

Slippery Segregation: Discovering or Manufacturing Ghettos ?

Ceri Peach

Controversy exploded in 2005 over a paper at the Annual Conference of the Royal Geographical Society and the Institute of British Geographers which claimed that ethnic segregation in Britain was increasing, ghettos had formed and some British cities were almost as segregated as Chicago. The paper asserted that segregation indexes failed to measure segregation and should be abandoned in favour of a threshold schema of concentrations using raw data. These assertions of ghettoisation were repeated by Trevor Phillips, Director the Commission for Racial Equality, in an inflammatory speech claiming that Britain was sleepwalking into American-style segregation. The argument of my paper is that the index approach is indeed necessary, that ethnic segregation in Britain is decreasing, that the threshold criteria for the claim that British ghettos exist has manufactured ghettos rather than discovered them. A Pakistani ghetto under the Poulsen schema could be 40 per cent Pakistani, 30 per cent White, 20 per cent Indian and 10 per cent Caribbean. In 2000, 60 per cent of Chicago's Blacks lived in a true ghetto of tracts that were 90–100 per cent Black.

Keywords: Segregation; Ghetto; Ethnicity; Race, US, UK

Introduction: Framing the Discussion

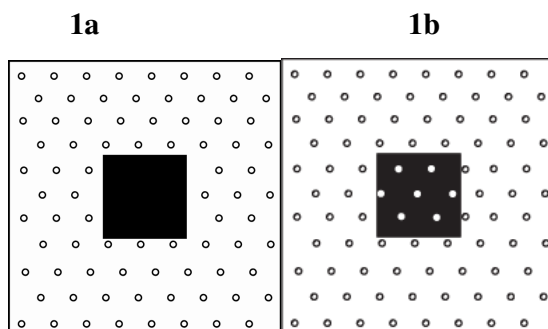
In September 2005, Trevor Phillips, then Director of the Commission for Racial Equality, gave a speech in which he asserted that Britain was sleepwalking into segregation and that cities like Bradford and Leicester were comparable in their levels of ghettoisation to Chicago (Phillips 2005). Phillips' sensational claims were largely based on a paper delivered by Poulsen (2005) to the Annual Conference of the Royal Geographical Society and the Institute of British Geographers, in which he not only made the claim that segregation was increasing and ghettos had formed, but argued that, apart from the P* Index of isolation, segregation indexes failed to measure segregation. He argued that segregation should be based on real percentages rather than index figures. Although Poulsen's 2005 paper was single-authored, it represented a body of research published since 2001 by Poulsen with Johnston and Forrest (henceforth PJF). PJF in various combinations (Johnston *et al.* 2002; Johnston *et al.* 2005; Poulsen 2005; Poulsen and Johnson 2006; Poulsen *et al.* 2001) proposed a schema, of threshold analysis developed, albeit with different intentions, from Peach (1966) and Philpott (1978).

Segregation and Assimilation and the Rise of ID

To understand why the attack on index-based analysis of segregation needs to be challenged, one needs to understand it in the context of fifty years of fruitful academic research. The fundamental tenet of the socio-geographical literature on the integration of ethnic or religious minority groups is that the greater their segregation, the less their assimilation (Duncan and Lieberson 1959; Park 1926). While the principles of this relationship were widely accepted, the problem of how to measure segregation proved contentious. While segregation seems an uncontested term in everyday speech, it is too slippery to pin down in a single figure. There is a gulf between the understanding of segregation as an academic, technical term (meaning a scale from high to low segregation) and its everyday meaning (high segregation).

What or who is segregated can be conceptualized in diametrically opposite ways. Imagine a city with a total Black inner city and a totally White surrounding area with no overlap of groups (Figure 1a) it can be agreed that the groups and the inner and outer city are totally segregated. Relaxing the distributions so that the white population is evenly distributed across the city, including the Black inner city (Figure 1b) it could be argued (1) the White population is unsegregated because it is found everywhere, but the Black population is segregated because it is confined to the inner city; (2) the Black population is integrated while the White population is segregated because the Black population lives in a completely mixed inner city while the White population is largely segregated in Whites-only suburbs; (3) the inner city is segregated because all Blacks live there and are absent from the suburbs; (4) the inner city is unsegregated because it has a mixed population. How segregation is conceptualized is important because indexes are operationalised from the concept. No single index can represent all aspects of unevenness, the central attribute of segregation.

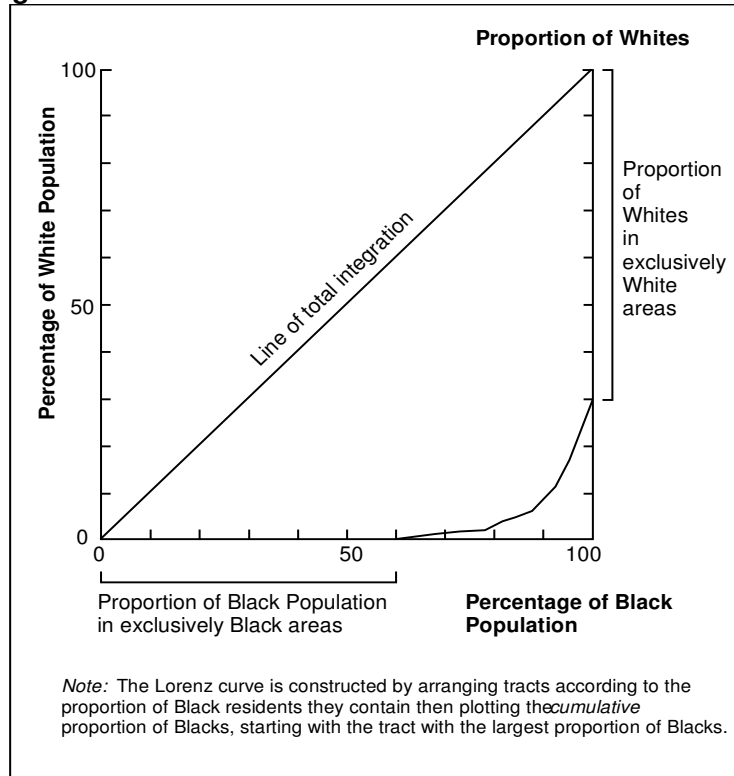
Figure 1a and 1b Non-overlapping and Overlapping Black and White populations



Duncan and Duncan and the Index of Dissimilarity (ID)

Understandably, because the waves of migration experienced by the US throughout its history of the melting pot and the ghetto, American scholars have pioneered the measurement of segregation. Between 1930 and 1955 a chaotic array of measures, vied against each other in an 'Index War'. They were subdued into order by Otis and Beverly Duncan in a keynote paper in 1955 who demonstrated that many of their apparently different characteristics of the competing indexes, could be related different aspects of the Lorenz curve (Figure 1).

Figure 1 The Lorenz Curve



The Lorenz curve is constructed by cumulating the percentages of two population, one of which is ranked from highest to lowest percentage of the tract population on the X axis, against the percentage of the other population in the same tracts, cumulated on the Y axis. In the example in Figure 1. it can be seen that 60 per cent of the black population lives in tracts which are exclusively black

(ie the black population forms a flat line along the X axis until it reaches 60 per cent; 70 per cent of the white population lives in areas which are exclusively white (a flat line along the 30 to 100 percent marks on the Y axis); 40 per cent of black and 30 per cent of whites live in mixed tracts. If the black and the white groups had been evenly distributed. they would have been found following the diagonal line across the diagram (10 per cent of the black population would have been found in tracts which contained 10 per cent of the whites, 30 per cent of the black and 30 per cent of the white etc,). The degree to which the actual curved line of distribution diverges from the diagonal gives a visual reading of the degree of segregation between the two groups. Duncan and Duncans' survey of proposed segregation indices showed that many could be reduced to different ways of describing this bending of the curve away from the diagonal.

The Duncans concluded that two measures in particular gave robust measures of segregation that were unaffected by different sizes of any two groups which were being compared. The first was the Gini Index which could be interpreted as the areas between the segregation curve and the diagonal expressed as a proportion of the total area under the diagonal. (on this diagram the proportion is about 90 per cent). Gini became the standard measure for inequality of distributions in economics, as in the sense that 10 per cent of the richest population in country Y own 80 per cent of the wealth.

The second index was ID or the index of dissimilarity, which gave a similar value as Gini.. As related to the Lorenz curve, it represented the maximum distance between the diagonal and the curve as a proportion of the distance between the diagonal and the X/Y intersection. (again the value would be about 90 per cent). ID had a direct meaning: the proportion of the black population who would have to move to replicate the distribution of the White population (or vice versa). The Duncans synthesis of the role of competing indexes soon led to the emergence of the Index of Dissimilarity (ID) as the favoured standard measure. Indeed we may think of the period 1955 to 1981 as the Pax Duncana.

The index of dissimilarity (ID) produces a good measure of spatial unevenness, the key variable if one is examining the relationship between segregation and assimilation, or its absence. ID is a guide, not an explanation. ID measures the percentage difference in residence between two groups in a city on a scale from 0 to 100. It gives the percentage of either of the two groups which would have to move their residential areas in order to replicate the distribution of the other (in other words, no segregation). Most of the literature uses tracts (*circa* 4,000 inhabitants) or wards (*circa* 6,000) as their areal units. Finer meshes, such as city blocks or census output areas, produce somewhat higher values because they tend to be more homogeneous. Larger units such as boroughs produce lower values. For convenience, ID's range can be scaled: values in the 30s or lower are 'low'; values in the 40s are 'moderate'; those in the 50s are 'moderately high', in the 60s, 'high' and values of 70 or more are 'very high'.

From the mid-1950s, ID became the X-ray of social fusion or fracture. While ID gave a single figure, it permitted correlation with social variables to gain an understanding of social processes. Social geography is concerned with understanding processes from patterns. Duncan and Lieberson (1959) showed how high IDs correlated with low percentages of ethnic groups able to speak English, with low levels of ethnic outmarriage, with low inner-city concentrations and other measures of assimilation. Lieberson (1963) showed, through their decreasing IDs, the progressive absorption of the 'Old' European groups followed by the 'New' Southern and Eastern Europeans into the US Melting Pot. Polish IDs in Chicago, for example decreased from 58 in 1930 to 19 in 1990. Peach (1980a, b), building on Duncan and Lieberson's work, used New Haven, Connecticut ID and marriage certificate data to disprove the supposed Triple Melting Pot thesis—which argued that European minorities would shed their national ethnic identity but remain in their respective Protestant, Catholic and Jewish 'pots' in marriage. Peach argued that, if ID predicted interaction, the proposed Catholic pot of the Irish, Poles and Italians was improbable. The Poles and Italians were highly segregated not only from each other but from the Irish. Duncan and Lieberson's (1959) research showed that high segregation correlated with high in-marriage. An extensive inspection of marriage certificates proved this to be the case with the Italians and Poles. Poles disproportionately married Poles, Italians similarly married Italians, but not other Catholic nationalities in significant numbers. The Irish, on the other hand had low segregation from the North-West Europeans. Their outmarriage was strong with these groups. The Protestant Melting Pot did not exist because it was an 'Old' European melting pot including the Catholic Irish. Peach found that marriage patterns followed the ID patterns.

The Taeubers (1964, 1965) on the other hand, used ID to demonstrate that decreasing segregation was not inevitable. They showed that Black segregation was high and continued high. The mean-value Black IDs in 207 cities the US in 1960 was 87.8 (Taeuber and Taeuber 1965: 34). Recall that 100 is the maximum possible score. Blacks had maintained this level since the 1940s (Taeuber and Taeuber. 1965: 38). In 1993 Massey and Denton could still write of *American Apartheid*.

Taeuber and Taeuber (1964) used ID in a different way: to unpack the relationship between poverty and the ghetto. It was clear that Blacks were poor, but the Taeubers demonstrated that poverty did not explain the ghetto. They demonstrated that if income alone were to control the distribution of Whites and Blacks in Chicago in 1960, the 'expected' degree of Black/White ID would be 10: the observed value was 83. Only 12 per cent of Black/White segregation in Chicago in 1960 could be 'explained' by income differences. Peach (1996), using the same technique, showed that less than 10 per cent of the Bangladeshi London 1991 ID of 62 was 'explained' by economic factors. Massey and Denton took this use of ID a step further, using direct standardisation to show that the

increase in wealth of the Black population failed to reduce their segregation from their White peers. For US Northern Metropolitan areas with the largest Black populations, 1970 to 1980, the average Black/White segregation for poor Blacks against poor Whites was 85.8, for middle-income Blacks against middle-income Whites it was 80.7, and for rich Blacks against rich Whites it was 83.2 (Massey and Denton 1993: 86, Table 4.1).

The conclusion to be drawn from these examples is that ID has been effective both as a diagnostic and predictive measure of inter-ethnic relations and as an analytical tool in understanding the dynamics of social interaction. However, it is scaffolding for understanding the structure. It is not the structure itself. No one index can capture all aspects of segregation.

Widening the Range of Indices: P*

After ID, there was a 25-year gap before the elevation of a new index, the P* Isolation Index (Lieberson 1981), to the canon. In contrast to ID, where the segregation of Group A from Group B was the same as Group B from Group A, P* was asymmetric. The exposure of the smaller to the larger was always greater than the exposure of the larger to the smaller. For example, if a city's White population formed 90 per cent and the Black population 10 per cent, the Black 10 per cent was more exposed to the White 90 per cent than *vice versa*. P* is highly sensitive to a group's percentage of the total city population. A verbal translation of P* is the percentage that group X forms of the population of the area in which the average X lives. Using the Black/White percentages given above, if the populations were randomly distributed, the White P* would be 90 and the Black 10. P* values are complementary (the complete set sums to 100). A caution to using P* to measure changes in British segregation is that, since the minority populations grew by 50 per cent 1991–2001, the minority's P*s have necessarily increased in line with their increased share of the national population. However, the White majority population's isolation index shows a complementary *decrease*. Sensitivity of P* to percentage size means that inter-city comparisons are difficult. To evaluate a group's raw P* score it has to be divided by the group's percentage of the city's population (Sin 2002).

Comparing 1991 P* values with 2001 (space constraints prevent the presentation of the tables) it can be shown that while the White and Caribbean degrees of isolation have decreased, those of all other ethnic groups have increased. This is because the relative size of minority populations, apart from the Caribbeans, has increased. However, the degree to which their 'isolation' exceeds the random expectation (Sin 2002) has decreased for all groups except the Whites. For the Caribbean and African populations P* has *decreased* from 2.2 times more than 'expected' to 1.9 times; for Indians, from 3.3 to 2.9 times; for Pakistanis from 3.7 to 2.9 and from Bangladeshis from 12.6 to 9.2 times.

What this boils down to is that P* is a valuable, but slippery and highly context-bound index in the methodological field. Unlike ID, comparisons can be

realistically made only between groups in the same city, not for the same group in a number of different cities (ie. for a matrix but not for an array). This is because the P^* value is dependent on the minority's relative size in a city and since city percentages vary greatly, direct comparison tells one not so much whether group A is more isolated in city X than city Y, but whether the percentage that group A forms of city X is bigger or smaller than of city Y. P^* is a specialist index, useful in a more limited set of circumstances than ID. P^* is one of the slipperiest indexes with which to deal, but nevertheless it holds a significant place in the evolution of measuring segregation.

Hypersegregation

After Lieberson P^* in 1981, it was another decade or so before Massey and Denton (1988, 1993) made three additions to ID and P^* . They expanded the range of indices to include 'concentration', 'centralisation' and 'clustering' (1988; 1993: 74). They also coined the term *Hypersegregation* for cities in which Blacks scored 60 or more on four or more of these five indexes.

Recent Indices: Super-Diversity, Granulation and Fractionalisation

More recent indices to enter the literature focus on super-diversity, multiplicity, diversity, granulation and mix rather the segregation of binary pairs of ethnicities (Bosveld *et al.* 2006; Brimicombe 2007; Dobbs *et al.* 2006; Vertovec 2007; Wong 2003). These have evolved as a reflection of the shift in public discourse from multiculturalism to social cohesion. The emergence of the Herfindahl ('H') granulation measures or multigroup entropy index (Iceland *et al.* 2002) is particularly important. The index has been adapted from economics, where it is used as a method of measuring the degree of monopoly or competition between firms in a given industry. H can range from 0 to 1, moving from a very large amount of very small firms (granulation) to a single monopolistic producer. Applied to segregation, it measures whether there is a set of small groups or dominance by one major ethnic group in an ethnically mixed city.

H indexes have been popularised by their appearance in Robert Putnam's seminal paper '*E Pluribus Unum*' (Putnam 2007). Putnam's research made a troubling discovery for the case of geographic proximity and social interaction. He demonstrated that the greater the degree of ethnic diversity in settlements of whatever size, the lower the degree of trust the residents had towards other inhabitants. This was true with regard to both their own group and to the 'other'. With greater diversity, Putnam found that people tended to 'hunker down' and keep to themselves.

A criticism of H is that it can be manipulated to increase or decrease the degree of diversity. For example, if one used 'South Asians' as a group for measuring diversity in Birmingham, H would show a lower value than if one disaggregated the same population into Pakistanis, Bangladeshis, Indian Hindus, Sikhs,

Muslims and Christians. Nevertheless, H seems likely to grow in importance as the degree of ethnic and religious heterogeneity increases (Vertovec 2007) and diversity rather than segregation becomes the focus of study.

Poulsen, Johnston and Forrest Shift from Pasteurised Indexes and Spatial Abstractions to Raw Data

Having discussed the evolution and utility of the index approach we arrive at its self-proclaimed nemesis. A breathtaking assault on segregation indices began with Poulsen, Johnston and Forrest (PJF) in 2001. They argued for an abandonment of segregation indices (with the grudging exception of P*). To quote members of the PJF team:

[No index] directly addresses a key issue implied in the theories of the socio-spatial processes underpinning segregation—concentration—the degree to which a group’s members live in relatively exclusive residential areas... (Johnston et al. 2002: 595).

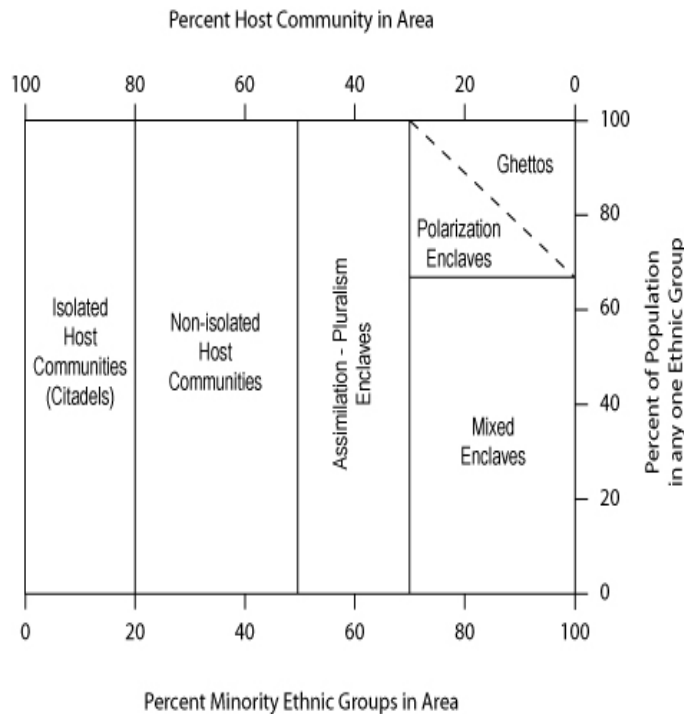
There are unfortunately a large number of problems with these classic measures. Firstly, they are aspatial measures, so they tell us nothing about the spatial distribution of the ethnic population. Just that they are segregated. Secondly, they don’t actually measure segregation in many cases ... it is possible for an ethnic group to be living within an area dominated by the host community and yet to be considered segregated. A better measure is the index of isolation. Thirdly, although the index of isolation is the best of these three measures, it is still a single and aspatial measure. Hence most of the information in the data is discarded. Fourthly, these measures do not take into account the mix of different ethnic groups within an area, but instead compare the distribution of one group against the host population (Poulsen 2005).

One of the key reasons why research into ethnic enclaves has been so poorly developed is that for fifty years most studies into ethnic groups did not, or were unable to delimit the geographic boundary of what we term the ethnic enclave. Instead they treated the ethnic groups within the city in an aspatial manner, utilising the classic indices of dissimilarity and its more specialised variant the index of isolation to describe the level of segregation (Poulsen 2005).

...single number indices rarely tell us enough (anything?) about the everyday experience of members of the group (Poulsen and Johnston 2006: 2195).

The PJF concept was operationalised by segmenting the continuum from totally White areas to minority dominated areas (not, in fact, 100 per cent minorities, since unlike the US there were no 90–100 per cent minority wards in England in 2001). The continuum was split first into two major types (those with a White majority and those with a minority majority). Thereafter each type is subdivided into subtypes, giving six in all. The extreme cases at either end of the continuum were originally termed White ‘citadels’ for nearly all-White areas and ‘ghettos’ for the highly concentrated minorities (Figure2).

Figure 2: Poulsen's 2005 diagram of the PJF schema



The authors produced a strict set of rules, aiming to keep the threshold boundaries firm and to provide a consistent measurement tool for comparing either different countries with each other or the same cities over time (Poulsen *et al.* 2001). However, the terminology and to some extent the thresholds have changed over time. The most recent presentation of the categories substitutes numbers for names (Poulsen and Johnston 2006):

- I the White population is 80 per cent or more of the population;
- II the White population is 50–80 per cent of the population;
- III the non-White population is 50–80 per cent of the total;
- IV the non-White population forms 70–100 per cent of the population, with no single non-White group dominant;
- V the non-White population forms 70–80 per cent of the total, with one non-White group more than twice as large as any other; and
- VI as type V with, in addition, more than 30 per cent of the dominant non-White group living in such areas.

Type VI, originally termed the 'ghetto', is the most controversial category of the schema since it 'manufactures' rather than 'discovers' the ghetto. Four reasons lie behind this critique.

First, using PJF's rules for VI for an area to be stigmatized as a 'ghetto', a Pakistani ghetto could be 40 per cent Pakistani, 30 per cent White, 20 per cent Indian and 10 per cent Caribbean, provided that 30 per cent of the city's Pakistani population lived there. This is a lax definition compared to the 'real' American ghetto. It could be that there is an unintentional slip in the 'one non-White group more than twice as large as any other' rubric. Previous iterations suggest that the dominant minority should account for 60 per cent of the 'ghetto's' total. Even so, a Pakistani ghetto could still be 60 per cent Pakistani, 30 per cent White, 5 per cent Caribbean, 2 per cent Bangladeshi, 1 per cent African and 1 per cent Indian.

The Ghetto and the Enclave

The distinction between the ghetto and the ethnic enclave is the centrepiece of the seminal argument on Chicago in the 1930s, *The Ghetto and the Slum* (Philpott 1978; see also Peach 2005). Philpott showed that the ghetto was dually exclusive: nearly everyone in the ghetto was Black and nearly all Blacks lived in the ghetto. The enclave, on the other hand, was dually dilute: only a minority of minorities lived in their groups' enclaves; rarely did the dominant minority form a majority of the enclave's population (Table 1). For example, only 34 per cent of the Irish enclave's population was Irish; only 3 per cent of Chicago's Irish lived in the enclave. The respective figures for the Swedes were 24 and 15; for Czechs, 43 and 37; for the Italians, 46 and 50; for the Poles, 54 and 61. But for the Blacks, it was 82 and 93 (Philpott 1978: 141). PJF's ghetto is dually dilute: only 30 per cent of the dominant non-White group have to live in it and 40 per cent of its population do not have to be of the dominant group. Compare this with Chicago where 60 per cent of the Black population in 2000 lived in tracts where they formed between 90 and 100 per cent of the population. The PJF ghetto definition exaggerates British segregation and trivialises the severity of the African American situation.

Table 1 Supposed and True 'Ghettoization' of Ethnic Groups, Chicago, 1930

Group	Group's City Population	Group's 'Ghetto' Population	Total 'Ghetto' Population	Percentage of group 'Ghettoized'	Group's percentage 'Ghetto' Population
Irish	169,568	4,993	14,595	2.9	33.8
German	377,975	53,821	169,649	14.2	31.7
Swedish	140,013	21,581	88,749	15.3	24.3
Russian	169,736	63,416	149,208	37.4	42.5
Czech	122,089	53,301	169,550	43.7	31.4
Italian	181,161	90,407	195,736	49.7	46.2
Polish	401,306	248,024	457,146	61.0	54.3
African American	233,903	216,846	266,051	92.7	81.5

Source: Philpott, 1978, 141

The distinction between the ghetto and the enclave is crucial. The ghetto is negative, the enclave is benign; the ghetto is forced, the enclave is voluntary; the ghetto is real, the enclave is symbolic; the ghetto is threatening, the enclave is touristic. The ward with the highest concentration of ethnic minority population in Britain is Southall Broadway, one of the nine wards in England and Wales (out of a total of 8,880) to have over 80 per cent minority population. It is a bustling, vibrant and unthreatening area.

The second criticism of the ghetto typology was that it took no account of the context in which the term 'ghetto' was used. Ghettos are the product of exclusion, compulsion, enforced separation, individuation, dysfunctional family structures, and substance abuse. The PJF use of the term 'ghetto' (even though it was replaced by a numeral in the later iterations of their system) stigmatises South Asian communities whose motivations for clustering are far from those of the American Black ghetto (Phillips 2005; Phillips *et al.* 2007). The South Asian areas are marked by strong family values, lack of individuation, high religiosity and frequently abstinence from alcohol. The very growth dynamics of the enclave, more natural increase than hunkering down, are different (Musterd and de Vos 2007; Phillips *et al.* 2007: 218; Simpson 2004). The areas identified by PJF as ghettos are better understood as traditional, ethnic voluntary enclaves. According to the work of Simpson (2004) and Phillips *et al.* (2007) on Bradford, South Asian populations are *spreading out from traditional core settlements* as young families are formed. There is a net migration loss of both Asians and Whites from such areas. However, the South Asian populations in the core areas are increasing largely through natural increase and from the higher mortality of the older White population. The rate of spread into White areas is greater than the increase in the

core areas. The net effect is that the degree of ethnic mixing with the White population outweighs the increase of the minority populations in the areas of highest concentration. This is why ID, which summarises the overall position, shows a decreasing trend in segregation.

Thirdly, the worst consequence of the proposed low PJF thresholds is that they allowed the claim to be made that Britain had ghettos. When Trevor Phillips (2005) announced that Britain was sleepwalking into segregation and ghettoisation and that Bradford and Leicester were almost as segregated as Chicago, this was so sensational a claim that the ghetto genie escaped from the bottle: out of the literature into the media.

Fourthly and finally, while the PJF measures tell us something about numerical mix, *they contain no information on who is mixed*. Measures of additional aspects of segregation are welcome and have a part to play. However, to make the PJF schema effective requires adding a new segment (VII) to the extreme end of their scale. Firstly, a density closer to 80 per cent of the ghetto's population being supplied by a *single* ethnic/racial religious group is required rather than the current PJF formula of 60 per cent, or 'double the size of the next non-White group'. Secondly, the percentage of a city's ethnic group living at such a density should be closer to 70 than the 30 per cent proposed by the current schema. In this way there would be a net which would catch the sharks and let the sprats through.

Increasing or Decreasing Segregation in Britain?

The 1991 and 2001 censuses were the first to pose a question on ethnicity. Thus the 2001 census presents the first opportunity to measure on a direct comparative basis whether segregation has increased and whether Bradford and Leicester are almost as segregated as their surprising comparators, Chicago and Miami.

Table 1: Comparison of 1991 and 2001 Indices of Dissimilarity (IDs) for urban areas with major concentrations of minority populations

	Caribbean		Indian		Pakistani		B'deshi	
	2001	1991	2001	1991	2001	1991	2001	1991
Birmingham	35	40	42	48	55	62	61	67
Blackburn	*	*	56	53	53	52	*	*
Bradford	32	39	42	49	51	54	60	69
Kirklees	53	62	52	55	46	49	*	*
Leeds	35	63	42	42	55	61	61	79
Leicester	39	29	44	42	46	47	61	73
London	39	43	44	46	46	48	61	62
Manchester	38	49	35	39	48	52	53	63
Oldham	24	38	42	49	66	72	66	73
Oxford	33	32	27	25	32	46	*	*
Pendle	50	48	39	36	53	56	*	*
Sandwell	27	36	31	41	49	55	58	65
Sheffield	52	47	37	33	60	69	64	70
Wolverhampton	27	29	28	33	55	64	*	*
unweighted average	37	43	40	42	51	56	61	69

* Omitted value: Fewer than 1000 minority population

Source: Author's calculation from Census of Great Britain 1991 (Peach, 1996) and Census of England and Wales 2001, table S104. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland. Note: These are raw data comparisons at the same scales, but not adjusted for boundary changes. See Sabater and Simpson, 2009 in press.

Table 1 compares the 1991 and 2001 IDs for urban areas with major concentrations (1,000 plus) of Caribbeans, Indians, Pakistanis and Bangladeshis. The bottom row gives the unweighted average ID for each group. Notice that the Caribbean, Indian and Pakistani IDs in 2001, respectively 37, 40 and 51, were 'low', 'moderate' and 'moderately high'. Only the Bangladeshi mean ID of 61 was 'high'. To put these figures in perspective, compare them with the Taeubers' mean of 87.8 for African Americans in 1960 (Taeuber and Taeuber 1965: 34) or their 1990 mean of 67.8 (Iceland *et al.* 2002: Table 5.1).

The mean Caribbean ID has *decreased* from an already 'moderate' 43 in 1991 to a 'low' 37 in 2001; the Indian ID remained 'moderate' but had *decreased* from 42 to 40; the Pakistani figure had remained a 'moderately high' 51, but had *dropped* from its 1991 value of 56; while the Bangladeshi ID remained 'high' but had *decreased* from 69 to 61. Of the 50 pairs of observations in Table 1, 35

showed decreases between 1991 and 2001. Thus, segregation in the main English cities, measured by the ID, was decreasing, not increasing. With the exception of the Bangladeshis, IDs were *not* 'high'. The results show considerable consistency for the same group in different urban areas. Nor does the evidence support the recent argument by Poulsen and Johnston (2006: 2195) that intermediate values of ID away from the extremes of 0 and 100 are difficult to interpret.

So Are Bradford and Leicester Almost as Segregated as Chicago or Miami?

If we take the dominant minority only, 12 per cent of Leicester's Indians, 0 per cent of Bradford's Pakistanis, but 74 per cent of Chicago's Blacks and 43 per cent of Miami's Blacks were living in wards or tracts where minorities formed over 70 per cent of the 'ghetto' populations (Table 2). None of Leicester's Indians and none of Bradford's Pakistanis lived in any ward where they alone formed over 80 per cent of the population while 67 per cent of Chicago Blacks and 29 per cent of Miami's Blacks did. None of Leicester's Indians and none of Bradford's Pakistanis lived in wards/tracts where they formed 90 per cent of the population, but 60 per cent of Chicago's Blacks and 4 per cent of Miami's did too. In fact 3 per cent of Chicago's Black population of 1.4 million lived in tracts that were 100 per cent Black. In short, taking the 70 per cent of the ward/tract minority threshold hides the fact that one has to corral a whole set of minorities together to cross the threshold in England, but not in America. While Pakistanis alone do even cross the threshold and Indians only scrape over, Black Americans hurdle the 70 per cent threshold in Chicago and Miami and in Chicago two-thirds of the Black population in 2000 lived in tracts which were 90 to 100 per cent Black. The assertion that Bradford and Leicester are almost as segregated as Chicago and Miami simply cannot be sustained.

Table 2 Comparison of minority concentration at different percentage threshold levels of Leicester, Bradford, Chicago and Miami

Threshold	Leicester		Bradford		Chicago/ Cook county	Miami/ Dade County
	Indian	I Minorities	Pakistani	I Minorities	Black	Black
99	0	0	0	0	3	0
90	0	0	0	0	57	14
80	0	27	0	0	7	15
70	12	8	0	30	7	14
Subtotal 70+	12	35	0	30	74	43
67-69	0	11	0	12	2	6
60-66	9	17	17	0	2	9
50	29	0	32	0	4	7
40	18	9	0	15	2	6
30	4	0	16	16	3	7
20	4	15	10	11	5	7
10	16	11	19	9	3	6
0	7	3	6	8	5	9
percent	72,033 100	101,184 100	67,994 100	101,617 100	1,405,361 100	457,214 100

Author's calculation from Census of Great Britain 1991 and Census of England and Wales 2001, table S104. Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland

Author's calculation from US 2000 census Short Form Summary File (SF1) 100 percent data: Miami, Dade County and Chicago, Cook County tract data

The Poulsen claims for increasing segregation centres on the percentage of minority population located in their polarised enclaves (Poulsen 2005: 6) where the minority populations form over 70 per cent of the population. Poulsen shows that the proportion of Leicester's Indians living at this density was 13.6 per cent in 2001 and that this figure is close to Miami's 15.8 and Chicago's 15.4 per cent for Blacks living at this density in 2000. However, Poulsen's figures for the Black concentrations in these cities seem unreliable. My figures (Table 2) for the

concentration of the Black population in Chicago (Cook County, population 5,376,741; Black population 1,405,361) show nearly three-quarters of their number living in tracts which were 70 per cent or more Black, and 43 per cent of Miami's Black population living at this density. Poulsen's preferred comparator for the rather smaller Leicester is the Chicago Metropolitan Statistical Area, with a total population in 2000 of 9,158,000 and a slightly larger Black population than the smaller Cook County which is embedded within it. Table 2 figures are much higher for the Black concentration than those given by Poulsen. It seems unlikely that this difference is due to taking the County data or using tracts rather than blocks. However, Cook County is half the size of the Chicago MSA used by Poulsen but contains 81 per cent of the MSA's Black population. Note that Table 2 shows that 60 per cent of the Chicago Black population are living in tracts that are between 90 and 100 per cent Black, while the 12 per cent of Indians who are living in dense Leicester wards are in wards at the 70–80 per cent level, at the bottom of the 70–100 category.

As Table 2 further demonstrates, none of Bradford's Pakistanis were living in wards which were 70 per cent Pakistani. However, applying the PJF 70 per cent threshold criterion to Leicester, site of one of the claimed ghetto, we find that, if we aggregate all minorities, it captures just three wards. Just over a third (34 per cent) of the aggregated minority population was living in these wards (see Table 2). Indians accounted for most (64 per cent) of this concentrated minority; and 39 per cent of Leicester's Indians lived in these wards. Thus, under Poulsen and Johnston's (2006) classification, Leicester qualifies as an 'Indian ghetto'.

[TABLE 3 NEAR HERE]

However, 20 per cent of this 'Indian ghetto' were White and 16 per cent were non-Indian minorities (Table 3). Thus *36 per cent of this 'Indian ghetto' were not Indian*. These are figures which would count as enclaves rather than ghettos if one compared them with Philpott's analysis. To put the claimed 'ghettos' into perspective, in, 60 per cent of the Black population in 2000 lived in tracts where they formed over 90 per cent of the population. Only 12 per cent of Leicester's Indians, compared with 74 per cent of Chicago's Blacks, lived in wards or tracts in which they formed over 70 per cent of the population. Figures for Bradford, the other claimed ghettoised city, are even lower than those for Leicester. Leicester had only one ward where Indians formed over 70 per cent. Bradford had no wards in which Pakistanis reached this threshold. This is not to say that these concentrations are not high by British standards, but they are not like American ghettos. Moreover these are not enforced concentrations in the American sense. What this boils down to is that claims that Bradford and Leicester have ghettos are misleading and claims that these two cities are as segregated as Chicago and Miami are not substantiated, even by the criteria set by PJF.

Conclusion

To summarise, the history of measuring segregation can be taken as starting with a flurry of measures in the 1940s and 1950s, which were winnowed down to the ID. In the 1980s, Lieberman's P^* joined the established canon, and in the 1990s the repertoire was extended by Massey and Denton (1993: 74–8). All of these indexes had in common that they were binary measures, even if, in the case of ID, they were often presented in matrices of binary relationships.

The PJF family of rather radical papers in the 2000s challenged the use of indexes. They proposed instead raw data with threshold values of concentration and different mixes of ethnicities as a key to understanding social processes of interaction. The method itself is conceptually sound, but can be subjected to criticism for its 'ghetto' terminology and for its low calibration of threshold values, particularly with regard to the emotive term 'ghetto'.

Despite the criticisms of the PJF approach, it had an important effect in shifting the measurement debate from the segregation of a particular group to the diversity of a mix. As the British political discourse has moved from multiculturalism to social cohesion, so the developing techniques of measurement have shifted from degrees of exclusivity toward measurements of ethnic and religious mix, from binary comparisons to multiple relationships.

This has been a complicated paper to write because it involves both a general history of measuring segregation, and unravelling an academic argument on ghettoisation. This literature has been written by differing permutations of authors, with different degrees of formal publication, evolving definitions, and third-party public speeches which draw on the academic authors' work but which do not necessarily place the same constructions on the material as the authors. Despite my criticism of the PJF definition of ghettos and of their rejection of index measures, their general system is a useful addition to an understanding of segregation. PJF's dropping a hand-grenade into the debate is perhaps a useful Darwinian way of seeing what will survive.

The present paper has sought to challenge the assertions made in the 2005 Poulsen paper and picked up by Trevor Phillips' speech. It makes five points. Firstly, the index of dissimilarity (ID) approach has been critical to understanding of the success or failure of minority integration in the US and Europe. Second, over time the range of indexes has expanded to meet a growing interest in diversity and mix as well as the binary comparisons of traditional indices, and the current trend is towards more indexes rather than abolition of the approach. Third, the segregation of minority ethnic communities in Britain is decreasing. Fourth, while the PJF threshold measurement schema is a useful addition to the battery of measures already in place, it is an addition, not a replacement, and its final threshold values require substantial revision. Finally, the PJF claims of ghettoisation in Britain are not the product of discovery but of confusing the ethnic

enclave with the racial ghetto; the definition of the ghetto is so permissive that they have artificially manufactured ghettos.

References

- Bosveld, K., Connolly, H. and Raha, C. (2006) 'Measurement and classification', in Dobbs, J., Green, H. and Zealey, L. (eds) *Focus on Ethnicity and Religion*. Basingstoke: Palgrave Macmillan, 2–18.
- Brimicombe, A.J. (2007) 'Ethnicity, religion, and residential segregation in London: evidence from a computational typology', *Environment and Planning B: Planning and Design*, 34(5): 884–904.
- Dobbs, J., Green, H. and Zealey, L. (eds) (2006) *Focus on Ethnicity and Religion*. Basingstoke: Palgrave Macmillan.
- Duncan, O.D. and Lieberson, S. (1959) 'Ethnic segregation and assimilation', *American Journal of Sociology*, 64(4): 364–74.
- Iceland, J., Weinberg, G. and Steinmetz, E. (2002) *Racial and Ethnic Residential Segregation in the United States: 1980–2000*. Washington DC: Bureau of the Census, <http://www.census.gov/hhes/www/resseg.html>.
- Johnston, R., Forrest, J. and Poulsen, M. (2002) 'Are there ethnic enclaves/ghettos in English cities?', *Urban Studies*, 39(4): 591–618.
- Johnston, R., Poulsen, M.F. and Forrest, J. (2005) 'On the measurement and meaning of residential segregation: a response to Simpson', *Urban Studies*, 42(7): 1221–7.
- Lieberson, S. (1963) *Ethnic Patterns in American Cities*. New York: The Free Press.
- Lieberson, S. (1981) 'An asymmetrical approach to segregation', in Peach, C., Robinson, V. and Smith, S.J. (eds) *Ethnic Segregation in Cities*. London: Croom Helm, 61–83.
- Massey, D.S. and Denton, N.A. (1988) 'The dimensions of residential segregation', *Social Forces*, 67(2): 281–315.
- Massey, D. and Denton, N. (1993) *American Apartheid: Segregation and the Making of the Underclass*. Cambridge, MA: Harvard University Press.
- Musterd, S. and de Vos, S. (2007) 'Residential dynamics in ethnic concentrations', *Housing Studies*, 22(3): 333–53.
- Park, R.E. (1926) 'The urban community as a spatial pattern and moral order', in Burgess, E.W. (ed.) *The Urban Community*. Chicago: The University of Chicago Press, 3–18; reprinted in Peach, C. (ed.) (1975) *Urban Social Segregation*. London: Longman, 21–31.
- Peach, C. (1980a) 'Ethnic segregation and intermarriage', *Annals of the Association of American Geographers*, 70(3): 371–81.
- Peach, C. (1980b) 'Which triple melting pot?', *Ethnic and Racial Studies*, 3(1): 1–16.
- Peach, C. (1996) 'Does Britain have ghettos?', *Transactions of the Institute of British Geographers*, 22 (1): 216–35.

- Peach, C. (2005) 'The ghetto and the ethnic enclave', in Varady, D.P. (ed.) *Desegregating the City*. Albany: State University of New York Press, 31–48.
- Peach, G.C.K. (1966) 'Factors affecting the distribution of West Indians in Great Britain', *Transactions of the Institute of British Geographers*, 38: 151–63.
- Phillips, D., Davis, C. and Ratcliffe, P. (2007) 'British Asian narratives of urban space', *Transactions of the Institute of British Geographers*, 32(2): 217–34.
- Phillips, T. (2005) 'After 7/7: sleepwalking to segregation'. Speech given by Trevor Phillips at the Manchester Council for Community Relations, 22 September 2005. Online at <http://www.cre.gov.uk/Default.aspx?LocID-0hgnew07s.RefLocID-0hg00900c002.Lang-EN.htm>, accessed 30 November 2006.
- Philpott, T.L. (1978) *The Ghetto and the Slum*. New York: Oxford University Press.
- Poulsen, M. (2005) 'The "new geography" of ethnicity in Britain?'. London: unpublished paper delivered to the Annual Conference of the Institute of British Geographers and the Royal Geographical Society, 31 August–2 September.
- Poulsen, M. and Johnston, R. (2006) 'Ethnic residential segregation in England: getting the right message across', *Environment and Planning A*, 38(12): 2195–9.
- Poulsen, M., Johnston, R. and Forrest, J. (2001) 'Intraurban ethnic enclaves: introducing a knowledge-based classification method', *Environment and Planning A*, 33(11): 2071–82.
- Putnam, R.W. (2007) '*E Pluribus Unum*: diversity and community in the twenty-first century'. The 2006 Johan Skytte Prize Lecture', *Scandinavian Political Studies*, 30(2): 137–74.
- Sabater, A. and Simpson, L. (2009) 'Enhancing the population census: a time series for sub-national areas with age, sex, and ethnic group dimensions in England and Wales, 1991–2001', *Journal of Ethnic and Migration Studies*, 35(9): in press.
- Simpson, L. (2004) 'Statistics of racial segregation: measures, evidence and policy', *Urban Studies*, 41(3): 661–81.
- Sin, C.-H. (2002) 'The interpretation of segregation indices in context: the case of P in Singapore', *The Professional Geographer*, 54(3): 422–37.
- Taeuber, K.E. and Taeuber, A. (1965) *Negroes in Cities*. Chicago: Aldine.
- Taeuber, K.E. and Taeuber, A.F. (1964) 'The negro as an immigrant group', *American Journal of Sociology*, 69(4): 374–82.
- Vertovec, S. (2007) 'Super-diversity and its implications', *Ethnic and Racial Studies*, 30(6): 1024–54.
- Wong, D.W.-S. (2003) 'Spatial decomposition of segregation indexes: a framework towards measuring segregation at multiple levels', *Geographical Analysis*, 35(3): 179–90.

Acknowledgements

This paper is an updated version of one presented at the Manchester University Conference: on **'Demography's Contribution to debates on Segregation, Diversity and Integration'** Thursday, May 17th, 2007

Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland. I also thank Mike Poulsen for his kind provision of Figure 1.

The author gratefully acknowledges the grant from the Nuffield Foundation: Comparison of ethnic and racial segregation in the UK and USA SGS/33553 Part of this work was carried out at Princeton University Office for Population Research, while the author was on sabbatical leave in 2007.