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The place of art: Local area characteristics and arts growth in Canada, 2001–2011

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ABSTRACT

Analyzing Canadian business and census data from 2001 to 2011, this paper examines local area characteristics associated with arts organization growth. We consider five hypotheses: (1) Critical Mass: arts growth will occur in existing arts districts. (2) Gentrification: arts growth will occur in low-income and low-rent areas. (3) Rising Tide: arts growth will parallel general economic growth. (4) Urbanity: arts growth will occur in urbanized areas. (5) Perfect Audience: arts growth will occur in neighbourhoods with demographic groups most likely to consume the arts. We test these hypotheses at three levels: qualitative descriptions of Canada's top three arts growth neighbourhoods, ecological analysis of arts growth in Canada's three largest metropolitan areas, and a national hierarchical linear regression. Our findings demonstrate strong support for Critical Mass, Urbanity, and Perfect Audience. Mixed findings for Gentrification and Rising Tide reveal that arts growth occurs in a diversity of local economic conditions. Our conclusion articulates the utility of 'ecological' approaches to arts production and consumption more generally.

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1. Introduction

Arts production and consumption is a defining topic for the sociology of culture. The field has largely revolved around explaining *how* particular art forms are produced and *who* consumes them.

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These explanations have often focused on organizational structures of production systems (e.g. Dowd, 2004; Peterson & Anand, 2004), and consumers' demographic features (e.g. Bourdieu, 1984; Chan & Goldthorpe, 2007). More recently, sociologists of culture have turned their attention to *where* artistic practices occur. Emerging research suggests that both artistic production (e.g. Lloyd, 2005; Molotch, 2003) and consumption (e.g. Babon, 2006; Griswold, Mangione, & McDonnell, 2013) are greatly influenced by *location, location, location*. Nonetheless, many questions remain about the relationship between place and artistic practices.

One way in which place and the arts are connected is through artistic districts or “scenes” (Silver, Clark, & Yanez, 2010). Indeed, art forms often evoke specific place associations (e.g. Hollywood films, Chicago jazz). Urban sociologists have long-standing interests in urban arts districts, with seminal case studies documenting their characteristics and connections to political, economic, and geographic structures and processes (e.g. Lloyd, 2005; Zukin, 1982). While these studies offer important insights, urban sociologists have tended to treat artistic production and consumption as independent variables in the explanations of other phenomena such as gentrification (Ley, 2003) and economic development (Mommaas, 2004).

In the mode of the sociology of culture, by contrast, this paper seeks to explain artistic practices themselves. In particular, we identify local area characteristics that foster the expansion of those practices. To do so, we analyze arts growth using Canadian census and business data from 2001 to 2011, operationalizing arts growth as the absolute change in the number of arts organizations¹ within neighbourhoods.

The paper first reviews relevant literature from fields such as the sociology of culture, urban sociology, and organizational sociology. We synthesize five hypotheses that offer potential explanations for *where* arts growth tends to occur: (1) *Critical Mass*: arts growth will occur in or nearby existing arts districts. (2) *Gentrification*: arts growth will occur in low-rent, working class neighbourhoods. (3) *Rising Tide*: arts growth will parallel general economic growth and prosperity. (4) *Urbanity*: arts growth will occur in denser, less car dependent urban areas. (5) *Perfect Audience*: arts growth will occur in areas with people who are most likely to consume arts and culture amenities: the younger, single, and educated.

We evaluate these hypotheses at three geographic levels. First we assess the hypotheses against descriptive case studies of Canada's top three arts growth neighbourhoods: the Plateau in Montreal, Parkdale in Toronto, and South Downtown Vancouver. Next are metropolitan analyses that use *t*-tests to identify social and geographic features of top arts-growth neighbourhoods in Toronto, Montreal, and Vancouver. Finally, hierarchical linear regression tests all five hypotheses in relation to each other at the national-level.²

Results offer strong support for *Critical Mass*, *Urbanity*, and *Perfect Audience* across Canada. Evidence for *Rising Tide* and *Gentrification* is mixed. Neighbourhoods with strong arts growth did not share a uniform economic profile. They were not particularly rich or poor in 2001, and did not become noticeably wealthier over the decade, relative to other areas. They did, however, experience significant population growth, but saw declines in working class populations and slower racialized minority growth than otherwise similar areas.

The larger implication of this paper is the clear illustration that space matters for artistic practices. Arts districts are not evenly distributed across Canada. Rather, they are highly concentrated into very distinct areas with specific social ecological characteristics. This spatial concentration points to the importance of incorporating an ecological approach to the sociology of culture in order to complement

¹ We use the general term “organizations” referring to either for-profit or not-for-profit group involved in the production or distribution of the arts. See a complete list of the types of organizations in Table 1.

² Canadian cities are in some ways a middle-ground amidst common experiences of deindustrialization and the rise of the symbolic economy. As in the United States, they are often characterized by 19th-century city centres surrounded by sprawling, car-dependent suburbs built in the post-war period. They are also extremely diverse in terms of race, ethnicity, and birthplace. Like Europe, however, there is heavy overlap between racialized minority and immigrant populations. Also like Europe, Canada's urban cores have remained populated and prosperous relative to the US (becoming even more so in the early 21st-century). One distinguishing factor is the spatial distribution of Canadian cities. Over half of Canada's population inhabits an urban corridor stretching along the US border from Ontario to Quebec, encompassing Toronto, Montreal, and Ottawa. For more information see Lightbody (2006).

organizational and demographic paradigms. The conclusion discusses specific contributions that an ecological approach to the arts offers to both cultural sociologists and policymakers.

2. The rise of the arts in post-industrial society

It is difficult to deny the dramatic growth of the arts and cultural sector in recent decades, both in real economic terms and in the consciousness of policymakers and the general public. In the United States, total employment in “arts, entertainment, and recreation” grew nearly 70% between 1990 and 2013, accounting for a steadily increasing share of the total labour force (Fig. 1). In Canada, the total number of artists in the workforce was over three times higher in 2001 than it was in 1971, and grew at nearly four times the rate of total employment between 1991 and 2001 (Fig. 2; Hill, 2014a; Hill & Capriotti, 2009). This growth in the number of artists was mirrored by increasing cross-national citizen membership in cultural organizations, with Canada and the United States showing some of the steepest gains (Silver & Clark, 2013).

These national trends have been concentrated in urban areas. Nearly one half of Canada’s artists live in Toronto, Vancouver, or Montreal, and 22% in Toronto alone. This urban concentration, moreover, has been steadily increasing over time (Hill, 2014b). Urban scholars have accordingly noted the increasingly prominent position of artists, cultural industries, and arts participation in urban life. Many have stressed the economic “dividends” of arts concentrations for cities as a whole (Florida, 2002; Markusen & Schrock, 2006). The social consequences of arts growth have also been a key topic, as the arts have been linked with community stabilization and cohesion (Grodach, Foster, & Murdoch, 2014; Stern & Seifert, 2007) and with urban polarization (Catungal, Leslie, & Hii, 2009; Zukin, 2010). Furthermore, policymakers have explicitly embraced cultural planning policies in many cities worldwide (Grodach & Silver, 2012).

While much research analyzes arts growth in specific areas and its impact on cities more generally, less systematic research exists on why the arts thrive and expand in some places and not others. Several important case studies have offered detailed, ethnographic accounts of the factors behind arts growth in particular neighbourhoods (e.g. Barnes & Hutton, 2009; Lloyd 2005; Zukin, 1982). However, the generalizability of these accounts is open to question (Kaliner, 2013). Moreover, this research tends to focus on famous neighbourhoods such as New York’s Lower East Side or Chicago’s Wicker



Fig. 1. Arts, entertainment and recreation as a percentage of all US employees, 1990–2013. (U.S. Federal Reserve Economics Data).

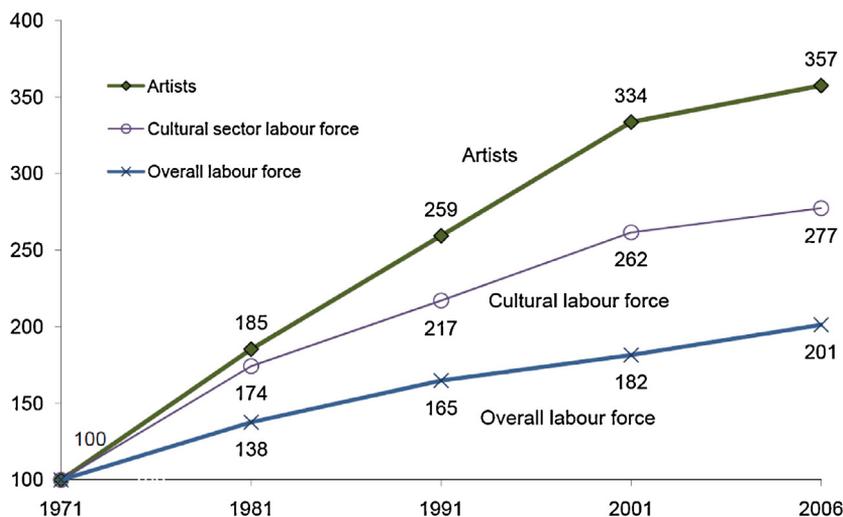


Fig. 2. Percentage growth in artists, the cultural sector and the overall labour force in Canada, 1971–2006 (Hill & Capriotti, 2009:30).

Park, making it difficult to assess how these particular places have differ from those that did not experience arts growth.

3. Social ecology revisited

The study of the arts would benefit greatly from a theoretical and empirical perspective that makes space and place central. To this end, we adopt an ecological approach in the tradition of the Chicago School (Park, Burgess, & McKenzie, 1925). Though social ecology fell out of favour in the mid-20th century (Sampson, 2012, chap. 2), the approach has experienced a revival as social scientists have more carefully distinguished characteristics and processes at the individual-level from those of the group or location. Methodological and theoretical advances in neighbourhood effects research (e.g. Sampson, 2012) and incorporation of spatial characteristics such as distance (e.g. Logan, 2012) have made ecological thinking increasingly relevant.

While a detailed analysis of the Chicago School can be found elsewhere (e.g. Abbott, 1999; Merriman, *in press*), we can identify a few important themes for our analysis. First, since all “social facts are located” (Abbott, 1999), we must ask which facts are located where, and why. Second, answering the why question requires identifying relationships between social facts themselves and multiple intersecting processes that comprise the character of the place(s) in which they occur (Molotch, Freudenburg, & Paulsen, 2000:793). Finally, places are not isolated, but form complex geographic structures (Logan, 2012). They are not only determined by their internal character, but also by how they are located in relation to other places. With these ideas in mind, we now turn to the social ecology of arts growth.

4. Five hypotheses about arts growth

This section synthesizes ideas in academic and popular literature to formulate five hypotheses connecting local area characteristics with arts growth.

4.1. Critical Mass: arts growth is likely to occur in existing arts districts

Economic and organizational theory suggests that arts growth follows existing arts districts. For a variety of reasons, established arts districts are likely “path dependent” (Arthur, 1990). Economists and geographers point to “urban agglomeration” effects (e.g. Fujita, Krugman, & Venables, 2001),

where firms in the same economic sector benefit from co-locating. Arts districts may also experience agglomeration effects through cultural capital (Ley, 2003).

Organizational sociologists, while more skeptical of economic rationality, offer similar predictions. DiMaggio and Powell's (1983) theory of "institutional isomorphism" suggests that new arts organizations will likely model themselves on established organizations. This may include locating within the same neighbourhoods. Furthermore, if market or institutional dynamics do not themselves cause clustering, local governments that believe in the benefits of agglomeration may purposely attempt to create "cultural clusters" through public investment and zoning policies (Mommaas, 2004).

These ideas often point towards arts growth *within* existing arts districts. Yet a critical mass of arts activity may also generate arts growth *nearby* in places that still offer access to relevant resources. Indeed, gentrification scholars often suggest artists and arts organizations prefer locations on the "edge" of expanding arts districts (Douglas, 2012; Lloyd, 2005). Hence a sub-hypothesis to *Critical Mass* is that arts growth occurs not directly within established arts districts, but rather in nearby, less saturated areas.

We examine each possibility, operationalizing *Critical Mass* both as (1) the number of arts organizations within an area in 2001, as well as (2) the average number of arts organizations in neighbouring areas. We also consider the number of arts and cultural workers who live in the area in terms of (3) absolute numbers, and (4) a proportion of overall residents.

4.2. *Gentrification: arts growth is most likely to occur in low-rent, economically depressed neighbourhoods*

In contrast to the relatively stable picture of *Critical Mass*, many urban sociologists see arts districts as more dynamic components of larger migration patterns. The role of artists and arts organizations as "pioneers" or intermediaries in the gentrification of working class neighbourhoods has been documented in neighbourhood case studies (Douglas, 2012; Lloyd, 2005; Slater, 2004; Zukin, 1982). According to this perspective, artists are both *pushed* out of wealthier, more desirable neighbourhoods (Ley, 2003) and *pulled* to working class neighbourhoods by the appeal of lower rents and the availability of industrial building stock for work, performance, and living space (Zukin, 1982).

According to *Gentrification*, we might therefore expect arts growth in neighbourhoods with lower average incomes, rents, and higher unemployment. However, the opposite outcome is also plausible, in that higher income produces increased demand for luxury goods. Indeed, research in Canada and the United States has shown positive correlations between income and arts consumption (e.g. Hill, 2012; NEA, 2009). We therefore also consider the flipside of *Gentrification*: that arts organizations thrive in wealthier areas.

Gentrification research has been more divided on the topic of minority populations. Some studies have noted that neighbourhoods attractive to artists tend to have immigrants who are also drawn by cheap rent and available space (Douglas, 2012; Lloyd, 2005). Others, however, have found that artists tend to avoid neighbourhoods with large populations of racialized minorities (Grodach, Curid-Halkett, Foster, & Murdoch, 2014; Ley & Dobson, 2008).

For the purposes of this paper, we operationalize *Gentrification* specifically with relation to the socio-economic conditions that existed at the beginning of our period of analysis, 2001. We include (1) average employment income, (2) average rent, (3) unemployment rate, and (4) the proportion of residents in working-class occupations. We also include the presence of minorities in terms of (5) the proportion of residents who are immigrants, and (6) visible minorities.³

4.3. *Rising Tide: arts growth is most likely to occur in neighbourhoods experiencing economic growth more generally*

While *Gentrification* concerns initial conditions that spark arts growth, places are in a constant state of change. Research into the relationship between arts growth and economic change in particular has

³ The Canadian Census defines visible minorities as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour". Visible minority status is established through self-identification in the following provided categories: South Asian, Chinese, Black, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean, Japanese, Visible minority not included elsewhere, Multiple visible minorities, and Not a visible minority (Statistics Canada 2013).

produced ambiguous findings. The classic “stage theory” of gentrification suggests that while artists and arts establishments create the conditions that spur gentrification and economic growth, those same processes eventually squeeze out the arts (Catungal et al., 2009; Ley, 2003). From this theory, arts growth should be negatively associated with general economic growth.

We term the flipside of this idea *Rising Tide*: that the arts, like other organizations, benefit from general economic growth. In fact, some research suggests that arts establishments in particular have a symbiotic relationship with urban economies (e.g. Clark, 2004; Florida, 2002). To test which, if either, of these hypotheses hold more generally, we operationalize *Rising Tide* as the change in (1) average employment income, (2) average rent, (3) the unemployment rate, (4) population, and (5) establishments in general.

It is important to also consider a potentially darker dimension of *Rising Tide*: the displacement of existing residents, particularly minority or vulnerable populations (Slater, 2006). Displacement in growing areas can occur for many reasons, both economic and political (e.g. Slater, 2004; Smith, 1996). With regard to emerging arts districts it should also be noted that displacement may occur due to a sense of alienation experienced by older residents during periods of rapid cultural change (Brown-Saracino, 2009).

Measuring displacement directly is notoriously difficult (Slater, 2006:748), and we cannot offer a definitive test here. Nonetheless, as part of the *Rising Tide* hypothesis, we can examine associations between arts growth and socio-cultural changes. Therefore, to the economic change variables mentioned above, we add (6) change in the proportion of working class residents, (7) immigrants, and (8) visible minorities. Finally, we include (9) arts/cultural workers to test if the proportion of artists themselves declines even as arts establishments grow.

4.4. Urbanism: arts growth is most likely to occur in the most urbanized neighbourhoods

Classic urban sociological thinking from Wirth (1938) to Fischer (1995) posits close relationships between dense urban living and unconventional social behaviour, including artistic expression and bohemian lifestyles. For Wirth, cities foster the breakdown of traditional community ties. For Fischer, large, dense cities allow people with unconventional interests to seek each other out and form the critical mass to support their distinctive subcultures. More recently, Florida (2002) has argued that creative workers are attracted to the urban lifestyle because of the personal freedom it affords them.

Studies of gentrification often focus on urban neighbourhoods. As such it is difficult to disentangle urbanism from socio-economic dynamics. However, given that we are witnessing historic shifts of wealth into urban city centres and poverty into the surrounding suburbs (including Canadian Cities, e.g. Hulchanski, 2007), it is important to examine these factors independently. Do arts organizations continue to locate in urban neighbourhoods even as rents increase, or do they move further away in search of more affordable space (as Canadian immigrant communities have done, e.g. Fong, Matsuo, and Wilkes 2008)?

We operationalize *Urbanity* as (1) population density, and (2) the proportion of residents who commute by public transit, walking, or cycling.

4.5. Perfect Audience: arts growth is most likely to occur in the neighbourhoods inhabited by single, young professionals

Our final hypothesis is that arts organizations are likely to be established in neighbourhoods populated by the kinds of people who consume the most art. The demographic predictors of arts consumption are one of the most studied issues within the sociology of culture, and there is a rich literature to consult. One of the strongest predictors high-level consumption has been social status, measured variably in terms of education, income, and occupation (Chan & Goldthorpe, 2007; Hill, 2012; Peterson & Kern, 1996). While the latter two measures have already been incorporated into our other hypotheses, we operationalize the *Perfect Audience* hypothesis as a neighbourhood with a high proportion of (1) university educated residents.

To education, we also add (2) the proportion of residents who are between 25 and 34 years of age and (3) the proportion of residents who are single. While studies have demonstrated a more complex

Table 1

Descriptive data for organizations included in the arts growth variable.

Type of organization	2001 total orgs.	2011 total orgs.	2001 avg. personnel	2011 avg. personnel
Art dealers	1488	1217	3.2	2.6
Fine arts schools	1730	2363	3.9	5.8
Musical theatre and opera companies	131	143	17.0	19.5
Dance companies	119	233	6.6	5.3
Musical groups and artists	1281	2171	3.5	2.7
Other performing arts companies	107	215	11.3	6.2
Performing arts presenters w/ facilities	256	538	19.0	17.6
Performing arts presenters w/o facilities	322	632	7.1	5.2
Independent artists writers and performers	6306	9569	2.7	1.6
Non-commercial art museums/galleries	253	270	8.5	13.0

relationship between age and arts consumption (e.g. DiMaggio & Mukhtar, 2004; NEA, 2009), case studies of arts districts have suggested the importance of a young, single cohort of residents who act as both art consumers and producers (e.g. Lloyd, 2005; Zukin, 1995).

5. Methodology

5.1. Data

We evaluate these hypotheses using the Canadian Census and Canadian Business Patterns survey (CBP) from 2001 and 2011. The CBP survey records and categorizes businesses and organizations across Canada. Data from the two surveys were aggregated at the level of “Forward Sortation Area” (FSA), which corresponds to the first three digits in the Canadian postal code ($N = 1540$) and are largely similar to American zip codes. FSAs have an average population of about 20,000 but vary greatly by land area and density, especially in more rural areas (hence we control for density and population in our national analysis); in urban areas they approximate neighbourhoods. One of the useful features of FSAs for our purposes is that they remain very consistent across time relative to other geographic units such as census tracts.

Our dependent variable, arts growth, is operationalized as the absolute increase between 2001 and 2011 in the number of arts organizations located in each FSA. We have adopted a narrow definition of the arts, focusing specifically on organizations involved in the production and exhibition of music, theatre, dance, and the visual arts. We did not include common businesses such as music or book stores which we considered to be more indicative of general retail areas rather than art districts specifically. Nor did we include design-oriented businesses such as graphic designers or architecture firms, but comparing their local antecedents to those for the more narrowly defined arts organizations analyzed here may yield further insight.

Table 1 lists the individual types of organizations in our index of arts growth. The CBP defines these categories according to the North American Industry Classification System. While the CBP does not distinguish between for- or non-profit, public or private ownership, or between the size of organizations, Table 1 does provide some descriptive information on the organizations in our arts growth index. Note that in both 2001 and 2011, independent artists made up a majority of arts organizations. Average personnel indicate that these organizations in general tend to be very small. Thus the typical organization in our measure would be an artist studio or office occupied by one or two people.

Clarification on some of our independent variables is also in order. Occupational variables are defined using Statistics Canada’s National Occupational Classification system. Arts and cultural workers refer to those people classified in “art, culture, recreation and sport.”⁴ The working class refers to those classified under “trades, transport and equipment operators”, “natural resources and

⁴ At the time of analysis, this was the most detailed occupational category available from the 2011 Canadian Census.

agriculture”, and “manufacturing and utilities”. For income, we use individual employment income rather than family or household income measures. This ensures that we do not bias the measure against neighbourhoods with higher proportions of single-person households.

5.2. Analysis

Because growth dynamics may operate differently between places and geographic levels, we employ multiple analytic techniques. In the tradition of urban case study work, we start with qualitative descriptions of the single top-growth FSAs in Canada’s “big three” cities (Toronto, Montreal, and Vancouver). Next, we consider the Toronto, Montreal, and Vancouver metropolitan areas. In the tradition of social ecology, we examine how arts growth fits into larger spatial arrangements of the cities. Using Jenks natural breaks,⁵ we divide each city into high-, medium-, and low-arts growth neighbourhoods. We then plot these neighbourhoods within city maps, and employ *t*-tests to determine differences that distinguish high-arts growth neighbourhoods from other areas in the same cities.

Finally, we extend our analysis to Canada as a whole using hierarchical linear modelling. At this level we are able to test our hypotheses within the same model, allowing us to measure each hypotheses’ individual effects and their relative strength in predicting arts growth. Hierarchical modelling allows us to nest each FSA within its larger census metropolitan area (CMA). More information on our model is provided below.

6. Three cases of arts growth neighbourhoods

The arts grew by about 3.5 organizations per FSA in Canada (5358 total), but ranged from 124 organizations in South Downtown Vancouver (see below) to –17 in Ottawa South. Consistent with existing research (Hill, 2014b), arts growth was dominated by the big three. In fact, the top 18 FSAs for arts growth were located within the city limits of Montreal, Toronto and Vancouver, and only six of the top 50 areas were located outside their larger metropolitan areas. Outside these cities, most arts growth occurred in smaller towns known for their strong art scenes. For instance, the 20th ranked FSA is in Stratford, Ontario, a town best known for its annual Shakespeare festival and as the hometown of Justin Bieber. At the same time, large cities outside the big three, such as Calgary or Ottawa, had relatively little growth – a finding that lends initial support to the *Critical Mass* hypothesis.

To provide a more detailed portrait of strong arts growth areas within the big three, we begin with case studies of each city’s highest growth FSA: “the Plateau” in Montreal (H2J), “Parkdale” in Toronto (M6K), and “South Downtown” Vancouver (V6B). Table 2 shows descriptive statistics for arts growth and key variables corresponding to our five hypotheses and compares these three neighbourhoods to the average FSA *within* the three cities and *across* Canada as a whole.

6.1. H2J: The Plateau, Montreal

The Plateau has had a long association with the arts, including the abstract art collective *Les Automatistes* of the 1940s, writer Mordecai Richler, and musician and poet Leonard Cohen. Home to a predominantly immigrant and working class population in the mid-20th century, the neighbourhood has undergone a long and gradual transition to a middle-income neighbourhood with one of the most concentrated arts scenes in the country (Germain & Rose, 2000; Walks & Maaranen, 2008). By the 1990s, the Plateau was already making international rankings of liveability and tourism (Germain & Rose, 2000:157). As Table 2 shows, by 2000 few locals were either working class or immigrants (at least relative to the city as a whole). Instead, the population was, on average, less racially diverse and far more educated than either Montreal or Canada as a whole.

Table 2 also shows the size of the existing arts scene even before its subsequent growth between 2001 and 2011. In 2000, the neighbourhood was home to 120 arts organizations and 16% of its local

⁵ Jenks natural breaks is a statistical procedure for grouping data in order to minimize variance within each group, but maximize variance across groups.

Table 2

Average values for arts growth and predictor variables at national, metropolitan, and neighbourhood levels.

Neighbourhood characteristics (2001)	Canada	H2J (Plateau)	Montreal	M6K (Parkdale)	Toronto	V6B (S. Dwnn)	Vancouver
Arts growth	3	75	7	87	13	124	17
Total arts organizations	8	120	17	39	22	66	24
Surrounding arts organizations	9	52	18	52	24	21	24
Arts/cultural workers	278	2730	509	1265	658	520	663
% arts/cultural workers	3%	16%	5%	7%	6%	8%	7%
Income	\$31,907.49	\$32,340.00	\$33,554.10	\$25,187.00	\$42,752.16	\$40,624.00	\$35,637.18
Rent	\$648.12	\$582.00	\$606.09	\$690.00	\$896.27	\$693.00	\$864.50
Unemployment rate	8%	8%	9%	9%	7%	12%	8%
% working class	26%	7%	17%	26%	17%	8%	13%
% immigrants	16%	13%	28%	56%	46%	33%	44%
% visible minorities	11%	6%	20%	51%	38%	31%	45%
Δ income	\$18,683.98	\$19,703.33	\$17,384.60	\$24,863.33	\$20,654.27	\$22,291.29	\$25,321.10
Δ rent	\$60.57	\$92.76	\$67.58	\$41.41	−\$41.12	\$560.73	\$124.88
Δ unemployment rate	0%	0%	1%	1%	2%	−6%	−1%
Δ population	2209	736	764	1115	1381	14,153	2179
Δ organizations	133	13	−54	1059	293	4324	332
Δ % working class	−4%	−3%	−5%	−14%	−4%	−4%	−3%
Δ % immigrants	1%	7%	5%	−11%	−1%	0%	−1%
Δ % visible minorities	4%	6%	9%	−8%	6%	10%	4%
Δ arts/cultural workers	43	−325	18	790	86	610	124
Density (people/km ²)	1412	12,398	5449	7774	5173	7615	5093
% non-drivers	17%	61%	41%	63%	43%	56%	34%
% university grads	18%	46%	29%	22%	32%	36%	35%
% aged 25–34	13%	28%	15%	21%	18%	32%	20%
% single	33%	69%	42%	46%	37%	58%	43%

Predictor variables are grouped by relevant hypothesis.

population was employed in the arts, culture, and recreation sector. By both measures, the Plateau ranks among the top neighbourhoods in the country. By 2011, it topped the list for arts organizations at 195. In many ways, the Plateau epitomizes the intuition behind *Critical Mass*: a mature arts scene that continued to attract arts growth. With its high density and younger population, it also comports with *Urbanity* and *Perfect Audience*.

Despite its international renown, rent in the Plateau has remained near the city average, which is itself comparatively lower than other major Canadian cities. The endurance of the Plateau as an affordable neighbourhood may partly explain why this thriving arts scene has continued to attract new arts growth in the 21st century.

6.2. M6K: Parkdale, Toronto

Unlike the Plateau, Toronto's traditional arts districts such as the Annex and Yorkville saw absolute declines in arts establishments. Instead, the most arts growth occurred in Parkdale, a low-income neighbourhood that holds the city's largest additions and mental health treatment centre and a largely vacated industrial zone that had attracted a fledgling arts scene. As Table 2 indicates, Parkdale in 2001 had a much lower average income than the typical Toronto and Canadian FSA, and substantially lower education levels than the average Toronto FSA. Parkdale residents were also more likely to be working class, immigrants, and visible minorities than the city as a whole.

By the late 1990s, Parkdale began to undergo what Slater (2004) calls "municipally managed gentrification". This involved targeting unlicensed rooming houses and promoting the redevelopment of the industrial zone as a "creative" district (named "Liberty Village") that was to provide employment in arts, culture, and the technology sector (Catungal et al., 2009). The new attention paid

to Parkdale/Liberty Village by both City Hall and the corporate sector sparked fears that artists would be pushed out of the neighbourhood. Indeed, there were several high profile evictions as technology companies and condominium developers took over old warehouses (*ibid*). However, our data indicates that artists and arts organizations continued to increase in absolute numbers and as a proportion of the overall residents and businesses in the neighbourhood (not shown). Income has increased dramatically. Rent has also increased, but more gradually. However, both remained below the city average. The most notable change is perhaps a steep decrease in the percentage of the neighbourhood that is working class, immigrants, and visible minorities. Compared to the Parkdale of 2001, the neighbourhood today is whiter and wealthier. Compared to Toronto as a whole, however, it has trended towards average.

As a low-rent post-industrial district inhabited by marginalized populations, Parkdale clearly reflects *Gentrification*. Some elements of *Rising Tide* are also visible. While Parkdale has not become rich, arts growth has accompanied income growth and a steep decline in immigrants and minorities. Lastly, like the Plateau, it lends support to *Urbanity*.

6.3. V6B: South Downtown, Vancouver

V6B is the most centrally located of the three neighbourhoods considered here. It contains the south end of Vancouver's central business district (CBD), which includes office buildings, department stores, and hotel-conference centres. On either side of the CBD are two heritage districts: Yaletown to the west and Victory Square to the east. Yaletown in particular has seen rapid economic ascent. Its rise helps explain why V6B had the most arts growth in Canada and was, by 2011, second only to the Plateau in terms of arts organizations.

Since the 1980s, South Downtown has been aggressively targeted by public authorities and private investors to redevelop its declining industrial landscape that once served the ports running along False Creek (Barnes & Hutton, 2009). In its place, these groups have sought to build neighbourhoods that accommodate the “new economy” of cultural and technology-based industries, as well as to provide housing and consumer amenities for a new generation of urbanites (also see Lees, 1997).

If the Plateau and Parkdale epitomize *Critical Mass* and *Gentrification*, South Downtown is a strong example of *Rising Tide*. V6B experienced growth in almost every variable in Table 2. Its arts growth paralleled general business growth. This was matched with an explosion in rent, and increases in income, population, and average education. The proportion of FSA residents who were working class and/or immigrants was already quite low in 2001, and stayed low throughout the decade (though both increased in absolute numbers). Finally, like the Plateau and Parkdale, South Downtown was and continues to be inhabited by younger, single residents.

The growth evident in South Downtown stands in sharp contrast to the neighbouring Eastside – an area sometimes called the poorest FSA in Canada (Ley & Dobson, 2008:2481). Despite its proximity, the Eastside had among the lowest arts growth in the city. The Victory Square neighbourhood acts as a middle ground between the rest of V6B and the Eastside. Though it has only seen a fraction of Yaletown's development, this development has been subject to controversy and concern over whether the new downtown Vancouver will leave any room for the Eastside's vulnerable population.

In summary, all five hypotheses find some support in all three cases. There are several notable commonalities across the neighbourhoods, including their urban character, a larger population of single, younger adults, and an above average number of arts establishments to begin with. However, there are also differences between the neighbourhoods and each case seems to be more sharply defined by one process over others. Parkdale, as a clear case of *Gentrification*, had lower income and education, and more minorities and working class residents, in contrast to the Plateau and South Downtown. South Downtown saw huge rent increases and a population boom even as Parkdale and the Plateau held steady just below their city averages. Arts growth in the Plateau, in contrast to the other two, continues sustained, decades-long association with the arts. Even among the country's three most rapidly growing arts areas, we find both commonalities and differences, along with evidence of multiple overlapping processes.

7. Top growth neighbourhoods in the “big three” metros

These three cases exemplify different types of arts growth, but they are only single cases. To begin to assess the generalizability of processes evident in these dramatic cases, we now move to the metropolitan region. Using Jenks natural breaks, we divide FSAs in each of the big three metropolitan regions into high-, mid-, and low-arts growth neighbourhoods. We then map these neighbourhoods (Figs. 3–5), and use *t*-tests to identify how they differ according to all of the indicators included in Table 2.

Figs. 3–5 display clear ecological footprints of arts growth. In all three metros, the high-growth neighbourhoods cluster around the outskirts of the CBD. In Montreal, there is one large cluster of high-growth neighbourhoods directly north of the CBD. This cluster includes the Plateau, as well as neighbouring Outremont. In Toronto, the high-growth neighbourhoods flank the CBD: Parkdale and Queen Street West to the west, and Leslieville and the Beach to the east. Vancouver presents a slightly

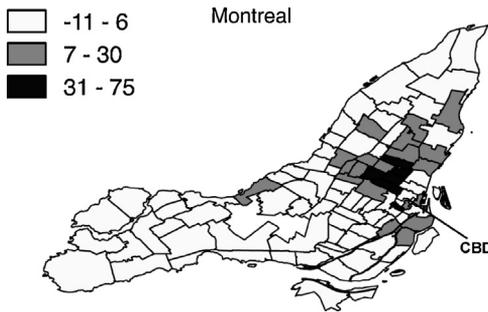


Fig. 3. Arts organization growth in Montreal, 2001–2011.

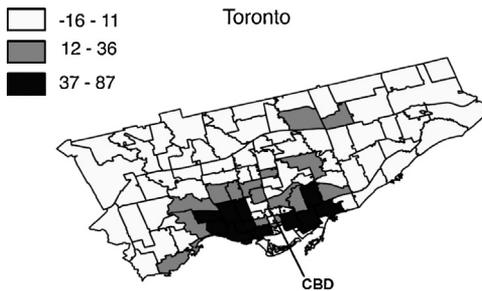


Fig. 4. Arts organization growth in Toronto, 2001–2011.

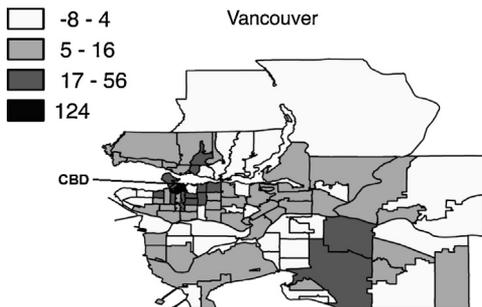


Fig. 5. Arts organization growth in Vancouver, 2001–2011. In order to calculate the natural breaks for Vancouver, V6B needed to be temporarily excluded due to its extremely high level of growth, which put it in its own category. It is represented in Fig. 3 with its own shade and was re-added to the *t*-test analysis in the high-growth group.

Table 3How high-arts growth neighbourhoods differ from all other neighbourhoods (*Critical Mass*, *Urbanity*, and *Perfect Audience*).

Neighbourhood characteristics (2001)	Arts growth	Montreal	Toronto	Vancouver
Arts organizations	High	53	57	28
	Mid/Low	12	13	13
Surrounding arts organizations	High	53	45	22
	Mid/Low	12	15	14
Arts/cultural workers	High	1429	1492	838
	Mid/Low	359	458	399
% arts/cultural workers	High	13%	9%	7%
	Mid/Low	4%	4%	4%
Density (people/km ²)	High	10,436	6688	5938
	Mid/Low	3380	3174	2142
% non-drivers	High	60%	54%	37%
	Mid/Low	29%	27%	18%
% university grads	High	39%	30%	30%
	Mid/Low	23%	27%	26%
% aged 25–34	High	24%	23%	22%
	Mid/Low	14%	16%	14%
% single	High	60%	43%	45%
	Mid/Low	40%	32%	32%

Bold text denotes significant differences ($p > 0.05$).

different picture. Almost the entire downtown peninsula and its surroundings contained high-growth neighbourhoods except for two FSAs: the Eastside (discussed above), and main CBD, bordering V6B on the north.

These arts clusters fall roughly within what Burgess (1925) once called zones “in transition” and “of workingmen’s homes,” which buffer the CBD and residential suburbs. This ecological finding is consistent with existing studies in cities such as New York and Chicago (e.g. Lloyd, 2005; Zukin, 1982), and Burgess’s own description of the forces of “regeneration” and “reorganization” at work in these areas: “witness the mission, the settlement, the artist’s colony, radical centres – all obsessed with a vision of a new and better world” (Burgess, 1925:56).⁶ Certainly there is good reason to believe that in Canadian cities too, artists have appropriated ageing factories and working class housing just as they have elsewhere. Yet the social ecology of North American cities has changed drastically since Burgess developed his concentric zone model. What do these zones look like in 21st-century Canada? To answer that question, we turn to *t*-tests shown in Table 3 (for *Critical Mass*, *Urbanity* and *Perfect Audience*) and Table 4 (for *Gentrification* and *Rising Tide*).

Given the amount of information contained in Table 3, we consider only the broader hypotheses. The *t*-tests offer across-the-board support for *Critical Mass*, *Urbanity*, and *Perfect Audience* with the only exception that high-arts growth neighbourhoods were not significantly more educated in Toronto and Vancouver.

Implications of the *t*-tests for *Gentrification* and *Rising Tide* are less straightforward. Regarding *Gentrification*, high-arts growth neighbourhoods in all three cities had lower incomes and rent⁷ and higher unemployment rates in 2001, but few of these measures were statistically significant. The tests also showed little relationship between arts growth and the presence of minority groups. What differences do exist suggest that arts growth took place in neighbourhoods that had lower levels of working class residents to begin with (particularly in Montreal).

The economic measures of *Rising Tide* suggest that high-arts growth neighbourhoods did experience more economic growth than other neighbourhoods, but the difference was typically not significant. Population data, meanwhile, presents clear trends. Across almost all neighbourhoods in all three cities, the working class was on the decline while immigrants and visible minorities were on the

⁶ For evidence on the connection between arts organizations and social movement activism in the US see Silver and Clark (in press), Knudsen et al. (in press) extend these findings to the Canada and France.

⁷ Except for Montreal where rents were virtually the same.

Table 4How high-arts growth neighbourhoods differ from all other neighbourhoods (*Gentrification and Rising Tide*).

Neighbourhood characteristics (2001)	Arts growth	Montreal	Toronto	Vancouver
Income	High	\$32,449.43	\$35,600.08	\$32,883.46
	Mid/Low	\$33,531.39	\$41,857.62	\$36,592.35
Rent	High	\$604.71	\$836.92	\$807.46
	Mid/Low	\$591.63	\$925.48	\$906.92
Unemployment rate	High	8.43%	6.74%	8.01%
	Mid/Low	7.19%	5.52%	6.98%
% working class	High	11%	17%	14%
	Mid/Low	20%	20%	18%
% immigrants	High	23%	44%	38%
	Mid/Low	19%	40%	36%
% visible minorities	High	14%	33%	37%
	Mid/Low	14%	33%	34%
Δ income	High	\$16,756.94	\$22,817.10	\$20,805.63
	Mid/Low	\$15,794.36	\$19,284.83	\$23,599.68
Δ rent	High	\$109.49	\$14.36	\$103.61
	Mid/Low	\$56.76	−\$15.71	\$17.97
Δ unemployment rate	High	0.06%	0.69%	−1.46%
	Mid/Low	0.65%	2.97%	0.02%
Δ population	High	322	4471	4885
	Mid/Low	2055	5247	3341
Δ total organizations	High	150	851	968
	Mid/Low	12	573	298
Δ % working class	High	−6%	−7%	−3%
	Mid/Low	−4%	−3%	−3%
Δ % immigrants	High	2%	−7%	−2%
	Mid/Low	5%	3%	2%
Δ % visible minorities	High	3%	0%	2%
	Mid/Low	8%	9%	7%
Δ arts/cultural workers	High	30	482	214
	Mid/Low	37	90	68

Bold text denotes significant differences ($p > 0.05$).

rise. And while these latter two groups were also increasing in high-arts growth neighbourhoods (in absolute numbers in all three cities, but proportionally only in Montreal), they were increasing at a significantly lower rate than other areas of the three cities.⁸

In summary, the *t*-tests help us to fill in the 21st-century social profile of Burgess' 'zones of transition.' These were not working class zones by the 2001, and the working class continued to decline throughout the decade. In 2001, these neighbourhoods were populated by a relatively young and single population with slightly lower than average incomes, living highly urban lifestyles. While the neighbourhoods were average in terms of ethnic diversity, their growth in diversity did not keep pace with the city around them.

8. Arts growth across Canada

National-level analysis permits us to consider each hypothesis in relation to the others and to assess whether metro and individual neighbourhood patterns hold more generally. To do so, we turn to hierarchical linear modelling.

8.1. Description of the model

Given the dominance of the "big three", and that other large cities had relatively little arts growth, we adopt a random-intercept hierarchical model and nest our cases within larger census metropolitan

⁸ The one exception to this trend is immigrant populations in high-arts growth neighbourhoods in Toronto, which actually declined in absolute terms as well as proportionally.

areas ($N=142$). This allows us to separate the baseline variation at the metropolitan level from the FSA-level variation that is our primary interest. Thus, the null hypothesis for our model assumes variation at the regional level, but not at the local level.

For reasons of clarity and multicollinearity, we minimize the size of the model by eliminating several of the variables considered in the univariate and bivariate analysis above. These exclusions were based on a combination of theoretical and statistical criteria. Theoretically, we aimed to include only the single most representative variable for each hypothesis or multiple variables if we were interested in different dimensions of the hypothesis. For example, existing arts organizations and surrounding arts organizations were both included because understanding *Critical Mass* hinges on which variable is strongest. On the other hand, unemployment was excluded in favour of income because we are not interested in the nuanced differences between the two. In deciding which variables to include, we also ensured that no included variables had a bivariate correlation of more than 0.7 with any other included variable. Thus, education could not be used to represent *Perfect Audience* because it correlates highly with income. Finally, we verified that our final list of included variables had VIF measurements of less than 5, meaning that no more than 20% of their variance was explained by the other included variables.

In addition to variables for each hypothesis, we include three more. First is population in 2001, as a control. Although each FSA is supposed to have comparable populations, in practice populations vary considerably. Second, to better understand the spatial dependency of our hypotheses, we introduce two interaction terms between the surrounding arts organizations and total arts establishments and between the surrounding arts establishments and income. We use the term “spatial dependency” because these interaction terms examine the possibility that being *near* an existing arts district will modify the effects of other local characteristics. We focus only on two variables of interest, but this type of analysis could be extended to many others.

8.2. Results

Fig. 6 provides the standardized coefficients for each variable in the model.⁹ An intercept-only model (not shown) reveals that only 6% of the variance in arts growth occurs at the CMA level, leaving the other 94% to be explained at the FSA-level. To do so, we examine regression results against each of our hypotheses.

Critical Mass: Surprisingly, the model suggests that the number of arts organizations in an FSA in 2001 was a negative predictor of arts growth after controlling for other indicators (in particular surrounding arts organizations). *Surrounding* arts organizations, however, was one of the *strongest* predictors. This is a striking finding: simply *being near* an arts district indicates future growth, regardless of the rent, density, or demographic profile.

Considering the interaction term between total and surrounding arts organizations provides further evidence of spatial dependence. Fig. 7 visualizes this result. It suggests an amplifying affect among those areas that had a high number of arts organizations in 2001 and were situated near other areas that also had a high number of arts organizations. On the other hand, high-arts organization neighbourhoods that are isolated showed little growth. More specifically: areas at the 90th percentile of total arts establishments (the dotted line) are increasingly associated with overall arts growth as the average number of arts establishments in their adjacent FSA's rises (the dotted line moves up and to the right). Space itself is a key sociological variable.

Gentrification: At first glance, *Gentrification* is almost completely unsupported at the national level. Arts growth was not significantly more likely to occur in poorer or wealthier neighbourhoods in general. Indeed, recall that, in Parkdale, 2001 incomes were much lower than the Toronto average, whereas in South Downtown Vancouver they were higher than average. Some qualified support, however, is offered by our second interaction term. While income in general was not associated with arts growth, the greater the average number of surrounding arts establishments, the more powerful the association between low income and arts growth becomes. This finding offers further support for

⁹ See Appendix for the full regression results presented as a series of nested models, each modelling adding an additional hypothesis.

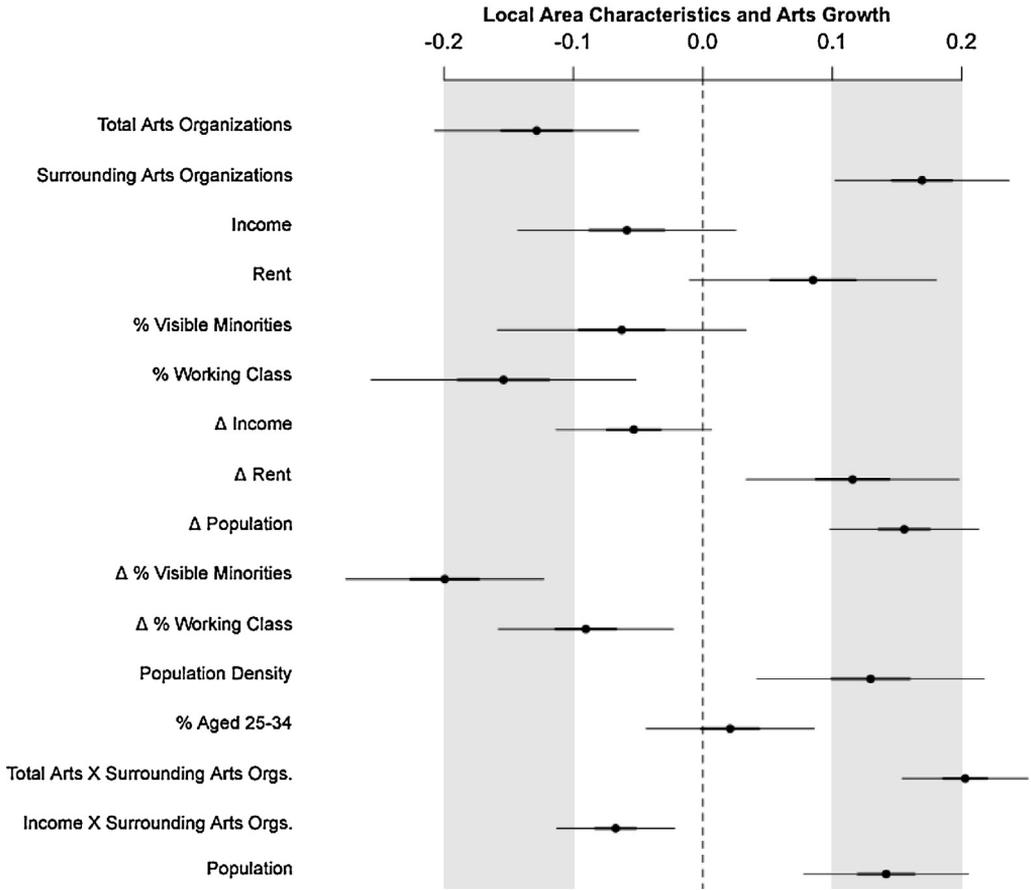


Fig. 6. Arts-growth HLM regression results. Points represent standardized coefficients and horizontal lines represent confidence intervals (any line intersecting zero is statistically insignificant, $p > 0.05$).

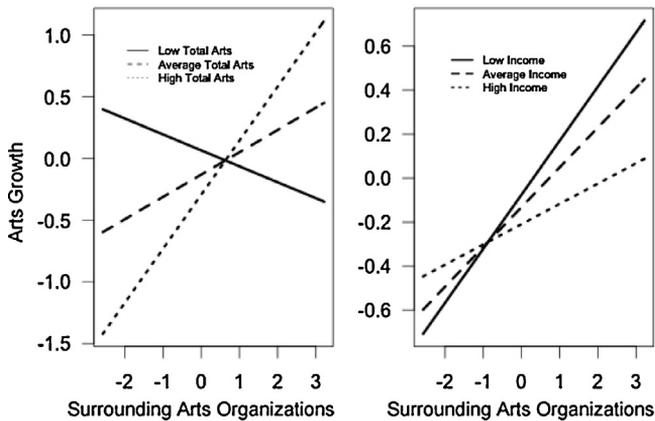


Fig. 7. Graphical representation of interaction terms. Lines represent the relationship between arts growth and surrounding arts organizations for FSAs with high (90th percentile), medium (median), and low (10th percentile) total arts (the left graphic) and income (the right graphic). All units have been standardized.

the idea that gentrification occurs specifically at the “edge” of existing arts districts (Douglas, 2012). Low-income areas are evidently attractive to arts organizations only when they border existing arts districts; a low-income area “as such” has little power to produce arts organization growth.

The other statistically significant finding for *Gentrification* contradicts its predictions: the proportion of residents employed in working class occupations negatively predicted arts growth. Arts growth did not occur in working class neighbourhoods. While these neighbourhoods may have been working class in decades past (as in our case studies), they were not, on the whole, working class neighbourhoods by 2001 when our analysis begins.

Rising Tide: Our model shows some support for the idea that arts growth occurs alongside general economic growth, or at least that the arts do not appear to be negatively affected as predicted by the stage model of gentrification. Population growth was a strong predictor of arts growth while rent growth had a more modest positive effect. Like *Gentrification*, these results may suggest that there is no single overarching relationship between arts growth and local economic dynamics. They do suggest, however, that either people are moving in great numbers to emerging arts districts, or that arts organizations are locating in growing neighbourhoods (or both).

More concerning is that arts growth is negatively associated with increases in proportional working class and visible minority populations. This finding echoes trends that emerged in the case studies and metro analyses. While the decline of the working class is to be expected (since artists are, by definition, not employed in working class occupations), the strong, negative association with changes in visible minority populations is striking. The data considered here cannot tell us whether visible minorities are actually being displaced from growing arts districts. All that can be said definitively is that visible minorities tend to be moving in higher numbers to urban neighbourhoods with little arts growth.¹⁰ Burgess' classic image of immigrants and artists seeking refuge in the same neighbourhoods no longer holds true.

Urbanity and Perfect Audience: Consistent with the case studies and metro analyses, *Urbanity* found significant support in our model. Age, while supported in earlier analyses, becomes insignificant after controlling for the others. While education was excluded in this model due to colinearity with income and working class, it does become significant and positive when entered in the absence of working class (not shown). Thus, a *Perfect Audience* of young people does not seem to be particularly important relative to other predictors of arts growth. An educated audience (though not necessarily wealthy) is.

Finally, while some support was found for all hypotheses, comparing the standardized coefficients allows us to gauge their relative strength. The strongest positive effects were associated with *Critical Mass*: both surrounding arts organizations and the interaction of arts organizations in and surrounding the FSA. The strongest negative effect is somewhat surprising: the increase in visible minorities (or immigrants). *Urbanity* and *Perfect Audience*, while consistently positive across our levels of analyses (for the most part), are shown to have a modest effect relative to *Critical Mass* and *Rising Tide*.

9. Conclusion

We conclude by reviewing our findings vis-à-vis the three ecological questions mentioned earlier and discussing the implications of our approach for the sociology of culture. First, as noted above, social facts are *located*. This paper highlights the continuing significance of that deceptively simple idea, not only for the Chicago School's traditional topics such as deviance, but also for the sociology of culture. We saw this clearly in the case of arts growth, which is highly spatially concentrated and occurs at different rates according to variations in the characteristics of the surrounding location.

Arts growth also supplies evidence of the *multi-processual* character of social life. All five processes identified in our hypotheses are present to some degree, but some more strongly in some places than others. Toronto's Parkdale exemplified *Gentrification*, Montreal's Plateau *Critical Mass*, and Vancouver's South Downtown *Rising Tide*. Arts growth, like other located facts, is generated by various processes that may or may not overlap in any given case. The sociologist must therefore articulate multiple

¹⁰ Substituting % visible minorities, and Δ % visible minorities with absolute values yields near identical results. As does substituting visible minorities for immigrants (in both proportional and absolute numbers).

pathways, and rather than search for the single best explanation, examine where and when some fit better than others, and vice versa.

Third, our analysis demonstrates the *spatial dependence* of arts growth. Social facts behave differently depending on where they are situated geographically in relation to other facts. Arts growth is highly dependent on proximity to other arts districts: simply being nearby an existing arts cluster strongly determines the chance a given area will experience arts growth. Meanwhile, existing arts organizations and income seem to have a different relationship with arts growth depending on whether or not they are located nearby existing arts districts.

These findings provide a platform for future ecological research in the sociology of culture. As such, they raise more questions than they answer. We have shown that arts growth in general is located, but we suspect that the influence of neighbourhood characteristics extends much more intimately into arts practices. To continue the ecological metaphor: as with Darwin's finches, arts producers and consumers may respond to distinct local milieus by generating unique scenes and artistic forms.¹¹ Will Parkdale's scene differ from the Plateau, and if so can this change be partially explained by the characteristics of the respective neighbourhoods? Indeed, this possibility has been suggested by Molotch (2003), but the potential for observing and theorizing more general trends is promising.

Moreover, if local neighbourhood characteristics are influential in generating different artistic forms, then this also provides a potential point of integration between our approach and other perspectives in the sociology of culture. For instance, field theory features the relationship and valuation of different artistic genres. If two neighbourhoods produce different types of art, then their geographic "location" can be compared to their field "position" (Criswold et al., 2013).

Spatial dependence is another area where this approach could be extended. While our hypotheses have been tested primarily at the neighbourhood level, a logical next step would be to more carefully compare processes at different levels. This would require not only comparing the relative strength of local, regional, and national-level processes, but also to examine how the same variables behave at different levels. Another option is to extend our understanding of spatial dependency beyond the single ring of surrounding FSAs to something approaching a concentric circle model. There is still much to learn about how arts districts are shaped not only by what they contain, but also by what they are surrounded.

In addition to extending the ecological approach more generally, our specific findings suggest further questions. The strength of *Critical Mass* sharpens our understanding of arts growth, but could still represent several causal mechanisms. For example, is *Critical Mass* driven primarily by the individual choices of actors or structural forces such as zoning regulations? The strong negative effect of growth in immigrants/visible minorities also presents several questions. Is this a function of Canada's immigrant selection process, Canadian newcomers sorting themselves into low arts growth suburban areas, or – most troublingly – evidence of racialized displacement or exclusion?

Finally, an ecological understanding of arts growth has much to offer policymakers. As Markusen (2014:580–581) argues, municipal politicians hoping to build creative cities have often turned to "opportunistic" one-time deals to attract individual, "disproportionately large" arts or cultural organizations (whether commercial, non-profit, or governmental). By contrast, our findings suggest that a more fruitful approach would be to understand the local conditions that spawn arts activity in the first place. Working with existing art districts rather than attempting to start new ones from scratch may be crucial, as may be density and car-independent neighbourhoods. And our findings should also alert policymakers to potential social problems such as decline in ethnic and racial diversity.

Acknowledgements

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¹¹ We thank an anonymous review for suggesting this possible extension for the ecological approach.

Appendix. Arts growth multi-level regression results

Model	1	2	3	4	5	6
Population	0.061** (0.029)	0.083*** (0.032)	0.071** (0.032)	0.073** (0.032)	0.097*** (0.032)	0.142*** (0.032)
Total arts organizations (logged)	0.027 (0.036)	−0.011 (0.039)	−0.040 (0.040)	−0.059 (0.040)	−0.082** (0.040)	−0.128*** (0.040)
Surrounding arts organizations (logged)	0.225*** (0.032)	0.227*** (0.034)	0.184*** (0.034)	0.175*** (0.034)	0.168*** (0.034)	0.169*** (0.034)
Income (logged)		−0.089** (0.043)	−0.120*** (0.043)	−0.108** (0.043)	−0.081* (0.043)	−0.059 (0.043)
Average rent		0.001 (0.046)	0.027 (0.050)	0.040 (0.050)	0.043 (0.049)	0.085* (0.049)
% visible minorities (logged)		−0.037 (0.042)	0.050 (0.045)	−0.019 (0.049)	−0.055 (0.050)	−0.063 (0.049)
% working class (logged)		−0.143*** (0.043)	−0.224*** (0.052)	−0.173*** (0.054)	−0.179*** (0.053)	−0.154*** (0.052)
Δ average employment income (logged)			−0.035 (0.030)	−0.020 (0.031)	−0.010 (0.031)	−0.053* (0.031)
Δ average rent			0.114*** (0.043)	0.111*** (0.043)	0.096** (0.043)	0.116*** (0.042)
Δ population			0.165*** (0.029)	0.177*** (0.030)	0.161*** (0.030)	0.156*** (0.029)
Δ % visible minorities			−0.253*** (0.040)	−0.261*** (0.039)	−0.254*** (0.039)	−0.199*** (0.039)
Δ % working class			−0.101*** (0.035)	−0.101*** (0.035)	−0.105*** (0.035)	−0.090*** (0.034)
Population density (logged)				0.157*** (0.046)	0.133*** (0.046)	0.130*** (0.045)
% aged 25–34 (logged)					0.111*** (0.032)	0.021 (0.033)
Total arts*surrounding arts						0.203*** (0.025)
Income*surrounding arts						−0.067*** (0.023)
Constant	−0.061 (0.038)	−0.071* (0.040)	−0.086** (0.040)	−0.094** (0.040)	−0.092** (0.040)	−0.144*** (0.039)

Values presented are standardized coefficients, each model represents the addition of a subsequent hypothesis.

* $p < 0.1$.

** $p < 0.05$.

*** $p < 0.01$

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