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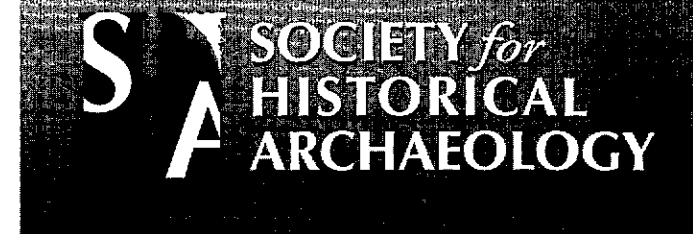
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- ROTHENBERG, WINIFRED, B.  
1988 The Emergence of Farm Labor Markets and the Transformation of the Rural Economy: Massachusetts, 1750-1855. *Journal of Economic History* 48(3):537-566.
- SAINSBURY, JOHN A.  
1975 Indian Labor in Early Rhode Island. *New England Quarterly* 48(3):378-393.
- SALISBURY, NEAL  
1990 Indians and Colonists in Southern New England after the Pequot War: An Uneasy Balance. In *The Pequots in Southern New England*, Laurence M. Hauptman and James D. Wherry, editors, pp. 81-95. University of Oklahoma Press, Norman.
- SEN, AMARTYA  
1982 *Choice, Welfare, and Measurement*. MIT Press, Cambridge, MA.
- SMITH, WOODRUFF D.  
2002 *Consumption and the Making of Respectability 1600-1800*. Routledge, New York, NY.
- SILLIMAN, STEPHEN W.  
2004 *Lost Laborers in Colonial California: Native Americans and the Archaeology of Rancho Petaluma*. University of Arizona Press, Tucson.  
2005 Culture Contact or Colonialism? Challenges in the Archaeology of Native North America. *American Antiquity* 70(1):55-74.  
2006 Struggling with Labor, Working with Identities. In *Historical Archaeology*, Martin Hall and Stephen Silliman, editors, pp. 147-166. Blackwell, Malden, MA.  
2009 Change and Continuity, Practice and Memory: Native American Persistence in Colonial New England. *American Antiquity* 74(2):211-230.  
2010 Indigenous Traces in Colonial Spaces: Archaeologies of Ambiguity, Origins, and Practice. *Journal of Social Archaeology* 10(1):28-58.
- SILLIMAN, STEPHEN W., AND KATHERINE SEBASTIAN DRING  
2008 Working on Pasts for Futures: Eastern Pequot Field School Archaeology in Connecticut. In *Collaborating at the Trowel's Edge: Teaching and Learning in Indigenous Archaeology*, Stephen W. Silliman, editor, pp. 67-87. University of Arizona, Amerind Studies in Archaeology, No. 2. Tucson.
- SILVERMAN, DAVID, J.  
2001 The Impact of Indentured Servitude on the Society and Culture of Southern New England Indians, 1680-1810. *New England Quarterly* 74(4):622-666.
- SIMMONS, WILLIAM S., AND CHERYL L. SIMMONS (EDITORS)  
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1987 *Consumer Choice in Historical Archaeology*. Plenum Press, New York, NY.
- ST. JEAN, WENDY B.  
1999 Inventing Guardianship: The Mohegan Indians and their "Protectors." *New England Quarterly* 72(3):362-387.
- STAHL, ANN BROWER  
2002 Colonial Entanglements and the Practices of Taste: An Alternative to Logocentric Approaches. *American Anthropologist* 104(3):827-845.
- TROUILLOT, MICHEL-ROLPH  
1995 *Silencing the Past: Power and the Production of History*. Beacon Press, Boston, MA.
- WILKIE, LAURIE A., AND PAUL FARNSWORTH  
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- WITT, THOMAS A.  
2007 Negotiating Colonial Markets: The Navigation of 18th-Century Colonial Economies by the Eastern Pequot. Master's thesis, Department of Anthropology, University of Massachusetts, Boston.
- WOLVERTON, NAN  
2003 "A Precarious Living": Basket Making and Related Crafts Among New England Indians. In *Reinterpreting New England Indians and the Colonial Experience*, Colin G. Calloway and Neil Salisbury, editors, pp. 341-368. Colonial Society of Massachusetts, Boston.
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## Elixir of Emigration: Soda Water and the Making of Irish Americans in Nineteenth-Century New York City

### ABSTRACT

Archaeologists at a few sites in the United States have uncovered numerous soda-water bottles in features associated with the dwellings of 19th-century Irish immigrants. This study focuses particularly on findings from the Five Points, New York City's most notorious 19th-century working-class neighborhood, and offers explanations for what may potentially be a more widespread pattern of soda-water usage among Irish immigrants. Based on information gathered from historical and folkloric archives and attention to the materiality of soda water, it is argued that soda water resonated with Irish immigrants, evoking varied Irish traditional understandings of water, and offering new possibilities to address new Irish concerns in the U.S. By purchasing, selling, and consuming soda water, Irish immigrants managed issues including health, nostalgia, temperance, Irish nationalism, status, and identity. Soda water acted as a fluid substance providing relief for sickness and homesickness, and facilitated the creation of new Irish American identities.

### Introduction

During the 1991 excavation of the former Five Points neighborhood in Manhattan, New York City's most notorious 19th-century slum, archaeologists unearthed a substantial number of soda-water bottles in features (ca. 1860s-1880s) associated with two tenements inhabited almost exclusively by Irish-immigrant and first-generation Irish American residents (Figure 1). Soda-water bottles found in these features were greater in number, and as a percentage of the total minimum number of glass vessels (MNV) than those found in association with German-, German Jewish-, and Polish-immigrant residents at the same site (Yamin 2000), and those found in association with Scottish-, English-, and American-born families at three sites in Greenwich Village (Geismar 1989; Salwen and Yamin 1990; Bodie 1992).

Archaeologists have also found comparatively elevated numbers of soda-water bottles in Irish-related household contexts in Paterson, New Jersey (Bartlett 1999; Yamin 1999), and in at least one context in San Francisco, California dating to the early 1870s (Jack McIlroy 2006, pers. comm.; Praetzellis and Praetzellis 2009). Historical records from U.S. censuses, newspapers, and hospitals similarly point to important connections between soda water and Irish immigrants. They were not only consumers of this beverage, but also owners of, and workers in soda-water businesses.

Soda water was a popular commodity in 19th-century America that enjoyed a reputation as a refreshing and healthful beverage. This paper draws attention to what appears to be a previously overlooked preference for soda water among Irish immigrants. In what follows, archaeological and historical data supporting a potential pattern of elevated soda-water consumption among Irish immigrants will be presented and offered for further testing. Explanations for Irish-immigrant interests in soda water will be proposed from a perspective that appreciates the agency of Irish immigrants, the materiality of soda water, and the historical and cultural contexts of Irish-immigrant life. What is suggested is that because of their cultural backgrounds and life experiences, Irish immigrants typically understood and used soda water differently than contemporary non-Irish people in the U.S. Soda water was a commodity that resonated with Irish immigrants on multiple levels, and one that they actively used to remedy physical, emotional, social, and economic ills resulting from diaspora and emigration.

### Theoretical Approach

This paper builds upon recent studies in historical archaeology which have brought to light the lived practices of working-class people frequently left out of traditional histories, and which have questioned taken-for-granted notions of 19th-century working-class neighborhoods as slums (Greenwood 1996; Yamin 2000; Mayne and Murray 2001; Reckner 2002). These works

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FIGURE 1. Examples of embossed soda-water bottles, ca. 1850–1880, found in Five Points Feature J, in association with an Irish tenement at 472 Pearl Street. Brands include Seely & Bros., Morton & Bros., Newark, and T&W (Bonasera 2000:figure 125). (Courtesy of John Milner Associates, Inc.)

have demonstrated that even within economically disadvantaged neighborhoods, residents utilized items usually understood as markers of middle-class values, such as children's toys, fancy tea wares, hygienic items, and medicines. Soda water, as will be explained, can be included in this category because it was widely regarded in the U.S. as a healthful and respectable beverage associated with temperance movements. Ranging from about 25¢ to \$2 in its bottled form (Chappelle 2005:110), moreover, soda water would have been relatively expensive for the average male worker, who earned about \$1 per day, or for the average female seamstress, who earned about \$2 per week (Groneman 1973).

Interpretations of what the presence of these "respectable" artifacts means with regard to the agencies of the people who owned them has varied. Archaeologists have interpreted hygienic- and medical-related items, for example, as evidence of adherence to 19th-century middle-class ideals of hygiene and gender roles (Shackel 1992, 1993; Larsen 1994), acculturation of immigrants (Greenwood 1996), alienation from professional medicine (Brighton 2005, 2008), and/or economic strategy of low-cost health care (Bonasera 2000). These studies are critical for establishing the roles of both social norms and disadvantages like poverty

and prejudice. These interpretations, nevertheless, tend to overemphasize social structures at the cost of individual or collective agency and lived experience, by assuming that consumers understood and used these items as producers intended. This premise is particularly suspect when the consumers in question, such as the Irish immigrants in this study, come from different cultural backgrounds than the producers. As many anthropologists have noted, people usually do not adopt unfamiliar commodities wholesale, but instead employ them in creative and sometimes surprising ways (Thomas 1991; Burke 1996; Howes 1996; Wilkie 1996; Miller 1998; Rothschild 2003).

Underlying the interpretations of soda water that will be presented here are a few theoretical premises that build upon work in the areas of agency, materiality, and diaspora theory. Drawing from Pierre Bourdieu's (1977) notion of "habitus," a set of unquestioned dispositions or a filtering worldview each person embodies by virtue of his/her life experiences, this study suggests that the ways in which Irish immigrants understood and used soda water differed from their American or German neighbors because of their differing worldviews. Although habitus is frequently considered to be a structure limiting individual agency, here it will be viewed as

a resource upon which Irish immigrants were able to draw individually and collectively, when faced with new conditions in America. Like socializing in pubs (Stivers 2000), participating in Irish benevolent and nationalist organizations (Brighton 2005), and boycotting unjust employer practices (Gordon 1977), using traditional methods of healing with water, that had roots in Ireland, was an important strategy for Irish immigrants. This paper argues that soda water resonated with traditional Irish remedies, despite being a commodity that does not appear to have been widely used by the rural population in Ireland, and became a new ingredient in their healing toolkit.

Recent approaches to retheorizing the importance of objects help to explain why soda water was particularly attractive to Irish immigrants in the U.S. Scholars within the fields of archaeology and material culture studies have critiqued older formulations of objects as evidence of the relative level of a culture's development or as static markers of identities. They have instead, argued for a perspective called materiality which imbues a kind of agency to objects, pointing out that we live in a material world and our experiences within that world as embodied and sensing individuals shape us and the social worlds in which we live (Gell 1998; Pellegram 1998; Wobst 2000; Buchli 2002; Meskell 2004). Within this framework, material qualities of objects are recognized as critical. Certain textures, colors, and scents, for example, are understood as able to trigger memories and to inspire responses from the individual with which the objects come into contact, based on the individual's habitus. As Andrea Pellegram (1998:111) remarks, it is vital for anthropologists to return their attention to objects, because "[h]uman reality is a material reality and sensual stimulation should be the starting point for any analysis of culture."

A combination of Stephen Greenblatt's (1991) ideas of "resonance and wonder," and Gaston Bachelard's (1969) notions of "resonance and reverberation" put forth by Francois Lionett (2001) to theorize museum-goers' reactions to exhibited objects, provides a useful model for thinking about the effects that a seemingly ordinary commodity like soda water could have had upon Irish immigrants. Greenblatt (1991:42) identifies resonance as "the power of the dis-

played [museum] object to reach out beyond its formal boundaries to a larger world, to evoke in the viewer the complex, dynamic forces from which it has emerged and for which it may be taken by a viewer to stand." For Greenblatt, resonance is the ability of the object to signal a broader context. He then describes wonder as "the power of the displayed object to stop the viewer in his or her tracks, to convey an arresting sense of uniqueness, to evoke an exalted attention." Bachelard, in thinking about how individuals experience a poetic image, defines resonance differently, as affecting "the outpourings of the mind." For Bachelard, resonance is the power of the poetic image to evoke subjective responses in the reader. He sees reverberation as the effect of resonance, capable of bringing about a "change in being" by affecting consciousness (Bachelard 1969:xv–xix). When combined, Greenblatt's and Bachelard's ideas of resonance, wonder, and reverberation encapsulate an object's power to command attention (wonder), signal connections to people, places, and things, evoke memories and ideas (resonance), and provoke changes in consciousness (reverberation). As will be argued, soda water's material qualities evoked wonder, resonated with Irish immigrants' experiences and traditional methods of addressing social and physical ills, and reverberated to aid in the transformation of Irish immigrants into Irish Americans.

Within the context of a diaspora, moreover, objects can become especially salient reminders of home, some objects taking on heightened and transformational importance for a group. Diaspora is a term derived from the Greek word "to scatter," and one that has most frequently been applied to describe the multiple times that Jewish people have been scattered since the Babylonian exile (Boyarin and Boyarin 1993; Cohen 1994). Although the term is now applied to all kinds of migrant groups, it has been classically used by scholars to describe populations that share (1) a dispersal from a place of origin, (2) a history of traumatic and forced departure, (3) a collective, strong attachment to the homeland and desire to return, and (4) a relationship with a host society that is at some point troubled (Cohen 1994:8).

Robin Cohen (1994), Kevin Kenny (2003), Stephen Brighton (2005), and others have proposed that Irish emigration from the 16th

through the 20th centuries fits the criteria of a diaspora. The greatest wave of emigrants left Ireland during and soon after the Great Famine (1845–1855), a multiple-year and widespread failure of the potato crop upon which the majority of the rural population was heavily dependent. The conditions that created the famine, however, were decades, if not centuries, in the making. From the establishment of the English plantation system in Ireland in the 16th century, in which land held by Irish Catholics was confiscated by the English crown and resettled with Protestants from England and Scotland, through the Penal Laws (ca. 1690–1829) that severely curtailed the rights of Irish Catholics and non-conformist Protestants (including the right of primogeniture, which could have prevented the splintering of family lands that resulted in an overwhelming dependence on the high-yielding

potato), British rule created an island inhospitable to prosperity except for a select few (Miller 1985) (Figure 2).

First, seasonal migration of grown children to cities in the British Isles, and then permanent emigration of these children or entire families to England, the U.S., Canada, Australia, and so on, became a necessary survival strategy (Figure 3). Families and friends said goodbye with an “American Wake,” a funerary ceremony in Ireland celebrating the social death of the emigrating individual(s) the night before departure (Miller 1985). Irish immigrants throughout this period constituted their communities through reference to this shared traumatic dispersal, rooted in British colonialism and prejudice, as Lynn Hollen Lees (1979), Kerby Miller (1985), Charles Orser (2004), and Brighton (2005) have illustrated. Partially resulting from this

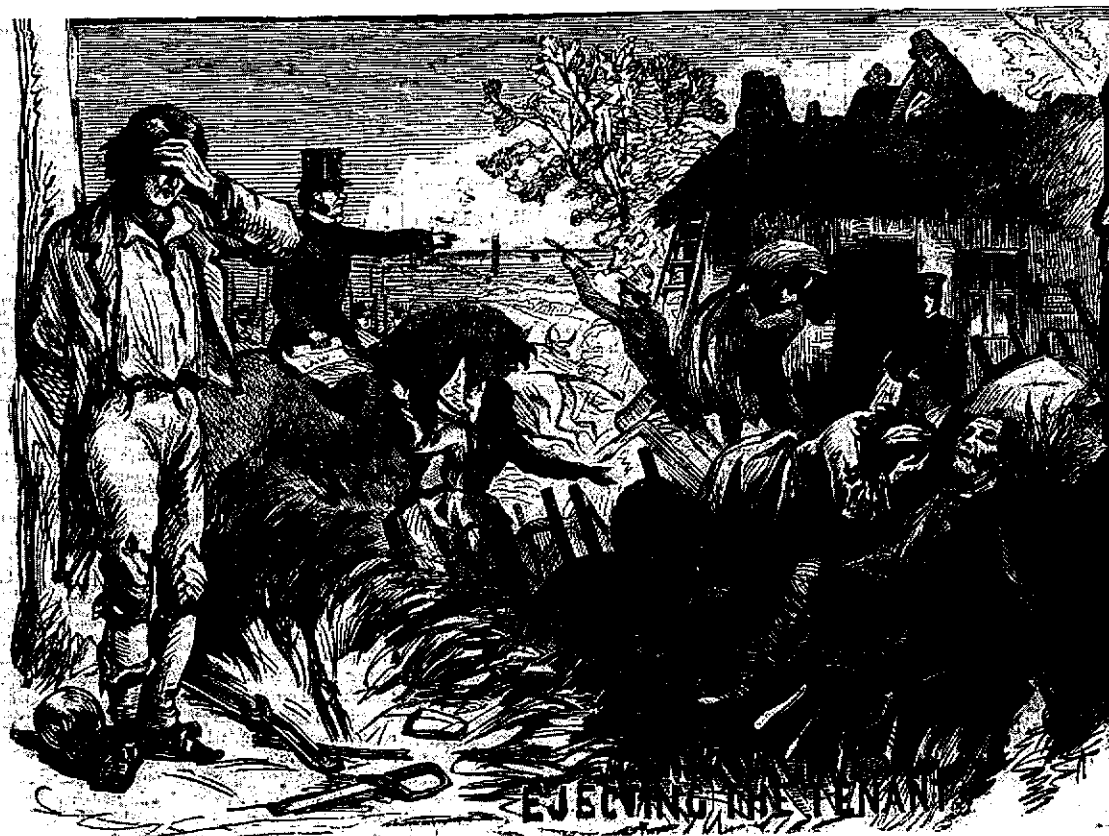


FIGURE 2. Illustration of the eviction of a tenant family in Ireland (*Harper's Weekly* 1866). Discriminatory laws made most Catholics unable to own land and subject to eviction by landlords.

shared notion of a traumatic dispersal, Kenny (2003:140) writes that Irish Americans, who previously identified with their counties, townlands, or parishes, became not only “American” when they came to the U.S., but also “Irish” ... for the first time, with Old World regionalism giving way to a retrospective pre-migration national identity that became part of their American ethnicity.”

Considering 19th-century Irish immigrants as diasporic is useful, because this term highlights both a strong and nostalgic attachment to the homeland, and the creative formation of

creolized or hybridized transnational identities. This notion of a diasporic population escapes the binary division between native and immigrant and passive ideas of assimilation; instead it emphasizes the agency of diasporic groups to combine elements from their old and new homes. Nostalgic attachments to the homeland and pre-migration worldviews become reservoirs from which diasporic migrants draw in everyday practices from artistic endeavors like music, dance, and visual arts, to religion, to making purchases, and to building communities (Hall 1990; Boyarin and Boyarin 1993; Gilroy 1993;



FIGURE 3. Illustration of Irish emigrants waiting to board ships to New York (*Harper's Weekly* 1866). Emigration from Ireland became a survival strategy for most Irish families by the mid-19th century.



McCarthy Brown 1999). Paul Gilroy (1993) for example, illustrates how people within the African diaspora created hip-hop music by blending African and New World inspirations, while Karen McCarthy Brown (1999) relates how Haitians in New York City found ingenious ways to practice rural *voudou* rituals in high-rise apartment buildings. This study provides an example of how even ordinary commodities like soda water can become imbued with power to mediate new and old homes in contexts of diaspora. As Avtar Brah (1996:183) writes in reference to Asian diasporas, "the identity of the diasporic community is far from fixed or pre-given. It is constituted within the crucible of the materiality of everyday life."

#### Historical Context of Irish Immigration in New York City

Irish people had been settling in America from the beginnings of European colonization, but periodic famines, oppression of Irish Catholics and nonconformist Protestants, downturns in the Irish economy, and increased demand for labor in the U.S. radically increased the number of Irish immigrants arriving in the U.S. by the 1840s. During the Great Famine (ca. 1845–1855) for example, an average of 400 Irish immigrants arrived *daily* in the port of New York City alone (Laxton 1996:26). Most of these immigrants were different from the predominately skilled Protestant Anglo- and Scotch-Irish immigrants from the north and east of Ireland who had preceded them. The majority of Irish immigrants during and after the famine were Catholic, unskilled, and from rural Irish-speaking areas of western and southern Ireland. These immigrants drew resentment from Americans (Figure 4) not only because of cultural differences and political and economic competition (Berger 1946), but also because Americans stigmatized them as carriers of diseases, particularly typhus fever (Linn 2008), known colloquially as the "Irish fever" in the late 1840s (Sally 1995:206). Prejudice, combined with limited skills, experience, and funds kept these immigrants in low-paying dangerous jobs and forced them into the city's worst housing, exacerbating health problems in a population already weakened by famine and difficult transatlantic voyages.

Annual reports from New York City's main public hospitals, Bellevue Hospital and New York Hospital, for example, show that Irish patients outnumbered American- and German-born patients in nearly all illness and injury categories from the late 1840s through the 1850s (Ernst 1949; Linn 2008). Irish-immigrant mortality was correspondingly high. The average death rate for Irish immigrants in Manhattan and Brooklyn in the 1850s was 1 in 5 (Keneally 1998:302), much higher than the average death rates of 1 in 35 for the entire city in the 1860s, and 1 in 60 in the affluent Fifteenth Ward in 1863 (Citizen's Association of New York 1866:xliv–xlvi). Archbishop John Hughes, leader of the Irish Catholic community, rightly attributed much of the mortality to tuberculosis, which he referred to as "the natural death of Irish immigrants" (Keneally 1998:302), but tuberculosis was only one of many illnesses, including typhus, typhoid, cholera, dysentery, flu, malaria, venereal diseases, childhood diseases, etc., that afflicted Irish immigrants.

Some Americans in the late 19th century claimed that Irish immigrants were ignorant and satisfied with being hospitalized and draining public health funds, but archaeological evidence from Irish neighborhoods like the Five Points (Yamin 2000) shows that Irish immigrants in New York City actively attempted to remedy illness at home with a combination of traditional and new medicines (Linn 2008). Records from New York and Bellevue hospitals, meanwhile, reveal that Irish immigrants typically sought care in a hospital only as a last resort, enduring painful conditions and treating themselves at home for days, weeks, and even months (Linn 2008). As will be explained below, in this context soda water became a new and significant addition to the traditional medical pharmacopoeia of Irish immigrants.

#### Archaeological Contexts

Throughout the 19th century, the Five Points neighborhood, located in Lower Manhattan around the intersection of what are now Worth, Baxter, and Park streets, was a multicultural neighborhood composed of people who had originated in the U.S. and western and southern Europe. U.S. census records show that from 1850 to 1880 more than 70% of people living

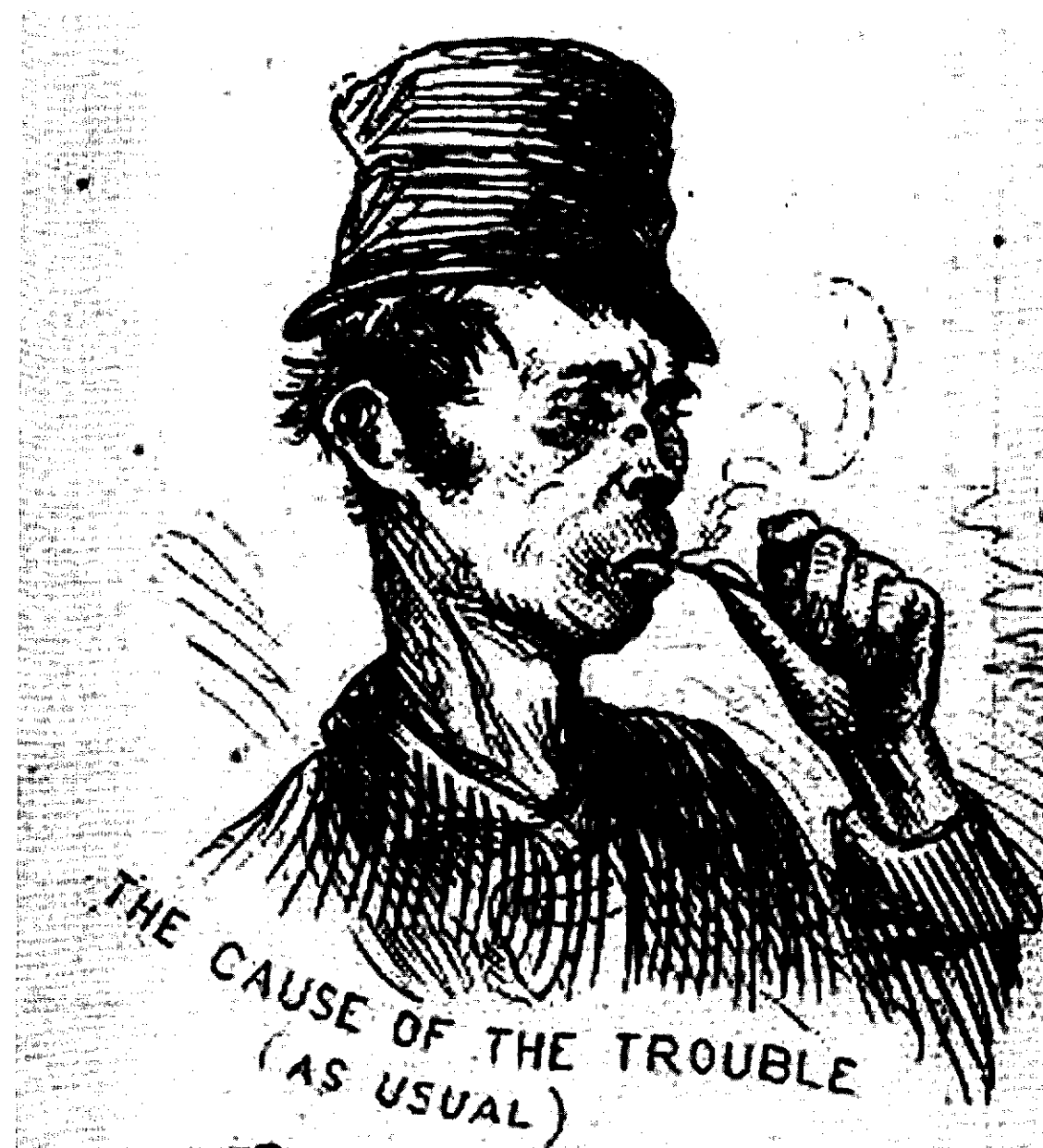


FIGURE 4. Stereotypical depiction of an Irish immigrant, with caption "The Cause of the Trouble (As Usual)" (*Harper's Weekly* 1873). Anti-Irish-immigrant sentiment was high in the mid-to-late 19th century.

on Block 160 (Figure 5), where the soda-water bottles referenced in this study were found, were Irish or Irish American. The tenements at 472 and 474 Pearl Street had particularly high concentrations of Irish residents. According to the 1850 U.S. census, 94% of the 107 residents at 472 Pearl Street had been born in Ireland or had Irish parents. Of the 107, 83 residents had been

born in Ireland, 11 were American-born children whose parents had both been born in Ireland, 2 were American-born children living with a single parent who had been born in Ireland, and 2 were American-born children of 1 Irish-born parent and 1 English-born parent. Residents counted as non-Irish included a German-born couple, two English-born wives of Irish-born men, and a

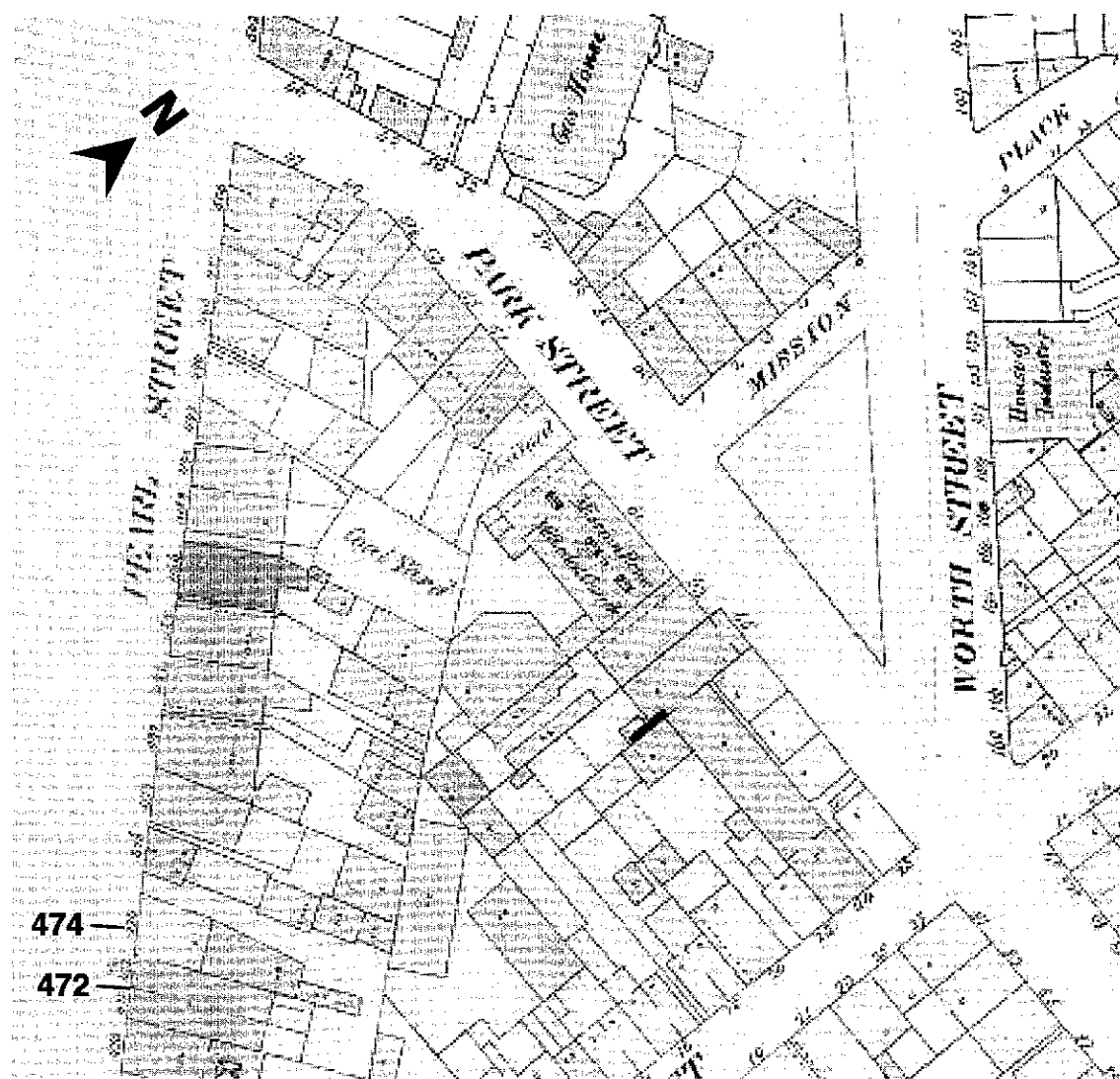


FIGURE 5. Insurance map of Block 160 in the Five Points in 1857 by William Perris (1857:14). Tenements at 474 and 472 Pearl Streets are located near the lower left corner. (Courtesy of the New York Public Library.)

few boarders of unknown heritage who had been born in New York State. The percentages of Irish and Irish American residents remained similar in the 1870 U.S. census, with a greater number of American-born children through time. American-born children comprised 14% of the residents in 1850, 29% in 1855, 36% in 1860, and 51% in 1870 (USBC 1850, 1860, 1870; NYSC 1855). The number of Irish and Irish American residents of 474 Pearl Street was similar, with 92% of 113 residents in the 1860 U.S. census having been born in Ireland or having at least 1 Irish-born

parent (USBC 1860). Out of the 113, 71 were born in Ireland, 23 were children of 2 parents born in Ireland, 7 were children being raised by 1 Irish-born parent, and 2 were children of 1 Irish-born and 1 English- or American-born parent. Residents counted as non-Irish included American- and Scottish-born boarders, an American-born mother, and an English-born couple. With so few non-Irish people living in these tenements, artifacts left behind at these addresses were almost certainly used and discarded by someone of Irish heritage.

Excavators from John Milner Associates uncovered relatively large numbers of soda-water bottles at 472 and 474 Pearl Street, and found preference for this commodity increased over time, as can be seen in Figure 6 and Table 1. Features J, T, Z, and U (hereafter referred to simply as Feature J) (Figure 7), a stone-lined cesspool and sump system associated with 472 Pearl Street, contained two strata with *terminus post quem* (TPQ) dates of 1850 and 1870. The 1850 level of Feature J contained 6 soda-water bottles, accounting for about 3% of the glass-bottle assemblage in that stratum, while the 1870 layer contained 27 bottles, or a notable 14% of the glass assemblage in that stratum (Figure 1). A deposit with a TPQ date of 1862 in Feature O, a stone-lined privy associated with 474 Pearl Street, yielded seven bottles, composing about 7% of the glass assemblage (Bonasera 2000:373).

When these percentages are compared with those uncovered in Five Points features related to families of working-class German, German Jewish, and Polish immigrants, and with those found at other contemporary sites in the New York City area, a pattern of elevated consumption of soda-water bottles among Irish immigrants emerges. Other sites that offer good comparative material and are of geographic and temporal proximity are limited, because of the difficulty in being able to excavate in the New York City area, and the mixed nature of urban deposits. Sites used for comparison here include the Greenwich Mews site, which contained privies and cisterns filled with domestic refuse from single- and multiple-family houses occupied by native-born middle-class Americans, ca. 1850s–1880s (Geismar 1989); 25 Barrow Street, where two middling-class immigrant families, one English and one Scottish, discarded unwanted items in a cistern before embarking on a renovation, ca. 1863 and 1870 (Bodie 1992); and the Dublin neighborhood of Paterson, New Jersey, where many Irish working-class immigrants living in single- and multiple-family dwellings deposited rubbish in numerous privies and cisterns, ca. 1840s–1900 (Bartlett 1999; Yamin 1999).

Figure 6 displays the percentages (out of the total MNV) of soda-water, alcoholic-beverage, and medicine bottles excavated from individual features at these sites, and Table 1 presents

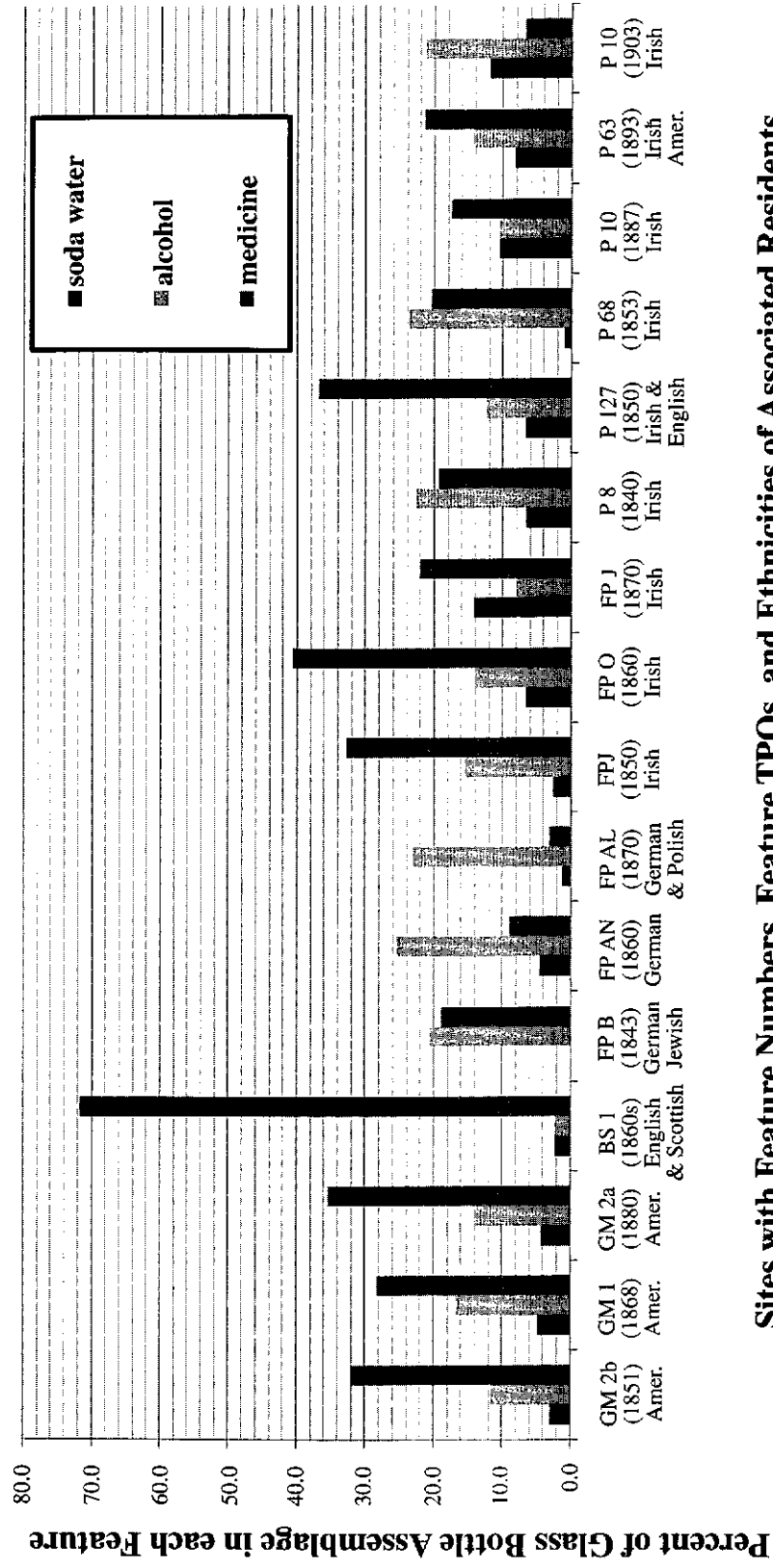
both percentages and numbers of bottles found. Comparison of percentages rather than absolute numbers of bottles provides a potentially more accurate gauge, because many (but not all) of the Irish-related features contained the refuse of numerous families, while several (but not all) of the non-Irish-related features contained the refuse of only one, two, or three families. Columns in Figure 6 are ordered by site and then by date within each site grouping. Non-Irish-related features start on the left, and are followed by Irish-related features toward the right.

This comparison reveals that percentages of soda water bottles were substantially higher in 8 out of 10 Irish-related features (6.6%–14.3%,  $n=5-27$ ) than in any of the 7 non-Irish-related features (0%–4.8%,  $n=0-7$ ). The two Irish-related features where soda-water bottles made up a percentage of the glass assemblage equal to or less than those of non-Irish-related features, one from Paterson and one from the Five Points, date to the 1850s (1.1%–2.7%,  $n=1-6$ ), when bottled soda water was generally less common and more costly. In all surveyed contexts from the 1860s and later, soda-water bottles were more prevalent in Irish than in non-Irish contexts, suggesting that as Irish immigrants became more accustomed to, and/or challenged by life in America, they became increasingly drawn to soda water.

A wider survey of sites from the New York City area and throughout the U.S., which is beyond the scope of this study, would be useful to see if this pattern were more widespread. Preliminary evidence from San Francisco suggests that some Irish immigrants on the West Coast were also drawn to soda water. Archaeologists from the Anthropological Studies Center at Sonoma State University, for example, found a remarkable cache of 127 soda-water bottles (Figure 8) associated with the dwelling of an Irish laborer and his wife (ca. early 1870s) (Jack McIlroy 2006, pers. comm.; Praetzellis and Praetzellis 2009).

According to New York City hospital records, a significant challenge facing the Irish-immigrant community from the 1860s onwards was a near-epidemic rate of tuberculosis (Linn 2008), which many might have looked to soda water to prevent or cure. Other historical records from New York City further substantiate significant and varied connections between Irish immigrants and the consumption and production of soda water.

## Percent of Soda-Water, Medicine, and Alcoholic-Beverage Bottles in non-Irish and Irish-related features in the NYC Area



### Sites with Feature Numbers, Feature TPOs, and Ethnicities of Associated Residents

FIGURE 6. This bar graph shows the percentage of soda-water, alcoholic-beverage, and medicine bottles out of the total glass-bottle assemblage found within particular features at several 19th-century sites in the New York City area, including Greenwich Mews (GM), 25 Barrow Street (BS), the Five Points (FP), and Paterson, New Jersey (P). Columns in the graph are ordered by site and then chronologically within each site. Non-Irish-related features start at the left and are followed by Irish-related features toward the right. The data suggest a potentially higher level of soda-water usage among Irish immigrants than among non-Irish residents in the New York City region. See Table 1 for more details. (Graph by author, 2009.)

TABLE 1  
NUMBERS AND PERCENTAGES OF SODA-WATER, ALCOHOLIC-BEVERAGE, AND MEDICINE BOTTLES FROM IRISH  
AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Site	Feature	Stratum TPO	Associated Residents	Number (Percent) Soda-Water Bottles	Number (Percent) Alcoholic-Bev. bottles	Number (Percent) Medicine Bottles
Greenwich Mews	Privy 2b	1851	2 American families	3 (2.9%)	12 (11.7%)	33 (32%)
	Privy 1	1868	6 American families	7 (4.8%)	24 (16.6%)	41 (28.3%)
	Privy 2a	1880	3 American families	4 (4.3%)	13 (14%)	33 (35.5%)
25 Barrow Street	Feature 1	1863	2 families (1 English, 1 Scottish-born)	1 (2.2%)	1 (2.2%)	33 (71.7%)
	Feature B	1843	1 German Jewish family & boarders	0 (0%)	24 (20.5%)	22 (18.8%)
Five Points	Feature AN	1860	2 or 3 German families	3 (4.5%)	17 (23.4%)	6 (9%)
	Feature AL	1870	Several German & Polish families, & possible brothel	2 (1.3%)	36 (23.1%)	5 (3.2%)
Five Points	Feature J	1850	About 20 Irish families	6 (2.7%)	34 (15.5%)	72 (32.7%)
	Feature O	1860	About 20 Irish families	7 (6.6%)	15 (14.1%)	43 (40.6%)
Five Points	Feature J	1870	About 20 Irish families	27 (14.3%)	15 (7.9%)	42 (22.2%)

TABLE 1 (CONTINUED)  
NUMBERS AND PERCENTAGES OF SODA-WATER, ALCOHOLIC-BEVERAGE, AND MEDICINE BOTTLES FROM IRISH  
AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Site	Feature	Stratum TPQ	Associated Residents	Number (Percent) Soda-Water Bottles	Number (Percent) Alcoholic-Bev. bottles	Number (Percent) Medicine Bottles
Paterson, NJ	Feature 8	1840	2 or 3 Irish families	2 (6.5%)	7 (22.6%)	6 (19.4%)
	Feature 127	1850	4 or 5 families, Irish & mixed Irish English	5 (6.8%)	9 (12.3%)	27 (36.9%)
	Feature 68	1853	1 Irish family & tenants	1 (1.1%)	22 (23.7%)	19 (20.4%)
	Feature 10	1887	2 or 3 Irish families	6 (10.5%)	6 (10.5%)	10 (17.5%)
	Feature 63	1893	1 Irish American family & tenants	13 (8.2%)	23 (14.4%)	34 (21.4%)
	Feature 10	1903	2 or 3 Irish families	11 (11.8%)	6 (21.2%)	3 (6.7%)

Note: This table shows the number of soda-water, alcoholic-beverage, and medicine bottles found at several 19th-century sites in the New York City area, including Greenwich Mcws, 25 Barrow Street, the Five Points, and the Dublin neighborhood of Paterson, New Jersey. In parentheses following the bottle counts are the percentages of the total glass-bottle assemblage within each feature that the counts represent (shown in graph form in Figure 6). Non-Irish-related features are listed first, followed by Irish-related features. The data suggest a potentially higher level of soda-water usage among Irish immigrants than among non-Irish residents in the New York City region.

Sources: Geismar (1989), Bodie (1992), Bartlett (1999), Yamin (1999), Bonasera (2000), Ponz (2000), and Yamin (2000).

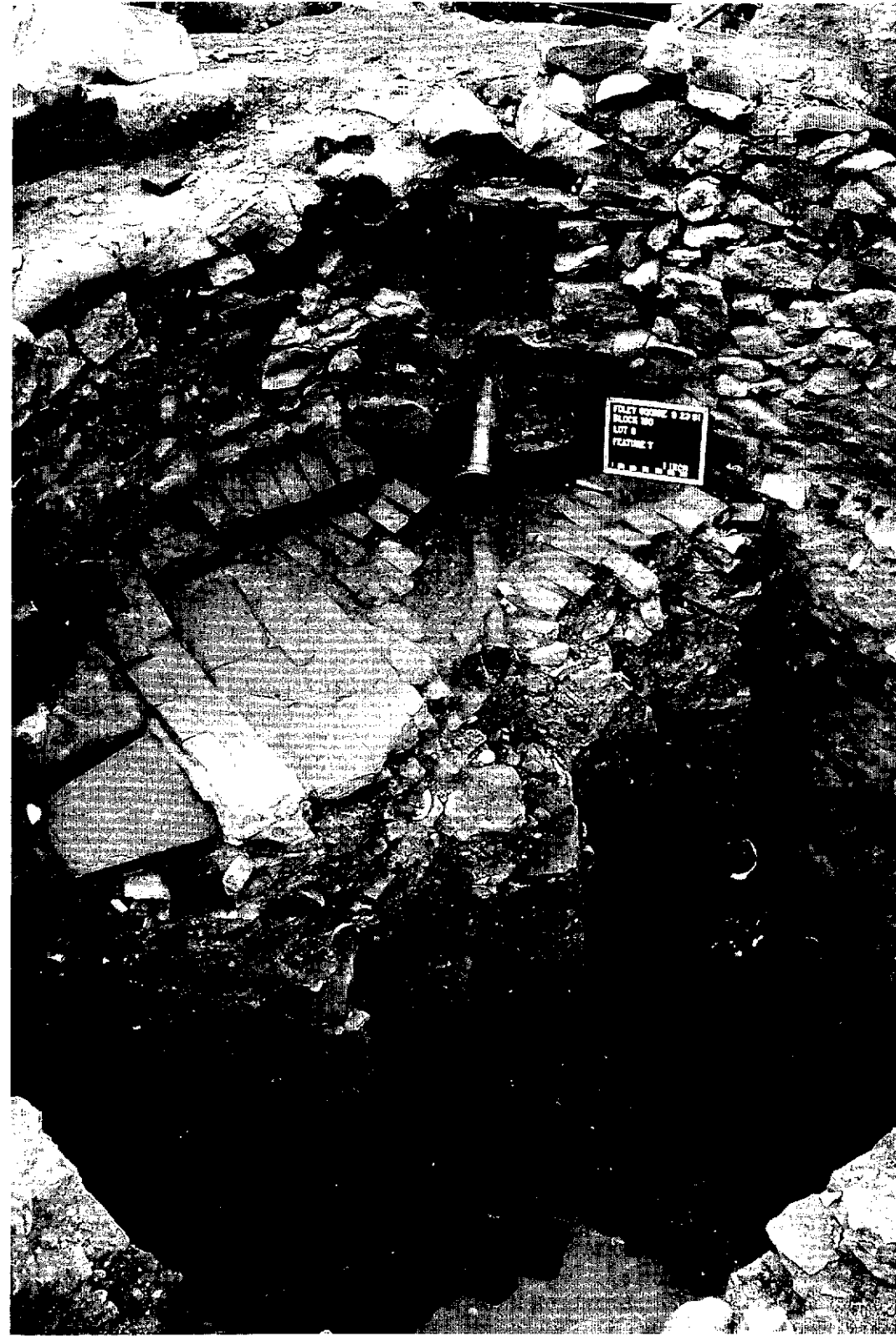


FIGURE 7. Photograph of Feature J, a stone-lined cesspool and sump system associated with 472 Pearl Street (Yamin 2000:figure 41). (Courtesy of John Milner Associates, Inc.)





FIGURE 8. During their excavations in preparation for the Caltrans seismic retrofit of the west approach to the San Francisco–Oakland Bay Bridge, archaeologists from the Anthropological Studies Center at Sonoma State University uncovered a remarkable (ca. early 1870s) cache of 127 soda-water bottles associated with the dwelling of an Irish laborer and his wife at 9 Baldwin Court in San Francisco (Praetzellis and Praetzellis 2009). (Courtesy of the Anthropological Studies Center, Sonoma State University.)

The next section will present the historical context of soda water and Irish traditions related to water, to substantiate an analysis that explains Irish-immigrant preferences for soda water as resulting from their own attempts to remedy a variety of ailments by creatively combining elements from their old and new homes.

#### Soda Water in the 19th Century

People everywhere have long utilized water for purification and healing, but in the 19th century a convergence of religious, scientific, civic, and popular ideas on both sides of the Atlantic led to a veritable water craze. Protestant movements like Methodism emphasized cleanliness as a virtue (Porter 1990:viii; Croutier 1992), medical practitioners created more sterile environments in previously filthy hospitals, and reformers advocated for public baths and clean drinking water, especially after the 1832 cholera outbreak (Rosenberg 1985). Simultaneously, many people embraced alternative healing with water in response to the “heroic” bleeding and purging techniques of professional physicians (Numbers 1977:55–56).

The wealthy flocked to bathe in and drink water at springs in Bath, England (beginning

ca. A.D. 60), Evian, France (ca. 1815), San Pellegrino, Italy (ca. 1848), and Poland Spring, Maine (ca. 1800) (LaMoreaux and Tanner 2001:107–109). Bottled water was originally designed to allow spa patients to continue therapeutic treatments at home (Coley 1990:64). Many people today participate in a modern version of this water frenzy, consuming water from these same springs. A democratic outgrowth of interest in spas was hydropathy or the “water-cure,” a method of healthcare advocating bathing in and drinking water and exposing oneself to sunshine, exercise, and a proper diet. In line with traditional European beliefs and 19th-century middle-class ideals of domesticity (Wall 1994; Fitts 1999), it stressed women’s roles as providers of healthcare within the family. Hydropathy swept through Europe in the early 1800s and became immensely popular in America in the 1840s (Numbers 1977:62).

Nineteenth-century visitors to springs sought cures for all kinds of ailments, many of which were ameliorated by the rest spas offered, but some spring water could have been chemically effective in treating specific ailments. Water high in dissolved iron and iodide for example, can aid conditions resulting from deficiencies

of these minerals, like anemia and goiter, respectively. Water with high concentrations of sulphate or magnesium acts as a laxative and falls in line with the 19th-century medical belief that purging is essential for health, while water high in bicarbonate eases dyspepsia, a virtual epidemic among the wealthier classes in the 19th century (Chapelle 2005:59). Iron-rich water might have also helped to fight off other ailments like lead poisoning and tuberculosis, both common in the 19th century, particularly among the members of the working class (Heywood 1999). The standard treatment of tuberculosis in the late 19th and early 20th centuries, involving fresh air in wilderness locales, was probably influenced by a longer tradition of visiting spas for healing.

Scientists were eager to isolate the constituents of famous spa waters, both to understand how they effected cures, and to be able to replicate the waters artificially and bring the healing powers of the spa to a wider public (Coley 1990). From the late 17th century onwards, in fact, salts extracted from spa water, like Epsom salts, had been available for reconstituting in European and American apothecary shops (Coley 1990:66). By the 19th century, carbonation was commonly added as well, producing a kind of mineralized soda water. Although the terms soda water and mineral water are often used interchangeably, they technically refer to two different things. Soda water is water that is carbonated, while mineral water contains minerals and might or might not be carbonated. For simplicity’s sake, all water available for purchase in bottles or from fountains will be referred to as soda water here, unless a distinction is important. During the 19th century, medical and popular communities believed these concoctions to be healthy, refreshing beverages and safe alternatives to dubious well water despite reports (which resonate with similar concerns about bottled water today) that some bottles were filled with the same water available at city pumps (*Harper’s Weekly* 1886:446).

In 19th-century New York City, soda water could be purchased in a glass bottle or in a cup from a soda fountain, both initially found in apothecary shops and later in specialized soda shops and peddled from carts. Until the 1930s it was difficult for American soda-water producers to find well-made bottles in order to sell bottled water cheaply, so Americans in the 19th century

preferred procuring less-expensive water from soda fountains (Figure 9), where a cup of soda could be bought for 2¢ to 10¢, depending on the fanciness of the establishment (Funderberg 2003:20). Bottled soda water cost three or four times more, and true spa water from places like Saratoga Springs cost nearly \$2 per pint (Chapelle 2005:110), about double the average daily wage of a male laborer and equal to the average weekly wage for a female seamstress in New York City (Groneman 1973). Buying soda water from a fountain was also an appealing treat, because water from fountains was cold and a variety of flavors (like strawberry and vanilla) as well as medicinal substances could be added to the soda.

Enterprising individuals set up soda-fountain shops separate from drugstores (Figure 9), that became extremely popular (Funderberg 2003:13). Temperance reformers increased sales by advocating soda water as a refreshing alternative to alcohol. The number of bottles found at 472 and 474 Pearl Street probably grossly underestimates the actual consumption of soda water, given that apothecary shops existed a few doors down at 421 and 505 Pearl Street (*New York Freeman’s Journal* 1854a, 1854b). The ways in which many Irish immigrants understood and used soda water, however, were quite different than those of contemporary Americans.

#### Water in 19th-Century Rural Ireland

Although soda water was well known in mid-19th-century England and America, it is unlikely that the predominately rural Irish who emigrated to New York City would have regularly imbibed it in Ireland, and it is likely that some had never encountered it before. Soda fountains were initially an urban American phenomenon. Bottled water was costly to purchase and does not appear to have been widely used by farmers and laborers in the mid-19th-century Irish countryside, according to historical, folkloric, and archaeological data (Scally 1995:29; Dorian 2000:113; Hull 2004; Brighton 2005). Further archaeological work might contradict this supposition, but excavations of houses of families evicted during the 1840s in the villages of Mulliviltrin, Gortoose, and Ballykilcline in County Roscommon, for example, revealed a paucity of glass remains and no soda-water bottles (Hull 2004; Brighton 2005). This study proposes that



FIGURE 9. A soda-water fountain ca. 1870s, with a variety of middle-class customers (Snively 1872:341).

the material qualities and positioning of soda water in the U.S. resonated with traditional Irish practices involving water, and soda water provided Irish immigrants with a compatible new material with which to manage physical, social, and economic hardship in America.

### Holy Wells

Particular traditions regarding spring water in Ireland shaped Irish worldviews and informed Irish diasporic migrants' understanding of soda

water. These traditions will be discussed at length here, beginning with holy wells and culminating with ordinary spring water. Irish Catholics (and many Irish Protestants) by the 18th century deemed certain springs (popularly called wells) to have supernatural healing and knowledge-giving powers by virtue of their supposed connections with particular saints or holy figures (Figure 10). This faith in the power of springs comes potentially from both universal human reactions to water's material qualities, like its reflective, hypnotic, and life-giving properties, and its abil-



FIGURE 10. "Pilgrims to the Holy Well Near Galway, Ireland," as imagined by a *Harper's Weekly* illustrator (*Harper's Weekly* 1871).

ity to change form and shape (Strang 2005), and more specifically from Celtic traditions in the British Isles and beyond (Bord and Bord 1985; Jackson 1990; Brenneman and Brenneman 1995; Strang 2005). Janet and Colin Bord (1985:4) for example, relate that the spring of Segais in the Celtic Land of Promise was the source of all knowledge, while Walter and Mary Brenneman (1995:27) note that in the Fianna cycle of Irish mythology the hero Finn mac Cumhaill gains wisdom from drinking from the same well.

The major events performed at holy wells in Ireland were and still are formal religious activities known as patterns. Patterns usually took place on particular Catholic holy days, such as the feast day of the well's patron saint, as well as holy days that corresponded with seasonal Celtic holidays, e.g., St. Brigid's Eve/Imbolc (1 February), St. John's Eve/Midsummer's Eve (23 June), All Saints' Day/Samhain (1 November),

etc. Each well, therefore, would have had a minimum of one major pattern event a year with possibly many more, and each well could have been used by individual pilgrims on any given day. Endorsed by Roman Catholic priests until the latter 19th century (when the Roman Catholic Church instituted a conservative "Devotional Revolution" in Ireland aiming to root out practices it believed to be pagan), major patterns attracted people from great distances and had religious, social, and economic components that were vital to Irish identity (Carroll 1999:19). As a result, the use of holy wells was by no means limited to Catholics; folkloric and historical records indicate that Protestants also frequented holy wells. In Ireland, young and old, Protestant and Catholic, rural and urban, rich and poor alike visited holy wells from time to time, as many continue to do today. Michael Carroll (1999:21) estimates there to be about 3,000 holy

wells in Ireland identifiable today, some of which still attract large numbers of pilgrims.

The religious component of holy-well patterns entailed a circumambulatory ritual involving prayers and penitence, and was accompanied by drinking or washing with the well water to cure physical, mental, and/or spiritual ailments (Figure 10). Carbonation in well water or the presence of a fish was perceived to be a sign confirming the well's supernatural power (Glassie 1985; Brenneman and Brenneman 1995:14). The Brennemans (1995:14) connect this perceived power of carbonated water to the Celtic myth in which the well of Segais was said to have "bubbles of inspiration." After the ritual, participants tied a piece of cloth to a nearby thornbush, to waste away, representing, if not encapsulating the sickness or sin they were leaving behind.

According to oral histories collected all over Ireland in the early to mid-20th century by trained representatives from the Irish Folklore Commission, an organization sponsored by the government of the Republic of Ireland and whose records are now part of the Irish National Folklore Collection (NFC), a person could potentially be cured of any ailment at any given holy well. Some conditions, nevertheless, were thought to respond better to holy-well cures than others, and some wells were celebrated for their success at curing particular conditions. Examples of the ailments most commonly reported as curable by specific holy wells include: eye ailments (National Folklore Collection—Schools' Manuscript Collection [NFCS] 1937:433, 1938d:271), fairy possession (Wilde 1890:41), fevers (Logan 1994:8), headache (NFCS 1938c:239–240), infertility (Logan 1994:16), insanity (Robins 1986:12–13), pain (NFCS 1937:434), paralysis (NFCS 1938d:271), skin problems (NFCS 1938e:6–7), and "illness" or "disease," in general (National Folklore Collection—Main Manuscript Collection [NFC] 1935b:71,100, 1936:534; NFCS 1938c:238, 1938d:273, 1938e:8). According to these and other records (Linn 2008:table D-4), the majority of ailments said to be cured by holy-well water were chronic conditions that did not respond well either to traditional herbal remedies or the prescriptions of professional physicians. Minerals within some well water might have been beneficial as mentioned above, but from a modern scientific point of view, holy wells typically healed by the not insignificant

power of placebo, bringing relief and hope to the afflicted. According to van der Geest et al. (1996), "the placebo effect—some prefer the term nonspecific effect—is now almost universally accepted as inherent in medicine, responsible for 10%–90% of its efficacy."

Especially significant for this study is that visitors would sometimes bring home holy-well water for future use in containers of ceramic, metal, wood, or glass (NFC 1936:543). A Protestant Irish immigrant aboard an emigrant ship reported that Catholics also brought holy water with them in a bottle for protection on their transatlantic voyage; this water more likely came from holy wells than priests, given the paucity of priests in rural mid-19th-century Ireland (Laxton 1996). Today in homes in Ireland and America, the tradition of keeping bottles of holy water for healing, protection, and proclaiming Catholic identity continues. All of these practices likely influenced how Irish immigrants initially interpreted soda water.

#### Secular Events at Holy-Well Patterns— Pattern Fairs

A visit to a well on a pattern day was not only a religious or healing experience, but also an important social experience, which must have informed the initial response of rural Irish immigrants to American cities. Estyn Evans (1957) wrote that "a countryman found any excuse to go to the fair," while Conrad Arensberg (1937) noted that rural Irish people marked the passage of time by fairs. A festival-like atmosphere accompanied patterns, where participants traded, courted, arranged marriages and local or nationalist alliances, danced, drank, and fought, all in the outdoors near the well (Evans 1957; Carroll 1999; O'Cadhla 2002). As a visitor to a pattern in Connemara in 1841 explains:

A pattern was originally a religious ceremony, and was, and still is, always celebrated near to a holy well; but although some still frequent the pattern for devotional purposes, it is now resorted to chiefly as a place of recreation, where, after the better disposed have partaken of the innocent amusements of dancing and moderate hilarity, drunkenness and fighting wind up the entertainment (Coyne and Willis 1841).

Patterns also offered important economic opportunities for the rural Irish. "Their whole

thought seems to be going to fairs and selling or exchanging," wrote P. Knight regarding the County Mayo peasantry in 1836 (Evans 1957:260). Opportunities for monetary exchange were otherwise rare because reciprocity governed exchange in villages (Arensberg 1937), and selling homemade items like butter, which normally was given freely to neighbors, carried a stigma of poverty (Evans 1972:260). These rules were relaxed outside the village, and fairs became an important site for monetary exchange. Exchange was not limited to goods at the fair, at least by 1867 in Ardmore, County Waterford. A visitor to the well told of how, as part of the pattern "you are expected to drink a glass of water ... nothing but ordinary spring water ... the gratuity of one penny satisfied the old woman who has charge of the well" (O'Cadhla 2002:22). Compensating a healer for services with a token gift has a long history in Ireland, but it was usually given in goods and had to be presented as a completion of an exchange perceived to be reciprocal (Gregory 1976; Buckley 1980; Logan 1994). The idea that in some cases it was acceptable to provide monetary compensation, even for curing, might have facilitated a relatively smooth transition by Irish immigrants to the capitalist economy of New York City.

Pattern fairs in Ireland also created occasions for people to cultivate valued skills of negotiating purchases. "It was at the fair that a man proved his adult status by his ability to hold his own at buying and selling" (Evans 1957:261). Nevertheless, Evans (1957:261) writes that the Irish never bargained alone, believing that getting a good price was beneficial to all. In rural Ireland as well as in New York, there was a constant interplay between the desires for individuality and community.

Faction fights typically occurring at holy-well patterns, moreover, were ways of resolving tensions between local groups, creating community within groups, and allowing for individual display. Fighting permitted individuals, perhaps those who could not exercise their masculinity through buying and selling, to attain power. Irish gangs who squared off against gangs of native-born Americans in urban areas, or against strikebreakers along railroads and canals were not unlike these factions (Brown 1976:62–63; Ignatiev 1995), composed, according to Noel

Ignatiev (1995), of men who allied with one another because they were from the same region or county in Ireland.

Holy-well patterns also became venues for a larger fight: independence from British rule. Because large numbers of people gathered for holy-well patterns and the attached fairs, they presented Irish nationalists with important opportunities to organize resistance. While the connection between nationalism and soda water might appear tenuous, it is significant that the largest nationalist meeting of the 19th century was held near an important holy-well. In August of 1843 at Tara, the seat of ancient Irish kings and location of St. Patrick's Well, Daniel O'Connell organized his greatest "monster meeting" to gain support for repeal of the 1801 Act of Union with Great Britain (Owens 1998). According to legend, this important well sprang up where St. Patrick first converted an Irish king. O'Connell no doubt chose Tara to enhance his words with the religious and historical power of that special place.

Many Irish nationalists, including O'Connell, also supported the temperance movement, which is important for assessing soda water as a temperance drink in New York City. During the 1840s and 1850s Fr. Theobald Mathew, an Irish Catholic Capuchin priest, gained thousands of members in both Ireland and New York City for his temperance movement, requiring a pledge of total abstinence from alcohol (Kelly 2000). Before Fr. Mathew, most temperance leaders were Protestants, many of whom supported temperance because they hoped it would increase worker efficiency (Malcolm 1986:59). Fr. Mathew's sermons addressed Irish Catholic concerns; he promised temperance would bring the erasure of class and religious differences and money to provide for children. Nationalists subsumed Fr. Mathew's movement in Ireland by the mid-1840s, so that pledging temperance became important for pledging nationalism (Malcolm 1986:126–128).

These experiences of holy-well patterns are vital for understanding how Irish immigrants in New York City understood both soda water, a new commodity that resonated with spring water, as well as immigration to urban areas. Patterns and nationalist meetings were reference points from which Irish immigrants from rural areas interpreted the city, since for many it was

their only experience of such population density prior to departure. It is not surprising that in New York City Irish immigrants engaged in fairlike behavior that middle-class New Yorkers were quick to criticize: dancing, drinking, fighting, and spending too much time out in the streets. As Nan Rothschild and Cynthia Robin (2002) point out, analyzing uses of exterior space is crucial for understanding social dynamics, particularly in urban settings.

#### Holy-Well Patterns as Occasions for Personal Transformation

All of these activities around holy-well patterns considered, patterns presented people with opportunities for independence and personal transformation that they did not have in villages, where communality instead of individuality reigned. The ritual of the pattern, where the pilgrim's goal is washing away sickness and sin, and the experience of the journey to the well, likely enhanced the individual's transformative potential. Diarmuid O' Giollain (1998:212–213) suggests that the pattern is seen as a liminal occasion, following Arnold Van Gennep's (1960) usage—taken up by Victor Turner (1969)—in which pilgrims exist in a sacred state and place outside the ordinary, and where they engage in rituals to create a new self in the midst of an egalitarian community. The pattern and the fair simultaneously bridged the needs of the community to maintain and revitalize social bonds and the needs of individuals to assert independence.

The journey to a holy well, moreover, increased the pilgrim's transformative potential. According to Carroll (1999:42), Irish people linked holy-well pilgrimages to the legendary pilgrimage of St. Columba; this revered saint voluntarily exiled himself as penance. The 15th-century "Book of Lismore" describes his journey as a perfect pilgrimage because he left "his fatherland completely in body and in soul." This legend may have been a comforting one for some Irish immigrants, most of whom would never return to Ireland. Perhaps it encouraged them to draw parallels to their own experiences and frame their emigration as a pilgrimage, in contrast to Kerby Miller's (1985) thesis that the Irish coped with emigration by framing it as exile. Things that triggered immigrants' memories of holy-well pilgrimages, like soda water and the atmosphere at soda fountains,

would have been integral to this process, as water was an essential element of the pilgrimage. The material qualities of water, particularly its endless transmutability, encouraged those who imbibed the water to change themselves as well (O'Cadhla 2002:56). Veronica Strang (2005:98,105,108) illustrates how water's form-shifting qualities are especially important for understanding how humans interact with water and its common use in rites of passage; citing Lakoff and Johnson (1980), she points out that "water is the ultimate metaphor of fluidity."

#### Irish Traditional Water Cures

Rural Irish people did not believe that all wells were holy. They regarded many springs as places to obtain ordinary water for drinking, cooking, washing, preparing home remedies, etc. These ordinary wells were no less vital to Irish people, however. They were nodes of daily secular community activities and were physical features with which they especially identified. Over the past few decades anthropologists and other social scientists have explored the connection that individuals and groups feel to particular landscapes and features within them (Schama 1985; Tilley 1994; Basso 1996). Clearly most Irish immigrants felt a strong connection to the physical features of Ireland and its moist and verdant nature, as revealed in expressions like the "Emerald Isle" or the "Old Sod." An example of a personal connection to wells is found in the autobiography of Irish immigrant Mary MacLean (ca. 1886–1900) in particular. Mary related that when hospitalized with cholera outside Quebec in 1832, none of the drinks allowed her ("brandy and water, lemon juice and water without sugar and very thin gruel without salt") "satisfied" her. Her "bed was near a window, through which could be seen a well and this sent [her] dreaming [emphasis added]" (MacLean [1886–1900]). This well likely sent her dreaming of home as well as of a thirst-quenching drink.

This story highlights how important ordinary spring water was to Irish people in maintaining and regaining health. Manuscripts from the NFC contain thousands of traditional cures employing ordinary spring water in addition to those using holy-well water. Some examples include drinking large quantities of plain spring water for headaches, hangovers, and colds

(NFCS 1938c:126; NFC 1955:205); infusions of herbs in spring water for jaundice, constipation, and consumption (NFC 1941:343,347; Logan 1994:46–47; Allen and Hatfield 2004:163,181,218,221,275,284,287); and soaking in, or making poultices with water as an ingredient, for bruises, cuts, and sprains (NFC 1935a:595; NFCS 1937:104, 1938c:130). Within Irish households, people also commonly mixed water with baking soda, approximating soda water, as a remedy for heartburn and headaches (NFC 1935a:597; NFCS 1938c:133, 1938d:250; Logan 1994:33). People also visited forges for the iron-laden water blacksmiths used to cool their work, a kind of mineral water (Linda-May Ballard, 2010, pers. comm.) thought to cure skin ailments like abscesses, sores, chilblains, and warts (NFCS 1938c:125,236; Wilson 1943:183; Logan 1994:68,120), as well as sore throats (NFCS 1938c:140), rickets (Ballard 2009:32), and other complaints. Curing these kinds of afflictions could have been on the minds of the Irish immigrants who purchased soda water at the Five Points.

#### Interpretations of Soda Water at the Five Points

Given the complex relationship between 19th-century Irish people and water, what is the archaeologist to make of the soda-water bottles found in association with Irish-immigrant dwellings in the Five Points or in Paterson, New Jersey? Because soda water was a popular commodity in America and Britain, supported by reformers and the scientific community, it is tempting to explain these bottles as an Irish attempt at upward mobility or assimilation of respectable values, as other health-related items have been interpreted. Yet this interpretation, to some extent, fails to acknowledge the cultural associations that a person brings to understanding an object and the innovative potential of the individual or the object. The following discussion suggests that soda water was not merely a prestige commodity, but one bearing multiple meanings and uses that helped Irish immigrants cope with the traumas of emigration and to remedy the ills of immigration.

#### Soda Water as Medicine

As mentioned previously, Irish immigrants have been documented as experiencing more illness

than any other 19th-century ethnic group in New York City (Ernst 1949). Archaeological evidence suggests they sometimes chose soda water as a medicine. Affordability and alienation from professional American medicine likely affected this choice (Bonasera 2000; Brighton 2005, 2008), but compatibility with Irish beliefs about healing water was no doubt essential. Medical anthropologists and folklorists have demonstrated that medicine is culturally and socially based and that confidence in a remedy has powerful healing effects, even if the treatment cannot be demonstrated to be scientifically effective (Honko 1962–1963; Van der Geest et al. 1996; Moerman 2000). Laurie Wilkie's (1996, 2003) work on African Americans in the American South, moreover, demonstrates that when met with new sets of circumstances, people are likely to replace traditional home remedies with store-bought ones if the latter are compatible with their medical system.

Soda water was the closest thing to holy-well or spring water in New York City, where unpolluted Croton Reservoir water was not accessible in all of the tenements in Lower Manhattan until the late 19th century (Yamin 2000:348–350). Although safe Croton water could be obtained from neighborhood pumps, Irish people most certainly recognized this piped-in water as different from Irish spring water, and ordinary well water in the city was by this time polluted. Soda-water manufacturers marketed their water as pure. These advertisements, combined with the fact that soda water was typically sold by apothecaries, inspired confidence in its purity and healthfulness. Historical records and oral histories indicate that Irish people generally had faith in apothecaries that was equal to or exceeded that which they had in physicians (Harley 1990:51; Kearns 1994). Soda water's carbonation probably also appealed to Irish immigrants, who believed in the potency of bubbly well water (Brenneman and Brenneman 1995:14). Anne Funderberg (2003), a historian of the soda fountain, writes that fizziness was a quality American consumers especially desired of their soda, and one for which the successful New York City soda-fountain shop of the Irishman George Usher was known.

It is difficult to ascertain exactly which ailments Irish immigrants purchased soda water to remedy, but medical case records from city hospitals offer some suggestions. Case histories



from New York Hospital from 1852 record two Irishmen as treating themselves with soda water prior to admission. One was a waiter (New York Hospital [NYH] 1852–1853:case 60), the other a physician (NYH 1852–1853:case 23), and they both complained of colic after lead exposure. This use is especially interesting, because the soda water could have either exacerbated or alleviated their symptoms depending on the source of the water. Soda water from poorly tinned fountains or those using lead solder could leach lead into the water, as a few articles written by Dr. H. Ogden Doremus (1854a, 1854b) in the *New York Daily Times* in 1854 warn. At the same time, the waters at Bath, England and other spas were well known for their ability to cure paralysis resulting from lead colic (Heywood 1999). Audrey Heywood (1999:101) explains that in addition to flushing lead out of the system, drinking water from Bath could have cured this condition because of the water's high concentrations of iron and calcium; inadequate amounts of these two minerals increases the quantity of lead that is absorbed and retained in the body. Many Irish immigrants, especially during the famine period, could have suffered from iron-deficiency anemia, as this condition is a common result of famine and malnutrition (Maletnlema 1992), making them more susceptible than middle-class Americans not only to lead poisoning, but also a host of epidemic and endemic diseases, most notably tuberculosis (Daniel 1997:38). Malnutrition, in general, has been found to increase the severity and the risk of developing diseases, including tuberculosis, measles, diarrhea, whooping cough, cholera, most respiratory infections, and most intestinal parasites (Cohen 1989:167), all ailments that were found amongst Irish immigrants in 19th-century New York City (Linn 2008). Drinking water infused with minerals might have helped some to prevent or lessen the severity of some of these afflictions.

Did either of the two Irishmen with colic at New York Hospital know about the cure for lead poisoning in iron-rich mineral water, or did they use a bicarbonate water to ease their indigestion like the Irish home remedy of baking soda in water, or did they use a purging magnesia water hoping it could cleanse their blood of the poisonous lead? Unfortunately, the hospital records are silent about their specific

motives and the type of water they drank.

Of the many soda-water bottles at the Five Points, three bottles produced by John Clark(e) (two bottles of Clarke & White in Feature J, and one bottle of Lynch & Clarke in Feature AM) were identified, and suggest that an Irish resident or two purchased soda water for purging their blood of sickness and/or poison (Bonasera 2000:381). Figure 11 shows a typical Clarke & White soda-water bottle of ca. 1856–1866. At this time before germ theory, both physicians and the general population believed that a variety of illnesses, from typhus fever to tuberculosis to syphilis, resulted from impure or poisoned blood. According to an article in *Harper's Weekly* (1857), Clarke & White were the discoverers of the well-known Congress Spring at fashionable Saratoga Springs in New York State. Congress water was a "a weak dilution of magnesia, with a dash of Epsom salts" used for purging, and it was best for "men and women crippled and crooked from hard work, hardfare, disease, and the infirmities of age; young maidens wasted and pale from those constitutional debilities to which, on this continent, they are so liable." As mentioned previously, water from bona fide spas was expensive and would have been a considerable investment for the average laborer. With rates of tuberculosis among the Irish-immigrant community reaching epidemic levels in the late 1850s and early 1860s (Linn 2008), some individuals who had experienced little relief from either traditional Irish remedies or physicians' prescriptions might have put their faith in Clarke & White's water, which advertisements stress was genuine Congress Spring water (Figure 12).

A case record from Bellevue Hospital further supports the idea that some Irish immigrants felt soda water could purify the blood, and that this rationale was a motivating factor for some to purchase soda water. Before being admitted to the hospital, an Irish-born mother took her seven-year-old son, who had been bitten by a rabid dog, to an Irish woman who might have been recognized in the community as a healer. This woman gave the boy soda water, which like the harsher remedies of the physicians at the hospital, unfortunately could not save him (Bellevue Hospital 1874:347–349).

Other Irish immigrants may have employed soda water as a preventive medicine. Accord-

ing to traditional Irish ideas about sickness, overheating in the summer was a prime cause of consumption, a 19th-century term for chronic debilitating illnesses, particularly tuberculosis (Logan 1981). Soda water, particularly from fountains, was one of the few cold drinks available during hot New York City summers, and was very popular among all classes as a cooling beverage (Funderberg 2003).

#### Soda Water for Temperance and as a Marker of Irish National Pride

Another ailment that Irish and American reform leaders hoped soda water could alleviate was intemperance, and as mentioned earlier, by the late 1840s temperance and nationalist movements in Ireland were linked. Artifacts, like a transfer-printed teacup picturing Fr. Mathew administering the temperance pledge (Kelly 2000:265), uncovered at 472 Pearl Street, and historical records linking Five Points residents to Irish nationalist organizations (Yamin 2000) reveal that both of these movements also received support in New York City. It is possible, therefore, that certain Irish individuals in the Five Points were motivated by these causes to purchase the soda-water bottles found there.

Soda-water bottles embossed with surnames common in Ireland appear to have been particularly desirable to Irish immigrants in the Five Points and Paterson, New Jersey, and could have been useful for nationalist purposes (Table 2). Of 31 embossed soda-water bottles found at the Five Points, 42% have Irish or Anglo-Irish surnames, such as Walsh & O'Neill, Seely & Bro., Lynch & Clarke, Clarke & White, P. Kellet (Figure 13), and G. Cassidy. An additional 35% were embossed with Scottish surnames, such as Tweedles Celebrated Soda & Mineral Waters. The only embossed bottle of any kind from Ireland found at the Five Points was a soda-water bottle embossed with "CANTRELL & COCHRANE// DUBLIN /&/ BELFAST." The brand most represented at the Five Points, Seely & Bro. (Figure 1), was also uncovered in Irish contexts in Paterson, New Jersey (Yamin 2000:122). This was only one of several brands found in Paterson with Irish or anglicized Irish names, such as McKenna & Connolly, McGovern Bros., Boyle Bros., William S. Kinch, and William T. Allen (also Tiffany & Allen) (Yamin 2000).

By the last quarter of the 19th century, there were scores of soda-water companies from which to choose in the New York City area, and many of the more popular brands, like J. Boardman, W. E. Brockway, J. & A. Dearborn, W. Eagles, and George Spreitzer & Co. had English or German names. Table 2 compares brands of soda water found at the Five Points, Greenwich Mews, 25 Barrow Street, Sullivan Street, and Paterson, New Jersey, and shows that while Irish immigrants seem to have generally preferred Irish-sounding brands, native-born Americans and German immigrants may have preferred non-Irish-sounding brands. William Eagles Superior Soda Water, for example, was present in all non-Irish contexts and absent in all Irish contexts surveyed, likely because of a perceived connection with American nationalism (often symbolized by an eagle) during a period when anti-Irish Catholic sentiment was high (Berger 1946).

Paul Reckner (2000:107–110) notes that because of fear of inciting prejudice from native-born neighbors, Irish immigrants residing in the Five Points in the 1840s and 1850s did not always display their ethnicity in the ways that American or German-immigrant working-class individuals did, by smoking pipes embossed with nationalist logos. Instead, Irish immigrants projected their pride and identity more subtly. Selectively purchasing bottles with Irish names to express their support of and trust in their fellow countrymen, and drinking from them in public or reusing them at home could have been one of many more-subtle methods.

This inconspicuous use of materials corresponds with the way in which nationalists in Ireland employed greenery during the 1840s as a specific and covert symbol of nationalism (Owens 1998:252–253). Under the Party-Processions Act of 1832 it was unlawful for anyone in a public demonstration to "bear, wear, or have amongst them ... any banner, emblem, flag, or symbol' that might provoke sectarian animosity" (Owens 1998:253), so nationalists creatively used branches of plants and shrubs instead. Charles Orser (2001:99) also suggests that the ubiquitous earthenware jug came to stand as a poignant symbol of traditional Celtic culture in Irish illustrations from the mid-19th century onwards. Archaeological remains from the Five Points show that the Irish did have earthenware jugs and plants (evidenced by flower pots and macroplant remains) in America. These items





FIGURE 11. Example of a typical Clarke & White mineral-water bottle which contained water from Saratoga Springs's Congress Spring, ca. 1856 to 1866 (Lindsey 2009).

may still have retained symbolic value, but soda water seems to have been a new addition to the Irish symbolic oeuvre, perhaps because it emphasized new Irish American values of prosperity, innovation, and modernity while still resonating with Irish traditions.

**Bottles as Receptacles for Remedies**

Considering both the universal acknowledgement that water is necessary for life (Strang 2005), and



TO SOUTHERNERS,  
DRINKERS OF  
**Congress Water.**

MUCH spurious Mineral Water is sold as "CONGRESS WATER" by unprincipled persons or counterfeiters, who, when they dare not use that name, call it "Saratoga" Water; "Saratoga" being only the name of the town where the Spring is situated.

To protect the public from such impositions, we have all our Corks branded thus

Any not having those words and letters on the Corks, are Counterfeit; and the Purchaser should prosecute the Seller for swindling.

Orders will receive prompt attention if addressed to us at our Southern Depot of Congress Water, 95 CEDAR STREET, New York City.

CLARKE & WHITE,  
PROPRIETORS CONGRESS SPRING.

Lists of dealers who procure Congress Water for their sales direct from our house, are kept at our office for distribution to those who desire to purchase genuine Congress Water in their own neighborhood. C. & W.



FIGURE 12. Advertisement for Clarke & White Congress Water warning customers about counterfeit Congress Spring water and attracting their attention with an image of the horseracing track at Saratoga Springs (*Harper's Weekly* 1860).

specific traditional Irish cures involving water, it is likely that Irish consumers were motivated to purchase seemingly purer bottled water for incorporation into traditional remedies, in lieu of potentially contaminated city water. To an Irish consumer, an Irish name embossed on the bottle would have inspired greater confidence in the water's purity and potency. Once a traditional remedy was made, moreover, a soda-water bottle

TABLE 2  
SODA-WATER BOTTLE BRANDS FROM IRISH AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Brand Name	Date of Manufacture	Place of Manufacture	Sullivan Street Features 9 & 10 (ca. 1850s-1870s) American	Greenwich Mews Privies 1 & 2 (ca. 1840s-1880s) American	Five Points Features AL, AN, & H (ca. 1860s) German & Polish, possible brothel	Five Points Features J, O, AM, & AK (ca. 1840s-1880s) Irish	Paterson, NJ Features 8, 10, 63, 68, & 127 (ca. 1840s-1900s) Irish
William T. Allen	?	Paterson, NJ	—	—	—	—	1 (F63 1892)
Archdeacon's Mineral Waters	Embossed 1850	Paterson, NJ	—	—	—	—	1 (F127 1850)
B. W. & Co.	?	New York, NY	—	—	—	1 (FJ 1870)	—
J. Boardman & Co.	1846-1858	New York, NY	1a (F9 1857)	—	1 (FAL 1860)	2 (FO 1860)	—
W. E. Brockway	1854-1872	New York, NY	1a (F10 1870)	—	—	1 (FO 1860)	—
Cantrell & Cochrane	?	Dublin & Belfast, Ireland	—	—	—	1 (FAK 1890)	—
G. Cassidy	1851-1874 (embossed 1861)	New York, NY	—	—	1 (FH 1860)	—	—
Clarke & White (Saratoga Spring Water)	1852-1866	New York, NY	1a (F10 1870)	—	—	2 (FJ 1850 & FJ 1875)	—
Joseph Cohn	1857-1866	Brooklyn, NY	—	1 (P2A 1866)	—	—	—
J. B. & E. S. Cronk	?	Tarrytown & Port Chester, NY	—	—	—	1 (FJ 1870)	—
J. & A. Dearborn & Co.	1847-1868	New York, NY	1a (F10 1870)	—	—	2 (FO 1860)	1 (F127 1850)

TABLE 2 (CONTINUED)  
SODA-WATER BOTTLE BRANDS FROM IRISH AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Brand Name	Date of Manufacture	Place of Manufacture	Sullivan Street Features 9 & 10 (ca. 1850s-1870s) American	Greenwich Mews Privies 1 & 2 (ca. 1840s-1880s) American	Five Points Features AL, AN, & H (ca. 1860s) German & Polish, possible brothel	Five Points Features J, O, AM, & AK (ca. 1840s-1880s) Irish	Paterson, NJ Features 8, 10, 63, 68, & 127 (ca. 1840s-1900s) Irish
Dixon & Carson	?	Paterson, NJ?	—	—	—	—	1 (F127 1850)
Peter Donnelly	Embossed 1861	New York, NY	—	1 (P2A 1880)	—	—	—
W. Eagles Superior Soda or Mineral Waters	1844-1885	New York, NY	1* (F10 1870)	1 (P1 1862)	2 (FAN & FH 1860)	—	—
Gardner & Co.	?	Hackettstown, NJ	—	—	—	—	1 (F127 1850)
Harrold & Johnston	1860-1862	New York, NY	1* (F10 1870)	—	1 (FO 1860)	—	—
Honesdale Glassworks Mineral Water	?	Honesdale, PA	—	—	—	—	4 (F127 1850)
Hubener	1852-1857	New York, NY	—	1 (P2B 1851)	—	—	—
Matthew Johnston	Embossed 1880	New York, NY	—	1 (P2A 1880)	—	—	—
Henry Keeble Mineral Water	?	New York, NY	—	—	—	—	1 (F127 1850)
P. Kellet	?	Newark, NJ	—	—	—	1 (FJ 1870)	—
Wm. S. Kinch	Pre-1856-1880	Paterson, NJ	—	—	—	—	4 (F63 1892)

TABLE 2 (CONTINUED)  
SODA-WATER BOTTLE BRANDS FROM IRISH AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Brand Name	Date of Manufacture	Place of Manufacture	Sullivan Street Features 9 & 10 (ca. 1850s-1870s) American	Greenwich Mews Privies 1 & 2 (ca. 1840s-1880s) American	Five Points Features AL, AN, & H (ca. 1860s) German & Polish, possible brothel	Five Points Features J, O, AM, & AK (ca. 1840s-1880s) Irish	Paterson, NJ Features 8, 10, 63, 68, & 127 (ca. 1840s-1900s) Irish
F. Klein	—	1864-1868	New York, NY	—	1 (P2A 1880)	—	—
P. Knickerbocker	Embossed 1848	New York, NY	—	—	—	1 (FJ 1850)	—
Komahrens & Fitschen	1860-1863	New York, NY	—	—	—	1 (FJ 1870)	—
Lynch & Clarke (Saratoga Spring Water)	1811-1845	New York, NY	—	—	—	1 (FAM 1851)	—
J. Matthews Soda Water Manufacturer & Apparatus	?	New York, NY	—	—	—	—	1 (F68 1853)
McGovern Bros.	?	Albany, NY	—	—	—	—	1 (F10 1887)
McKenna & Connolly	Embossed 1861	New York, NY	—	—	—	—	1 (F127 1850)
Morton & Bros.	?	Newark, NJ	—	—	—	3 (FJ 1870)	—
D. L. Ormsby Soda	?	New York, NY	1a (F10 1870)	—	—	—	—
P. Pfannebecker Soda Water	?	Paterson, NJ	—	—	—	—	1 (F63 1892)
Premium Soda Water	Embossed 1860	New York, NY	1a (F10 1870)	—	—	—	—

TABLE 2 (CONTINUED)  
SODA-WATER BOTTLE BRANDS FROM IRISH AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Brand Name	Date of Manufacture	Place of Manufacture	Features 9 & 10 (ca. 1850s-1870s) American	Privies 1 & 2 (ca. 1840s-1880s) American	Features AL, AN, & H (ca. 1860s) German & Polish, possible brothel	Features J, O, AM, & AK (ca. 1840s-1880s) Irish	Features 8, 10, 63, 68, & 127 (ca. 1840s-1900s) Irish
Peter Rice's Celebrated Mineral Waters	Embossed 1879	Paterson, NJ	—	—	—	—	2 (F10 1887)
Seely & Bro.	1858-1866	New York, NY	—	—	—	5 (FJ 1870)	1 (F127 1850)
Smith's Knickerbocker Soda Water	?	New York, NY	—	1 (P1 1862)	—	—	—
George Spreitzer & Co.'s Mineral Waters	Embossed 1882, 1891, 1887, 1888, 1892, & 1893	Paterson, NJ	—	—	—	—	13 (F63 1892, F10 1887, & 1903)
Robert Swinley's Soda and Mineral Water	1884-1920	Paterson, NJ	—	—	—	—	3 (F10 1887)
Tietyen & Menken	1860-1865 (embossed 1860)	New York, NY	—	—	—	1 (FJ 1870)	—
Tiffany & Allen's Mineral Water	1877-1891, 1 embossed 1882	Paterson, NJ	—	—	—	—	15 (F10 1887 & F63 1892)
Tweedles Celebrated Soda & Mineral Waters	1844-1849	New York, NY	—	1 (P1 1862)	1 (FAN 1860)	—	—
Walsh & O'Neill	?	New York, NY	—	—	—	1 (FAK 1890)	—

TABLE 2 (CONTINUED)  
SODA-WATER BOTTLE BRANDS FROM IRISH AND NON-IRISH SITES IN THE NEW YORK CITY AREA

Brand Name	Date of Manufacture	Place of Manufacture	Sullivan Street Features 9 & 10 (ca. 1850s-1870s) American	Greenwich Mews Privies 1 & 2 (ca. 1840s-1880s) American	Five Points Features AL, AN, & H (ca. 1860s) German & Polish, possible brothel	Five Points Features J, O, AM, & AK (ca. 1840s-1880s) Irish	Paterson, NJ Features 8, 10, 63, 68, & 127 (ca. 1840s-1900s) Irish
Richard Warren & Co.	?	Paterson, NJ	—	—	—	—	3 (F63 1893 & F10 1887)

Note: Sources for dates and places of manufacture were determined through bottle embossments and city directories by the authors of the glass reports for each site. Feature designations and level TPQs are provided in parentheses next to bottle counts of each brand. Data from Barrow Street is not included, because the brand of the one bottle found at the site is either unidentifiable or not specified in the site report.

<sup>a</sup>Represents minimum bottle count. Total counts are not available for Sullivan Street, a site in Greenwich Village associated with single- and multiple-family houses occupied by middle-class native-born Americans ca. 1850s-1870s.

Sources: Geismar (1989), Salwen and Yamin (1990), Bartlett (1999), Yamin (1999), Bonasera (2000), Ponz (2000), and Yamin (2000).

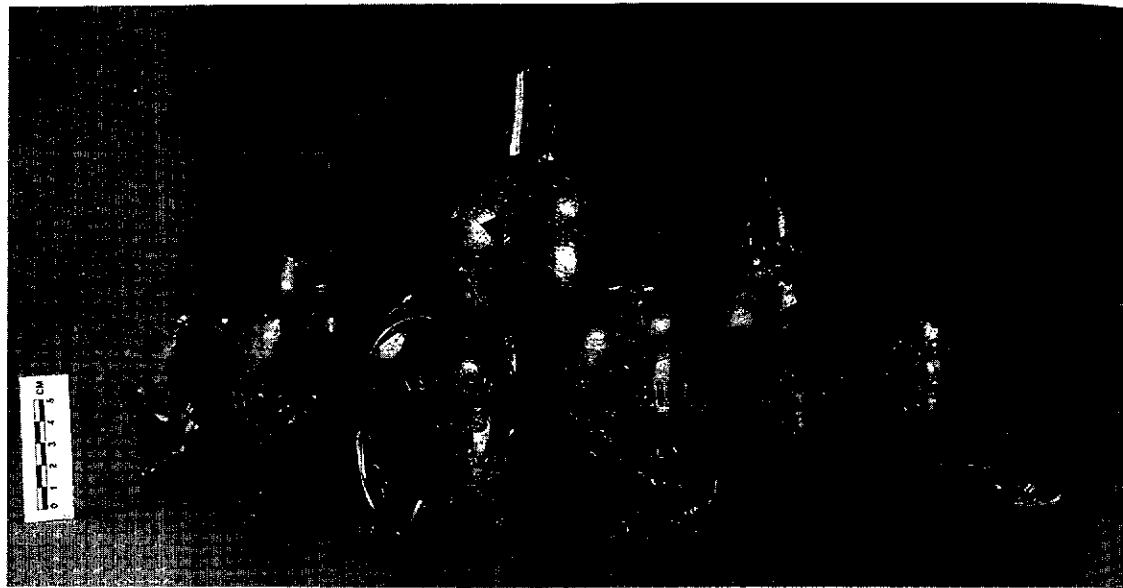


FIGURE 13. Examples of embossed soda-water bottles, ca. 1850–1880, found in Five Points Feature J, in association with an Irish tenement at 472 Pearl Street (Bonasera, 2000:figure 124). Brands include P. Kellet (*front center right*), P. Knickerbocker, and B. W. & Co. (Courtesy of John Milner Associates, Inc.)

made of thick glass would provide a convenient receptacle to store or distribute the remedy. Soda bottles were particularly valued for domestic reuse because they were strong enough to withstand the pressure of carbonated beverages. Jane Busch (1987) writes that domestic reuse of soda bottles for homemade “exhilarating drinks” and sauces was so common in the U.S. that it caused shortages in bottle supplies for soda manufacturers. Historical evidence does support the idea that some Irish immigrants were producing and selling illegal whiskey in New York City, but it is also likely that production of homemade Irish remedies—many of which incorporated whiskey (Linn 2008)—was another “hidden industry” even more vital to the Irish community, and one that likely incorporated usage of soda water and soda-water bottles.

In 19th-century Ireland, as in many other times and places, women were typically responsible for caring for the health of their family members. In addition to nursing the sick and injured, the average woman also prepared medicinal cures. Wealthier women kept recipe books filled with cures garnered from old family recipes, local healers, professional physicians, newspapers, and other sources (Farmar 2004), while in rural areas recipes were typically transmitted orally across time and

space: “Every household made its own cough mixture which was then stored in the winter,” an Irish informant told an Irish Folklore Commission collector, for example (NFCS 1938a:14). Certain families were known to possess cures for particular afflictions, either herb based or supernaturally based, and these families were sometimes sought out by people from great distances, e.g., Cahill, bleeding (Maloney 1972:68); Cassidy, worms (Maloney 1972:68); Keogh, erysipelas (Logan 1994:70); McGovern, rabies (Logan 1994:12); and Walsh, ringworm (NFCS 1938b:195). Individuals were recognized to be special healers, from bonesetters (usually male) to *collughs* or *cailleach*, which roughly translates as “old wise women” (Farmar 2004:64). Some wise women, like the famous Biddy Early from County Clare, were known to dispense their plant-based infusions in bottles (Brew 1990). The thick glass of soda-water bottles, moreover, was ideally suited for a traditional Irish method of remedying a boil by placing the rim of a heated bottle over the boil so that when it cooled the bottle would extract the infected matter (NFC 1936:529; Logan 1994:107).

Although historical evidence is admittedly thin, it is very likely that in New York City some Irish women expanded production of remedies

for their own families to take care of neighbors and to help make ends meet. In her historical study of Manhattan’s Sixth Ward, Carol Groneman (1973) found that workingmen’s wages (about \$1 per day) were too low to support a family and that women’s earnings were vital to keep the family afloat. Wages for typical working-class women’s occupations like laundry and sewing were abysmal (about \$2 per week), and it would have been nearly impossible for a single mother to support children with these wages. Domestic service paid better, but would have taken a mother away from her children. U.S. and New York State census records show that at 472 and 474 Pearl Streets about 40% of households were headed by single Irish-born women (USBC 1850, 1860, 1870; NYSC 1855). By selling homemade whiskey and/or medical remedies these mothers could stay at home and support their families.

Producing remedies and/or whiskey could also have been important for elderly women or men (who in New York City might not have been able to command the respect traditionally afforded to them in Ireland), ensuring them a respected place in their children’s homes by their economic contributions to the household. According to U.S. and New York State census records there were a considerable number of older Irish women, 23 individuals over 50, who resided at 472 and 474 Pearl Street from 1850 through 1870 (USBC 1850, 1860, 1870; NYSC 1855). Only five of these women reported an occupation to the census takers; two were laundresses, one was a porter, and two “kept house.” It is likely that some of them had, either through training or life experience, gained wisdom of traditional Irish cures, and were regarded as healers in the community. Traditional healers, especially those offering services for expectant mothers, are vital in immigrant communities. As Jan Pacht Brickman (1983:70) writes, they “lay in the buffer that immigrant groups maintained against an already overwhelming cultural shock.” Soda water and the vessels that contained it likely facilitated these women in their efforts to maintain the well being of their families and communities.

#### Soda Water as Vital Hospitality

Some Irish women and men might have also found an attractive soda bottle, particularly one embossed with an Irish name, a desirable object

to keep in the home in order to properly welcome guests. Remains of fancy tea wares found in the same deposits as the soda bottles evidence that entertaining and display was important to Irish people in the Five Points (Brighton 2000). While it is perhaps surprising that entertaining would be a priority in a working-class tenement, providing hospitality was deeply valued in rural and urban Ireland, and was an important method of creating reciprocal relationships among neighbors to establish ties of aid for an unpredictable future (Arensberg 1937; Glassie 1982; Mahon 1991; Kearns 1994). One of Henry Glassie’s (1982:143) rural Ulster informants elaborates on the importance of sharing: “Neighbors come first. It is your neighbor you rely on. ... You must be prepared to cooperate with them when disaster strikes. It will.” In Ireland, tea, stout, whiskey, *poitin* (homemade whiskey), tobacco, and food were typically shared with guests. A bottle of whiskey in particular was always kept in the house to offer a visiting priest a drink (Glassie 1982; Mahon 1991:32). Sharing these substances promoted discussion, a concurrent sharing of news, gossip, concerns, grievances, histories, and myths, further binding participants to one another and facilitating the release of social tensions and personal anxieties. To these ends, soda water might have replaced the whiskey bottle in a household with temperance leanings, or a cup of tea during hot summers in New York City. The conversations provoked and social ties established over sharing a bottle would have been absolutely critical for the survival of most immigrants and constituted a kind of social medicine.

#### Soda Fountains and Holy-Well Fairs

In considering the medium by which Irish immigrants obtained soda water it is also important to examine the soda fountain (Figure 9). While a bottle of soda water in an apothecary shop probably reminded immigrants of a visit to a healer for a spring water-based remedy, the lively atmosphere of a soda-fountain shop likely evoked memories of holy-well pattern fairs. Strutting up to the counter and paying for a soda displayed the attractive qualities of maturity and means also asserted at patterns. Women would probably have been particularly fond of soda fountains because they were an alternative social venue to the pub, from which respectable

women were traditionally excluded, with the exception of female bartenders (Malcolm 1998).

Publicly purchasing a bottle of soda water likely brought additional status to an Irish consumer because costly glass was associated with wealth in rural Ireland (Dorian 2000). Purchasing certain brands could also convey support for fellow Irishmen, as mentioned above, or knowledge of things and places American. Paul Mullins (1999:25) also shows, in his study of African American families in 19th- and early-20th-century Annapolis, that these families preferred goods from nationally recognized brands because brand names ensured them higher-quality goods, helped them to avoid the racism of some shopkeepers, and enabled them to display higher status. The bottles of Clarke & White and Lynch & Clarke soda water found at the Five Points likely signaled a high-quality product to the consumer (Figures 11 and 12), and at the same time advertised that the consumer was sophisticated and knowledgeable about the fashionable spa at Saratoga Springs.

#### Irish Immigrants in the Soda-Water Business

Far from being only the consumers of soda water, Irish immigrants also produced and sold soda water in New York City. The soda-water bottles embossed with Irish names, from the Five Points and Paterson, attest to Irish ownership of businesses, while historical records show Irish involvement in soda-water manufacture and the soda-fountain business.

Two Irish-born men admitted to New York Hospital in 1852, for example, declared their occupations to be "soda water vendors" (NYH 1852-1853:cases 113,198), while three Irish-born brothers at 472 Pearl Street reported their occupations as "soda water makers" to the 1850 U.S. census (USBC 1850). Given that according to the census, Dennis, Michael, and James O'Kelly were only 25, 23, and 16 years of age respectively, it is likely that they were workers in rather than owners of a soda-water business. They might have worked at William Gee's Soda Water Apparatus Manufactory, advertised at 66 Gold Street in the *New York Daily Times* (1852), or at one of many popular soda-fountain shops on Broadway.

Historical records also point to Irish ownership of soda water businesses. For example, in

1865, John Gletson, a famine-era Irish emigrant, bought one of the most popular soda-fountain shops in the city, located on Wall Street (*New York Times* 1883). An Irishman named George Usher had earlier opened one of the first soda fountains in New York City (ca. 1809) and quickly became very successful (Funderberg 2003). Usher chose a location next to a park to enable outdoor socializing, perhaps combining elements of outdoor drinking and socializing he had experienced as a child at patterns in Ireland.

Soda water provided important money-earning opportunities for Irish immigrants, helping some to make ends meet and others to become quite wealthy. Participating in the American marketplace as active consumers and producers of a respectable product, moreover, no doubt enhanced Irish immigrants' status in the eyes of middle-class native-born Americans. Irish immigrants like George Usher, nevertheless, brought different understandings than Americans to their consumption and production of soda water, understandings rooted in experiences in, and longings for the Emerald Isle.

#### A "Homing Desire" and the Sensory Effects of Soda Water

One of the characteristics of diasporic communities is a nostalgic "homing desire" (Brah 1996:180). As Susan Matt (2007) points out, nostalgia is different from homesickness in that the nostalgic person yearns for a home that is displaced both in space and time and that is a place to which the person can never fully return. According to Stuart Hall (1990:236), this longing transforms itself into a powerful creative force, "a renewable source of desire, memory, myth, search, [and] discovery." These feelings prompt the nostalgic to fashion a new home "from the materials at hand," most of which "are not mementos of their actual homes so much as items associated with the romantic image of home" (Matt 2007:497). Irish immigrants used soda water to reconnect with their old homes, as portals to past landscapes, while simultaneously creating new hybridized Irish American places.

While a variety of commodities could have functioned similarly for Irish immigrants, the physical and sensory qualities of soda water and the soda fountain were uniquely resonant with

both events in everyday life in Ireland (like collecting ordinary spring water), and occasions that were particularly memorable and out of the ordinary (like holy-well patterns). Michael Rowlands (1993:144) suggests that objects can establish continuities with the past, because "as material symbols rather than verbalized meanings they provide a special form of access to both the individual and group unconscious process." While an object's symbolism is important, Constance Classen and David Howes (2006:200) point out that "artifacts body forth specific 'ways of sensing' and they must be approached through the senses, rather than as 'texts' to be read or mere visual 'signs' to be decoded."

Following this call to examine the sensory effects of things, the coldness and distinctive tastes of particular soda waters could have unconsciously triggered powerful sensory effects causing Irish immigrants to remember cold and bitter Irish spring waters. Soda water's physical properties of being bubbly and shape-shifting could evoke memories of holy wells, where bubbling well water was a sign of supernatural presence and personal transformation was the goal. The fact that soda water defies categorization by being neither fully water nor fully air, neither artificial nor natural, enhances its conjuring power. As John Dupre (1993) points out, people often regard substances as magical that cannot be clearly categorized. Strang (2005:111) also notes that because water is integral to life on many levels, "water is the ultimate symbol of energy, potency, and the ability to extend human agency outwards into the world." Because of its material and symbolic qualities for Irish immigrants, soda water was a particularly powerful commodity from which to create magical material connections between new and old homes.

Mark Weiner (2002) found that another carbonated beverage, Coca-Cola, was similarly able to connect World War II servicemen unconsciously with their past civilian lives. In his study of soldiers' letters he concluded that "Coke was a potent, even Proustian conjurer of the social life of the drug store soda fountain." "The ole 'Coke' sign," a serviceman penned from Sicily, "brings every soldier back to moments in his favorite drug store, where he sat and conversed with his friends;" while another soldier wrote that "the shape of the bottle, the

memory of the refreshing taste, brought to mind many happy memories" (Weiner 2002:133). Subjects of diaspora, Irish immigrants were nostalgic for a pre-famine homeland to which they could never return in body. Soda water, a fluid substance composed of air and water, triggered specific memories and transported them home mentally, providing temporary relief for homesickness and heartache.

#### Conclusion

It is not being asserted here that soda-water bottles should be regarded as markers of Irish ethnicity, or even that Irish immigrants were the primary consumers of soda water in the U.S. Instead, this paper has explored what appears to be particularly meaningful connections between Irish immigrants and soda water, as both consumers—reflected in the prevalence of bottles found in Irish-related archaeological deposits in New York City, Paterson, San Francisco (Figure 14), and perhaps elsewhere—and participants in the soda-water industry as workers and business owners (as revealed by historical newspapers, censuses, and hospital records). Like Mark Weiner's (2002) study of Coca-Cola during World War II, and Daniel Miller's study of the same beverage in contemporary Trinidad (1998), this study has argued that soda water was more than an ordinary drink for the Irish in 19th-century New York City, Paterson, and San Francisco.

Irish immigrants' previous experiences with spring water, combined with soda water's physical characteristics, transformed it from a simple commodity into a powerful hybrid substance, an elixir of sorts, which provided relief for physical and emotional illnesses caused by emigration, and offered opportunities for personal transformation. Soda water's characteristics like coldness, bitterness in taste, and effervescence acted upon the senses of Irish immigrants. These qualities triggered memories of specific moments when Irish immigrants had drunk mineralized well water in their homeland, from ordinary water found in the community well to extraordinary water promising healing and absolution from holy wells. In a new land severed from these important nodes in the Irish landscape, soda water was a substance that evoked Irish immigrants' wonder and at the same time resonated with their traditions, bringing comfort and perhaps even enabling the





FIGURE 14. Photograph of some of the 127 soda-water bottles found in association with the residence of an Irish laborer and his wife in San Francisco (ca. early 1870s), shown in situ (Praetzellis and Praetzellis 2009).

immigrants to frame their emigration as a sort of pilgrimage.

Soda water did more than elicit memories moreover, it provoked Irish immigrants to use it in creative ways to remedy social and physical ills. For the Irish in New York City, soda water acted as a medicine to alleviate conditions like iron-deficiency anemia, lead poisoning, rabies, alcohol addiction, and depression; a

covert symbol of Irish pride and nationalism in a hostile American nativist environment; a form of social glue to create vital bonds of reciprocity among new community members through hospitality; a means of economic support for men and women trying to make ends meet; and a substance facilitating the transformation of an Irish immigrant into a self-reliant and "respectable" Irish American.

The reverberations produced by the interactions between Irish immigrants and this commodity helped to facilitate not only the participation of this initially marginalized group in modern America culture, but also the group's significant contributions to that culture's construction. In 1891, reporter Mary Gay Humphreys wrote in *Harper's Weekly* that "[s]oda-water is the American drink. It is as essentially American as porter, Rhine wine, and claret are distinctively English, German, and French. ... The millionaire may drink champagne while the poor man drinks beer, but they both drink soda-water" (*Harper's Weekly* 1891:923). The Irish played no small role in this transformation, just as soda water played no small role in Irish immigrant transformations.

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#### References

- ALLEN, DAVID E., AND GABRIELLE HATFIELD  
2004 *Medicinal Plants in Folk Tradition: An Ethnobotany of Britain and Ireland*. Timber Press, Portland, OR.
- ARENSBERG, CONRAD  
1968 *The Irish Countryman: An Anthropological Study*, reprinted from 1937 edition. Natural History Press, Garden City, NY.
- BACHELARD, GASTON  
1969 *The Poetics of Space*, M. Jolas, translator. Beacon, Boston, MA.
- BALLARD, LINDA-MAY  
2009 An Approach to Traditional Cures in Ulster. *Ulster Medical Journal* 78(1):26–33.
- BARTLETT, ALEXANDER B.  
1999 A Functional Analysis of the Glass Assemblage from Selected Features on Blocks 863 and 866 in Paterson's Dublin Neighborhood. In *With Hope and Labor: Everyday Life in Paterson's Dublin Neighborhood; Volume I: Data Recovery on Blocks 863 and 866 within the Route 19 Connector Corridor in Paterson, New Jersey*, Rebecca Yamin, editor, pp. 116–124. Report to New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton, from John Milner Associates, West Chester, PA.
- BASSO, KEITH  
1996 *Wisdom Sits in Places*. University of New Mexico Press, Albuquerque.
- BELLEVUE HOSPITAL  
1874 Medical Casebooks. Augustus C. Long Health Sciences Library, Columbia University, New York, NY.
- BERGER, MAX  
1946 Irish Emigrant and American Nativism as Seen by British Visitors, 1836–1860. *Dublin Review* 219(438):174–186.
- BODIE, DEBRA C.  
1992 *The Construction of Community in Nineteenth Century New York: A Case Study Based on the Archaeological Investigation of the 25 Barrow Street Site*. Master's thesis, Department of Anthropology, New York University, New York, NY.
- BONASERA, MICHAEL  
2000 Good for What Ails You: Medicinal Practices at Five Points. In *Tales of Five Points: Working-Class Life in Nineteenth-Century New York*, Volume II, An Interpretive Approach to Understanding Working-Class Life, Rebecca Yamin, editor, pp. 371–390. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.

- BORD, JANET, AND COLIN BORD  
1985 *Sacred Waters: Holy Wells and Water Lore in Britain and Ireland*. Granada, New York, NY.
- BOYARIN, DANIEL, AND JONATHAN BOYARIN  
1993 Diaspora: Generation and the Ground of Jewish Identity. *Critical Inquiry* 19(4):693-725.
- BOURDIEU, PIERRE  
1977 *Outline of a Theory of Practice*. Cambridge University Press, Cambridge, UK.
- BRAH, AVTAR  
1996 *Cartographies of Diaspora: Contesting Identities*. Routledge, London, UK.
- BRENNEMAN, WALTER, AND MARY BRENNEMAN  
1995 *Crossing the Circle at the Holy Wells of Ireland*. University of Virginia Press, Charlottesville.
- BREW, FRANK  
1990 Rural Medicine in Former Times—Medicine in Rural Ireland in the 1800s. *The Other Clare* 14:25-26.
- BRICKMAN, JAN PACHT  
1983 Public Health, Midwives, and Nurses, 1880-1930. In *Nursing History: New Perspectives, New Possibilities*, E. C. Lagemann, editor, pp. 65-88. Teachers College Press, New York, NY.
- BRIGHTON, STEPHEN A.  
2000 Prices that Suit the Times: Shopping for Ceramics at Five Points. In *Tales of Five Points: Working-Class Life in Nineteenth-Century New York*, Volume II, An Interpretive Approach to Understanding Working-Class Life, Rebecca Yamin, editor, pp. 341-370. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.  
2005 *An Historical Archaeology of the Irish Proletarian Diaspora: The Material Manifestations of Irish Identity in America, 1850-1910*. Doctoral dissertation, Department of Archaeology, Boston University. University Microfilms International, Ann Arbor, MI.  
2008 Degrees of Alienation: The Material Evidence of the Irish and Irish American Experience, 1850-1910. *Historical Archaeology* 42(4):132-153.
- BROWN, JOSHUA  
1976 The "Dead Rabbit"—Bowery Boy Riot: An Analysis of the Antebellum New York Gang. Master's thesis, Department of History, Columbia University, New York, NY.
- BUCKLEY, ANTHONY D.  
1980 Unofficial Healing in Ulster. *Ulster Folklife* 26:15-34.
- BUCHLI, VICTOR (EDITOR)  
2002 *The Material Culture Reader*. Berg, Oxford, UK.
- BURKE, TIMOTHY  
1996 *Lifebuoy Men, Lux Women: Commodification, Consumption, and Cleanliness in Modern Zimbabwe*. Duke University Press, Durham, NC.
- BUSCH, JANE  
1987 Second Time Around: A Look at Bottle Reuse. *Historical Archaeology* 21(1):67-80.
- CARROLL, MICHAEL P.  
1999 *Irish Pilgrimage: Holy Wells and Popular Catholic Devotion*. Johns Hopkins University Press, Baltimore, MD.
- CHAPELLE, FRANCIS H.  
2005 *Wellsprings A Natural History of Bottled Spring Waters*. Rutgers University Press, New Brunswick, NJ.
- CITIZENS' ASSOCIATION OF NEW YORK  
1970 *Report of the Council of Hygiene and Public Health of the Citizens' Association of New York upon the Sanitary Condition of the City*, reprinted from 1866 edition. Arno Press, New York, NY.
- CLASSEN, CONSTANCE, AND DAVID HOWES  
2006 The Museum as Sensescape: Western Sensibilities and Indigenous Artifacts. In *Sensible Objects: Colonialism, Museums and Material Culture*, Elizabeth Edwards, Chris Gosden, and Ruth B. Phillips, editors, pp. 199-243. Berg, New York, NY.
- COHEN, MARK NATHAN  
1989 *Health and the Rise of Civilization*. Yale University Press, New Haven, CT.
- COHEN, ROBIN  
1994 Notions of Diaspora: Classical, Modern, and Global. Paper presented at the 3rd International Conference on Global History, Robert Black College, University of Hong Kong, Hong Kong.
- COLEY, NOEL G.  
1990 Physicians, Chemists and the Analysis of Mineral Waters: "The Most Difficult Part of Chemistry." In *The Medical History of Waters and Spas*, Roy Porter, editor, pp. 56-66. Wellcome Institute for the History of Medicine, London, UK.
- COYNE, J. STIRLING, AND N. P. WILLIS  
1841 *The Scenery and Antiquities of Ireland: Illustrated in One Hundred and Twenty Engravings, from Drawings by W. H. Bartlett*. Virtue & Co., London, UK.
- CROUTIER, ALEV LYTLE  
1992 *Taking the Waters: Spirit, Art, Sensuality*. Abeville Press, New York, NY.
- DANIEL, THOMAS M.  
1997 *Captain of Death: The Story of Tuberculosis*. University of Rochester Press, Rochester, NY.
- DOREMUS, H. OGDEN  
1854a Poisonous Effects of Soda Water from Copper Fountains and Lead Pipes. *New York Daily Times* 7 July:1. New York, NY.  
1854b Soda-Water. *New York Daily Times* 16 August:3. New York, NY.

- DORIAN, HUGH  
2000 *The Outer Edge of Ulster: A Memoir of Social Life in Nineteenth-Century Donegal*. Liliput Press, Dublin, Ireland.
- DUPRE, JOHN  
1993 *The Disorder of Things: Metaphysical Foundations of the Disunity of Science*. Harvard University Press, Cambridge.
- ERNST, ROBERT  
1949 *Immigrant Life in New York City, 1825-1863*. King's Crown Press, New York, NY.
- EVANS, ESTYN  
1972 *Irish Folk Ways*, reprinted from 1957 edition. Routledge, London, UK.
- FARMAR, TONY  
2004 *Patients, Potions, and Physicians: A Social History of Medicine in Ireland 1654-2004*. A. & A. Farmar, Dublin, Ireland.
- FITTS, ROBERT K.  
1999 The Archaeology of Middle-Class Domesticity and Gentility in Brooklyn. *Historical Archaeology* 33(1):39-62.
- FUNDERBERG, ANNE  
2003 *Sundae's Best: A History of Soda Fountains*. University of Wisconsin Press, Madison.
- GEISMAR, JOAN H. (EDITOR)  
1989 History and Archaeology of the Greenwich Mews Site, Greenwich Village, NY. Report to Greenwich Mews Associates, New York, NY, from Joan Geismar, New York, NY.
- GELL, ALFRED  
1998 *Art and Agency: An Anthropological Theory*. Oxford University Press, Oxford, UK.
- GILROY, PAUL  
1993 *The Black Atlantic—Modernity and Double Consciousness*. Harvard University Press, Cambridge, MA.
- GLASSIE, HENRY  
1982 *Passing the Time in Ballymenone: Culture and History of an Ulster Community*. University of Pennsylvania Press, Philadelphia.  
1985 *Irish Folktales*. Pantheon Books, New York, NY.
- GORDON, MICHAEL  
1977 Irish Immigrant Culture and the Labor Boycott in New York City, 1880-1886. In *Immigrants in Industrial America 1850-1920*, R. L. Ehrlich, editor, pp. 111-122. University Press of Virginia, Charlottesville.
- GREGORY, ISABELLA AUGUSTA PERSEE  
1976 *Visions and Beliefs in the West of Ireland*, revised from 1920 edition. Colin Smythe, Gerrards Cross, UK.
- GREENWOOD, ROBERTA  
1996 *Down by the Station: Los Angeles Chinatown, 1880-1933*. UCLA Institute of Archaeology, Monumenta Archaeologica, 18. Los Angeles, CA.
- GREENBLATT, STEPHEN  
1991 Resonance and Wonder. In *Exhibiting Cultures: The Poetics and Politics of Museum Display*, I. Karp and S. D. Lavine, editors, pp. 42-56. Smithsonian Institution Press, Washington, DC.
- GRONEMAN, CAROL  
1973 *The "Bloody Ould Sixth": A Social Analysis of a New York City Working-Class Community in the Mid-Nineteenth Century*. Doctoral dissertation, Department of History, University of Rochester. University Microfilms International, Ann Arbor, MI.
- HALL, STUART  
1990 Cultural Identity and Diaspora. In *Identity: Community, Culture, Difference*, Jonathan Rutherford, editor, pp. 222-237. Lawrence and Wishart, London, UK.
- HARLEY, DAVID  
1990 A Sword in a Madman's Hand: Professional Opposition to Popular Consumption of Waters in Literature of Southern England and the Midlands 1570-1870. In *The Medical History of Waters and Spas*, Roy Porter, editor, pp. 48-55. Wellcome Institute for the History of Medicine, London, UK.
- HARPER'S WEEKLY  
1857 Saratoga Springs. *Harper's Weekly* 1 August:483. New York, NY.  
1860 Clarke & White Congress Water: Advertisement. *Harper's Weekly* 25 August:543. New York, NY.  
1866 Ireland and the Fenian Leaders. *Harper's Weekly* 31 March:200-201. New York, NY.  
1871 Pilgrims to the Holy Well. *Harper's Weekly* 14 October:965. New York, NY.  
1873 The Gas-Men's Strike. *Harper's Weekly* 26 April:337. New York, NY.  
1886 Some Poisonous Food and Drinks. *Harper's Weekly* 10 July:446. New York, NY.
- HEYWOOD, AUDREY  
1999 A Trial of the Bath Waters: The Treatment of Lead Poisoning. In *The Medical History of Waters and Spas*, Roy Porter, editor, pp. 82-101. Wellcome Institute for the History of Medicine, London, UK.
- HONKO, LAURI  
1962-1963 On the Effectivity of Folk Medicine. *ARV: Nordic Yearbook of Folklore* 18-19:290-300.
- HOWES, DAVID (EDITOR)  
1996 *Cross-Cultural Consumption: Global Markets, Local Realities*. Routledge, New York, NY.

- HULL, KATHARINE L.  
2004 *Material Correlates of the Pre-Famine Agrarian Social Hierarchy: Archaeological Evidence from County Roscommon, Republic of Ireland*. Doctoral dissertation, Department of Anthropology, University of Toronto. University Microfilms International, Ann Arbor, MI.
- HUMPHREYS, MARY GAY  
1891 The Evolution of the Soda Fountain. *Harper's Weekly* 21 November:923. New York, NY.
- IGNATIEV, NOEL  
1995 *How the Irish Became White*. Routledge, London, UK.
- JACKSON, RALPH  
1990 Waters and Spas in the Classical World. In *The Medical History of Waters and Spas*, Roy Porter, editor, pp. 1-13. Wellcome Institute for the History of Medicine, London, UK.
- KEARNS, KEVIN  
1994 *Dublin Tenement Life: An Oral History*. Gill and Macmillan, Dublin, Ireland.
- KELLY, TAMARA  
2000 Father Theobald Mathew. In *Tales of Five Points: Working-Class Life in Nineteenth Century New York*, Rebecca Yamin, editor, pp. 265-271. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.
- KENEALLY, THOMAS  
1998 *The Great Shame: A Story of the Irish in the Old World and the New*. Chatto and Windus, London, UK.
- KENNY, KEVIN  
2003 Diaspora and Comparison: The Global Irish as a Case Study. *Journal of American History* 90(1):134-176.
- LAKOFF, G., AND JOHNSON, M.  
1980 *Metaphors We Live By*. University of Chicago Press, Chicago, IL.
- LAMOREAUX, PHILIP E., AND JUDY T. TANNER (EDITORS)  
2001 *Springs and Bottled Waters of the World: Ancient History, Source, Occurrence, Quality and Use*. Springer, New York, NY.
- LARSEN, ERIC  
1994 A Boarding House Madonna—Beyond the Aesthetics of a Portrait Created Through Medicine Bottles. *Historical Archaeology* 28(4):68-79.
- LAXTON, EDWARD.  
1996 *The Famine Ships: The Irish Exodus to America*. Bloomsbury, London, UK.
- LEES, LYNN HOLLEN  
1979 *Exiles of Erin: Irish Migrants in Victorian London*. Cornell University Press, Ithaca, NY.
- LINDSEY, BILL  
2009 Saratoga Mineral Water Style. Society for Historical Archaeology Historic Glass Bottle Identification & Information Website, University of Montana, Missoula <<http://www.sha.org/bottle/index.htm>>. Accessed 16 January 2009.
- LINN, MEREDITH  
2008 *From Typhus to Tuberculosis and Fractures in Between: A Visceral Historical Archaeology of Irish Immigrant Life in New York City 1845-1870*. Doctoral dissertation, Department of Anthropology, Columbia University. University Microfilms International, Ann Arbor, MI.
- LIONETT, FRANCOIS  
2001 The Mirror and the Tomb: Africa, Museums, and Memory. *African Arts* 34(3):50-61.
- LOGAN, PATRICK  
1994 *Irish Country Cures*, reprinted from 1981 edition. Sterling Publishing, New York, NY.
- MACLEAN, MARY  
[1886-1900] Manuscript. MS 11,428, Dr. E. E. R Green Letters, National Library of Ireland, Dublin.
- MAHON, BRAID  
1991 *Land of Milk and Honey: The Story of Traditional Irish Food and Drink*. Poolbeg Press, Dublin, Ireland.
- MALCOLM, ELIZABETH  
1986 *Ireland Sober, Ireland Free: Drink and Temperance in Nineteenth-Century Ireland*. Gill and Macmillan, Dublin, Ireland.  
1998 The Rise of the Pub: A Study in the Disciplining of Popular Culture. In *Irish Popular Culture, 1650-1850*, Kerby A. Miller and James S. Donnelly, editors, pp. 50-77. Irish Academic Press, Portland, OR.
- MALETNLEMA, T. N.  
1992 Hunger and Malnutrition: The Determinant of Development: The Case for Africa and its Food and Nutrition Workers. *East African Journal of Medicine* 69(8):424-427.
- MALONEY, BEATRICE  
1972 Traditional Herbal Cures in County Cavan. *Ulster Folklife* 18:66-79.
- MATT, SUSAN J.  
2007 You Can't Go Home Again: Homesickness and Nostalgia in U.S. History. *Journal of American History* 94(2):469-497.
- MAYNE, ALAN, AND TIMOTHY MURRAY  
2001 *The Archaeology of Urban Landscapes: Explorations in Slumland*. Cambridge University Press, Cambridge, UK.

- MCCARTHY BROWN, K.  
1999 Staying Grounded in a High-Rise Building: Ecological Dissonance and Ritual Accommodation in Haitian Vodou. In *Gods of the City: Religion and the American Urban Landscape*, R. A. Orsi, editor, pp. 79-102. Indiana University Press, Bloomington.
- MESKELL, LYNN  
2004 *Material Biographies: Object Worlds from Ancient Egypt and Beyond*. Berg, London, UK.
- MILLER, DANIEL (EDITOR)  
1998 Coca-Cola: A Black Sweet Drink from Trinidad. In *Material Cultures: Why Some Things Matter*, Daniel Miller, editor, pp.169-188. University of Chicago Press, Chicago, IL.
- MILLER, KERBY A.  
1985 *Emigrants and Exiles: Ireland and the Irish Exodus to North America*. Oxford University Press, New York, NY.
- MOERMAN, DANIEL E.  
2000 Cultural Variations in the Placebo Effect: Ulcers, Anxiety, and Blood Pressure. *Medical Anthropology Quarterly* 14(1):51-72.
- MULLINS, PAUL R.  
1999 Race and the Genteel Customer: Class and African-American Consumption. *Historical Archaeology* 33(1):22-38.
- NATIONAL FOLKLORE COLLECTION—MAIN MANUSCRIPTS COLLECTION (NFC)  
1935a Information reported by schoolchildren in Hacketstown, County Carlow to Collector Patrick O' Toole. NFC 265, University College Dublin, Dublin, Ireland.  
1935b Information reported in Kilworth, County Cork and in County Wexford to Collector Thomas Ó Ciardha. NFC 54, University College Dublin, Dublin, Ireland.  
1936 Information reported by Mrs. Dore in Glinn, County Limerick to Collector Peadar Mac Domhnaill. NFC 560, University College Dublin, Dublin, Ireland.  
1941 Information reported by Michael Kennedy in Corkaquin, County Kerry to Collector P. J. O' Sullivan. NFC 782, University College Dublin, Dublin, Ireland.  
1955 Information reported by Michael Leech in Glenariffe, County Antrim to Collector Michael J. Murphy. NFC1389, University College Dublin, Dublin, Ireland.
- NATIONAL FOLKLORE COLLECTION—SCHOOLS MANUSCRIPT COLLECTION (NFCS)  
1937 Information reported in Bunraite Íocht, County Clare to Students from Coradh Chaitlín School and Luinneach School. NFCS 598, University College Dublin, Dublin, Ireland.  
1938a Information reported by Mrs. Edmund Murphy in Múscraí Thoir, County Cork to Collector Madge Murphy, Cluain Taiohg (Clontead) Achaoh Cóiste School. NFCS 342, University College Dublin, Dublin, Ireland.  
1938c Information reported in Dunkellin, County Galway to Students from Cill Criosta School and Craughwell School. NFCS 35, University College Dublin, Dublin, Ireland.  
1938b Information reported in Cill Chonail, County Galway to Collector Eibhlís Ní Innse, Móta Ghráinne Óige School. NFCS 45, University College Dublin, Dublin, Ireland.  
1938d Information reported in Ibrickan, County Clare to Students from Mullach Sráid na Cathrach School. NFCS 624, University College Dublin, Dublin, Ireland.  
1938e Information reported in Múscraí Thoir, County Cork to Students from Cluain Taiohg (Clontead) Achaoh Cóiste School. NFCS 345, University College Dublin, Dublin, Ireland.
- NEW YORK DAILY TIMES  
1852 William Gee: Advertisement. *New York Daily Times* 24 June:1. New York, NY.
- NEW YORK FREEMAN'S JOURNAL  
1854a The Family Drug Store: Advertisement. *New York Freeman's Journal* 1 July. New York, NY.  
1854b R. Dillon's Drug Store: Advertisement. *New York Freeman's Journal* 1 July. New York, NY.
- NEW YORK HOSPITAL (NYH)  
1852-1853 Medical Casebooks. Medical Center Archives of New York-Presbyterian/Weill Cornell, New York, NY.
- NEW YORK STATE CENSUS (NYSC)  
1855 Census Returns for the Sixth Ward of the City of New York in the County of New York. Manuscript, Department of Records and Information, Municipal Archives of the City of New York, New York, NY.
- NEW YORK TIMES  
1883 Death of John Gletson. *New York Times* 1 January:3. New York, NY.
- NUMBERS, RONALD, L.  
1977 Do-It-Yourself the Sectarian Way. In *Medicine Without Doctors*, Guenter Risse, Ronald Numbers, and Judith Walzer Leavitt, editors, pp. 49-72. Science History Publications, New York, NY.
- O'GIOLLAIN, DIARMUID  
1998 The Pattern. In *Irish Popular Culture 1750-1850*, James S. Donnelly and Kerby A. Miller, editors, pp. 201-221. Irish Academic Press, Portland, OR.
- O'CADHLA, STIOFAN  
2002 *The Holy Well Tradition: The Pattern of St. Declan, Ardmore, Co. Waterford, 1800-2000*. Four Courts Press, Dublin, Ireland.
- ORSER, CHARLES E., JR.  
2001 Vessels of Honor and Dishonor: The Symbolic Character of Irish Earthenware. *New Hibernia Review* 5(1):83-100.

- 2004 Archaeological Interpretation and the Irish Diasporic Community. In *Places in Mind: Archaeology as Applied Anthropology*, P.A. Shackel and E. Chambers, editors, pp. 171–192. Routledge, New York, NY.
- OWENS, GARY  
1998 Nationalism Without Words: Symbolism and Ritual Behavior in the Repeal 'Monster Meetings' of 1843–5. In *Irish Popular Culture 1750–1850*, James S. Donnelly and Kerby A. Miller, editors, pp. 242–270. Irish Academic Press, Portland, OR.
- PELLEGRAM, ANDREA  
1998 The Message in Paper. In *Material Cultures: Why Some Things Matter*, Daniel Miller, editor, pp. 103–120. University of Chicago Press, Chicago, IL.
- PERRIS, WILLIAM  
1857 *Maps of the City of New York*. William Perris, New York, NY.
- PONZ, JESSE  
2000 Bottle Embossments: The Trade and Industry. In *Tales of Five Points: Working-Class Life in Nineteenth-Century New York, Volume 2, An Interpretive Approach to Understanding Working-Class Life*, edited by R. Yamin, pp. 49–58. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.
- PORTER, ROY (EDITOR)  
1990 *The Medical History of Waters and Spas*. Wellcome Institute for the History of Medicine, London, UK.
- PRAETZELLIS, MARY, AND ADRIAN PRAETZELLIS (EDITORS)  
2009 South of Market: Historical Archaeology of 3 San Francisco Neighborhoods, The San Francisco-Oakland Bay Bridge West Approach Project. Report to California Department of Transportation, District 4, Oakland, CA, from Anthropological Studies Center, Sonoma State University, Rohnert Park, CA.
- RECKNER, PAUL  
2000 Negotiating Patriotism at the Five Points: Clay Tobacco Pipes and Patriotic Imagery among Trade Unionists and Nativists in a Nineteenth-Century New York Neighborhood. In *Tales of Five Points: Working-Class Life in Nineteenth-Century New York, Volume 2, An Interpretive Approach to Understanding Working-Class Life*, edited by R. Yamin, pp. 99–110. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.
- 2002 Remembering Gotham: Urban Legends, Public History, and Representations of Poverty, Crime, and Race in New York City. *International Journal of Historical Archaeology* 6(2):95–112.
- ROBINS, JOSEPH  
1986 *Fools and Mad: A History of the Insane in Ireland*. Institute of Public Administration, Dublin, Ireland.
- ROSENBERG, CHARLES  
1985 Social Class and Medical Care in America: The Rise and Fall of the Dispensary. In *Sickness and Health in America—Readings in the History of Medicine and Public Health*, Judith W. Leavitt and Ronald L. Numbers, editors, pp. 273–288. University of Wisconsin Press, Madison.
- ROTHSCHILD, NAN A.  
2003 *Colonial Encounters in a Native American Landscape: The Dutch and Spanish in the New World*. Smithsonian Institution Press, Washington, DC.
- ROTHSCHILD, NAN A., AND CYNTHIA ROBIN  
2002 Archaeological Ethnographies: Social Dynamics of Outdoor Space. *Journal of Social Archaeology* 2(2):159–172.
- ROWLANDS, MICHAEL  
1993 The Role of Memory in the Transmission of Culture. *Conceptions of Time and Ancient Society/World Archaeology* 25(2):141–151.
- SALWEN, BERT, AND REBECCA YAMIN (EDITORS)  
1990 The Archaeology and History of Six Nineteenth Century Lots: Sullivan Street, Greenwich Village, New York City. Report to New York University Law School, New York, NY, from Department of Anthropology, New York University, New York, NY.
- SCALLY, ROBERT  
1995 *The End of Hidden Ireland*. Oxford University Press, New York, NY.
- SCHAMA, SIMON  
1985 *Landscape and Memory*. Harper Collins, London, UK.
- SHACKEL, PAUL  
1992 Modern Discipline: Its Historical Context in the Colonial Chesapeake. *Historical Archaeology* 26(3):73–84.
- 1993 *Personal Discipline and Material Culture: An Archaeology of Annapolis, Maryland, 1619–1870*. University of Tennessee, Knoxville.
- SNIVELY, J. H.  
1872 Soda-Water: What It Is, and How It is Made. *Harper's New Monthly Magazine* 45(267):341–346. New York, NY.
- STRANG, VERONICA  
2005 Common Senses: Water, Sensory Experience and the Generation of Meaning. *Journal of Material Culture* 10(1):92–120.
- STIVERS, RICHARD  
2000 *Hair of the Dog: Irish Drinking and Its American Stereotype*. Continuum, New York, NY.
- THOMAS, NICHOLAS  
1991 *Entangled Objects: Exchange, Material Culture and Colonialism in the Pacific*. Harvard University Press, Cambridge, MA.

- TILLEY, CHRISTOPHER  
1994 *A Phenomenology of Landscape: Places, Paths and Monuments*. Berg, Oxford, UK.
- TURNER, VICTOR  
1969 *The Ritual Process*. Aldine, Chicago, IL.
- UNITED STATES BUREAU OF THE CENSUS (USBC)  
1850 *Population Schedules of the Seventh Census of the United States, 1850*. Research Division, New York Public Library, New York, NY.
- 1860 *Population Schedules of the Eighth Census of the United States, 1860*. Research Division, New York Public Library, New York, NY.
- 1870 *Population Schedules of the Ninth Census of the United States, 1870*. Research Division, New York Public Library, New York, NY.
- VAN DER GEEST, SJAAK, SUSAN REYNOLDS WHYTE, AND ANITA HARDON  
1996 The Anthropology of Pharmaceuticals. *Annual Review of Anthropology* 25:153–178.
- VAN GENNEP, ARNOLD  
1960 *The Rites of Passage*. University of Chicago Press, Chicago, IL.
- WALL, DIANA  
1994 *The Archaeology of Gender: Separating the Spheres in Urban America*. Plenum, New York, NY.
- WEINER, MARK  
2002 Consumer Culture and Participatory Democracy: The Story of Coca-Cola During World War II. In *Food in the USA: A Reader*, Carole Counihan, editor, pp. 123–141. Routledge, New York, NY.
- WILDE, FRANCESCA SPERANZA  
1890 *Ancient Cures, Charms, and Usages of Ireland: Contributions to Irish Lore*. Reprinted 1970 by Singing Tree Press, Detroit, MI.
- WILKIE, LAURIE  
1996 Medicinal Teas and Patent Medicines: African-American Women's Consumer Choices and Ethnomedical Traditions at a Louisiana Plantation. *Southeastern Archaeology* 15(2):119–131.
- 2003 *The Archaeology of Mothering: An African American Midwife's Tale*. Routledge, New York, NY.
- WILSON, THOMAS GEORGE  
1943 Some Irish Folklore Remedies for Diseases of the Ear, Nose, and Throat. *Irish Journal of Medical Science* 18(6):180–184.
- WOBST, H. MARTIN  
2000 Agency in (Spite of) Material Culture. In *Agency in Archaeology*, Marcia Anne Dobres and John Ernest Robb, editors, pp. 40–50. Routledge, New York, NY.
- YAMIN, REBECCA (EDITOR)  
1999 With Hope and Labor: Everyday Life in Paterson's Dublin Neighborhood, Vols. 3–4, Appendix F: Artifact Inventory. Report to New Jersey Department of Transportation, Bureau of Environmental Analysis, Trenton, from John Milner Associates, West Chester, PA.
- 2000 Tales of Five Points: Working Class Life in Nineteenth-Century New York, Vol. 2, A Narrative History and Archaeology of Block 160. Report to Edwards and Kelcey Engineers, Inc., Livingston, NJ, and General Services Administration, New York, NY, from John Milner Associates, West Chester, PA.
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