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“The Integrity of Their Quarrel”: A Spatial Analysis of Conflict Deaths during the Troubles in Belfast, 1969-2001

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Abstract

From the late 1960s until the end of the twentieth century Northern Ireland was the location of a political and social conflict between Catholic nationalists, Protestant unionists and the British security services which claimed the lives of over 3,500 people and which has become better known as the “Troubles”.

The research underpinning this paper uses Geographical Information Systems (GISystems) technology to analyse the spatial distributions of political deaths in the Northern Irish capital, Belfast, during the Troubles based upon a major, multi-dimensional database of victims and consistent census geographies over time. It does so in the light of recent scholarship in the same area published in this journal and elsewhere and makes a number of important findings which in turn question current academic and media orthodoxies in some key areas. Firstly, the areas of Belfast which witnessed the highest levels of conflict fatalities were heavily segregated in terms of their Catholic or Protestant populations; however, over the period of the Troubles, these areas were subject to radical demographic and material change, changes which were not reflected in the spatio-temporal patterns of conflict intensity. Secondly, when these areas are analysed in detail, death rates were actually lower at the interfaces between polarised Catholic and Protestant neighbourhoods rather than higher. Finally, using consistent census variables and geographies from the start and end of the conflict it is possible to construct an index of deprivation which charts the socio-economic trajectories of the most violent areas at the beginning and end of the conflict.

BACKGROUND

Until quite recently, there was a very large red hand painted on the pavement just outside the gates of Harryville Catholic church in the market town of Ballymena, which is about an hour’s drive north of Belfast, Northern Ireland’s capital (CAINa). In the doubtful case that worshippers were ignorant of the fact, the purpose of this powerful symbol was to underline that they, as Catholics, were unwelcome interlopers in Protestant space. The church is located in an overwhelmingly Protestant area of a overwhelmingly Protestant town at the heart of Northern Ireland’s “bible belt”.

Over more than three decades of bloodshed starting in the late 1960s, the main narrative of the Irish “Troubles” has been widely disseminated across the globe. This is of an asymmetric triangular conflict between republican paramilitary organisations such as the Provisional Irish Republican Army (IRA), fighting for a united Ireland, loyalist groups such as the Ulster Defence Association (UDA) and Ulster Volunteer Force (UVF), seeking to maintain the *status quo* of Northern Ireland within the United Kingdom, and a third grouping, the British security services, whose objective was also to uphold Northern Ireland’s constitutional position while combating the competing guerrilla forces of defence and subversion in the region. The conflict in Northern Ireland is, and always has been a fundamentally political and constitutional one, defined by the clash of the diametrically opposed ideologies of nationalism and unionism. However, as the opening paragraph alludes, political and religious identities are inextricably linked in the Irish context: the majority of Catholics are nationalists of one type or another, while the bulk of Protestant political opinion is unionist in sympathy, and thus, the dynamics and modes of conflict during the Troubles have sometimes been, or rather appeared to have been overtly sectarian in character.

Why is this relevant? It is relevant because, since the European Reformation and successive waves of colonisation in the sixteenth and seventeenth centuries, the island of Ireland, and particularly the northern province of Ulster, has developed a pronounced and complex religious geography, and this has had profound implications for the dynamics of conflict in Northern Ireland (Gregory et al., 2013). As the eminent historian A.T.Q. Stewart (1977) has put it, “Topography is the key to the Ulster conflict. Unless you know exactly who lives where, and why, much of it does not make sense...Ulster’s troubles arise from the fact that people who live there know this information to the square inch, while strangers know nothing of it” (56).

Religious/political territoriality remains a powerful component in Northern Ireland’s social structure, with working-class Catholic and Protestant areas being demarked by flags, murals, painted kerbstones and in many places, large walls built at the height of the conflict to protect both communities, commonly known as “peacelines”. It matters also because, despite the evidence all around in Northern Ireland that territoriality has been a central feature of the conflict, and notwithstanding the amount of academic and wider public attention the Troubles have garnered around the globe, comparatively speaking, less of this attention has focussed on the marked variance in the spatial patterns of fatality which have characterised it.

The research upon which this paper is based emerged out a major project funded by the U.K.’s Arts and Humanities Research Council, entitled *Troubled Geographies: Two Centuries of Religious Division in Ireland*. One of the core elements in the project was the first full geo-referencing and mapping of all conflict-related deaths across Northern Ireland during the period from 1969 to 2001. Through this, it became possible to conduct a detailed spatial and statistical analysis of the relationship between patterns of fatality during the Troubles, and geographies of religious affiliation and socio-economic inequality, both of which have been the subject of intense academic debate with regard to their underlying and potentially causative roles in the conflict. Critically, it also provides the basis for an

engagement with the idea that deaths have been a feature of the boundaries between Catholic and Protestant communities, and specifically those which are delineated by peacelines. We argue that this is not, in fact, the case.

Academic perspectives on spatial patterns of violence during the Troubles

One of the earliest studies of the geography of fatality during the Troubles was by Schellenberg (1977, 77), who regressed a number of variables against deaths for 31 rural areas and Belfast, and found that higher positive scores for population density and Catholic share of the population provided the strongest explanatory variables. This finding was echoed by Mitchell (1979, 196), who also found that deaths occurred disproportionately in Catholic areas. Murray (1982, 309-331) took a novel approach by addressing the types of locations in which victims died over the period 1969 to 1977. Once again he found rates to be higher in Catholic areas but he also argued that the configuration of potential target sites within the complex religious geography of Northern Ireland's towns and cities had an important role to play in influencing spatial patterns of fatalities (Murray, 1982, 328). Poole (1995, 27-45) divided the province into rural and urban zones as a means of normalising the data against background populations, classifying towns as those where the number of people exceeded 5,000 (Poole, 1995, 29). Analysing the period from 1969 to 1993 he found that levels of violence whether high or low, tended to be more consistent over time in rural locations than in urban areas and he asserts, therefore, that the reason for these differences must lie in stable differences between the town and the countryside rather than in "ephemeral characteristics" (Poole, 1995, 40). However, his approach is unconventional in studies of political deaths during the Troubles in basing his analysis on incidents rather than individual fatalities, therefore treating events in which one person died with equal weighting to those in which any number of people may have lost their lives (Poole, 1995, 28).

Fay, Morrissey and Smyth (1998) have increased the degree of spatial detail by analysing deaths at ward level in Belfast and at postal district level for Northern Ireland as a whole. The spatial information used was the home address of the victim rather than the location at which they were killed (Fay, Morrissey and Smyth, 1998, 50). Their analysis, which is based on a less proscriptive categorisation of Troubles-related deaths than that employed elsewhere, found some significant relationships between civilian deaths and deprivation scores on the Robson index in certain wards, but only when security personnel were discounted from the equation on the grounds that they were unlikely to have lived in the most deprived areas (Fay, Morrissey and Smyth, 1998, 56). As well as providing detailed statistical information on deaths among particular groups and cross-tabulations of victims by perpetrators, their work also highlights the inherent difficulties in determining what actually constitutes a Troubles-related death. The stated aim of their project was to assess the 'cost of the Troubles' and this led them to employ a looser definition that includes victims of suicide, heart-attacks and vehicle accidents which they argue are directly attributable to the security situation in Northern Ireland (Fay, Morrissey and Smyth, 1998, 16-17). Nevertheless, fundamental judgements on the nature of the database will have profound implications for its statistical outputs, a fact which is acknowledged when they identify the wide variations in total deaths identified by various sources in earlier work (Fay, Morrissey and Smyth, 1998, 18-19). From a spatial perspective, postal areas and wards are an improvement on Poole's spatial framework but still represent relatively coarse zonal geographies.

More recently, Mesev, Shirlow and Downs (2009) have provided the first dedicated study of Troubles deaths within the Belfast area and used this as the basis of a spatial analysis of the relationship between political violence and other factors. They have employed a higher degree of spatial precision, geo-referencing deaths to individual postcodes as opposed to postal districts, bringing the units down to about 14 households (Mesev, Shirlow and Downs, 2009, 895). They contend that politically-motivated killings are unpredictable but tend to occur in areas which are highly segregated on religious grounds and low ranking in terms of

social class and the Robson measure of deprivation (Mesev, Shirlow and Downs, 2009, 901). Another recurrent theme in their findings also characterises the locations of victims as being near to interfaces between Catholic and Protestant communities (Mesev, Shirlow and Downs, 2009, 901).

Data and methods

This paper is based on two geo-referenced datasets that together allow us to explore in detail the micro-geographies of fatal violence during the Troubles. The first of these is a dataset that records the location of each killing that took place in Belfast during the Troubles together with information on which group the victim and perpetrator came from. The second is data for the censuses of Northern Ireland for 1971 and 2001 which, uniquely in the UK, are available for the major urban areas at 100 metre grid square employing units that are consistent over time. The use of constant areal units presents a solution to a major problem in time-series analyses meaning that it is possible to provide a more temporally robust statistical measure of the population from the beginning and end of the Troubles rather than relying solely on data for one census date (Gregory and Ell, 2007, 138).

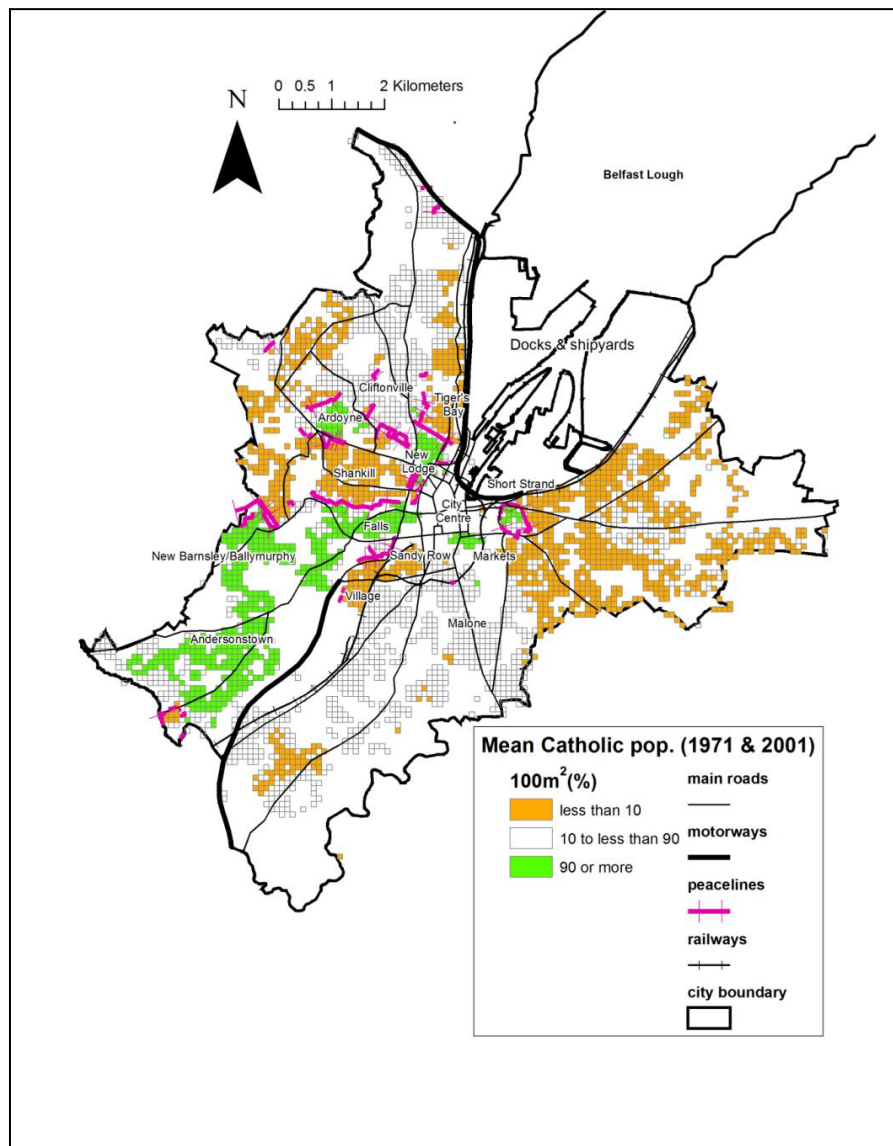


Figure 1: Religious geography of Belfast

Belfast's skewed sectarian geography is nothing new; it has evolved over centuries (Elliott, 2000, 353; Hepburn, 1978, 87-89). However, ancient faultlines continue to shape the contemporary social geography of Belfast, as evidenced in Figure 1 (Stewart, 1977, 57). This map shows the mean Catholic population for the 1971 and 2001 enumerations at 100m² level.¹ Here the familiar and oft-reported polarised residential structure comes through clearly. Much of the city's populated space is characterised by high levels of religious segregation. East Belfast is predominantly Protestant while a substantial transect in the west of the city forms the Catholic heartland. North Belfast is notable for a more complex arrangement of predominantly Catholic and Protestant areas, and the city centre itself, while not having a significant residential population, is tightly ringed by a number of polarised neighbourhoods such as the Catholic Short Strand and Markets, and Protestant Sandy Row and Donegall Pass. The only areas which can be described as mixed are in the south of the city and a strip through the northern suburbs. However, even this map presents an overly-positive view of the city; by mapping mean population it sometimes disguises those cells where the population has transferred from being overwhelmingly Catholic to Protestant, or vice versa. Nevertheless, it does present a picture of the areas which are heavily polarised and which have been consistently so over the course of the Troubles. Also shown on the map are the peacelines for which Belfast has become infamous as statements of the city's religious divisions. It is clear from a cursory examination of Figure 1 that these barriers tend to mark the boundaries between extremely polarised Catholic and Protestant neighbourhoods. But perhaps even more striking is the fact that even where these physical structures are not present, the degree of residential segregation is so extreme over such a wide area of the city that it is apparent even without these as to where the perimeters of particular communities lie.

The database of killings was compiled by Malcolm Sutton and is hosted by the University of Ulster's 'Conflict Archive on the InterNet' (CAIN)(CAINb). This database was initially created to act as a memorial to those who had died during the conflict and formed the basis for a book, *Bear in Mind These Dead...An Index of Deaths from the Conflict in Northern Ireland* (Sutton, 1994). The process of updating the database has continued to the present to include new deaths as they occurred. While the rate of entries has declined substantially since the late 1990s and the signing of the Good Friday Agreement, the vital role of keeping the information up to date, and more specifically, correcting the information on individuals already within the record, continues. This highlights the uniquely interactive nature of the resource as one in which the people most directly affected by its contents, the bereaved relatives of those therein, have a direct input into the ongoing process of perfecting its accuracy and detail (Lynn, 2011). For the purposes of this study, deaths occurring within a five-mile radius of the Belfast Urban Area (BUA) between 1969 and 2001 form the basis for analysis.

The Sutton database provides information on the name of each person killed, the date of the incident leading to their death, along with the person's age and gender. It also contains information on the background of the victim including their religion and whether they were civilians, members of the security forces or a paramilitary group. For most of this paper the broad classes of "security forces", "republican paramilitary", "loyalist paramilitary" and "civilian" will be used with civilians being further sub-divided into Catholics, Protestants, and those not from Northern Ireland. Information is also given on the perpetrator of the attack which we have typically classified as "security forces", a category which mainly consists of the British Army, the Ulster Defence Regiment (UDR), the Royal Ulster Constabulary (RUC) and prison officers, "republican paramilitary" and "loyalist paramilitary". A breakdown of the distribution of victims in relation to their broad status groups is provided in Figure 2. Figure 2(a) shows that civilians made up a majority of victims during the conflict at 63 percent, members of the security forces 20 percent and the combined total for loyalist and republican paramilitaries was seventeen percent. Yet in terms of responsibility for these deaths, between them loyalists and republicans could be blamed for 84 percent of all casualties, with thirteen percent being attributed to the security services. if we take the

victims of paramilitary violence, of the 565 victims killed by loyalists, 71 percent were Catholic civilians, suggesting that these non-combatants presented a useful proxy for the aggressions of Protestant armed groups rather than members of organisations like the Provisional IRA, who were much harder to target (O’Duffy and O’Leary, 1990, 326-327). However, while republicans were responsible for fewer civilian deaths at 288 or 44 percent, two-thirds of these victims were Protestant, indicating a parallel sectarian bias in their activities. At the very least, it is very difficult to find fault with O’Duffy and O’Leary’s (1990) assessment that a Provisional IRA non-civilian “kill-ratio” of only just over three out of every five deaths constituted a ‘success’ rate which, “...indicates a high degree of incompetence, error or malevolence with respect to civilians”(325-327).

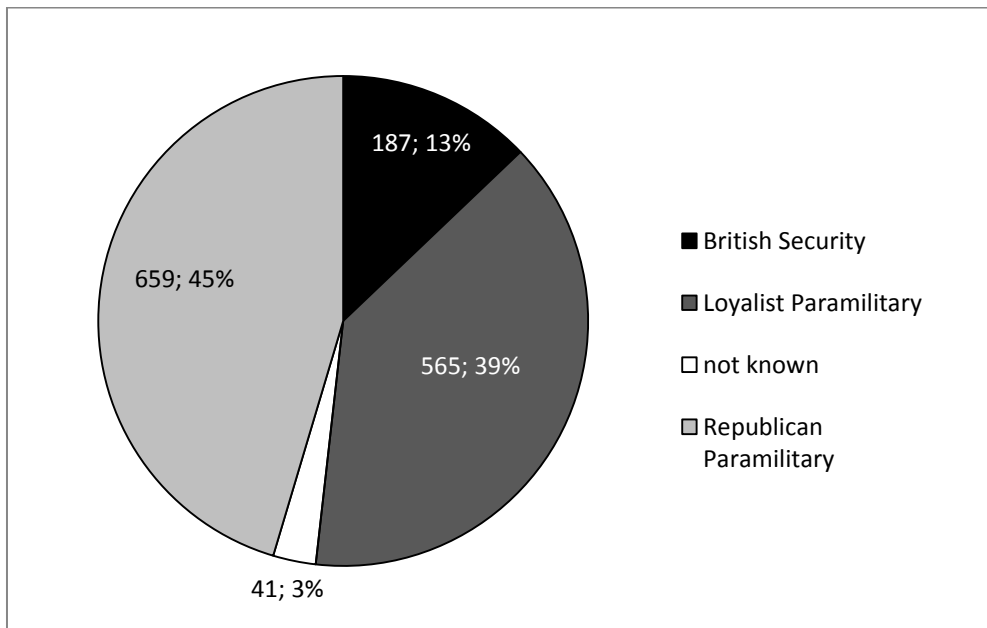
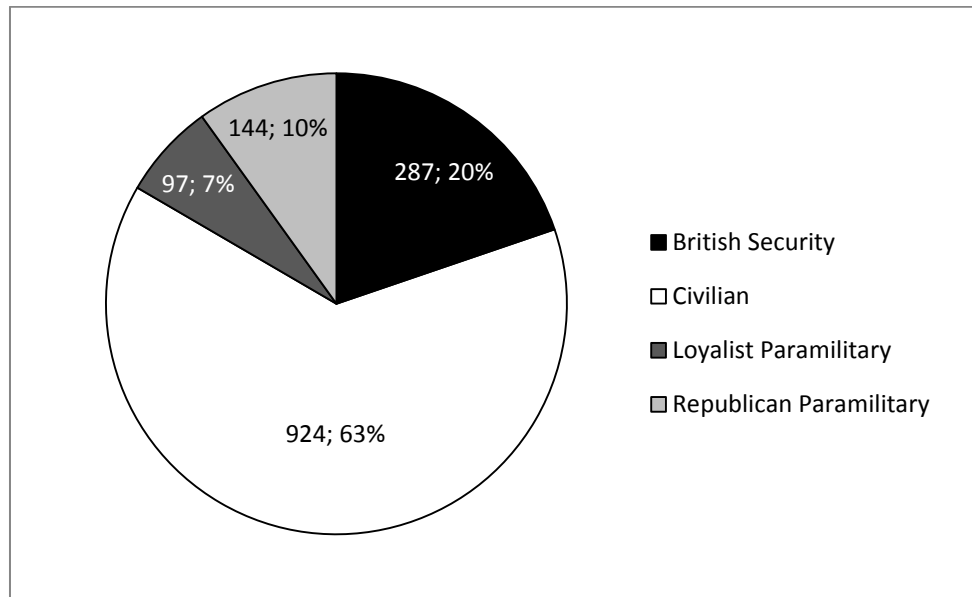


Figure 2: Victims (a) and aggressors (b) by broad status group

The database also provided a textual description of where each killing took place. We used maps and other sources, such as contemporary newspaper reports, to allocate a grid reference to each killing based upon where the incident occurred, or failing that, where the victim's body was found. We consider this method to be a more direct measure of conflict intensity than using the home addresses of victims. The primary reason for this has already been identified by Fay, Morrissey and Smyth in their 1997 study; a substantial number of the victims were either not from Northern Ireland (in the case of the vast majority of members of the British Army, for example), or resided away from the areas of greatest violence (in the case of most members of the civilian police force, the RUC), thus skewing the results of analysis (Fay, Morrissey and Smyth, 1998, 50 & 56). With this geographical reference it was then possible to convert the database into a layer within a Geographical Information System (GISystem). Figure 3 shows the distribution of deaths across the city using a GISystem technique called kernel-density analysis. This method creates a continuous surface from individual incident points through a distance-weighting function which gives greater influence to events closer together and provides a more sophisticated means of representing the spatial impact of these events on neighbourhoods by using a predetermined bandwidth (Bailey and Gattrell, 1995, 85; Gregory and Ell, 2007, 178; O'Sullivan and Unwin, 2003, 85-88). Contours have been derived from this surface layer which depict the areas within the 10, 50 and 100 deaths per km² range.

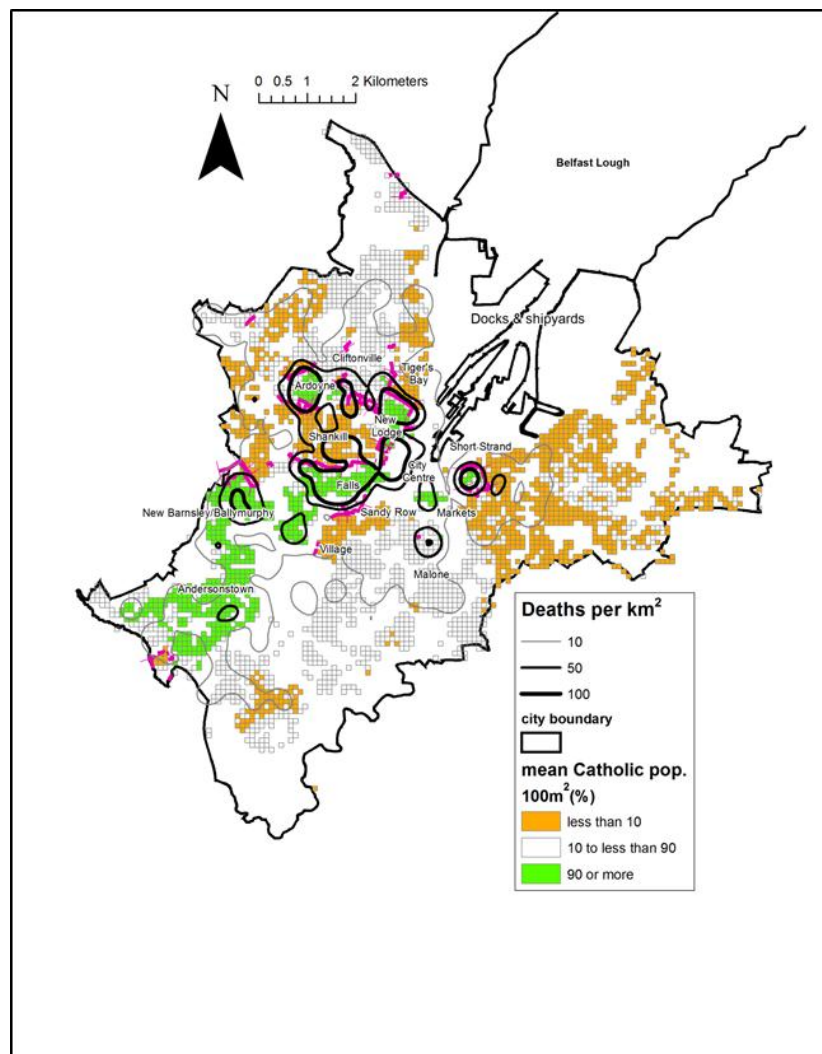
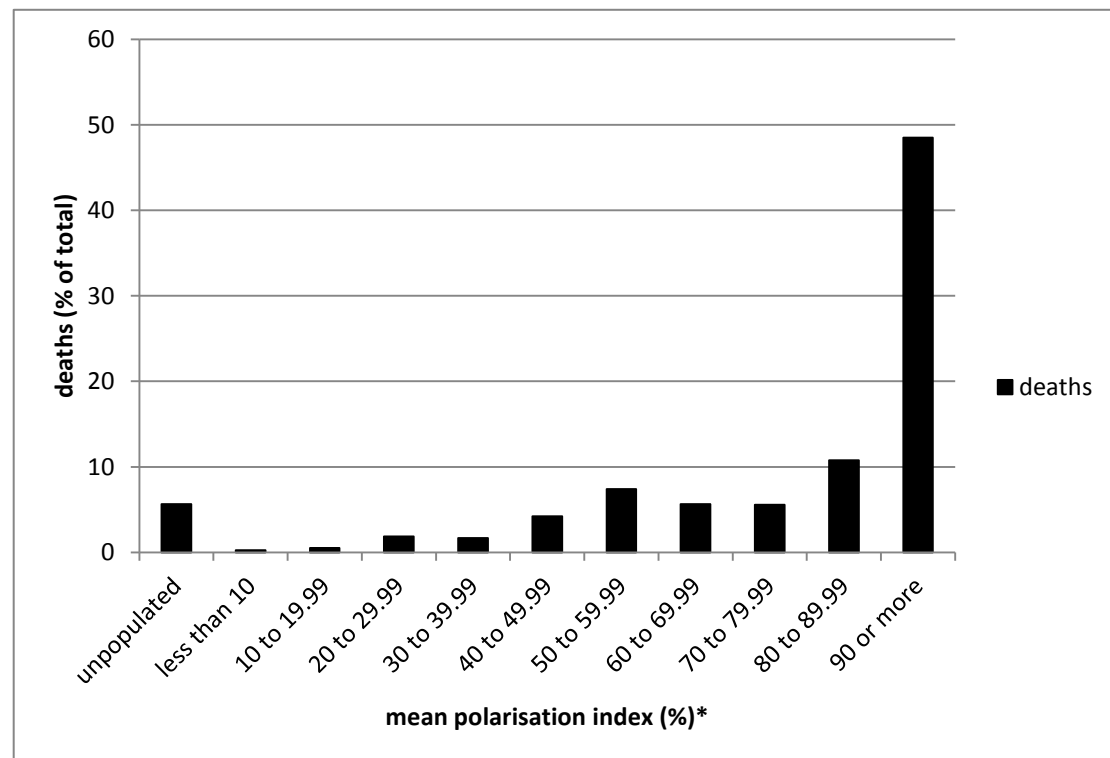


Figure 3: Death intensity and religious geography

Using this method we can see from Figure 3 that deaths in Belfast during the Troubles were heavily focussed in particular areas to the east, north and west of the city centre. The highest levels of fatalities occurred in the Ardoyne, Falls, New Lodge, Shankill and Short Strand, as well as in the Central Business District (CBD) itself. All of these areas can be characterised as being exceptionally polarised in terms of their religious residential populations, and are also in relatively close proximity to peacelines. The only exception to this pattern is the CBD itself, which had a low or non-existent night-time or resident population but was still the place where a great many people died during the conflict, particularly as the result of republican bomb attacks during the 1970s, but also due to random assaults by loyalist paramilitaries on Catholic social venues on the edges of the downtown area (McKittrick et al., 2007, 122-125 & 229-233). While the map does not present any information on socio-economic conditions, it is widely accepted that these areas would also be considered relatively deprived in comparison to the city at large, with higher levels of unemployment and people living in socially-rented accommodation, and in need of considerable investment after decades of urban conflict (Bardon, 2005, 818-819). So at first glance this would appear to provide a precise vindication of the tripartite characterisation given by Mesev, Shirlow and Downs (2009, 901) which argues that deaths occurred predominantly in areas of deprivation, high ethno-national or religious polarisation and in close proximity to peacelines. However, closer inspection of the distribution raises some questions as to the linearity of some of these relationships.

ANALYSIS

Deaths and Polarised Ethno-National Spaces



*Cells with suppressed populations excluded from analysis

Figure 4: Distribution of deaths and 100m² religious polarisation in 2001

The Northern Ireland grid square product provides a powerful tool for fine-grained analysis of the religious complexion of areas where political deaths occurred. Figure 4 shows how deaths were distributed across the city in relation to the degree of religious segregation using a polarisation index for the 2001 100m² census data. This is calculated as the sum of the percentage differences in the Catholic and Protestant populations from 50 percent, this number representing a perfect equilibrium between the two communities. Thus scores range from a minimum of zero to 100, where higher score indicate higher levels of segregation. The data for 2001 has been chosen as the basis for analysis as this was the year in which spatial segregation between the two communities was most extreme, and it also follows the principle of Boal (1998, 100), who argued that segregation in Northern Ireland has historically acted on the 'ratchet effect', tightening in periods of increased hostility and tension but with no concomitant relaxation in times of relative peace as there exist no logical reasons for people to return to areas from which they have left through intimidation or violence. Deaths were overwhelmingly skewed to the most residentially-polarised areas of the city, with almost 50 percent of all fatalities occurring in grid squares registering 90 percent or more on the polarisation index for 2001. Thus, these were areas which already were, or were to become, the most segregated areas of the city by the end of the century.

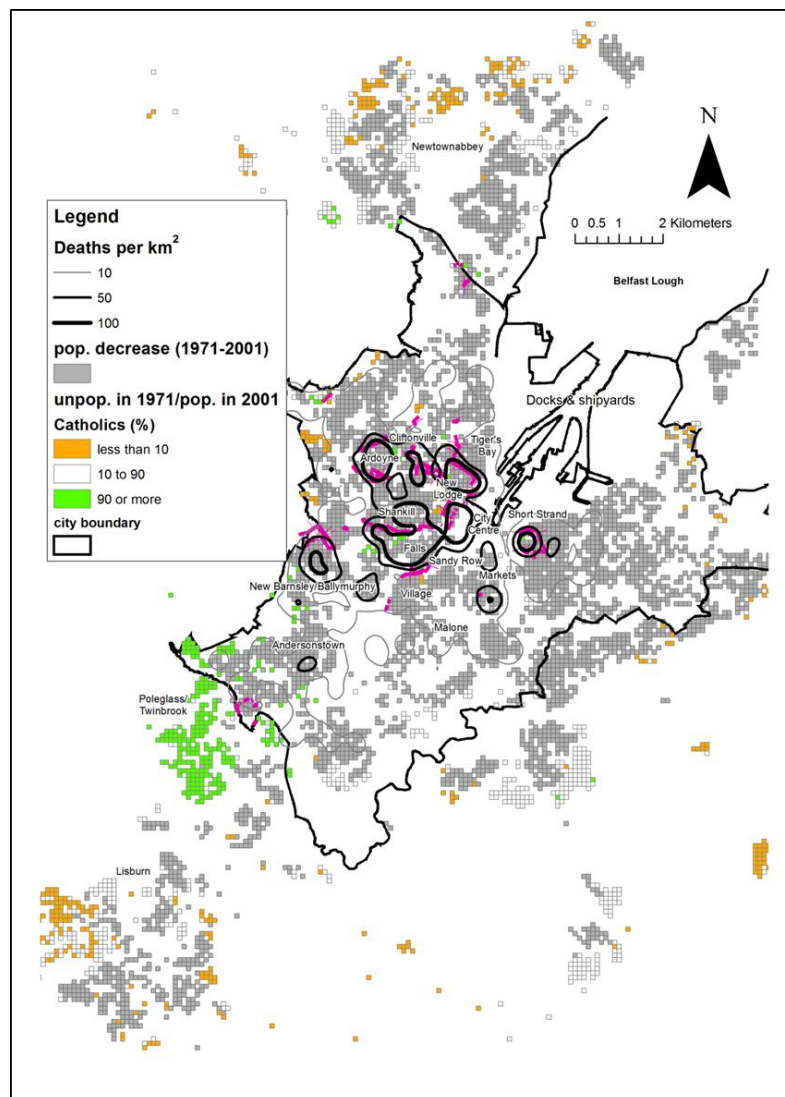


Figure 5: deaths and population change in the Greater Belfast area, 1971-2001

However, this is not the whole picture. During the period between the onset of the Troubles in 1969 and 2001, Belfast was to undergo radical and directly related changes in both its urban fabric and underlying population structures. Some of these changes were precipitated by the vernacular political conflict, but more generally, they were a product of much wider processes of 'slum' clearance, suburbanisation and comprehensive redevelopment then transforming all major cities throughout the U.K., and indeed well beyond (HMSO, 1969; Mathew, 1964, 1). As Figure 5 shows, over the course of the Troubles, the population of virtually the entire BUA fell as the population was displaced to new peripheral estates outside the city boundaries. The map also shows cells which were unpopulated in 1971 and which had become populated by 2001. Almost without exception, these new residential spaces have become characterised by extremely high levels of religious or ethno-national exclusivity; so, in effect, the polarised communities of the inner-city had moved in opposite directions, with the new developments to the south-west of the city stopline becoming predominantly Catholic, and those to the north and east becoming heavily Protestant. It would be convenient to argue that this was somehow part of a deliberate state policy to entrench segregation by socially-engineering new segregated communities. In fact, it was anything but. New estates, such as Twinbrook and Poleglass had been conceived as non-segregated communities where better relations might be forged through a rebalancing of the skewed sectarian demographics of the inner-city amidst the fresh air and better housing conditions available on the new estates (Osbourne and Singleton, 1982, 179-180). Sadly, this utopian vision soon dissolved as the old grievances re-emerged and Catholics and Protestants removed themselves to areas where they and their families felt less at risk (Simpson, 1973). The exception to this pattern occurs with the growth around Knockbreda, an area characterised by middle-class private, rather than public housing development (Doherty, 1978, 68-87).



Figure 6: Annual mean centres of deaths and distance from Belfast City Hall

The purpose of this discussion is to underline that while Belfast experienced tremendous urban change over the period of the conflict, much of which exacerbated and extended pre-existing patterns of religious segregation beyond the city, critically, patterns of extreme violence over the same period did not reflect these radical changes. Figure 6 presents the results of mean centre analysis which calculates the average centre point for fatalities in all years of the conflict in which a minimum of twenty Troubles-related deaths occurred. The graph plots how far these annual mean centres were located from Belfast City Hall, in the heart of the downtown area. It is clear from this analysis that despite the hollowing out of

Belfast through twin processes of inner-city decline and greenfield development, patterns of violence did not follow population trends; the epicentres of violence continued to oscillate stubbornly around a ring of inner-city neighbourhoods such as the Falls and Shankill which have always constituted the battleground for this political and constitutional conflict and from which paramilitary groupings continued to operate and draw support (Bruce, 1999, 129-130; Wood, 2006, 172). Thus, while political deaths during the Troubles would indeed appear to be associated with areas of high religious polarisation, it needs to be understood that we are referring only to very specific areas and these patterns have remained consistent despite radical changes to Belfast's population structure over the three decades of the conflict.

Deaths and Peacelines

The walls and other sorts of barriers known collectively as 'peacelines', which act to partition highly-polarised Catholic and Protestant areas of Belfast are perhaps the most profound material statements of the divisions which exist in Northern Irish society. There is no precise agreement on the exact number of peacelines which exist in Belfast owing to the fact that responsibility for their construction and maintenance has not been vested in any one, single entity (CAINc). They also vary greatly in form and scale, from the imposing eighteen metre-high frontier that separates the Catholic Falls from the Protestant Shankill, to much more nuanced and subtle demarcations, which might take the form of factory units, clever landscaping or simply a turn in a road (Jarman, 2002, 22-23). Recent work by the Belfast Interface Project (2012, 12-13) has enumerated some 55 which were in place at some point during the Troubles, although it is important to add that the proliferation of interface barrier construction from the late 1990s has actually occurred against the backdrop of the cessation in hostilities during the Troubles and a steep decline in political deaths more generally. This number therefore presents a generous interpretation of the number of peacelines over the temporal extent of the Troubles as a whole. The rationale for this approach is to provide the fullest possible appreciation of the potential relationship between deaths and peacelines on the basis that later structures were logically constructed at the locations of pre-existing tensions. Some recent quantitative and spatial analysis of patterns of conflict in Belfast has tended to stress propinquity to these structures as a defining factor (Gaffikin & Morrissey, 2011, 209; Mesev, Shirlow and Downs, 2009, 901; Shirlow and Murtagh, 2006, 72-73; Shirlow, 2003, 80-81). This might at first glance, appear to be a very reasonable assertion; clearly peacelines are designed to reduce the potential for conflict in places where such conflict is most likely to occur. However, this section will question the relationship between peacelines and patterns of fatality during the conflict on two grounds, firstly on that of scale and interpretation, and secondly in terms of the results of substantive spatial analysis.

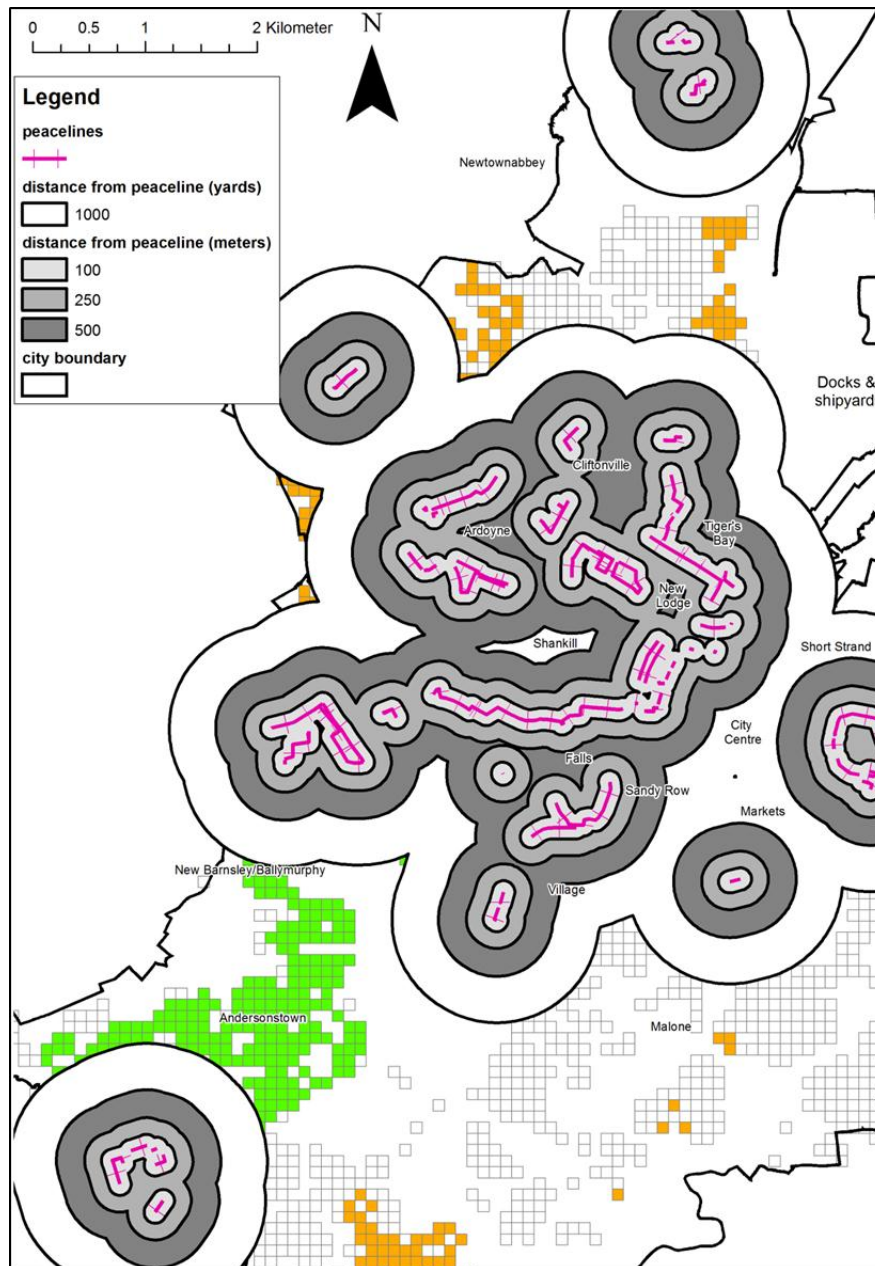


Figure 7: Euclidian distance buffers from peacelines in central Belfast

It is clear that deaths during the Troubles were heavily focussed on inner-city Belfast and that these neighbourhoods constitute a patchwork of complex and highly-segregated communities. In a 2006 article in the *Observer* newspaper under the title “Peace lines are where danger lurks”, it was stated that 85 percent of all fatalities during the conflict occurred within 1000 yards of a peaceline (McDonald, 2006, 20). Initially this may seem to provide compelling and disturbing evidence of a positive relationship between peaceline proximity and Troubles fatalities. The difficulty emerges when we consider just how much of Belfast’s urban space is covered when we apply a buffer of 1000 yards to its network of peacelines. In Figure 7 we can see that this covers a vast swathe of the city, in some areas extending well beyond its northern, southern and western bounds. Even using smaller bandwidths is problematic due to the fragmented nature of the city’s residential space. It may well be the case that 70 percent of deaths occurred within 500 metres of a peaceline, but the difficulty is that over much of

inner-city Belfast, it is impossible to even move up to 500 metres from a peaceline in Euclidian space before encountering another barrier marking the start of the next polarised neighbourhood. As is clear from Figure 7, all of the areas which witnessed the greatest casualties such as the Falls, New Lodge, Ardoyne and most of the Shankill, are well within 500 metres proximity to a peaceline. None of this is to say that any relationship between peacelines and Troubles deaths does not hold, merely that the use of such bandwidths of analysis over such a complicated ethno-national geography requires deeper inspection.

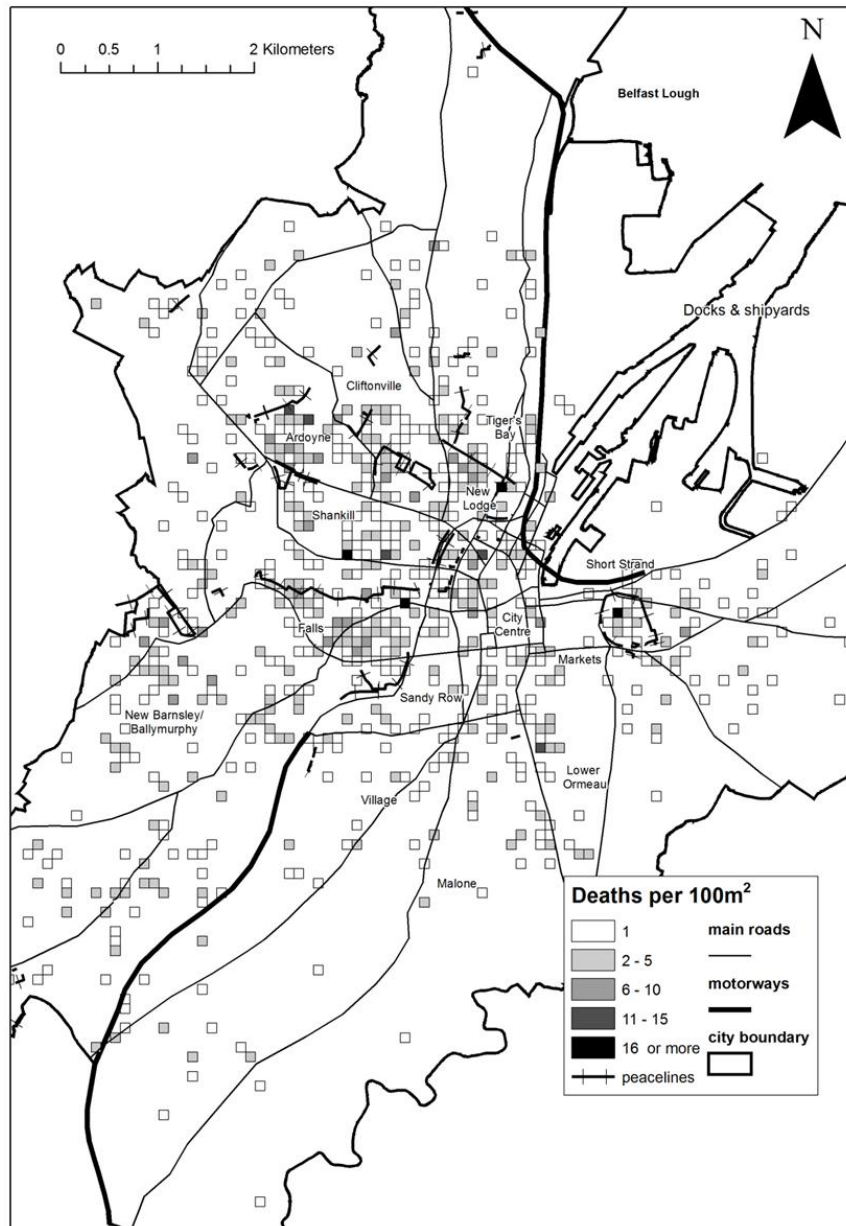


Figure 8: Deaths per 100m² grid square

Using the grid square product as a framework it is possible to analyse in much closer detail the spatial distribution of fatalities across the inner-city. From Figure 8 no apparent clustering of deaths in immediate proximity to peacelines is evident, indeed, while the Euclidian distances involved might appear relatively small, it would appear that if anything, it is nearer to the cores of respective polarised neighbourhoods such as the Falls and Shankill that the highest levels of deaths occurred. However, this is merely an exercise in “eyeballing” the data; closer spatio-statistical examination of the areas of greatest violence is more revealing. Using the 50 deaths per km² contour as a boundary for analysis shows that 29.4 percent of this area was within 100 metres of a peaceline, yet only 27.7 percent of fatalities occurred within this band. So, contrary to our current understanding and relative to their size, areas in immediate proximity to peacelines actually saw lower levels of violence, not higher (Shirlow and Murtagh, 2006, 72-73).

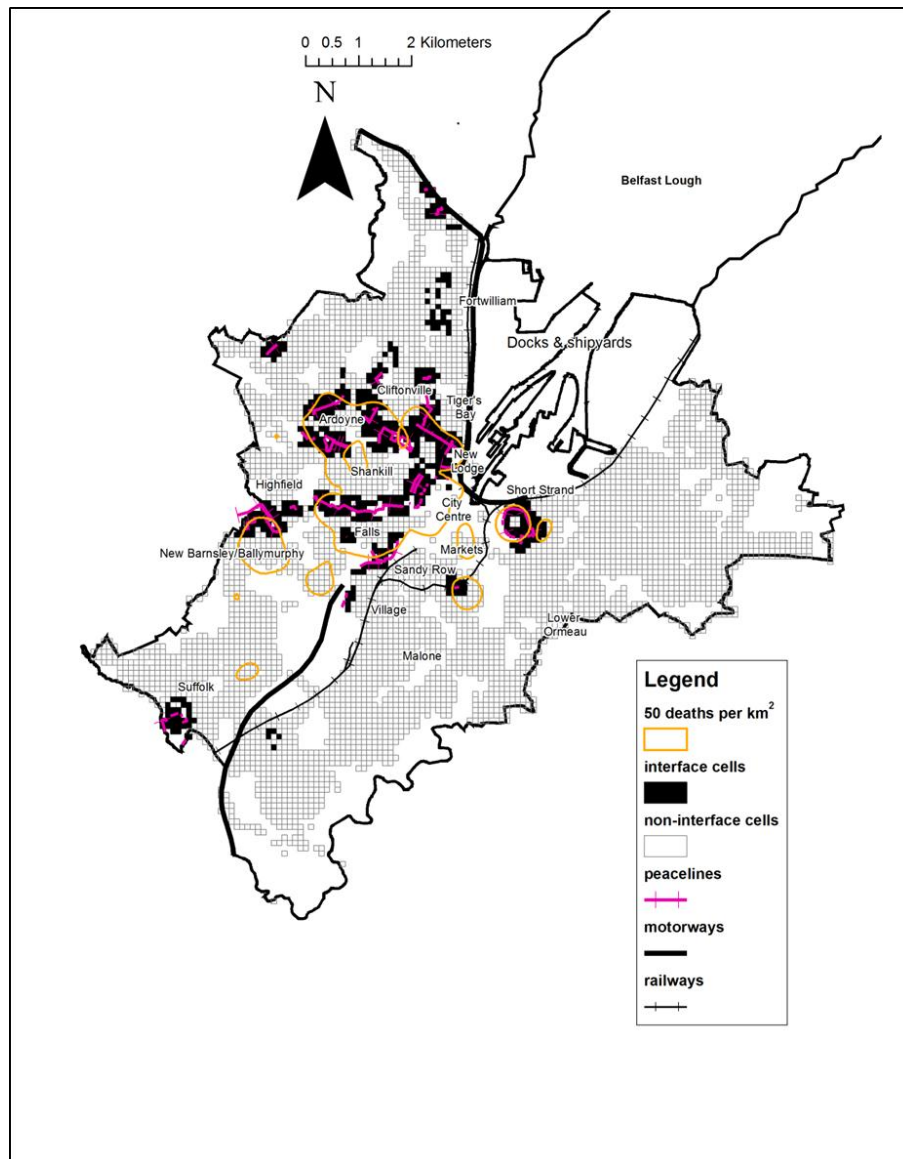


Figure 9: Interface and non-interface areas of Belfast

Perhaps if deaths during the Troubles cannot be associated so strongly with peacelines and the materiality of ethno-national or religious segregation in Belfast, it may be the case that we need to consider the interface areas between polarised Catholic and Protestant communities in a broader demographic sense. There are no official criteria for what actually constitutes an interface area, although the respected *CAIN* website defines it as, “The boundary between Catholic (Nationalist) and Protestant (Unionist) areas, especially where two highly segregated areas are situated close to each other...” (CAINd). According to Jarman and O’Halloran (2001, 3-4), the Northern Ireland Housing Executive (NIHE) determine segregated areas as those with Catholic or Protestant populations of 90 percent or more. Using the 100 metre grid square product it is possible to provide some means of quantifying the impact of such areas by selecting all cells with Catholic populations equal to or in excess of 75 percent and within 100 metres of a similarly polarised Protestant cell, thus providing a less parsimonious qualification for a segregated area than that adopted by the NIHE. By combining these areas with all cells within a 100 metre radius of the 55 peacelines it is possible to arrive at a definition which is not only much more generous in terms of its definition but which also combines the demographic and material aspects of inter-communal division in Belfast. Figure 9 maps these interface areas, which account for 12.6 percent of all cells with populations of 25 or over across the city as a whole. This method gives concrete expression to interface zones for analytical purposes and encompasses considerable sectors of the north, west and east inner-city districts. Using this classification as the basis to explore patterns of fatality within the most violent areas of the city provides the results in Figure 10 which underlines the fact that, even with this more generous spatial formula, the mean death rate for these interface areas was lower than that for non-interface zones by some margin. So, in contrast to the relationship between Troubles deaths, peacelines and interfaces that currently prevails in media and academic discourse, mortality rates were actually higher in what we might deem ‘heartland’ areas away from these inter-communal boundaries.

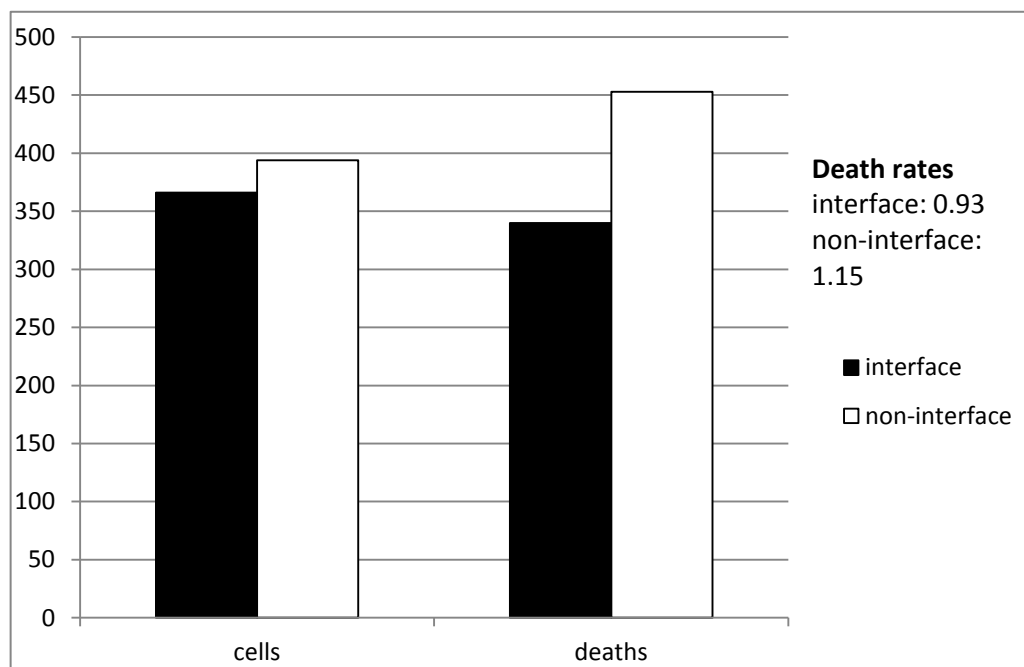


Figure 10: Death rates in interface and non-interface cells within the 50 deaths per km² contour

Deaths and Deprivation

In recent years, attempts to quantify levels of social disadvantage in the UK have moved towards the development of complex Indices of Multiple Deprivation (IMD) which assess relative poverty over a number of domains such as health, housing, employment and neighbourhood (Department for Communities and Local Government, 2011; Northern Ireland Statistics and Research Agency, 2010). These benefit from the growing availability of statistical data from a host of government agencies and advocates have argued that they provide a more timely articulation of inequality than that which can be discerned through the decennial census mechanism (Noble et al., 2006, 171-172; Belfast City Council, 2012). Critics have however pointed out that measures such as the IMD are hard to understand, operationalise and in any case usually result in powerful correlations with earlier methods such as the Townsend and Carstairs measures (Norman, 2010, 107-138). One of the key attractions of the new methodology was the ability to produce results on consistent geographical units over time, but due to the adoption of the temporally-stable grid square product in this analysis, boundary changes do not exist to affect the results (Norman, 2010, 134; Shuttleworth and Lloyd, 2009, 213-229). For practical and chronological reasons, the analysis of deprivation which follows will employ census measures which have remained consistent over the period 1971 to 2001 and which provide key indicators of relative economic disadvantage. These cover household occupancy and tenure, car ownership and unemployment, which in effect, provide a Townsend index of deprivation over time (Townsend, 1987, 125-146). This provides an unweighted aggregate of the *z* scores of these variables, with higher scores indicating higher levels of deprivation, zero scores being around average for the study zone and negative values indicating more affluent areas. By using this smaller range of pivotal measures it will be possible to provide some quantification of change in areas of the city relative to levels of conflict deaths during the Troubles.

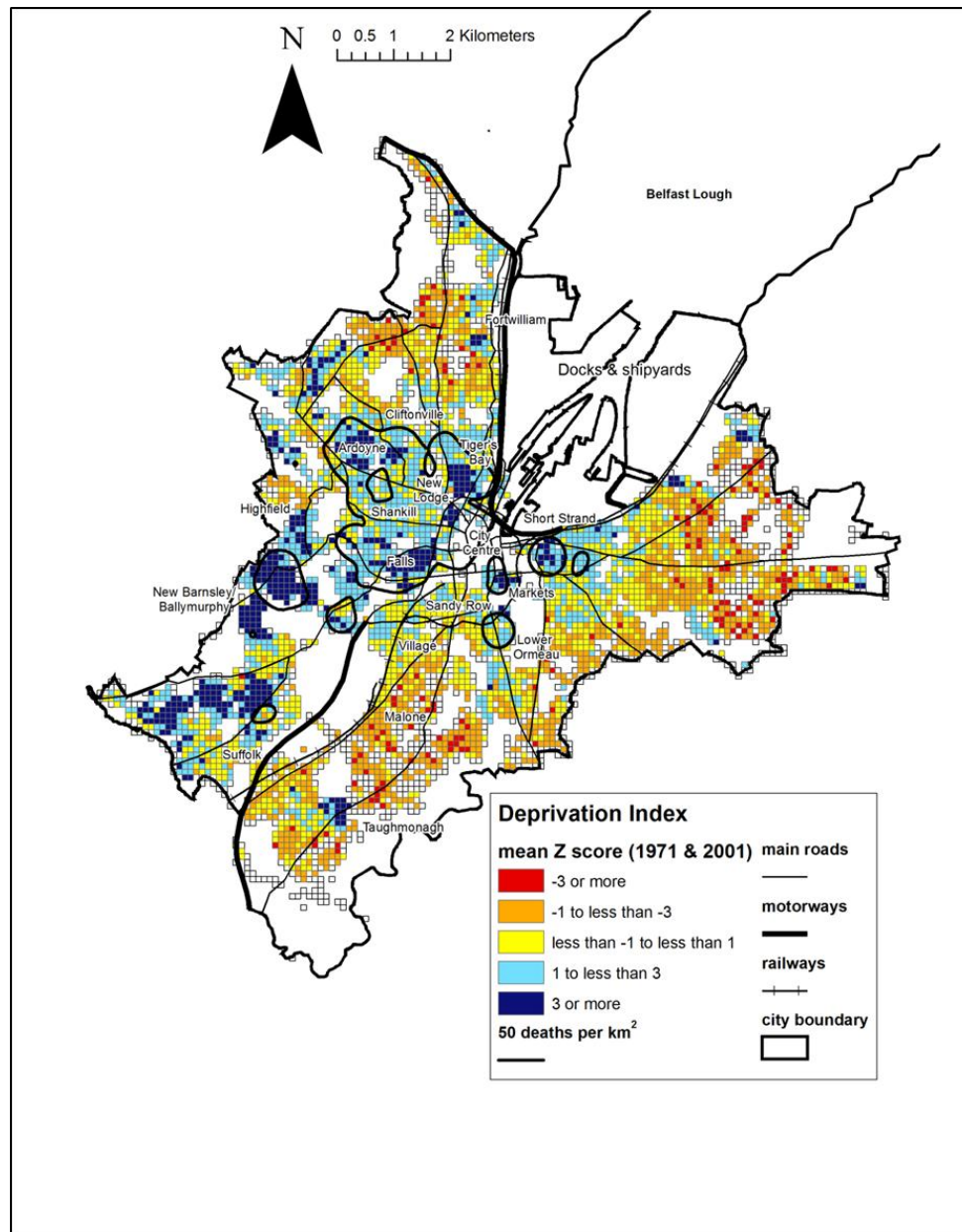


Figure 11: Belfast mean deprivation indices

Figure 11 presents the mean z scores for the Townsend measures in 1971 and 2001. This presents an image of those parts of the city where relative deprivation persisted during the period of the conflict and highlights some striking patterns. The highest levels of deprivation were clearly skewed towards the western districts of the city with the Short Strand being the exception in the east. Within this distribution it would seem that the areas with the highest levels of relative deprivation were largely coterminous with what we have already established were predominantly Catholic parts of the city and which became more Catholic in proportion over the course of the Troubles. This would appear to be a clear reflection of the influence of historic patterns of inequality on the image. Smith (2011, 45) states that in 1971 Catholic men were more than twice as likely to have been unemployed as their Protestant counterparts. While anti-discrimination laws would have gone a considerable way to rectifying that imbalance, it had not reached equilibrium by the turn of the century. The top quintile of deprived cells had a Catholic mean stated population on 57 percent in 1971 and 67 percent by

2001, against a general share of the city’s population of around 35 percent in 1971 and 47 percent by 2001. Another fascinating aspect of this pattination is the fact that these areas were not focussed particularly in inner-city areas, and that some of the most deprived neighbourhoods were areas of post-war suburban development, consisting mainly of large social housing estates, which had, ironically, been built with the intention of improving the living standards of the inner-city working classes. Such was the case with Ballymurphy, which as the map also shows, became not only an area of persistent relative deprivation, but also a place of intense conflict during the course of the Troubles (De Baróid, 2000). Highlighting the fact that housing tenure transcended the sectarian divide in influencing patterns of deprivation are the loyalist housing estates at Highfield in the west and Taughmonagh in the south, the latter standing out as an island of relative poverty in the broader sea of affluence which is most of the southern transect of the city.

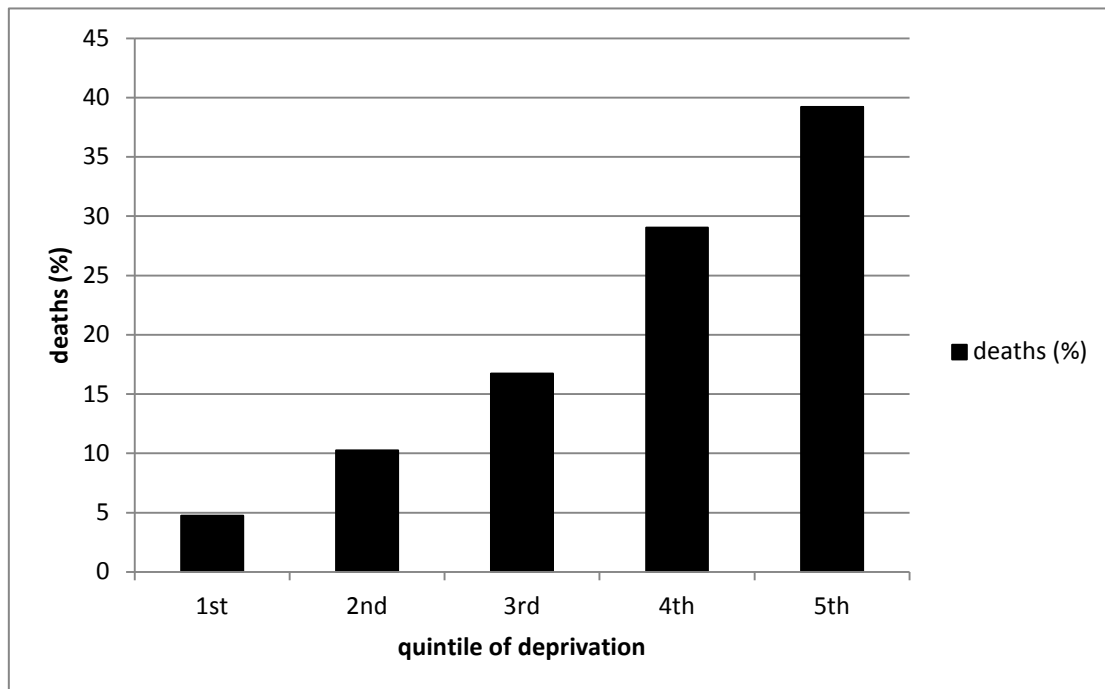


Figure 12: Percentage shares of deaths in unsuppressed cells by population-weighted quintiles of deprivation

While many of these areas of deprivation fall within the 50 deaths per km² contour, many do not. So what was the relationship between patterns of relative poverty and deaths during the Troubles? Figure 12 uses population-weighted quintiles of deprivation to count numbers of deaths. Nearly 40 percent of fatalities occurred in the most deprived quintile of deprivation across Belfast, but more generally the distribution suggests a positive relationship between levels of deprivation and deaths and this is borne out in correlation analysis, which returns a modest Spearman’s ρ value of 0.15, the qualified nature of the relationship is perhaps an appropriate statistical metaphor for the veracity of claims that the conflict is primarily about socio-economic rather than political factors (Darby, 1983, 22; Birrell, 1972, 332). Nevertheless, the socio-economic trajectories of the most violent areas remained very stable over the three decades of the Troubles as the scatterplot in Figure 13 indicates. The areas where the highest death rates occurred did not see a radical change in their socio-economic fortunes; a few areas in the top right saw a modest improvement which still left them well behind the rest of the city, while for a much larger number a bad situation just got worse.

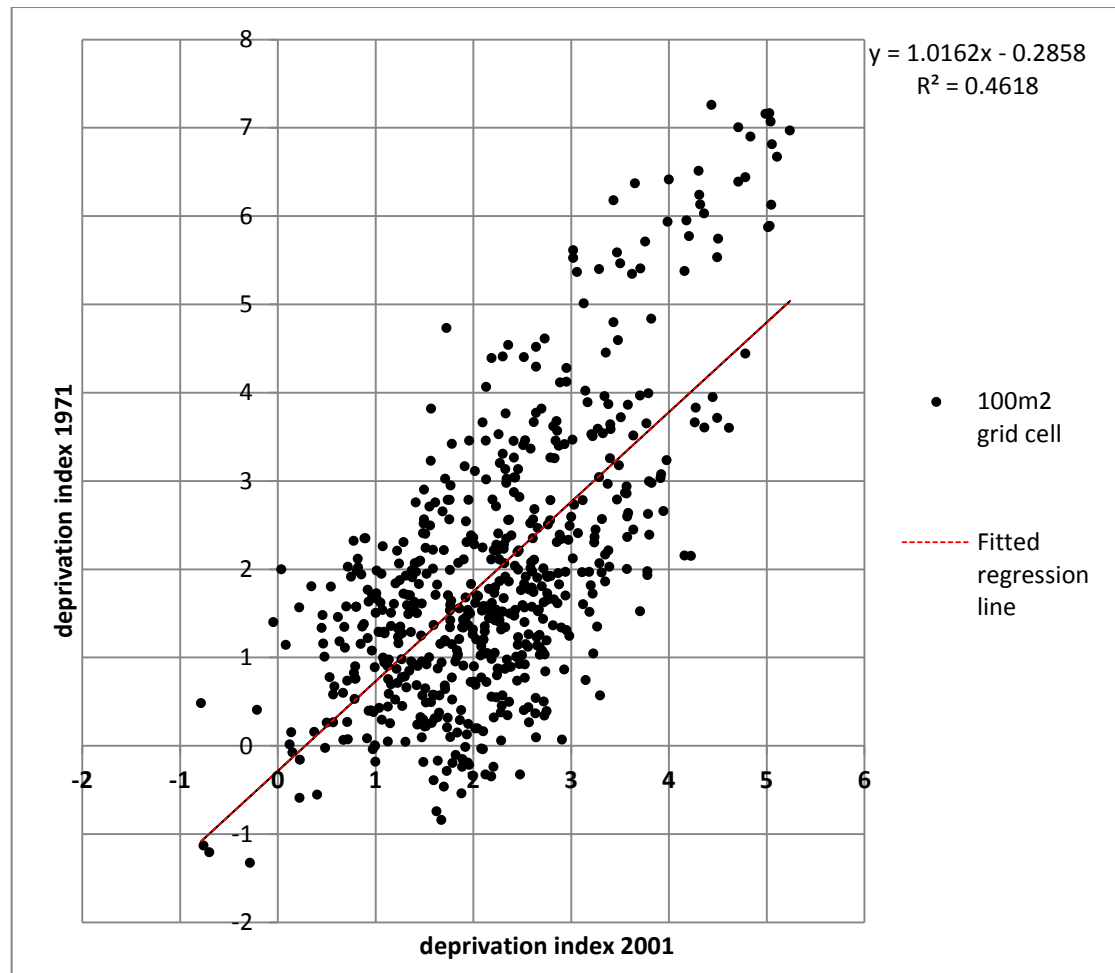


Figure 13: 100m² in the top quintile of deaths by deprivation Z scores in 1971 and 2001

CONCLUSIONS

This paper has provided a number of significant new insights which both contribute to, and question our current understanding of patterns of fatality in Belfast during the Troubles, and how these deaths relate to the city's complex geographies of religious segregation and deprivation, as well as the contested interfaces between rival communities

Deaths were indeed higher in extremely polarised parts of the city, but there were many other equally polarised areas which witnessed no or relatively few deaths. Despite radical changes in the population distribution of the city during the Troubles and the transformative disruptions of industrial collapse, comprehensive redevelopment and suburbanisation, patterns of political killing remained stubbornly focussed on particular neighbourhoods in the urban core. The persistence of patterns of fatality within specific areas of the inner-city and despite radical changes in the population structure of Belfast undermines readings of the conflict which see it as primarily driven by demography.

The analysis presented in this paper suggests that current perceptions on the relationship between peacelines, interfaces and political deaths might need to be refreshed. The interface is an ambiguous term and this paper has used an experimental methodology in an attempt to make some quantitative sense of what it actually means. This article has highlighted both the benefits and pitfalls inherent in the use of GISystems technology for this kind of analysis.

GISystems can produce fast and seemingly striking patterns but unless those patterns are interrogated in closer spatial and statistical terms the results can appear misleading. Within the areas of the city which witnessed the greatest levels of fatal violence, death rates were actually higher within the cores or heartlands of respective enclaves than at their margins. Finally, this research has underlined and provided further clarity to the linkage between patterns of deprivation and political deaths during the Troubles. The most violent areas were also the most deprived areas. However, those patterns were nuanced by marked variation across the city’s underlying religious geography. Furthermore, it has also shed new light on the socio-economic trajectories of the most violent areas across the course of the conflict. The most violent areas started as most deprived and remained so, or indeed declined even further in socio-economic terms against the backdrop of the Troubles.

Why does all of this matter? It matters because it has direct and vital implications for how we conceptualise and understand the Northern Ireland Troubles as a conflict. The Troubles was, fundamentally, a *political* conflict with localised demographic and territorial antagonisms, not vice versa. People moved and places changed dramatically, but the geography of violence remained curiously static, echoing back into the past (Cunningham, 2013). GISystems can provide us with powerful tools which can help us to comprehend this more clearly, but they are tools which need to be deployed with caution and their outputs interpreted with equal care. To do so is to recognise, in the words of Winston Churchill, ‘the integrity of their quarrel’ (Hansard, 1922).

NOTES

[1.](#) In order to ensure anonymity at such a high spatial resolution, religion data was suppressed in cells with populations under 25 or with less than eight households.

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