A Sociological Reconstruction of Cades Cove Cemeteries

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Introduction

Everyone knows what cemeteries are, but few know that cemeteries are far more than what they know them to be. Cemeteries constitute libraries of stone; "far more than . . . space . . . set aside for the burial of the dead, cemeteries are . . . open texts, there to be read . . . by anyone who takes the time to learn . . . their special language"[1]. Cemeteries reflect ". . . the local, historical flow of attitudes about community. It is, after all, a community of the dead, created, maintained, and preserved by the community of the living." [2] They serve "as replicas of the social structure of communities, . . . analyzed for the cultural patterns they reflect as an historical record." [3] Cemeteries are "quantifiable artifacts that extend back into time . . ., useful to students of social structure"[4], "analyzed and read as a cultural text . . . about . . . community . . . ." [5]

Cemeteries are microcosmic expressions of communities they represent. The deceased interred in cemeteries once lived in communities, constituting the threads that made up the social fabric of their time. They were laid to rest, one by one, by those who knew them in life. Cemeteries, one interment at a time, are planned, managed, and maintained by the living. Cemeteries, as necropolises or cities/communities of the dead reflect life.

Cemeteries are everywhere, found in every community. Communities too small to have ever had town halls or public buildings, too small to have ever had post offices or libraries or newspapers still had cemeteries, often more than one. Cemeteries sometimes constitute the only record, evidence, or testimony of a community's existence. Communities, especially small, rural communities, decline, student populations decrease and schools consolidate, congregations shrink and churches close, families leave and houses are abandoned, structures eventually collapse, and yet cemeteries remain and endure, embodying the census and vital statistics of those who lived and died there, illustrating cemeteries as "the last great necessity"[6]. Cemeteries are surviving monuments to communities that are no more.

The cemeteries of Cades Cove are a poignant example of this point. Driving the Loop Road, visitors pass historical structures, churches, cabins, and barns, though most buildings were razed when the national park was established. Hence, the edifices still standing suggest a smaller community than existed at the time of its demise, and smaller than at its peak. However, if you take the time to walk some of the cemeteries of the cove, you get a sense of the size of the community by the number of stones. If you were allowed to enter the cemeteries and read the dates, you would have a sense of the community's endurance and tenacity. If you read some of the names, these were people who had hopes and dreams, disappointments and heartbreaks. Those emotions and sentiments spanned two centuries, from theirs to ours, and in sharing those emotions and sentiments, we learn of their lives which are manifested in their deaths.

This research has three components, descriptive, analytical and processual: we descriptively present an historical narrative of and a complete cemetery inventory of Cades Cove; we analytically reconstruct Cades Cove using socio-demographic data from all engraved gravestones; we processually mapped and analyzed all artifacts (monuments, stones, and other markers) likely connected to burials in the three largest (church) cemeteries to permanently document their location, using GPS, and other geospatial technologies. This report summarizes the analytical reconstruction of Cades Cove.

Research Methodology

The cemeteries and burials of Cades Cove were identified and confirmed by written references and records (published histories and accounts, diary excerpts and written recollections or oral histories, National Park Service (NPS) documents (with 14 inventoried cemeteries), unpublished studies and theses, and the internet), and (physical) area surveys. An index of all cemeteries was constructed, an inventory of all inscribed gravestones was recorded, and all

unaltered (probable) grave markers enumerated. This yielded 27 cemeteries; precise locations are no longer known for many. Some 1023 known and suspected burials exist. Most burials are marked with unaltered fieldstones (424) or not marked at all (214), suggested by GPR surveys and spatially patterned depressions in the ground.[1] The first interment marked by an engraved stone (that has survived) occurred in 1840; burials still occur, an NPS concession to former residents and their descendants.

All socio-demographic data from 385 engraved gravestones (10 cemeteries) with burial dates between 1840 and 1939 constituted the population of the historic community. All headstone data and inscriptions were recorded. Those "exiled" in 1934 and interred before 1940 still had orientation to the community, yielding 100 years of Cades Cove analysis (1840-1939). This is not a random sample since the socio-demographics of those buried without engraved stones are not known, though it enables generalized inferences to be made about life, conditions, and practices in the cove. The 385 engraved interments could be a population in that they are exhaustive of all who provided data. Regardless, analysis provides previously-unknown insight.

Socio-demographic variables were analyzed. Bivariate comparisons using contingency tables are suitable for describing populations. The Chi-Square (X^2) test of independence in bivariate relationships shows if the expected equal conditional distribution of cases in one variable is identical at each category of the other variable, or if this assumption is rejected because the two variables are dependent and the conditional distributions are not equal (Agresti and Finlay 2009). The use of X^2 statistics with a population, under the assumption of statistical

[1] The three largest cemeteries have been scanned and mapped, grave by grave, using GPS and GIS technologies, work that may continue with the other cemeteries under extension of the NPS Research Permit. A number of suspected graves have been substantiated by GPR (Lowry 2009; Kreusch, Lowry and Zank 2010).

independence, strengthens the historical interpretation of observed patterns and conditional association. Typically an artifact of inferential statistics, statistical significance empowers generalizations from a sample to a population.

However, with population data, statistical significance is arbitrary and standards of acceptance are moot (i.e., contingency table cell values of 5 or less are not a result of sampling but an accurate reflection of the population's condition). Yet, the X^2 test of independence is acceptable to test patterns within populations, even with few cases. Despite contingency tables containing cell values of less than 6, as degrees of freedom (df) increase beyond 1, X^2 values become more reliable, and no correction for continuity is necessary (Yates 1934). The X^2 test of independence contributes to a description of the population, and, yielding tests of significance, strengthens generalizations of observations back to the community. Still, Cades Cove is presented on its own and not as representative of other Appalachian communities.

Age and Seasonal Mortality

Age range was 0-99 (mean, 33.7; median, 27.0; mode, 0); age over time increases. Age driven; most young children (32.0%) died in the fall (food-, insect-, and water-borne diseases), and most elderly (47.5%) died in the winter (respiratory – influenza and pneumonia), with statistical significance (X^2 =13.119; df =6; p=.041).

Sex and Gender

49.6% were males and 50.4% were females, yielding a sex ratio of 98.4, departing from the anticipated 105 and suggesting more females were present, or more females had identities given/survive in cemeteries, contrary to the deference normally accorded males.

Mean age for males was 34.0 (median, 26), while mean age for females was 35.5 (median, 31), but in 6 of the 10 decades, females died at a younger mean age than males; mean

age of females did not surpass males until the 1880s. Of those with familial status identified (e.g., “wife,” “daughter,” “mother,” “husband,” “father”), 65.0% were females and 35.0% were males, a statistically significant difference (X^2 =30.237; df=1; p=.000). Adult females were more likely cast in relationships to adult males, suggesting they were only complete persons in their relationships to males, implying the dominance of males.

Surnames

Of female gravestones with marital status expressed, 79.2% identified maiden surname, a practice more typical among large families than small families, and alluding to kinship importance. Of the natal surnames identified, 57.9% were from the cove, and 42.1% were from outside the cove, with no statistical difference. Marriage partners were only slightly less likely to have come from outside, suggesting a permeable community.

Permeability/Integration of the Cove, Familialism and Kinship

Analyzing community integration via surnames, there were 20 isolates (surnames appearing only once).[2] 63.0% were male and 37.0% were female; 47% were infants and children, 41% were adults, and 12% were elders. The mean age of female isolates was 29.5, 25.6 for male isolates. As a proportion of the 385 burials, 5.2% are isolates. Historic cemeteries outside Appalachia have 10%-15% isolates, as high as 25%. The smaller proportion suggests the cove as a tight-knit and stable community, with little transiency. Name data also allow examination of familialism and kinship.

Person/name ratios (number of people/number of surnames), if large (many people/few surnames) suggests kinship importance and homogenous community; if small, kinship

[2] Others with the same surnames may have been buried without engraved stones.

importance is less, suggesting economic change, community decline, and mobility.[3] Cades Cove's person/name ratio of 6.21 suggests kinship importance and community homogeneity. Non-Appalachian, historical cemeteries contemporaneous with Cades Cove had ratios of 2.25 to 4.94. Kinship importance may explain maiden surnames on many stones, keeping surnames in community. Surnames enable consideration of ethnic heritage.

Ethnicity, Religion and Class

Ethnicity may be inferred from surnames with ethnic-name dictionaries. Of the surnames, 85.5% were British, predominantly Scottish and Irish, reflecting the Scots-Irish heritage of Appalachia, approaching statistical significance (X^2=15.613, df=1; p=.07); 8.1% were Germanic, 3.2% were French, and 3.2% were undetermined. Comparing British/non-British with other variables revealed no statistical significance. Cades Cove was ethnically homogeneous, and that spilled over into religion.

Religion was Protestant. Of the engraved stones with epitaphs (31%), 36% were religious, 58% were non-religious, and 6% were both, without statistical significance. Religious denotations decreased over time, beginning about the 1900s, and non-religious denotations increased over time, beginning in the 1880s. Epitaphs by age status is bi-modal, with infants and adults/elders disproportionately having epitaphs, approaching significance (X^2 =34.733; df=24; p=.072). Epitaphs for the youngest reflected failed aspirations attributed by parents; with the hope of heaven, religious referents are prolific. As people came of age and accountability, religious referents decreased, only to increase as age approached the certainty of death. In nearly

[3] There are limitations: they are *relative* measures and must be compared to other ratios; individuals may share a surname but not kinship, less problematic with small communities like Cades Cove; ratios may be skewed by common surnames (e.g., Smith or Jones), not an issue for Cades Cove; ratios do not denote conjugal family size since extended and nuclear families are not distinguished by surname.

equal proportions, both males and females either had no epitaphs, or had religious epitaphs, or had non-religious epitaphs. As proxies of social structure, cemetery data hold insight into other dimensions of community, including social class and social stratification.

Little differentiated class (economics/wealth) in the cove. Some owned more land, but that affluence could not buy a substantially improved lifestyle (status), for it was not available. Differentiation in class and status was more a matter of qualitative judgement than quantitative abundance. Chestnut Flats was set apart after the Civil War, ostracized as "the other side of the tracks" perhaps because of pro-Confederate sympathies. Chestnut Flats' cemeteries is compared to Cades Cove cemeteries. Longevity may vary by social class; mean age at death in Chestnut Flats was 41.2; mean age in Cades Cove was 34.0. The difference may be due to the small N size in Chestnut Flats, proportionately fewer children having marked graves in Chestnut Flats, or a real difference. The proportions of infant/child gravestones in Chestnut Flats and in the cove were without statistical difference.

Social class may be reflected the proportions of engraved/unaltered stones and the sizes of engraved stones. Proportions of engraved/unaltered stones in Chestnut Flats and Cades Cove had no significant differences. Heights of engraved stones also revealed no significant differences. Despite negative attributions to Chestnut Flats, there is nothing to suggest social class was different, as assessed by longevity and gravestone properties. The subtle insights of gravestones are exceeded only by their explicit insights, including seasons of birth and death.

Conception, Natality and Mortality

Natality dates allow approximations of conception dates.[4] The cause of conception is willful, subject to external influences. If random, 8.3% would occur monthly (25% per season). Any departure from a random pattern is interpreted through those influences. Conception was lowest in the winter (20.7%) and highest in the spring (27.2%), resulting in the fewest births (20.7%) in the fall and the most in the winter (27.2%). The highest conception month was May (10.5%), and the lowest was September (6.1%). May holds the promise of summer, the labor of spring (plowing and planting) completed. September can still be hot, and the preparation for harvest, if not harvest itself, has started.

Conception surges in spring follow the dreary winter and a renewal of life. Spring conception might imply rational family planning to effect delivery with the least pregnancy discomfort during the least active agricultural period before harvest and the third trimester after summer. Peak birth months coinciding with agricultural lulls may suggest family planning anticipating work demands during planting and harvest. The seasonal conception pattern yielded a seasonal birth pattern that accommodated the rhythms of agriculture. Summer conceptions (26.9%) were nearly as great as spring conceptions, resulting in spring births, also with advantages, avoiding the last trimester in the summer, and allowing pregnant women some labor participation during fall harvest.

Decades disclosed an increase in age over time, a bi-modal pattern to death by age over time, and a gendered pattern to mean age at death over time, with males outliving females in early decades and females outliving males in later decades. As community grows, so do its

[4] Only about two-thirds of all conceptions result in a nine-month gestation period; one-third terminate in birth before or after the ninth month. Extrapolating conception month does not account for premature and late births, or birth dates adjusted due to premarital conceptions, though a randomization of such events should have no significant effect on seasonal conception patterns, and a three-month seasonal span absorbs inaccurate conception estimates.

cemeteries; reflecting community growth and decline. The most common death decades were the 1890s through the 1920s (1890s, 13.2%; 1900s, 14.8%; 1910s, 15.4%; 1920s, 15.7%), corresponding to greater populations in the cove. Burials by decade, as assessed by engraved stones, reveals a decline in the 1870s, perhaps reflecting economic hardships and vicissitudes following the Civil War. The dramatic decrease in interments in the 1930s marks the death of the community, with the establishment of the Park.

Comparing these data and their trends to historical, non-Appalachian communities contemporaneous with Cades Cove suggest that it was neither unique nor set apart, diminishing the Appalachian isolation appellation.

Table 1: Age Structure by Decade

Decade	Mean	Median	Mode	Range	N
1840s	75.3	66.0	64/66/96	32	3
1850s	34.0	35.0	0/31/39/66	66	4
1860s	28.7	10.0	4	83	13
1870s	19.3	2.5	0	56	6
1880s	34.7	25.0	0	93	26
1890s	29.0	19.5	0	88	62
1900s	34.6	23.0	0	93	73
1910s	30.7	24.0	0	90	77
1920s	35.6	36.5	0	97	76
1930s	46.8	53.0	0	87	31
Total	33.96	27.00	0	97	371

Table 2: Age Status by Decade

	Early Age		*Middle Age*		*Later Age*		
Decade	%	Number	%	Number	%	Number	Total
1840s	0.0%	(00)	0.0%	(00)	100.0%	(03)	(03)
1850s	25.0%	(01)	0.0%	(00)	75.0%	(03)	(04)
1860s	53.8%	(07)	7.7%	(01)	38.5%	(05)	(13)
1870s	66.7%	(04)	0.0%	(00)	33.3%	(02)	(06)
1880s	30.8%	(08)	30.8%	(08)	38.5%	(10)	(26)
1890s	41.9%	(26)	16.1%	(10)	41.9%	(26)	(62)
1900s	32.9%	(24)	21.9%	(16)	45.2%	(33)	(73)
1910s	37.7%	(29)	19.5%	(15)	42.9%	(33)	(77)
1920s	36.8%	(28)	6.6%	(05)	56.6%	(43)	(76)
1930s	19.4%	(06)	19.4%	(06)	61.3%	(19)	(31)
Total	35.8%	(133)	16.4%	(61)	47.7%	(177)	(371)

Table 3: Monthly and Seasonal Mortality Patterns

Month	%	Number	Season	%	Number
January	12.0%	(37)	Winter	32.5%	(100)
February	7.1%	(22)	(Dec-Feb)		
March	7.8%	(24)			
April	4.9%	(15)	Spring	21.4%	(66)
May	8.8%	(27)	(March-May)		
June	6.2%	(19)			
July	7.1%	(22)	Summer	19.8%	(61)
August	6.5%	(20)	(June-Aug)		
September	11.7%	(36)			
October	9.7%	(30)	Fall	26.3%	(81)
November	4.9%	(15)	(Sept-Nov)		
December	13.3%	(41)			
Total	100.0%	(308)	Total	100.0%	(308)

Table 4: Monthly and Seasonal Mortality by Age Status

	Youth		*Elder*			*Youth*		*Elder*	
Month	%	Number	%	Number	Season	%	Number	%	Number
January	8.0%	(10)	18.6%	(11)	Winter	27.2%	(34)	47.5%	(28)
February	6.4%	(08)	10.2%	(06)	(Dec-Feb)				
March	4.8%	(06)	10.2%	(06)					
April	1.6%	(02)	8.5%	(05)	Spring	17.6%	(22)	23.7%	(14)
May	11.2%	(14)	5.1%	(03)	(March-May)				
June	6.4%	(08)	5.1%	(03)					
July	7.2%	(09)	6.8%	(04)	Summer	23.2%	(29)	15.3%	(09)
August	9.6%	(12)	3.4%	(02)	(June-Aug)				
September	15.2%	(19)	11.9%	(07)					
October	11.2%	(14)	0.0%	(00)	Fall	32.0%	(40)	13.6%	(08)
November	5.6%	(07)	1.7%	(01)	(Sept-Nov)				
December	12.8%	(16)	18.6%	(11)					
Total	100.0%	(125)	100.0%	(59)	Total	100.0%	(125)	100.0%	(59)

Table 5: Average Age at Death by Sex by Decade

	Female			*Male*			*Overall*		
Decade	Mean	Median	Number	Mean	Median	Number	Mean	Median	Number
1840s	65.0	65.0	2	96.0	96.0	1	75.3	66.0	3
1850s	35.0	35.0	2	66.0	66.0	1	34.0	35.0	4
1860s	18.0	6.0	7	48.0	69.0	5	28.8	10.0	13
1870s	15.0	2.5	4	28.0	28.0	2	19.3	2.5	6
1880s	38.0	30.0	12	35.0	23.0	12	34.7	25.0	26
1890s	71.8	25.5	32	28.8	16.5	26	29.0	19.5	62
1900s	37.5	31.0	33	33.4	22.5	38	34.6	23.0	73
1910s	28.7	23.0	37	33.6	26.0	38	30.7	24.0	77
1920s	47.6	55.0	34	24.7	6.0	37	35.6	36.5	76
1930s	37.2	29.5	14	54.7	62.0	17	46.8	53.0	31
Total	35.6	27.0	177	34.0	26.0	177	34.0	27.0	371

*Total N size exceeds the aggregate of females and males because in 17 cases, age at death was known even though sex was not identified.

Table 6: Surnames and Maiden Names

	Surname	Maiden		Surname	Maiden		Surname	Maiden
Abbott	12	1	Hamby	1		Rawlins		1
Anthony	15		Handley		1	Roberts	1	
Baker		1	Harmon	1		Rose	3	
Birchfield	1		Headrick		1	Rowan	4	2
Blair	1	1	Hill	3	2	Rutherford	1	
Boring	2	2	Hodge	4		Sands	5	1
Bowers		1	Hollows		1	Seaton	1	
Brickey		1	Hughes	3		Shields	26	4
Brown	5	2	Law	1		Shular		1
Burchfield	28	4	Lawson	10	2	Shuler	2	
Cable	22	2	Leadbetter	4		Smith	1	
Campbell		1	Ledbetter	4		Snodgrass	1	1
Chambers	4		Lequire	15	1	Sparks	22	
Coada	2		Maynard	1		Spradling	1	
Cooper	5		McCauley	2		Thompson	2	
Craig	3		McCaulley	3		Timmons		1
Cuthbertson	1		McGinley		1	Tipton	28	4
Davis		1	McLennon	2		Upton		1
Ditmore	1		Millsaps	2		Walker		1
Everett	1		Myers	25	3	Welch		3
Fan	1		Myres	1		White	2	
Feezell	4		Oliver	26	1	Whitehead	7	1
Frazier		1	Payne	1		Wilcox	7	
Frye		1	Post	1		Wilson	6	
Garland	7	1	Powell	1		Womach		1
Gregg	2		Proctor	4	2	Wright	1	
Gregory	31	4	Quiett	1		Total # (Names)	385 (62)	61 (38)

Table 7: Monthly and Seasonal Conception and Birth Patterns

	Conceptions		*Births*			*Conceptions*		*Births*	
Month	%	Number	%	Number	Season	%	Number	%	Number
January	7.5%	(22)	9.5%	(28)	Winter	20.7%	(61)	27.2%	(80)
February	7.1%	(21)	7.8%	(23)	(Dec-Feb)				
March	9.9%	(29)	9.9%	(29)					
April	9.5%	(28)	6.5%	(19)	Spring	27.2%	(80)	26.9%	(79)
May	7.8%	(23)	10.5%	(31)	(March-May)				
June	9.9%	(29)	10.2%	(30)					
July	6.5%	(19)	7.8%	(23)	Summer	26.9%	(79)	25.2%	(74)
August	10.5%	(31)	7.1%	(21)	(June-Aug)				
September	10.2%	(30)	6.1%	(18)					
October	7.8%	(23)	7.5%	(22)	Fall	25.2%	(74)	20.7%	(61)
November	7.1%	(21)	7.1%	(21)	(Sept-Nov)				
December	6.1%	(18)	9.9%	(29)					
Total	100.0%	(294)	100.0%	(294)	Total	100.0%	(294)	100.0%	(294)

Figure 1

Mean Age at Death by Season

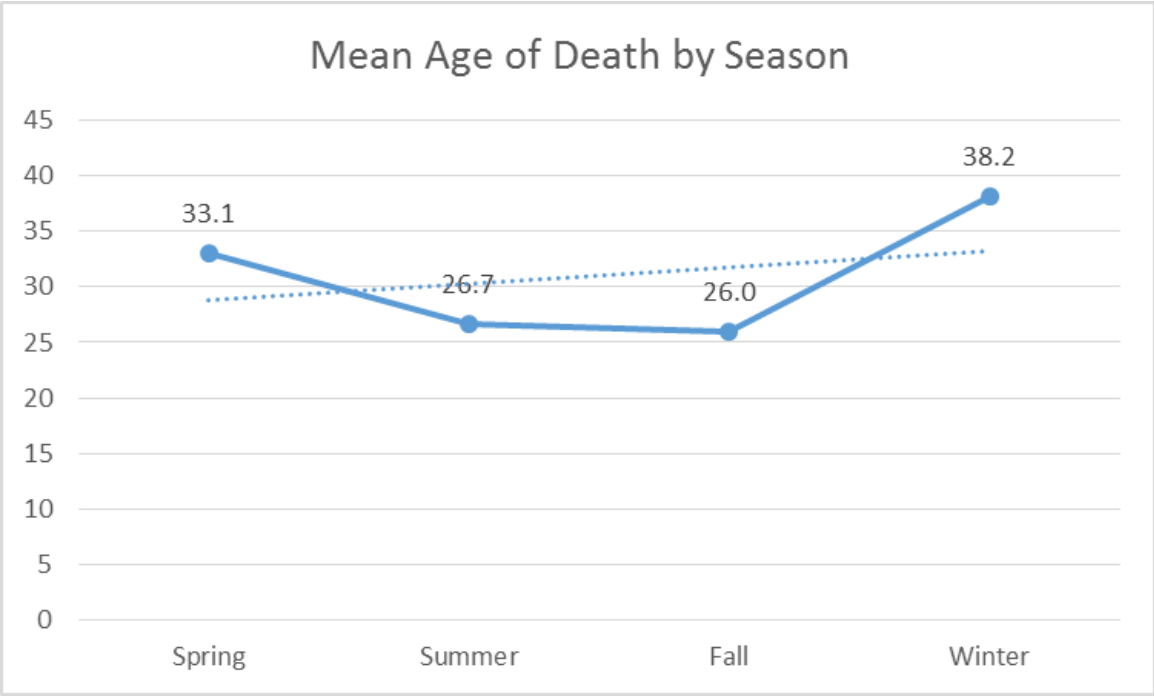

Fig. 1 – Mean age at death by season reveals more young people died in the late summer and fall, their younger ages deflating the mean age, and more old people died in the winter, their older ages inflating the mean age.

Figure 2

Child and Elder Deaths by Season

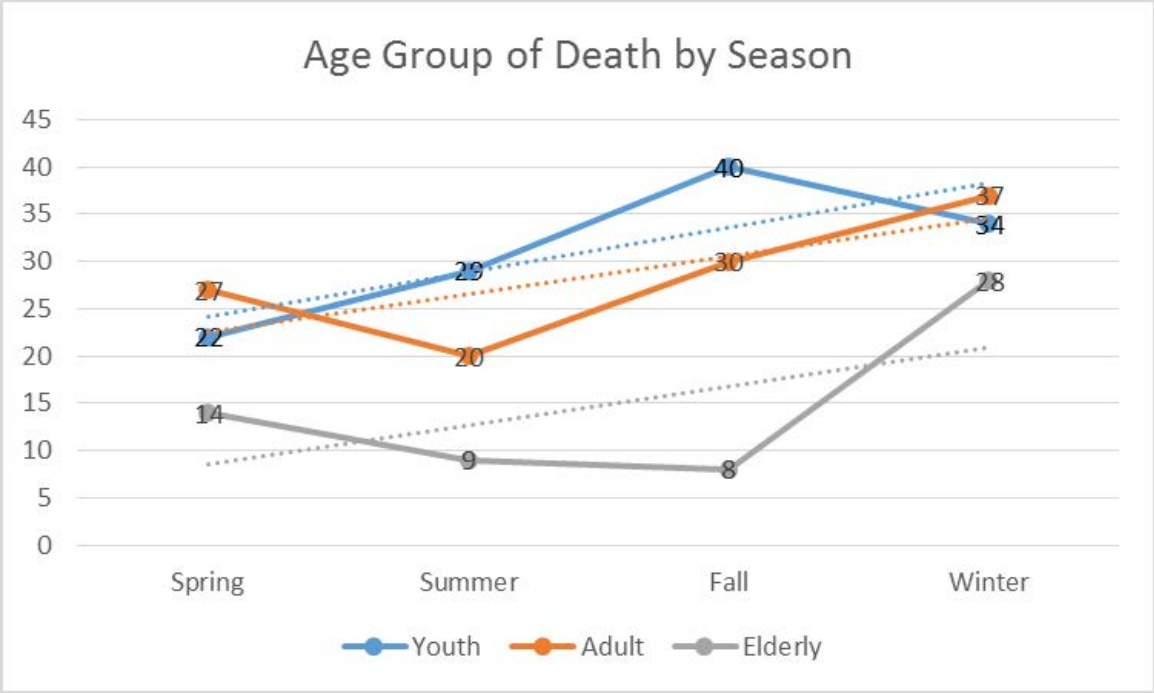

Fig. 2 – Age status reveals that the deaths of young people peaked in the fall, while the deaths of elders (and adults) peaked in the winter.

Figure 3

Number of Burials by Decade

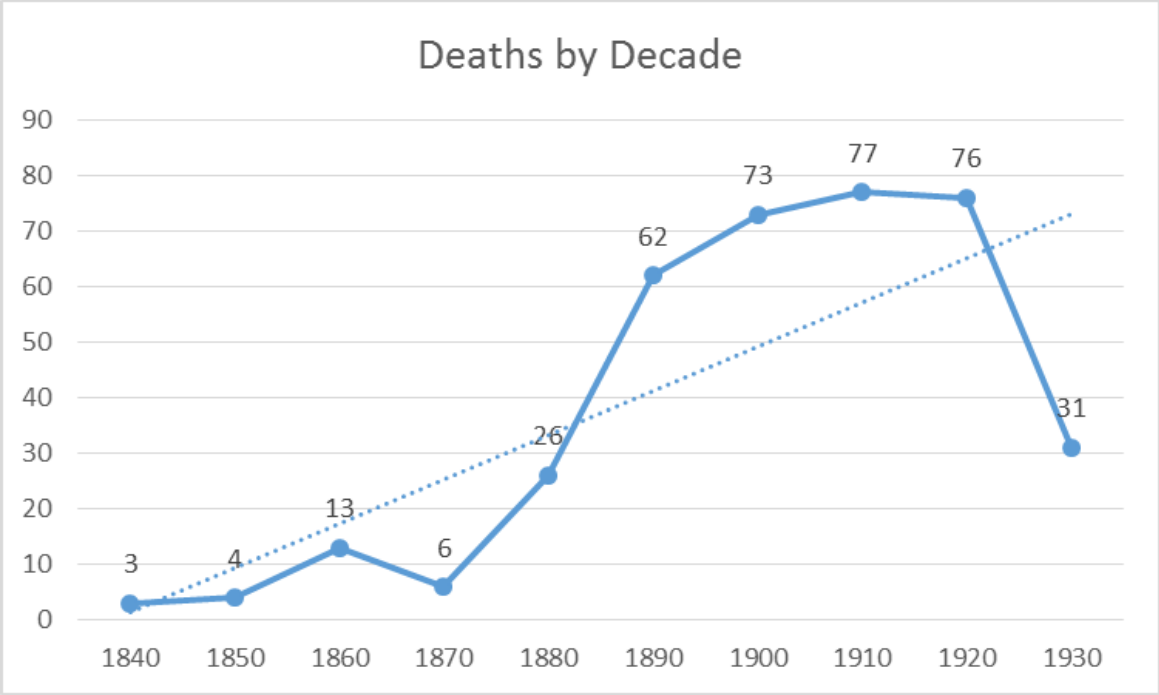

Fig. 3 – The number of dated burials by decade generally reflects the community's growth and decline, with some lag. The diminished frequency of dated burials in the 1870s is probably independent of the population decline of the 1850s, even as an echo effect, since engraved interments appear to have recovered in the 1860s; more likely, they reflect various hardships following the Civil War, while dated burials in the 1890s-1920s reflect community growth. The precipitous decline of the 1930s reflects the "death" of the community.

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[5] Vidutis, Richardas, and Virginia P. Lowe. 1980. "The Cemetery as Cultural Text." *Kentucky Folklore Record* 26: p.103.
[6] Sloane, 1991.