getty database provides allows us to study cultural industries more in depth. At the same time, the use of the dataset illustrates the potential for using similar types of data sources for the study of other knowledge-driven industries that require buzz in their innovation and consumption practices. Getty data capture the fundamental essence of cultural industries: buzz is an important currency through which cultural goods and industries are valued and much of this buzz is captured through visual documentation. However, we believe that the analysis of Getty data may also tell us something more general about other industrial sectors where the social milieu is an important part of the industry value chain. Just because cultural industries' social milieu is more visual does not mean the social milieu is absent in other industries or that it lacks the kind of clustering patterns we observe in the former. In fact, much economic geography research has focused on the importance of the social context for various economic and informational transactions (See Saxenian, 1994; Storper, 1997; Porter, 1998; Gertler, 2004; Storper and Venables, 2004, among others). 'Buzz' counts in lots of industries. As much as paintings and designer dresses require people talking about them, so do technological innovations.[12] What this analysis tells us more generally is that particular nodes seem to establish themselves as the centers of social agglomeration and that this centralization may have spillover effects, thus catalyzing smaller social clustering nearby. This type of clustering pattern has been documented in the analysis of the more formal aspects of industry production and firm location (Molotch, 1996; Scott, 2005; Currid and Connolly, 2008)

More generally, the use of Getty may propel the application of other sources of unconventional data to capture industry dynamics. Notably, there are several unique aspects of this dataset. Part of our ability to aggregately quantify the social milieu of cultural industries with more facility than other industries is a function of the fundamental fact that cultural industries are highly visible industrial sectors that have a large public following. Unlike the car manufacturers in Detroit or Silicon Valley's technology wizards, cultural industries have a large audience that desires visual documentation of their activities, whether music awards, fashion shows or movie premiers. This demand for visual documentation is what provides a market for Getty Images to exist and subsequently provides a unique data source to analyze the social dynamics of the cultural industries. While this data source is unconventional, we believe that the market-driven quality of the data set is a positive attribute, as it automatically gives us a proxy for measuring the kinds of events that are buzz worthy on a larger scale. For capturing this particular segment of the cultural production system, images of social events are a useful data source to understand the fundamentals of how cultural industries drum up interest in their goods and events.

Another distinction of the Getty data is its spatial attributes, which allowed us to analyze the social milieu in a less abstract way than previous work. The modification of the database to include the address information of events made it possible to analyze the spatial dynamics of the social milieu. The demarcation of these 'event enclaves'

12 One needs to look no further than the Iphone, Ipod and Blackberry to validate this point.

allowed for an understanding of how places play a role in the production and consumption and social milieu of cultural industries and by extension how places are branded by the activities that occur within them. Event enclaves appear to be an important way to distribute information and buzz to larger markets, and the use of these geographies are likely to have a farther reach than cultural industries themselves.

7.2. Media as message and messenger

As much as this research seeks to explain the social dynamics within cultural industries, we have also found that it simultaneously reveals some general findings and implications for the role of the media. On the one hand, the media makes decisions about what to report on, and yet it needs things to report on in order to exist. Paradoxically, for all the power the media has, it is only as powerful as the events it can document. In other words, while cultural industries can exist without the media (albeit less effectively dispersed around the world), the media actually requires the existence of events to report. Commodified cultural production and cultural industries—particularly those reliant on mass audiences—have become reliant on the media as an important conduit for valorizing and distributing information about their products and thus their relationship is mutually constitutive at its very essence.

The media relies on an initial agglomeration of social events and an ability to manufacture news (Fishman, 1980). And thus we get to a critical element of our data source and the cultivation of buzz more generally. The media is an important conduit for distributing information, but it is a business and industry in its own right and thus it tends to cluster where it can maximize its profitability. The agency of photographers is fundamentally to sell their photos and thus they attend events that are 'sellable'. As our results indicate, there are a finite number of places that the media documents over and over again. In that process, they also further reinforce the buzz of some events and places over others, initiating a process of social cumulative advantage and social economies of scale, emblematic of recursive processes that occur in most industrial agglomerations.

Why might the media cluster? We speculate that in the same way that reporters go to the police department because they can always find news there, a coffee pot, and police officers to provide meaningful information instead of hanging out with criminals who may or may not do something bad on the reporter's watch. Sure, convenient stores are held up all the time, but in reality they're not actually held up 'all the time'. Police stations, not convenient stores, increase the possibility of attaining newsworthy information. Similarly, photographers, whose whole survival is determined by being able to sell pictures, go to a limited number of event nodes to manipulate their probability of attaining sellable images. So while media is, in one respect, a gatekeeper it is also similarly dictated by its own need to sell to a larger market and thus photographers tend to be motivated by the greater chance to get the 'money shot' thus going to the places that already have the most buzz and will attract the most 'buzz worthy' people. Unsurprisingly, the events photographed the most were the events that generally attained greater ubiquitous media attention and public interest (e.g. The Academy Awards, New York City's Fashion Week and The Grammys). These dynamics are symbiotic and reinforcing: because similarly buzz-driven events are held in places where media are more likely to report, the media tends to show up in those

places and take pictures more than at other locations. The implicit understanding is that if everyone is in the same space, then the chances of everything coming together increases dramatically. Thus the unpacking of the cultural industries' social milieus is simultaneously an analysis of the nodes of media production and how these nodes are used to create images for global consumption (whether the pages of the *New York Times* or a celebrity tabloid). The mechanisms by which marketable images are attained (as outlined above) may explain these geographical concentrations. This relationship is reminiscent of a comment made by Willie Sutton, the famous bank robber who, when asked why he robbed banks, responded 'Because that's where the money is'. It's as simple and complex as that.

7.3. Media, buzz and the development of place

In the same way that industrial agglomerations in general brand the places in which they locate, the choice of events and places that the media records tends to have a strong impact on how places are branded. We cannot forget that the photo is both a primary output and a secondary linkage in a two-step model of commodification and consumption. In the first output, the photo is quite physically a consumption product that links particular people to localized events and places. The photo is physically sold to magazines, tabloids and newspapers interested in visual documentation of newsworthy events and people.[13] In the process of this transaction, the photo also brands and often constructs the image of the place where it is taken. This latter process is a partial influence on how people understand (and subsequently desire) Hollywood, Beverly Hills or Times Square—and by extension the cultural goods associated with these geographical nodes. 'People desire goods associated with a specific place because they want, at a distance, the place itself. We cannibalize a place—take in some of its social and cultural power, its cachet—by consuming the objects from it' (Molotch, 1996, 229).

We speculate that the formation of 'event enclaves' is due to a clustering of events in particular locations which reinforces these places as geographical 'brands' that cultural industries want to be associated with in their efforts to brand and market their products and events. In other words, place branding is a function of having an initial social grouping of people and events (often documented through media imagery) that make Beverly Hills and particular locations within this neighborhood branded as centers of particular kinds of social and cultural activity, which in turn creates a cumulative advantage over other locales. The media is necessary in cultivating such a reputation. The media has to show up, after all.

Media, therefore, has an unintentional influence on city development and place identity. The images of particular places being displayed time and time again through major information channels indirectly sell a certain image of a place. Because media sources are motivated to sell photos, our results indicated that media tended to record the same locations within the city over and over again resulting in particular parts of Los Angeles and New York being the dominant representation of these cities. We believe that again, as the media is market-driven, the recording of mainstream cultural

13 See the extraordinary study of paparazzi photos of Britney Spears being sold for hundreds of thousands of dollars in Samuels, D. (2008) Shooting Britney. *The Atlantic Monthly*. April 2008.

hubs (Times Square, Hollywood) resonates more with a larger market and thus are a safer bet than the unique and infrequent events happening in more localized and unrecognized spots in the city. Similarly, as the media is operating with economies of scale and a desire to increase chances for sellable images, photographers are more likely to take pictures of places that increase such possibilities, again operating under basic agglomeration principles.

These behaviors in turn have a significant effect on how we understand place: media and media imagery is significant in its role in creating place identity and image, particularly the descriptive lens through which consumers view places and their desirable (or conversely, undesirable) traits. According to the Getty Image data, Times Square and Fifth Avenue are the centers of New York City's cultural world, but in reality Times Square is but one of many important cultural hubs within New York City.[14]

And yet, Getty's reportage is accurate as it reflects choices and priorities of the mass market and highly visible segments of cultural industries. While there are many different cultural nodes within these metros, Getty reports on the ones that are most buzz worthy with regard to the importance of the event and visible profile of people in attendance. Cultural industries make choices about where to hold events and Getty, in turn, shows up. Rationale for venue and neighborhood choice is likely to be multi-layered, and likely reinforced over time (e.g. events are held in Times Square because events are held in Times Square).

7.4. Occam's razor: infrastructure and image development

We also argue that at least partially the reason important events locate where they do may be explained by almost pedestrian decisions influenced by infrastructure and space. These practical choices, in turn, make some places iconic nodes of cultural social activity, even if such an outcome is by accident. Film premiers need theaters and thus film events will be in key theaters that can house the audience. Music requires special acoustics and often a large seating area, and thus places like the Hollywood Bowl or Lincoln Center are the obvious locations for big events. While surely there is a hierarchy even in these decisions (e.g. the Hollywood Bowl wins out over Dodger Stadium), the social organization of cultural industries may on one level simply be a result of some places being more practical locations. In turn, the media comes and takes pictures of these places which results in the association between particular nodes and types of cultural consumption. With repeatedly documented use, these places create a legacy for themselves over time, which while perhaps initially based on infrastructure, becomes the natural choice for the industry and the media that follow it. Like the media's influence on how we view place, iconic infrastructure too can generate unintended outcomes for place identity and development. The average tourist wants to see Times Square and Hollywood, despite these places being quite unrepresentative of New York and Los Angeles, respectively.

14 One might even argue that for 'New Yorkers' Times Square ought to be avoided at all costs, a tourist destination rather than a true cultural node.

8. Conclusion

We have sought to articulate an aggregate pattern of the social milieu of cultural industries, and in the process we have also discovered important dynamics and implications with regard to how the media relates to these sectors. Long documented through ethnography and qualitative methods, our use of Getty Images data to study cultural social events enables us to articulate a larger conception of how the social milieu of commodified cultural production manifests itself, how these social dynamics present themselves geographically and how they differ across industry. While Getty is an unconventional data source for social scientists, we believe that by applying geo-coding and spatial analysis, we are able to contribute a new spatial dimension to understanding certain aspects of how industries and cities organize themselves socially, an angle that has been gaining importance in the literature. In this process, we have uncovered several other mechanisms at work that relate to media, city development and the cultural consumption market. Social milieus are indeed important for the production, consumption and ultimate valorization of a particular good or service. But these processes cannot be viewed as separate from the market-driven incentives of the media and mass consumption by people extraordinarily far away from these cultural locales.

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Appendix

Table 1. The Moran's I cluster statistics and respective *z*-scores by industry for Los Angeles and New York city

	Global Moran's I		*z*-score	
	Major locations	Minor locations	Major locations	Minor locations
Los Angeles				
Art	0.07	0.08	11.42	13.29
Music	0.19	0.21	30.25	33.30
Fashion[a]	0.18	0.18	28.93	28.93
Television	0.15	0.14	25.11	21.61
Film[a]	0.20	0.22	32.70	34.20
Theater	0.02	0.07	5.19	11.12
Magnet	0.12	0.17	18.83	27.37
New York City				
Art	0.07	0.09	10.09	12.42
Music	0.17	0.25	22.13	32.37
Fashion[a]	0.25	0.25	31.75	32.29
Television	0.17	0.17	24.72	21.80
Film[a]	0.17	0.26	22.58	32.84
Theater	0.22	0.27	37.07	36.78
Magnet	0.14	0.23	18.68	29.58

[a]Fashion week and festivals removed

Figure A1. Density of 'fashion' events in Los Angeles with event locations layered on top.

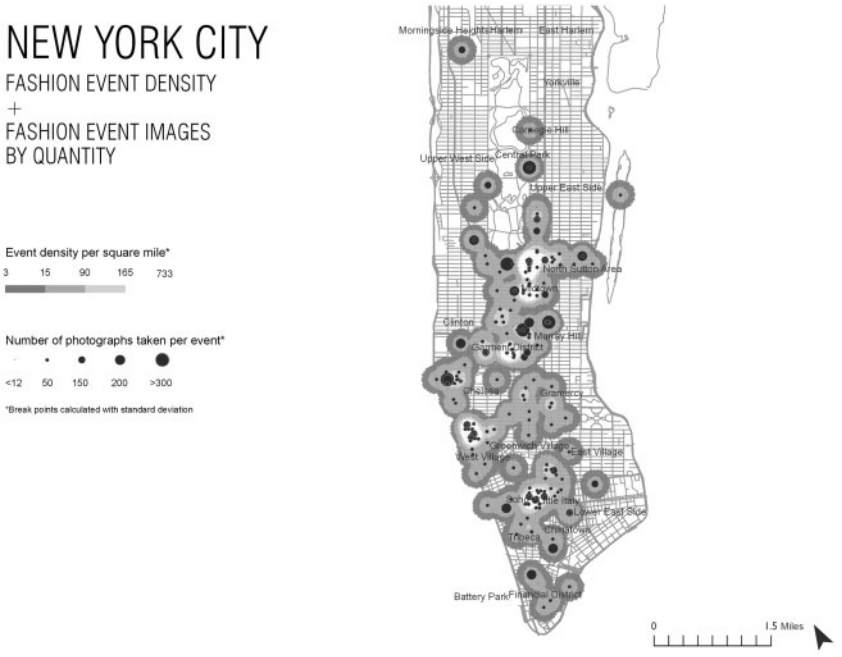

Figure A2. Density of 'fashion' events in New York with event locations layered on top.

Figure A3. Density of 'Theater' events in Los Angeles with event locations layered on top.

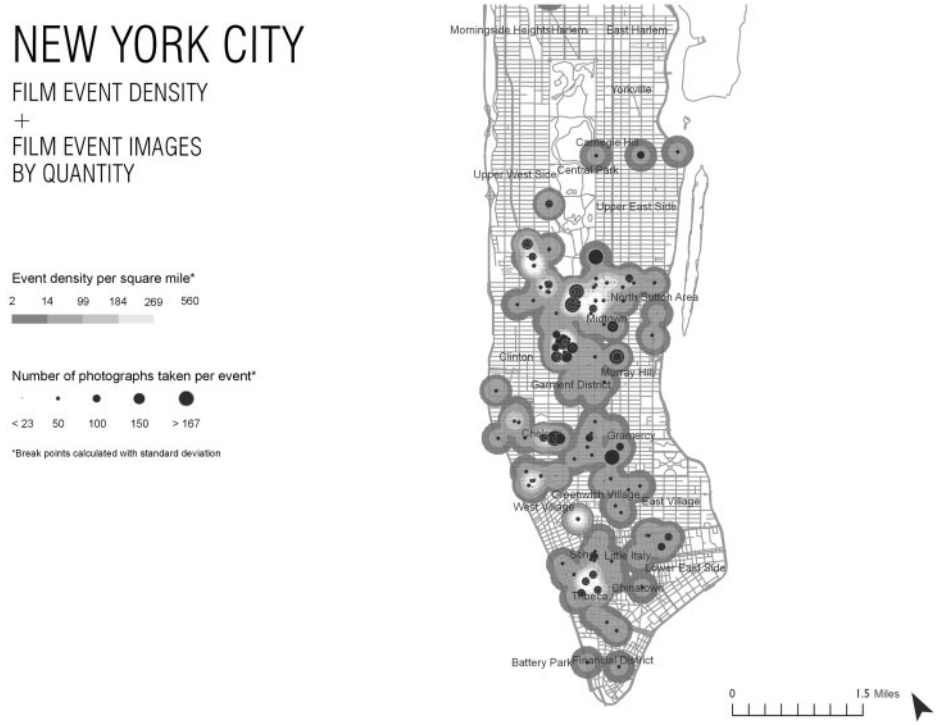

Figure A4. Density of 'Film' events in New York with event locations layered on top.