

# Public Health Then and Now

## Historical and Cultural Roots of Drinking Problems Among American Indians

John W. Frank, MD, Roland S. Moore, PhD, and Genevieve M. Ames, PhD

### ABSTRACT

Roots of the epidemic of alcohol-related problems among many Native North Americans are sought in cultural responses to European arrival, the role of alcohol in frontier society, and colonial and postcolonial policies. Evidence from the historical record is considered within the framework of current social science.

Initially, Native Americans' responses to alcohol were heavily influenced by the example of White frontiersmen, who drank immoderately and engaged in otherwise unacceptable behavior while drunk. Whites also deliberately pressed alcohol upon the natives because it was an immensely profitable trade good; in addition, alcohol was used as a tool of "diplomacy" in official dealings between authorities and natives. The authors argue that further research into the origins of modern indigenous people's problems with alcohol would benefit from an interdisciplinary "determinants of health" approach in which biological influences on alcohol problems are investigated in the context of the cultural, social, and economic forces that have shaped individual and group drinking patterns. (*Am J Public Health*. 2000; 90:344–351)

What are the forces and factors that have shaped alcohol-related behavioral patterns in many of the aboriginal peoples of North America? This frequently asked question was posed most recently by Newbold.<sup>1</sup> In this article we focus on the history of Native American drinking immediately after Europeans arrived in North America; our purpose is to highlight the interaction between social and economic forces that forged drinking patterns that, to varying degrees, continue to the present.

Alcohol affects Native Americans disproportionately; the 1992–1994 age-adjusted alcoholism mortality rate for Native Americans is approximately 6 times the 1993 rate for the US population as a whole.<sup>2</sup> This article is intended to introduce a general public health readership to the historical origins of a problem that continues to thwart most policies and programs designed to improve health conditions of Native Americans. It should also help to contextualize the current wave of broader substance abuse and related problems among other socioeconomically disadvantaged populations in North America. Specifically, this case study casts light on more general relationships between the geopolitical and cultural processes of colonization and on the genesis of epidemics among the colonized.

### *The "Determinants of Health" Approach*

This article concerns drinking that has negative health and social impacts. Our hope is that a deeper understanding of history will strengthen current efforts to address this public health challenge. We therefore build our analysis on a conceptual framework referred to as the "determinants of health" approach.<sup>3</sup> This framework takes as its starting point the view that physical and social environmental factors have as much influence on human

health as do purely biological forces. It is a restating of the pre-Flexner holism of Western medicine, before the ideology of scientism came to dominate medical training—and thinking. Indeed, it was commonplace for public health authorities in the 19th century to regard the social environment as a crucial determinant of the health of communities.<sup>4–7</sup> This view was validated in the early 20th century by public health researchers worldwide and was continued by pioneering medical anthropologists.<sup>8,9</sup>

What makes the determinants-of-health approach noteworthy is that it refocuses analytical explanations for health outcomes from the immediate biomedical context of health problems to the wider living conditions that interact with individual physiological, psychological, and sociocultural dispositions that give rise to those health problems.<sup>10</sup> The need for such a broad approach to understanding the multiple root causes of population health status can be illustrated by the recent increase in mortality in some former Eastern Bloc countries, especially Russia. A first examination of this trend reveals a nonspecific pattern of causes of death, with an excess of circulatory disease and an increased risk among middle-aged and older men. Further analyses, however, suggest that heavy drinking has played a key role.<sup>11</sup> A root-cause exploration of why such a behavior pattern has arisen at this particular time leads to a number of other more complex contextual considerations: a long-standing cultural tendency to drink more heavily in times of stress, the disastrous

---

John W. Frank and Genevieve M. Ames are with the School of Public Health, University of California, Berkeley. Roland S. Moore and Genevieve M. Ames are with the Prevention Research Center, Berkeley, Calif.

Requests for reprints should be sent to Roland S. Moore, PhD, Prevention Research Center, 2150 Shattuck Ave, Suite 900, Berkeley, CA 94704 (e-mail: roland@prev.org).

economic events following the fall of the Iron Curtain, and the effects of fractured social relations in a society where widespread distrust of others developed during decades of authoritarian state policies.<sup>12,13</sup>

All of these factors are considered to be “on the table” in the determinants-of-health approach to explaining this recent upsurge in mortality. We believe there is a parallel between explaining current mortality patterns in the former Soviet Bloc and seeking the diverse root causes of indigenous peoples’ alcohol problems in North America. The key to the parallel is that the candidate explanations in both epidemics are primarily functions of explicit cultural values and practices, set in a particular historical and economic context. Accordingly, we will elaborate on a set of cultural, social, and economic factors in history that we think helps account for the origins of alcohol problems in Native Americans.

In focusing on these factors as ways of understanding Native American drinking patterns, we necessarily deemphasize the role played by genetics. Whereas the biological sciences are helpful for understanding biological processes within individuals, anthropological and historical analyses may offer greater utility for understanding alcohol’s effects at the societal and cultural level.<sup>14</sup> However, both group and individual “biological predispositions” to alcohol problems could certainly have contributed to the sequence of historical events we address here.<sup>15,16</sup>

### ***Problematic Drinking as Learned Behavior***

Our interest is in how a complex sequence of striking behavioral responses to a newly arrived substance developed over a period of 400 years. In areas north of Arizona and New Mexico there were no significant traditions of fermented or distilled beverages before European contact, and alcohol’s effects were largely unknown through much of North America.<sup>17</sup> We believe that the newness of the exposure was indeed critical, and we focus on the social experience of entire peoples who learned about alcohol—specifically, “how to drink”—from scratch.

The importance of this phenomenon in explaining problematic drinking is widely accepted. Recent examples showing that drinking behavior is not innate but learned abound in anthropological literature.<sup>18–20</sup> For application of this thinking to Native Americans, MacAndrew and Edgerton’s *Drunken Compartment: A Social Explanation* is the pioneering work.<sup>21</sup> Clearly written, with bountiful historical references, the book offers evidence for the learned character of

one’s behavior while drunk. We extend MacAndrew and Edgerton’s arguments on the basis of updated material, including the recent historical publications of Mancall<sup>22</sup> and Unrau.<sup>23</sup>

The central proposition both of this article and of MacAndrew and Edgerton’s book is that problematic drinking behavior is learned. This proposition is supported by a long history of social science dialogue regarding the effect of culturally supported attitudes about drinking behavior and intoxication on rates of alcohol-related problems.<sup>24–27</sup> Generally, as Bales pointed out years ago,<sup>28</sup> normative structures for alcohol use and behaviors fall into 3 categories: (1) proscriptive (one should not drink at all), (2) prescriptive (there are normative guidelines concerning acceptable drinking and drinking behavior), and (3) nonscriptive (there are no or few cultural guidelines about drinking).

One study that followed Bales’ concepts used slightly different but similar categories of proscriptive, moderate, and permissive behavioral norms to assess relationships between norms and drinking and problem rates.<sup>29</sup> Drawing on a survey sample from various US populations in 24 states, this study found that populations with permissive normative systems were significantly correlated with all the indicators of heavy drinking and deaths from cirrhosis. However, populations living in areas with proscriptive normative systems were significantly correlated with all the indicators of disruptive alcohol-related behavior, including the highest driving-while-intoxicated and other arrest rates associated with drinking. The 8 states scoring highest in the Proscriptive Norm Index Rank were heavily populated with religious groups that dictate abstinence, most notably Fundamentalists and Mormons.<sup>29</sup> The authors found that these results were consistent with the “social constructionist” view of alcohol problems. They suggest that strong normative proscriptions against alcohol can paradoxically lead to increased arrests and convictions for alcohol-related behavior. In other words, zealous enforcement of laws against disruptive behavior exaggerates the problem. An additional explanation might be that cultures with low or no tolerance for drinking and drunkenness experience problematic consequences because they have no cultural context for drinking. That is to say, once members of such a culture decide to drink, they have no role models for where, when, and how to drink appropriately.

Similarly, the North American natives in the early days of European contact had no role models for drinking behavior, nor did they have mechanisms for dealing with the negative consequences of drinking. However,

whereas Fundamentalist and Mormon societies were acculturated to proscriptive norms about drinking, the normative structure for drinking in the majority of Indian societies would fall into the “nonscriptive” category. Such societies had no cultural guidelines for drinking, and their only role models for comportment under the influence of alcohol were the transient foreigners, many of whom also demonstrated nonscriptive drinking norms. To claim that specific forms of drunken behavior are learned is entirely congruent with current research based on social learning theory, expectancy theory, and modeling of drinking behavior.<sup>30–33</sup>

### ***The Phenomenon Under Study: A Posited Sequence***

We propose that there was a patterned sequence of behavior among Native American users of alcohol during the first several decades after sustained European contact. The historical record suggests that hundreds of distinct peoples across this large continent were suddenly exposed to alcohol after limited or no previous exposure. For eastern seaboard natives, this exposure would have occurred in the 16th century, whereas for some midwestern and western tribes, it could have been as late as the mid-19th century.

Within the century after contact—and often much sooner—the majority of these peoples, it appears, developed significant risks for socially and physically harmful alcohol use, which have largely persisted despite extraordinary efforts to control them ever since.<sup>34,35</sup> We use historical sources to demonstrate the following consistent sequence of events:

*Phase 1—Precontact culture: mind-altered states as a social good.* In this phase, mind-altered states of the sort that presaged alcoholic inebriation postcontact were, in cultures such as that of the Plains Indians, associated with a quest for enlightenment, powers of healing, and the facilitation of war-making. All of these occurred within a traditional cultural context that usually functioned to protect members of the group from harm.<sup>36</sup> (There were and are heterogeneous traditions related to altered mind states across Native American societies; see Abbott.<sup>17</sup>)

*Phase 2—Initial contact.* In this brief phase, which varied in length and is poorly documented in the historical record, initial contact with alcohol appears to have been followed in a number of settings by a “naïve period of grace” characterized by comparatively harmless drinking without associated antisocial or violent behavior. We echo the arguments of MacAndrew and Edgerton<sup>21</sup>



Source. Smithsonian Institution National Anthropological Archives.

**FIGURE 1**—“The Pay Room in the old Barracks at Ft. Gibson.” Fort Gibson, Oklahoma, was one site where Cherokees were paid for the land that had been seized from them. According to Grant Foreman, who supplied this late 19th century photograph to the Smithsonian, “This picture was taken some days after the payment began but there are hundreds of thousands left on the bundles on the table. The man sitting at the table with his coat off is Treasurer E. E. Starr and the large man sitting by him is Principal Chief C. J. Harris of the Cherokees; those around are all clerks or guards. The Indians are a droughty set, and it is more than probable that the ‘grip’ on the shelf contains a bottle or two of whiskey. The amount paid to each Cherokee man, woman, or child is 267 dollars and 70 cents in silver.”

that the existence of this phase strongly suggests that social learning, not biology alone, must have mattered in the ensuing sequence of events.

*Phase 3—Development of new native drinking cultures.* As European contact continued, there was a progressive development over several decades of high-dose, prolonged collective binge drinking as a central element in many new native drinking cultures. This type of drinking became increasingly associated with individual and social harm.

We suggest that there were some illuminating hallmarks of these new drinking cultures in their full-blown form, which, while not universal, were remarkably widespread throughout the continent, despite the cultural diversity of more than 500 distinct tribes. The following characteristics were repeatedly identified by early observers:

1. Group-oriented as opposed to individualistic drinking, wherein many or most group members drank together.<sup>36</sup> Modern group drinking sessions have been described by Escalante<sup>37</sup> and Topper.<sup>38</sup> (Although these unrestrained public drinking sessions would have been so obvious as to attract attention from early observers, other forms of more private drinking may have occurred without being remarked upon.)

2. Uncontrolled maximal dosing, to use up however much alcohol was present.<sup>39</sup>

3. Absence of social controls for alcoholic binges; for example, there was often intense pressure for all male—and sometimes female—adults to imbibe, with no limits.<sup>22</sup>

4. Variably rapid rise of uncontrolled behavior, including violence during binges. Family and kinsmen, rather than colonists or traditional enemies, tended to be the usual victims of such violence.<sup>21</sup>

5. An absence of individual blame and remorse for alcohol-related harm, owing to the view that individuals under the influence of alcohol were absolved of responsibility for their behavior.<sup>21,22,40</sup>

6. The near-demonization of drink in its role as agent of harm, with a reduced sense of individual agency involved, perhaps related to the collective nature of the decision to start and persist in drinking. (Mancall notes that not only Indians but also European colonizers had the view that demon rum, rather than the perpetrator, was responsible for acts committed while drunk.<sup>22</sup> In the years between European settlement of North America and the present, too, alcohol has been regarded as a spirit that possesses individuals.<sup>41</sup>)

It is important to emphasize that these were not monolithic universal trends. The exceptions are many and noteworthy. In some



settings there was prolonged, active resistance to alcohol, with effective prohibition by strong local leaders. However, overall there was a remarkably consistent sequence of events from the eastern seaboard to the Pacific coast, over the first century after European contact.

We turn now to 3 key influences on the development of this historical sequence, as recorded by contemporary observers. Necessarily, early historical sources are limited to what was relayed to Europeans who spoke with natives and who recorded their impressions in the early years after settlement. These sources should be interpreted accordingly. It should be remembered that many of the early immigrants from Europe did not view the natives as fully human, so that a profoundly judgmental perspective was usual in these writings.<sup>41</sup>

### *The Role of Precontact Culture*

There were many indigenous cultures in North America that had for centuries achieved altered mind states through a variety of non-pharmacologic routes, such as sleep deprivation, drumming, pain, and fasting.<sup>42</sup> In a description of a contemporary form of substitution, Carpenter<sup>43</sup> details the use of alcohol in Iroquois vision quests. Moreover, nonalcoholic but equally potent psychotropic substances, such as datura (jimsonweed), peyote, and, of course, tobacco, were widely used.<sup>44</sup> The use of these substances and the states they induced generally occurred under the umbrella of religious and social sanctions.<sup>41</sup> There are parallel protective factors that persist through modern times, for example, in Jewish ritual wine drinking.<sup>45</sup> In some cultures, there are only partially protective factors, as in Italy and France, where wine is generally viewed as food and there is lifelong training to drink wine only with meals.<sup>46</sup>

However, there were no established protective rules and contexts for alcohol use and related problems in Native American societies when alcohol first appeared on the continent. One exception would be in the Southwest, where the Tohono O'odham use of a fermented cactus or corn beverage was highly ritualized. As Abbott indicated in his review of precontact alcohol use in the United States,<sup>17</sup> apart from some Southwestern desert peoples who appeared to have learned about fermentation from the indigenous peoples in what is now Mexico, there is scant documentation of endemic alcohol use in what is now the United States and Canada prior to European contact. Abbott's review, however, does provide some tantalizing examples of widely scattered reports of incompletely fermented drinks. Abbott states that precontact use "generally did not involve excessive drunkenness, but



Source. Smithsonian Institution National Anthropological Archives.

**FIGURE 2—Wovoka, or Jack Wilson (c. 1856–1932), was a Paiute whose prophecies helped inspire the Ghost Dance movement. He urged his followers to avoid alcohol. Photograph taken in December 1916 by Lorenzo D. Creel.**

controlled and supervised use often in highly ritualized occasions."<sup>17(p11)</sup> Even when precolonial alcohol consumption occurred, it involved fermented beverages with relatively low alcohol content. The experience of imb-

ing the higher-proof beverages introduced by Europeans must have been viewed as involving an essentially different substance.

It appears that precontact native familiarity with mind-altered states was largely

confined to a shared spiritual experience that often arose out of the shamanistic tradition and was invested with expectations of improved well-being, as opposed to individual enjoyment or entertainment. The shamanistic use of mind-altering substances was conducted for the social good, and collective extreme inebriation has been interpreted as providing a societal escape valve in response to otherwise tight social control.<sup>47</sup> We do not suggest that shamanistic traditions involving psychotropic substances are without attendant problems for the individuals involved: rather, it is the case that such traditional patterns of psychotropic drug use rarely caused epidemic health and social problems.<sup>48,49</sup>

One compelling argument is that neither precontact cultures nor biological determinism inevitably primed Native North Americans to react to alcohol with uncontrolled or antisocial behavior. Indeed, a number of historical references to first contact with alcohol indicate that native peoples either quietly imbibed until they fell asleep or (in a Chinook example) ran terrified into the forest because of the unfamiliar and unpleasant symptoms of inebriation.<sup>21</sup> MacAndrew and Edgerton state that the Menominee just sat down and passed out in response to their initial consumption of alcohol.<sup>21</sup> The point of these examples is that, when observers were there to record it, there appears to have been an initial period of “naïve grace” in which alcohol consumption was not accompanied by marked antisocial behavior. This in itself appears to argue strongly for a social learning explanation for the development of subsequent native drinking cultures.<sup>21</sup>

### ***Learning Excessive Drinking and Violence From Frontier Whites***

Drinking was pervasive among the early European colonists, and alcohol served practical purposes in their everyday lives. Alcohol was used as a substitute for drinking water (which was usually contaminated) and for medical purposes—to fight fatigue, soothe indigestion, ward off fever, and relieve aches and pains.<sup>50</sup> Then, with the increasing availability of hard liquor and increased local brewing and distillation, people began drinking more and in a less controlled context.<sup>50</sup> Between 1800 and 1830, the annual per capita alcohol consumption in the United States was estimated to be between 5 and 9.5 gallons, compared with 2.6 in 1978.<sup>51</sup>

To the modern reader of historical accounts of everyday life in early America, it seems that alcohol use and abuse were prominent and ubiquitous, particularly in those regions most recently settled. Furthermore, the kind of alcohol use that was usually

reported was far more socially harmful than is usual today. Indeed, alcohol provided an uncontrolled opportunity—or at least an excuse—for otherwise unacceptable behavior. No doubt, self-selection of antisocial personality types, many with preexisting addiction problems, contributed to the extreme drinking culture on the frontier. New World governments were unable to enforce sensible alcohol control policies within their own provinces, much less in frontier settings that were far from legislative centers.<sup>50,52</sup> We suggest that these lawless edges of the new societies provided for intense role modeling of antisocial alcohol use.

Early White arrivals who were not engaged in agriculture were particularly likely to have developed binge-drinking cultures. For example, the widely traveled voyageurs from Quebec who formed the mainstay of the European side of the fur trade, and who were the first to contact dozens of tribes, were reported by an early-20th-century commentator to have a life of “debauchery”: “They sleep, they smoke, they drink brandy at whatever cost.”<sup>53</sup> Excesses in drinking and other types of behavior took place in particular between the voyageurs’ extended canoe trips. In short, these wandering, socially detached traders were thought of as the “scum” of New France. Similarly, Kennedy cites a 19th-century Blackfoot’s account of frontiersmen who “carry off our wives and daughters; they give us fire-water, and under its maddening influence we have murdered scores of our own people.”<sup>54(p56)</sup>

Soldiers constituted another category of heavy-drinking arrivals in the New World, a pattern that continued well into the 19th century in frontier forts manned by the US Army in the West. Townsend, in 1833 and 1834, reported extraordinarily violent behavior associated with drinking bouts, behavior that led to many injuries and some deaths.<sup>55</sup> William Unrau has written an entire book about a century of failed efforts to control alcohol use in the “Indian Country” of the western United States.<sup>23</sup> At various times, legislators and federal military officials attempted to enact progressively more restrictive laws to reduce alcohol availability in garrisons and surrounding cities. Generous daily rations of alcohol were viewed as an irrevocable perk of military service throughout this period. Nonetheless, Peter Porter, US secretary of war in 1829, found that “the evils of intemperance in the Army arose not from the spirit ration but rather from excessive quantities procured by other means” and the belief that “the use of one gill [about 4 standard drinks] a day at proper times would not seriously impair the health of a man of active employment.”<sup>23(p5)</sup>

Consequently, up to the end of the 19th century, Indians were exposed to persistent modeling of antisocial behavior associated with frequent high-dose drinking by soldiers, *coureurs des bois* (fur traders), and subsequently cowboys and miners<sup>52</sup>—notably, all self-selected communities of men, away from their families and from the reach of alcohol policies and other forms of social control.<sup>56</sup> It is not surprising, therefore, that MacAndrew and Edgerton document several instances in which native groups appeared explicitly to have learned from and mimicked local frontier drinking habits.<sup>21</sup> (In the contemporary literature, one notes Kunitz and Levy’s brilliant comparisons of Navajo and neighboring White mortality statistics by cause.<sup>56</sup> The figures from both ethnic groups demonstrate a haunting similarity: traumatic deaths, many of them associated with alcohol use, have for many decades constituted a major public health concern in both communities.)

### ***Social Movements as Reactions to Excess***

During the period when harmful native drinking cultures were developing in some settings, there was considerable variation in different tribes’ responses to their introduction to alcohol by White settlers. For example, it was not uncommon for an entire people to reject alcohol for decades after their initial contact with settlers. Lewis and Clark noted in 1804 that the Assiniboine were the only tribe that drank among those they encountered between the Missouri River Valley, in what is now North Dakota, and the Yellowstone area.<sup>21,57</sup> Moreover, there were tribes that were avowed teetotalers. For example, “The *recarees* (Arikara) are not fond of Spirituous liqueurs, nor do they appear to be fond of Receiving any or Thankfull for it (*they say we are no friends or we would not give them what makes them fools*).”<sup>57</sup> Richard White has documented the relative success of strong Pawnee chiefs in keeping alcohol out of their communities for much longer than did the Choctaws.<sup>58</sup> A priest observing the Iroquois in 1718 stated, “Although the savages like to drink, they are nevertheless sorry for having done so, because in their drunken fits they lose all they have, and they keenly regret this when they come to their senses.”<sup>59,60</sup>

Later, Native American social movements formed that were based on reactions to the adverse social and health effects of alcohol. These were initially localized and then became more widespread abstinence and temperance movements. Two of the best-known examples are the movement led by Seneca prophet Handsome Lake in the early 1800s and the apoca-

lyptic Ghost Dance religion at the end of the 19th century.<sup>61</sup> Most were spiritual in nature, either Christian-inspired or based on native spiritual revival movements. In the 20th century, the Native American Church has constituted the strongest native spiritual movement with effective anti-alcohol practices.<sup>62</sup>

In citing these examples, we acknowledge that most Indians' initial reaction to alcohol went unrecorded. But these examples of abstinence—whether during initial contact with Europeans or much later—show that the rise of socially harmful drinking cultures was neither uniform nor inevitable, as is suggested by genetic determinism theories. Rather, there was great heterogeneity in various peoples' early responses to the new inebriant, as would be expected if the predominant process was one of learned behavior, framed by local culture.

### *The Economic and Political Role of Alcohol*

Many historians have documented the deliberately strategic use of alcohol as an immensely profitable trade good in early America. Alcohol was also used as a tool of "diplomacy" in official dealings between authorities and natives, which later evolved into a de facto policy of using alcohol as a bargaining chip in the appropriation of traditional land holdings.

From a purely mercantile point of view, alcohol had many advantages as a trade good for transactions on the remote frontier. The Hudson's Bay Company fur traders in Canada, for example, were quick to recognize that the demand for alcohol—unlike the demand for goods such as mirrors, blankets, or metal blades—was inexhaustible.<sup>22</sup> Alcohol was relatively lightweight for its trade value, and it was nonperishable. Its high profitability could be further enhanced by diluting the alcohol—this was usual practice when the buyers were relatively unfamiliar with the product and did not know what potency to expect. Indeed, low-alcohol beverages such as wine and beer rarely figured in these transactions. Brandy was the preferred trade good of the French, rum of the English, and whiskey of the Americans.<sup>22</sup> One may note a modern parallel with the "cutting" or diluting of cocaine and heroin with every transaction.

A more subtle possibility is that some native peoples were conditioned by early trading practices to receive alcohol as payment and therefore to consider it a marker of economic success. For example, in fur trading areas, the largest amounts of alcohol would be obtained by the most successful fur trappers; the reward of alcohol for successful

fur gathering established alcohol as a status symbol. It has been suggested that the fur trade in the Northwest caused people to work much harder than their previous subsistence needs required, largely in order to avail themselves of alcohol and other trade goods.<sup>23</sup>

There also appears to have been, from the earliest days of contact in eastern North America, an intentional use of alcohol as a tool of diplomacy. Initially, this may have been innocent enough, in that celebrations and feasts involving both settlers and natives would involve alcohol because it was a natural ingredient in European celebrations. However, by the time of settlement in the Great Plains, there had evolved complex and subtle uses of alcohol in virtually all treaty parleys and other official negotiations. It became commonplace for native leaders to demand that alcohol be offered in any negotiations with White authorities.<sup>23</sup> The implicit threat of war was, of course, always in the background at these parleys. A key excuse of the French, English, and other colonists for providing liquor during negotiations was the fear that if they did not, the natives might sign a treaty with their European opponents instead.<sup>22</sup>

Once land agreements had been signed, regular annuity payments were attractive only when there was something desirable to buy. Unrau calculated that annuity payments, for their time, represented enormous sums of money,<sup>23</sup> much of which was spent in the often illegal alcohol establishments that ringed newly resettled reservation lands—for example, in Kansas.<sup>54</sup>

Other writers have noted a parallel between modern American tobacco exports and the British use of opium, and the consequent induction of hundreds of thousands of Chinese addicts into its use, to balance European trade in the Far East in the late 18th and early 19th centuries.<sup>63</sup> However, few commentators have compared the Opium Wars with the colonial powers' use of alcohol in their dealings with Native North Americans. In both instances, more technologically advanced peoples deliberately planned and executed the habituation of traditional peoples to a damaging psychotropic substance for the purposes of economic benefit and territorial expansion.

### *Conclusions*

In this article we have focused on the economic, social, and cultural factors that influenced the development of drinking cultures among Native Americans in the first decades after European contact. Much remains to be said about subsequent events connecting the early learned destructive drinking patterns with more recent drinking problems, particu-

larly of the recurrent efforts to enforce prohibitions on reservations.<sup>56,64</sup> One mechanism for the perpetuation of past influences on modern drinking behavior is through multigenerational transmission of alcohol problems.<sup>41,65</sup>

Our point is that for most North American native peoples, the first century after contact, whether contact occurred prior to 1750 on the eastern seaboard or during the 1800s in the Rocky Mountains, encompassed a relatively consistent pattern of sudden exposure to alcohol and subsequent social reactions. Our view is that the rise of native drinking cultures, which have obviously evolved further in the ensuing years, cannot be understood without reference to the extraordinary barrage of inducements to drink heavily in the early years after European contact. The harmful drinking patterns established during those years have largely persisted, despite many attempts by government and voluntary agencies to address the problem. In contrast to other explanatory factors, the role of history seems to have been underemphasized in the voluminous literature attempting to explain the phenomenon of problem drinking among Native Americans.<sup>61</sup>

What are the implications for public health policies and programs aimed at ameliorating alcohol-related problems experienced by Native North Americans today? A consistent theme in recent Native American health policy efforts has been increased self-determination and fiscal autonomy.<sup>35</sup> Another trend is the profound spiritual revolution that has taken place in many tribes in recent decades, with its rediscovery and reembracing of traditional cultural values.<sup>66</sup> Given the extent of the centuries-long acculturation to extensive alcohol use that we have described, we suggest that a commensurately dramatic cultural shift, and indeed spiritual renaissance, might be required to reverse past damaging processes. The example of the Alkali Lake Band is instructive. At one time, 100% of the adults in the band were alcoholics. With increasing community support, one or two people at a time undertook alcoholism treatment until a majority of the adults renounced alcohol. Their return to sobriety illustrates how, in tandem with nonindigenous 12-step and environmental interventions, a renewal of tradition-oriented spiritual life in the community helped tribe members resist a return to alcoholic drinking patterns.<sup>67</sup> Other promising efforts to resist substance abuse through identification with traditional spirituality are being reported as well.<sup>41,68,69</sup>

The historical and cultural analysis presented here has practical implications for tribal efforts to overcome substance abuse problems. First, any attempt to develop a viable intervention program needs to consider the historical



sources of Indian drinking problems in addition to risk factors in contemporary life. Knowledge of the intense social and economic forces that helped shape early Native American experiences with alcohol can help provide a more balanced perspective on the roots of contemporary drinking problems. Second, this article supports an argument that has been stated by others—that cultural dimensions of Native American drinking must be considered far more important than the notion that Native Americans' propensity for heavy and dependent drinking is primarily genetic. May and Smith<sup>70</sup> found in a survey of Navajo people that a substantial proportion of respondents believed that Indian drinking problems were genetically determined, consistent with the fatalistic "drunken Indian" stereotype. But although they are imprecise, Indian Health Service age-adjusted alcohol-related death rates (ranging from 15.9 to 112.7 per 100,000) display a tremendous variance between areas in different parts of the United States.<sup>71</sup> Regional variations in culture, economy, and history should help account for these differences.

Cultural and historical explanations such as those presented here should thus help to discourage the fatalistic belief that Indians are genetically programmed for high rates of alcoholism and drinking problems. It is our hope that this article, which extends the work of MacAndrew and Edgerton, will enlighten researchers from other backgrounds and help to set the stage for more and better research on the contemporary social and cultural determinants of this substantial public health problem. □

## Acknowledgments

The writing of this article was supported in part by grants 1-R29-AA11656-01 and R01-AA11826-01A1 from the National Institute on Alcohol Abuse and Alcoholism.

An earlier version of this article was presented at Alcohol Consumption and Indigenous People: An International Research Symposium, sponsored by the Alcoholic Beverage Medical Research Foundation, Vancouver, Canada, September 20, 1998.

The authors gratefully acknowledge the suggestions of Bernie Siegel, Jeffrey Reading, Elizabeth Fee, and 3 anonymous reviewers.

## References

- Newbold KB. Problems in search of solutions: health and Canadian aboriginals. *J Community Health*. 1998;23:59–73.
- 1997 Trends in Indian Health. Rockville, Md: US Dept of Health and Human Services, Indian Health Service; 1997:5, 95.
- Evans RG, Barer ML, Marmot TR, eds. *Why Are Some People Healthy and Others Not? The Determinants of Health of Populations*. New York, NY: Aldine de Gruyter; 1994.
- Coleman W. *Death Is a Social Disease: Public Health and Political Economy in Early Industrial France*. Madison: University of Wisconsin Press; 1982.
- Furman B, ed. *A Profile of the United States Public Health Service, 1798–1940*. Washington, DC: US Government Printing Office; 1973. DHEW publication NIH 73-369.
- Greenwood M. *Some British Pioneers of Social Medicine*. London, England: Oxford University Press; 1948.
- Taylor R, Rieger A. Medicine as social science: Rudolf Virchow on the typhus epidemic in Upper Silesia. *Int J Health Serv*. 1985;15:547–559.
- Foster G. Relationships between theoretical and applied anthropology: a public health program analysis. *Hum Organ*. 1952;11:5–16.
- Paul B. *Health, Culture, and Community: Case Studies of Public Reactions to Health Programs*. New York, NY: Russell Sage Foundation; 1955.
- Frank JW. Why "population health"? *Can J Public Health*. 1995;86:162–164.
- Leon D, Chenet L, Shkolnikov VM, et al. Huge variation in Russian mortality rates 1984–94: artefact, alcohol or what? *Lancet*. 1997;350:383–388.
- Hertzman C. *Environment and Health in Central and Eastern Europe*. Washington, DC: The World Bank; 1995.
- Hertzman C, Kelly S, Bobak M. *East-West Life Expectancy Gap in Europe: Environmental and Non-Environmental Determinants*. Dordrecht, the Netherlands: Kluwer Academic Publishers; 1996.
- Heath DB. Anthropology. In: Galanter M, ed. *Recent Developments in Alcoholism*. Vol 11. New York, NY: Plenum Press; 1993:29–43.
- Long JC, Knowler WC, Hanson RL, et al. Evidence for genetic linkage to alcohol dependence on chromosomes 4 and 11 from an autosomal scan in an American Indian population. *Am J Med Genetics*. 1998;81:216–221.
- Wall TL, Garcia-Andrade C, Thomasson HR, Cole M, Ehlers CL. Alcohol elimination in Native American Mission Indians: an investigation of interindividual variation. *Alcohol Clin Exp Res*. 1996;20:1159–1164.
- Abbott PJ. American Indian and Alaska native aboriginal use of alcohol in the United States. *Am Indian Alaska Native Ment Health Res*. 1996;7:1–13.
- Bennett LA, Ames GM, eds. *The American Experience With Alcohol: Contrasting Cultural Perspectives*. New York, NY: Plenum Press; 1985.
- Douglas M. *Constructive Drinking: Perspectives on Drink From Anthropology*. Cambridge, England: Cambridge University Press; 1987.
- Marshall M, ed. *Beliefs, Behaviors, and Alcoholic Beverages: A Cross Cultural Survey*. Ann Arbor: University of Michigan Press; 1979.
- MacAndrew C, Edgerton RB. *Drunken Comportment: A Social Explanation*. Hawthorne, NY: Aldine; 1969.
- Mancall PC. *Deadly Medicine: Indians and Alcohol in Early America*. Ithaca, NY: Cornell University Press; 1995.
- Unrau WE. *White Man's Wicked Water: The Alcohol Trade and Prohibition in Indian Country, 1802–1892*. Lawrence: University Press of Kansas; 1996.
- Heath DB. Anthropological perspectives on alcohol: an historical review. In: Everett MW, Waddell JO, Heath DB, eds. *Cross-Cultural Approaches to the Study of Alcohol*. The Hague, the Netherlands: Mouton Publishers; 1976:29–43.
- Lafferty NA, Holden JMC, Klein HE. Norm qualities and alcoholism. *Int J Soc Psychiatry*. 1980;26:159–165.
- Pittman DJ. International overview: social and cultural factors in drinking patterns, pathological and non-pathological. In: Pittman DJ, ed. *Alcoholism*. New York, NY: Harper & Row; 1967:3–20.
- Room R. Normative perspectives on alcohol use and problems. *J Drug Issues*. 1975;5:358–368.
- Bales RF. Cultural differences in rates of alcoholism. *Q J Stud Alcohol*. 1946;6:480–499.
- Linsky AS, Colby JP Jr, Straus MA. Drinking norms and alcohol-related problems in the United States. *J Stud Alcohol*. 1986;47:384–393.
- Akers RL, La Greca AJ. Alcohol use among the elderly: social learning, community context, and life events. In: Pittman DJ, White HR, eds. *Society, Culture, and Drinking Patterns Reexamined*. New Brunswick, NJ: Rutgers Center of Alcohol Studies; 1991:242–262.
- Ames GM, Grube JW. Alcohol availability and workplace drinking: mixed method analyses. *J Stud Alcohol*. 1999;60:383–393.
- Grube JW, Ames GM, Delaney W. Alcohol expectancies and workplace drinking. *J Appl Soc Psychol*. 1994;24:646–660.
- Schafer J, Leigh BC. A comparison of factor structures of adolescent and adult alcohol effect expectancies. *Addict Behav*. 1996;21:403–408.
- Johnson WE. *The Federal Government and the Liquor Traffic*. Westerville, Ohio: American Issue Publishing Co; 1911.
- Young TK. Recent health trends in the Native American population. In: Sandefur GD, Rindfuss RR, Cohen B, eds. *Changing Numbers, Changing Needs: American Indian Demography and Public Health*. Washington, DC: National Academy Press; 1996:53–75.
- Dozier EP. Problem drinking among American Indians. *Q J Stud Alcohol*. 1966;27:72–87.
- Escalante F. Group pressure and excessive drinking among Native Americans. In: Waddell JO, Everett MW, eds. *Drinking Behavior Among Southwestern Indians: An Anthropological Perspective*. Tucson: University of Arizona Press; 1980:183–204.
- Topper MD. Navajo "alcoholism," drinking, alcohol abuse, and treatment in a changing cultural environment. In: Bennett LA, Ames GM, eds. *The American Experience With Alcohol: Contrasting Cultural Perspectives*. New York, NY: Plenum Press; 1985:227–251.
- Adair J. *The History of the American Indians: Particularly Those Nations Adjoining to the Mississippi, East and West Florida, Georgia, South and North Carolina, and Virginia*. London, England: E. & C. Dilly; 1775.
- Bailey AG. *The Conflict of European and Eastern Algonkian Cultures, 1504–1700*. St. John, New Brunswick: New Brunswick Museum; 1937.
- Duran E, Duran B. *Native American Postcolonial Psychology*. Albany: State University of New York Press; 1995.
- Benedict RF. The vision in Plains culture. *Am Anthropol*. 1922;24:1–23.
- Carpenter ES. Alcohol in the Iroquois Dream Quest. *Am J Psychiatry*. 1959;116:148–151.
- Schleiffer H, comp. *Sacred Narcotic Plants of the New World Indians: An Anthology of Texts*

- From the Sixteenth Century to Date*. New York, NY: Hafner Press; 1973.
45. Glassner B, Berg B. Jewish-Americans and alcohol: processes of avoidance and definition. In: Bennett LA, Ames GM, eds. *The American Experience With Alcohol: Contrasting Cultural Perspectives*. New York, NY: Plenum Press; 1985:93–107.
  46. Lolli G, Serianni E, Golder GM, Luzzatto-Fegiz P. *Alcohol in Italian Culture: Food and Wine in Relation to Sobriety Among Italians and Italian Americans*. New Haven, Conn: Yale Center of Alcohol Studies; 1958.
  47. Benedict R. *Patterns of Culture*. New York, NY: Houghton Mifflin; 1934.
  48. Park WZ. *Shamanism in Western North America*. 1938. Reprint, New York, NY: Cooper Square Publishers; 1975.
  49. Grim JA. *The Shaman: Patterns of Siberian and Ojibway Healing*. Norman: University of Oklahoma Press; 1983.
  50. Aaron P, Musto D. Temperance and prohibition in America: a historical overview. In: Moore MH, Gerstein DR, eds. *Alcohol and Public Policy: Beyond the Shadow of Prohibition*. Washington, DC: National Academy Press; 1981:127–181.
  51. Lender ME, Martin JK. *Drinking in America: A History*. New York, NY: Free Press; 1982.
  52. Winkler AM. Drinking on the American frontier. *Q J Stud Alcohol*. 1968;29:413–445.
  53. Blair EH. *The Indian Tribes of the Upper Mississippi Valley and Region of the Great Lakes*. 2 vols. Cleveland, Ohio: A. H. Clark; 1911: 229. Quoted in: MacAndrew C, Edgerton RB. *Drunken Comportment: A Social Explanation*. Hawthorne, NY: Aldine; 1969:140.
  54. Kennedy MA. *The Whiskey Trade of the North-western Plains: A Multidisciplinary Study*. New York, NY: Peter Lang; 1997.
  55. Townsend JK. Narrative of a journey across the Rocky Mountains. In: Thwaites RG, ed. *Early Western Travels, 1748–1846*. Vol 21. Cleveland, Ohio: A. H. Clark; 1904:324.
  56. Kunitz SJ, Levy JE. *Drinking Careers: A Twenty-Five-Year Study of Three Navajo Populations*. New Haven, Conn: Yale University Press; 1994.
  57. Lewis M, Clark W. *The Original Journals of the Lewis and Clark Expedition 1804–1806*. Thwaites RG, ed. New York, NY: Dodd Mead & Co; 1904:199. Quoted in: MacAndrew C, Edgerton RB. *Drunken Comportment: A Social Explanation*. Hawthorne, NY: Aldine; 1969:117.
  58. White R. *The Roots of Dependency: Subsistence, Environment, and Social Change Among the Choctaws, Pawnees and Navajos*. Lincoln: University of Nebraska Press; 1983.
  59. Thwaites RG, ed. *The Jesuit Relations and Allied Documents: Travels and Explorations of the Jesuit Missionaries in New France 1610–1791*. Vol 67. Cleveland, Ohio: Burrows Brothers; 1896–1901:39–41.
  60. Aquila R. *The Iroquois Restoration: Iroquois Diplomacy on the Colonial Frontier, 1701–1754*. Detroit, Mich: Wayne State University Press; 1983:116.
  61. Morrison KM. Native Americans and the American Revolution: historic stories and shifting frontier conflict. In: Hoxie FE, ed. *Indians in American History*. Arlington Heights, Ill: Harlan Davidson; 1988:95–115.
  62. Aberle D. *The Peyote Religion Among the Navaho*. 2nd ed. Chicago, Ill: University of Chicago Press; 1982.
  63. Chen TT, Winder AE. The opium wars revisited as US forces tobacco exports in Asia. *Am J Public Health*. 1990;80:659–662.
  64. Back WD. The ineffectiveness of alcohol prohibition on the Navajo Indian Reservation. *Ariz State Law J*. 1981;4:925–943.
  65. Andrews T. A family history of alcohol use. In: Kunitz SJ, Levy JE. *Drinking Careers: A Twenty-Five-Year Study of Three Navajo Populations*. New Haven, Conn: Yale University Press; 1994:139–167.
  66. Mail PD, Johnson S. Boozing, sniffing, and toking: an overview of the past, present, and future of substance use by American Indians. *Am Indian Alaska Native Ment Health Res*. 1993;5:1–33.
  67. Johnson J, Johnson F. Community development, sobriety, and after-care at Alkali Lake Band. In: *National Round Table on Aboriginal Health and Social Issues*. Vancouver, British Columbia: Minister of Supply and Services; 1993:227–230.
  68. Medicine B. New roads to coping—Siouan sobriety. In: Manson SM, ed. *New Directions in Prevention Among American Indian and Alaska Native Communities*. Portland: Oregon Health Sciences University; 1982:189–212.
  69. Maracle B. *Crazywater: Native Voices on Addiction and Recovery*. Toronto, Ontario: Viking; 1993.
  70. May PA, Smith MB. Some Navajo Indian opinions about alcohol abuse and prohibition: a survey of recommendations for policy. *J Stud Alcohol*. 1988;49:324–334.
  71. *Regional Differences in Indian Health, 1997*. Rockville, Md: US Dept of Health and Human Services, Indian Health Service; 1998:65.