SOCIAL AND POLITICAL HETEROGENEITY: DISCOVERING AND UNDERSTANDING SPATIAL PATTERNS IN TWO NINETEENTH CENTURY AMERICAN CITIES

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Donald A. DeBats
Flinders University, Australia

Abstract

This paper reports on a project to reconstitute the entire populations of two nineteenth century cities: Alexandria, Virginia in the 1850s and Newport, Kentucky in the 1870s. Alexandria, commercial and based upon slave labor, was a dramatically different urban type from Newport, an industrial city based upon immigrant labor. Both Virginia and Kentucky conducted their elections *viva voce,* or by-voice, in these years and the poll books recording individual level votes survive for both cities for the years of interest: 1859 for Alexandria and 1874 for Newport. Alexandria and Newport present rare opportunities to work with comprehensive individual level political information in an urban setting and to explore the basis of political engagement and partisanship at the micro level. With populations of 15,000, Alexandria and Newport are examples of cities which can be mapped at the individual level with present levels of technology. Reconstituting their populations began with collecting all individual-level records, linking the information for each individual across the several record types, and deploying Geographic Information Systems (GIS) techniques to map the entire populations, with information for all household members (up to 53 variables for each inhabitant of Alexandria and 48 for the each resident of Newport) attached to the point of residence. In the end, 80 percent of the inhabitants of Alexandria and Newport were returned to their precise places of residence in the middle years of the nineteenth century. The project, informed by the new interest amongst political scientists and sociologists in contextual effects on individual behavior, uses GIS to explore the social and political spatial patterns which structured these two very different city types.

A Small City Project

The same technological changes that shape and inform contemporary life create new opportunities for understanding the past. Massive databases, computing-power expanding according to the dictates of Moore's Law, and the new possibilities for spatial understanding represented by GPS and Geographic Information Systems (GIS) technologies have implications as profound for the study of the past as they do as hallmarks of our own times. This seems particularly true for urban history, perhaps one of the reasons why there is so much evidence of a revitalization of the field, particularly in relation to smaller cities where technological changes are making it newly possible to

reconstitute the whole populations for historic cities.[i] The times and technologies seem right for a new – and comparative – small cities initiative.

This project aimed to reconstitute and map at the individual level the populations of two small US cities at the mid-point of the nineteenth century: Alexandria, Virginia and Newport, Kentucky. They were chosen for their three distinctive features:

- With populations under 15,000, they presented realistic prospects, in terms of existing computer power and Geographic Information Systems (GIS) techniques, of being mapped at the individual level. While the project spread over many years, our best estimate is that once the cities had been chosen and the basic records secured, the data-base construction and individual-level mapping of each city required 18 months of full time work by a research director and a research assistant.
- Both Alexandria and Newport were record-rich, having escaped the destruction of the Civil War, having avoided fires in public buildings held civic records, and, because until very recently both had been largely by-passed by "progress," having retained clear evidence of their historic economic roles in both their municipal records and their built environments. For this project, the most important written records surviving for each city were their mid-nineteenth century poll books, created at a time when both Virginia and Kentucky conducted their elections "by-voice," or *viva voce.* This mode of election, practiced at mid-century in England, Canada, Denmark, and a half dozen American states, required voters to call out their preferred candidate for each office

being contested. Catering to illiterate voters, the *viva voce* system required election clerks to record in "poll books" the name of each voter and his (everywhere suffrage remained the prerogative of males) choice for each office to be filled. A secondary purpose of the poll books was to allow election outcomes to be adjusted, rather than invalidated, should, after the contest, any voter or group of voters be declared ineligible. These official records provide a unique opportunity to examine the engagement of the ordinary citizen in nineteenth politics at a level of detail and certainty unmatched in the twenty-first century. The poll books are even more attractive when their individual level political information can be linked to an array of individual level social, cultural and spatial information, creating, for the first time in historical studies of political behavior, consolidated socio-political profiles of all residents of an area. This paper reports on the general election in Virginia in May, 1859 for a range of state officials, including the choice between William Goggin (Opposition) and John Letcher (Democrat) for Governor, and the election of a member of the US Congress and of the Virginia House of Delegates. The key election in Newport was the municipal contest of March, 1874, when the almost the entire local government slate was to be selected. Both elections occurred in moments of crisis: Alexandrians voted in 1859 with secessions threats becoming more strident while the voters of Newport went to the polls in 1874 as the economic panic of the previous year gave

way to debilitating depression and a violent strike at the city's largest steel mill and largest employer.

- Finally, historic Alexandria and Newport are exemplars of the characteristics of the two alternative political economies of nineteenth century urban America. Alexandria was a long established commercial city, located on the banks of the Potomac River, just opposite Washington, D.C. In the 1850s, it was a thriving place, enjoying the economic expansion of its trading facilities after a long period of economic stagnation. Alexandria's city fathers viewed it as a competitor with the port of Baltimore and saw port facilities as the key to its economic future. Alexandria's economic center was its wharves, from which the city's many agents and commission merchants shipped coal from Appalachia; wheat, flour and corn from the Shenandoah Valley; and, as perhaps the largest slave trading city in the United States, human lives. Alexandria was a slave town, with ten percent of its population enslaved and another eleven percent living the constrained lives of free blacks. Heavy industry was largely unsuccessful, even when connected to traditional agriculture. The Mount Vernon Cotton Mill employed only 135 hands, mostly young white females and the Alexandria Flour Mill closed in 1859. The new industrial spirit did not fare well: the Jamison Foundry employed 35 employees and the Orange and Alexandria Railroad workshop never grew beyond 60 workers.

Newport could not have been more different, with its industrial base secured in rapidly expanding manufacture of basic and ornamental iron and steel. By 1870, the Swift Iron and Steel Rolling Mill employed 398 hands, almost all male, and grew to 610 employees by 1874. Industrial employment was strong too at the Gaylord Iron and Pipe Foundry, the Kenton Iron Company, and the Buecker Iron Works. It was the opportunity for employment in the steel industry that attracted to Newport thousands of German and Irish industrial workers, the two largest immigrant groups in nineteenth century America. In the mid 1870s, seventeen percent of Newport's residents were of German birth and another seven percent of Irish birth. There was only a tiny black population (fewer than 150 men, women and children). Newport's German and Irish populations made up 25 percent of the whole population while Alexandria's slaves and free blacks constituted 21 percent of residents.[ii] The triumph of the new economic order was evident in Newport's success and on the eve of the Panic of 1873, Newport was one of the major steel cities of the United States.

Individual-Level Records and the Study of the Small City

The three main nineteenth century social inventories for urban places – manuscript census rolls, city directories, and municipal tax lists – survive for a vast range of cities, and always at the individual level. Each record type has a different domain: the census records are a creation of the national government and become public after a 72

year embargo, city directories are the commercial products of specialized companies and are sold immediately on completion, while tax records are a function of local government and may have had little public availability at all. Historians have tended, especially in that initial enthusiasm for urban history some 40 years ago, to concentrate on the first two of these record types, perhaps because they are the most readily available and the easiest to understand.[iii] There is only one census enumeration per city and its availability is clear; because companies producing city directories competed for the work of a city, only one city directory per city per year appeared, and it is easy to discover the years for which city directories are available for a particular city. This straightforward and consistent format of city directories and census manuscripts creates decidedly user friendly records.

Property records, on the other hand, exist in a bewildering variety and forms. Tax records reflect the divergent revenue-raising strategy of individual cities, with little uniformity. While idiosyncratic and difficult to use, locally created property records are perhaps the most valuable of nineteenth century social inventories because by their very nature they tend to be the most complete in terms of providing information on wealth, property ownership, and, most importantly, precise information on place of residence. Beyond a sense of duty and local pride, there was no incentive for census takers of the past to record complete populations, and estimates are that nineteenth century US census rolls missed about 15 percent of the population, with the miss rate inversely correlated with social visibility.[iv] The accuracy of the census in terms of a full enumeration no doubt improved with the professionalization of the Bureau -- and the development in the twentieth century of federal programs that distribute funds to urban areas based on populations.[v] City directories, commercial rather than public enterprises, often reflected

the same bias as the census, disproportionately leaving out the lower orders. But tax rolls defined the revenue base on which nineteenth century local government depended; tax collectors were under oath to provide a complete and comprehensive assessment of the entire population. Tax lists were biased toward inclusiveness, if only to ensure adequate city revenues and to spread the tax burden, often including a head tax, as widely as possible.

We used each of these conventional micro level records to help determine the presence of an individual in their city in the key years of 1859, for Alexandria, and 1874, for Newport. The 1859 election in Alexandria was the last state election before secession and the 1874 contest in Newport was held in the midst of a massive steel strike at the Swift Mill that brought to the surface the critical role of local authorities in the use of the police power to deal with major labor disputes. The poll books themselves were a positive indicator of who was present in the two cities at these key dates and were used alongside social inventories to help establish the total population of the two cities at the point of these critical political decisions.

Each of those records also contains an element of locational information. Even the poll books provide some indication of residence for they are organized by ward.[vi] The other three records provide more precise locational information to varying degrees of precision and reliability. The US census added street and household number to its array of information sought in 1880 but there was no guarantee that the census returns would actually record that residential information: as was so often the case with the early US censuses, the extent and integrity of the information collected rested entirely with the individual census takers. Discerning place of residence from the pathways of census

takers through a city is far from easy. Census takers indeed had to "walk the city" to interview individuals and complete the census forms; it is sometimes assumed they proceeded systematically so that census order of visitation (recorded even when street addresses were not) reveals precise residential order: neighbors in the census must have been neighbors in fact. As it turns out this is not the case. While some census takers may have been paragons of systematic survey techniques, walking the streets and visiting houses in a clear and concise order, the reality seems different in most American cities. Census takers made forays into an area of a city, reversed course, collected information as time permitted, in places of work, bars, and even brothels. Michael Conzen showed that in rural areas, census order of visitation correctly placed (according to county plat maps) about 75 percent of inhabitants; in Alexandria and Newport, reliance on census order would accurate locate only about one third of the population.[vii]

City directories, because they usually include precise residential information, are much more useful than the census in locating the place of residence of individuals and families, especially for years before 1880 when the census began asking for locational information. But many cities, and especially small cities, were not attractive to the companies producing city directories. These were, after all, commercial decisions. Many smaller cities were covered only incidentally as appendages to contracts with larger cities, with far less robust coverage of populations in the smaller places. This was the case for Alexandria, included (like Georgetown) in the William Henry Boyd Company's 1860 city directory for Washington, D.C., just across the Potomac. Newport was included (like Covington) in the 1873 directory produced by the C. S. Williams Directory Company for Cincinnati, just across the Ohio, although with much better coverage than

was the case for Alexandria. While large cities might have presented a market for a city directory on an annual basis, this was seldom the case for more isolated small cities where the production of a city directory was sporadic and irregular. Finally, even when available, city directories were often not a socially inclusive source.

The best source of locational information for the inhabitants of a city is, not surprisingly, the records generated by the city itself rather than by a very distant federal government or a company in pursuit of commercial gain. Tax records and plat maps derived from tax records are the most prominent examples of this kind of locally produced locational information. As already noted, the incentive for comprehensive coverage was high for this inventory defined the city's revenue base, making it critical to include every aspect of real property, the most common and durable source of city revenue. Without a complete listing of all property in a city, and its precise location, equitable tax assessment was impossible.

Alexandria, a commercial city with very low rates of home ownership, identified its revenue base in personal property taxes and licensing taxes; Newport, with a home ownership rate twice that of Alexandria, concentrated on taxes levied on real property.[viii] These local tax records, preserved in very different forms, were the keys to the successful mapping of nineteenth century Alexandria and Newport.[ix]

In the end we combined these sources to conclude that the resident population of Alexandria in mid 1859 was 12,293 and Newport in mid 1874 was 14,748. Alexandria had white population of 9713, 1388 free blacks, and 1192 slaves; Newport's diversity was reflected in the fact that the city's 1247 German born adult males and its 426 Irish born adult males made up 35 and 14 percent respectively of the city's eligible electorate.

The census, city directory and tax related records also yielded, with a bit of coaxing, the precise place of residence of 86 percent of Newport's population and 77 percent of Alexandria's inhabitants (78 percent of whites, 68 percent of free blacks, and (assuming that slaves lived with their owners or, if they were rented out, their employers) 85 percent of the enslaved population.

Creating a Linked Database from Individual Social, Religious, and Political Records

The three core social inventories (census, city directories and tax related records), and the additional information provided by the poll books themselves, were differentially central to the determination of whether an individual was present in a community and, if so, where he or she resided. In an ideal world where all records were complete, most residents would have been present on multiple records, and some on all four records, but this was very rarely the case. People move in and out of cities on a daily basis and providing a precise figure of the population at a snapshot in time is difficult.

Each of these four inventories was created for different purposes and aimed at a different component of the population. Our task was essentially linking the same people across this multiplicity of record types, recognizing as well that each record was complete in itself and thus needed to be preserved as such. The US federal census was, for all its weaknesses, the most socially inclusive nineteenth century social inventory, especially from 1850 onwards when the census began recording the names each free resident of a place, creating a complex social profile of those millions of individuals. The separate slave schedules for 1850 and 1860 provides the names of all those who owned or rented enslaved blacks and the numbers involved; but for the slaves there are no names and only counts by sex and age ranges.

City directory information is one step more specialized, with the most complete directories listing the name, residential address, and occupation (or employer) for adult heads of households, and often adult children, boarders and servants. The 1874 Newport directory listed all of this information but the 1860 directory for Alexandria, included as an appendage of Washington, D.C., listed only city businesses and their owners.

Tax information, reflecting a city's funding model, was highly variable in terms of information sought, ranging from virtual economic censuses of all heads of households to the most cursory of financial statements. [x] As a local, rather than a federal record, the survival of the record was as variable as the document itself. Tax records are best thought of as information arranged in layers, with the primary layer being information gathered by the assessors as they traversed the city, unlike census takers, in highly prescribed routes. Subsequent tax books were created in city tax offices by clerks transferring information into more specialized tax ledgers appropriate to the city's tax regime. Most, but not all, levels of the remarkably detailed Alexandria property and license tax manuscript rolls have survived and allowed, with some imaginative work, the mapping of all property owners, tenants and boarders. [xi]

In Newport, the primary tax records also survive. While less extensive than those of Alexandria, a secondary record constructed from them in the form of a comprehensive a city plat book of land owners also survives. When linked with the locational information from the city directory (and occasionally the census), the plat book provides crucial information on the precise place of residence of all owners of real property. When combined with other individual level records, tax information and the plat book also help locate renters. The city plat book consists of two parts, beginning with an alphabetical

list of all owners, giving the map reference to the property owned, and then the block by block maps of residents. There is one map for each block, each block is divided into lots, each lot is in turn divided into actual property boundaries, with the name of each owner written within those property lines. The surviving Newport tax record is also alphabetical by letter, but very handily includes street names (but not number) for each piece of property owned by each property owner.

With information like this, it is not difficult to see why municipal tax records are vital for mapping the small city: they can provide something close to a complete listing of heads of households – not just property owners. In the case of these two cities, the tax records also provide the precise place of residence for each property owner, though in predictably different ways. This was true in Alexandria because the tax regime included a head tax on all adult white males ($2) and all free black adults, male and female ($4). The Newport tax records, which were focused on real rather than personal property, are inclusive in the sense that they list those who owned property (and its taxable value) as well as (with a $0 value for property held) those who owned no property. This project suggests that city tax records can sometimes function as a surrogate for city directories.[xii]

Finally the poll books provide only ward level residential information (though this is sometimes useful in the case of individuals with the same first and last names) and record only those who turned out to vote on Election Day. While a useful check on residence, and helpful in constructing the denominator for the calculation of turnout, most information on the "eligible electorate" must come from information contained in other inventories, each of which had a different purpose, is partial, and is subject in varying degrees to incompleteness.

This means that in creating a data base of linked records, decision rules are necessary for determining the likelihood of an individual being present in the city at a particular point in time. There were two important rules for this project:

1. **Core Populations:** The core of the population deemed to have been present would arise from records created in the election year which was the focus of the project: the general state election and Congressional election in Alexandria held on May 26, 1859 and the general municipal election in Newport on March 2, 1874. This meant that the core population deemed to have been present included, in the case of Alexandria, all individuals listed on the tax lists and poll books for 1859, and for Newport, all those in the city directory, poll books and tax lists for 1874.
2. **Dependent Populations:** City directories, poll lists and tax lists are heavily biased toward adult white males; this is very helpful in constructing an electoral roll of all eligible voters, but these records seldom include dependent populations, whose inclusion was critical for this project. We therefore returned to the census for information about adult white females who did not own property and who therefore did not appear on the tax lists, women not in the workforce and thus not listed in the city directories, free blacks, children, and, in the case of Alexandria, the number of slaves owned by individual slave-owners. What we sought was a methodology to place the dependent populations identified in the census into the precise places of residence of heads of

households provided in tax and city directory information. The 1860 census for Alexandria was completed on August 4 of that year, fifteen months after the May, 1859 election. The 1860 city directory for Alexandria was very likely compiled in 1859. The decision was to include in the database of the Alexandria population in 1859 all those individuals listed in the free schedules of the 1860 census, the total number of slaves listed in the 1860 slave schedule, and any individual listed in the very thin 1860 Alexandria city directory. The situation was more difficult in Newport because the census was four years from the point of interest; the solution was to include only those individuals from the 1870 census who could be linked to an individual in one of the 1874 Newport inventories, whether the city directory, tax list or poll book.

These two rules may have slightly over-estimated the population present in Alexandria. The best test is focused on heads of household, defined as any autonomous individual, whether with dependents or not. Some 37 percent of the white heads of household listed in the 1860 census for Alexandria do not appear on any of the three 1859 inventories – neither the comprehensive tax lists, the decidedly thin city directory nor the poll list from the 1859 election.[xiii] While there may be a slight over-estimate of population represented in including this large group from the census, it would have been a far greater risk to have excluded this segment of the population.

The procedure followed in Newport, conversely, may have underestimated the population present in the city to the extent that some heads of household may have been missed in all three 1874 records – the comprehensive tax list, the detailed city directory,

and the 1874 poll list. As in the procedure in Alexandria, however, the risk of error is less than the advantages of the procedures used here to create a population estimate resting on all relevant sources available.

The rules, with their caveats, allow annualized population figures to be calculated and, with those, good estimates of the potential electorate, and thus turnout. It is this process which Walter Dean Burnham long ago identified as the only pathway to determining with precision the level of political participation in nineteenth century American elections. Burnham acknowledged the "very real and always potentially serious problem" of census undercounts and that, "the integrity of any estimate [of turnout] based on them stands or falls on their completeness." Burnham said that, "material out there in fugitive sources that has never been identified, much less pulled together," was the next logical step in determining past populations and thus past turnout.[xiv] While there are assumptions built into the procedures used to determine the populations of Alexandria and Newport, the results are in keeping with Burnham's solution to census under-counting and are likely much more robust than the conventional alternative of a linear interpolation from the aggregate data in decennial census records – records which all sources acknowledge as serious under-estimators of resident populations.

Table 1 below summarizes the utility of the four records upon which the project rests in terms of providing information on presence and residence, and illustrates the dramatically different utility of the same sources in reconstituting the populations of these two cities. Few individuals appeared on all four records, a result of the fact that only the census is "socially inclusive" in listing "dependent populations" – children and adult

women who were neither heads of household or property holders-- while city directories, tax records and poll lists are skewed toward adult white males. In each city there were four central records: only 5.8 percent of heads of household in Alexandria appeared on all four records and only 22.6 in Newport.[xv]

Table 1: Utility of Information on Presence and Residence, Primary Source of Identification for Determination of Presence and Place of Residence

	Presence		Residence	
	Alexandria	Newport	Alexandria	Newport
Census	11,660	8,158	0*	0*
City Directory	0	5,410	0	12,546
Tax List	530	930	9,516	110
Poll Book	103	250	0	0
Total	12,293	14,748	9,516	12,656

*In the sense that the census supplied the physical location of only a negligible number of individuals. In that handful of cases it was possible to align census order and tax records and discover from the census the probable occupants of properties not listed in the tax record. On the other hand, for both cities, the census supplied the names of "dependent populations" who were associated with a head of household whose name appeared in the city directory, tax list, or poll book. In Alexandria, this amounted to 6,372 whites and free blacks and the 957 slaves enumerated in the slave schedule. The 1870 census for Newport provided 8178 individuals who were associated with heads of household appearing in the 1874 tax list, city directory, or poll books.

The four records contributed very differently toward establishing presence and residence in these two cities and those differences are more significant than they might first appear. For example, Table 1 shows that in strict percentage terms, the census was the overwhelming source (95 percent) for identifying Alexandria's 1859 population. But it is important to recognize the importance of the 530 individuals (490 of whom were male) on the 1859 tax list but not in the census and the 103 men who voted in the 1859 election but whose name appears neither in the 1860 census nor in the city directory, nor on the tax rolls for the year of the election. This amounts to 42 percent of the 1407 men who voted in the 1859 election, a striking demonstration of the difficulties which arise from calculating turnout only from the US census rolls. The fundamental lesson appears

to be that in determining "who was there," the key methodological approach is to reply upon multiple social inventories, of which the census is but one.

While the table confirms the utility of city directories in mapping nineteenth century cities, it also shows that, in both cities, but particularly in Alexandria where the city directory was so incomplete, the utility of the much underused municipal tax records for locational information. That contribution was small in Newport where the city directory was excellent but the entirety of Alexandria's population was mapped from the city tax records in a situation where the city directory was all but absent. Again these two case studies suggest the differential utility of nineteenth century social inventories.

Techniques for Analyzing Patterns

GIS was used to map these populations at the individual level. Each of the 9301 heads of household identified as being present in the two cities in the relevant years (3653 for Alexandria in 1859 and 5718 for Newport in 1874) and who could be located (2774 for Alexandria and 4688 for Newport) was attached to a specific city lot and then the "dependent populations" associated with that head joined at the point of residence.[xvi] This made possible the use GIS to "map out" any of the more than 50 variables associated with 80 percent of the cities' residents.

The display of individual variables across a cityscape – the visualization side of GIS -- is deeply satisfying in terms of data and raw information and does provide an intuitive understanding of the patterning of a city. But data displays are in many cases of limited analytic utility. Just as statistical tools measuring central tendencies help make sense of numeric distributions, so statistics that reveal the dispersal or concentration of

populations helps make sense of spatial distributions. As the use of GIS in micro-studies based on individual level information matures and moves from visualization to analysis, these measures of distributions will become ever more important.

As Jens Toftgaard Jensen and Garry Keyes have recently remarked in respect to their work on Aarhus, Denmark, the opportunity presented in a micro-study of the city is to understand the basis of the patterning within the city boundaries: "to map the lived urban space as perceived and experienced by its historical actors, taking both the physical as well as the social and cultural urban space into consideration." The people who resided in these cities "had an awareness of the space in which they lived…which formed and influenced their way of life and self-understanding."[xvii] It is this awareness and influence, but reflected in political behavior, that we sought to discover.

Quantitative geography built upon individual level data, as in these two case studies, provides opportunities for the analysis of both central tendencies and individual behavior, providing both city wide and highly localized patterns. For these purposes it was important that individuals were assigned to center-points of lots to accommodate multiple families living in a single property and to ensure that the maps were not influenced by the differing sizes of properties. Our principal approach was to use a non-parametric Kernel-density estimator to display, in the form of a smooth surface, the density of groups sharing particular characteristics. This technique provided contour lines indicating the percentage of individuals sharing a characteristic living residing within each contour line. Applying the same estimator, with the same smoothing parameter, to different groups allowed the spatial characteristics of those groups to be directly compared. We were conscious that outliers could greatly affect the shape of the

distribution and so concentrated on central tendencies, in this case the contour lines which captured 60 percent of the relevant populations.[xviii]

The "Contextual Turn" in Contemporary Analysis

The most exciting recent development in the study of contemporary electoral behavior is emerging from new findings on the influence of personal networks and immediate social contexts in shaping political outcomes.[xix] This "contextual turn," or more accurately "contextual return," in political science reflects a wider paradigmatic shift toward the study of the influence that groups exert on individual behavior. In terms of electoral studies, this renewed emphasis on the political significance of contextual factors revives one of the most fundamental debates about the basis of political engagement.[xx] Recent work by leading American and British political scientists has once again reminded students of elections how profound is the influence of social networks on the participation and partisanship of citizens in contemporary political life.[xxi] At a broad level, these findings resonate with the "social capital" theories advanced and popularized by Robert Putnam, emphasizing the importance of group involvement and social contact in encouraging political participation. [xxii] At an even broader popular level, social networks have been deployed to explaining everything from the incidence of suicide to the likelihood of successful intervention in programs targeting nicotine addiction.[xxiii]

For political scientists, the contextual approach represent a fundamental shift in election studies, challenging the dominance of the psychology-based model of voting which emerged a half century ago at the University of Michigan. The price for this abstracted model of understanding voting advanced by the Michigan social psychologists

has come under renewed scrutiny. Critics from the contextual school note that family and neighborhood were removed from the political equation in favor of studying the isolated individual and his or her "partisan identification," the strength of an individual voter's attachment to a political party.[xxiv] As Huckfeldt and Sprague put it, "[t]he Michigan social psychologists largely ignored the importance of contexts, structures, and environments in their effort to arrive at a representative picture of the American electorate."[xxv] Ron Johnston and Charles Pattie echo that complaint in respect of British electoral studies: the Michigan-based approach, "treat[s] the electorate as so many atomized individuals whose decisions are made apart from any social context."[xxvi] As the psychologically-informed studies of politics advanced across the field of voting behaviour in the years between the 1960s and the 1990s, questions about the contexts, networks, and patterns of relationships within which the individual voter existed soon disappeared from the survey questionnaire itself and thus from the analysis. Contemporary political scientists like Huckfeldt and Sprague and their colleagues reject this approach, arguing that the notion of partisan identification is empty of political explanation precisely because it substitutes an amalgam of abstract attachment for an understanding of how in fact electoral decisions are made. They argue, by contrast, that,

> Election(s)…are socially shared experiences …the politics of democratic decision making is truly collective in nature… [and] rooted in social life: Voting is social as well as political and thus mass political behavior rests on fundamental social interdependencies among citizens.[xxvii]

These political scientists wish to return politics to its social setting: to study, "the real electorate [which] is composed of interrelated, interacting, interdependent citizens [rather than] [t]he artificially constructed electorate [of the social psychology model] as

an aggregate of independent, isolated, atomized individuals."[xxviii] This project, with its unique historical information – individual level political information linked to individual level contextual information – provides an opportunity to apply these contemporary developments to past political engagement.

The Social Logic of Past Politics: Of Networks and Neighborhoods

Applying GIS statistical techniques to the map of all individual voters in nineteenth century Alexandria and Newport reveals the very different nature of politics in these very different cities. Figures 1 to 4 illustrate how the GIS-based statistical techniques GIS can bring analytic clarity to spatial information, revealing patterns where there might appear only chaos. Figures 1 and 2 display all individual votes for two key offices being contested in Alexandria in May, 1859 and in Newport in March, 1874. In neither the 1859 Congressional election or the 1874 City Clerk election does a display of all votes provide analytic insight.

Figures 1 and **2**

On the other hand, Figures 3 and 4, using the Kernel density techniques, display the extent to which the cores of support for the contending parties overlapped in spatial terms. These figures provide a visualization of the different social contexts in which the politics of these two cities occurred. In commercial Alexandria, there was virtually no geographic separation of the cores containing 60 percent of the voters of the contending parties. Overlap was the central pattern with almost no areas of the city which could be termed separate political neighborhoods. Like so many commercial cities, Alexandria was highly compressed, with admixture of social groups reflecting this same pattern. To be sure, the town had a small high status area and free blacks lived in relatively defined,

though dispersed, areas. But these were exceptions in a general pattern, again typical of commercial cities, of little definition of distinct neighborhoods, high levels of admixture, and differentiations of status and standing operating at only very fine grained levels. The two political cores of Alexandria totaled 6.0 million square feet; the area of overlap of the two cores in Figure 3 amount to 3.3 million square feet, 54 percent of the total. All of this suggests that there was very little generalized spatial context to the politics of commercial Alexandria.

Figures 3 and **4**

Industrial Newport was very different. As Figure 4 shows, there were quite distinct Democratic and Republican areas of the city, with the Democrats concentrated in the northwest corner of the city, near its industrial mills, and the Republicans concentrated in the southeast areas of the city, areas more associated with Newport's commercial district. The overlap of the two partisan cores was just 24 percent of their combined area, less than half the overlap of Alexandria's political cores. Newport had political neighborhoods and its politics a spatial context, features not found in Alexandria.

As other reports on the project have indicated, the development of political neighborhoods in Newport reflected in part the availability of single family housing stock in the city, a feature of urban life also conspicuously missing in Alexandria. The home ownership rate in industrial Newport was nearly double that of commercial Alexandria (29.0 percent as against 15.5 percent).[xxix] The policy of economic elites in Newport of fostering homeownership by industrial workers may have been aimed at creating a workforce with a stake in the community and hence more stable and perhaps more loyal

to employers. The bitter industrial strikes that began in 1874 as the Panic of the previous year morphed into full-fledged depression, suggests the limits of the strategy. But what the Newport's high levels of home ownership indubitably did do was to create the possibility of distinctive neighborhoods, where neighbors essentially chose one another in a way that residents of commercial Alexandria were far less able to do.

The difference in the use of urban space in Alexandria and Newport was one of the fundamental divides separating these two cities and greatly influenced the organization of their politics. Alexandria – a traditional commercial city -- exhibited the "space problem" so common to other cities of that type: a densely concentration population living overwhelmingly in rented accommodation.[xxx] While the build-able area within the boundaries of these two cities was similar, the actually settled area of Alexandria was less than half that of Newport. Both Alexandria and Newport were fully laid out in blocks, but 99 of Alexandria's 256 blocks (39 percent) were entirely unoccupied as against just 28 of Newport's 186 blocks (15 percent). Nearly half of Alexandria's blocks (118) had fewer than five known residents and fully 70 percent of Alexandria's population was concentrated in the most populated 20 percent (51) blocks; in Newport these most congested twenty percent of blocks contained 46 percent of the population and only 23 percent of blocks had fewer than five residents. Adjusting for differences in block size does not change the result: if we measure the percentage of the population residing within half a mile of the city center, we find that in Alexandria that circle accounted for 27 percent of the corporate area of the city and contained 61 percent of the city's population while the same measure in Newport encompassed 29 percent of the area and 49 percent of the population. Newport was dispersed; Alexandria was

concentrated. The result was, in Alexandria as in so many other major commercial cities on the eastern coast of the United States, an artificially concentrated population living mostly in rental accommodation. Newport featured lower density and a higher percentage of its population living in owner-occupier housing.

Sam Bass Warner's classic description of pre-industrial Philadelphia as a city where high density and great diversity forced very different people to live "cheek-by-jowl," applies as well to Alexandria. As Warner said, "[m]ost areas of the city were a jumble of occupations, classes, stores, homes, immigrants and native [born] Americans. He concludes that "[s]ocial and economic heterogeneity was the hallmark of the age."[xxxi] The work on commercial Alexandria suggests that we can add political heterogeneity to that litany.

While it remains true, as Carole Shammas notes, that the "housing market in early America is not well understood," it is clear that urban land was held from the market in Alexandria but pushed into the market in Newport.[xxxii] This seems more a function of diverging economic visions than issues of technological change (transportation) or secular trends in wealth distributions. Economic elites in the two cities operated according to different incentives: in Newport the goal of the founding Taylor family was to create an industrial economy resting upon immigrant workers in their own owner-occupied housing. Since the Taylor family controlled most of the land supply in the city, this vision could be put into place, and was, with new additions to the property market rapidly incorporated and carved into small lots, often only 30 by 93 feet. The modest one-story workingman cottages on these small lots that still today dot the old industrial area of Newport are an enduring physical testimony to the implementation of that vision.

Alexandria was different. Much of the undeveloped surplus land was held as single lots by a disparate group of the city's commission merchants -- the commercial city's economic elite -- and by widowed women. These land holdings were perceived as providing security rather than opportunity, and bringing a large area of vacant land onto the market would have been a formidable task, given the multiplicity of owners with small holdings. Building in Alexandria was also a costly adventure — the housing style was closely spaced, multi-story and of brick construction. This design reflected to economic vision of the city: buildings to accommodate multiple households and, in the broader sense, the development of a rentier economy. These are the buildings that grace Alexandria's old town today and define the basis of its twentieth century gentrification. Graceful though they may be, they spoke to an economic vision of a working population which rented rather than owned its accommodation. The result was a mal-distribution of wealth amongst the white population which was substantially greater than in industrial Newport, where so many more of its heads of household were associated with real property ownership. The differences in the distribution of wealth in this sense reflected, rather than created, the fundamental difference in levels of home ownership.

Carole Shammas asks of the early nineteenth century commercial cities of the United States, "[w]hy did multistoried brick buildings …rather than a sprawling shanty town come to dominate so much of the urban landscape?" Her answer is that, "the kind of housing provided and the rate at which it appeared – the supply – depended on those people wealthy enough to erect their own house or to build for speculative purposes."[xxxiii] The housing stock alternatives represented by Alexandria and Newport were very different -- multistoried brick buildings vs workingman's cottages -- but the fundamental

"supply-side" explanation remains valid: the diverging visions of economic elites attached to very different – and diverging -- political economies were powerful influences on the differential possibilities for home ownership in these two cities.

No doubt this was accentuated by differences in the demand for housing, the other half of the housing equation. Alexandria's large suppressed black population, half enslaved and half free, was part of this difference, lessening the over-all demand for owner-occupied housing. As Table 2 shows, Alexandria featured somewhat higher levels of populations Shammas identifies as unlikely to be in a position to pursue home ownership: single females and free blacks. [xxxiv] On the other hand the free black rate of home ownership in Alexandria approximated that of white home ownership and the difference in the percentages of female headed households was on large.

Table 2: Percentage Distribution of Free Heads of Household

	Alexandria	Newport
White Female	18.0	13.3
(Free) Black Male	7.6	1.3
(Free) Black Female	6.7	0.2

While the differential in home ownership rates between Alexandria and Newport arose from aspects of both the demand for and the supply of housing, it seems likely that the difference on the supply side was the more important part of the explanation for this important difference between the two cities.

GIS and individual level information facilitate the exploration of consequent differences in the spatial patterns in Alexandria and Newport, especially as they relate to politics, furthering the intersection of urban history and political history. These differences are particularly evident in the extent to which political neighborhoods

appeared in industrial Newport but not in commercial Alexandria and in the nature and scale of political networks that knit together political partisans.

Religious and Ethnic Neighborhoods and Networks: Irish Catholics

Consider, for example, the patterns associated with religion in these two cities. Membership in Alexandria's eleven white churches and Jewish synagogue is now a part of the database, making it possible to analyze the social composition and geographical spread of membership in each religious institution.[xxxv] Table 3 below presents information on the political performance – participation and partisanship – of members of each religious organization as well as its occupational status profile.

Table 3: Partisan Affiliation, Participation, and Occupational Status of Members of Alexandria's Religious Institutions for Whites

	Total Number of Adult Members	Percent Adult Males Voting	Percent Opposition	Percent Adult Males in High Status Occupations
Christ Episcopal	100	85	77	58
Second Presbyterian	77	100	82	36
St. Paul's Episcopal	126	73	70	31
Grace Episcopal	38	75	83	27
First Presbyterian	70	73	80	25
Baptist	149	59	73	24
Quaker	47	77	82	22
Beth El	35	47	100	21
Methodist Trinity	159	77	74	16
Methodist Episcopal South	48*	73	60	15
Methodist Protestant	74**	100	67	9
St. Mary's Catholic	215	50	25	9
City	1138	49	57	10

*adult male only ** male only

Five themes stand out:

- Religious membership, with one exception, was associated with strong support for the Opposition party and much more so than the city as a whole. Catholic St. Mary's was the only Democratic religious institution in the city; all Protestant churches supported the Opposition party and the small group of voters from Beth El voted to the man for the Opposition.
- With the exception of St. Mary's, members of the city's religious organizations had an occupational status far above that of the rest of the city. But religious membership caught up only a fraction of Alexandria's electorate. Only 21 percent of the white adult males of Alexandria were members of religious organizations but 30 percent of the votes in the 1859 election came from members of a religious organization. Except for those belonging to St. Mary's, those who did belong to a religious organization defined a status elite. In a city riven by race and slavery, status hallmarks were everywhere. George Washington's townhouse (508 Cameron Street) was a daily reminder of "Mt. Vernon," after which the city's cotton factory was named, just six miles to the south as was Robert E. Lee's home (607 Oronoco Street) a reminder of Lee's "Arlington House" just three miles to the north of town. Alexandria's churches for whites spoke to the status theme; seven of the city's ten Protestant churches stood within three blocks of one another, clustered at this highest point of the city where Alexandria's main thoroughfares, Washington and King Streets, intersected. [xxxvi] St. Mary's Catholic

church, located several blocks away and with 51 percent of its members drawn from low status occupations, was the only religious institution in the city to represent in its membership the status profile of the city it served.

- While occupational status was, with the exception of St. Mary's, important in defining individual religious membership, differential status differences among religious institutions were not associated in a consistent way with aggregate differences in partisan preferences. Christ Church, the city's most socially prestigious church, claiming both George Washington and the Lee families as members, was an Opposition stronghold but the members of the Methodist Protestant church, far less occupationally elite, were only slightly less committed to that party.
- Members of any religious institution were significantly more likely to vote than those who were not. For most churches, this tendency is conflated with status. But St. Mary's, with a membership profile that much more closely approximated the occupational structure of Alexandria than any other religious institution in the city, provides a clearer test. Significantly, members of St. Mary's in low status occupations voted at a much higher rate did those in low status occupations who were not members of religious institutions. St. Mary's provides historical evidence of an independent effect of associational membership on political participation, just as Putnam and others would argue from contemporary evidence.
- The spatial distribution of Alexandria's religious membership shows that members of each of the city's religious organizations were scattered across the

compressed urban space of Alexandria. Each institution was a city institution; none was associated with a specific neighborhood. Members of each association may have been united by the network that their religious belief provided, but they did not live in religious groups. Applying GIS to religious membership records helps us see Alexandria as a city where networks rather than neighborhoods predominated.

Preliminary works suggests that the patterns were very different in Newport with the Irish and Irish Catholics providing a case study of a different relationship between the location of a church and the residence of its members. In compressed, and commercial, Alexandria, St. Mary's had no particular spatial connection with either the Irish or the Irish Catholics of the city, even though the Irish born made up 42 percent of St. Mary's membership.[xxxvii] Figure 5 suggests that St. Mary's was located in 1810 with no particular reference to its Irish members: it was built as the *city's* Catholic church.

Figures 5 and **6**

The situation in Newport was quite different. Here the Irish made up the same fourteen percent of the potential voting population and the Irish vote was almost exactly as Democratic (81 percent). But two things were different. First, as Figure 6 shows, the Church of the Immaculate Conception was located in 1855 within the city's largest Irish concentration. While we do not know yet the Catholic/Protestant split of the Newport Irish or the Democratic/Republican split of Immaculate Conception, that church was located in a neighborhood that was overwhelmingly Irish, overwhelmingly Democratic, and likely very heavily Catholic. In all these senses, Immaculate Conception was a

community church in ways that St. Mary's was not.

There is an important suggestion here of the differential influence of a city church and a neighborhood church on political engagement. The level of voter participation of the Irish born in the two cities was quite different: in Alexandria, just 24 percent of the Irish voted in a city where the turnout was 49 percent; in Newport, nearly twice that percentage of Irish voted (41 percent) in a city where turnout was 48 percent. Table 4 shows the very different social profile of Irish voters and non-voters in the two cities. In neither city were the Irish particularly well placed in terms of occupational status: they were under-represented in the highest occupational groups by a factor of 2.5 (Newport) and 10 (Alexandria) and over-represented in the lowest ranks by a factor of 1.8 (Newport) and 2.6 (Alexandria). In economic terms, the Irish were much less well-off than their city norms, especially in Alexandria. [xxxviii]

These were important socio-economic factors which perhaps discouraged the Alexandria Irish from political participation; membership in St. Mary's helped counter-act this and 19 percent of Irish Catholics in low status occupations voted, a much higher percentage of participation than low-status Irish not members of St. Mary's. But in Newport, the rate of low-status Irish men voting was twice that of Alexandria: 39 to 19 percent. In Newport, the occupational status gap Irish voters and non-voters was minor compared to the situation in Alexandria; there was no wealth differential between Irish voters and non-voters in Newport but there was in Alexandria. Perhaps the existence

Table 4: Political Participation and Social Profiles of Irish-Born Adult Males

	Voter Participation	Occupational Status, by Percent				Median Wealth		
Alexandria	24		High	Medium	Low		Voters	Non-Voters
		All Irish	1	22	76	Personal Estate	$100	$50
		Irish Voters	75	40	19	Real Estate	$800	$700
Newport	41		High	Medium	Low		Voters	Non-Voters
		All Irish	2	40	57	Personal Estate	$100	$100
		Irish Voters	50	44	39	Real Estate	$1500	$1500

of a neighborhood Catholic church was substantially more effective in engaging the least well off in political life than was a Catholic church which was not rooted in neighborhood.

These differences in the political engagement of members of the same ethnic group cannot be attributed solely to the differences between St. Mary's and Immaculate Conception, but these two churches were placed to play quite different roles in the lives of their members. No doubt some part of the differential in participation of the low-status Irish in the two cities reflects a different level of homeownership of these two groups: in Alexandria only 24 percent of low status voters owned their home while in Newport, 47 percent did. But home ownership was not unrelated in church membership. Immaculate Conception not only served the spiritual needs of the community within which it was located, but also acted as a mortgage broker, proving the funds for parishioners to purchase a house and holding the mortgage until the member paid off the amount owing.[xxxix] There is no evidence that St. Mary's was ever as deeply involved in the economic lives of its parishioners, and given the low level of home ownership in Alexandria, it is unlikely there was a call for such intercession.

A comparison between St. Mary's and Immaculate Conception points to some similarities, some critical differences, and to hints of the very different social logic that applied to the politics of these two cities. The Catholic churches, certainly in Alexandria – and probably in Newport, reached deeper into the social order of their communities than any other white denomination, bring into membership low status individuals seldom found in other denominations. In so doing, these churches, exactly as Putnam would

prophesize, encouraged political participation from those at the lower end of the socio-economic hierarchy. But there were differences too: the social and status divides between voter and non-voter remained very high in Alexandria while they all but disappeared amongst the Irish of Newport. Immaculate Conception, located in the community, appears to have entered parishioner's lives deeply and perhaps contributed to the weakening of the social status divide between voter and non-voter.

But the most importance consequence of a comparison between these two Catholic churches and the communities they served is the validation they offer for the application to historical studies of the new emphasis on the significance of context for political engagement. Combining individual level information – social, cultural, and economic – with individual level political and spatial information for whole cities does seem to assist in opening new vistas onto past politics.

Alexandria's Networks

Other networks that appear to have been significant in Alexandria were highly individualized and localized. Consider, for example, the block of Fairfax Street between Prince and King Streets, a particularly heterogeneous political area and an interesting challenge to unravel politically given that it is in the middle of the overlap of Democratic and Opposition core areas. There were 22 residences fronting on this block of Fairfax: 14 were residences only, six were families living in association with business activities, and two were boarding houses. There were 26 votes cast in the 1859 election from the 46 adult white males who lived there on the block, a turnout (57 percent) somewhat higher than the city as a whole. But, as in the city as a whole, turnout was highly skewed toward the most advantaged: 16 of the 18 (89 percent) of male heads of household voted, six of

the ten relatives of heads eligible to vote and living in the family did so, but only four of 18 boarders (22 percent) participated in the election.[xl] There was precisely the same number of male heads of household on this section of Fairfax Street as there were boarders, but four times as many of the former voted. Political participation in Alexandria was remarkably skewed toward those who had a material and long-standing stake in the city.

In partisan terms, the block was very evenly divided, splitting almost equally between Opposition and Democrat in the gubernatorial contest, whereas the city voted 59 percent for the Opposition candidate, William Goggin**.** But if we consider only four variables – family ties, employment, church membership, and being neighbors -- we can find localized networks linking nineteen of 26 voters. Five near identical Democratic votes came from four households who lived next to one another on the west side of the street and were members of Protestant denominations which were politically heterogeneous. Four Opposition votes answered from across the street, focused on Latham Stage Coaches where family members and neighbors worked together in the business, but none were involved with religious groups. Next door but one, the very wealthy neighbors Samuel Janny and George Smoot voted together for the Democrats as did neighbors Newman Cross and R.H. Hinton who lived across the street, but were much less well off. Near the intersection with Prince were the extended family of Edward Fletcher, bank clerk and member of Christ Church, and neighbor Robert Wheat, commission merchant, and his large family. Diagonally across the street was J. J. Wheat and his family, netting Opposition candidates another four votes. And finally there was a Democratic vote from the Carne family, much associated with St. Mary's, and another

from a resident, and likely employee at Simpson's bakery who also involved with St. Mary's.[xli] The keys to Alexandria's political heterogeneity, and the extensive overlap of partisan cores evidence in Figure 3, were these highly localized patterns of affinity combined with the presence of very large number of boarders and lodgers in the city's residences and boarding houses.

This style of highly localized and individualized networks resonated in a city like Alexandria, based as it was upon slave labor and the exploitation of free blacks. Enslaved blacks living with their owners were spread across the cityscape and especially evident in wealthier precincts. Free blacks, while concentrated around their central religious institutions (Roberts Memorial Chapel and Alfred Street Baptist church) in the low-lying areas of the city – and distant from the Protestant churches clustered on the city's high ground -- were present throughout this compressed city. White Alexandrians were of necessity past masters at retaining a sense of separate identity even when circumstances forced them into physical proximity with those whom they understood were inferior (in the case of race) or simply different (in the case of politics).

Newport's Neighborhoods: The Prussians

If localized networks mattered most in Alexandria's political life, the contextual framework for Newport's politics was one of substantial spatial communities tied to ethnicity and religion. Just as Alexandria's physical compression and low levels of home ownership created the conditions for highly localized networks, the greater spread of Newport and its high levels of homeownership created the conditions for spatial networks which can be readily visualized with GIS techniques.

While Newport's Irish offer interesting examples of contextual effects effecting

participation in political life, the Germans provide examples of the significance of contextual effects for partisan choice. The German-born in Newport were twice as prevalent as the Irish, making up fully 35 percent of the adult male population of the city.[xlii] Newport Germans voted Republican by a two to one margin, but there were distinctive differences within that vote, reflecting the large cultural differences within this diverse immigrant population. Newport's Germans came from 15 provinces of the newly federated nation, but the Prussians (33.7 of adult males) and Bavarians (33.0 percent of adult males) were by far the largest groups and together they cast 69 percent of the German-born vote.[xliii] The Bavarian vote was relatively solid for the Republican party (74 percent), but the Prussian vote was evenly divided, and provides an interesting case of contextual politics.

Figures 7 and **8**

Figure 7 indicates that the Prussian born population of Newport was split into two distinct areas, one in the east of the city associated with the commercial district along Monmouth and York Streets and the other tightly clustered in the mill district in the city's west. Figure 8 displays the voting choices of the Prussian-born in the 1874 election and shows that the core areas of Prussian support for the two parties coincided very closely with the two neighborhoods. The Prussians in the mill area defined a Democratic stronghold while Prussians in the commercial area created a Republican redoubt. There were of course Prussians of the opposite political persuasion in both neighborhoods, but there was very little overlap between the core areas of Prussian Democrats and Prussian Republicans. Except for a small group of Democrats in the Republican core, the core areas of Prussian Democrats and Republicans defined different parts of Newport. The

two groups of Newport's Prussians voted very differently: in the mill area the Prussians were Democrats and in the commercial precinct they were Republicans.

Figure 8 also associates these Prussian partisan cores with the German churches of the city, adding the cultural dimension to the political and spatial patterns. The Catholic German language church in the middle of the mill area ---the Church of Corpus Christi -- was no doubt a center of cultural life for those Prussians as was Immaculate Conception for the Irish who lived in the same area. Four of the five German language churches in the retail area were Protestant and perhaps provided a similar reference point for this group of Prussians.

The Kernel density approach used here to analyze these groups of Prussians helps us identify the significance of context for political participation and partisanship. It also helps us locate matched samples: similar individuals in different political contexts, operationalized here as residing in different political cores. The identification of matched samples of voters with similar characteristics and tracking their political behavior in different contexts is a powerful analytic tool, and rarely possible in historical studies of politics.

It becomes clear that some political attachments transcended context. Thus Prussian laborers who lived in the commercial core where Prussians voted Republican, were still Democrats. Economic position trumped context, at least among those at the bottom of the occupational status hierarchy.

But when individuals more in the middle of the occupational status hierarchy are considered, the influence of context becomes clearer. Thus of the 12 Prussian tailors who lived in the Democratic mill district, nine voted Democrat while six of the seven Prussian

tailors in the Republican commercial core voted Republicans; every Prussian grocer in the mill district voted Democratic and every Prussian grocer in commercial district voted Republican. Prussian carpenters were just as sensitive to place, voting three to one Democratic in mill district and seven to one Republican in the commercial core. While these associations were tendencies rather than absolutes, it is interesting to note exceptions that appear to reinforce the general rule of: Joseph Hobbel, a Prussian tailor, was one of only two tailors in the large Republican commercial core to vote Democratic; as it turned out, he lived in the Democratic pocket within that commercial area.

Closer analysis will allow the identification of outliers who resisted the partisan tenor of their neighborhoods and explorations of the networks and religious affiliations that may have helped sustain that stance. It will be intriguing to see if future research reveals that the Prussian Democrats in the commercial core were associated with nearby St. Stephens Roman Catholic Church while the Prussian Republicans in the mill area were associated with German Protestant outside the neighborhood. If so, this might be interpreted as evidence of the power of religious network in comparison to the influence of a neighborhood political persuasion.

Working out explanations for individuals in Newport who deviated from general trends will involve the micro-level analysis of networks, just as in Alexandria. In time, when individual religious memberships are traced, we may discover that all those Prussian tailors, grocers and carpenters were members of Catholic churches in the mill district and members of Protestant churches in the commercial district. Or it may be that in each of these occupations, in which individuals who traded and dealt and depended upon the economic support of other individuals sharing their immediate context, absorbed

the political attachments of those with whom they interacted and contracted. But in Newport, a more generalized contextual factor is evident in the political neighborhoods that overlapped with cultural neighborhoods; Alexandria's compressed population and limited home ownership regime prevented the emergence of this broad level of contextual "influence." Individualized networks existed in both cities; political neighborhoods in only one.

Either way, context in one of its forms – either as individuated networks (ranging from the highly individuated to those associated with religious membership) or as neighborhoods (collective influence on individuals) – seems likely to emerge as a central element in our understanding of how individuals engaged in past politics. The extent to which this proves to be the case will provide a measure of the extent to which there are historical echoes of the contemporary interest in the social logic of politics.

Conclusions

This exploratory works supports the utility of bring to "contextual turn" more fully into historical analysis and, within that, the significance of GIS for visualizing, and more important, analyzing the contextual patterns which shaped the political lives of ordinary citizens. In this way political history and contemporary political science may find themselves in a powerful partnership in a new scholarly world where context is king and linked individual level data divine.

GIS allows us to see with a new clarity how, in an industrial city like Newport, political allegiances were able to take on clear and concise spatial patterns, but could not do so in a commercial city like Alexandria and leads us to explanations for those

differences. We can begin to see the differences in contextual effects which are based more on networks than neighborhoods and some of the influences that neighborhood contexts appear to have exerted. All of this should be seen as affirmation of the importance of developing a new small cities project, comparative in nature, based on comprehensive individual level information, and informed by GIS methods and analysis. Where it is possible to add politics to this matrix of information, as in these two case studies, we will have available evidence to join with contemporary political scientists in exploring the evidence that past elections were also "socially shared experiences" and that democratic decision making, even in America with its celebrated individualism, was "truly collective in nature… [and] rooted in social life." The two case studies considered here suggest that historically too, "political behavior rest[ed] on fundamental social interdependencies among citizens."[xliv] Alexandria and Newport provide historical examples of the different forms these social dependencies assumed.

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[i] See Ann Knowles (ed.), *Historical Geography,* Special Issue on Emerging Trends in Historical GIS, 33 (2005). The list of nineteenth century cities now reconstituted includes Victoria, British Columbia (Canada), London, Ontario (Canada), Aarhus (Denmark), Alexandria, Virginia (USA), and Newport, Kentucky (USA).

[ii] Of those in Newport for whom we know place of birth, 7 percent were Irish born and 18 percent had been born in one of the German provinces. Because most of the foreign-born were adults, their contribution to the voting age population was even greater, eg 14 percent of potential voters were of Irish birth and 35 percent were of German birth.

[iii] For classic works from this period, see S. Thernstrom, *Poverty and Progress: Social Mobility in a Nineteenth Century City* (Cambridge: Harvard University Press, 1964) and P. Knights, *The Plain People of Boston, 1830-1860: A Study in City Growth* (New York: Oxford University Press, 1971). While it is impossible to determine precisely the number of individuals present in a nineteenth century city on a given day just as it is impossible to list everyone present in a twenty-first century city on a given day, the imaginative use of individual level records beyond the manuscript rolls of the federal census allow one to make significant strides toward more accurate population counts from cities in the past. The use of multiple social inventories for this purpose is an important corrective to the significant under-counts of population that plague reliance on nineteenth century census returns. The individual level approach to presence in historic cities opens the way to determining the exact place of residence for significant numbers (80 percent for the two cities discussed in this article) of those deemed to have been present in a reconstituted historical city.

[iv] See D.A. DeBats, "Who Votes? Who Voted? The 2008 American Elections: Contexts for Judging Participation and Partisanship," *Australasian Journal of American Studies,* 27 (July, 2008): 16-36, esp. 19-29. See also G. Ginsburg, "Computing Antebellum Turnout," *Journal of Interdisciplinary History,* 16

(Spring, 1986): 579-611 and Walter Dean Burnham's vicious reply: "Those High Nineteenth Century American Voting Turnouts: Fact of Fiction, *Journal of Interdisciplinary History,* 16 (Spring, 1986): 612-?

[v] See M. Anderson, *The American Census: A Social History* (New Haven: Yale University Press, 1988).

[vi] Canadian poll books include each voter's precise residential address.

[vii] D.A. DeBats, "A Tale of Two Cities: Using Tax Records to Develop GIS Files for Mapping and Understanding Nineteenth-Century U.S. Cities," *Historical Methods* , 41 (Winter, 2008): 25

[viii] See D. A. DeBats, "Understanding Commercial Space in Small Cities," Paper presented at the 2009 Social Science History Conference, Long Beach, California.

[ix] See DeBats, "A Tale of Two Cities."

[x] Ticks in tax lists that purport to record whether an individual was a qualified voter correlated poorly with the list of individuals who actually voted: over 25 percent of those who voted in the 1874 Newport election were not marked on the city's 1874 tax list as legal voters.

[xi] See DeBats, "A Tale of Two Cities," for a discussion of the Alexandria tax records and the steps necessary to obtain residential information from them.

[xii] See J. T. Jensen and G. Keyes, "Mapping Urban History: GIS and the Analysis of Urban Space in Nineteenth-Century Aarhus," Paper presented at the International Association for History and Computing Conference, Tromso, August, 2003.

[xiii] The census provided the most comprehensive listing of free blacks; only 41 percent of the free black heads of household (as against 63 percent of white heads of household) appeared in one of the three 1859 inventories.

[xiv] W. D. Burnham, "Those High Nineteenth-Century American Voting Turnouts: Fact or Fiction?" *Journal of Interdisciplinary History,* 16 (Spring, 1986): 637, 632.

[xv] The more even spread of record types in Newport provides an interesting matrix of the degree to which coverage among record types was universal. Of the 5362 heads of household in the city, 1214 (22.6 percent) were on all four records. Many more appeared on three records: 1189 appeared in the census, the city directory and the tax list; 439 appeared on the tax list, the city directory and the poll list; 139 appeared in the census, the city directory, and the poll books; 25 appeared in the census, the tax list and the poll books. Those that appeared on only two records are summarized below. No person who appeared on the 1870 census was assumed to have been present in Newport in 1874 – represented in the table by a 0. Interestingly every head of household listed in the city directory was present on one of the other three record groups, a feature recorded in the table as a 0. But 734 individuals appeared only on the tax list and 200 appeared only in the poll books. It remains possible, of course, that some of these 934 individuals represent incomplete linkages.

	Census	City Directory	Tax List	Poll Book
Census	0	482	89	38
City Directory		0	602	133
Tax list			734	78
Poll book				200

[xvi] We located in Alexandria 2774 of 3653 heads of household (75.9 percent) and in Newport 4688 of 5718 (82.0 percent). In all then 7462 of 9317 heads of households were mapped – precisely 80 percent.

[xvii] Jensen and Keyes, "Mapping Urban History."

[xviii] See D.A. DeBats and M. Lethbridge, "GIS and the City: Nineteenth-Century Residential Patters," *Historical Geography,* Special Issue on Emerging Trends in Historical GIS, 33 (2005): 78-98. The fact that group was highly concentrated in a specific area does not preclude the presence in even a dense core of individuals from different and, in political terms, opposite groups.

[xix] R. Huckfeldt and J. Sprague, *Citizens, Politics, and Social Communication: Information and Influence in an Election Campaign* (New York: Cambridge University Press, 1995), A. S. Zuckerman (ed.), *The Social Logic of Politics: Personal Networks as Contexts for Political Behavior* (Philadelphia: Temple University Press, 2005).

[xx] E. Burdick and A. J. Brodbeck (eds.), *American Voting Behavior* (New York: Free Press, 1959), esp., P. H. Rossi, "Four Landmarks in Voting Research:" 5-54.

[xxi] See also Huckfeldt and Sprague, *Citizens, Politics, and Social Communication* and R. J. Johnston and C. J. Pattie, "Putting Voters in Their Places: Local Context and Voting in England and Wales, 1997," in Zuckerman (ed.), *The Social Logic of Politics* : 184-208.
[xxii] R. Putnam, (ed.), *Democracies in Flux: The Evolution of Social Capital in Contemporary Society* (New York: Oxford University Press, 2002); G. Akerlog and R. Shiller, *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (Princeton: Princeton University Press, 2009)
[xxiii] See Nicholas Christakis and James Fowler, *Connected: The Surprising Power of Social Networks and How they Shape Our Lives* (New York: Little, Brown and Company, 2009).
[xxiv] The classic work is A. Campbell, P.E. Converse, W. E. Miller, and D.E. Stokes, *The American Voter* (New York: John Wiley, 1960); see esp p. 23.
[xxv] Huckfeldt and Sprague, *Citizens, Politics, and Social Communication*: 8.
[xxvi] Johnston and Pattie, "Putting Voters in Their Places":184.
[xxvii] Huckfeldt and Sprague, *Citizens, Politics, and Social Communication*: 3.
[xxviii] Huckfeldt and Sprague, *Citizens, Politics, and Social Communication*: 9.
[xxix] Calculated on the basis of heads of household and, in Alexandria, excluding free blacks. If we consider those heads of household listed on the tax list, the difference is 27.1 percent as home-owners in Alexandria as against 43.0 percent in Newport. If we consider all those for whom we have a place of residence, the extent of home ownership is 20.0 percent in Alexandria and 35.6 percent in Newport.
[xxx] C. Shammas, "The Space Problem in Early United States Cities," *William and Mary Quarterly,* LVII (July, 2000): 505-42.
[xxxi] S.B. Warner, *The Private City: Philadelphia in Three Periods of Its Growth* (Philadelphia: University of Pennsylvania Press, 1968): 50.
[xxxii] Shammas, "The Space Problem in Early United States Cities: 541. See also D .A. DeBats, "Using GIS to Explore the Socio-Economic, Political and Spatial Base of Two Divergent Nineteenth Century Cities: Commercial Alexandria (Virginia) and Industrial Newport (Kentucky), Social Science History Conference, Chicago, 2007.
[xxxiii] Shammas, "The Space Problem in Early United States Cities: 534.
[xxxiv] Shammas also categorizes young males who are heads of household as unlikely to be in the housing market. While we lack age information for many of Newport's heads of households, amongst those for whom we do have that information only 3.7 percent were young males between 20 and 25; in Alexandria that age group made up 9.0 percent of heads of household.
[xxxv] No membership lists for the two black churches (Roberts Memorial Chapel and the Alfred Street Baptist Church) so central to the free black and slave communities of Alexandria have yet been discovered.
[xxxvi] St. Mary's stood several blocks away in a cluster with the First Presbyterian and St. Paul's Episcopal churches.
[xxxvii] St. Mary's had a membership of 215, of whom we know the place of birth of 198, 83 of whom were born in Ireland. The Irish born made up fourteen percent of the eligible voters in Alexandria and cast a heavily (83 percent) Democratic vote, even more so (93 percent) among the Irish associated with St. Mary's, the city's only Catholic church. While not all of Alexandria's Irish were Catholic, of those for whom we know religious affiliation, 80 percent belonged to St. Mary's, and the Irish born made up 42 percent of St. Mary's congregation.
[xxxviii] See D. A. DeBats, "German and Irish Political Engagement: The Politics of Cultural Diversity in an Industrial Age," in W. Helbich and W. D. Kamphoefner (eds.), *German-American Immigration and Ethnicity in Comparative Perspective* (Madison: Max Kade Institute for German-American Studies, University of Wisconsin Press, 2004). Data compiled from tables on pages 193, 197 and 198.
[xxxix] See D.A. DeBats, "Newport: The Workingman's City," in P.A. Tenkotte and J.C. Claypool (eds.), *The Encyclopedia of Northern Kentucky* (Lexington: University of Kentucky Press, 2009).
[xl] This was so even though five of the boarders were employees of their head of household. Of those four boarders who did vote, it is possible that two were related. George Webster who was a 22 year old carpenter who with his 60 year old mother, Marg Webster, lived along with the four Edd children and the Nicholas Porter family in Jacob Lowe's house. Four doors down the street was James Simpson's bakery, where James Webster lived along with eight other family members and boarders, most employees in the bakery. Both George and James Webster had attended St. Mary's Catholic School. If they were related this

would reduce even further the proportion of boarders and lodgers living outside of family networks who bothered to vote.

[xli] Association with St. Mary's was no guarantee of a Democratic vote; James H. Simpson, the baker, was associated with St. Mary's but voted for the Opposition even though his boarder and probable employee, James Webster, also associated with St. Mary's voted Democratic. The same puzzle is associated with Simpson's near neighbor R. L. Carne's vote for the Opposition. The Carne family was closely associated with St. Mary's; yet one son who taught at St. Mary's school and was much involved in controversy over Catholic support for a splinter Democratic candidate in the Congressional race did not vote. In the end only one of the three Carne family votes went to the Democratic Party.

[xlii] The German-born constituted only four percent of Alexandria's adult white males and was very largely Jewish.

[xliii] No other province contributed more than ten percent of Newport's German-born adult males, with Baden at 8.5 percent being the next largest group.

[xliv] Huckfeldt and Sprague, *Citizens, Politics, and Social Communication* : 3.