

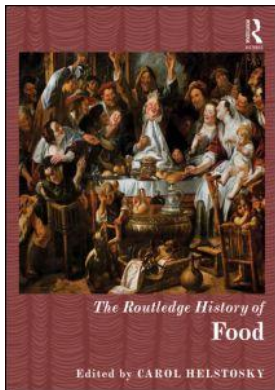
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Carol Helstosky

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Ken Albala

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STIMULANTS AND INTOXICANTS IN EUROPE, 1500–1700

Ken Albala

Like all civilizations that have left written records, Europeans in the early modern period used several socially sanctioned drugs recreationally, ritually and medicinally. These categories were not so hard and fast, however, and many items introduced as medicine were eventually used purely recreationally. This is as true of distilled alcohol as it is of exotic stimulants like coffee and tobacco. This chapter will examine the place of intoxicants and stimulants in European culture, focusing on the various arguments over how these drugs affect the human body, whether they should be used by everyone, and how they might fit into the formal and informal rituals of this society.

What separates this era from those preceding it is the proliferation and commercialization of new stimulants and intoxicants. The popularity of these substances not only fostered the globalization of the economy and the spread of colonial plantations using African slave labor to provide what were usually non-nutritive luxury items, but they changed the nature of sociability to include a wide variety of drug choices either intoxicating or stimulating. Attempts to control or censure consumption of these products, even as they provided lucrative business for merchants, form a central part of the story. Today we live with the consequences of conscious choices made by Europeans centuries ago, not only because the production of alcohol, tobacco and caffeinated beverages constitutes such a huge industry, but the dependence on and abuse of these drugs has become an integral feature of Western civilization.

Before 1500, the only widely available intoxicants were beer and wine. These both date back to the earliest civilizations, if not earlier. Wine in a certain sense makes itself. A cracked grape skin will soon be invaded by ambient yeasts which transform the sugars in the grape into alcohol. Such fermented grapes were consumed by animals long before the appearance of human beings. Consciously controlling the fermentation process and intentionally drinking pressed fermented grape juice in the form of wine almost certainly occurred in prehistoric times and both written and archaeological records attest to its use among early Fertile Crescent cultures. Thus there is a long established history of wine drinking. Beer is somewhat more difficult to make and requires cultivated grains, ground and boiled to render the sugars available for fermentation. For settled agriculturalists it became the more important drink, especially among the Sumerians and Egyptians. Wine, however, took priority in the Greco-Roman world.

Wine

In 1500 Europeans inherited a complex legacy of wine consumption. Most importantly, wine formed one half of the central ritual of Christianity. According to the doctrine of transubstantiation, bread and wine were said to transform into the body and blood of Jesus in the miracle of the Eucharist. Consuming sacramental wine was thus required for salvation. In the course of the Reformation this “real presence” came under attack, most notably from Swiss Reformer Ulrich Zwingli, who claimed that at the Last Supper Jesus merely asked his followers to remember him when they ate and drank but he was speaking metaphorically when he said “This is my body ... this is my blood.” Wine was thus at the center of controversies which not only rent Europe into Protestant and Catholic denominations, but also kept Protestant sects from coalescing into one unified movement, as they had different interpretations of what actually happened to the wine. Martin Luther, for example, believed that both bread and wine as well as flesh and blood were present in the miracle, a doctrine called consubstantiation. Ulrich Zwingli and those in the Reformed tradition believed the sacrament was merely a memorial, and wine did not constitute real blood. The fact that Northern Europeans had to import wine from the South no doubt added to their concerns, but they continued to do so for the sacrament nonetheless.

Wherever wine grapes grew, wine became the daily beverage, consumed with every meal for those who could afford it. The industry expanded considerably, thanks to a demographic swell and increased demand for wine.¹ In Northern Europe, beyond the limit of cultivation, wine was more expensive and an imported status item. The medieval wine trade carried not only wines from well-known districts, for example from Bordeaux to England or along the Rhine, but also stronger fortified wines such as sack or sherry from Southern Spain, malmsey (malvasia), and eventually Madeira. The majority of wine however was consumed locally; given that wine was made from wild yeast, the quality varied from year to year. Wine went bad easily, and remedies for spoiled wines or tricks for preventing it abounded in this period. They ranged from a piece of salt pork suspended in the mouth of the barrel, to additions of egg whites, bitter almonds, hot clay tiles or charcoal, wormwood and so on. There were also methods to tell if wine was watered down, such as tossing in a locust or a fresh egg.² Wine could not be stored for long periods of time, largely due to the lack of strong glass bottles for aging. Bottles began to be used widely in the seventeenth century when low, squat olive-colored forms were developed and sealed with corks. It was not until the end of the early modern period that there appeared tall, relatively lighter bottles that could be stacked on their sides. The champagne bottle with its cork secured by wire also dates from this period, though the legend of Dom Perignon as the inventor of champagne was mostly created for marketing purposes. His real importance was introducing heavy thinning of vines and new methods of cultivation.

Judging from the great quantities consumed, most wine was probably fairly low in alcohol content. It was also normally mixed with water in various proportions, so the actual amount ingested is very difficult to determine. In many regions a second fermentation based on crushed skins and pits yielded an ever weaker and sour drink called *piquette* or *acquarello*, or called *lora* in Latin. Nonetheless records indicate that vast quantities of alcoholic beverages were regularly consumed, even before work.³ Wine was consumed with every meal, including the morning if one took breakfast, and by people of all ages. It was the universal drink for much of Europe. There has been a great deal of speculation whether people depended on wine because water supplies were often tainted. There is no

doubt that many people did drink water, but there is also no doubt that physicians warned against drinking water, most likely from practical experience of illness but also based on the idea that qualitatively cold liquids would upset the humoral balance of the system, leading to colds and coughs.

According to standard Galenic medicine, wine was the superior beverage for promoting health. In this system, optimal health consists of balancing four humors: blood, phlegm, yellow bile and black bile. Because wine was considered qualitatively heating and moistening, and an analogue of blood, wine was also thought to be nourishing insofar as it was easily converted into blood in the process of digestion. The deeper red the wine, the better for health, unless one had a weak stomach, received little exercise, or in hot seasons, then lighter golden wines were preferred.

Inebriation was naturally looked down upon as one half of the sin of gluttony. Some theologians even considered it more dangerous than eating too much, because it inclined one to commit other sins. The fact that being drunk tended to bring out the worst passions – wrath, sloth, lust – made it only more suspect as a gateway to carnality. But in moderation, wine was considered a necessary nutrient and there was absolutely no social stigma connected to drinking wine to quench thirst any time of day.

There was also a large body of literature devoted to the consumption of wine. Regarding the time of day, Laurent Joubert, a popular medical writer, wondered whether it was a good idea to drink wine in the bedroom just before going to bed, as was typical “at least in the best families” in France. He found no good reason to dissuade anyone from it; wine aided digestion, though he did find the habit of young girls drinking cold water before bed perverse and dangerous.⁴ Early in the sixteenth century we have a description of the types of wine normally available in Rome written by Sante Lancerio, cellar master to Pope Paul III.⁵ By his standards, and judging from much of the gastronomic works of the period, malvasia was the preferred type, a sweet golden wine which came from Crete, carried by Venetian merchants. He also listed moscatello, trebbiano, Greco and many other varieties still made today, as well as wine imported from throughout Italy, France and Spain. His opinions are confirmed by physician Giovanni Battista Scarlino, who claimed to have personally sampled all the wine that arrived by boat at Ripa on the Tiber. He agrees that “we place Malvasia in the heavens, for it comforts the brain, the chest, heart and enlivens the pulse in all maladies.”⁶ His text also reveals the many ways in which wine was consumed. Peaches were often diced and soaked in wine; the idea was to prevent them from corrupting, floating on the surface of the stomach and causing nausea and headaches. Iced wine, or wine chilled with snow, also came into fashion though physicians feared that it might cause seizures.

Perhaps most surprisingly wine was mixed with other ingredients, something we would now consider adulteration, but in the past, wine mixtures were believed to be both superior in taste and good for health. Hippocrates is the most famous of these and Scarlino tells us to make it with two boccals of magnaguerra wine, eighteen ounces of sugar, one ounce cinnamon, four drams of grains of paradise (melegueta pepper, an African spice) and three scruples of ginger. “Ogni bicchier vale un fiorino” – every spoonful is worth a florin.⁷ Although borrowing heavily from earlier agricultural texts, Andrea Bacci’s *De Naturali Vinorum Historia* is the most ambitious of sources on wine from this century.⁸ Much of it is about ancient practices, but Bacci revealed common customs of the day. He insisted that in comparison to the past, his own age was very moderate and frugal, especially the papal curia.⁹ This reflects partly the very sober Counter-Reformation era Rome, but also aligns with general observations that Southern Europeans drank little compared to their Northern counterparts.

In general this was an era of increasing attempts to control alcohol consumption, particularly among women and children. The Protestant Italian exile Guglielmo Grataroli warned that only very diluted wine should be given to children, and wine makes women weak in the head and prone to debauchery or adultery.¹⁰ Such attitudes were common across denominational divides, though to what extent they succeeded in curbing consumption is difficult to say. Grataroli also invented remedies for drunkenness as well as morning-after cures, though he insists that the proverbial “hair of the dog” is a terrible idea: “It is pernicious ... the morning after being drunk to guzzle profligately.”¹¹

That people did just this is evidenced in the facetious poem *The Art of Drinking* by Vincentius Obsopoeus. Actually the author was describing how to drink a lot without becoming a habitual drunk and includes useful advice such as eating before drinking.¹² Nonetheless drunken tavern scenes were a popular genre, take for example *The King Drinks* by Jacob Jordaens, several versions of which were painted in the mid seventeenth century (see Figure 3.1). It depicts Twelfth Night revels in which an old man crowned as king is at the point of inebriation and is egged on by various sloshed figures, smoking and carousing. There are even children drinking. Why anyone would value such a painting has been a matter of debate. The work could be a negative lesson on the perils of intoxication, a way for middle-class patrons to distance themselves from those below them socially. Paintings like this hardly inspire imitation, though perhaps they were simply considered amusing and nothing more.

Of this same ilk is George Gascoigne’s *A delicate Diet, for daintiemouthd Droonkards* published in 1576, though here the text definitely points toward admonition; humans are said to transform into beasts when drunk. But in the course of his tirades, the author also revealed many common drinking customs and social prejudices. For example, Gascoigne wondered:

in what civyll Realme or dominion, where people are taught and exercised in the commandements and counsels of God (England onely excepted) shall we see the unthrifty Artificer or the labourer, permitted to syt bybbing and drinking of wine in every Taverne? Or what woman (even among the droonken Almaines) is suffered to follow her husband unto the Alehouse or Beerehouse?¹³

It is not merely that people were drunk, but the audacity of workers drinking in public, even with their wives, that seemed so shameful to him. Even the notoriously drunk Germans had better sense than to bring their wives.

Despite these bitter voices, there can be no doubt that a certain kind of connoisseurship developed around assessing wine. The dietary writer Melchior Sebizius developed an acrostic that would serve well today. COSTA reminds you first to observe the color, then take in the odor, then taste it (sapor) then swirl it to judge the texture (tactu) and lastly put it to your ear (auditū). If there is no sound, it is light, if there is, it will be heavier.¹⁴ Abraham Bosse’s famous print *Taste* depicts a man carefully considering a glass of wine nonchalantly raised to his lips. Evidently there were both sophisticated and common ways of enjoying the beverage.

Beer

The term beer encompasses colloquially a number of different styles involving various grains and methods of fermentation, though technically there should be distinctions between ale, stout, porter and pilsner. In the past there were also low alcohol versions called



Figure 3.1 “The King Drinks” by Jacob Jordaens. © Peter Horree/Alamy

“small beer” as well as more expensive double brewed types. Usually beer is made from malted barley with the addition of hops, which were first widely used in the late Middle Ages and early modern period. They lend a slight bitterness, but more importantly the hops act as a preservative. This made possible the development of an industry, long distance trade, and eventually the accumulation of capital and large-scale brewing. Before this, most beer was brewed in private households which might also serve as a village tavern and it was often women who did the work. In the early modern period legislation gradually made this kind of small-scale operation more difficult. Licensing of public houses, the availability of cheaper hopped beer, and government taxation all conspired to shift brewing away from households and into professional operations staffed by men.¹⁵ Reformation authorities also sought to regulate or close common festivals, such as church ales in

England, considered dangerously out of control and indecorous. Thus the church as a place of socialization was gradually replaced by the tavern and alehouse.

Despite these developments, beer was foremost considered food, and considering the calories provided, it was. Beer was a staple for most of Northern Europe, with only a swathe of territories where one might grow both wine grapes and grain, including Northern France, the Rhine, Switzerland and Austria, roughly similar to the divide between Protestant and Catholic Europe.

Physicians, again following Galenic theory, considered beer cold and phlegmatic and not as nourishing as wine, though many in the North took great pains to refute this idea, bolstered with empirical evidence. For example, a dietary by poet and humanist scholar Elias Eobanus Hessus was expanded upon by fellow German Ioannes Placotomus to include a whole new section on beer. It argued that for people in cold climates whose bodies are robust, beer is an appropriate form of nourishment.¹⁶ Of course there were many different types of beer, with different qualities and Placotomus describes the beer of every major German city.

It might seem surprising, given the prevalence of beer in the North, that a full descriptive recipe is given by the Bolognese agricultural writer Vincenzo Tanara. He described the soaking and sprouting of barley, drying and breaking it up, boiling the grain and adding hops, and so forth. He also explained the different methods among the English, Flemish and Muscovites who added honey and spices.¹⁷ English writer Gervase Markham explained how beer is made in *The English Housewife*. He distinguished beer from ale, but interestingly claimed that the latter “is that wherewith either nobleman, gentleman, yeoman, or husbandman shall maintain his family the whole year,” meaning that there were no distinctions of class in consumption of this universal drink. Markham explained how the malt is ground, to which pails of boiling water are added, creating a mash. The liquid that is strained from the mash is the wort, to which a decoction of hops is added. Barm or yeast is added, it is skimmed and set up in casks to ferment. And an entirely different kind of March Beer was made of peas, wheat and oats.¹⁸

Beer was an integral part of Northern European culture, both a food and the drink of choice for festivities, though increasingly these took place in commercial settings, the public house, beer garden or tavern. By the end of the early modern period, commercial brands we still recognize today began to dominate the brewing industry, such as the Bass Brewery founded in 1777 in Burton on Trent.

Cider, mead and metheglin

In some regions of Europe, the common drink was based on apples or honey. The West Country of England, Normandy and Brittany, and the Asturias in Spain made cider, all quite distinctive. Spanish cider is fairly sour and is traditionally poured into a glass from a great height to create some bubbles. French cider is naturally effervescent and tends to be sweeter, while English is drier with a slightly bitter edge. Cider has traditionally been a local drink, though in various periods it has gained much wider popularity.

Mead, probably among the oldest alcohol beverages made by man (honey ferments on its own with the addition of water), enjoyed a revival in the early modern period. Metheglin is a kind of spiced mead. Recipes for both appeared in the *Closet of Sir Kenelm Digby Opened*. The latter is made with honey and water, usually ginger and rosemary, left to ferment and then bottled and corked tightly and set in sand since it would become fizzy and the bottles might explode.¹⁹

Distillates

The most important development in the history of intoxicants in the early modern period is the widespread availability of distilled alcohol for the first time. A form of pure distillate or aqua vitae had been perfected in the Middle Ages by Muslim alchemists and was thereafter brought to Europe. Both Arnald of Villanova and Ramond Lull experimented with distillation. But these products of the alembic were almost exclusively medicinal. It was presumed that since wine was nourishing and could be converted into blood in the various stages of digestion and ultimately into “spirits” that nourish the brain, distillation was in a sense an artificial means of refining substances without expending the energy of digestion. The term “water of life” was not meant to be poetic, but literal. Alcohol could theoretically extend life once digestion became frail, especially when incorporating medicinal herbs to combat other ailments.

Producing alcohol was fairly simple. Wine was simply heated in a clay or later copper vessel with a long tube or beak which extends outward from the top, inclining downward. A retort flask is the same basic shape. There were actually dozens of different shapes. The alcohol, which evaporates at a lower temperature than water, rises up then drips down the beak, or in more sophisticated versions, such as the alembic, it condenses in a coiled tube set in a container of cold water. What issues forth is clear alcohol, often flavored with spices and herbs. These concoctions were the direct ancestors of all the various flavored spirits we enjoy today. With juniper, they made a kind of gin; with wormwood, a primitive absinthe; with a variety of botanicals, drinks not unlike Benedictine and Chartreuse. Not coincidentally, monasteries made these elixirs, which still bear the name of holy orders.

Here is a recipe typical of these early medicinal flavored alcohols, called Doctor Steven’s Water, which ultimately comes from Charles Estienne in the early sixteenth century:

Take a gallon of Gascoign Wine, Ginger, Galingale, Cinnamon, Nutmegs, Grains, Aniseeds, Fennel seeds, Carroway seeds, of each a dram, Sage, Red mints, Red roses, Thyme, Pellitory, Rosemary, Wild Thyme, Camomil, Lavender, of each a handful.

Beat the spices small and bruise the Herbs, letting them macerate twelve hours stirring now and then, distill them by an Alembick or copper still which is refrigeratory, keep the first pint by itself, the second by itself. Note that the first pint will be hotter, but the second stronger of the ingredients. This water is known to comfort all the principal parts.²⁰

When alcohol is aged in barrels, the oak imparts color and flavor to a product we know now as brandy which comes from the Dutch word for burnt wine, *brandewijn*. Dutch businessmen in the seventeenth century invested in distilleries in the South West of France, using relatively poor quality grapes, though in an area heavily forested, which supplied fuel for the stills. The Dutch then exported brandy elsewhere in Europe, laying the foundation for the cognac industry.

Distilling technology and the advent of printing coincided neatly so that distillation manuals proliferated among the earliest of books. Physician Michael Puff von Schrick wrote the first printed book on distillation, a tiny tract which appeared in 1478.²¹ The most popular early text on the subject was Heironymus Braunschweig’s *Liber de arte distillandi simplicia et composita*, printed in 1500. It contained technical details, drawings and

numerous recipes for essential oils used as medicine, as well as aqua vitae. It was also translated into vernacular languages and was a major source for Europeans breaking into the business of distilled spirits – both for medicine and pleasure.²²

Distilling technology also spread to regions without wine grapes and even to new colonies abroad. Thus we find whiskey being distilled from grain in Scotland and Ireland. The word whiskey or *usgue beatha* means water of life, a translation of aqua vitae. The earliest record of distillation in Ireland dates to 1405 and to 1494 in Scotland, but by this time it was already well known. The oldest license belongs to the Bushmill Distillery in Ireland and dates to 1608. The process here is more complex than that for fruit. The grain, normally barley that has been malted, meaning sprouted and then toasted over a low fire, is ground and left to ferment. It is this mash that is eventually distilled. But a kind of whiskey can also be made from oats, rye or corn – as it is in American sour mash whiskey or bourbon. The color and flavor come from aging in barrels.

Vodka in Russia is also traditionally made from grain or, after they were introduced from the New World, potatoes. Regular drinking of clear potent vodka (which means little water in Russian) seems to have fascinated Western Europeans. For example food writer Jean Bruyerin Champier notes that Muscovites and Lithuanians extract from oats a kind of *aqua ardentem*, which helped them deal with the intolerable cold.²³ Although Russian Czars would have liked to curtail excessive drinking of vodka, the taxes on it proved indispensable income for the daily operations of the government, ultimately assuring that Russia would become a nation of vodka drinkers.

Each region seemed to have developed its own kind of distilled beverage based on whatever could be found. In Italy, the spent lees of wine were refermented and then distilled into grappa. And throughout Europe fermented fruit juices were turned into the ancestors of calvados, from apples, and eau de vie from berries, pears and other fruit, such as plums in slivovitz. These were all entirely new and changed the nature of drinking in Europe. For the first time an extremely strong intoxicating beverage, sometimes quite affordable, could be bought by the masses.

The transition from expensive drug to recreational quaff was gradual. For example gin, first invented by the Dutch, was only mass produced in England in the eighteenth century. Due to a glut of cheap grain, gin became the favorite drink of the poor masses. Hogarth's famous print of *Gin Lane* shows people wasted away, pawning their possessions, dropping babies off stairs – and actually pouring gin down a baby's throat as well (see Figure 3.2). All this is contrasted with the orderly and prosperous *Beer Street* where there is lively commerce and wealth (see Figure 3.3). Of course these prints can also be read as social commentary, the fat, beer-drinking middle classes are prosperous only with the labor of the destitute poor workers. In any case, it does suggest that alcoholism was a very real social problem, made all the more prevalent by poverty and cheap booze.

Rum is perhaps the spirit with the most dramatic historical impact. Its first appearance is unrecorded, but probably occurred on a Caribbean sugar plantation in the mid sixteenth century. Refining sugar from pressed cane juice leaves the byproduct molasses, which still contains fermentable sugar, but otherwise cannot be further refined. The molasses after fermentation is distilled into clear rum. Some rum is made from pure cane juice, what is called *rhum agricole* in French colonies or *cachaça* in Brazil, but most is made from molasses. The popularity of rum, including its use in rations for the British Navy, directly supported African slavery throughout the New World. Distillation of rum also became one of the most important industries of colonial New England.



Figure 3.2 "Gin Lane," engraving after Hogarth. © Select Images/Alamy

Coffee, tea and chocolate

Another factor that separates the early modern period is the sudden appearance of stimulating beverages to rival alcohol. None of these were new elsewhere in the world. Tea and coffee had been enjoyed for many centuries before being brought to Europe, likewise chocolate in America. There are many other stimulating substances used habitually around the world, many of them chewed like coca in the Andes, khat in the Arabian Peninsula and the Horn of Africa, or betel nuts in South East Asia. But none of these were brought to



Figure 3.3 “Beer Street,” engraving after Hogarth. © Select Images/Alamy

Europe, or at least were not consumed in the same way. Coca, for example, was used to make cocaine, but its leaves weren’t chewed. The most important new stimulants were beverages, especially those that could be sweetened with readily available sugar. Sugar might even be included among these stimulants, which many argue is also an addictive substance. The examples of coffee, tea and chocolate provide historians with a detailed understanding of how an expensive drug became a popular recreational beverage, since so much was written about them in the century following their initial introduction.

Coffee was the first of these new stimulating beverages. It is made from the ripe cherries of an evergreen shrub native to Ethiopia. Legend has it discovered by a young goatherd named Kaldi, who noticed his goats frolicking after eating the plant, and so he decided to taste it, with similar effect. Whoever first used it, coffee became an important drink among Muslims precisely because alcohol was forbidden. It was said to keep clergymen attentive during their long hours of study and prayer. There are several different ways of making coffee: the beans can be steeped green, they can be roasted, ground and infused in hot water, or the water can be poured through the grounds. The first coffee to reach Europe was probably something like Turkish coffee, which arrived in Venice in the sixteenth century.

The famous Café Procope opened in Paris in 1686 and became the favorite haunt of Enlightenment philosophes and encyclopedists. It is still in business. The first English coffee house opened in Oxford in 1652. For the English, coffee was definitely the first stimulating beverage of choice, before tea. Coffee houses became places to discuss politics, conduct business and make deals. Lloyd's of London, the famous insurance firm, started as a coffee house. Various attempts to control political agitation, most notably by King Charles II, were directed at coffee houses, ultimately unsuccessfully. The fact that anyone could enter a coffee house made them ideal places to debate issues and to some extent it was both a social leveler and a guarantor of political freedom.²⁴

It has been suggested that these new caffeine-laden drinks perfectly suited the cultural milieu of Protestant countries where capitalism prescribed a work ethic that favored long hours and deep concentration on matters of business.²⁵ The coffee break or breakfast with coffee was seen to be a sober alternative to beer which would only make one sluggish and less able to work efficiently. This is contrasted with countries where chocolate held sway and the cultural ideal was to invest in land and live a life of leisure, most notably in Spain. Whether drinking chocolate is really a relaxing drink is arguable as it also contains caffeine. Furthermore, the coffee addiction of Catholic countries like Italy doesn't really fit this model either. But there is no doubt that the popularity of coffee in Northern Europe had a lot to do with the perception that alcohol should be reserved exclusively for after-work hours. Ironically coffee did replace beer for breakfast, which at least provided energy in the form of calories. Coffee offers little more than a fleeting jolt.

Tea was first described to Europeans by the Portuguese Dominican friar Gaspar da Cruz on a trip to China in 1560. He said "Whatsoever person or persons come to any man of quality's house it is customary to offer him on a fair tray in a porcelain cup (as or many cups as there are persons) a kind of warm water which they call *cha*, which is somewhat red and very medicinal."²⁶ It was not until the Dutch entered into the Asian trade that tea was brought to Europe. How the British came to be preeminent tea drinkers is really only a matter of politics. With the Restoration of the monarchy in 1660, Charles II granted an exclusive monopoly to the East India Company for trade with Asia. Eventually the company started importing tea in such great quantities that it became much less expensive than coffee and chocolate, which were supplied by foreign countries. Eventually Britain found an even more lucrative supply from its own colonies in India.

Although we rarely think of chocolate today as either a stimulant or intoxicant, it was considered so in the past. Columbus was the first European to see cacao beans in 1502, though he didn't realize they were made into a drink. Hernán Cortés and his men were the first to appreciate the role of chocolate in Aztec society; Montezuma was said to drink it all day. The Aztecs added achiote (*Bixa orellana*), to make it a deep red color like blood, and herbs such as trumpet ear flower (*Cymbopetalum penduliflorum*), but chocolate changed

dramatically in European hands. First, it was sweetened with sugar, then spiced with cinnamon, perhaps pepper, and given some texture with ground almonds. Mexican chocolate that comes in small tablets is a direct descendant of this colonial beverage.

How to classify chocolate in humoral terms became a particular obsession for food writers and physicians because there was absolutely nothing analogous in the Old World. It was very obviously nourishing and should logically be hot and moist. On the other hand it has a certain astringency which suggests coldness. Spanish physician Barthelemy Marradon addressed these questions in a dialogue between a physician, an Indian and a bourgeois man. He insisted that although the addition of other ingredients can balance the very cold qualities of chocolate, it still had powerful medicinal qualities and should not be given to just anyone at any time of day.²⁷ On a certain level it was the difficulty in categorizing New World foods that helped bring down the entire system of humoral physiology. The most interesting question, however, was whether chocolate (always a beverage) broke the fast.²⁸ Could it be taken at mass, or during a fast when liquids were allowed but food forbidden? That is, was chocolate a food or drink? This controversy raged through the early seventeenth century. Don Antonio de León Pinelo concluded that chocolate was a drink as long as other ingredients were not added and it was taken only once a day.

In the literature about coffee, tea and chocolate, the three beverages were often discussed together. This extensive body of work was for the most part concerned with defining the specific medicinal virtues of these new beverages. Some authors were physicians or pharmacists promoting their own products, but there were also detractors, rival physicians denouncing the abuse of these new drugs. Some of the authors were merchants obviously trying to sell their wares. These authors also made use of new chemical and mechanical theories of physiology which gradually supplanted the Galenic humoral system.

The first major text to discuss these stimulants is the German physician Simon Paulli's *Commentarius de Abusu Tabaci Americanum veteri et Herbae Thee Asiaticorum in Europa novo* – or commentary on the abuse of tobacco, tea, coffee and chocolate – published in 1665.²⁹ Much of the text is a botanical discussion of the plants and the author was botanist to the king of Denmark. The book's main point is that comparable European herbs, camellia or myrtle, can take the place of tea for medicinal uses and “hence we have but little Reason to bring tea from China, Tartary, and Japan, at an extravagant Price, which might be far better laid out in relieving poor indigent Families at home.”³⁰ Buying native herbs would also make Paulli himself a profit, so his argument is biased.

As for the medical content of his denunciation, there had already been some discussion in specialized medical circles about the precise humoral qualities of the new drinks. The authorities generally agreed on certain effects that anyone could not help but recognize: their stimulating effect, their astringency and their role as diuretics. Those incidentally are still recognized as the basic properties of caffeine. Nicolas Tulpius added that tea “removes headaches, stuffings of the head, inflammations and distillations of the eyes, difficulty of breathing, weakness of the stomach, gripes of the intestines and weariness.”³¹

What the medical authorities could not agree on was the precise humoral makeup of these drinks. Because they were astringent and tannic, it was hard to deny that all three drinks were dry, in the same way wine was said to be dry. But some physicians insisted that coffee and tea were hot (not only in temperature, but they had the capacity to heat the body) while chocolate was cold. Some claimed that all three were hot and dry. Others claimed that they artificially made the body colder because they dried up the radical moisture or life fluid and thus weakened us. These debates were all solidly based on Galenic theory.

Paulli's denunciation of these drinks was in the Galenic tradition, although he acknowledged the new chemistry, claiming the sulphur in these drinks made them even more heating than ginger, cinnamon and pepper.³² He claimed that because these products violently dry out the body, they damage the moist organs such as the eyes, brain and organs of reproduction. Thus they could make one blind, dim-witted, and ultimately, impotent and effeminate.

It is ... the Duty of every European to join in engaging the legislature to put a stop to this epidemical Evil, and prohibit the Abuse, not only of tea, but also of Tobacco, since both of these, and Coffee ... so enervate the European men, that they become incapable of propagating their species, like Eunuchs, some of whom are highly salacious, but it is sufficiently known, that they are incapable of Procreation, (though they emit something analogous to semen).³³

Much the same fear over impotence is claimed in a little broadside that appeared in London in 1674 called the *Women's Petition Against Coffee Representing to Public Consideration The Grand Inconveniences accruing to their Sex from the Excessive Use of the Drying and Enfeebling Liquor*.

The Humble Petition and Address of several Thousands of Buxome Good-Women, Languishing in Extremity of Want.

SHEWETH,

That since 'tis Reckon'd amongst the Glories of our Native Country, To be *A Paradise for Women*: The same in our Apprehensions can consist in nothing more than the brisk *Activity* of our men, who in former Ages were justly esteemed the *Ablest Performers* in Christendome; But to our unspeakable Grief, we find of late a very sensible *Decay* of that true *Old English Vigour*; our *Gallants* being every way so *Frenchified*, that they are become meer Cock-sparrows, fluttering things that come on *Sa sa*, with a world of Fury, but are not able to *stand* to it, and in the very first Charge fall down *flat* before us. Never did Men wear *greater Breeches*, or carry *less* in them of any *Mettle* whatsoever. There was a glorious Dispensation ('twas surely in the Golden Age) when *Lusty Ladds* of *seven* or *eight hundred* years old, *Got* Sons and Daughters; and we have read, how a Prince of *Spain* was forced to make a Law, that Men should not Repeat the *Grand Kindness* to their Wives, above *NINE* times in a night: But Alas! Alas! Those forwards Days are gone, The dull *Lubbers* want a *Spur* now, rather than a *Bridle*: being so far from doing any works of *Supererrogation* that we find them not capable of performing those *Devoirs* which their *Duty*, and our *Expectations* Exact.

The Occasion of which Insufferable *Disaster*, after a serious Enquiry, and Discussion of the Point by the Learned of the *Faculty*, we can Attribute to nothing more than the Excessive use of that Newfangled, Abominable, Heathenish Liquor called *COFFEE*, which Riffing Nature of her Choicest *Treasures*, and *Drying* up the *Radical Moisture*, has so *Eunucht* our Husbands, and *Crippled* our more kind *Gallants*, that they are become as *Impotent*, as Age, and as unfruitful as those *Desarts* whence that unhappy *Berry* is said to be brought.³⁴

The most popular text on the new drinks was Sylvestre Dufour's *Traité nouveaux et curieux de Cafè, du Thé et du chocolate* of 1685.³⁵ Its author was a coffee merchant, so of course he had a

good reason to proclaim its benefits, but he also had a number of medical friends whom he consulted on the work, and he even arranged to have a chemical analysis of coffee conducted.

Having traveled in Turkey, Dufour knew the effect of coffee on a population that regularly consumed it and could avow that:

this drink is not only very healthy, but even nourishing, the which savants attribute to the oleaginous humor naturally in coffee which greatly sweetens the ferment, impeaches the stinging of membranes in the stomach, ... and furnishes substance proper to be converted into a nourishing juice which repairs the spirits.³⁶

His use of the term ferment to describe digestion also implies that he understood the role of acids in digestion and that his analysis of coffee will be at least partly chemical rather than humoral.

Dufour did not abandon the humoral descriptions entirely, and in fact few people of his day did. Popular debates demanded that he address the question of whether coffee is hot and dry or cold and dry, but he admitted his confusion, explaining that:

I find myself embarrassed, because the ancient authors of medicine, and the greater part of aged persons who practice this art, in explaining the qualities of aliments and medicines, speak to us of hot, of cold, of dry and of humid. But moderns and young physicians, support Acid and Alkali or salt, sulphur and mercury.

Dufour wondered whether in time some new jargon would be invented.³⁷

Coffee, he decided, had no apparent or extreme qualities – it was less hot than wine, but not as cold as lemonade. Dufour insisted thus that it was tempered and had the power to cool people who were hot and heat people who were cool. With this ruse, Dufour side-stepped the entire older argument while maintaining that coffee was good for everyone, a boost to his own sales. Most authors insisted the opposite – that because coffee is bitter it had to be hot and dry – which is the older humoral explanation. Instead Dufour undertook a chemical analysis with his friends, an apothecary and a physician. They started with brewed coffee which they distilled to obtain clear water and vapors that condensed into another liquid. Finally there was left an oily crass substance – which was calcified leaving a bitter alkaline substance.³⁸

This result led him to conclude that coffee was a very volatile substance; its particles moved rapidly, which explained its aromatic nature and its stimulating effects. His explanation is primarily a mechanical or physical one; because the particles are agitated and extremely light, they move around in our body quickly. Thus, they have an aperient effect, pushing fluid through the system and opening obstructions. They also have an affinity with our spirits, much the same way alcohol does, as a highly refined form of nourishment. Spirits that move quickly are more vivacious and cause us to act in the same way, while sluggish or clogged ones cause us to sleep. Dufour conceived of spirits as a kind of gaseous substance that flows through the nerve endings and animates the body. If coffee is volatile, it activates our own spirits and thus works as a stimulant.

Because coffee is a diuretic, Dufour argued, it helped flush out superfluous fluids from the body. It did not, as Simon Paulli claimed, dry out the entire body unless taken in

extreme excess. Rather, coffee dried up the superfluous matter on the stomach and thus help contain “the vapors which rise up into the brain,” leaving the brain clear and unclouded. According to Dufour, this was how coffee keeps us awake and alert.³⁹

Coffee directly aided the concoction taking place in the stomach because of its constricting or styptic effects. Although Dufour never gives the precise pH of coffee, he does clarify that with its subtle and volatile properties, it also has terrestrial parts – which would be the salts he identified in the chemical analysis. These he identifies as alkaline in nature (and in fact caffeine is an alkaloid – though caffeine itself wasn’t identified until the nineteenth century). These alkalis temper a stomach with too much acidity or, as he puts it, sweeten the leaven – this stage of digestion was thought to be a fermentation much as happens in wine – a primary stage of refinement that separates lighter nourishing matter from heavier wastes.

To this Dufour added what appeared to be an entirely mechanical function of coffee. The alkalis absorb the indigested matter, which can be transported through the body to coagulate there. Thus it helps the circulation of all fluids in the body “which greatly aids the insensible transpiration which maintains health.”⁴⁰ This is an idea that ultimately goes back to Santorio, who wrote in the early seventeenth century and was widely regarded in his day as the founder of the iatromechanical school of physiology. His theory was that the proper passage of bodily fluids facilitates the passage of wastes through the pores of the body. Without the passage of these wastes, the body retains this matter, which corrupts and leads to many diseases – obesity, gout, gall stones, etc. It is with this logic that coffee was prescribed for anyone with gout, even scurvy which was explained with the same etiology, women with menstrual problems and anything which would be caused by clogging of the system.

By selectively choosing elements from a number of rival physiological theories, Dufour effectively argued that coffee can prevent just about any illness. Surprisingly, he also identified many ailments for which caffeine is still used. It seems that drawing on extensive empirical experience of prescribing coffee (and he was also drawing from the work of others here) he made what were surprisingly rational claims. For example, because coffee thins the blood and all blood passes through the heart and lungs, coffee not only dilates the passages in the lung and chest but makes the blood passing through it less viscous.⁴¹ He advised that people suffering from asthma and chest ailments should begin a regimen of coffee. And in fact, modern medicine confirms this use, caffeine does increase the respiratory rate, dilate the bronchial tubes and make breathing easier.

Along the same lines Dufour recommended coffee for maladies of the head. He fleshed out the idea that volatile elements in coffee have a great similarity to our own spirits, specifying that it is a nitro-sulfurous compound (composed of saltpeter and sulfur) that has the same particle size and configuration as our own spirits, and thus repairs them quickly. Using his own experience as a guide, he suggested that sufferers of migraines take coffee regularly (another approved modern pharmaceutical use). Dufour related a story of a woman who was taken to a surgeon for her horrible migraine headaches for which he wanted to perform a trepanation to reduce the swelling. Luckily a physician intervened and recommended coffee instead and within three days she was already visibly recovered.

Dufour also made some strange claims – that coffee whitened the teeth rather than darkening them and that coffee is very useful for children for whom wine and alcohol are not appropriate. To his credit, he did provide examples of people for whom coffee is not suitable: those who are what we would call hyper-active with a very quick metabolism.

Dufour made most of the same claims for tea, and in general only qualified chocolate as being cold, more terrestrial, but corrected by the standard preparation which included sugar, cinnamon, sometimes almonds, vanilla, musk and amber – all of which are either hot or extremely volatile (aromatic) substances. So in the end chocolate is much like coffee and tea. The only major difference is that because it has a substantial oleaginous part, it is also very fattening.⁴²

An equally fascinating work entitled *Le bon usage du thé, du café et du chocolat pour la preservation et pour la guérison des maladies* was written in 1687 by Nicolas de Blegny who was physician to King Louis XIV and also supervised a royal apothecary, staffed by a team of chemists he referred to as his artists.⁴³ Most interesting is the fact that his shop was open to the public and the book includes a list of wares, not only coffee, tea and chocolate properly prepared, but a roasting machine, pots and paraphernalia designed by Blegny himself. So the text might be considered a form of advertisement, and it is not surprising that Blegny goes even further than Dufour in proclaiming the wondrous effects of the beverages he has for sale.

Blegny started with tea, making a distinction between green and darker varieties, between Japanese and Chinese. He next launched into the medicinal virtues of tea in ways that remind the modern reader of how tea's anti-oxidant effects are marketed today. Just as the public today has scant grasp of exactly what free radicals might be and why we would want them chased from our bodies, we still trust physicians' advice that tea, especially green, is something good for promoting health. Without the scientific background, we have no choice but trust and tea marketers depend on that.

Blegny reasons that by virtue of the bitterness of tea it is composed of acids mixed with terrestrial corpuscles. But it also contains igneous and ethereal elements, thus, like Dufour, he claimed that tea was of a tempered quality.⁴⁴ For Blegny, there was no particular constitution for which tea was not appropriate – and this kind of information was added in a calculated way to satisfy common people whose conception of nutrition was still fundamentally humoral. Tea had something for everyone: he points specifically to the alkalis that absorb humidity, its stypitic and astringent qualities that fortify various parts of the body, as well as its volatile, spirituous elements that make it useful for repairing dissipated spirits.

Not to be outdone by other vendors, Blegny devised various chemical compounds based on tea. These were essential salts obtained by burning, boiling, filtering, evaporating and drying tea. And then using this essence in syrups, and even in a tablet form, which appears to be a kind of instant tea one can take into the field when a quick dose is needed.⁴⁵ He also mentioned smoking tea – something that apparently enjoyed a brief vogue as something that fortifies the brain.

Blegny next specifies the particular virtues of tea, primarily its ability to make a person alert and awake, the result of “the animal spirits continually flowing throughout the nerves.”⁴⁶ It is only the slowing down or clogging of these that causes sleep, and thus mere mechanical facilitation of flux ensures that we remain awake. Tea repairs those spirits. Normally one would only wake up once all phases of digestion had restored the nourishing spirits giving us volition and energy, but this in a sense achieves the same goal artificially with a stimulant.

Tea's astringent qualities quell unnatural fermentations in the body and prevent all variety of gross vapors from obstructing the nerves. It thus serves to aid digestion and also dries up the superfluous humidity that causes crudities in the stomach. His argument here is much like Dufour's. Because tea is a diuretic, it is also a blood purifier. Blegny even sells what he calls his “Sirop de The Febrifuge” which can be mixed with wine or opiates as

well as a chocolate febrifuge. The logic is that fevers were commonly thought to be the result of blockages in the body and corrupt matter accumulating and fermenting. The febrifuge scours the body's passages and gets everything flowing again. He also made an essential oil of coffee used for hysteria and for tumors, hypochondria, colic, gout, rheumatism, scurvy, migraine. Coffee or the medicinally concentrated versions were also good for apoplexy, paralysis, lethargy, vertigo, catarrh, frenzy, flux, childbirth – “it carries spirits across the genital parts, such that women have no remedy more prompt or more assured than this drink to facilitate childbirth”⁴⁷ – then there were also simple stomach upsets, constipation. Coffee was even good against insomnia, because it dissipated vapors that clouded the brain when spirits were agitated. Blegny's claims for these beverages, as well as the numerous medicinal preparations made from them, provided the opportunity for anyone with practically any ailment to indulge in coffee, tea or chocolate. In this respect, and unintentionally, he facilitated the transformation of these from pharmaceutical to purely recreational use.

The trajectory of these new beverages is typical of many recreational drugs. Having started as medicinal luxury items, their use became widespread as the supply increased, the price dropped and as vendors, including physicians, actively promoted them. In the end they all became truly popular drugs, though their presumed benefits ranged so widely that the medical advice ceased to have any real meaning. Since according to the doctors they could be used to cure practically anything, one could rationalize habitual use under the lightest of pretexts. Being addictive, but without extreme side effects, these drugs were the perfect candidates for making this transition from medicinal to purely recreational use. While it is difficult to gauge exactly how responsible these writings were in facilitating this shift, it is clear that they were all considered medicinal to start with and gradually became common, even daily, necessities.

Tobacco

Like all these other stimulants, tobacco also came to Europe in the early modern period and was likewise a colonial plantation crop. Surprisingly it too appeared first as a medicine. Because tobacco was hot and dry, it was thought to be good for drying up superfluous phlegm and for treating colds and coughs. People of course smoked recreationally as well. Despite the popularity of tobacco, opinion was actually sharply divided. William Vaughan, a physician and settler in Newfoundland, wrote in his *Directions for Health* that tobacco could be useful for mariners and travelers against scurvy, hunger and thirst. But gallants should use it sparingly. He believed it was abused by “Tosse-pots instead of salt meates, caveare, and other inducements or drawers on of drinke.”⁴⁸ The association with drinking seems to have been there from the very start. The tavern scenes mentioned above almost always show someone smoking a long clay tavern pipe. Vaughan's real fear was that smoke being so dry and hot, it would harm the brain and make men impotent.

The custom drew King James I into the fray; he thought smoking a detestable filthy habit. His comments are condescending throughout: “what honour or policie can move us to imitate the barbarous and beastly maners of the wilde, godlesse, and slavish Indians, especially in so vile and stinking a custome?”⁴⁹ Not everyone was against tobacco though. Henry Buttes wrote a little book, *Dyets Dry Dinner*, in which he recommends meals without any drink, but with tobacco to finish whereby “we perfume and aire our bodies with

Tabacco smoake (by drying) preserving them from putrefaction.” Smoking is also good for runny noses and catarrh, hoarseness, headache and for the stomach, lungs and heart.⁵⁰

Lastly, there was a range of other drugs which would have been available to early modern people. Soporifics and opiates were the most common and various drugs were developed from opium, including laudanum, invented by Paracelsus. It is difficult to say how frequently these were used recreationally, though no doubt people purchased them from apothecaries without particular maladies to cure. There were also a huge number of local plants included in folk medicine that would have had psychotropic properties. Henbane (*Hyoscamus albus*), for example, is powerfully hallucinogenic. Cannabis and various species of mushrooms were also used in medicine and were almost certainly used recreationally, as was *Atropa belladonna* or deadly nightshade – though a generous dose also served as poison. Ergot (*Claviceps purpurea*) was normally unintentionally ingested on infected rye, but contains lysergic acid and is a powerful hallucinogen, and can be fatal. It was known as St. Anthony’s Fire in Europe. But the fungus was also used medicinally, especially for childbirth.

In conclusion, whether long familiar alcoholic beverage, new distillate or stimulating brew, all these drugs follow a similar path. They were considered medicinal first then gradually became recreational. To some extent it was the medical ideas themselves which facilitated the shift, justifying consumption under any pretext. But for most of these drugs, despite attempts to control consumption, or tax them, people found very lucrative ways to profit from trade in these goods, and ultimately assured that the European population would become addicted to them, as they still are.

Notes

- 1 Rod Philips, *A Short History of Wine*, New York: HarperCollins, 2000.
- 2 Guglielmo Grataroli, *De Vini Natura*, Strassbourg: Theodosius Rubelius, 1565, p. 182.
- 3 A. Lynn Martin, *Alcohol, Violence and Disorder in Traditional Europe*, Kirksville: Truman State University Press, 2009, especially chapter 3.
- 4 Laurent Joubert, *The Second Part of the Popular Errors*, translated by Gregory David de Rocher, Tuscaloosa: University of Alabama Press, 1995.
- 5 Sante Lancerio in *Arte della Cucina*, ed. Emilio Faccioli, Milano: Edizioni Il Polifilo, 1966, pp. 316–41.
- 6 Giovanni Battista Scarlino, *Nuovo Trattato della Varietà e Qualità de Vini, che vengono a Roma*, Rome: Valerio Dorico, 1554, fol. Bii.
- 7 Scarlino, *Nuovo Trattato della Varietà e Qualità de Vini*, fol. Biv.
- 8 Andrea Bacci, *De Naturali Vinorum Historia*, Rome: Nicholai Mutii, 1596.
- 9 Bacci, *De Naturali Vinorum Historia*, p. 148.
- 10 Grataroli, *De Vini Natura*, p. 22.
- 11 Grataroli, *De Vini Natura*, p. 52.
- 12 Vincentius Obsoepous, *De Arte Bibendi* (first edn 1525), Leuven: Typographia Rediviva, 1648.
- 13 George Gascoigne, *A delicate Diet, for daintiemouthd Droonkards*, London: Richard Jhones, 1576, fol. C3.
- 14 Melchior Sebizius, *De alimentorum facultatibus*, Strasbourg: Joannis Philippi Mulbii & Josiae Stedeli, 1650, p. 1138.
- 15 Richard W. Unger, *Beer in the Middle Ages and the Renaissance*, Philadelphia: University of Pennsylvania Press, 2004.
- 16 Elias Eobanus Hesus, *De Tuenda Bona Valetudine*, commentary by Ioannes Placotomus (Brettschneider), Frankfurt: Christ. Egenolff, 1556, p. 102.
- 17 Vincenzo Tanara, *L’economia del Cittadino in Villa*, Venice: Stefano Curti, 1674, pp. 20–21.
- 18 Gervase Markham, *The English Housewife*, ed. Michael R. Best, Montreal and Kingston: McGill-Queen’s University Press, 1998, pp. 204–8.
- 19 Kenelm Digby, *The Closet of Sir Kenelm Digby Opened*, ed. Jane Stevenson and Peter Davidson, Totnes: Prospect Books, 1997, p. 69, et passim.

- 20 John French, *The Art of Distillation*, London: E. Coates for Thomas Williams, 1651, p. 48.
- 21 Michael Puff von Shrick, *Ain gûts nutzlichs Büchlin von den aussgeprenten Wassern*, Augsburg: Johannes Bämle, 1478.
- 22 Heironymus Braunschweig, *Liber de arte distillandi simplicia et composita*, Strassbourg: Grüninger, 1500. The English translation of 1527 was called *The Vertuose boke of Distillacyon* and is available online: www.biodiversitylibrary.org/item/97061#page/19/mode/1up.
- 23 Jean Bruyerin Champier, *De Re Cibaria*, Lyon: Sebast. Honoratum, 1560, p. 85.
- 24 Edward Forbes Robinson, *The Early History of Coffee Houses in England*, Cambridge: Cambridge University Press, 2013.
- 25 Wolfgang Schivelbusch, *Tastes of Paradise: A Social History of Spices, Stimulants and Intoxicants*, New York: Vintage, 1993.
- 26 C.R. Boxer, ed., *South China in the Sixteenth Century*, Bangkok: Orchid Press, 2004, p. 140.
- 27 Bathelémy Marradon in Phillipe Sylvester Dufour, *Traites Nouveaux et curieux du café, du thé et du chocolate*, Lyon: Chez Iean Girin et B. Riviere, 1685.
- 28 Don Antonio de León Pinelo, *Question moral si el chocolate quebranta el ayuno eclesiastico*, Madrid: Juan González, 1636.
- 29 Simon Paulli, *Commentarius de Abusu Tabaci Americanum veteri et Herbae Thee Asiaticorum in Europa novo*, Strassbourg, 1665. There was also an English translation made in 1746. *A Treatise on tobacco, tea, coffee and chocolate*, translated by Dr. James, Reprint, Gale Sabin Americana, 2012.
- 30 Cited in Paulli, *Commentarius*, p. 125.
- 31 Paulli, *Commentarius*, pp. 41–2.
- 32 Paulli, *Commentarius*, p. 136.
- 33 Paulli, *Commentarius*, p. 163.
- 34 <http://www.gopetition.com/famous-petitions-in-history/232/the-women-s-petition-against-coffee-1674.html> (accessed May 29, 2014).
- 35 Dufour, *Traites nouveaux et curieux de Café*.
- 36 Dufour, *Traites nouveaux et curieux de Café*, p. 27.
- 37 Dufour, *Traites nouveaux et curieux de Café*, pp. 67–8.
- 38 Dufour, *Traites nouveaux et curieux de Café*, pp. 81–8.
- 39 Dufour, *Traites nouveaux et curieux de Café*, pp. 93–4.
- 40 Dufour, *Traites nouveaux et curieux de Café*, pp. 117–18.
- 41 Dufour, *Traites nouveaux et curieux de Café*, p. 137.
- 42 Dufour, *Traites nouveaux et curieux de Café*, p. 395.
- 43 Nicolas de Blegny, *Le bon usage du the, du café et du chocolate pour la preservation et pour la guerison des maladies*, Paris: Estienne Michallot, 1687.
- 44 De Blegny, *Le bon usage du the*, pp. 27–8.
- 45 De Blegny, *Le bon usage du the*, pp. 41–2.
- 46 De Blegny, *Le bon usage du the*, p. 44.
- 47 De Blegny, *Le bon usage du the*, p. 183.
- 48 William Vaughan, *Directions for Health both Natural and Artificial*, London: Printed by T.S. for Roger Jackson, 1617, pp. 142–6.
- 49 James I, *A Counter-Blaste to Tobacco*, London: Rodale Press, 1954, p. 12. See also Marcy Norton, *Sacred Gifts, Profane Pleasures*, Ithaca: Cornell University Press, 2008.
- 50 Henry Buttes, *Dyets Dry Dinner*, London: Thomas Creede for William Wood, 1599, Dedication and fol. P3.