

**Analysis of the Virginia Appalachian Moonshine System in Relation to the Prohibition  
Movement and the Impacted Local Culture**

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**Reagan Scaglione**

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On my honor as a University Student, I have neither given nor received unauthorized aid on this  
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Advisor

Pedro A. P. Francisco, Department of Engineering and Society

## ***Introduction***

Evidence of alcohol consumption by humans dates all the way back to 7000 to 6600 BCE (Vaillant & Keller, n.d.). The presence of alcohol in human societies is unavoidably paired with the negative impacts of its usage. Alcohol regulations designed to mitigate its hindrance in society date back to the Babylonian Code of Hammurabi, the oldest code of laws (Vaillant & Keller, n.d.). However, being deeply embedded in society, religion, social lives, and traditions, alcohol culture is not easily controlled. Its balancing act of reducing the detrimental effects of alcohol while maintaining effective influence. Pulling too much on the reins can actually cause a rider to lose control of the horse.

One of the most famous cases of alcohol regulation is the 18th amendment of the United States Constitution. Analysis of the impact of the stark prohibition regulation include the policy lessons, crime impacts, consumption trends and more (Hall, 2010; Greenfield, 1998; Miron & Zwiebel, 1998). For example, due to the limited availability of consumption statistics of illegal products, alcohol consumption throughout the prohibition is difficult to accurately gauge. The National Bureau of Economic Research estimated consumption by correlating related available statistics such as deaths rates related to alcohol consumption and liver cirrhosis, hospital admittance rates for alcohol psychosis, and rates of intoxicated arrest (Miron & Zwiebel, 1991). Other current research includes: analyzing the failures of the prohibition, the policymaking lessons learned, the health and crime impacts, and the economic effects (Miron & Zwiebel, 1991). Additionally, the location of Franklin County, Virginia is one heavily focused on in prohibition discussions often being termed “The Moonshine Capital of the World”.

Although there is ample research on the failures of the prohibition movement, to my knowledge there has not been much on the magnitudinal relationship between technology and regulation in shaping the alcohol culture of a society. This paper will study how 18th amendment ratification of the climate Virginia Appalachian mountains through both technical and cultural lenses from the 1919s forward. For the purpose of answering the question, how much effective control does government regulation have over alcohol production and what is its dependence on the state of alcohol production technology?

### ***Background and Significance***

The Appalcahian region has a long and notable history of economic distress. The social theory of a “culture of poverty” places blame of regional economic disparity on the mindset or laziness of the residents (Brumfield, 2019). In contrast, the “resource curse” theory states that the abundance of coal and timber led to the creation of single sector economies that prevent the growth of other economic opportunities (Brumfield, 2019). Lastly, a critical theory termed the internal colony theory states that the poverty is due the colony colonizer like relationship that the Appalachia has with the rest of the United States (Brumfield, 2019). Each of these theories have received criticism however they all do shine light on the culture and perception of the Appalachian region and its systematic poverty.

In addition to the state of poverty in the area the geography and alcohol culture already present provided a conducive environment for illegal production. The Appalachian Mountains of Virginia were home to many Scottish and Irish immigrants that brought with them prior knowledge of home brewing techniques (Gibson, 2019). Moreover, the geography of the Appalachian region is remote and mountainous making it difficult to navigate. Therefore, when

the demand for illegal alcohol skyrocketed due to prohibition, the compounding economic hardships, existing alcohol knowledge and rural geography created the perfect recipe for a successful system of illegal alcohol production and distribution.

On January 16th of 1919 the 18th amendment which prohibited the “manufacture, sale, or transportation of intoxicating liquors for beverage purposes,” was ratified by 46 out of 48 states (Britannica, 2020). This social change was a result of political movements by multiple religious and temperance groups advocating for banning of alcohol all throughout the 1800s and early 1900s and war time allocation pressures from World War I. This shift is an extreme example of a societal shift as it did not just attempt to change the culture of alcohol consumption but rather eliminate it entirely.

This case study of the United States prohibition era is significant as its notable failure of regulatory control sparked large scale unintended cultural shifts that are still present today. A thorough understanding of past failures in regulatory control of alcohol is important to implement in today's society. The negative impacts of alcohol are continually present and despite the limitations in influencing the culture of alcohol consumption and production, effective intervention and direction is a necessity. Alcohol is a poison. That is not in just a metaphorical sense but in a literal one as well. Alcohol is a depressant that alters the brain's chemistry and harms many vital organs especially the liver. According to the World Health Organization in 2022 along with the significant mental, economic and infrastructural problems caused by alcohol abuse, 3 million deaths worldwide are attributed to dangerous alcohol consumption each year (2022). Additionally many car crash fatalities and domestic abuse situations involve the presence of alcohol. In a 1998 report the Bureau of Statistics estimated in a report that two thirds of people

experiencing violent interactions with a spouse or partner stated alcohol as a factor (Greenfield, 1998)

### ***Methods***

The ratification of the prohibition amendment was a result of political movements by multiple religious and temperance groups advocating for banning of alcohol all throughout the 1800s and early 1900s and war time allocation pressures from World War I. This prohibition attempt just like all the ones before it that were not religiously motivated was ultimately a failure. The failure of the 18th amendment and its unintended impacts will be analyzed in order to gain understanding of the magnitude of control that different intervening bodies have on the United States alcohol consumption and production. I argue that limitations in regulation based intervention when attempting to dramatically shift the existing alcohol culture in the United States through the 18th amendment spurred rapid development of a technological system for illegal alcohol within the Appalachian Mountains leading to the ultimate failure of the prohibition movement.

The technological developments will be analyzed in two main categories: production and distribution. Prior to the ratification of the 18th amendment illegal alcohol production was already occurring in the Appalachians. The rural geography often made it difficult for farmers to transport crops to market before spoilage occurred. In order to decrease waste, using those crops to produce fermented and distilled drinks provided a product that wouldn't spoil during transportation and could be sold for a larger profit (Thorton, 1991). However, the illegal alcohol production was mainly conducted at a small production scale. After ratification the national demand for illegally produced alcohol grew exponentially. That growth spurred a scale up in the

Appalachian moonshine production, growing homebrew setups to more industrial scale distillery productions (“Moonshine: Blue ridge style”, n.d.). Additionally, developments in transportation and police evasion were also spurred by the increased regulations. Engines in cars used for running alcohol and money were improved to have increased power and speed so that they were able to outrun police. A smaller technological development also created during this time was shoes with soles designed to leave the print of a cow in order to mislead police (“Moonshine: Blue ridge style”, n.b.).

Cultural shifts will be analyzed on the bases of demographic data of the area as well as first hand accounts from Appalachian residences. Quantitative analysis can be conducted utilizing crime rates, estimated production data, and economic stability within the Appalachian region. Additionally, more qualitative data was collected in the form of written accounts pertaining to the cultural environment during the time period.

The theoretical framework of technological momentum will be applied to analyze the evolving power dynamic between the cultural and technological developments. The theory of technological momentum approaches defines a technological system that is initially created by a societal shift. Then as the technological system matures the direction of the cause and effect begins to shift to where the technological system impacts society (Hughes, 2019). All of these technologies in combination with the geographical factors and manpower together for what Hughes would define as a Technological system.

## ***Results***

### *Technology*

In 1920 at the beginning of the prohibition the century old copper turnip-style still pot, wooden barrels, and wooden flake stands or condensers were the standard fermentation and distillation equipment used to produce corn based liquor. Distillation was typically conducted two or three times to refine the taste and then filtered with felt or wood ash. The fermented mash was heated in the still pots by stoked fires that produced a good amount of smoke. The smoke made avoiding detection difficult, causing distillation to be typically run at night. It is rumored that this is where the term moonshine was coined as the distillers worked under the moonlight only to avoid detection. The turnip-style still was used into the 1930s, however its simplistic design and small capacity limited the production capabilities (“Moonshine: Blue Ridge Style”).

Next, introduced in the 1920s, the submarine still gained popularity during the beginning of the prohibition, quickly becoming the new standard for moonshine producers. These large boilers composed of sheet metal had working volumes of 800 gallons or higher. This new design included a doubler in between the submarine pot and the condenser that held lower proof liquor or beer which, due to the temperature of the vapors entering from the pot, was vaporized and then fed to the condenser. The use of the doubler made it possible for the liquor to be twice distilled without feeling it back into the original pot to obtain a cleaner taste. Additionally, moonshiners began using the addition of sugar in the fermentation which lengthened the viability of the mash. However, the tradeoff of sugar addition was that the quality of the liquor decreased in each subsequent batch that reused the mash. Finally, the heating method for distillation also shifted away from the stoked fires used for tulip-style pots to propane heating. The propane

heating decreased the explosion risk as well as the unwanted visible smoke (“Moonshine: Blue Ridge Style”, n.b.).

Enabled by expansion of automobile accessibility through Henry Ford’s model T illegal producers utilized cars for moonshine distribution. The power capabilities of car engines was developed in order to increase the cars maximum obtainable speeds for the goal of police evasion and increased distribution efficiency. The sport of NASCAR was formed due to the developments that local mechanics were able to achieve in increasing the capacity and power of motor vehicle engines (“Moonshine: Blue ridge style”, n.b.). Additionally, a few former moonshine runners used the driving skill they obtained from years of evading law enforcement as NASCAR racers.

### *Culture*

The cultural goal of the prohibition was to eliminate the consumption of alcohol in hopes of decreasing crime, drug use and generally increasing national morality. Alcohol consumption per capita in 1921 was estimated to be 30 percent of the pre-prohibition value (Miron & Zwiebel, 1991). However, alcohol consumption quickly rebounded in the following years nearing the pre-prohibition levels (Miron & Zwiebel, 1991). Additionally, the depression of 1921 might have also had an impact on consumption rates making it unclear how effective the 18th amendment was at all.

The intended cultural shift of the temperance movement beyond direct alcohol consumption the prohibition was mainly seen to have the opposite effect. The prohibition did not mitigate the dangers of alcohol on public health but actually increased it by creating a market of less regulated and reliable products. Richard Cowan introduced a concept called “The Iron Law



of Prohibition". It states that criminalization of a substance provides economic incentive for producers to increase the potency of the illegal substance. Since producers were already breaking the law there was very little motivation to keep the proof below 160 the typical government limit or to increase the risk of being caught distributing larger volumes of lower proof alcohol. During the prohibition era moonshine was distilled up to extremes of 190 proof, corresponding to Cowans law. Additionally, since alcohol was being produced by illegal means, quality control and assurance was unreliable. In alcohol production higher alcohols and methanol can be produced and be poisonous to the consumer. The death toll due to poisoned alcohol was estimated to be over four thousand nationwide in 1924 (Thornton, 1991).

Economically, during the prohibition people actually spent more money on alcohol or other intoxicants, not less (Thornton, 1991). Rather than reallocating money that would have been spent on alcohol pre prohibition into other entertainment or consumer markets it was allocated to illegal alcohol or drug markets. Additionally, since production was now under the radar the government was no longer benefiting from alcohol taxes while having to increase spending on enforcing regulations.

The prohibition was also completely unsuccessful in decreasing crime rates. Crime rates actually significantly increased since the consumption of alcohol was now considered a crime. The prohibition not only made everyday consumers technically criminals but also spurred the development of a large illegal production network. *The Wettest County*, a book written by the grandson of famous moonshine producer Jack Bondurant, tells the story of moonshine production and crime in Franklin County, Virginia. His historical novel describes the culture in the Appalachian region as a lawless mafia run society. Murder, torture, violent threats, shootouts, and police payouts were all described as common practices of the region. Within Franklin

County most of the local police force was paid protection money by the moonshiners to turn a blind eye to illegal activities.

### *Repeal*

On December fifth in 1933 the twenty-first amendment was ratified during president Roosevelt's administration, repealing the incredibly unpopular 1919 18th amendment (Britannica, 2020). Repealing the 18th amendment was highly supported due to the high crime rates resulting from classifying alcohol consumption and production as illegal acts and the overall in-effectiveness of the nationwide prohibition. The failure of this unpopular amendment did not come as a shock, as there has never been a successful prohibition movement that was non religiously based.

### *Discussion*

Within the technical framework of Hughes Technological Momentum the initial cultural shift of this case study is the ratification and enforcement of the 18th amendment of the United States Constitution. The initial regulatory shift sparked the development of a technological system. The technological system formed includes: the technology used in distillation, distribution, and law enforcement evasion: the network of producers, runners and consumers: and the geographic advantages of the region.

In the first few years of the prohibition, in agreement with the technological momentum framework, the new consumer demand for illegal alcohol imparted influence on the technology of the time driving moonshiners to scale up production. Specifically, this technological scale up was seen in the shift to submarine pot stills and engine development for more efficient

production and distribution. Then as the prohibition continued the influence began to shift toward the control of the technological system. The increased availability of illegal alcohol caused illegal consumption to grow. American culture became infantilized underground consumption speakeasies grew in popularity. Additionally, the Iron Law of the Prohibition spurring the production of higher proof spirits shifted the style of American alcohol consumption away from beers and wines to liquor.

The lack of cultural influence once the moonshine technological system gained full maturity at the end of the prohibition era can be seen by the low impact of the ratification of the 21st amendment repealing the 18th. Moonshine producers had well working systems in place for illegal production in an area where the local culture had developed centered around the technological system. They had very little incentive after the prohibition to switch to legal production where they would have to comply with government regulations and pay liquor taxes. Due to federal intervention moonshiners could no longer rely on law enforcement for discretion however even that couldn't halt production rather just caused it to move underground. The Alcohol Beverage Control, ABC, has been trying to eliminate the undying moonshine business in Franklin County since the end of the prohibition. In the 1970s ABC used helicopters to try and spot still locations, in the 1990s they believed that the county was still producing around 600,000 gallons of moonshine per year (Gibson, 2019).

The impact of the Covid 19 pandemic on alcohol culture is a recent parallel to this historical case study. Recognition of the limited power of government regulation on alcohol consumption was seen in America through decisions to alter but not decrease avenues for obtaining alcohol. Social drinking in public settings like bars and clubs obviously posed a large risk for increasing the spread of the virus. Therefore, the government attempted to shift alcohol

consumption to individuals' homes rather than public spaces. The Alcohol Beverage Control, ABC, in Virginia began allowing businesses to operate with off site permits enabling the sale of alcohol through takeout orders or delivery (“ABC adjusts licensing regulations”, 2020). With more people drinking at home the markets for canned or ready to mix beverages grew rapidly. Canned cocktails were the fastest growing section of the alcohol market in the year 2021. Unlike in the prohibition example, the government regulations and technological developments surrounding alcohol during the pandemic worked towards the same goal of shifting alcohol culture to home consumption. These allied influences thankfully provided much better results than the complete failure of the prohibition.

### ***Conclusion***

The importance of understanding the failures surrounding the prohibition movement within the United States is the realization of the differing magnitudes of influence that can be imparted on a society's alcohol culture in order to create desired changes. Governments have taken a regulatory role in regards to alcohol use in an effort to shape alcohol consumption and production in a manner that mitigates its negative effects on society. However, government regulations often fail in controlling alcohol production and consumption due the concurrent influence imparted by economics, culture and technology. Technological influences on alcohol like new developments can also fail when they do not take into account the cultural and regulatory factors. The presence of alcohol is inherent in our society and with it its negative impacts are as well. Mitigation of the negative effects of alcohol is most successfully done when the influencing parties work towards the same goal imparting their individual control. Reaching

responsible consumption and production in a society is reliant on cultural, regulatory, and technological agreement.

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