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GIS and the Social Patterning of Women in Two Contrasting 19th Century American Cities

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Prologue

It is twenty years since Ed Ayers launched his *Valley of the Shadow* project, a technological leap that heralded the digital transformation of American history. The project's prescient nature was startling: launched in the same year as the World Wide Web, it was one of the first digital history projects, certainly one of the first in the United States.¹ This was an amazing new development – a website – demonstrating how computer technology could bring to any computer user massive levels of primary documents for the study of the past. It is a measure of the project's revolutionary impact that we today consider such an accomplishment routine and even mundane.

Valley of the Shadow focused on two contrasting cultural and economic communities in the Shenandoah Valley on the eve of the Civil War: Augusta County, Virginia with its slave labor base, and Franklin County, Pennsylvania, built on free labor. It made available to site visitors huge amounts of information, including the individual 1860 census records of all residents of the two counties, as well as contextual literary sources such as newspapers and pamphlets, all reassembled, pre-packaged, and designed to help us see in a new way the raw evidence bearing on the difference that slavery made.²

My project -- *Voting Viva Voce: Unlocking the Social Logic of Past Politics* -- in many ways follows in the cyber-prints of that famous pioneering work: it too is hosted at the University of Virginia and it too is being developed by the University's Institute for Advanced Technologies in the Humanities. It

¹ Elsa Nystrom and Justin Nystrom, "Beyond the Valley of the Shadow: Taking Stock of the Virginia Center for Digital History," *Merlot: Journal of Online Learning and Teaching*, 1 (July, 2005). Accessed September 30, 2013.

² <http://valley.lib.virginia.edu>; Ed Ayers, *The American Historical Review*, 108 (December, 2003):

too tells a story of contrasting communities, and contrasting political economies based on free and slave labor.

But the differences are more compelling than the continuity. The free and slave labor systems are exhibited in bustling cities whose contrasting economies – the commercial city vs the industrial city – capture the economic futures of an emerging America rooted in the city rather than the farm. It is a study of Alexandria, Virginia -- a commercial town across the Potomac from Washington DC, and a slave town, half of its working population composed of slaves and free African Americans. The contrast is Newport, Kentucky -- an industrial city across the Ohio from Cincinnati, with a labor force composed mostly of immigrants from Ireland and the federating provinces of Germany. The labor systems of these two cities-- conscripted slave vs European immigrants – capture the momentous decision made by the Civil War in the decade that separates them chronically.

The cities of *Voting Viva Voce* are presented, like the rural counties of *Valley of the Shadow*, as case studies and not representative samples; the goal is to make available information which will allow the site visitor to understand the place of politics in the social life of these cities during the middle years of the nineteenth century. This is a project which uniquely unites social history and political history, providing the full social context for political life. In my paper today I want to ask whether these divergent political economies delivered differential outcomes for the women of Alexandria and Newport.

We enter Alexandria in 1859 to observe the last state election before Virginia's secession and its capture by Union troops who drained and marched across the aqueduct over the Potomac River. We enter Newport too on the cusp of a watershed: the economic panic of 1873 which gave rise to a violent strike of ironworkers at the Swift Mill, the city's largest employer. The political context in both cases is looming crisis and threatened economic ruin, interesting parallel contexts in which to explore not only the circumstances of women but also the saliency of politics.

The information held in the databases which underpin *Voting Viva Voce* is, as it was in *Valley Of the Shadow*, at the individual level. But in this project the individual data is far more expansive, encompassing, and, most importantly, linked. The information branches out from manuscript census information to individual tax data, place of residence, religious affiliation, and (in the most unique aspect of this project) the individual political records of all voters in a critical contest. In all there are 44 variables for a resident of Alexandria and up to 50 variables for a resident of Newport.

This individual political information for all voters has lain hidden for a century, preserved in scattered and unremarked official documents called poll books which, when deciphered, reveal an astounding record containing the names of all voters in elections, the candidates selected by each voter for every office to be filled, and the order in which the citizenry voted. This kind of individual level political information for entire cities is indeed a treasure trove for those interested in the nature, scope and meaning of past political engagement. This is especially so for political scientists, who recognize in this unique archive the individual level information they need to test the historical reach of their resurrected interpretative framework ---“the social logic of politics”---as the touchstone of American political engagement.³

Perhaps most importantly in drawing distinctions with *Valley of the Shadow*, the rich individual data which underpin and define *Voting Viva Voce* are arranged by individual, rather than record group, with all of an individual’s information linked across all the social inventories which underlie the project. The difference between presenting individual information as linked files across record groups, as in this project, as opposed to separate inventories containing individual level information, defines unique research opportunities. Variables are presented as radio dials and visitors can activate multiple conjunctive choices; all individuals defined by a user’s selection of variables emerge

³ See, as examples of this new work: R. Huckfeldt and J. Sprague, *Citizens, Politics and Social Communications: Information and Influence in an Election Campaign*(New York; Cambridge University Press, 1995), Alan S. Zuckerman (ed.), *The Social Logic of Politics: Personal Networks as Contexts for Political Behavior* (Philadelphia: Temple University Press, 2005) and David E. Campbell, “Social Networks and Political Participation,” *Annual Review of Political Science*, 16 (2013): 33-48.

instantly on the city's historic map, members of the household listed to one side of the search page , and presented as research-rich data files at the bottom of the page.

Creating the linked individual level social and political profiles at the core of *Voting Viva Voce* required an enormous investment of time, labor, skill and money. But the result is a range of individual information which is unique and is unlikely to be replicated in any other nineteenth century urban study.

When *Valley of the Shadow* was created, the spatial presentation of information remained in the domain of traditional cartography or perhaps vector plotting: mapping was accomplished, when by man or machine, slowly and expensively, precluding the notion of producing large numbers of maps in an exploratory mode. Moreover, the patterns in the maps produced were not readily quantified to determine their analytic significance. The methodological and technological revolutions represented by Geographic Information System (GIS) technology had yet to arrive. But now they have. The databases underpinning *Voting Viva Voce* include precise residential information on about 85 percent of the residents of the two cities. GIS technology can display all of that linked information on the inhabitants of each residential unit – whether a house or a boarding house – attached to those places of residence and any variable within those households can be selected for display on the map. The analytic capacities now standard on GIS programs permits spatial measures of the concentration, overlap, and dispersion of any combination of variables.

In this project, displays of spatial information are presented on nineteenth century maps produced in close proximity to our years of interest in the two cities: the 1868 Hopkins map for Alexandria and the 1883 D. J. Lake map for Newport. These historic maps have been geo-referenced and linked to modern cadastral grid lines and to the GIS databases for the two cities. The result is the evocative display of spatial patterning derived from contemporary computer programs on the canvass of a historic document.

For all these reasons *Voting Viva Voce* is better considered a “digital resource” than a depository “website” of the type pioneered by *Valley Of the Shadow*. The display and analytic capacities built into this digital resource allow it to be conceived of as an interactive research device rather than a static library of digitized primary sources.

In summary, *Voting Viva Voce* seeks to advance the pioneering efforts represented by the *Valley of the Shadow* in several dimensions: presenting political information largely unknown in the profession for whole cities, presenting for Alexandria and Newport databases of linked individual level information spanning social inventories as wide ranging as tax records and religious affiliation, utilizing a digital resource design that allows users to interrogate the databases in an interactive manner for any combination of variables, and, finally, deploying GIS technology and methodology to both display on historic maps all of that information and to assess its spatial significance. In advancing understandings of social, economic and cultural contexts of past politics, *Voting Viva Voce* harks back to the objectives of the new social history and the new political history: to finally unite political, social and cultural analysis.⁴

Two Contrasting Urban Forms

Alexandria, Virginia, in 1859 was a thriving commercial city across the Potomac River from Washington; it was a town built on slave labor and in the 1840s had been the largest slave market in the United States. Newport, Kentucky, in 1874 was a burgeoning industrial city across the Ohio River from Cincinnati built upon immigrant labor. It was a planned industrial town, dedicated to the rise of industrialism. Each was home to about the same number of people (Alexandria : 12,293, including 1388 free blacks and 1192 slaves; Newport: 13,779, heavily German and Irish born) and each was, at the time we enter its streets, enjoying a remarkable period of prosperity which would long be revered by them as the last shining moment of a lost golden age.

⁴ For a reflective review, emphasizing Hays’ emphasis on “*society as a whole*, not isolated segments of it,” see J. Morgan Kousser, “History as Past Sociology in the Work of Samuel P. Hays,” *Historical Methods*, 14 (Fall, 1981): 181-6, quotation p.182.

In spatial terms, Alexandria was a larger physical city than Newport, by a factor of about 13 percent. But, as a traditional commercial city, its population was artificially compressed and it was in fact a crowded place, in the style of commercial cities. A careful survey of the 256 blocks of incorporated Alexandria shows 99 unoccupied and a further 13 with five or fewer inhabitants; Newport was laid out as a planned industrial town resting on owner-occupied housing and had only 17 of its 186 blocks unoccupied and a further 15 under-occupied. In all 44 percent of the urban space of Alexandria was under-developed as opposed to 17 percent of Newport. ; Alexandria continued, like so many commercial cities, as a place of renting and boarding, with very low levels of home ownership/purchase. Almost half (45 percent) of all households were owned or being purchased in Newport as opposed to 20 percent in Alexandria. ⁵

The Civil War thrust Alexandria into an economic tailspin; its population hardly grew for the next half century. The expansion of WWII Washington and the gradual economic, if not political, re-incorporation of Alexandria (which had retroceded from the District of Columbia in 1855) finally provided an economic rescue package. Today it is the third wealthiest city in Virginia and one of the wealthiest in the United States: urban, chic, a part of the Washington economic and political bubble. It is in every sense of the word, inside the Beltway.

Newport's iron and steel industry had bloomed in the Civil War years and crashed in the economic panic of 1873; it would never fully recover from the subsequent Great Depression. The city declined into endemic and institutionalized corruption.⁶ The once proud downtown district is now largely razed in favor of empty parking lots. The city's advertisements for itself (Gangsters, Gambling, and Girls) totally ignore its glory days as a proud immigrant working class industrial town highlighting instead its descent into corruption and mob rule in the post WWII era. The same period that rescued Alexandria, sealed Newport's fate. Alexandria trumpets its historically rich past, lingering on George

⁵ See Donald A. DeBats, "Political Consequences of Spatial Organization: Contrasting Patterns in Two Nineteenth-Century Small Cities," *Social Science History*, 35 (Winter, 2011): 505-41, esp. 514-22.

⁶ Matthew DeMichele and Gary Potter, "Sin City Revisited: A Case Study of the Official Sanctioning of Organized Crime in an 'Open City,'" n.p., n.d.

Washington and Robert E. Lee and its preservation of its beautiful preserved Georgian townhouses and shops, ignoring its nineteenth century infamy as the largest slave trading city in the United States. Alexandria presents itself as a dignified southern federal city, bracketed by Washington and Lee. Nothing could be further from Newport's wallowing in its seedy past and cultural degradation which has seen almost all of its immigrant churches neighborhoods transformed into bars or razed. Whereas Alexandria's population has grown by a factor of ten over the last 150 years, Newport's population today (15,273) just marginally exceeds what it was in 1874 (13,779). Alexandria's current per capita income is 3.5 times that of Newport.

Reconstructing Alexandria and Newport Prior to the Bend in Time

Voting Viva Voce presents Alexandria and Newport at the high points of their success as contrasting political economies, just prior to their economic deceleration and subsequent decline. The databases underpinning the digital resource link all surviving social inventories for all residents and all business and industries of the two cities; the sources include the US federal manuscript census returns, city tax lists, city directories, religious membership records, the records of voluntary associations, and of course the poll books. Each of these inventories presents a different aspect of urban life; taken together they present an unsurpassed collective profile of the social, economic, cultural and political dimensions of the two cities.

Some individuals were found in every inventory and some, because each presents a different dimension of the city, in only one. Residents of Alexandria in 1859 who were linked across all records appear in the database with 44 pieces of information available about them; for Newport residents of 1874 have 50 pieces of information. For each business in Alexandria or Newport there are 14 pieces of information, including the political performance of the owners. Subjecting these inventories to a strict protocol for determining residence, we concluded that there were 13,779 residents in Newport in 1874 and 12,294 in Alexandria in 1859. With patient effort, we have determined the precise place of residence of 88 percent of those Newport residents and 78 percent

of the Alexandria residents, where this breaks down into 85 percent of the slave population (assuming residence with owners), 78 percent of the white population and 68 percent of the free black population.⁷ We were also able to locate the address of all 540 businesses in Newport and 94 per cent of the 522 businesses in Alexandria.

The result is a ragged collective database for each city which contains the whole of all social inventories, some individuals matched across several sources, others not matched at all. This construction allows users to explore the whole of any record which is part of the databases. However, it is the success in linking these records at the individual level which makes *Voting Viva Voce* so unique; it is doubtful that any other American city will ever be captured with this level and range of information on its residents.

The two databases are available for interactive investigation in a conjunctive Boolean application.⁸ A visitor interested in Alexandria's Irish Catholic Democrats will choose radio buttons to retrieve the names and all other social variables relating to Alexandrians who were of Irish birth, who voted the Democratic slate in the May, 1859 election for representative to Congress and were affiliated with St. Mary's Catholic Church. That tabular information will appear on screen together with information, and their family's information, from the 1860 census and the 1859 tax list.

Data chosen from the database, in whatever combination, can also be displayed on historic maps.⁹ For Alexandria this is a geo-referenced version of the 1868 Hopkins map of the city, modified by Photoshop to remove changes made to the city and particularly its railroad system between 1859 and 1868. In the case of Newport, the base map is the 1883 D.J. Lake map of Newport.

A central focus of this work is of course the elections of 1859 and 1874. But a broader purpose of the project is the elucidation of the social backdrop against which the political decisions made by white

⁷ See Donald 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): 17-38.

⁸ Presently this is limited to an "and" function using radio buttons.

⁹ The spatial data will also be display on constructed maps of street grids.

men were played out. The voting population of any nineteenth century American city was a small portion of the total population – in the case of Alexandria and Newport in the elections of interest here, less than fifteen percent of cities’ residents.¹⁰ As *Voting Viva Voce* is intended to provide the widest possible context for understanding past political engagement it seems appropriate to use the data bases of the project to examine the circumstance of a far larger group – the adult women of these two cities and their very different socio-political contexts. Women made up the largest group of non-voting adults in the two cities, prohibited from voting, seldom employed and, if employed and married, they had no right to the profit of their labor. They were economically and politically disenfranchised. The question is whether the differing political economies in which they resided produced differential outcomes within this shared constraint.

The Women of Commercial Alexandria and Industrial Newport

There were similar numbers of adult women resident in each city (3678 in Alexandria and 4497 in Newport) but their lives were distinctly different.¹¹ The adult women of Alexandria were divided by race (25 percent black) and united by ethnicity whereas Newport women were united by race (99 percent white), but divided by ethnicity. A quarter of Alexandria’s adult females whose racial status and place of birth we know were free blacks or slave (13 percent each), but 83 percent of the white women were American born, three quarters in Virginia. In Newport the racial divide was minimal,

¹⁰ There were 1407 voters in the May 1859 election in Alexandria for federal and state offices and 2266 voters in the March 1874 voters for local officials for Newport. Turnout can be estimated in Alexandria from the number of voters plus the number of adult white males 22 and above in the census of 1860 who are not in the poll books (1057), plus men on the 1859 tax list who were appeared neither in the 1860 census nor in the 1859 poll books (262) who can be assumed to be adults. This ordered procedure leads to a turnout in the 1859 state election in Alexandria of 51.6 percent. Turnout is more difficult to calculate for Newport as the federal census was four years prior to the 1874 municipal election. Nevertheless an estimate of the eligible electorate can be obtained by combining men who are named in the poll books, plus men on the 1874 City Tax Lists who are not in the poll books, plus men in the 1873 Williams City Directory who were not in the 1874 poll books or Tax Lists, plus males 17 and above who are listed as citizens in the federal census and who did not vote in 1874 and were not on the 1874 Tax List and did not appear in the 1873 Williams City Directory. Calculated this way, there were 4148 eligible voters and turnout in the 1874 Newport municipal election was 54.2 percent.

¹¹ Adult was defined as 18 and above. This number includes the 40 women in Alexandria not in the census of 1860 but who appear in the 1859 tax list for Alexandria or in Boyd’s 1859 City Directory and it includes the 584 women in Newport who were not listed in the census of 1870 but who appear in the 1874 tax list for Newport (109) or in Williams’ City Directory (475). It is highly likely that women appearing on these lists were in fact adults, though we lack their ages.

but the ethnic divide was intense –over half (56 percent) of all adult women in Newport in 1874 whose place of birth we know were foreign born overseas, with the largest groups being women born in the German provinces (31 percent), in Ireland (14 percent), and in other parts of the UK (7 percent).

The Working Women of Alexandria and Newport

In Alexandria, slavery and racism were central pernicious effects in the construction of the female labor force. A total of 980 adult women labored in Alexandria, far more absolutely and proportionally than the 534 in Newport.¹² African Americans, free and enslaved, made up two thirds of Alexandria’s female labor force. Nevertheless it is striking that the female labor participation rate of white women in Alexandria was exactly identical (12 percent) to that of the adult women of Newport, enhancing the comparative opportunities.¹³

In both cities, restrictions on female property rights meant that many more women worked than held wealth and most women who held assets did not report an occupation; employment was one sphere of female economic participation, wealth holding was the other, and as we will shortly see, these two spheres overlapped hardly at all.

The over-all employment pattern of women in the two cities is captured in Table 1 below with the main difference being that a much higher percentage of Newport women were employed in

¹² Of 3678 adult women in Alexandria (27 percent) and 4498 in Newport (12 percent).

¹³ In Alexandria 333 adult white females in occupations of 2725 adult white women; in Newport 534 adult women in occupations of 4498 adult women.

Table 1: Female Employment in Alexandria and Newport, by race, by percent

	Professional	Proprietor*	Skilled Proprietor	Skilled & Semi-Skilled	Unskilled	Other	N
Alexandria White	5	10	9	38	35	3	333
Alexandria Free black	0	1	0	15	84	0	182
Newport	6	9	15	7	57	7	534

*Large or small

unskilled positions (57 percent) than were white women in Alexandria (35 percent) where many of the unskilled positions were the purview of free black and enslaved women.¹⁴ Though we do not know the occupations of the large number of enslaved women in Alexandria, the occupational data we do have for white women and free black women suggests that, for those with some degree of choice as to their employment, unskilled labor made up about the same percentage of female jobs in commercial Alexandria (52 percent) as in industrial Newport (57 percent).¹⁵ It is interesting that in these examples, industrial development appears not to have imposed new restrictions on female employment nor did it create a higher level of unskilled labor for women than had been the case in commercial cities.

The racial inequity of the female labor market in Alexandria is obvious from Table 1 and raises the question of whether there was in Newport an equally pernicious hierarchy, expressed not in racial terms but in ethnic terms. Did an ethnic hierarchy in industrial Newport approximate the racial hierarchy in commercial Alexandria? Table 2 suggests that was not the case.

¹⁴ There were about the same total number of white (117) and free black (153) unskilled female workers in Alexandria as there were unskilled female workers in Newport (304), but the racial composition was dramatically different.

¹⁵ Of the 534 women in paid employment in Newport, 304 worked in unskilled jobs (57 percent); in Alexandria there were 333 white women and 182 free black women in paid employment of whom 153 and 117 respectively were employed in unskilled labor positions (52 percent).

Table 2: Female Employment in Newport, by place of birth, by percent

	Professional	Proprietor*	Skilled Proprietor	Skilled & Semi-Skilled	Unskilled	Other	N
US Born	6	3	14	10	63	5	136
Irish Born	4	3	13	0	72	7	89
German born	5	21	11	7	51	4	57
Other	11	23	17	11	37	0	35
Unknown	6	5	16	8	64	1	217
Total	6	9	15	7	57	57	534

*Large or small

While there were 140 unskilled female workers in Newport whose place of birth we do not know, the distribution of unskilled work appears to have been relatively equitably distributed across the native born and the major immigrant groups in Newport. The Newport female labor market did not reflect in its ethnic dimension anything approaching the level of inequity that characterized the racially based labor market in Alexandria. In this sense too, it appears that female employment in industrial Newport was more equitable than was the case in commercial Alexandria.¹⁶

The Women of Wealth in Alexandria and Newport

Female employment was limited in both cities: 12 percent of adult females were in paid employment in Newport, precisely the same percentage of adult white women who were in paid employment in Alexandria. Prevailing property laws meant that female wealth holding was even

¹⁶ Indeed there was no category of employment status that favored US born women; Irish immigrants were over-represented amongst the unskilled and unrepresented in the skilled and semi-skilled category; immigrants from the German provinces were over-represented among proprietors and skilled proprietors and under-represented amongst the unskilled.

more highly restricted. As Martin Burks noted, “The Common Law, for the most part, regarded the husband and wife as one, and that one was the husband.”¹⁷

Just eight percent of the adult women of Newport reported holding real or personal wealth in their own name in the 1870 census and seven percent were assessed taxes based on wealth. Once again the figures for Alexandria were a notch lower in both categories: only seven percent of white women of Alexandria reported holding either real or personal wealth and only six percent were assessed by the tax collector in 1859 as having taxable assets, even though the catchment of the Alexandria city tax, with its emphasis on personal as well as real property, was far broader than the Newport tax regime which focused on real estate holdings.¹⁸

Self-declared wealth and assessed wealth overlapped in different ways in the two cities. This can be overcome by combining census and tax records for all free women in the two cities to create a “women with wealth” category. In this group were the 535 adult females in Newport who declared wealth and/or were taxed on wealth and the corresponding 249 white and 34 free black adult females in Alexandria. The notion of a group of women we can term “the women of wealth” in the two cities opens the way to a careful consideration of the ways in which the lives of the elite women of the two cities were both similar and different.¹⁹

There was a greater degree of wealth holding amongst the women of Newport than among the white women of Alexandria: twelve and nine percent of the comparable groups of women in Alexandria and Newport respectively. Measures of the distribution of wealth amongst these two groups of women helps normalize the time difference between the two snapshots and provides us

¹⁷ Martin P. Burks, *Notes on the Property Rights of Married Women in Virginia* (Lynchburg, Virginia: J.P. Bell Company, 1894): 1. Virginia legislated in 1877 to secure female assets acquired before or after marriage as her “sole and separate estate.”

¹⁸ The taxable categories in Alexandria covered the aggregate value of real property and improvements; rent income; interest or profit from state, city, or county bonds; value of all personal property; office income; and bank or insurance company dividends. The Newport city tax focused more exclusively on the value of real property but also included a tax on all vehicles, all precious metal, clocks, and pianos.

¹⁹ Seven percent of free black females reported owning assets or were taxed as a result of owning assets; the two groups of Alexandria women owning assets amounted to nine percent of their combined adult female populations.

with another measure of relative well-being.²⁰ Table 3 sets out the wider pattern of wealth distribution as measured by tax assessments in the two cities.²¹

Table 3
Women of Wealth: Distribution of Value of Taxable Assets,
Alexandria, Virginia (1859) and Newport, Kentucky (1874)

Decile	Alexandria	Newport
Bottom 10%	0	.2
Next	.2	2.0
Next	.5	2.8
Next	1.1	3.4
Next	2.1	4.2
Next	3.2	5.3
Next	7.7	7.4
Next	11.1	10.4
Next	18.7	15.0
Top 10%	55.4	49.2
\$ Total	\$456,943	\$800,710
n=	163	358
Gini Coefficient	.70	.58
Concentration Coefficient	.78	.65

This data, based on tax assessments, shows a similar pattern of highly inequitable distribution of wealth among the women of wealth of the two cities, a feature of all measures of wealth in the

²⁰ Alexandria: 1860 self-reported wealth=\$1030 median, \$3460 mean; value of taxable wealth =\$970 median, ; Newport median 1870 self-reported wealth =\$1100, median value of taxable wealth =\$1100.

²¹ On the other hand, the distribution of self-declared wealth shows a quite different pattern, largely the result of four women in Newport reporting quite staggering wealth on the 1870 census: Mary Hawthorn (\$250,000 in personal property); Rachael Robson (\$65,000 in personal property; \$40,000 in real property); S. Timberlake (\$100,000 in personal property; \$1000 in real property); and F. Parker (\$60,000 in personal property; \$1000 in real property). Only Timberlake was assessed for a significant level of wealth: \$24,800. While there is no reason to expect exact parallels between these two measures of wealth; the extremity of these self-declarations effects the entire distribution. If the other three women are removed from the distribution of declared wealth, the distribution of declared wealth resembles the pattern of assessed wealth, with again the distribution more equitable in Newport than Alexandria in the bottom 60 percent of the distribution. The top 40 percent of the wealth distribution was, however, more unequal in Newport than Alexandria.

nineteenth century. But it also shows a significant difference between the two cities. The Gini Coefficient, and Concentration Coefficient, both measures of inequality, are substantially lower (17 percent) in Newport compared to Alexandria. In commercial slave-owning Alexandria the top ten percent of the white women of wealth held 55 percent of the declared wealth of all white women, the top 20 percent held 74 percent of all taxable wealth, and the bottom 50 percent of female wealth holders held only four percent of the taxable assets of the town's white women. Relatively speaking there was a significant tilting toward greater equality in Newport where the comparable figures were 49, 64 and 13.²²

The greater equality in Newport is reflected in the other aspects of the profile of women of wealth in the two cities. In Alexandria the woman of wealth were disproportionately native born, with the city's Germans and especially the Irish under-represented in this elite group; in Newport, by contrast, the two large immigrant groups were almost perfectly represented among the women of wealth, with the Irish very marginally over-represented and with the American-born under-represented. The women of wealth in Alexandria were slightly older than their compatriots in Newport and slightly older too than the women of their city.²³ Twenty-eight percent of Alexandria's wealthy women were sixty or older as against seventeen percent of Newport's group.

²² The distributions in both cities are slightly flattened if we exclude from the calculation those women (25 in Newport and 13 in Alexandria) who were assessed as having zero taxable wealth. The changes were most noticeable in the wealth holdings of the top and bottom twenty quintiles: The share of the bottom 20 percent of female wealth holders in Alexandria increases from .2 to .4 and in Newport from 2.2 to 3.8 while the share of the top 20 percent of wealth holders in Alexandria fell from 74.1 to 71.7 and in Newport from 64.2 to 62.2. The over-all trends, however, remained very much the same: wealth amongst the women of industrial Newport was more equally distributed than it was in commercial Alexandria, even when we restrict our examination to white females.

²³ The median age of Alexandria's women of wealth was 50 in a city where the mean age of adult women was 32; in Newport these figures were 47 and 33.

Separate Spheres and the Context of Women's Lives

We have become very conscious of the separation of spheres as a way of understanding the worlds of men and women in the nineteenth century.²⁴ But we see in Alexandria and Newport that there were also spheres dividing women. Racial lines were important, especially in Alexandria, but for all women, there was a sharp division between paid work and financial autonomy. In both cities paid employment and possessing financial assets were distinct spheres with almost no overlapping membership. They were separate, non-intersecting, social and economic worlds. This fundamental schism structured the intersection with other, broader, social worlds.

The spheres of paid employment on the one hand and held assets on the other caught up about a quarter of both the adult women in Newport and free women in Alexandria. But those two spheres related differentially to other divides. The world of female paid work overlapped with the much larger world of married women while the women of wealth overlapped significantly with the smaller world of unmarried women.

Not Having it All: The Separation of Wealth, Employment, and Marriage

Aggregate numbers in the two cities might appear to suggest that employment and assets went hand in hand: 534 women in Newport had an occupation and 535 reported wealth or paid taxes on assets they owned. While we might think that even these aggregate numbers suggest that female wealth holders and females in paid employment should overlap considerably, in fact individual level information shows us that the tyranny of property law – the notion that all assets owned or earned by a woman were the property of her father or husband – removed almost any overlap between these two spheres.

²⁴ For the original and classic statement of historians on this point, see Barbara Welter, "The Cult of True Womanhood, 1820-1860," *American Quarterly* (18, 1996): 151-1874. See also, for the original insight, the first social scientist: Alexis DeTocqueville, *Democracy in American*, Chapter X, "The Young Woman in the Character of a Wife" (79-80); Chapter XII "How Americans Understand the Equality of the Sexes (101, 106).

In Newport, only 44 women (eight percent) of those with a paid occupation held any assets. The situation was more complicated in a city resting on enslaved labor. Here 333 white women were in paid employment and 249 held some form of wealth; among free black women 182 were employed and 34 black women held assets in their own name. But the spheres were again separate: just 68 of the 333 white women in employment and only 22 of the 182 free black women working for pay held any discoverable assets. Put another way 80 percent of the white women of Alexandria, 88 percent of free black women of Alexandria, and 92 percent of the adult women in Newport who had paid employment held no assets in their own right. None of the 465 enslaved adult women of Alexandria had access to any of the fruits of their labor. For all women in these two cities having wealth and paid employment was a distinctly rare combination – just one percent of the adult women of Newport, two percent of the white women and four percent of the free black women of Alexandria – managed to have both.

Marriage was the common state for most Alexandria women: 58 percent of white women over 18 were married and 28 percent of adult free black women were married. But just seven percent of the 333 white women in paid employment and 14 percent of 249 women with assets were married; a greater portion (23 percent) of the small group of 53 woman with both assets and who were employed were also married. But for most free women in Alexandria, marriage went with not having paid employment and not having assets in her own name. The restrictions were particularly severe among free black women: just five percent of the 182 in paid employment, 15 percent of the small number (34) who held assets, and nine percent of the even smaller number (22) who held both were married. Quite how these tiny groups of black and white women managed to evade the restrictions on married women holding property is presently uncertain, but will be resolved.²⁵

²⁵ Discerning marital status is more complex in Newport where the census was taken four years prior to the political event of interest and many of the women deemed present in the city appear in the relevant tax list or the city directory, neither of which reveal marital status.

De Tocqueville wondered at the connection in America between marriage and the consequences for the material prosperity of women and wrote of it just a few years before we see its manifestation in Alexandria and Newport. American women, he argued, understood the inverse connection between their desires and their opportunities: “it is through the use of independence that [the young American woman] develops the courage to endure the sacrifice of that independence without a struggle or a murmur when the time [to marry] comes.” To De Tocqueville, American women became more virtuous, “by freely accepting the yoke [that came with marriage] rather than seeing to avoid it.”²⁶ He saw this as marriage of a different sort, in a democratic culture.

He reflected on France’s ancien regime where,

[our] fathers had a peculiar opinion of marriage. Having observed that what few marriages of inclination were made in their time almost always ended badly, they resolutely concluded that it was dangerous to consult one’s own heart in such matters. Chance struck them as more clairvoyant than choice.²⁷

The contrast was between, “the democratic habit of people marrying for love rather than as a by-product of property consolidations.”²⁸ As ever in De Tocqueville’s thinking, the potentially dangerous effects of democracy would be cured by the concomitant aspects of democracy, in this case: “the education of women ... [as] an endogenous effect of democracy.”²⁹ Whereas in an aristocratic society, where women were cloistered and uneducated, “love marriages would be disastrous—as they tend to be in effect,” democracy in America provided the opportunity and the education for women to come to know their husbands and to judge.³⁰

De Tocqueville, ever sensitive as well to the sway of contextual factors, noted that love marriages were accepted in the social worlds of American women and provided support for them and their consequences. But in the ancien regime, the social context would be intolerant even for a young couple, both well-educated and well-acquainted: there the hostility of friends and family “soon

²⁶ De Tocqueville, *Democracy in America*, 706; quoted in Jon Elster, *Alexis de Tocqueville, the First Social Scientist* (New York: Cambridge University Press, 2009): 92.

²⁷ De Tocqueville, *Democracy in America*, 700; quoted in Elster, *Alexis de Tocqueville*, 110.

²⁸ Elster, *Alexis de Tocqueville*, 110.

²⁹ Elster, *Alexis de Tocqueville*, 110.

³⁰ Elster, *Alexis de Tocqueville*, 110-11.

breaks their courage and embitters their hearts.”³¹ Perhaps then there was greater happiness among the women of America; but, as these figures show, in Alexandria and Newport, that happier life precluded for almost all women economic independence, or even autonomy.

Women and Religion: the Alexandria Story

Religion too has often been understood as a spherical aspect of nineteenth century life, but one much larger in scale, catching up the cultural mainstream and defining a distinctively female sphere. Just as Alexandria’s poll books have survived so has a remarkable array of religious information for eleven of the city’s churches as well as its small synagogue. From these records it is possible to construct reasonably reliable membership lists for all of the houses of worship attended by white Alexandrians and test some of the assumptions about white female engagement with institutionalized religion.³²

Alexandria was overwhelmingly a Protestant city, with the Methodists (3 churches, 281 members) and Episcopalians (3 churches, 264 members) dominating. The members of St. Mary’s Catholic Church were the third largest group (215 members), followed by the Baptists (1 church and 149 members) and the Presbyterians (two churches) with 147 members. There was a small Jewish synagogue in Alexandria (35 members) and a Quaker Meeting Hall (47 members).

Yet the total white membership, male and female, of all of these religious institutions was only 20 percent of the total adult white population of 5771 (2725 women + 3046 men over 18) and only 16 of adult white women. The church records currently available for Methodist Protestant and Methodist Trinity include no female members, which, while they were small churches, further

³¹ De Tocqueville, *Democracy in America*, p 701; quoted in Elster, *Alexis de Tocqueville*, 111.

³² For details of these records, and their limitations see D.A. DeBats, “The Politics of German Americans: Three Case Studies from an Industrial Age,” in W. Helbich and Walter D. Kamphoefner (eds), *German-American Immigration and Ethnicity in Comparative Perspective* (Madison: Max Kade Institute for German-American Studies, University of Wisconsin Press, 2004): 171-220. ³² No records survive for the two nineteenth century African American churches of Alexandria: the Roberts Memorial Chapter (Methodist) and the Alfred Street Baptist Church. The membership records for the churches of Newport are also excellent and will soon be available as part of a comparative study of religious engagement in these two divergent city types.

skewed membership towards adult white males. Female membership ranged from 71 percent at Christ Episcopal to 26 percent at St. Mary's Catholic Church; leaving aside the two Methodist churches the average female membership of the remainder of Alexandria's religious institutions was 42 percent. Religious affiliation appears not to have been a distinctively female sphere.

Indeed the figures suggest that contrary to the common view of a deeply pious American population in the nineteenth century and a distinctively deeply religious womanhood, membership amongst the Alexandria's white population was quite modest and men outnumbered women in most of Alexandria's white religious institutions. Of course membership is a more restrictive – but also more meaningful -- category of religious engagement than attendance. Indeed when Robert and Helen Lynd conducted intensive and very careful surveys of religious attendance in Middletown churches in the 1920s they concluded that, though there was then too a perception that “everyone goes to church,” only 16 percent of Middletown white men and 25 percent of the town's white women attended church on the average Sunday.³³ These attendance figures from the 1920s may well provide a useful frame of reference for interpreting Alexandria's earlier membership figures.

In a town of profoundly cumulative profiles, those churching women and men were distinctively advantaged in other dimensions of city life. Amongst men, for example, 68 percent of the churching voted as against 39 percent of the unchurching.³⁴ Female religious adherence aligned significantly with indicators of economic well-being: women of wealth were more inclined toward religious adherence than white women in general with 22 percent members of a church while women who worked were in fact much less inclined to participate in religious membership than white women in general (six percent as against 16 percent), a further measure of the distance between the two spheres of female employment and female asset holding.

³³ Robert and Helen Lynd, *Middletown: A Study in American Culture* (New York: Harcourt Brace and World, 1929): 358.

³⁴ Put another way the 26 percent of the male population that was churching cast 38 percent of the votes. Voter participation was highest among men who were members of Christ Episcopal (85 percent) and lowest amongst the men who were members of Beth El (47 percent) and St. Mary's Catholic church (49 percent). The three Methodist churches averaged a turnout of 73 percent, the three Episcopal churches 77 percent, the two Presbyterian churches 75 percent, the Quakers 74 percent, and the Baptists 55 percent.

There were significant denominational differences too. Women outnumbered men in all three Episcopal churches, notably at Christ Episcopal, Alexandria's most high status religious institution, prominent in the city physically, and distinctive for the wealth and business connections of its members, both men, and as it turns out, women. More women of wealth were members of Christ Church than any other religious institution in the city: nearly half (49 percent) of all female wealth holders who had a religious affiliation, belonged to one of the city's three Episcopal churches. While only ten women in paid employment were members of a religious institution, six of those belonged to one of the three Episcopal churches. The dozen women of wealth who were members of Christ Church had a combined declared wealth of \$107,000 in 1860 for an average of \$8890; taken together, the women of wealth in the three Episcopal churches declared their assets to be on average above \$7000. The Episcopal churches of Alexandria provided something of a distinctive home for white women who worked, who had assets, and who were wealthy. In a very conservative town Christ Church and the Episcopal churches of the city generally, were, at least in this respect, a permissive haven for some unconventional women.

At the other end of the wealth scale was St. Mary's Catholic Church, the only religious institution in the city whose membership faithfully represented the economic profile of white Alexandria. Reflecting this, the six women of wealth who were members of St. Mary's declared assets averaging \$1774, the lowest figure for any religious organization to which white women of wealth belonged. Only three white women in paid employment belonged to St. Mary's and only two held both wealth and a job.³⁵

Spatial Dimensions of Separate Spheres

Finally, in seeking to differentiate the experiences of women between and within the two contrasting cities, we explore the insights that arise from the application of GIS to their situation. This analysis intensifies the historian's sense (if not that of contemporary political commentators) of

³⁵ Seven female members of St. Mary's had either wealth or a paid job.

the pervasiveness of a highly differentiated female experience, manifest spatially as well as demographically.³⁶ Three areas of spatial differential are immediately apparent. In the economic arena, a significant difference is evident in the patterning of the places of residence of women of wealth and women in paid employment and between those at the top and the bottom of the female wealth distribution. A much greater spatial divergence is evident in cultural terms, between the women who belonged to denominationally similar churches in Alexandria and the ethnic divide which separated Newport women sharing a denominational membership.

The paradox of Alexandria was that while its incorporated area was 15 percent larger than Newport's, its populations were much more concentrated. As noted in other reports on this project, this was a function of the propensity of holders of vacant land in Alexandria to leave their property undeveloped, a reflection in turn of the predominance of the rental housing market in this commercial city and aspirations of holders of vacant land to develop it for large units of rental accommodation.³⁷ This artificial constraint on the spread of populations is evident in every analysis of the living conditions of women in the two cities.

The spaces occupied by women in paid employment and women of wealth overlapped spatially in both cities far more than they did structurally: the two spheres coexisted more congruently in residential patterns than they did in terms of individual membership. In Alexandria, though the city was physically larger than Newport in terms of incorporated space, both groups were highly concentrated. Together the cores containing 60 percent of women of wealth and women with assets covered a third of the city, as opposed to half of the city of Newport.³⁸ The area where Alexandria's women of wealth resided was particularly constrained as Figure 1 shows. The core of working

³⁶ See Allison Wolf, *The XX Factor: How the Rise of Working Women Has Created a Far Less Equal World* (New York: Crown, 2013) for the claim that education and income have combined to create a new divergence among women.

³⁷ See DeBats, "Political Consequences of Spatial Organization." As noted earlier, 20 percent of Newport's households resided in rented accommodation as opposed to 45 percent of Alexandria's (white) households.

³⁸ The core area containing 60 percent of (white) women with jobs amounted to 19 percent of the city area in Alexandria and 24 percent in Newport; the corresponding figures for women with wealth in their own names was 15 percent of the city area in Alexandria and 25 percent in Newport.

women spread to the north while the core of women of wealth spread precisely in the opposite direction. In Newport, by contrast, the areas containing the spatial cores of the two groups of women was more equal, the overlap (Figure 2) covered a larger portion of the city (17 percent vs 12 percent in Alexandria) and the core residential areas of women of wealth and employment in paid employment were far more evenly dispersed.

The situation was similar in terms of the division of women at the top (three wealthiest deciles) and the bottom (three poorest deciles) of the assets held in their own name. In Alexandria, the cores containing 60 percent of these two wealth groups each occupied nine percent of the city's area while in Newport they occupied 17 and 18 percent of the area. In Alexandria the women with the least amount of assets extended clearly toward the Potomac while those with the most assets extended precisely in the opposite direction, away from the River (Figure 3). In Newport (Figure 4), there was also a division with the least advantaged of the women with assets much more evident to the west of the city center and those with the highest level of assets more present to the east of the city. The difference was that in Newport this reflected the fundamental ethnic division between the two cities with those in the wealthy core more significantly German by birth (31 percent) while those in the poor core were more significantly Irish (25 percent).³⁹ In commercial Alexandria, with its high slave and free black population, immigrant groups were far less prevalent and the divide between women at the top and bottom of the asset distribution was much more purely an economic rather than cultural divide.

The cultural divide among the women of the two cities is most evident in looking at the place of residence of women who were members of different churches of the same denomination. The example explored here is the place of residence of women who were members of the three Episcopal churches of Alexandria (Christ Church, St. Paul's Church, and Grace Church in Figure 5) and

³⁹ In Newport, American born women were slightly more prevalent (43 percent) among the wealthy women and less prevalent (34 percent) among the poorer women with assets. In Alexandria, native born women made up 87 percent of women in the core of women in in the three most wealthy deciles and 78 percent of those in the core of the bottom three deciles.

women who were members of the two largest Catholic churches of Newport (St. Stephen's Church and the Church of the Immaculate Conception in Figure 6). The difference is substantial. The overlap of membership of the three Episcopal churches of Alexandria is 28 percent while the overlap between the residential cores of the female members of the two largest Catholic churches of Newport is eight percent. The difference reflects the differential role of ethnicity in the two cities. The female members of the three Episcopal churches of Alexandria were overwhelmingly American born (94 percent) while women who were members of Newport's Church of the Immaculate Conception was largely Irish (65 percent) just as St. Stephen's was by exactly the same measure (65 percent) a Catholic church for immigrants from the German provinces .

Conclusion

GIS adds a compelling element to our understanding of the circumstances of women in the contrasting cities of Alexandria and Newport. At the most fundamental level, the divergence of women's experiences, whether between or within the two cities, reflected the diverging political economies which defined these two cities and their labor forces. Analysis of the demographic information held in the "digital device" for these two cities reveals important differences in the experiences of women who lived in them. At the most fundamental level it is fair to conclude that there was no divide amongst the women of industrial Newport that approached the severity of the racial divide among Alexandria's women. Nothing in the immigrant city came close to the vast gulf between enslaved and free black women and between either of those groups of African American women (who made up two thirds of the employed women in the city) and white women.

While there were many more employed women in Alexandria than in Newport, only a small minority of adult free women in either city were in paid employment: 12 percent . There were two and only two areas in which the situation of (some) women in commercial (and slave based) Alexandria was better than women in industrial (and ethnic based) Newport. First, many more white women in Alexandria were employed in skilled and semi-skilled positions than the women of Newport (38 vs 7

percent) and a substantially higher percentage of Newport's women who worked outside the home were employed in unskilled laboring positions (57 vs 35 percent). In that sense, the white working women of Alexandria were in aggregate better off than those of Newport.⁴⁰ A white woman in Alexandria was likely to be employed in a higher status position than a white woman in Newport.

Secondly, despite similar discriminatory property laws which meant that in both cities the women who worked and the women who had assets were different groups, many more white women in Alexandria who had a paid job also held assets in their own name (20 percent) than did women in Newport (eight percent).

There was amongst the women of Newport, however, a greater degree of equality of condition than there was either in Alexandria generally or even among the white women of that city, including that small minority of women who worked in paid employment. No divide among the women of Newport approached the severity of the racial divide amongst the women of Alexandria where even 84 percent of free black women who were in paid employment were in unskilled positions. The ethnic differences in industrial Newport were not a surrogate for Alexandria's racial divide. While Irish born women were less well placed in the occupational hierarchy than German or native born women, their disadvantage was one of degree rather than kind.

Laws constraining female property holding operated in both cities and meant that an even smaller percentage of women held assets in their own name than were in paid employment. While the numbers were small, a greater proportion of Newport women (12 percent) held wealth than did white women in Alexandria (nine percent). Moreover, that wealth was more equitably dispersed with the Gini index of inequality 21 percent higher in Alexandria. Alexandria's women of wealth were older and overwhelmingly native born; the Irish, equally represented in both cities, were far more disadvantaged in Alexandria than Newport.

⁴⁰ On the other hand, more women were skilled proprietors in Newport than Alexandria (15 vs 9 percent).

GIS helps make clear that the experiences of women in Alexandria were shaped fundamentally by considerations of race and economic distinction while the women of Newport were far more influenced by considerations of ethnicity and space. They resided in neighborhoods defined to some degree by economic condition, but much more by ethnic composition, conditions that flourished in industrial Newport far more than they did in spatially compressed commercial Alexandria. Illustrations of this can be seen in three different areas: the spheres of work and wealth, the spheres of high and low wealth, and the spheres of cultural associations. In all three cases we see in Alexandria a tendency for space to be apportioned by economic condition and in Newport for space to be apportioned by ethnic considerations.

