

Class-ifying London

Questioning social division and space claims in the post-industrial metropolis

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Richard Florida's Rise of the Creative Class of 2002 ends with a clarion call for a post-industrial, post-class sensibility: 'The task of building a truly creative society is not a game of solitaire. This game, we play as a team.' Florida's sentiment has been echoed across a broad and interdisciplinary literature in social theory and public policy, producing a new conventional wisdom: that class antagonisms are redundant in today's climate of competitive professionalism and a dominant creative mainstream. Questions of social justice are thus deflected by reassurances that there is no 'I' in team, and that 'we' must always be defined by corporate membership rather than class-based solidarities. The post-industrial city becomes a post-political city nurtured by efficient, market-oriented governance leavened with a generous dose of multicultural liberalism. In this paper, we analyze how this Floridian fascination has spread into debates on contemporary urban social structure and neighbourhood change. In particular, we focus on recent arguments that London has become a thoroughly middle-class, post-industrial metropolis. We evaluate the empirical claims and interpretive generalizations of this literature by using the classical tools of urban factorial ecology to analyze small-area data from the UK Census. Our analysis documents a durable, finegrained geography of social class division in London, which has been changed but not erased by ongoing processes of industrial and occupational restructuring: the central tensions of class in the city persist. Without critical empirical and theoretical analysis of the contours of post-industrial class division, the worsening inequalities of cities like London will be depoliticized. We suggest that class-conscious scholars should only head to Florida for Spring Break or retirement.

Key words: class, Marxism, Zizek, creative class, segregation, London

Introduction

Post-industrialism, it seems, heralds a post-materialist, post-social-theory world without class antagonisms. Cities—the dense concentrations of inequality and terminal class conflict that inspired Marx and Engels—are now typically approached via theories and policies that carefully avoid

any explicit reference to class politics. Richard Florida provides the most vivid example. Cities throughout the world urban system have sought Florida's advice on how to begin or sustain economic revitalization, but all of the refined, market-tested Power-Point performances conceal an essential paradox: attracting the creative *class* is about avoiding all serious thought about the

fundamental meanings and inequalities of ... class. Florida (and others such as Charles Landry, 2008) preach and (re)create a rhetorical hegemony where class is stripped of antagonism, so that discussions of opportunity and wealth can proceed until eventually there is no need to even mention the word ... class. The utopian kernel in this discursive web is the prospect of an inclusive and creative city where, given the right dose of technocratic efficiency (Žižek, 2006), the city trenches of class divisions (Katznelson, 1981) can finally be backfilled. The fact that this narrative continually emanates from the likes of Florida and Landry is not surprising. What is, however, is the increasing tendency for urban scholarship to reflect a similar politics.

Florida's brand of post-industrial neoliberal utopianism is today widespread; both in academic and policy circles. Take, for example, both the current coalition and previous Labour governments in the UK. Here, poverty and inequality have consistently been reduced to the problem of inclusion; a technocratic concern where any notions of structural inequality—and associated demands for redistribution—have been all but erased (Powell, 2000; also see Fincher and Iveson, 2008). The same rhetorical recasting of social relations is evident elsewhere. In Europe, the concepts of poverty and social exclusion have become synonymous:

'the terms poverty and social exclusion refer to when people are prevented from participating fully in economic, social and civil life and/or when their access to income and other resources (personal, family, social and cultural) is so inadequate as to exclude them from enjoying a standard of living and quality of life that is regarded as acceptable by the society in which they live'. (EU Council; cited in Ferrera *et al.*, 2002, p. 228)

This re-imagination of socio-economic relations has therefore effectively recast social class as completely absent of antagonisms. For the post-industrial city, economic growth—by any means necessary—has become the unproblematic axiom of urban

policy (Harvey, 1989). Moreover, poverty and inequality are viewed not as (potential) consequences of economic growth, but rather inhibitors to this very mission (see Cochrane, 2003, p. 227).

In this paper, we wish to disrupt this uncritical framing of post-industrial urban social geography. Our intervention makes two main points. First, we draw upon debate in sociology and political philosophy to probe the claim that post-industrialism has heralded a transformation in urban class relations. Specifically, we question the assumption that long-term changes in the occupational structures of cities in the Global North mean that urban class relations have transcended the antagonisms of the industrial age. Although the traditional industrial working class has declined in cities such as London, UK, the antagonistic social relations that were the concern of their representative organizations (e.g. trade unions, the [old] Labour Party) have not. As such, we should not mistake the changing appearance of class structure with the disappearance of class antagonism. This mistake, we argue, has been at the centre of recent commentaries of urban social change and gentrification (Butler et al., 2008; Hamnett, 2003; see Watt, 2008). Our second, and related, point uses the methods of classical factorial ecology to describe the contemporary class structure of London, a city recently used to support the idea of the middle-class city (Butler et al., 2008). We find a social structure significantly changed from that of London in the 1960s, but one that still contains a significant working-class presence. Moreover, although this presence cannot itself prove the actual experience of antagonisms, it does demonstrate that the reading of declining antagonisms via an increasingly middle-class social structure is fundamentally flawed.

Narrating the post-industrial city

In a broad historical context, claims that the (post-industrial) city is becoming absent of

class antagonism are, frankly, astonishing. Writing in the 1970s, Lefebvre (1991, 2003) posited that the city had become both the site and vehicle of class antagonism par excellence; late capitalist society had incorporated the city completely into its metabolism. However, what Lefebvre saw as a growing association (indeed, a complete symbiosis) between city and a capitalism defined by antagonism, some now see as diminishing. In short, for some the transition to postindustrialism appears to have made the notion of urban class antagonisms redundant. Strikingly, this has occurred at the same time as neoliberalism has transformed metropolitan politics (Peck and Tickell, 2002) and widened social inequality (Harvey, 2005). This, at the same time as study after study has shone light on exploited garment workers, office cleaners and undocumented labourers in archetypal post-industrial cities (e.g. Evans and Smith, 2006; Aguiar and Herod, 2006; Wills, 2008).

The parallel emergence of a benign discourse of class and neoliberal policies that have accentuated socio-economic differences would therefore appear contradictory. Indeed, they are. However, in many cities there have been social and economic changes that have accompanied post-industrialization and, consequently, transformed the form and appearance of class relations (Bourdieu, 1987). Put simply, the postindustrial city has a distinct occupational and economic profile to the industrial city that, in turn, has generated a new and emerging set of social relations (see Sassen, 2001). What we are therefore now witnessing in terms of recent scholarship on cities such as London (Butler et al., 2008) and New York (e.g. Freeman, 2006) is a questionable narration of the maturation of this transition (see Watt, 2008).

There is no doubt that the post-industrial shift has transformed urban society. Indeed, much of Daniel Bell's thesis (1976) regarding a service-sector-oriented economy, the rise of technocratic elites and a knowledge-based (i.e. science) industrial structure, has, in

varying degrees, played out (see Esping-Andersen, 1993). The associated decline in 'traditional' working-class industrial (and related residential) landscapes has been extensively documented since Bell's seminal comments (Beauregard, 1994; Buck et al., 2002). as E.P. Thompson (1964) Moreover, described, [post-industrial] economic change has necessitated social and cultural change. The most notable of these changes within the urban studies literature has been the rise of the 'new middle class'; the archetypal 'young professionals'; Richard Florida's designated agents of economic growth.

This social group has been variously examined from perspectives such as the 'gentrifiers' (Ley, 1996), 'yuppies' (Roseberry, 1996) and 'knowledge workers' (Blackler, 1995). Over a decade ago, David Ley (1996) argued that despite the growing attention paid to this symbolic class, it should not be treated outside of its social relations:

'The new middle class is the privileged cohort in the post-industrial city, but it does not exist in isolation. In the dual labour market of a service economy, gentrifiers fall principally in the upper tier. The lower tier of less skilled service workers comprises a work-force with far fewer opportunities, including shop assistants, waitresses, taxi drivers and bellboys, many of them working near the level of the minimum wage.' (p. 11)

The political and economic ascendance of the 'new middle class' within the post-industrial city was therefore, for Ley (1996), intricately complicated by the relational inequalities within this new class.

Increasingly however, there has been a shift away from a discourse of class relations, towards an un-relational and un-antagonistic narration. For example, in a recent article Butler et al. (2008) presented the results of a study that examined social change in London between 1981 and 2001. It attempted to characterize the social and geographical impact of the city's post-industrial transition. In it they claimed 'there is a continued process of class upgrading occurring within

Greater London' (p. 67), that the "middle mass" which was previously constituted by the Fordist skilled working class now comprises lower professionals and other non manual workers' (p. 72). And '[W]hilst the old manual working class groups may have declined, they have not left a vacuum but have been replaced by these new groups of middle- and lower-middle class non-manual working households' (p. 84). What Butler et al. here claim is that the class composition of London has become increasingly middle class and, as a consequence, 'old' class relations between a 'traditional' working class and non-working-class 'others' are in decline, if not entirely defunct (see Watt, 2008).

Butler et al.'s characterization of London (2008) therefore follows Hamnett's professionalization thesis (1994, 2003). Hamnett (2003) describes the post-industrial socioeconomic character of London as based upon 'significant and consistent growth in the proportion of professional and managerial groups and a significant and consistent decline in the size and proportion of skilled, semi-skilled and unskilled manual workers' (p. 2406). As a result, Hamnett has little concern that post-industrial social change has driven gentrification-related displacement: 'the transformation which has taken place in the occupational class structure of London has been associated with the gradual replacement of one class by another, rather than large scale direct displacement' (p. 2424). This characterization of a citywide significant decline in the working-class population has underlined Butler's call for gentrification 'to decouple itself from its original association with the deindustrialisation of metropolitan centres such as London and from its associations with working-class displacement' (2007, p. 162). Here, the practices of the city's new middle class are given unrelational treatment: 'With the decline of social class as providing an overall explanation of cultural, social, and spatial behaviour, [this] notion of gentrification as a form of "elective belonging" has considerable potential for uniting geographical and sociological approaches to agency and structure' (p. 162). These debates about urban sociospatial relations demonstrate a subtle yet powerful dynamic of performativity: (a) perceptions of decline in working-class presence are woven into theoretical interpretations of long-term urban change, (b) gentrification, a process fundamentally produced through antagonistic relations in the competing space claims of working- and middle-class populations, is redefined so as to place the focus on gentrifiers' choices and subjectivities, and (c) the institutions of public policy are reassured that promoting 'revitalization' or 'regeneration' need not exacerbate the old antagonistic class relations of a disappearing industrial age. a + b + c = displacementfrom theory, eviction from the city. Theories of the 'middle-class city' become performative instruments of public policy (Smith, 2002; Peck, 2005; Slater, 2006; Watt, 2008; Dorling, 2011).

Through the next sections of the paper, we challenge this characterization of the postindustrial city as un-relational middle-class domain. We question the understandings of class relations embedded within both the measurements and characterizations that support it. In addition, we attempt to excavate London's class geography, drawing upon contemporary political philosophy to reinsert a concern for class antagonism and presenting a classical factor analysis of the city's geographies of social class to illuminate the durable—albeit constantly reconfigured working-class presence. To be sure, the pairing of radical political philosophy with neo-positivist factorial ecology is an unlikely combination; but this fusion is critical—in all senses of the word—for an understanding of the changing relations of work, wealth and inequality in the preeminent global city (see also Bunge and Bordessa, 1975, pp. 327-350). Furthermore, we use our reading of London's class structure to highlight how recent characterization of class composition and concomitant relations has engaged in a certain politics.

Post-industrial London: middle-class domain?

'The contemporary multi-ethnic London working class does not have as pronounced a class identity as its post-war Fordist equivalent [...]. However it is present, not just as the demonic, phantasmic "other" in urban middle-class imaginations, but also in reality in the workplaces, schools and housing estates of the metropolis.' (Watt, 2008, p. 209)

The claim that London's working-class population has simply been replaced by an expanding middle class is based upon the declining presence of traditional workingclass occupations in London (i.e. Fordist manufacturing; see Hamnett, 2003). The post-industrial occupational profile is seen to be 'onion shaped' (Pahl, 1988). Butler et al. (2008) use 1981, 1991 and 2001 UK Census data to support this assertion, finding that the middle of London's socioeconomic structure 'which was previously constituted by the Fordist skilled working class [...] now comprises lower professionals and other nonmanual workers' (p. 72). Contrary to Sassen's claim that post-industrial cities such as London are witnessing social polarization (2001), they adopt Hamnett's argument of professionalization (1994).

The dominant narrative presented by Butler et al. (2008) is of London's recent social trajectory as thus: 'the old manual working class groups may have declined, they have not left a vacuum but have been replaced by these new groups of middleand lower-middle class, non-manual working households' (p. 84). As Watt (2008) has argued, the main problem with this reading of socio-economic change is that it associates a decline of traditional workingclass occupations with a decline in the working classes per se. As such, workingclass social relations are reduced to particular occupations and, indeed, class consciousness. Wacquant (2008) argues such narratives represent a wider process of the 'literal and figurative effacing of the proletariat in the city ...' (p. 199). An examination of the methods and measures used to track social class change in studies such as Butler et al.'s shows how this effacement has become deeply embedded within much of the literature (2008).

In their study of social class change in London between 1981 and 2001, Butler et al. (2008) identify that the most significant 'middle-class' growth has occurred in two of the census-defined Socio-Economic Groups (SEGs): 5.1 (Ancillary workers and artists) and 5.2 (Foremen and supervisors, nonmanual). The SEG classification had been used prior to the 2001 Census—being replaced by the Socio-Economic Classification (SEC)—and therefore Butler et al. translated 2001 data back into the SEG classification (Supplementary Table 1²). Opposed to viewing the transition of London into a generically 'middle-class' city, Butler et al. (2008) therefore claim that higher SEGs (1-4) should be distinguished from SEG 5.1 and 5.2:

'The rapid growth of SEG 5, both in London and in England and Wales as a whole, is sociologically very important and suggests that the changes in the structure of jobs have created an expanded new group of lower-level middle-class workers with significant implications for the overall occupational class structure. In London, this group's share has also more than doubled, rising faster than in all other areas.' (p. 77)

In terms of interpreting London's postindustrial class transition, it therefore means SEG 5.1/2 requires some specific attention. This group is numerically the largest, accounting for around 28% of the SEG 1-5 population in 2001, compared to the next largest, SEG 1, at 11% (Butler et al., 2008, p. 76). Furthermore, it is important to emphasize that:

'only a third of the proportionate growth [1981–2001] took place in the traditional upper middle classes (SEGs 1-4) which grew from 16 per cent to 21 per cent (5 ppc) compared with the lower middle classes

(SEGs 5.1 and 5.2) which grew from 10 per cent to 22 per cent (12 ppc)'. (p. 75)

The case for London's increasing professionalization (Hamnett, 1994) and resulting replacement of working-class populations therefore significantly rests upon the SEG 5.1/2 group.

An examination of the occupations grouped in the SEG 5.1 and 5.2 categories (Supplementary Table 2) highlights the inherent compromises in using broad occupational categories to draw inferences about the multidimensional phenomenon of class relations. Savage *et al.* (1992) remind us of the ambiguous tension that defines middle-class identity:

'The definition of "middle class" is vague but evocative. The term goes back to the early nineteenth century, where it developed as a negative term (Briggs, 1960). By calling yourself middle class you distinguished yourself from those above you—the aristocracy—and those below you—the working class. But this does not indicate that different people within the middle classes actually have anything in common other than that they are not upper or lower class.' (p. xi)

Savage et al. (1992) go on to define social classes as '... first and foremost stable social collectivities. They are groups of people with shared levels of income and remuneration, lifestyles, cultures, political orientations and so forth' (p. 5). In terms of class structure, we find this understanding a useful entry point.

An examination of the occupations grouped in SEG 5.1/2 (Supplementary Table 2) make it clear that imposing a 'middle class' label upon this collection of occupations is problematic. Take SEG 5.2. While accounting for approximately 16% of the SEG 5 population nationally (Rose et al., 2005), occupations captured in this group include counter clerks and cashiers, sales assistants, telephone operators and security guards; clearly, whether these occupations constitute the 'lower middle classes'

is highly debatable. Yet, even when we consider the numerically more significant SEG 5.1 group, questions remain. They include: occupational safety officers, clerks, assistant nurses, dental nurses, company secretaries and librarians. Whether these are middle-class workers, or indeed whether they have any form of collective association with other occupations (e.g. air traffic controllers or Civil Service executive officers), must be questioned.³

We therefore see Butler et al.'s characterization of London's 'social upgrading' primarily through the SEG 5.1 and 5.2 occupations as problematic (2008). More than any other of the Goldthorpe-inspired SEG categories, these demonstrate the eternal difficulties in locating class positions in a complex postindustrial city. The application and interpretation of the UK's social class categories must proceed more critically. This is particularly required in terms of dealing with the distinct questions of class structure and class relations. Here, we argue that a reading of class relations from classification schemes such as the SEG and SEC UK census categories is inherently problematic.

Questioning classifications of class

For the 2001 UK Census, the Office for National Statistics introduced a new social class schema, Socio-Economic Classifications (SEC), to replace the previous version; Socio-Economic Groups (SEG; this replaced the previous 'Social Class' [SC] schema). Developed at the University of Essex (Rose and O'Reilly, 1998), the requirement for the new SEC scheme was based upon the claim that 'both SC and SEG lacked a clear conceptual rationale' (Rose et al., 2005, p. 11). The conceptual framework for the SEC 'follows a well-defined sociological position that employment relations and conditions are central to delineating the structure of socioeconomic positions in modern societies' (p. 14). It draws particularly on the works John Goldthorpe (1992, 2007)—as previous classifications also did-and therefore adopted a neo-Weberian position:

'The primary distinctions made in Goldthorpe's approach are those between: (1) employers, who buy the labour of others and assume some degree of authority and control over them; (2) self employed (or "ownaccount") workers who neither buy labour nor sell their own to an employer; and (3) employees, who sell their labour to employers and so place themselves under the authority of their employer.' (Rose et al., 2005, p. 14)

Goldthorpe's class schema has been highly influential, described by Bergman and Joye (2005) as having 'paradigmatic dominance', since its first incarnation (see Rose and O'Reilly, 1998). Focused upon industrial society's employment relations, Goldthorpe divides occupational categories according to labour market resources. His schema therefore necessarily privileges the middle classes where the labour market demands and (usually) rewards major investments in human capital. However, Goldthorpe's emphasis on structure, as opposed to relations, has generated continued difficulties in using the census to gauge politico-economic relations, particularly in the absence of a traditional, industrial working class.

'Class analysis ... explores the interconnections between positions defined by employment relations in labour markets and production units in different sectors of national economies; the processes through which individuals and families are distributed and redistributed among these positions over time; and the consequences thereof for their life-chances and for the social identities that they adopt and the social values and interests that they pursue.' (Goldthorpe and Marshall, 1992, p. 382)

Erik Olin Wright (1985) once used the metaphor of rooms in a hotel to describe this approach to classification and class: individuals may move in and out of various rooms, but the rooms are not fundamentally defined by the relations between the individuals occupying them.

Of course, Goldthorpe and Marshall (1992) wish to distinguish their neo-Weberian approach, particularly with reference to Marxian approaches. They do so along four lines: their rejection of historical materialism, class exploitation, class-based collective action and reductionist theories of political action. For Goldthorpe, the question of class is therefore a largely empirical one. In answering Runciman's question of how many classes there are in contemporary society (1990), he responded: 'As many as it proves empirically useful to distinguish for the analytical purposes in hand' (Erikson and Goldthorpe, 1992, p. 46; cited in Bergman and Jove, 2005). The fundamental problem of Goldthorpe's approach is that, despite denials about its importance and the implicit hierarchy embedded within the occupational structure, the question of social class cannot avoid relations (see Evans and Mills, 2000). While it is possible to construct and deploy detailed occupational classifications while avoiding difficult relational questions, it is not the best idea (see Wright, 1985, 2005, for critical commentary).

While not necessarily problematic to emphasize class structure, the stripping away of questions of class relations remains so. Our intention is therefore not to proffer a particular mode of class analysis. Indeed, we follow Erik Olin Wright's view that '[O]ne can be a Weberian for the study of class mobility, a Bourdieuian for the study of the class determinants of lifestyle, and a Marxian for the critique of capitalism' (2005, p. 192). Rather, the point is to continue a concern with class relations, given the incontrovertible evidence of widening inequalities and regressive politics (public) austerity in recent years (Dorling, 2011; Slater, 2011; see also Arvidson, 2000; Gibson-Graham et al., 2000).

Our point here is at once methodological and epistemological. Žižek (2006) reminds us that 'the bracketing itself produces the object' (p. 56; emphasis in original).

Abstraction is necessary in order for the subject (e.g. the researcher) to approach the object (e.g. the question of social class). Žižek's spin on this is that the (passive) subject is then constructed by the (active) object. However, for our purposes here, it is enough to note the point that bracketing is necessary and, as such, the whole of the object (i.e. each aspect of social class) can never be captured from any single vantage point. This, of course, is the dilemma of Žižek's parallax gap (2006). With this in mind, we can identify how the framing of social class within the urban literature is indeed casting the object of inquiry; and stripping it of its antagonistic dimensions. Žižek (2006) reminds us of the consequences of this: 'This bracketing is not only epistemological, it concerns what Marx called "real abstraction"; the abstraction from power and economic relations is inscribed into the very actuality of the democratic process' (p. 56).

This notion of bracketing obviously has different implications in different contexts. In the context of class identity and relations, Žižek (1999) notes its particular political relevance: he has argued that the ways in which the middle classes have both presented themselves and been presented, that is, outside of the very class relations that define them (also see Savage *et al.*, 1992), is tantamount to a defining political act. Drawing upon Laclau, he claims:

'the "middle class" is, in its very "real" existence, the *embodied lie*, the denial of antagonism—in psychoanalytic terms, the "middle class" is a *fetish*, the impossible intersection of Left and Right which, by expelling both poles of the antagonism into the position of "antisocial" extremes which corrode the healthy social body (multinational corporations and intruding immigrants), presents itself as the neutral common ground of Society. In other words, the "middle class" is the very form of the disavowal of the fact that "Society doesn't exist" (Laclau)—in it, Society *does* exist.' (Žižek, 1999, p. 187)

What Zižek locates, utilizing Laclau's understanding of hegemony (1996), is how 'the only class which, in its "subjective" selfperception, explicitly conceives of and presents itself as a class is the notorious "middle class" which is precisely the "non-class" (1999, p. 186). Here, Žižek locates the antagonistic dimension of social class by shifting perspective (i.e. parallax shift) from capital; in this, a consideration of capital's necessary relations of production are transposed into the social field. Importantly, this means that capital is not simply mapped onto class relations (i.e. a classical Marxian framework) but rather existing social structures are imbued with antagonisms through the economy; is this not why Rancière (1991a, 1991b) continues to use the term 'worker' as opposed to labour? The symbolic prospect of a 'middle-class city' or 'middle-class society' is therefore the operation of hegemony for Zižek; the exclusion of class in its antagonistic form through the insertion of middle-class identity (particular) as representing Society (universal).

What Žižek's critique demonstrates is the difference between identifying class structure (socio-economic stratifications) and accounting of the antagonistic relations. It signals to the fact that whilst occupational structures may have changed dramatically, there is little evidence to suggest that these can be read as a decline of antagonisms (urban) social (Rancière, 1991b). Where Butler et al. (2008) describe existing areas of working-class settlement that 'still linger on' (p. 84) and where Hamnett's professionalization thesis is used to argue that working-class populations are being 'replaced' (1994), as opposed to being displaced (via gentrification), we must therefore be aware of two issues. The first is empirical, in that we must question the extent to which the UK's social class classification scheme captures changing class composition, particularly with reference to 'lower middle class' occupations (i.e. SEG 5.1/2). The second is epistemological and relates to the question of class analysis more broadly. Here, we must be aware that to

discuss class without a consideration of its antagonistic relations is to strip away a pivotal, if not defining, aspect.

In the next sections, we use these two considerations to develop an alternative analysis of London's changing social—and class geographies. We draw on both ecological data (aggregate measures for geographical areas) and microdata (information on individuals and households) to map a finegrained landscape of urbanized social relations. Multivariate methods help us to highlight these inherently relational patterns—avoiding the problematic sole reliance on a single classification system as a proxy for the multidimensional fields of class in the post-industrial metropolis. While London's landscape may no longer be so clearly divided along the industrially rooted class relations that were so vivid and easily recognized in the mid-20th century, this does not mean that class inequality has been erased. Old working-class spaces remain across the metropolis, and it is also possible to identify the spaces and places of the new workingclass relations reproduced through postindustrial transformations.

Historical class geographies

London's social geography has been extensively documented (Hebbert, 1998). From merchant city to imperial heart, the city's latest phase is described by Buck et al. (2002) as: 'an undisputed and highly successful global city, yet one that seems to exhibit poverty and affluence side by side' (p. 2). In their extensive study, Buck et al. (2002) characterize London as 'highly entrepreneurial and highly competitive' (p. 355); a city that 'has become a multi-ethnic and multi-cultural city of an American kind, but without many of the concomitant problems of American cities' (p. 355). Clearly, such descriptions align with Sassen's polarization thesis (2001). She argues:

'My central point in the polarization argument is not that inequality is new, that the middle class has disappeared and that it is all due to globalization. The point is rather that specific consequences of globalization have the effect not of contributing to the expansion of a middle class, as we saw in Fordism, but that the pressure is towards increasingly valuing top level professional workers mostly in the corporate sector.' (pp. 361–362)

In contrast to London being characterized as 'becoming increasingly middle class' (Butler et al., 2008), others have seen recent economic change driving deeper the city's existing inequalities.

Such understandings of London's social geography are not new. Writing on a study of social change in London, Congdon (1989) argued that 'Small area monitoring of social indicators is important in view of evidence that deprivation may be spatially concentrated, with pockets of deprivation in otherwise prosperous areas' (p. 489). He concluded that the changes experienced in London's social geography during the 1980s were largely influenced by three factors: 'improved supply of municipal housing, gentrification and increased ethnic minority populations' (p. 489). This is mirrored by Buck et al.'s commenting on how the UK Government's index of multiple deprivation in 2000 showed that 'some key patterns recur across the domains with depressing regularity' (2002, p. 46). They argue: 'Deprived people are far more likely to be found in Inner London than in Outer London' (p. 47). Contrast this to Butler et al.'s recent claim that there has been (2008): 'a "filling in" or "evening out" of middle-class composition across inner London over time. This is consistent with the idea of widespread mass gentrification or replacement of the working classes as the occupational structure of London has shifted upwards' (p. 79).

Two important disagreements can be identified as emerging from recent accounts of London's post-industrial social change. First, there is disagreement over how to summarize the socio-economic character of

London; a binary has developed between the narratives of 'polarization' (Sassen, 2001) 'professionalization' versus (Hamnett, 1994). Here, divergent views of London's (and global cities more generally) social trajectory has fed two different characterizations of London: one concerned with socio-economic homogeneity growing (Butler et al., 2008) and another identifying widening inequalities (Buck et al., 2002). At the neighbourhood scale, these characterizations have translated into divergent understandings of gentrification. Hamnett (2003) has employed his professionalization thesis to argue gentrification has generated 'replacement' not 'displacement'; the city has, as a whole, gradually transitioned into a more middle-class space. Others (Slater, 2006; Davidson, 2008; Watt, 2008) have challenged interpretation, documenting dynamics of direct and indirect displacement and attacking the way 'professionalization' downplays ongoing social and political struggles over space in contemporary London. These controversies highlight a second point of disagreement: competing scalar narratives in accounts of London's social geography. Some analysts have maintained a sharply focused, close-up view of London's fine-grained social geographies, and the dramatic, intensified socio-spatial juxtapositions (Buck et al., 2002). Others have chosen a wide-angle, panoramic view long-term demographic and change—sometimes dismissing the localized conflicts over displacement as marginal legacies of a disappearing industrial-era metropolis (Butler, 2007; Butler et al., 2008).

Mapping contemporary London

We now turn to an exploration of contemporary London. In this distanciated expedition through secondary data, we are forced to rely on information from the 2001 Census. By the time you, dear reader, consider our interpretation, these data will seem hopelessly out of date. However, they are still con + content = c

temporarius ('belonging to time') and as we write, the interval between the Office for National Statistics exercise to create the massive statistical archive and our present concerns amounts to 0.59% of the history of London since the Roman historian Tacitus referred to London 'as having been a place much frequented by merchants' (Branch, 1978, p. 30). Globalization has not erased every trace of a previous century's industrialism, and some of the old class practices are making a comeback; recent transnationalism debates, for example, have 'revived flânerie for a new, globalizing, urbanizing century' (Kramer and Short, 2011, p. 331). Considerations of political epistemology also merit a defense of turn-of-the-21st-century data. Just as social science research heralding the disappearance of class politics has been co-opted by a policy infrastructure devoted to erasing working-class communities, the post-industrial realities of privatization and privacy concerns in the information society have been used to destroy the very foundations of positivist inquiry. A British Cabinet Office minister declares that data more than a year old are useless, and

'instead, it is proposed that administrative data and private data (such as credit ratings) can be relied upon to gather a quasi-instantaneous picture of the British people and society'. (Shearmur, 2010, p. 1009)

This, of course, is part of the transnational Right's epiphany that the best way to deflect political questions about the enduring inequalities of class is to make it harder (for those beyond the corporate Right) to document either inequality or class (Shearmur, 2010; Dorling, 2011). The 2001 Census, therefore, provides what might be our last reasonably detailed, public, socio-spatial archive of a London shaped by (and measured with) the Crystal-Palace-style enframing of industrial modernity's enterprise of methodological positivism (Steinmetz, 2005). In other words, this retrospective historical database is the most detailed snapshot we have of a complex, changing metropolis.

Hamnett (2003, p. 2413) observes that 'much of inner London in the 1950s and 1960s was dominated by a large workingclass population', and then proceeds to document the effects of broad forces of restructuring that have changed this pattern over the subsequent decades. For an engaging historical benchmark of the post-World War II industrial metropolis, Hamnett includes a reprint of a cluster analysis based on 1966 Census data, performed by analysts in the Greater London Council (Daly, 1971). Reprinted in a black and white photocopy in Urban Studies, the map is an enigmatic cartographic intervention: it's a bit hard to make out the details, but we get the sense that there was a dramatic saga in the making of the map—and in the geographies unfolding across London when the census 'captured' certain representations of urban Hamnett makes it clear that sharp divisions emerge from the classification of almost 700 wards across the city-region—partitioned and categorized in a hierarchical cluster algorithm applied to 11 variables on occupation, tenure, household structure and mobility. The map

'shows a sharp contrast between the East End and the West End of London, with the former characterised by high levels of council housing and working-class residents, and the latter characterised by high levels of young, mobile, middle-class private renters. Surrounding central London, much of inner London was characterised by working-class private rented housing surrounded by more middle-class owner-occupied suburbs.' (Hamnett, 2003, p. 2413)

After considering the GLC's snapshot of London in 1966, Hamnett (2003) undertakes a careful and comprehensive analysis of separate indicators of change—occupational shifts, house price inflation, widening disparities in wages—to back up the claim that 'the importance of gentrification in dramatically reshaping the social geography of inner London over the past 30-40 years cannot be overstated' (p. 2413).

We concur with Hamnett on this assessment. But we fear that the intensity of debate in the literature (Hamnett, 2003, 2009, 2010; Butler et al., 2008; Slater, 2006, 2010; Marcuse, 2010) has distracted us from the familiar maxim: it's better to be generally correct than precisely wrong. 'Is London a professionalised metropolis or a site of working-class struggle?' reproduces either/or binary that ignores the potential of both/and (Barnes, 2009). The danger is that detailed occupational data documenting professionalization and middle-class growth are mistaken for the idea that class inequalities (and thus class conflicts) are receding. The 'multibowl water fountain' (Hamnett, 2003, p. 2416) of house price inflation slips into an implicit narrative of a metropolis erased of working-class spaces. The empirically precise distinction between direct displacement and intergenerational replacement provides easy political cover for precisely those policy interventions that are apparently required to get rid of the poor and workingclass spaces that are said to have already disappeared (Dorling, 2011; Slater, 2010; cf. Hamnett, 2010). If London is a middle-class metropolis—a post-industrial class structure in transition back to a preindustrial spatiality (Hamnett, 2003, p. 2416) then why is it necessary for pro-gentrification neoliberals to get BBC News Magazine headlines to ask, 'Do the poor have a right to live in expensive areas?' (Kelly, 2010).

Slater and Hamnett both have it right: critical perspectives have been evicted from gentrification, and London is an 'unequal city'. We are inspired to attempt a map of Barnes's eloquent manifesto for 'Not Only ... But Also' (2009). Why not update a few of the methods used in that intricate mosaic of working-class geographies portrayed in the GLC map of 1966 London? We use the classical approaches of the factorial ecology and numerical taxonomy literatures (Berry, 1968; Berry and Kasarda, 1977; Bunge and Bordessa, 1975; Johnston, 1978; Murdie, 1969) to respond to Congdon's call for analysis of London's social geographies at spatial

scales that reconcile the most important macro shifts with significant local variations (1989). Fortunately, the 2001 Census allows us to define 'the local' all the way down to 24,210 Output Areas (OAs) across the Greater London region. We selected a suite of 50 indicators from the areal summary files, measuring aspects of employment status, housing tenure, education, SEC, place of birth, household composition, ethnicity, industry of employment and religious affiliation. To analyze the conceptually important aspects of interdependency—the multiple facets of social class—while controlling for the messy statistical confusion of multicollinearity, we use a common factor analysis. This procedure distills the 50 indicators to six generalized orthogonal dimensions of urban social structure that capture most of the original variance in the entire dataset (Supplementary Table 3). These six factors were subsequently used to define the axes of a multidimensional space for a nonhierarchical, nearest-centroid sorting cluster analysis to identify⁴ 15 distinct neighbourhood types. Cluster diagnostics indicate an overall r-squared of 0.658; the classification solution successfully distinguishes between 60 and 72% of the variance for each of the six components. In a perfect (methodological) world, the next step would compare these quantitative diagnostics with the same methods, applied to the same variables, gathered for precisely the same spatial units as those defined for the 1966 ecology (Daly, 1971). When we reflect on the kind of political climate that encourages the Beeb to ask, 'Do the poor have the right to live in expensive areas?', it is obvious that we're not in a perfect world (cf. Dorling, 2011). Therefore, we have to make do with a detailed snapshot of one point in time.

It is crucial to recognize what this approach cannot do. In contrast to some of the exaggerated claims of 40 years ago, classifications cannot 'reveal' underlying processes or principles of urban socio-spatial organization. All classifications are implicit epistemologies: the results are determined, quite

literally, by the multidimensional Euclidian distances separating observations in a space defined by our choice of what is worth measuring (Gould, 1999). If we look to the results of a taxonomy for answers to guestions about causality, then, we will surely be disappointed. So long as they are constrained by the conventional categorizations of census data, principal components solutions and cluster taxonomies are not well suited to the analysis of interrelations among conscious individual actors or social groups (Savage et al., 1992) and they provide insufficient information to discern the processes generating observed social structures. Indeed, if we follow Rancière's view that subjectivization is necessarily always in play in (class) politics (1999), and that this process is central to a heterogeneous politics (Laclau and Mouffe, 2001), census and taxonomic categories of any kind risk a distraction from the kinds of thought required to engage with 'actually existing' socio-political geographies-in-the-making. But if we wish to join a conversation about the implicit, comparatively simple spatial imaginaries that have become popular in certain streams of urban thought and policy—the idea that London is now a postindustrial global city freed of the old divisions of the industrial age, the idea that London is now a professionalized, middleclass metropolis—then the tools of classical urban ecology are precisely what we need. Has the complex, rich topography of Fordist, industrial, working-class London been replaced by a more generalized pattern of middle-class professionalization? Are there any working-class areas left?⁵

Ecologies of inequality

We organize our findings into four main sections. First, we explore the factor-analytic results. Second, we consider the explicitly spatial dimensions of class polarization. Third, we offer an interpretation of the distinct neighbourhood types across the vast

metropolis. Fourth, we undertake a complementary analysis of household-level microdata to work around some of the limitations of ecological methods.

Consider first the factor structure (Supplementary Table 3). The enduring class contrasts of the metropolis are sharp and vivid. The first factor clearly distinguishes communities along a binary of contemporary social class: in neighbourhoods with strongly positive scores⁶ on this composite variable, we find people with typically working-class educational profiles, working on occupations designated as routine. Their jobs are disproportionately concentrated in construction, trade and repair services, and transportation, storage and communications. Conversely, neighbourhoods scoring strongly negative on this factor are distinguished by people with elite qualification levels working for large employers and/or as professionals in finance, real estate and the broader ensemble of London's global-city post-industrial obsessions. This is the first factor that emerges from a data analysis procedure mathematically constrained to identify the component that accounts for the largest share of common variance: if London really is a middle-class professional metropolis without familiar class divisions, the first factor should be ambiguous, confusing and unrecognizable. We should see a chaotic mixture of variables loading on to this first factor, with no clear pattern. To be sure, there are a lot of numbers here; but take a few moments, focus on that column under the 'I', and look for the values greater than +0.40 or less than -0.40. The pattern makes a lot of sense. The clarity of this first factor as a cultural capital/occupation/workplace-based class binary is a sophisticated demonstration of the obvious: London remains a class-divided metropolis.

Let us be clear: we are not suggesting that 'professionalization' is not happening-at least in many parts of the workforce and many parts of the city. We are not asserting that all the old divides of the 20th century endure without major changes.

transformations documented by Butler et al. (2008), Hamnett (2003) and others are remarkable indeed. What our analysis offers a measurement of the historically entrenched divisions that persist as sites of contestation—and a measurement of how the old duality is changing in relation to other socio-spatial dimensions of class and society. Note that part-time work and selfemployment appear on opposite sites of the axis for Factor 1, while full-time employment fails to exceed our threshold for boldface 'significance'. These results have meaningful implications: the alignment of self-employment with professionalization and globalcity financialization fits well into the narrative of neoliberal privatization. The most privileged workers are encouraged to organize themselves as corporations (and to think, act and vote that way too). Conversely, the very weak loading for full-time employment on Factor 1 (-0.31, which translates to Factor 1 accounting for only 10% of the total indicator variance) means that neighbourhoods with high shares of full-time workers have no guarantee of class privilege. Almost everyone, everywhere, is working furiously if they're able, except the disabled and the precariat; 'never worked', 'economically inactive' and long-term unemployment all have loadings of 0.22 or below on Factor 1, accounting for less than 5% of the original indicator variance. Class privilege, however, has a distinctive relationship with racial and ethnic difference. None of the variables measuring non-white ethnoracial identity achieves significant loadings on Factor 1, implying that the professionalization/ working-class dimension cuts across these community differences. White privilege, however, assumes a very particular form: insignificant loadings for White British (0.10) and White Irish (-0.14), along with a reasonably strong loading for White Other in the professionalization direction (-0.68). These results suggest that we're detecting the mobile whiteness of Europeans, Americans, perhaps a few Australians and others in the transnational capitalist class.8

The second factor is a contemporary reflection of the old Shevky-Bell 'family status' construct. At one end of the axis, strongly negative loadings appear for unemployment, lower quality housing, single, never-married persons and local authority rental flats. At the other extreme, strongly positive loadings appear for average household size, average rooms per household, ownership (both mortgage-free and mortgaged), married-couple households, persons with Qualification Level 2 and small employers. It seems most reasonable, therefore, to interpret Factor 2 as a combination of post-industrial family status with contemporary English housing classes (Rex and Moore, 1967). Surprisingly, full-time employment has only a weak loading in the 'non-traditional family' direction (-0.23), while both part-time work and self-employment load moderately in the opposite direction (0.54, 0.49). These results suggest an erosion in the stable employment relations of British Fordism, and the generalized rise of a contingent petit-bourgeoisie where self-employed entrepreneurs bear many of the risks once assumed by large capitalist firms and/or the state. Ethnographic research (e.g. Struder, 2003) documents that self-employment is entangled with immigration, ethnic identity and gender relationsand that in certain communities defined by these facets of identity, small-scale entrepreneurialism provides opportunities for subaltern upward mobility. Our results, however, suggest that this interpretation cannot be generalized beyond the within-group analysis of particular communities. Neighbourhood self-employment rates load significantly only on Factors 1 and 2, with no substantive loadings for ethnoracial variables. Selfemployment lines up reasonably well with professionalization, both in the structure of Factor 1 and in the inspection of the raw correlation coefficients across the 24,140 neighbourhoods. 10

The subsequent factors extracted from the data matrix highlight other aspects of labour market and housing diversity, household circumstances, immigration and racial-ethnic

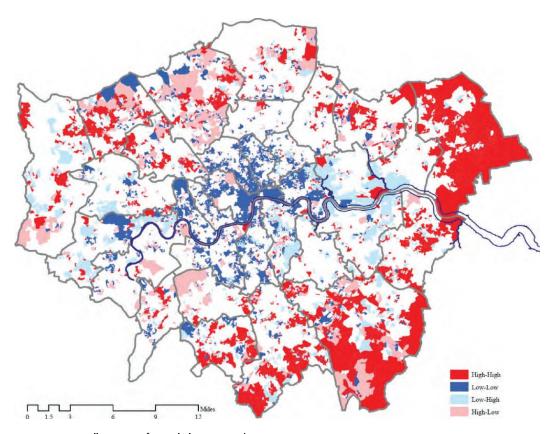
identity (Supplementary Table 3). We will use these additional dimensions shortly in a neighbourhood taxonomy, but unfortunately, our central purpose does not give us sufficient time to describe each of these axes in the rich detail they merit; instead, the story requires us to confine our focus to Factors 1 and 2. Recall that the former measures social class: at one end of the continuum, clearly working-class communities; at the other end, scores signifying professionals and the new middle classes. Factor 2 captures family status and housing classes: strongly positive scores for neighbourhoods with lots of married couples and high rates of homeownership, strongly negative scores for areas dominated by singles, lower quality housing and local authority housing. However, how do these separate dimensions of contemporary social class relate to one another in the explicitly local, explicitly spatial worlds of the metropolis? Recall that the structure presented in Supplementary Table 3 relies on the classical methods of factorial ecology as applied to 24,140 neighbourhood units treated as aspatial observations each one a separate row in a large data matrix. The resulting factors are mathematically constrained to be orthogonal (uncorrelated, un-related) while no inherently spatial variables are included. What this means is that the empirics we use to approach different aspects of social class are ripped out of spatial context: once we have perpetrated this methodological violence, however, we have constructs that are as close as we can get to 'pure' socio-political measures. Now we take one more step: test for explicitly spatial relations between the aspatial class constructs. This gives us a brief, partial glimpse of two different facets—a parallax view, if you will—of the socio-spatial dialectic of class in London (Žižek, 2006; Soja, 1980).¹¹

If the working class has disappeared—or if the local neighbourhoods of the working classes have been erased—then searching for spatial effects should yield a pattern of pure random noise that would be impossible to interpret. We used Anselin's methods to create a bivariate local indicators of spatial association (LISA) map relating our two factors of social class and family status/ housing classes (1995). The approach can best be interpreted as a map of spatialized correlation coefficients. 12 Figure 1 presents the results of the analysis, while Figure 2 includes borough boundaries to facilitate interpretation (see Figure 1 and Supplementary Figure 1).

Class matters and so does context. In the areas shaded white on Figure 1, there is no explicitly spatial correlation between a neighbourhood's working-class character and the family/housing-class composition of surrounding neighbourhoods. Yet vast portions of the map are not shaded white. In any area of the map where we see any colour at all, there is an explicitly spatial, contextual process involved in class differences. The complex patchwork of contextual effects across the map is a reminder of the depth of urban history—and previous generations' class relations distilled into the built environment of housing costs and tenures.

In red, we see neighbourhoods where the traditional working class is set within a surrounding context of 'traditional' marriedcouple family structures and homeownership. These areas highlight the southern half of Croydon, Bromley and especially Havering—which is part of a crescent that is mostly 'white, lower middle-class south Essex rather than East London' (Baston, 2008). This is the kind of discourse that spatially others East London while carefully avoiding any 'working class' label; our use of 'working class' to interpret this map is the cartographer's engagement with Žižek's challenge to the 'notorious "middle class" which is precisely the "non-class" (1999, p. 186).

Solid blue neighbourhoods, by contrast, map out the territories of professionalization



A parallax view of social class in London Figure 1

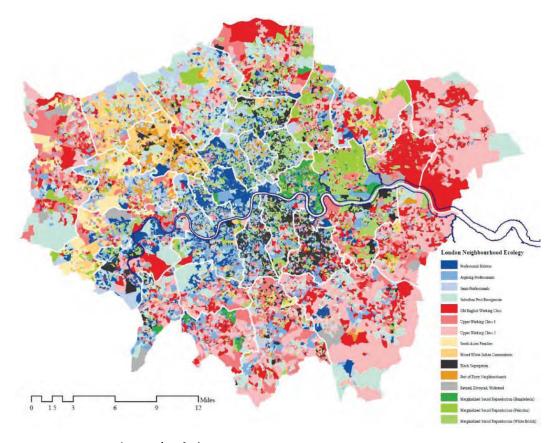


Figure 2 Greater London, re-classified

analyzed by Hamnett (2003) and Butler et al. (2008), surrounded by the 'nontraditional' family and housing circumstances that are now the established tradition for the deeply gendered workaholic worlds of 'capital culture' in London's financial services constellation (McDowell, 1997). Different types of significant spatial outliers are also important. Light blue areas in Southwark, Newham and parts of Greenwich suggest a creeping professionalization into areas surrounded by traditional family neighbourhoods. Conversely, areas shaded pink represent working-class districts surrounded by family and/or housing environments that depart from the 20th-century patriarchal mode of social reproduction (Walby, 1986).

This is a complex map. However, it is by no means random or chaotic, and it is not universally professional or middle class. Significant class complexity persists, even inside those elite competitive inner boroughs. As a

generalization, professionalization makes sense if we (1) focus solely on those neighbourhoods where professionalization is contextualized by the post-industrial family structures of capital culture (i.e. the areas in blue in the inner boroughs), (2) ignore the surviving working-class pockets in these boroughs (the many patches of pink and red), and (3) ignore those neighbourhoods where professional and working-class lives and family/housing circumstances are currently in flux, too dynamic to exhibit any clean pattern of spatial autocorrelation. The methodology identifies the areas shaded white as 'no significant spatial correlation', but a moment's quick reflection simply reminds us that this is precisely the significance. Many of those areas shaded white are the site of ongoing class and space contestations. Many of those shaded white are the site of ongoing class and space contestations that often play out in struggles over particular blocks or buildings—creating a fine-grained, neighbourhood-scale saga of social and political relations. One of those areas shaded white in Figure 1—on the South Bank, just across from the deep-blue professionalized capital culture of the City—is where Fainstein (2010, pp. 124-128) analyzes the redevelopment of Coin Street and Oxo Tower in a changing political climate. The old 'equity-oriented' plans, where 'the principal beneficiaries of any project were lowincome households', were replaced by the familiar market entrepreneurialism:

'The more recent approach to development is one in which relatively poor communities are conceded a piece of profit-making enterprises, and where greater income diversity means that community pressures will be less in the direction of redistributional programs and more in favor of market-rate owner-occupied housing and public amenities.' (Fainstein, 2010, p. 127)

What this means is that this complex map, with all its fine-grained patterns and sharp local contrasts, is an understatement of the complex local experiences of class and space conflicts. All maps require abstraction and simplification, of course, but we should avoid any casual or uncritical adoption of the three assumptions that yield the broadbrush view of 'professionalization'. The professionalization generalization ignores the ongoing social struggles near the urban core, and farther out the label ignores the new middle and working classes, as immigration and contingent relations amongst ethnoracial and religious segregation (Peach, 2006) remake vast sections of Brent, Harrow, Ealing and Hounslow.

This spatial correlation LISA approach is valuable, and each of the 15 unique bivariate geographical relations amongst Factors 1 through 6 yields a separate, richly detailed map that cries out for in-depth interpretation and local engagement.¹³ However, is it possible to distil all these separate maps into a single snapshot? At this point we turn to our third spatial story: what does the

classification of London's 1966 neighbourhoods (Daly, 1971) look like if updated for the contemporary, post-industrial region?

Figure 2 represents the results of our 15cluster solution, along with interpretive labels assigned to each neighbourhood type. We reiterate the obvious but crucial reminder: taxonomies cannot interpret themselves. Our labels are inescapably subjective interpretations, intended to begin conversations, not shut them down. However, we begin the conversation like this: isn't this a rich, fascinating topography of social relations? The factor-analytic and cluster procedure all takes place in the abstract mathematical world of geometric hyperspace, with no reference to 'place' other than the fact that the observations are those 24,210 output areas given to us by the census. And yet, once the results are mapped, the historical and contemporary geographies of social class are laid bare for all to see. The social landscapes of working classes that are too often portrayed as in 'terminal decline' (Butler et al., 2008) have certainly changed (cf. Buck et al., 2002); but the only way they can be said to have disappeared is if we refuse to acknowledge how many working-class jobs are being created in the supposedly postindustrial, post-materialist service industries.

The sharp divide Hamnett (2003) sees in 1966 London (Daly, 1971) is still visible between the West End and the East End. Professionalization is symbolized in various shades of blue. Westminster, along with parts of Kensington, Chelsea, Camden and Islington, are dominated by 'professional habitus' neighbourhoods, with a combined total population of almost 600,000. These neighbourhoods have the highest shares of people with Qualification Levels 4 or 5 (58%), and workers employed in financial and real estate corporations; most residents are white, and the proportion identifying as 'White Other' (19.1%) is the highest amongst all the 15 neighbourhood types. Not surprisingly, the 'aspiring proneighbourhoods fessional' (population 436,000) exhibit a similar spatial concentration; most residents here are university educated, unmarried and not religious, and working in higher professional occupations; never-married single-person households comprise more than 40% of all homes in these parts of the city.

At the other end of the class continuum, the metropolis is more fragmented as racial and ethnic transformations remake the working classes. Separate clusters are distinguished for neighbourhoods marginalized by the (formal, paid) workforce, by the remaining geographies of the shrinking welfare state, and by changing patterns of ethnoracial and religious segregation (Peach, 2006). The rhythms of daily life and social reproduction in these communities are shaped by informal networks of community entrepreneurialism and work that takes place within the household and family domain-sustained by gender relations and multi-generational living arrangements not well-suited to the accelerated articulation of modes of production of transnational capital. There's a lot of work and evolving class dynamics in these areas, in other words, that falls outside the purview of official statistics that designate non-monetized labour as 'economically inactive'; there are also some flows of state transfers designated as 'welfare' and 'social assistance' in these communities. However, this particular form of welfare must be considered alongside other, more dominant types of welfare dependency. Consider all the lucrative salaries and year-end bonus awards that were allowed to continue flooding into the blue professional habitus neighbourhoods after, inter alia, the US\$182 billion committed by the US government so far to a single firm the American International Group—thanks to the financial 'innovations' of the Wizards of Canary Wharf.

We have labelled the three different greenshaded 'marginalized social reproduction' communities to identify the ethnoracial groups that have their highest proportional concentrations in these clusters (Bangladeshi, for instance, in Tower Hamlets, Pakistanis across much of Newham; White British in Newham, Hackney and parts of South Essex). However, it is crucial to remember that no matter what kind of tortured statistical procedure we use, a taxonomy always yields categories with internal homogeneity. 14 The 'Marginalised social reproduction (Pakistani)' neighbourhoods, therefore, are where Pakistanis have their highest representation among all the neighbourhood types (13.4%); yet these communities—with a combined population of about a quarter of a million—actually have higher shares of those identifying themselves as Indians (18.1) and White British (29.2). However, high shares of people without formal qualifications cut across all the green-shaded neighbourhood types (38.5, 29.2 and 34.4% in the order they appear on Figure 2), and so do high shares of the 'economically inactive' population (42.7, 32.9 and 33.9%, respectively). These circumstances are significant facets of class relations. Nearly half of the housing units in the 'Bangladeshi' and 'White British' social reproduction communities are local authority rentals; this share is much lower (only 11%) for the Pakistani areas. Taken together, all the areas labelled 'marginalized social reproduction' include 864,000 people; four-fifths live in the pale green areas dominated by White British residents.

We are reluctant to use the middle-class label to identify those with only high school qualifications, working in intermediate occupations; instead, we suggest that 'upper working class' is a more appropriate label for these communities, which have high shares of married-couple households identifying themselves as White British and Christian. These areas trace out a mosaic of communities that encompass more than 1.5 million people in the areas shown in light and medium pink. All of these workingclass neighbourhoods are distinguished from those places that most closely resemble the 'traditional' English working class that is presumed to be disappearing: more than 625,000 people live in neighbourhoods where 82% identify themselves as White British, where 37% report the lowest levels of qualifications and where 47% of the workers are employed in Manufacturing, Construction, Trade or Transport, Repair, and Storage Communications.

Clearly, our methods do not allow us to provide a definitive evaluation of a historical claim on the disappearance of the working class; if categorizations are used to define 'working class' narrowly, then surely the evidence will indeed show something that looks like 'terminal decline'. However, the meanings of these categories change over time. There have been dramatic changes in key aspects of life in the 'traditional English working class' sections of our map shaded bright red. There is no dispute that Fordistera industries, occupations and household arrangements have largely disappeared. Nevertheless, the new firms, jobs and living arrangements have not replaced a Fordistera working class with a universally postindustrial middle class. Post-industrial society is not without its own working-class lives, meanings and geographies. Mapping geographies demonstrates London's geography remains remarkably complex.

This map warns us against broad, metropolitan-scale generalizations; such generalized assertions risk ignoring and suppressing important social geographies—and encourage policy elites to implement decisions that will further undermine (old and new) workingclass communities. To be sure, the past halfcentury has eroded some of the details in the geographical portrait painted so vividly by Wilmott and Young (1973; cited in Butler et al., 2008, p. 68):

'The Cross, into which working-class people were concentrated, is from east to west along the Thames Valley, to the north along the Lea Valley and to the south, coinciding to some extent with the valley of the River Wandle. The pattern of distribution is explained mainly by the location of docks, industry and communication routes, which have mostly been located on the low land. The more favoured residential areas, conversely, are commonly on higher ground. Thus the physical geography of London has helped to shape its class geography.'

Some of these patterns have not yet been professionalized—which is another way of saying that not all of London's working classes have been erased or disappeared from the metropolis. The patterns are complex, but seen in parallax offer potential for connection. The interwoven marginalizations of ethnoracial difference and embattled housing welfare state are clear in Tower Hamlets, for instance, where Bangladeshis account for 39% of the population and 47% of the housing is local authority rentals; but council housing also comprises a large share—28%—in those bright red 'Old English working class' zones, where 82.4% of the population is White British. Ownership also matters here. But mortgaged ownership exceeds debt-free ownership (32.8 vs. 19.8%), and the ownership rate in Old English working-class districts actually falls short of that in the marginalized social reproduction (Pakistani) communities. Moreover, recall that while these latter areas have the highest concentration of Pakistani families across all the clusters (13.4%), they also have considerable internal diversity, including a large share of White British (29.2%). Scores of other examples could prove the simple point: no matter how detailed the taxonomy, no matter how quantitatively 'pure' the classification of class, the metropolis stubbornly reasserts its complexity, conflict and the relational experiences of social interactions at the neighbourhood scale. London is not the same kind of working-class industrial city of a half-century ago; but there is still an old working class, and there are new working classes toiling in the neo-Taylorist retail shops and office keyboard jungles of the post-industrial city.

The internal variations within the clusters—and indeed within the fine-grained,

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block-by-block contrasts inside each neighbourhood—can be regarded as just another boring technical limitation. Yet this variation can also be mapped in more meaningful, provocative ways. If post-Big-Bang London is truly the utopia for the 'Emperors of the network economy' (Gilles, 2010) and the ensemble of elite professionals reliant on the 'anonymous money-making machine' (Benedikter, 2010, p. 1) through which the City functions as 'the universal middleman for global finance', then we have to consider the primary lessons of the global financial crisis. Those lessons, outlined so clearly by Mervyn King, are that financiers 'get bailed out if anything goes wrong', and that the power of financial institutions 'lies not in the good they can do, but in the havoc they can wreak' (quoted in Financial Times, 2011). Thus, a case can be made that in a financialized economy, 'professionalization' identifies those workers most dependent on

welfare and public assistance. It only makes sense, therefore, to follow the example of Bunge and Bordessa (1975, pp. 327ff.) to develop an index of welfare-dependent white-collar professionals. The obvious candidate here is the 'professional habitus' cluster, where half the workers rely on financial intermediation, public administration or defense, or real estate and ancillary activities. These are the places where Jones (2011, p. 141) discovered a surreal new kind of class consciousness, when he 'heard stock brokers with telephone number salaries ask with faux puzzlement: "I work, don't I? So why aren't I working class?"

We can capture some of the internal variation in this category if we shade each neighbourhood according to its Euclidian distance from the cluster centroid. Output areas shaded darkest in Figure 3, therefore, represent those places most reliant on the intricate web of turbocharged multiplier effects

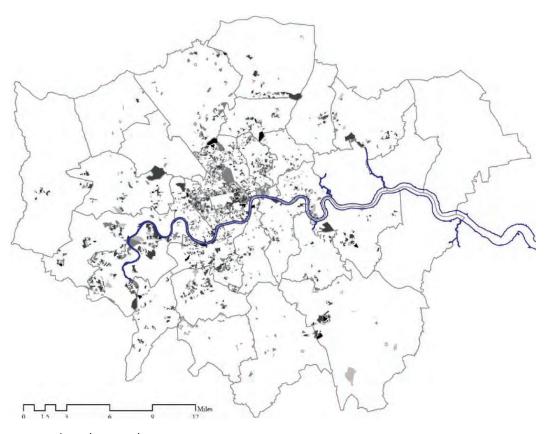


Figure 3 The Rich Ricci Index

flowing out of the City, and the massive public welfare cheques given to figures like the 'unforgettably named' Rich Ricci, who 'earned' a bonus payout of more than £25 million as co-chief of Barclays Capital in 2010 (Financial Times, 2011). Perhaps Figure 3 might be called the Rich Ricci Index, or perhaps this is a map of the London lombards. Given the role of elite, qualified, highly educated professionals in screwing up the global economy-who among those council housing tenants or 'feral' youth in the streets used credit default swaps to lie, cheat and steal, to destroy trillions in asset values around the world?—it is hard to resist the temptation to borrow from the anonymous protester at an Occupy event holding a sign asking us to 'unfuck the world' (Wyly et al., 2011). Perhaps the caption for Figure 3 might read, 'The Fuck-up-the-World Index'.

This guilt-by-geographical association, of course, could be entirely unfair. There are a lot of hard-working people with integrity in those neighbourhoods appearing on Figure 3 who cannot reasonably be blamed for the crisis. However, utter the phrase 'Tower Hamlets' to a wealthy resident of Westminster, and wait for them to defend the hardworking individuals and families of the East End. Wealthy residents of the Ricci neighbourhoods should accept their share of personal responsibility before asking whether the poor have the right to live in expensive areas (Kelly, 2010). Looking carefully at the fine-grained patchwork of Ricci neighbourhoods in Westminster, Kensington and Chelsea, it is more clear than ever before that working people—including some of the supposedly 'middle-class' digital proletariat, as well as the precariat—need to keep 'going again to Hyde Park' to reclaim democracy (Mitchell, 2003, pp. 13ff).

Rich Ricci brings us to our fourth and final spatial story—an attempt to measure some of the material aspects of housing class (Rex and Moore, 1967) at the household level. How are the material risks and rewards of property ownership bound up with social class

differences across the metropolis? To get beyond the ecological view, we turn to the Small-Area Microdata (SAM) files explore the interrelations among homeownership, household mobility and various circumstances of social class (Supplementary Table 4). Logistic regression models confirm the expected higher rates of moving among renters (an effects-coding odds ratio of 2.66) and younger household reference persons (ratios of 2.65 and higher for those younger than 30). Similarly, the familiar age trajectory into ownership is clear: odds ratios of 0.62 in the early 20s rising steadily to 1.67 for those in their 50s. Controlling for these and other factors provides a precise measure of the link between occupational class and property ownership. We do see the anticipated divide between managerial and professional occupations, versus the working-class routine and semi-routine jobs. Yet some of the results merit caution before generalizing a middle-class property ownership utopia across the metropolis. The ambiguity of SEG 5.2—the category with all those cashiers, debt collectors, telemarketers and traffic wardens—obviously clouds the meaning of the 1.69 odds ratio for SEC Class 2. Similar class ambiguity is apparent among small employers and own-account workers (Class 4), who have almost exactly the same ceteris paribus ownership odds ratio (1.64). Additionally, the ownership gap between Class 2 workers and the traditional working classes is not intensified among recent movers, as we would expect under conditions of mass professionalized opportunity and mobility. The Class 2/Class 7 odds ratios are unequal by a factor of 3.00 for all households, versus 1.99 for those moving within the previous year. Attaining the middleclass status of a Class 2 occupation, moreover, offers access to ownership that is contingent across the metropolis. Stratifying the models across the 32 separate boroughs of the region highlights the strong ownership premium of Class 2 workers able to compete to live in the central zones—from Islington, Camden, through the City and

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Westminster into Kensington and Chelsea, and Hammersmith and Fulham. All these boroughs post Class 2 odds ratios over 2.0; but so do the more distant commuter zones of Bromley and Sutton. And in Brent, Ealing and Newham, the 'middle class' meaning of a Class 2 occupation yields the lowest ownership odds ratios across the entire region (all about 1.4). Put simply, even the best occupational taxonomies must be put into a relational dialogue with other social relations if we are able to talk meaningfully about social class. Hamnett and Butler (2010) demonstrate the importance of such considerations in their work on the divergence of ethnic minorities between suburban homeownership and social and private rental housing.

Conclusions

'Every component of gentrification, when radically analyzed, leads to the same conclusion, Hamnett's facts, I suspect, if critically thought through, no less than Slater's.' (Marcuse, 2010 p. 187).

'How did we get here? Following the collapse of communism in 1991, Edmund Burke's notion that "In all societies, consisting of different classes, certain classes must necessarily be uppermost", ... became the commonsense wisdom of the age... A new market extremism came into play.' (Ali, 2012)

'The division of the world economy into classes is a fact that is only ignored because it is so frighteningly obvious.' (Hitchens, 1994)

In this paper we have argued that parts of the contemporary urban literature have stripped class of its antagonistic dimensions; separating social class from its relations to capital (Žižek, 1999). We point to Richard Florida's creative class thesis as an exemplar. In particular, we point to the fact that he pushes a class agenda, one based upon a utopian universalized upward mobility, which identifies no necessary socio-economic antagonisms.

We also see this mirrored within the academic literature. Focusing on Butler et al.'s recent characterization of London as a middleclass city (2008), we highlight the (persistent) problem—accentuated by post-industrial change—of reading class relations from class structure schemas. Here, we argue that the Goldthorpe-inspired, neo-Weberian social class classification of the UK Census is problematic, not least because it maintains a theoretical basis developed from industrial circumstances. This is most notable in Butler et al.'s identification (2008) of middle-class growth (1981-2001) in the SEG 5.1 and 5.2 groups; a grab-bag of occupations with questionable class identity. More problematic, however, is the reading of a decline in class antagonisms from an uncritical usage of the class structure schema.

Through the acceptance of SEG 5.1 and 5.2 populations as firmly middle class and the paired characterization of expansion in these groups as London becoming homogeneously middle class, Butler et al. (2008) bury London's complex social geography. Using a classical factoral analysis, we produce an alternative reading of London's social geography. We show the persistence of 'working-class' presence throughout London, in the very neighbourhoods and regions they have been mapped in the 1960s (Daly, 1971) and 1980s (Congdon, 1989). Through disrupting Hamnett's professionalization thesis (1994), this is meant to recast debates over neighbourhood change, and particularly gentrification, where a macro-narrative of 'middle-class-ization' has meant the issues of displacement and working-class existence have been dismissed via a concomitant 'replacement' thesis (Hamnett, 2003; also see Watt, 2009, on the class tensions within social housing).

This stated, our factor analysis certainly shows London's 'working classes' to be diverse and socially and spatially fragmented. There are multiple industrial, ethnic, education and religious planes of division in the city's socio-economic groups. The city's middle classes, as demonstrated by the SEG

categories themselves, are also diverse. What we therefore highlight here is the persistent problem of dealing with class structure (Wright, 2005; Bourdieu, 1987). Without the archetypal industrial working classes from which to posit class positions (note: as we show, these might be in decline, but they are still present—not 'lingering'!), divisions are more difficult to identity (Rancière, 1999). Furthermore, without this group the mapping of class relations is made more difficult; being incapable of (problematic) simple transposition.

Yet, we follow Žižek (1999) and argue the of this simple reading absence structure onto relations is productive if not cast as a diminishing of class antagonism per se. Žižek draws upon Freud's death drive as metaphor and follows Laclau and Mouffe (1985) to view antagonism as persistent:

'There is no solution, no escape from it; the thing to do is not to "overcome", to "abolish" it, but to come to terms with it, to learn to recognize it in its terrifying dimension and then, on the basis of this fundamental recognition, to try and articulate a modus vivendi with it.' (Žižek, 1989, p. 5)

Placed onto the neighbourhood scale, does this not provide us with a better way to approach the question of class and the city? A way to identify the ways in which capital necessarily generates conflict and antagonistic relations? A way to view the struggles over space and place that take place in gentrifying neighbourhoods? A way to understand inequitable geographies of investment? A way to understand how the commodification of housing erodes community? A way to understand why low-paid immigrants work evenings to clean the offices of the creative class? Our conclusion must be thus: that the characterization of the middle-class metropolis, devoid of antagonisms, existing as a space of elective belonging, performs a fetishistic politics. We must confront the 'terrifying dimension'!

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Notes

- Savage et al. (2004) define elective belonging as: 'senses of spatial attachment, social position, and forms of connectivity to other places. Belonging is not to a fixed community, with the implication of closed boundaries, but is more fluid, seeing places as sites for performing identities' (p. 29).
- Supplementary Tables 1-4, as well as Supplementary Figure 1, can be downloaded from http://dx.doi.org/10.1080/13604813.2012.
- Jones (2011, p. 152) offers a similar analysis of the 'data input, security guards, receptionists, care assistants and cleaners' who are part of a vast workforce in service-sector occupations that are more insecure, and less economically rewarding, than the old industrial jobs actively destroyed by Thatcherite policy. About half of all service-sector workers earned less than £20,000 in 2008 (Jones, 2011, p. 151).
- Epistemological purists will recognize our dangerous assertion of positivist nonnonrepresentational performativity. See the foraminifera chapter of Gould (1999). We defined and created the neighbourhood types through the choices made in organizing data and selecting variables that implement observation.
- Or Left?
- Recall that what matters in a factor interpretation are the absolute values of loadings relating the original variables to the extracted, rotated factors. Moreover, the overall 'orientation' of the factor which side is positive, which side is negative—is

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- arbitrary, and determined by the number, type and empirical properties of the indicators used in the analysis.
- 7 As correlations, loadings do not have the same meaning in inferential terms as other types of coefficient estimates. Strongly positive or strongly negative loadings therefore help in interpretation and the assessment of practical significance. Square each loading to obtain the proportion of the original indicator variance captured in the rotated factor: the 0.94 loading for Qualification levels 4 and 5 on Factor 1, for instance, means that Factor 1 captures $0.94 \times 0.94 = 88.4\%$ of the variance of the original measure, across all the 24,210 output areas. Do the same for the other five factors, sum the result, and you have the communality: the sixfactor solution accounts for 94% of the geographical variance in Qualification levels 4 and 5.
- White Other' accounts for 2.28% of all respondents across all of England and Wales, compared with 76.7% for White British and 1.08% for White Irish (CMCCSR, 2007, p. 18). White Other displays significant positive spatial autocorrelation (Moran's *I* = 0.55 at first-order Queen contiguity, where 999 randomized permutations yield a significance level less than 0.001). The pattern highlights not only the expected areas of Westminster, Kensington and Chelsea, but also a scattered patchwork to the north, through parts of Camden, Haringey and Enfield.
- 9 Note, however, that this erosion is by no means complete. Full-time employment (-0.86) loads strongly negatively on Factor 3, at the opposite end of the continuum from neighbourhoods with high proportions of those who have never worked (+0.72).
- 10 The strongest positive correlations for selfemployment rates are with Qualification levels 4 or 5, higher and lower professionals, and both large and small employers; equally strong magnitudes for negative correlations also appear for lower supervisory, semi-routine and routine occupations. Self-employment is bound up with professionalization, in other words, but it magnifies rather than erases class inequality. Raw correlations between neighbourhood self-employment rates are weak but positive with ethnic White British (+0.26) and White Other (+0.31), virtually nil for Indians (-0.06) and moderately negative for all the other ethnic identities listed in Supplementary Table 3.
- 11 This is just one of many alternative ways that the conventional infrastructure of positivist quantitative methods can be put into dialogue with nonpositivist/nonquantitative social theory. See Bunge and Bordessa (1975), Heynen and Barnes (2011), Bunge (2011) and Arvidson (2000).
- 12 To calculate the LISA cluster map, we used a

- first-order Queen contiguity matrix, with a 999-permutation randomization routine, to test for statistical significance. Significant patterns are shown where P < 0.05. See Anselin (1995, 2004).
- 13 Raw exports of all 15 of the LISA maps, each created with the same thresholds described for Supplementary Figure 1, are available at http://www.geog.ubc.ca/~ewyly/replication/london/
- 14 The only way to avoid such generalized losses, of course, would be to replace the 15-colour scheme in Figure 2 with a selection of 24,210 separate colours to designate the unique qualities of each neighbourhood.
- 15 Modelled another way, with the entire SAM dataset pooled and interaction terms added, we find negative Class 2 effects in Ealing (0.702) and Brent (0.764), while the strongest positive increments in Kensington/Chelsea (1.421) and Camden (1.404).

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