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Muslims in Indian cities: Degrees of segregation and the elusive ghetto

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Abstract

In India, the country with the third largest Muslim population in the world, residential segregation along religious lines has long been of concern. Many go so far as to speak of the large-scale 'ghettoization' of Muslims, a trend commonly attributed to the state's negligence towards this religious minority and prolonged histories of so-called 'communal' violence between religious groups. Others emphasize long-standing pattern of residential clustering in enclaves and claim that these have always been voluntary. Both the ghetto and the enclave are usually considered highly segregated spaces, though. This paper complicates such views through an in-depth engagement with the seminal ethnographic volume *Muslims in Indian Cities*, edited by Laurent Gayer and Christophe Jaffrelot. Based on novel quantitative estimates of religious demography, I contrast and compare the same 11 cities studied in their book – Mumbai, Ahmedabad, Jaipur, Lucknow, Aligarh, Bhopal, Hyderabad, Delhi, Cuttack, Kozhikode and Bangalore – using statistical indices of segregation. This comparison with the ethnographic 'gold standard' shows that the mere extent of segregation is an insufficient shortcut to the phenomenon of ghettoization: a ghetto actually need not be highly segregated and a 'mixed area' can be surprisingly homogenous. Consequently, I argue that one should not only distinguish between voluntary and forced clustering but also consider the wider 'mental maps' through which inhabitants experience, perceive and judge their city. Such mental maps specifically help to uncover historical trajectories, feelings of insecurity and the future expectations of people regarding their cities – irrespective of quantitative degrees of segregation.

Keywords

Segregation, Ghetto, Muslims, India, mixed methods

Introduction

Segregation of Muslims has once more become a concern both in Europe and North America and, perhaps for different reasons, in India and other countries of the global South. For the global North, Lens (2017) notes in his comprehensive review essay that essentially two distinct camps drive the debate, with those who fear the increased

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'ghettoization' and forced marginalization of Muslims on one side and those emphasizing 'geographies of opportunity' in 'enclaves' that reflect voluntary self-segregation on the other. Both groups of researchers rely on the same quantitative measures of segregation, but they draw rather different qualitative inferences from them: the ghetto is seen as highly segregated by force, the enclave as highly segregated by choice. Scholars working with qualitative data tend to maintain a more complex middle ground; however, they still differ widely in their conclusions and policy recommendations.

In the global South, in contrast, both religious segregation and concern over its causes and implications follow different trajectories. In India, for instance, the country with the third largest Muslim population in the world, clustered living in neighbourhoods defined by community, occupation and endogeneity has a long history (Heitzman 2008) – as do the 'slum' and the 'citadel' (more on which in the next section). But here, too, the publishing of the so-called 'Sachar report', a ground-breaking government document that took stock of the extent of socio-economic marginalization of Muslims (Sachar et al., 2006; cf. Basant and Shariff, 2010), sparked a fresh debate on these matters. One sentence in particular stuck, as the report's authors explicitly voiced their concern that 'fearing for their security, Muslims are increasingly resorting to living in ghettos across the country' (Sachar et al., 2006: 14).

Unlike other forms of residential clustering, segregation of Muslims in urban India is thus increasingly perceived to be problematic, and commonly attributed to the state's negligence towards this religious minority, prolonged histories of so-called 'communal' violence between religious groups, and resulting prejudices and security concerns (Gayer and Jaffrelot, 2012c; Thorat et al., 2015). The prime examples of this view are the segregated and dilapidated neighbourhoods of Juhapura in Ahmedabad (Jaffrelot and Thomas, 2012; Jasani, 2008) and Shivaji Nagar in Mumbai (Contractor, 2012; Mhaskar, 2013), where ghettoization indeed seems to increase following each new communal riot. Other studies contest this narrative by pointing out more benign factors that may facilitate, or at least sustain, the residential segregation of Muslim Indians, such as the pull effects of economic clustering (Jaffrelot and Thomas, 2012; Jamil, 2014; Susewind, 2015a), the transnational embeddedness of locally isolated neighbourhoods (Verstappen and Rutten, 2015) or the role of 'ghetto mentality' and non-spatial dimensions of isolation (Gupta, 2015). On balance, though, a pessimistic perspective prevails: among both scholars and the public, the intertwined notions that (a) Muslims are becoming strongly and increasingly segregated in urban India and that (b) this indicates a problem are overwhelmingly commonsense, captured in proliferating talk of 'Muslim ghettos'.

This study makes two contributions to these debates: an empirical one, which focuses on India, and a conceptual and methodological one, which appears more widely applicable. Empirically, I engage with the seminal volume *Muslims in Indian Cities: Trajectories of Marginalisation* (Gayer and Jaffrelot, 2012c) in a double comparative exercise. This volume assembles detailed ethnographic case studies on the contemporary socio-spatial position of Muslims in the Indian cities Mumbai, Ahmedabad, Jaipur, Lucknow, Aligarh, Bhopal, Hyderabad, Delhi, Cuttack, Kozhikode and Bangalore. Through a systematic review of these eleven cases, Gayer and Jaffrelot (2012a) distinguish three ideal-typical 'trajectories of marginalization', which, in their view, result in non-linear ways in three ideal-typical 'patterns of segregation'. They, too, are concerned that Indian Muslims might be subject to increasing ghettoization – not at the same pace everywhere and in a conceptually more rigorous sense than much popular discourse has it, but still to a worrying extent.

My paper complements and complicates this view by focussing on one particular aspect of ghettoization, namely the degree of spatial segregation. On the basis of quantitative indices, I rank the same 11 cities discussed in their book from least to most segregated, comparing them both with each other and also with the characterizations of Gayer and Jaffrelot (2012c), taken as a kind of ethnographic 'gold standard'. Due to the traditional scarcity of official statistics on religious demography in South Asia, this endeavour required alternative estimates, which I derived from the social connotations of voters' names on electoral rolls – a pioneering work that resulted in unprecedented detailed maps of the residential distribution of Muslims (raw data is available as part of Susewind, 2016).

Ultimately, this double comparison shows that the mere extent of segregation is an insufficient shortcut to the phenomenon of ghettoization – which is also the more widely relevant implication of the paper. Specifically, I show that cities in which Muslims (and through them ethnographers) experience 'ghettoization' can have very strong (Ahmedabad) but also rather average (Mumbai and Aligarh) levels of segregation. Similarly, one can find 'mixed areas' of 'resilient cosmopolitanism' in cities that are barely (Kozhikode), somewhat (Cuttack) and relatively strongly (Bangalore) segregated. Apparently, the actual extent of 'mixing' between different groups does not conclusively determine whether an area is considered 'mixed', and it takes more than just segregation to form a ghetto. More precisely, it takes something else.

Ghettos, enclaves, slums and citadels

What should be termed a 'ghetto' then, what an 'enclave', and how do both differ from 'slums', 'citadels' and other forms of residential clustering? These questions have long been of concern to urban sociologists and geographers, though usually with an empirical focus on large cities in the global North (a complication addressed in the next section). The consensus seems to be that all four formations are highly segregated spaces, but that it makes a normative and hence conceptual difference whether their segregation came about and is sustained by force or by choice: the former suggests a 'ghetto' or a 'slum', the latter an 'enclave' or a 'citadel' (e.g. Varady, 2005). What is more, the terms 'ghetto' and 'enclave' are commonly used if spaces are primarily segregated along ethnic, racial, communal or caste lines – i.e. according to ascribed identities of their residents – while the 'slum' and the 'citadel' denote primarily economic or class-based segregation (e.g. Galonnier, 2014; Marcuse, 1997). In short: if an ethnic group is relegated to certain neighbourhoods we speak of a 'ghetto'; if poor people are forced to club together we see a 'slum'; if an ethnic group voluntarily chooses to segregate, they form an 'enclave'; and if rich people isolate themselves, this constitutes a 'citadel'.

Empirically, each of these types of residential clustering might of course blend into another, not least because of the intersection of ascribed and acquired identities and, perhaps even more importantly, because of the inevitable variety of individual motives and life trajectories. Over time, what started as a 'ghetto' through forced relegation might attract new residents towards it who see it much more as an 'enclave' and vice versa. However, from a conceptual perspective, I agree with most of the literature that both formations should be treated as very different ideal types (Peach, 2005; cf. Galonnier, 2015: 94–96). This has methodological implications in that it does not suffice to merely identify the extent of an area's isolation to categorize it, as Wacquant (2015: 1078) wrote:

> the proper object of inquiry [for research on urban marginality] is not the place itself and its residents but the multilevel structural processes whereby persons are selected, thrust and

> maintained in marginal locations, as well as the social webs and cultural forms they subsequently develop therein.

Only such attention to both wider processes and subjective meaning enables us to disentangle the 'ghetto' from the 'enclave', or indeed the 'slum' from the 'citadel'. Only the first denotes forced segregation according to ascribed identity, or, in Wacquant's seminal definition, 'a bounded, *ethnically* uniform sociospatial formation born of the *forcible relegation* of a negatively typed population' (Wacquant, 2008: 8, my emphases). Other than its commonplace use in Indian as much as global popular discourse suggests, the 'ghetto' thus ought to refer to a fairly specific thing.

All four conceptual takes on residential clustering share, however, the notion of strong isolation or segregation – a precondition that is rarely made explicit. This raises important questions: just how segregated should a place be to qualify as a 'ghetto'? Is a 'ghetto' more or less segregated than an 'enclave'? While I appreciate the attempt to distinguish voluntary from forced segregation (and the related attempt to highlight the many entanglements in between these two poles), my paper sets out to complicate precisely this baseline condition of 'strong' segregation that so often gets unquestioned (for a rare exception, see Vaughan and Arbaci, 2011).

Muslims in Indian cities

In India, urban segregation research is a relatively new phenomenon, largely because good quantitative data is still hard to come by, because of the traditional emphasis on village studies (Nandy, 2007) and on colonial rather than contemporary urbanism (e.g. Ballhatchet and Harrison, 1980; Gooptu, 2001). Prakash (2002) refers to the 'urban turn' in South Asian studies and Shatkin (2013: 1) speaks of India's 'remarkable urban moment'. The emerging body of literature on Indian cities that they have in mind still largely focuses on the metropolises of Delhi, Bombay, Bangalore, Chennai, Hyderabad and Calcutta, though, neglecting other regional centres and smaller towns (Donner and de Neve, 2006). Due to the manner in which Census data in particular is presented, most studies on urban residential patterns also focus on caste rather than religion (e.g. Bhan and Jana, 2015; Sidhwani, 2015). Consequently, the publication of *Muslims in Indian Cities* marks a milestone in terms of both its breadth (the book covers more localities than any previous work, including a few uncommon choices) and depth (each city chapter is grounded in thorough, often doctoral–dissertation–length ethnographic fieldwork).

On a conceptual level, the volume also introduces fresh rigor, expanding on Wacquant's seminal work on forced relegation (Wacquant, 2008). One could long debate whether it is appropriate to use concepts derived from experiences in the global North to cities in the global South (and Galonnier, 2015 sums this up nicely by emphasizing that the heuristic qualities of ideal types could be harnessed even if substantial arguments need re-evaluation). For this paper, I take an easy way out of these questions by following whatever *Muslims in Indian Cities* decided to do, because that is the book that I aim to re-study. In their introduction, Gayer and Jaffrelot (2012b: 22) suggest the following criteria for 'Muslim ghettos' (emphasis in original):

> Building upon this basic definition [by Wacquant, 2008], the concept of 'ghetto' can be further elaborated by pointing out five major characteristics of these spaces of relegation: [1] an element of social and/or political *constraint* over the residential options of a given population; [2] the *class and caste diversity* of these localities, which regroup individuals of different social

backgrounds on the basis of ethnic or religious ascribed identities; [3] the *neglect* of these localities by state authorities, translating into a lack of infrastructures, educational facilities, etc.; [4] the *estrangement* of the locality and its residents from the rest of the city, due to lack of public transportation as well as limited job opportunities and restricted access to public spaces beyond the locality; [5] the subjective *sense of closure* of residents, related to objective patterns of estrangement from the rest of the city.

Importantly, only two of the five components of this definition reflect spatial segregation per se – constraint over residential choices and estrangement from the rest of the city – while the other three point to the social mechanisms through which mere segregation is turned into and experienced as ghettoization. This mirrors the conceptual debate elsewhere, as we have seen in the last section. But Gayer and Jaffrelot (2012a) themselves then continue to use this careful definition of the ghetto as both process and place to group their 11 case studies into two typologies (summarized in the final two columns of Table 1 below). On the one hand, they differentiate among three ideal–typical trajectories of marginalization: 'the first combines the post-Partition fall and identity politics, while the second is over-determined by communal violence and political (sometimes cultural) obliteration and the third by some

Table 1. Muslim population shares, segregation indices, trajectories of marginalization and patterns of segregation.

	Muslim population share			Segregation indices				Trajectory	Pattern
City	Census 2001	Census 2011	Electors 2014	D	D(M)	D(W)	D(S)		
Jaipur(city)	0.18	0.19	0.29	0.29	**0.19**	0.21	0.29	n/a	Ghetto
Jaipur (built)				0.30	**0.20**	0.22	0.30		
Kozhikode (city)	0.35	0.38	0.27	0.38	**0.24**	0.25	0.36	Resilient	Mixed
Kozhikode (built)			0.30	0.36	**0.25**				
Lucknow (built)	0.26	0.26	0.24	0.41	**0.29**	0.29	0.41	Partition	Enclave
Lucknow (city)			0.23	0.42	**0.30**	0.31	0.42		
Cuttack (built&city)	0.09	0.08	0.05	0.38	**0.33**	0.33	0.38	Resilient	Mixed
Bhopal (built)	0.27	0.26	0.23	0.49	**0.34**	0.37	0.49	Partition	n/a
Bhopal (city)				0.50	**0.35**	0.39	0.50		
Mumbai (built)	0.19	0.21	0.17	0.51	**0.38**	0.38	0.50	Riots	Ghetto
Mumbai (city)							0.51		
Aligarh (city)	0.41	0.43	0.32	0.59	**0.40**	0.43	0.57	Riots	Enclave
Bangalore (built)	0.16	0.14	0.15	0.52	**0.41**	0.41	0.51	Resilient	Mixed
Hyderabad (city)	0.43	0.30	0.32	0.60	**0.42**	0.42	0.59	Partition	
Aligarh (built)	0.41	0.43	0.29	0.59	**0.43**	0.45	0.59	Riots	Enclave
Bangalore (city)	0.16	0.14	0.17	0.57	**0.46**	0.46	0.57	Resilient	Mixed
Delhi (built)	0.12	0.13	0.07	0.52	**0.47**	0.47	0.52	Partition	Enclave
Delhi (city)			0.06	0.55	**0.50**	0.51	0.55		
Hyderabad (built)	0.43	0.30	0.21	0.63	**0.51**	0.53	0.63	Partition	Enclave
Ahmedabad (city)	0.14	0.14	0.12	0.71	**0.57**	0.56	0.71	Riots	Ghetto
Ahmedabad (built)			0.10	0.73	**0.62**	0.64	0.73		

Note: In this table, each city appears twice: once delimited by its administrative boundary and once by the extent of its densely built-up area. For each case, the table lists the Muslim population shares according to Census data for 2001 and 2011, estimated Muslim shares of the electorate in 2014, four segregation indices used in this study, and trajectories of marginalization and patterns of segregation identified by Gayer and Jaffrelot (2012a).

resilient cosmopolitanism' (Gayer and Jaffrelot, 2012a: 320). On the other hand, they argue that these different trajectories result in three distinct patterns of segregation in non-linear ways: ghettos, enclaves and mxied areas. A ghetto fulfils all five criteria quotes above, an enclave only some of them (most notably appearing much more voluntary in nature), and a mixed area is in a sense the conceptual contrast. In the remainder of this study, I complement and contrast these qualitative typologies on a quantitative level.

Data and methodology

Religious demography is a sensitive matter in India, and disaggregated data often remains classified. For instance, the Census of India only publishes Muslim population shares for whole cities, not for smaller enumeration units. Therefore, for this study, I tapped into an alternative source of data: the religious connotations of electors' names on the voters lists used in the last Indian general elections, held during the spring of 2014. The raw electoral rolls of the 11 cities were downloaded from the websites of the chief electoral officers of the respective states – Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar Pradesh – throughout the summer of 2014, and they were further processed using a dedicated probabilistic algorithm (Susewind, 2015b). Regarding the separation of Muslim from non-Muslim names in North India, this algorithm achieves positive and negative predictive values well over 95%. Moreover, the algorithm's accuracy further improved as individually wrong classifications tended to cancel each other across the thousand or so names on an average electoral roll. Since this source is available on the level of polling booths, whose geographical latitudes and longitudes are known and whose coverage is often less than a quarter of a square kilometre in urban areas, this method results in estimates of religious demography that are several hundred times more detailed than Census data.

However, this data source can cause other potential problems. First, the electorate excludes minors. Since recent Census figures suggest that religious demography varies only marginally by age group, this should however not affect the relative proportions of Muslims and non-Muslims. Further, minors do not typically form separate households; therefore, for a study on residential choices, knowing the demographic balance among adults should suffice. Second, in India, one must be registered to exercise the right to vote, much like in the US and other countries, and Muslims might be more or less likely than non-Muslims to appear on the electoral rolls. However, this, too, seems improbable for two reasons. On the one hand, the registration process is closely observed by powerful parties with competing interests, making it unlikely that Muslims are denied franchise in a systematic way, even though rumours to the contrary are frequently voiced in political competition (as are, incidentally, rumours of preferential treatment and 'pampering' of Muslims). On the other hand, a detailed analysis of the electoral choices of Muslims in two major Indian states during the last general elections found no significant difference in turnout compared to non-Muslims (Susewind and Dhattiwala, 2014), which prima facie suggests similar levels of engagement with the electoral process, and by extension similar registration rates, of both Muslims and non-Muslims. In any case, distortions resulting from name-matching accuracy, age distribution, denial of franchise or differential electoral registration rates would all need to affect different areas of a city differently in order to affect segregation indices. There is little reason to believe this may happen, even in the cases of Jaipur, Kozhikode, Aligarh and Delhi, for which Table 1 records significant differences between aggregate name-matching estimates and Census figures.

Therefore, in summary, I consider the religious make-up of the electorate to be a relatively comprehensive and sufficiently accurate proxy for the wider population distribution – at least as long as disaggregated official data remain unavailable. This assessment was corroborated by the authors of the eleven substantial chapters of *Muslims in Indian Cities*, who generously reviewed draft maps for this article in light of their detailed ethnographic knowledge and generally found them highly plausible.

This left two major design decisions: how to delimit urban boundaries and how to measure the extent of segregation. According to the typical pattern of an old Muslim town that is surrounded by more recent and largely non-Muslim suburbs, segregation would appear more or less acute depending on how widely one draws the circle around an Indian city. The most obvious choice would be to use the formally designated administrative city area as the boundary line. However, due to rapid urban growth and political gerrymandering, such administrative boundaries may be quite outdated and often bear little resemblance to lived experience. This problem is especially acute where Muslim ghettos are deliberately relegated to remote and detached areas outside formal city limits. Moreover, the extent to which administrative boundaries mirror ground realities varies widely from city to city; this further complicates comparisons. Therefore, I complement administrative city limits with a second boundary line, which is derived from the 'objective' urban extent of a 'densely built-up area' as seen from space (Schneider et al., 2003). Although the satellite data used to derive this boundary line is already more than 15 years old, it measures urban extent at approximately the same time as the 2001 Census, whose data and administrative units were used as reference in *Muslims in Indian Cities*.

Lastly, geographers have long debated the question how best to quantify the extent of spatial segregation and come up with numerous suggestions; a recent review counts no less than 43 distinct approaches (Apparicio et al., 2014). In this study, I employ one of the oldest and most widely used measures: D, the index of dissimilarity proposed by Duncan and Duncan (1955a, 1955b). D ranges from 0 (no segregation) to 1 (complete segregation) and measures the proportion of either of two population groups that would need to relocate in order to achieve an even spatial distribution of both. For the purpose of this study, D has a number of attractive properties. First, it was developed to compare the spatial distribution of two groups (here, Muslims and non-Muslims). Second, it measures the extent of segregation across whole cities rather than quantifying the degree of isolation for separate localities within a given city. Third, it does not assume that proximity to the city centre is necessarily desirable (an arguably US-centric assumption made by several other indices; cf. Lens, 2017: 2). Finally, D operates on proportions and is insensitive to absolute population shares, which facilitates comparisons across cities and renders results that are more robust.

However, D ignores the spatial location of each unit of measurement. Suppose a city has 10 polling booths with a high percentage of Muslim electors. For the calculation of D, it will not matter whether these are all clubbed together in one place or dotted across the city, whether they form one larger segregated space or are mixed across various neighbourhoods. To address this problem, Morrill (1991) suggested a modified index, D(M), which adjusts for tract contiguity: if several polling booths with a high percentage of Muslim electors are near each other, D(M) treats them as one contiguous area of Muslim concentration, which seems more sensible for the purpose of this study than the original index. Besides D and D(M), I calculated two more measures of segregation, D(W) and D(S), which were originally proposed by Wong (1993). Both are variations of the same theme using slightly different methods of spatial adjustment, and they are merely reported to demonstrate that neither would result in a fundamentally different city ranking.

Findings

Table 1 lists the four quantitative measures D, D(M), D(W) and D(S) for all the 11 cities studied in *Muslims in Indian Cities*, sorted according to D(M) values from least segregated (Jaipur) to most segregated (Ahmedabad). As previously discussed, each city is listed twice: once delimited by its administrative boundary and once by the extent of its densely built-up area. The corresponding maps of Muslim demography can be found throughout this article (Figures 1–11). Prior to discussing the overall ranking and its implications regarding the tenuous link between segregation and ghettoization, though, this section summarizes my findings for each city separately.

Quite surprisingly, the table is topped by Jaipur, even though Gayer and Jaffrelot (2012a: 325) described its Muslim settlements as a 'ghetto in the making'. However, with segregation indices of $D(M) = 0.19$ within municipal boundaries and $D(M) = 0.20$ within the slightly narrower area of dense population, Jaipur appears to be the least segregated city by a robust margin. One solution to this riddle may lie in the assertion by Jai Singh Rathore (2012: 103) that many Jaipuri Muslims set the mental 'boundaries of their city [. . .] around the walled city', which indeed shows a more pronounced clustering of Muslim and non-Muslim localities (see Figure 1). While this pattern remains a statistical exception within the wider city, the fact that it so powerfully shapes people's mental maps shows the true challenge of delimiting the city in meaningful ways – a point to which I return in the conclusion of this study. A second possible explanation is to take the diachronic aspect of a 'ghetto *in the making*' (Gayer and Jaffrelot, 2012a: 325, my emphasis) more seriously: the low quantitative measure of segregation in Jaipur reflects only one temporal snapshot; if much lower segregation had been experienced in the past, a worsening trend might well be experienced (and reported) as a process of ghettoization.

In contrast, the segregation indices for Kozhikode (Calicut) – the second-least segregated city – confirm the ethnographic picture: 'in Kozhikode, Muslims are not relegated to the peripheral areas but are rather choosing to extend into the city's mixed localities' (Kanchana, 2012: 285). Nonetheless, its segregation index of $D(M) = 0.24$ is a robust step up from that of Jaipur, and the value rises to $D(M) = 0.25$ if one considers the wider built-up area surrounding Kozhikode, which is significantly larger than its administrative boundary (see Figure 2).

In terms of segregation between Muslims and non-Muslims, Lucknow marks the upper end of the lower third of the table, with $D(M) = 0.29$ for the built-up area and $D(M) = 0.30$ within the municipality itself (see Figure 3). However, in *Muslims in Indian Cities*, Lucknow does constitute a special case, since Verniers (2012) chose to focus his case study on the sectarian strife between Shia and Sunni Muslims rather than the relations between Muslims and non-Muslims per se. Since sectarian demography cannot be reliably established using name-matching technology, I cannot compare his chapter with my quantitative segregation indices (however, see figure 5 in Susewind and Taylor, 2015 for an experimental attempt to map sectarian demography in Lucknow).

The next three cities – Cuttack, Bhopal and Mumbai – form an interesting cluster in the middle of the ranking. In his chapter on Cuttack, Kanungo (2012) asserts that most Muslims there 'continue to live with their Hindu neighbours in the traditional sahis/mohallas (mixed neighbourhoods) rather than contemplating to move out to live in an exclusive Muslim enclave'. Therefore, in *Muslims in Indian Cities*, the city is categorized as being resilient cosmopolitan. In contrast, according to Jaffrelot and Wülbers (2012), Bhopal is the prototype of the post-partition 'trajectory of marginalization', a former princely capital where native Muslims largely remain confined to the old city. Their growing segregation

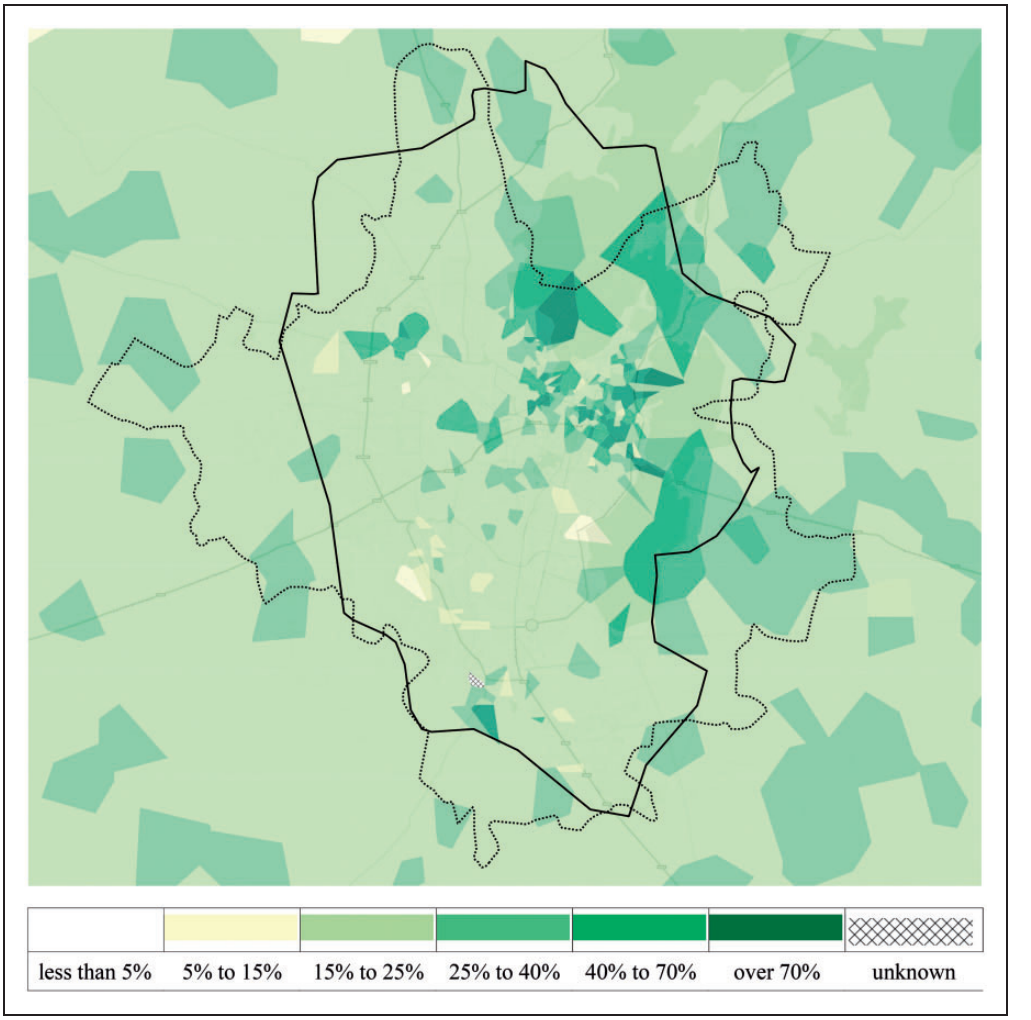

Figure 1. Map of Muslim demography in Jaipur. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

is not the result of communal violence; rather, it is because socially mobile non-Muslims leave while impoverished Muslims stay behind. Finally, Mumbai is a typical riot-prone city – though here, too, Muslim ghettoization through violent exclusion cannot clearly be isolated from economic deprivation (Contractor, 2012).

As different as these three cities appear in terms of their trajectories of marginalization and patterns of segregation, they share similar quantitative indices of Muslim marginalization. Irrespective of boundary lines, only five percentage points separate Cuttack, with $D(M) = 0.33$ (see Figure 4), from Mumbai, with $D(M) = 0.38$ (see Figure 6). Bhopal occupies the middle place, with $D(M) = 0.34$ for its built-up area and $D(M) = 0.35$ for its municipality (see Figure 5). In the conclusion of this study, I return to this disjuncture between qualitative characteristics and quantitative ranking.

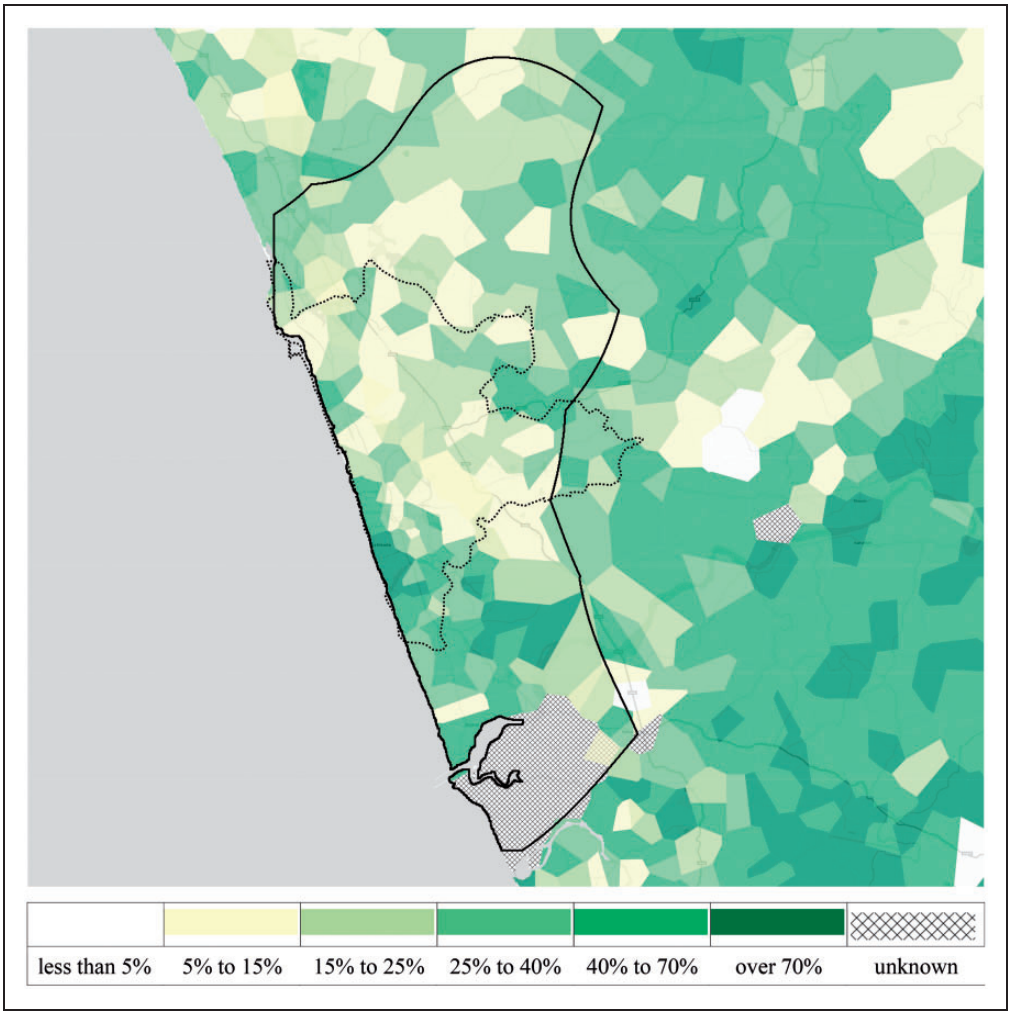

Figure 2. Map of Muslim demography in Kozhikode. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

Below this middle block, Table 1 becomes more cluttered since Aligarh, Bangalore and Hyderabad all appear at different positions in the ranking, depending on the chosen boundary line. In the case of Aligarh, this probably reflects the double character of segregation in the city: the much wider built-up area (see Figure 7) has long been subjected to Hindu–Muslim riots; however, the city centre is also home to the Aligarh Muslim University (AMU), which is the minority's premier institution of higher education in India and has huge symbolic importance. As Galonnier (2012) illustrates in her chapter, the presence of AMU has led to the establishment of a number of Muslim upper class citadels – a rather different form of spatial segregation from both the riot-induced ghetto and the traditional enclave, in which residents 'made sense of their spatial concentration both in terms of voluntary aggregation [vis-a-vis less advantaged Muslims] and compelled segregation [vis-a-vis non-Muslims]' (Galonnier, 2014: 107). Consequently, the Aligarh

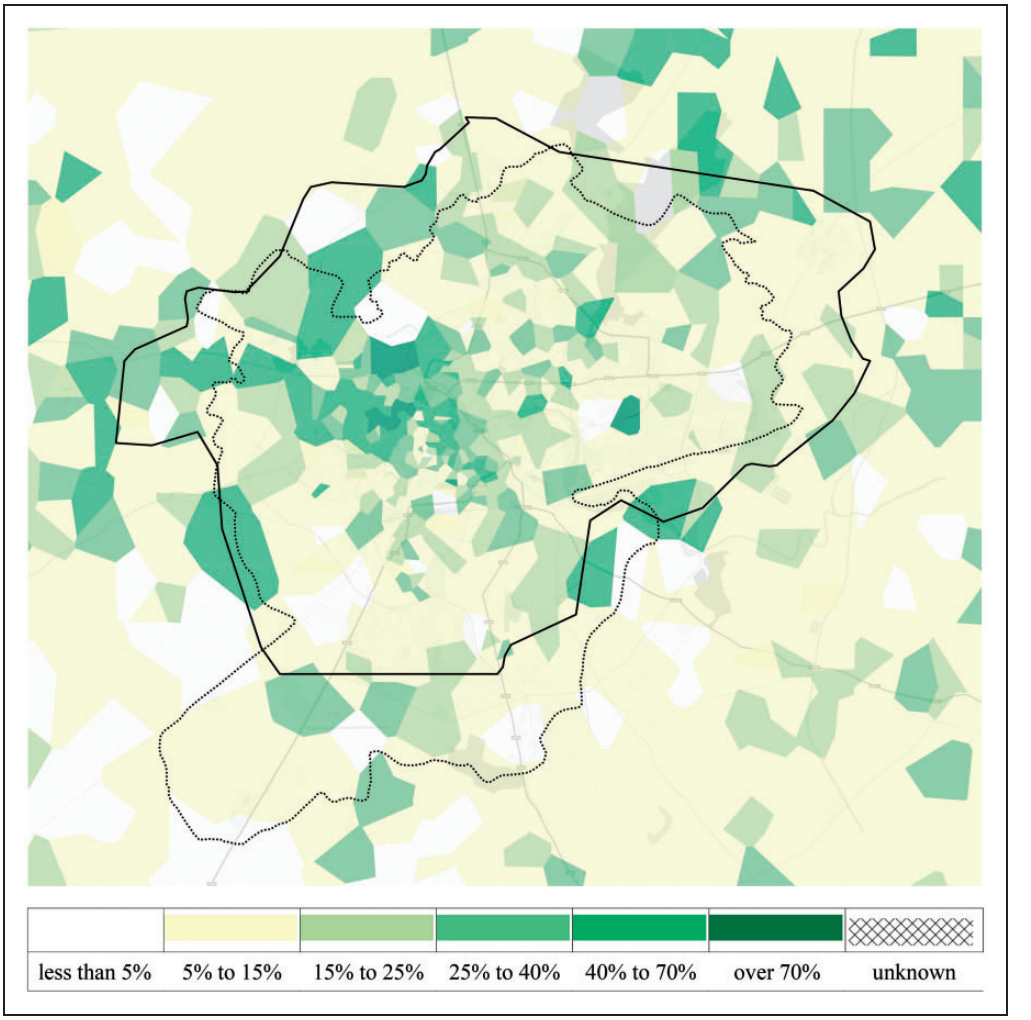

Figure 3. Map of Muslim demography in Lucknow. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

municipality appears to have a little lower segregation, with D(M) = 0.40, than the wider conglomerate, with D(M) = 0.43.

The city of Bangalore is next in rank. Although classified by Gayer and Jaffrelot (2012a) as resilient cosmopolitan and considered to be a city with a 'minority at ease' (Mohammad-Arif, 2012), it occupies approximately the upper end of the middle third of the segregation ranking. With indices of D(M) = 0.41 for the suburban built-up area and D(M) = 0.46 for the smaller area comprising the actual city (see Figure 8), Bangalore, in fact, appears to be approximately twice as segregated as Kozhikode and one and a half times as Cuttack, which are the other two cities in the resilient cosmopolitan category.

Hyderabad, in turn, is the third split case. The municipality itself is roughly as segregated as greater Bangalore or Aligarh city, with D(M) = 0.42. However, a considerably lower number of Muslims (21% rather than 32% or even 40%, as reported by Rao and Thaha,

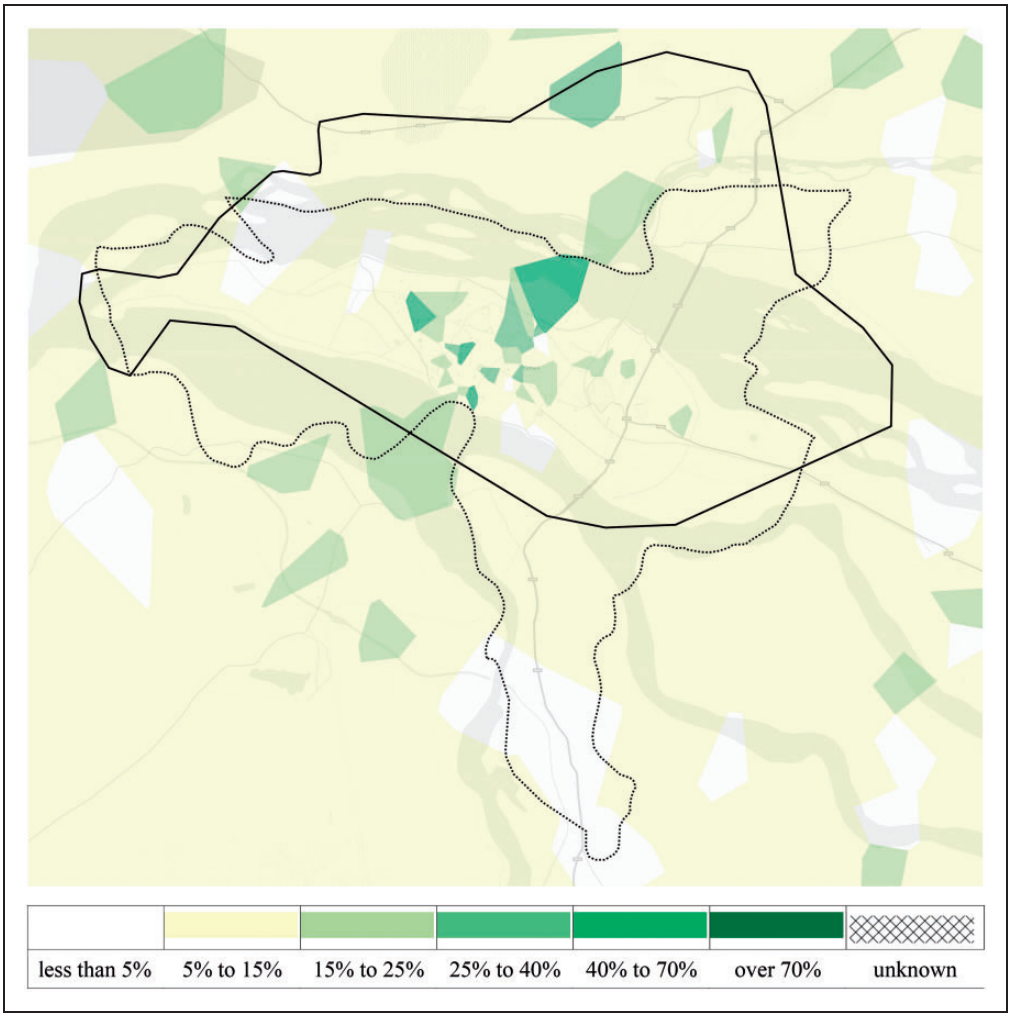

Figure 4. Map of Muslim demography in Cuttack. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

2012) populate the much larger densely inhabited area around Hyderabad (visualized in Figure 9). With an index of $D(M) = 0.51$, the region is also considerably more segregated, surpassing greater Aligarh, Bangalore city and even Delhi.

With the national capital, we finally reach the upper end of the segregation ranking, and Figure 10 shows most of Delhi as one blank space in terms of Muslim presence – a particularly striking contrast to the adjacent state of Uttar Pradesh to the east and the Mewat region to the south. Consequently, Delhi's segregation indices are among the strongest of all 11 cities: $D(M) = 0.47$ for the built-up area (which extends into neighbouring states) and $D(M) = 0.50$ for Delhi itself. In other words, in order to achieve a religiously even spatial pattern in Delhi, either half of the capital's Muslim or half of its non-Muslim citizens would need to relocate to another neighbourhood. However, despite

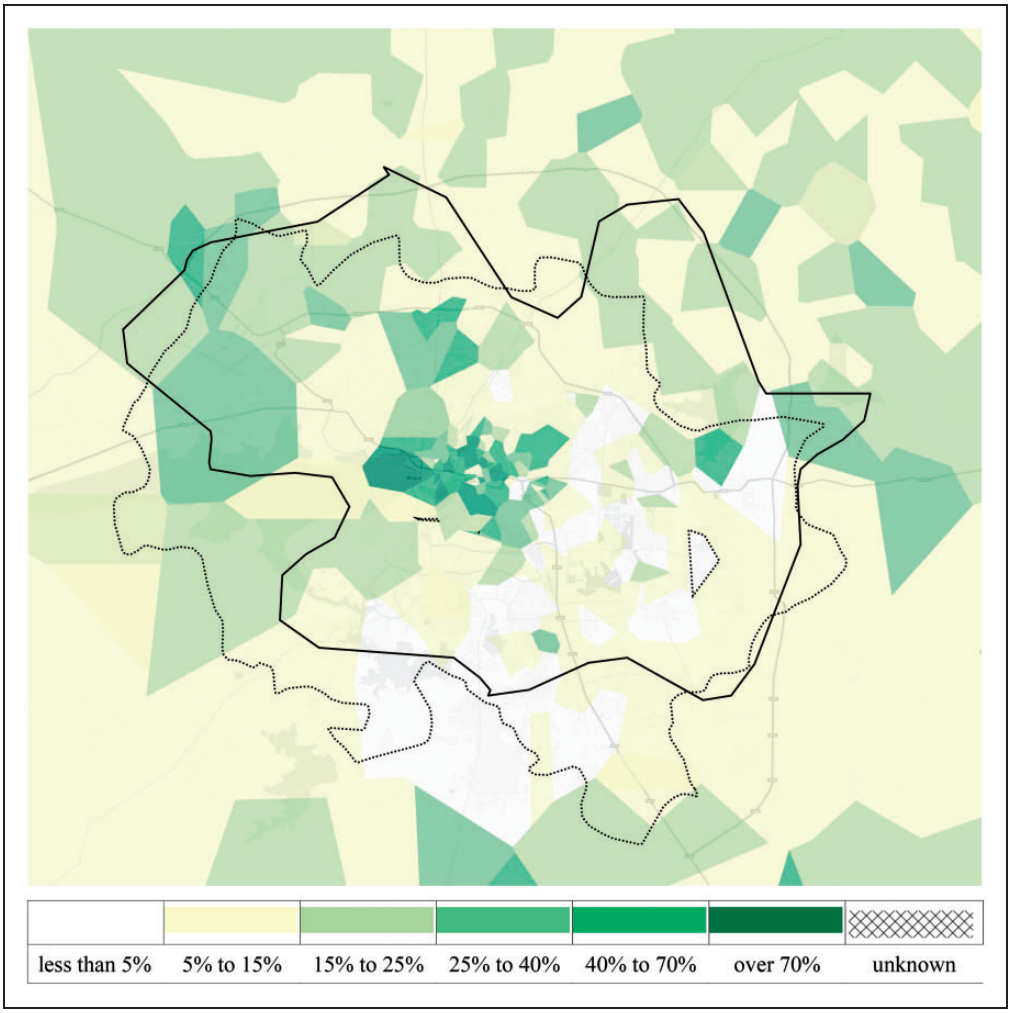

Figure 5. Map of Muslim demography in Bhopal. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

this stark segregation, it is worth keeping in mind the specific situation of a national capital; as Gayer (2012: 236) concluded, 'the dynamics of "enclavement" in this locality [. . .] have as much to do with class as they do with religion'.

Finally and unsurprisingly, the ranking is topped by Ahmedabad, home to Juhapura, whose standing as the prototypical Muslim ghetto of contemporary India was cemented after the '2002 pogrom, when [Ahmedabad] became the most affected Indian city in terms of casualties of communal riots' (Jaffrelot and Thomas, 2012: 45). With segregation indices of $D(M) = 0.57$ for the area under municipal control and $D(M) = 0.62$ for the wider conglomerate, most of Ahmedabad appears even more blank when it comes to Muslim presence than Delhi (see Figure 11) and tops the quantitative ranking across all the four indices listed in Table 1.

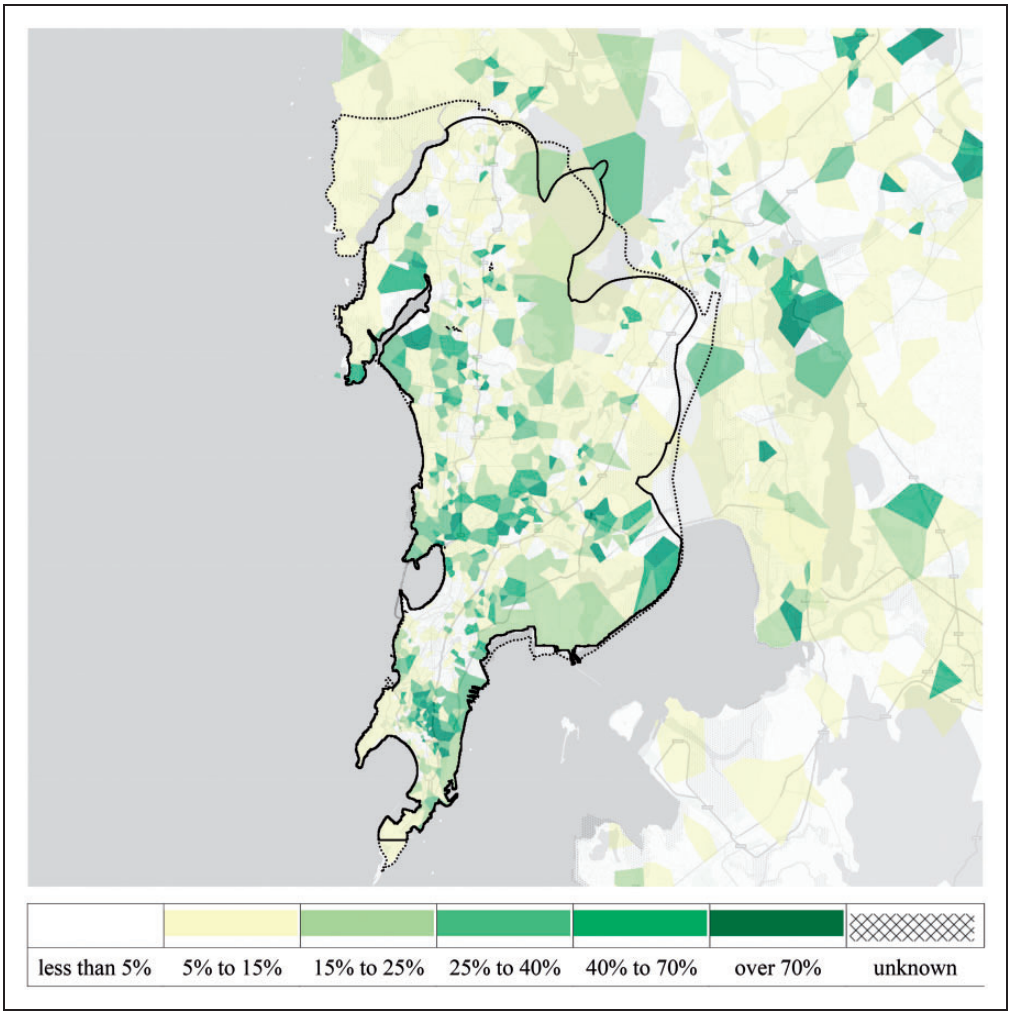

Figure 6. Map of Muslim demography in Mumbai. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

Segregation and the ghetto

After considering each city separately, let us now discuss the ranking as such. The first interesting aspect is that the type of city delimitation – by administrative boundary or the extent of the densely built-up area – does not appear to matter as much as expected. Although it does have an impact on the estimated share of Muslim population, with the exception of Hyderabad (and to an extent, Aligarh and Bangalore), the choice of boundary does not fundamentally alter the ranking of cities from least to most segregated, even in cases where both boundary lines differ widely.

However, in my view, the most striking feature of Table 1 – seen as a whole – is not this technical aspect but the much more fundamental disjuncture between my quantitative ranking and the qualitative typology developed by Gayer and Jaffrelot (2012a). First,

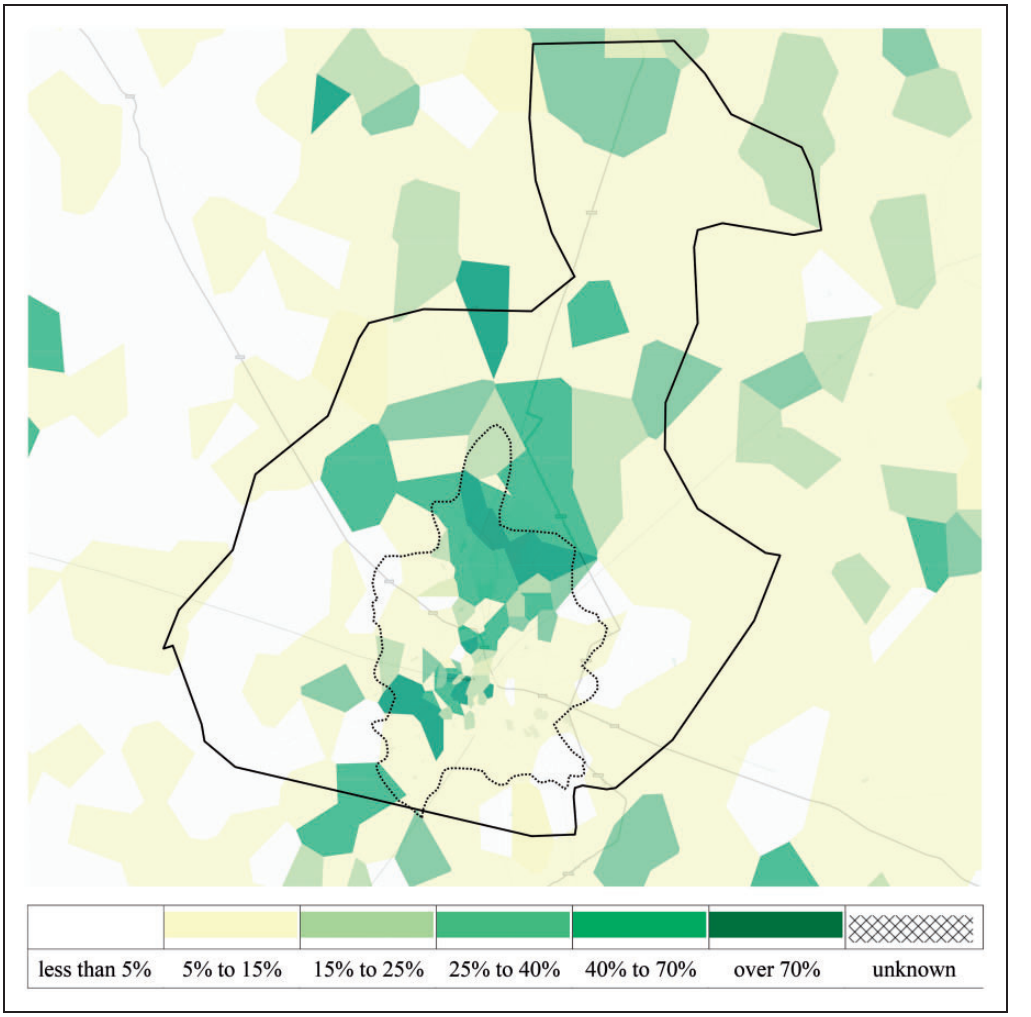

Figure 7. Map of Muslim demography in Aligarh. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

consider the trajectories of marginalization. Cities that are perceived as resilient cosmopolitan by both inhabitants and ethnographic observers appear all over the ranking, from second least (Kozhikode) to third most segregated (Bangalore, discounting the split case of Hyderabad). Similarly, the cities where the marginalization of Muslims is understood to be primarily an outcome of communal riots can be highly segregated (Ahmedabad), but also sit comfortably in the middle of the ranking table (Mumbai and Aligarh city).

Ironically, the disjuncture is even more apparent when it comes to patterns of segregation. Mixed areas appear in cities having very different quantitative segregation levels (Kozhikode, Cuttack and Bangalore) – and so do enclaves (Lucknow, Aligarh, Delhi and Hyderabad). Further, even cities where Muslims are perceived to live in ghettos according to the comprehensive definition by Gayer and Jaffrelot (2012b) occupy the strongly segregated

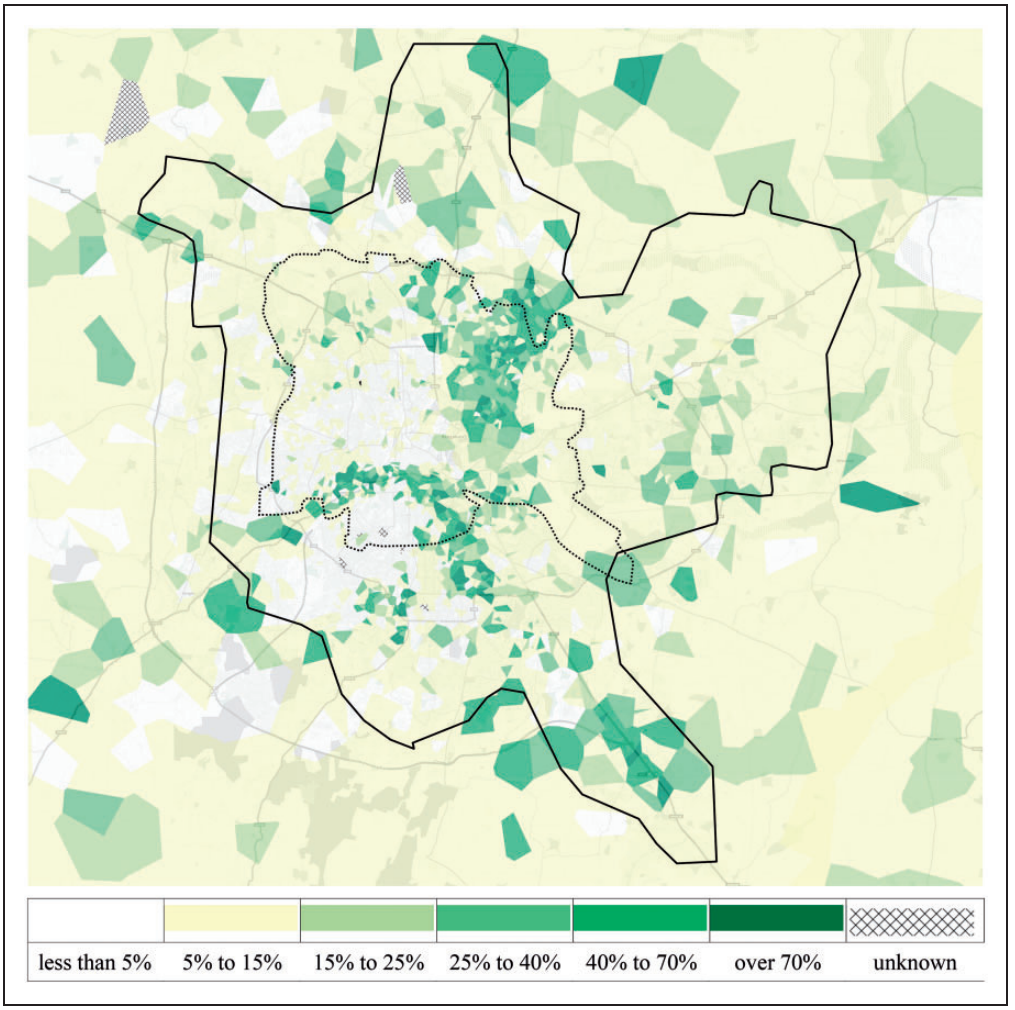

Figure 8. Map of Muslim demography in Bangalore. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

end (Ahmadabad), the middle region (Mumbai), and – if one considers the authors' prediction – even the least segregated end of the ranking (Jaipur).

This finding is somewhat foreshadowed by the very fact that the definition of a ghetto used by Gayer and Jaffrelot (2012b) has five components, only two of which deal with segregation per se and are thus amenable to quantitative geography in the first place. Consequently, it does not suffice to establish statistical measures; one also needs to consider the social mechanisms that result in and sustain different levels of segregation (as argued by Wacquant, 2015). From this perspective, the disjuncture may reinforce the increasingly acknowledged conceptual difference between segregation by choice and that by force, between the ghetto and the enclave, the slum and the citadel: although they carry different qualitative characteristics, both may be found in cities with rather similar degrees of segregation (Peach, 2005). Similarly, the resilient cosmopolitanism of mixed areas

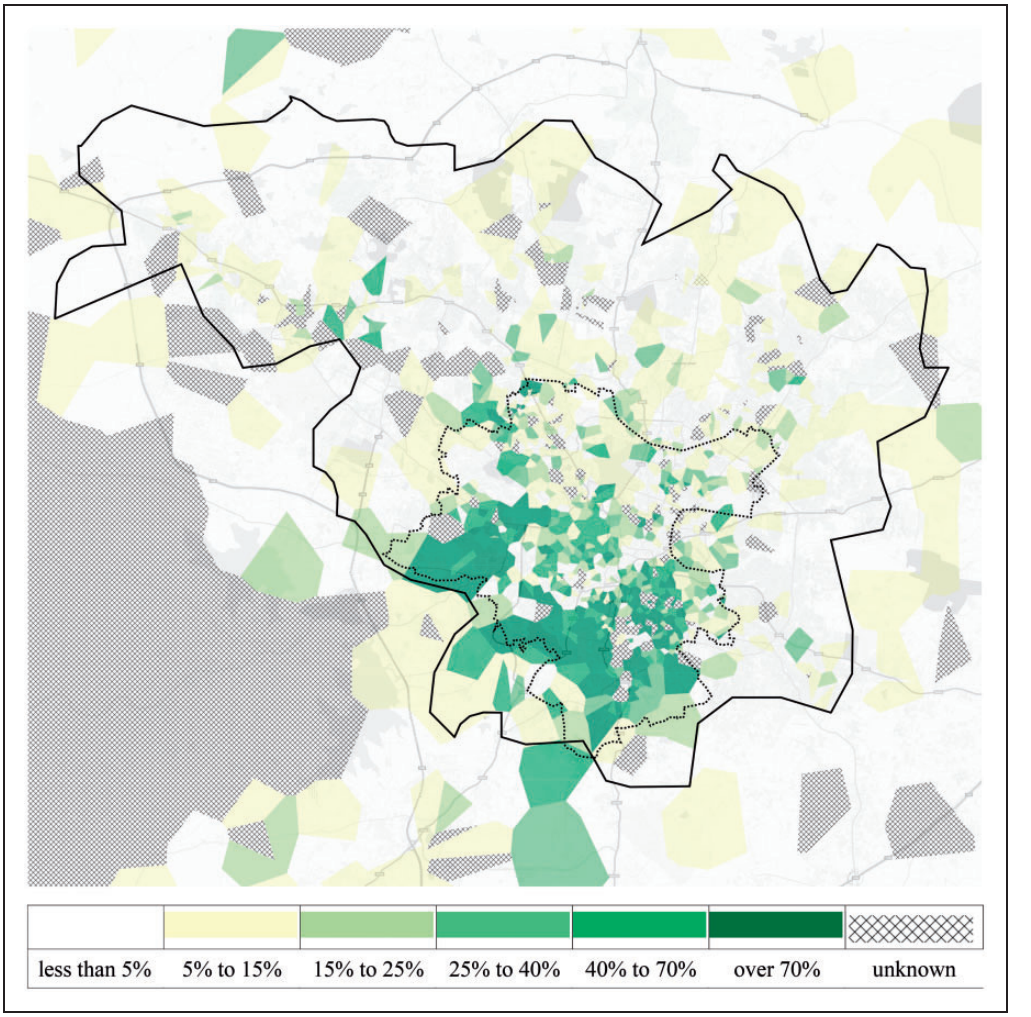

Figure 9. Map of Muslim demography in Hyderabad. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

may well depend on the extent to which Muslims partake in the religious festivals, economic activities and everyday lives of non-Muslims and vice versa rather than on their strictly residential choices (as argued by Gayer and Jaffrelot, 2012a).

However, the problem may go even deeper. In addition to being qualitatively different phenomena that appear quantitatively similar – as acknowledged in the literature – ghettos and enclaves can be quantitatively very different: they can designate not only high levels of segregation but also low ones. Consequently, one should consider the mediation of social geography through mental maps (Gould and White, 1986) beyond the differentiation of ghetto and enclave and, therefore, beyond the dominant fault line in global debates on segregation.

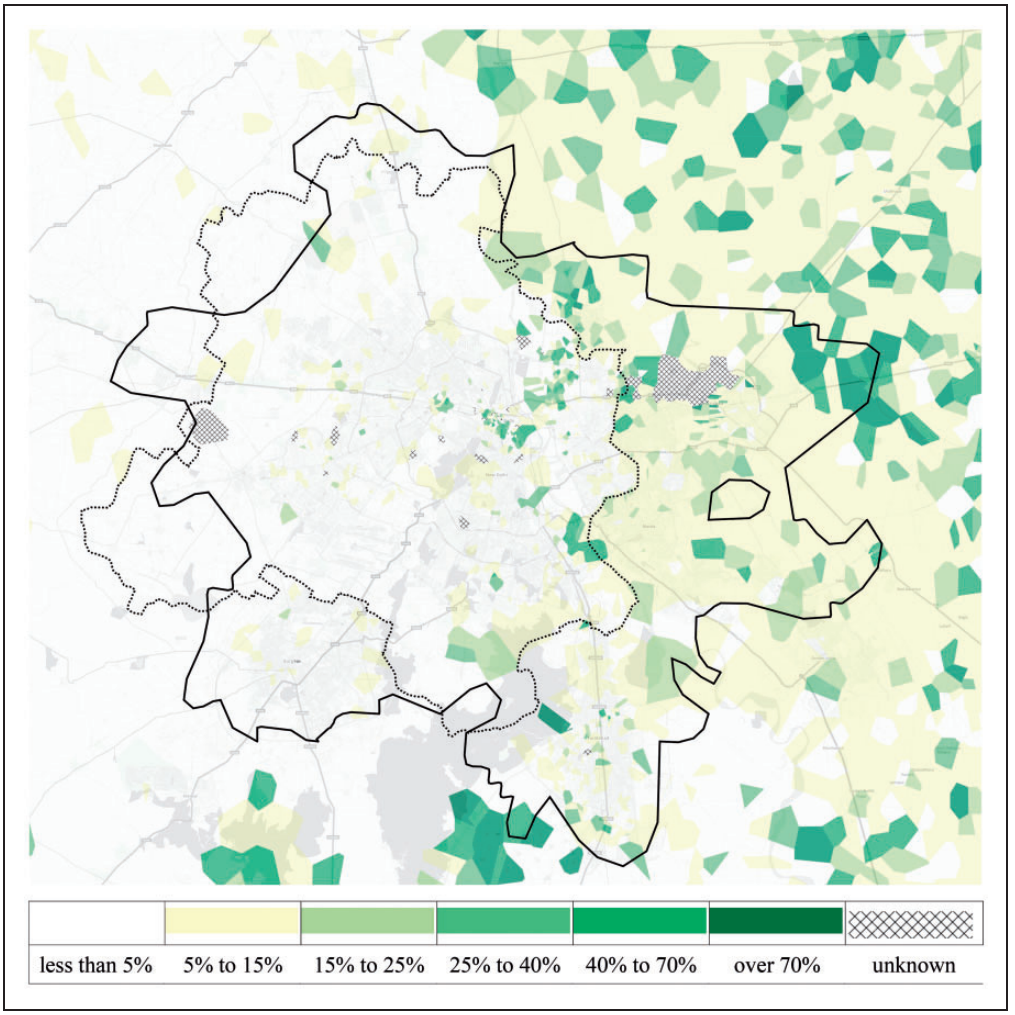

Figure 10. Map of Muslim demography in Delhi. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

What does this mean? First, it may be necessary to return to the question of city delimitation. It is clear that Table 1 shows that a city's quantitative segregation level may not depend much on the various objective city boundaries chosen. However, its characterization as ghettoized, mixed and so on arguably reveals considerable differences between either of these boundary lines and the mental maps of those who live in these cities. For instance, Jaipur appears to be the least segregated city to the quantitative geographer; however, it is described as being on the verge of ghettoization by its inhabitants and ethnographic observers. Instead of suggesting that any of these observers is wrong, this difference in understanding may well point to the fact that all three operate with rather different implicit or explicit boundaries. In fact, the case of Jaipur is the most obvious example of how people's views of a city differ according to their mental maps, and references to very specific mental maps can be found in the chapters on Kozhikode,

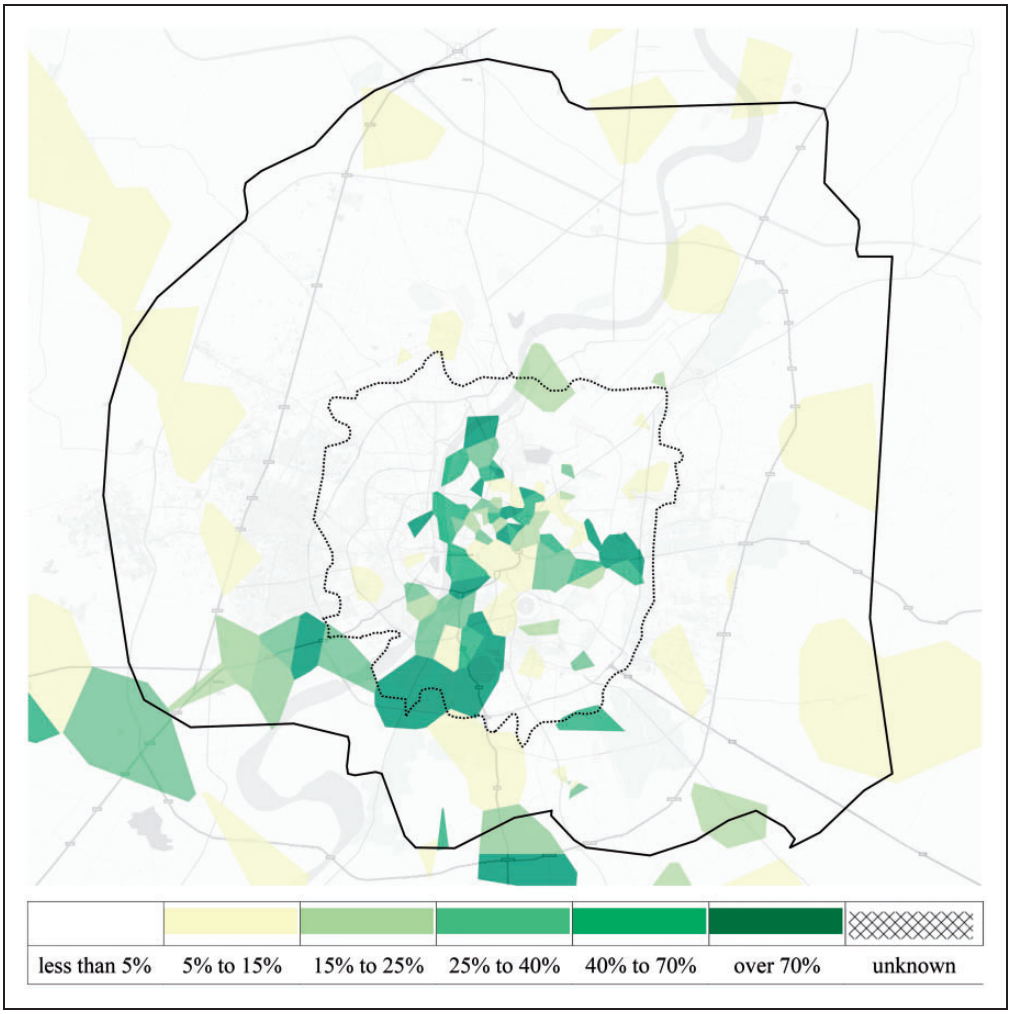

Figure 11. Map of Muslim demography in Ahmedabad. Estimated Muslim share of the electorate in 2014, extent of densely built-up area (solid line) and administrative boundaries (dotted line). *Source*: Susewind (2016), OpenStreetMap and ML Infomap.

Lucknow, Bhopal, Bangalore and Hyderabad, as well. This may indicate a particularly fruitful area for further mixed-method research: for instance, it would be interesting to see whether quantitative and qualitative perspectives on segregation converge if both were to explicate and align their implicit mental maps of the city.

Second, attending to mental maps is crucial because they can change more quickly than the built reality and, therefore, in a sense reflect change over time as it happens. Real estate ownership shifts slowly, especially when inheritance is concerned. Sometimes, sales are also prohibited by laws designed to prevent further segregation, such as the Disturbed Area Act in Gujarat, which leads to a situation where high levels of social mixing are enforced in neighbourhoods whose residents nonetheless consider each other to be 'next-door strangers' (Dhattiwala, 2016). In particular, the example of Jaipur – least segregated in quantitative terms, but described as a ghetto in the making by the ethnographer – highlights the

importance of historical trajectories: perhaps, the ghetto represents a trend rather than the status quo, a spatial future that is expected, feared, or hoped for than the spatial present in which one (perhaps uneasily) lives. Often, ethnography is needed to uncover both history and (folk) historiography, and quantitative snapshots of the present do not suffice.

One final step might be to reconsider whether experiences of ghettoization actually relate to residential segregation at all instead of reflecting economic, political and personal marginalization within a city. Gayer and Jaffrelot (2012b) acknowledge these factors in their comprehensive definition of the term ghetto. However, I fear that their emphasis on the political and social mechanisms that produce these spaces and the importance that their definition attaches to a subjective 'sense of closure' is completely lost in the subsequent policy debate and sadly also in much of the related academic literature. It takes more than segregation to form a ghetto. Or rather: it takes something else.

Supplementary material

A replication dataset and additional disaggregated statistics on religion and politics in India are available under open licences as part of Susewind (2016).

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References

Apparicio P, Martori JC, Pearson A, et al. (2014) An open-source software for calculating indices of urban residential segregation. *Social Science Computer Review* 32(1): 117–128.

Ballhatchet K and Harrison J (1980) *The City in South Asia: Pre-Modern and Modern*. Delhi: Routledge.

Basant R and Shariff A (2010) *Handbook of Muslims in India: Empirical and Policy Perspectives*. Oxford: University Press.

Bhan G and Jana A (2015) Reading spatial inequality in urban India. *Economic & Political Weekly* 50(22): 49–54.

Contractor Q (2012) ''Unwanted in my city'': The making of a ''Muslim slum'' in Mumbai. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian cities: Trajectories of Marginalisation*. London: Hurst, pp. 23–42.

Dhattiwala R (2016) Next-door strangers: Explaining ''neighbourliness'' among Hindus and Muslims in a riot-affected city. In: Hassan R (ed.) *Indian Muslims: Struggling for Equality of Citizenship*. Melbourne: Melbourne University Press, pp. 146–167.

Donner H and de Neve G (2006) Space, place and globalisation: Revisiting the urban neighbourhood in India. In: Donner H and de Neve G (eds) *The Meaning of the Local: Politics of Place in Urban India*. Abingdon: UCL Press, pp. 1–20.

Duncan OD and Duncan B (1955a) A methodological analysis of segregation indexes. *American Sociological Review* 20(2): 210.

Duncan OD and Duncan B (1955b) Residential distribution and occupational stratification. *American Journal of Sociology* 60(5): 493–503.

Galonnier J (2012) Aligarh: Sir Syed Nagar and Shah Jamal, contrasted tales of a ''Muslim'' city. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian cities: Trajectories of Marginalisation*. London: Hurst, pp. 129–158.

Galonnier J (2014) The enclave, the citadel and the ghetto: The threefold segregation of upper-class Muslims in India. *International Journal of Urban and Regional Research* 39(1): 92–111.

Gayer L (2012) Safe and sound: Searching for a ''good environment'' in Abul Fazl Enclave, Delhi. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian cities: Trajectories of Marginalisation*. London: Hurst, pp. 213–236.

Gayer L and Jaffrelot C (2012a) Conclusion: ''In their place''? The trajectories of marginalisation of India's urban Muslims. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian cities: Trajectories of Marginalisation*. London: Hurst, pp. 311–326.

Gayer L and Jaffrelot C (2012b) Introduction: Muslims of the Indian city. From centrality to marginality. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 1–22.

Gayer L and Jaffrelot C (eds) (2012c) *Muslims in Indian cities: Trajectories of Marginalisation*. London: Hurst.

Gooptu N (2001) *The Politics of the Urban Poor in Early Twentieth-Century India*. Cambridge: Cambridge University Press.

Gould P and White R (1986) *Mental Maps*, 2nd ed. Boston: Allen & UNWIN.

Gupta R (2015) There must be some way out of here: Beyond a spatial conception of Muslim ghettoization in Mumbai? *Ethnography* 16(3): 352–370.

Heitzman J (2008) *The City in South Asia*. London: Routledge.

Jaffrelot C and Thomas C (2012) Facing ghettoisation in ''riot-city'': Old Ahmedabad and Juhapura between victimisation and self-help. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 43–80.

Jaffrelot C and Wülbers SA (2012) Bhopal Muslims: Besieged in the old city? In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 159–188.

Jai Singh Rathore G (2012) Ramganj, Jaipur: From occupation-based to ''communal'' neighbourhood? In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation* London: Hurst, pp. 81–104.

Jamil G (2014) The capitalist logic of spatial segregation: A study of Muslims in Delhi. *Economic & Political Weekly* 49(3): 52–58.

Jasani R (2008) Violence, reconstruction and Islamic reform: Stories from the Muslim ''ghetto.''. *Modern Asian Studies* 42(2/3): 431–456.

Kanchana R (2012) Kozhikode (Calicut)'s Kuttichira: Exclusivity maintained proudly. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 263–286.

Kanungo P (2012) Marginalised in a syncretic city: Muslims in Cuttack. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 237–262.

Lens MC (2017) Measuring the geography of opportunity. *Progress in Human Geography* 41(1): 3–25.

Marcuse P (1997) The enclave, the citadel, and the ghetto: What has changed in the post-fordist U.S. city. *Urban Affairs Review* 33(2): 228–264.

Mhaskar S (2013) *Indian Muslims in a Global City: Socio-Political Effects on Economic Preferences in Contemporary Mumbai*. Göttingen: Max Planck Institute for the Study of Religious and Ethnic Diversity.

Mohammad-Arif A (2012) Muslims in Bangalore: A minority at ease? In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 287–310.

Morrill RL (1991) On the measure of geographic segregation. *Geography Research Forum* 11: 25–36.

Nandy A (2007) *The Ambiguous Journey to the City: The Village and Other Ruins of the Self in the Indian Imagination*. Oxford: University Press.

Peach C (2005) The ghetto and the ethnic enclave. In: Varady D (ed.) *Desegregating the City: Ghettos, Enclaves, and Inequality*. Albany: State University of New York Press, pp. 31–48.

Prakash G (2002) The urban turn. In: Vasudevan R, et al. (eds) *Sarai Reader 02: The Cities of Everyday Life*. Delhi: Rainbow Publishers, pp. 2–7.

Rao NA and Thaha SA (2012) Muslims of Hyderabad: Land locked in the walled city. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 189–212.

Sachar R, et al. (2006) Report on social, economic and educational status of the Muslim community of India. Available at: http://minorityaffairs.gov.in/reports/sachar-committee-report (accessed 20 February 2017).

Schneider A, Friedl MA, McIver DK, et al. (2003) Mapping urban areas by fusing multiple sources of coarse resolution remotely sensed data. *Photogrammetric Engineering and Remote Sensing* 69: 1377–1386.

Shatkin G (2013) Contesting the Indian city: Global visions and the politics of the local. *International Journal of Urban and Regional Research* 38(1): 1–13.

Sidhwani P (2015) Spatial inequalities in big Indian cities. *Economic & Political Weekly* 50(22): 55–62.

Susewind R (2015a) Spatial segregation, real estate markets and the political economy of corruption in Lucknow, India. *Journal of South Asian Development* 10(3): 267–291.

Susewind R (2015b) What's in a name? Probabilistic inference of religious community from South Asian names. *Field Methods* 27(4): 319–332.

Susewind R (2016) Data on religion and politics in India. Available at: https://github.com/raphael-susewind/india-religion-politics (accesses 20 February 2017).

Susewind R and Dhattiwala R (2014) Spatial variation in the ''Muslim vote'' in Gujarat and Uttar Pradesh, 2014. *Economic & Political Weekly* 49(39): 99–110.

Susewind R and Taylor C (2015) Islamicate Lucknow today: Historical legacy and urban aspirations. *South Asia Multidisciplinary Academic Journal* 11: 1–42.

Thorat S, et al. (2015) Urban rental housing market: Caste & religion matters in access. *Economic & Political Weekly* 50(26 & 27): 47–53.

Varady DP (ed) (2005) *Desegregating the City. Ghettos, Enclaves, and Inequality*. Albany: State of New York University Press.

Vaughan L and Arbaci S (2011) The challenge of understanding urban segregation. *Built Environment* 37(2): 128–138.

Verniers G (2012) A minority within a minority: The Shias of Kashmiri Mohalla, Lucknow. In: Gayer L and Jaffrelot C (eds) *Muslims in Indian Cities: Trajectories of Marginalisation*. London: Hurst, pp. 105–128.

Verstappen S and Rutten M (2015) A global town in central Gujarat, India: Rural-urban connections and international migration. *South Asia: Journal of South Asian Studies* 38(2): 340–345.

Wacquant L (2008) *Urban Outcastes: A Comparative Sociology of Advanced Marginality*. Cambridge: Polity.

Wacquant L (2015) Revisiting territories of relegation: Class, ethnicity and state in the making of advanced marginality. *Urban Studies* 53(6): 1077–1088.

Wong D (1993) Spatial indices of segregation. *Urban Studies* 30(3): 559–572.