

COFFEE in
the AGE
of REASON



The Great Soberer

Coffee, the sober drink, the mighty nourishment of the brain, which unlike other spirits, heightens purity and lucidity; coffee, which clears the clouds of the imagination and their gloomy weight; which illuminates the reality of things suddenly with the flash of truth.

—*Jules Michelet, French historian (1798-1874)*

Enlightenment by the Cup

THE GREEKS WERE fallible. Heavy objects do not fall faster than lighter ones. The Earth is not the center of the universe, and the heart is not a furnace that heats the blood but a pump that circulates it around the body. But only in the early seventeenth century, as astronomers and anatomists uncovered previously unseen worlds, did European thinkers seriously begin to challenge the old certainties of Greek philosophy. Pioneers such as Galileo Galilei in Italy and Francis Bacon in England rejected blind faith in ancient texts in favor of direct observation and experiment. "There is no hope of any major increase in scientific knowledge by grafting or adding the new on top of the old," Bacon declared in his book *The New Logic*, published in 1620. "The restoration of the sciences must start from the bottom-most foundations—unless we prefer to go round in perpetual circles at a contemptibly slow rate." Bacon led the denunciation of the influence of the Greek philosophers. He and his followers wanted to demolish the edifice of human knowledge and rebuild it, one brick at a time, on solid new foundations. Everything could be challenged, nothing assumed. The way had been cleared by the religious wars of the Reformation, which reduced the authority of the church, particularly in northern Europe. The new rationalism flourished in England and the Netherlands, driven in part by the challenges of exploiting and maintaining far-flung overseas colonies, and giving rise to the flurry of intellectual activity known as the Scientific Revolution.

This spirit of rational inquiry spread into the mainstream of Western thought over the next two centuries, culminating in the movement called the Enlightenment, as the empirical, skeptical approach adopted by scientists was applied to philosophy, politics, religion, and commerce. During this Age of Reason, Western thinkers moved beyond the wisdom of the ancients and opened themselves to new ideas, pushing out the frontiers of knowledge beyond Old-World limits in an intellectual counterpoint to the geographic expansion of the Age of Exploration. Out went dogmatic reverence for authority, whether philosophical, political, or religious; in came criticism, tolerance, and freedom of thought.

The diffusion of this new rationalism throughout Europe was mirrored by the spread of a new drink, coffee, that promoted sharpness and clarity of thought. It became the preferred drink of scientists, intellectuals, merchants, and clerks—today we would call them "information workers"—all of whom performed mental work sitting at desks rather than physical labor in the open. It helped them to regulate the working day, waking them up in the morning and ensuring that they stayed alert until the close of the business day, or longer if necessary. And it was served in calm, sober, and respectable establishments that promoted polite conversation and discussion and provided a forum for education, debate, and self-improvement.

The impact of the introduction of coffee into Europe during the seventeenth century was particularly noticeable since the most common beverages of the time, even at breakfast, were weak "small beer" and wine. Both were far safer to drink than water, which was liable to be contaminated, particularly in squalid and crowded cities. (Spirits were not everyday staples like wine and beer; they were for getting drunk.) Coffee, like beer, was made using boiled water and, therefore, provided a new and safe alternative to alcoholic drinks. Those who drank coffee instead of alcohol began the day alert and stimulated, rather than relaxed and mildly inebriated, and the quality and quantity of their work improved. Coffee came to be regarded as the very antithesis of alcohol, sobering rather than intoxicating, heightening perception rather than dulling the senses and blotting out reality. An anonymous poem published in London in 1674 denounced wine as the "sweet Poison of the Treacherous Grape" that drowns "our very Reason and our Souls." Beer was condemned as "Foggy Ale" that "beseig'd our Brains." Coffee, however, was heralded as

*... that Grave and Wholesome Liquor,
That heals the Stomach, makes the Genius quicker,
Relieves the Memory, revives the Sad,
and cheers the Spirits, without making Mad.*

Western Europe began to emerge from an alcoholic haze that had lasted for centuries. "This coffee drink," wrote one English observer in 1660, "hath caused a greater sobriety among the Nations. Whereas formerly Apprentices and clerks with others used to take a morning draught of Ale, Beer or Wine, which, by the dizziness they cause in the Brain, made many unfit for business, they use now to play the Good-fellows in this wakeful and civil drink." Coffee was also regarded as an antidote to alcohol in a more literal sense. "Coffee sobers you up instantaneously," declared Sylvestre Dufour, a French writer, in 1671. The notion that coffee counteracts drunkenness remains prevalent to this day, though there is little truth to it; coffee makes someone who has drunk alcohol feel more alert, but actually reduces the rate at which alcohol is removed from the bloodstream.

Coffee's novelty further contributed to its appeal. Here was a drink that had been unknown to the Greeks and Romans; drinking it was yet another way seventeenth-century thinkers could emphasize that they had moved beyond the limits of the ancient world. Coffee was the great soberer, the drink of clear-headedness, the epitome of modernity and progress—the ideal beverage, in short, for the Age of Reason.

The Wine of Islam

Coffee's stimulating effect had been known about for some time in the Arab world, where coffee originated. There are several romantic stories of its discovery. One tells of an Ethiopian goatherd who noticed that his flock became particularly frisky after consuming the brownish purple cherries from a particular tree. He then tried eating them himself, noted their stimulating powers, and passed his discovery on to a local imam. The imam, in turn, devised a new way to prepare the berries, drying them and then boiling them in water to produce a

hot drink, which he used to keep himself awake during overnight religious ceremonies. Another story tells of a man named Omar who was condemned to die of starvation in the desert outside Mocha, a city in Yemen, on the southwestern corner of the Arabian peninsula. A vision guided him to a coffee tree, whereupon he ate some of its berries. This gave him sufficient strength to return to Mocha, where his survival was taken as a sign that God had spared him in order to pass along to humankind knowledge of coffee, which then became a popular drink in Mocha.

As with the legends associated with the discovery of beer, these tales may contain a grain of truth, for the custom of drinking coffee seems to have first become popular in Yemen in the mid-fifteenth century. While coffee berries may have been chewed for their invigorating effects before this date, the practice of making them into a drink seems to be a Yemeni innovation, often attributed to Muhammad al-Dhabhani, a scholar and a member of the mystical Sufi order of Islam, who died around 1470. By this time, coffee (known in Arabic as *qahwah*) had undoubtedly been adopted by Sufis, who used it to ward off sleep during nocturnal religious ceremonies in which the participants reached out to God through repetitive chanting and swaying.

As coffee percolated throughout the Arab world—it had reached Mecca and Cairo by 1510—the exact nature of its physical effects became the subject of much controversy. Coffee shook off its original religious associations and became a social drink, sold by the cup on the street, in the market square, and then in dedicated coffeehouses. It was embraced as a legal alternative to alcohol by many Muslims. Coffeehouses, unlike the illicit taverns that sold alcohol, were places where respectable people could afford to be seen. But coffee's legal status was ambiguous. Some Muslim scholars objected that it was intoxicating and therefore subject to the same religious prohibition as wine and other alcoholic drinks, which the prophet Muhammad had prohibited.

Religious leaders invoked this rule in Mecca in June 1511, the earliest known of several attempts to ban the consumption of coffee. The local governor, a man named Kha'ir Beg, who was responsible for maintaining public morality, literally put coffee on trial. He convened a council of legal experts and placed the accused—a large vessel of coffee—before them. After a discussion of its intoxicating effects, the council agreed with Kha'ir Beg that the sale and consumption of coffee should be prohibited. The ruling was proclaimed throughout Mecca, coffee was seized and burned in the streets, and coffee

vendors and some of their customers were beaten as a punishment. Within a few months, however, higher authorities in Cairo overturned Kha'ir Beg's ruling, and coffee was soon being openly consumed again. His authority undermined, Kha'ir Beg was replaced as governor the following year.

But was coffee really an intoxicant? Muslim scholars had already spent much effort debating whether the prophet had meant to ban intoxicating drinks altogether or merely the act of drinking to intoxication. Everyone agreed on the need for a legal definition of intoxication, and several such definitions were duly devised. An intoxicated person was variously defined as someone who "becomes absent-minded and confused," "departs from whatever he has in the way of mild virtue and tranquility into foolishness and ignorance," or "comprehends absolutely nothing at all, and who does not know a man from a woman, or the earth from the heavens." These definitions, devised as part of the scholarly argument about alcoholic drinks, were then applied to coffee.

Yet coffee clearly failed to produce any such effects in the drinker, even when consumed in large quantities. In fact, it did quite the opposite. "One drinks coffee with the name of the Lord on his lips and stays awake," noted one coffee advocate, "while the person who seeks wanton delight in intoxicants disregards the Lord, and gets drunk." Coffee's opponents tried to argue that any change in the drinker's physical or mental state was grounds on which to ban coffee. The drink's defenders successfully parried this argument too, noting that spicy foods, garlic, and onions also produced physical effects, such as watering eyes, but that their consumption was perfectly legal.

Although Kha'ir Beg's superiors in Cairo did not uphold his ban on the sale and consumption of coffee, they did echo his disapproval of gatherings and places where it was drunk. Indeed, it was not so much coffee's effects on the drinker but the circumstances in which it was consumed that worried the authorities, for coffeehouses were hotbeds of gossip, rumor, political debate, and satirical discussion. They were also popular venues for chess and backgammon, which were regarded as morally dubious. Technically, board games were only banned under Islamic law if bets were placed on their outcome. But the fact that they were played at all added to the perception, among opponents of coffeehouses, that such establishments were at best places of lax morality and at worst dens of plotting and sedition.

There were many further attempts to close down coffeehouses, for example in Mecca in 1524 and Cairo in 1539, though such closures were usually short-

lived. For despite these efforts, and the denunciation of coffee drinkers as layabouts or gossips, no law was actually being broken, so attempts to ban coffee ultimately failed. By the early seventeenth century, visiting Europeans were commenting on the widespread popularity of coffeehouses in the Arab world, and their role as meeting places and sources of news. William Biddulph, an English traveler, noted in 1609 that "their Coffa houses are more common than Ale-houses in England. . . . If there be any news it is talked of there." George Sandys, another English traveler who visited Egypt and Palestine in 1610, observed that "although they be destitute of Taverns, yet have they their Coffa-houses, which something resemble them. There they sit chatting most of the day; and sippe of a drinke called Coffa (of the berry that it is made of) in little China dishes, as hot as they can suffer it; blacke as soote, and tasting not much unlike it."

One possible objection to the adoption of coffee in Europe—its association with Islam—was dispelled around this time. Shortly before his death in 1605, Pope Clement VIII was asked to state the Catholic church's position on coffee. At the time, the drink was a novelty little known in Europe except among botanists and medical men, including those at the University of Padua, a leading center for medical research. Coffee's religious opponents argued that coffee was evil: They contended that since Muslims were unable to drink wine, the holy drink of Christians, the devil had punished them with coffee instead. But the pope had the final say. A Venetian merchant provided a small sample for inspection, and Clement decided to taste the new drink before making his decision. The story goes that he was so enchanted by its taste and aroma that he approved its consumption by Christians. Within half a century, this exotic novelty was fast becoming commonplace in parts of western Europe. Coffeehouses opened in Britain in the 1650s and in Amsterdam and The Hague during the 1660s. As coffee moved west, it took the Arab notion of the coffeehouse as a more respectable, intellectual, and above all nonalcoholic alternative to the tavern along with it—and more than a whiff of controversy.

The Triumph of Coffee

Coffee could have been tailor-made for the London of the 1650s and 1660s. The first coffeehouses appeared during the rule of the puritanical Oliver Cromwell, who came to power at the end of the English civil war after the

dethronement and execution of King Charles I. England's coffeehouses got their start, in Puritan times, as more respectable and temperate alternatives to taverns. They were well lit, and adorned with bookshelves, mirrors, pictures in gilt frames, and good furniture, in stark contrast to the gloom and squalor of the taverns where alcohol was served. Following Cromwell's death in 1658, public opinion turned in favor of restoring the monarchy, and during this time, coffeehouses became centers of political debate and intrigue as the way was cleared for the accession of Charles II in 1660. William Coventry, one of the king's advisers, noted that Charles's supporters had often met in coffeehouses during Cromwell's rule, and that "the King's friends had then used more liberty of speech in these places than they durst to do in any other." He suggested that the king might not have gained his throne but for the gatherings that took place in coffeehouses.

At the same time, London was emerging as the hub of a thriving commercial empire. The embrace of coffeehouses by businessmen, for whom they provided convenient and respectable public places in which to meet and do business, ensured their continued popularity after the Restoration. By appealing to Puritans, plotters, and capitalists alike, London's coffeehouses matched the city's mood perfectly.

The city's first coffeehouse was opened in 1652 by Pasqua Rosee, the Armenian servant of an English merchant named Daniel Edwards who had acquired a taste for coffee while traveling in the Middle East. Edwards introduced his friends in London to coffee, which Rosee would prepare for him several times a day. So enthusiastic were they for the new drink that Edwards decided to set Rosee up in business as a coffee seller. The handbill announcing the launch of Rosee's business, titled *The Vertue of the Coffee Drink*, shows just how much of a novelty coffee was. It assumes total ignorance of coffee on the part of the reader, explaining the drink's origins in Arabia, the method of its preparation, and the customs associated with its consumption. Much of the handbill was concerned with coffee's supposed medicinal qualities. It was said to be effective against sore eyes, headache, coughs, dropsy, gout, and scurvy, and to prevent "Mis-carryings in Child-bearing Women." But it was perhaps the explanation of the commercial benefits of coffee that drew Rosee's customers in: "It will prevent Drowsiness, and make one fit for business, if one have occasion to Watch; and therefore you are not to Drink of it after Supper, unless you intend to be watchful, for it will hinder sleep for 3 or 4 hours."

Such was Rosee's success that the local tavern keepers protested to the lord mayor that Rosee had no right to set up a business in competition with them, since he was not a freeman of the City. Rosee was ultimately forced out of the country, but the idea of the coffeehouse had taken hold, and further examples sprung up during the 1650s. By 1663 the number of coffeehouses in London had reached eighty-three. Many of them were destroyed in the Great Fire of London in 1666, but even more arose in their place, and by the end of the century there were hundreds of them. One authority puts the total at three thousand, though that seems unlikely in a city with a population of just six hundred thousand at the time. (Coffeehouses sometimes served other drinks too, such as hot chocolate and tea, but their orderly and convivial atmosphere was inspired by Arabian coffeehouses, and coffee was the predominant drink.)

Not everyone approved, however. Alongside the tavern keepers and vintners, who had commercial reasons for objecting to coffee, the drink's opponents included medical men who believed the new drink was poisonous and commentators who, echoing Arab critics of coffee, worried that coffeehouses encouraged time-wasting and trivial discussion at the expense of more important activities. Others simply objected to the taste of coffee, which was disparaged as "syrup of soot" or "essence of old shoes." (Coffee, like beer, was taxed by the gallon, which meant it had to be made up in advance. Cold coffee from a barrel was then reboiled before serving, which cannot have done much for the taste.)

The result was a stream of pamphlets and broadsides on both sides of the debate, with such titles as *A Coffee Scuffle* (1662), *A Broadside Against Coffee* (1672), *In Defence of Coffee* (1674), and *Coffee Houses Vindicated* (1675). One notable attack on London's coffeehouses came from a group of women, who published *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 women complained that their husbands were drinking so much coffee that they were becoming "as unfruitful as the deserts, from where that unhappy berry is said to be brought." Furthermore, since the men were spending all their time in coffeehouses, from which women were prohibited, "the whole race was in danger of extinction."

The simmering debate over the merits of coffee prompted the British authorities to act. King Charles II had, in fact, been looking for a pretext to move against the coffeehouses for some time. Like his counterparts in the Arab

world, he was suspicious of the freedom of speech allowed in coffeehouses and their suitability for hatching plots. Charles was particularly aware of this, since coffeehouse machinations had played a small part in his own accession to the throne. On December 29, 1675, the king issued a "Proclamation for the suppression of Coffee-houses," declaring that since such establishments "have produced very evil and dangerous effects . . . for that in such Houses . . . divers False, Malitious and Scandalous Reports are devised and spread abroad, to the Defamation of His Majestie's Government, and to the Disturbance of the Peace and Quiet of the Realm; His Majesty hath thought it fit and necessary, That the said Coffee-Houses be (for the future) Put down and Suppressed."

The result was a public outcry, for coffeehouses had by this time become central to social, commercial, and political life in London. When it became clear that the proclamation would be widely ignored, which would undermine the government's authority, a further proclamation was issued, announcing that coffee sellers would be allowed to stay in business for six months if they paid five hundred pounds and agreed to swear an oath of allegiance. But the fee and time limit were soon dropped in favor of vague demands that coffeehouses should refuse entry to spies and mischief makers. Not even the king could halt the march of the coffee.

Similarly, doctors in Marseilles, where France's first coffeehouse had opened in 1671, attacked coffee on health grounds at the behest of wine merchants who feared for their livelihood. Coffee, they declared, was a "vile and worthless foreign novelty . . . the fruit of a tree discovered by goats and camels [which] burned up the blood, induced palsies, impotence and leanness" and would be "hurtful to the greater part of the inhabitants of Marseilles." But this attack did little to slow the spread of coffee; it had already caught on as a fashionable drink among the aristocracy, and coffeehouses were flourishing in Paris by the end of the century. When coffee became popular in Germany, the composer Johann Sebastian Bach wrote a "Coffee Cantata" satirizing those who unsuccessfully opposed coffee on medical grounds. Coffee was also embraced in Holland, where one writer observed in the early eighteenth century that "its use has become so common in our country that unless the maids and seamstresses have their coffee every morning, the thread will not go through the eye of the needle." The Arab drink had conquered Europe.

Empires of Coffee

Until the end of the seventeenth century, Arabia was unchallenged as supplier of coffee to the world. As one Parisian writer explained in 1696, "Coffee is harvested in the neighbourhood of Mecca. Thence it is conveyed to the port of Jiddah. Hence it is shipped to Suez, and transported by camels to Alexandria. Here, in the Egyptian warehouses, French and Venetian merchants buy the stock of coffee-beans they require for their respective homelands." Coffee was also shipped, on occasion, directly from Mocha by the Dutch. But as coffee's popularity grew, European countries began to worry about their dependency on this foreign product and set about establishing their own supplies. The Arabs understandably did everything they could to protect their monopoly. Coffee beans were treated before being shipped to ensure they were sterile and could not be used to seed new coffee plants; foreigners were excluded from coffee-producing areas.

First to break the Arab monopoly were the Dutch, who displaced the Portuguese as the dominant European nation in the East Indies during the seventeenth century, gaining control of the spice trade in the process and briefly becoming the world's leading commercial power. Dutch sailors purloined cuttings from Arab coffee trees, which were taken to Amsterdam and successfully cultivated in greenhouses. In the 1690s coffee plantations were established by the Dutch East India Company at Batavia in Java, an island colony in what is now Indonesia. Within a few years, Java coffee shipped directly to Rotterdam had granted the Dutch control of the coffee market. Arabian coffee was unable to compete on price, though connoisseurs thought its flavor was superior.

Next came the French. The Dutch had helpfully demonstrated that coffee flourished in a similar climate to that required by sugar, which suggested that it would grow as well in the West Indies as it did in the East Indies. A Frenchman, Gabriel Mathieu de Clieu, who was a naval officer stationed on the French island of Martinique, took it upon himself to introduce coffee to the French West Indies. During a visit to Paris in 1723, he embarked on an entirely unofficial scheme to get hold of a cutting of a coffee tree to take back to Martinique. The only coffee tree in Paris was a well-guarded specimen in a greenhouse in the Jardin des Plantes, presented by the Dutch as a gift to Louis XIV in 1714; Louis, however, seems to have taken little interest in coffee. De Clieu could not simply help himself to a cutting from this royal tree, so he used his connections instead. He prevailed upon an aristocratic young lady to obtain a cutting from the royal

doctor, who was entitled to use whatever plants he wanted in the preparation of medical remedies. This cutting was then passed back to de Clieu, who tended it carefully and took it, installed in a glass box, onto a ship bound for the West Indies.

If de Clieu's self-aggrandizing account is to be believed, the plant faced numerous dangers on its journey across the Atlantic. "It is useless to recount in detail the infinite care that I was obliged to bestow upon this delicate plant during a long voyage, and the difficulties I had in saving it," de Clieu wrote many years later, at the start of a detailed account of his perilous journey. First the plant had to brave the attentions of a mysterious passenger who spoke French with a Dutch accent. Every day de Clieu would carry his plant on deck to expose it to the sun, and after dozing next to his plant one day he awoke to find the Dutchman had snapped off one of its shoots. The Dutchman, however, disembarked at Madeira. The ship then had a brush with a pirate corsair and only narrowly escaped. The coffee plant's glass box was damaged in the fight, so de Clieu had to ask the ship's carpenter to repair it for him. Then followed a storm, which again damaged the box and soaked the plant with seawater. Finally, the ship was becalmed for several days, and drinking water had to be rationed. "Water was lacking to such an extent that for more than a month I was obliged to share the scanty ration of it assigned to me with my coffee plant, upon which my happiest hopes were founded," de Clieu wrote.

Eventually, de Clieu and his precious cargo arrived at Martinique. "Arriving at home my first care was to set out my plant with great attention in the part of my garden most favorable to its growth," he wrote. "Although keeping it in view, I feared many times that it would be taken from me; and I was at last obliged to surround it with thorn bushes and to establish a guard about it until it arrived at maturity . . . this precious plant which had become still more dear to me for the dangers it had run and the cares it had cost me." Two years later, de Clieu gathered his first harvest from the plant. He then began to give cuttings of the plant to his friends, so that they could begin cultivation too. De Clieu also sent coffee plants to the islands of Santo Domingo and Guadeloupe, where they flourished. Coffee exports to France began in 1730, and production so exceeded domestic demand that the French began shipping the excess coffee from Marseilles to the Levant. Once again, Arabian coffee found it difficult to compete. In recognition of his achievement, de Clieu was presented in 1746 to Louis XV, who was keener on coffee than his predecessor had been. At around

the same time, the Dutch introduced coffee to Suriname, a colony in South America. Descendants of de Clieu's original plant were also proliferating in the region, in Haiti, Cuba, Costa Rica, and Venezuela. Ultimately, Brazil became the world's dominant coffee supplier, leaving Arabia far behind.



Gabriel Mathieu de Clieu shares his water ration with his coffee plant, while becalmed en route to Martinique.

Coffee had come a long way from its obscure origins as a religious drink in Yemen. After permeating the Arab world, it had been embraced throughout Europe and was then spread around the world by European powers. Coffee had come to worldwide prominence as an alternative to alcohol, chiefly favored by intellectuals and businessmen. But of even greater significance than this new drink was the novel way in which it was consumed: in coffeehouses, which dispensed conversation as much as coffee. In doing so, coffeehouses provided an entirely new environment for social, intellectual, commercial, and political exchange.

The Coffeehouse Internet

You that delight in Wit and Mirth, and long to hear such
 News,
 As comes from all parts of the Earth, Dutch, Danes, and
 Turks and Jews,
 I'll send you a Rendezvous, where it is smoaking new:
 Go hear it at a Coffee-house—it cannot but be true . . .
 There's nothing done in all the World, From Monarch to
 the Mouse,
 But every Day or Night 'tis hurl'd into the Coffee-house.

—*from "News from the Coffee-House"*

by Thomas Jordan (1667)

A Coffee-Powered Network

WHEN A SEVENTEENTH-CENTURY European businessman wanted to hear the latest business news, follow commodity prices, keep up with political gossip, find out what other people thought of a new book, or stay abreast of the latest scientific developments, all he had to do was walk into a coffeehouse. There, for the price of a cup (or "dish") of coffee, he could read the latest pamphlets and newsletters, chat with other patrons, strike business deals, or take part in literary or political discussions. Europe's coffeehouses functioned as information exchanges for scientists, businessmen, writers, and politicians. Like modern Web sites, they were vibrant and often unreliable sources of information, typically specializing in a particular topic or political viewpoint. They became the natural outlets for a stream of newsletters, pamphlets, advertising free-sheets, and broadsides. One contemporary observer noted: "The Coffee-houses particularly are very commodious for a free Conversation, and for reading at an easie Rate all manner of printed News, the Votes of Parliament when sitting, and

other Prints that come out Weekly or casually. Amongst which the London Gazette comes out on Munday and Thursdays, the Daily Courant every day but Sunday, the Postman, Flying-Post, and Post-Boy, Tuesdays, Thursdays, and Saturdays, and the English Post, Munday, Wednesday, and Friday; besides their frequent Postscripts." These publications also carried coffeehouse wit out into the provinces and country towns.

Depending on the interests of their customers, some coffeehouses displayed commodity prices, share prices, or shipping lists on their walls; others subscribed to foreign newsletters filled with news from other countries. Coffeehouses became associated with specific trades, acting as meeting places where actors, musicians, or sailors could go if they were looking for work. Coffeehouses catering to a particular clientele, or dedicated to a given subject, were often clustered together in the same neighborhood.

This was especially true in London, where hundreds of coffeehouses, each with its own distinctive name and sign over the door, had been established by 1700. Those around St. James's and Westminster were frequented by politicians; those near St. Paul's Cathedral by clergymen and theologians. The literary set, meanwhile, congregated at Will's coffeehouse in Covent Garden, where for three decades the poet John Dryden and his circle reviewed and discussed the latest poems and plays. The coffeehouses around the Royal Exchange were thronged with businessmen, who would keep regular hours at particular coffeehouses so that their associates would know where to find them, and who used coffeehouses as offices, meeting rooms, and venues for trade. Books were sold at Man's coffeehouse in Chancery Lane, and goods of all kinds were bought and sold in several coffeehouses that doubled as auction rooms. So closely were some coffeehouses associated with certain topics that the *Tatler*, a London magazine founded in 1709, used the names of coffeehouses as subject headings for its articles. Its first issue declared: "All accounts of Gallantry, Pleasure, and Entertainment shall be under the Article of White's Chocolate-house; Poetry, under that of Will's Coffee-house; Learning, under the title of Grecian; Foreign and Domestick News, you will have from St. James's Coffee-house."

Richard Steele, the *Tatler's* editor, gave its postal address as the Grecian coffeehouse, the preferred haunt of the scientific community. This was another coffeehouse innovation: After the establishment of the London penny post in 1680, it became a common practice to use a coffeehouse as a mailing address.

Regulars at a particular coffeehouse could pop in once or twice a day, drink a dish of coffee, hear the latest news, and check to see if there was any new mail waiting for them. "Foreigners remarked that the coffee-house was that which especially distinguished London from all other cities," wrote the nineteenth-century historian Thomas Macauley in his *History of England*. "The coffee-house was the Londoner's home, and that those who wished to find a gentleman commonly asked, not whether he lived in Fleet Street or Chancery Lane, but whether he frequented the Grecian or the Rainbow." Some people frequented multiple coffeehouses, the choice of which depended on their interests. A merchant, for example, might oscillate between a financial coffeehouse and one specializing in Baltic, West Indian, or East Indian shipping. The wide-ranging interests of the English scientist Robert Hooke were reflected in his visits to around sixty London coffeehouses during the 1670s, as recorded in his diary.

Rumors, news, and gossip were carried between coffeehouses by their patrons, and on occasion runners would flit from one coffeehouse to another to report major events such as the outbreak of war or the death of a head of state. ("The Grand Vizier strangled," noted Hooke after learning the news at Jonathan's coffeehouse on May 8, 1693.) News traveled fast across this coffee-powered network; according to one account published in the *Spectator* in 1712: "There was a fellow in town some years ago, who used to divert himself by telling a lye at Charing Cross in the morning at eight of the clock, and then following it through all parts of town until eight at night; at which time he came to a club of his friends, and diverted them with an account [of] what censure it had drawn at Will's in Covent Garden, how dangerous it was believed at Child's and what inference they drew from it with relation to stocks at Jonathan's."



A coffeehouse in late-seventeenth-century London

Coffeehouse discussions both molded and reflected public opinion, forming a unique bridge between the public and private worlds. In theory, coffeehouses were public places, open to any man (since women were excluded, at least in London); but their homely decor and comfortable furniture, and the presence of regular customers, also gave them a cosy, domestic air. Patrons were expected to respect certain rules that did not apply in the outside world. According to custom, social differences were to be left at the coffeehouse door; in the words of one contemporary rhyme, "Gentry, tradesmen, all are welcome hither, and may without affront sit down together." The alcohol-related practice of toasting

to other people's health was banned, and anyone who started a quarrel had to atone for it by buying a dish of coffee for everyone present.

The significance of coffeehouses was most readily apparent in London, a city that, between 1680 and 1730, consumed more coffee than anywhere else on Earth. The diaries of intellectuals of the time are littered with coffeehouse references: "Thence to the coffee-house" appears frequently in the celebrated diary of Samuel Pepys, an English public official. His entry for January 11, 1664, gives a flavor of the cosmopolitan, serendipitous atmosphere that prevailed within the coffeehouses of the period, where matters both profound and trivial were discussed, and you never knew who you might meet, or what you might hear: "Thence to the Coffee-house, whither comes Sir W. Petty and Captain Grant, and we fell in talke (besides a young gentleman, I suppose a merchant, his name Mr. Hill, that has travelled and I perceive is a master in most sorts of musique and other things) of musique; the universal character; art of memory . . . and other most excellent discourses to my great content, having not been in so good company a great while, and had I time I should covet the acquaintance of that Mr. Hill. . . . The general talke of the towne still is of Col-lonell Turner, about the robbery; who, it is thought, will be hanged."

Similarly, Hooke's diary shows that he used coffeehouses as places for academic discussions with friends, negotiations with builders and instrument makers, and even as venues for scientific experiments. One entry from February 1674 notes the subjects of discussion at Garraway's, his preferred coffeehouse at the time: the supposed custom, among tradesmen in the Indies, to hold things with their feet as well as their hands; the prodigious height of palm trees; and "the extreme deliciousness of the queen pine apple," then a new and exotic fruit from the West Indies.

Coffeehouses were centers of self-education, literary and philosophical speculation, commercial innovation, and, in some cases, political fermentation. But above all they were clearinghouses for news and gossip, linked by the circulation of customers, publications, and information from one establishment to the next. Collectively, Europe's coffeehouses functioned as the Internet of the Age of Reason.

Innovation and Speculation

The first coffeehouse in western Europe opened not in a center of trade or

commerce but in the university city of Oxford, where a Lebanese man named Jacob set up shop in 1650, two years before Pasqua Rosee's London establishment. Although the connection between coffee and academia is now taken for granted—coffee is the drink customarily served in between sessions at academic conferences and symposia—it was initially controversial. When coffee became popular in Oxford and the coffeehouses selling it began to multiply, the university authorities tried to clamp down, worrying that coffeehouses promoted idleness and distracted members of the university from their studies. Anthony Wood, a chronicler of the time, was among those who denounced the enthusiasm for the new drink. "Why doth solid and serious learning decline, and few or none follow it now in the university?" he asked. "Answer: Because of coffee-houses, where they spend all their time." But coffee's opponents could not have been more wrong, for coffeehouses became popular venues for academic discussion, particularly among those who took an interest in the progress of science, or "natural philosophy" as it was known at the time. Far from discouraging intellectual activity, coffee actively promoted it. Indeed, coffeehouses were sometimes called "penny universities," since anyone could enter and join the discussion for a penny or two, the price of a dish of coffee. As one ditty of the time put it: "So great a Universitie, I think there ne'er was any; In which you may a Scholar be, for spending of a Penny."

One of the young men who acquired a taste for coffeehouse discussions while studying at Oxford was the English architect and scientist Christopher Wren. Chiefly remembered today as the architect of St. Paul's Cathedral in London, Wren was also one of the leading scientists of his day. He was a founding member of the Royal Society, Britain's pioneering scientific institution, which was formed in London in 1660. Its members, including Hooke, Pepys, and Edmond Halley (the astronomer after whom the comet is named), would often decamp to a coffeehouse after the society's meetings to continue their discussions. To give a typical example, on May 7, 1674, Hooke recorded in his diary that he demonstrated an improved form of astronomical quadrant at the Royal Society, and repeated his demonstration afterward at Garraway's coffeehouse, where he discussed it with John Flamsteed, an astronomer appointed by Charles II as the first astronomer royal the following year. In contrast with the formal atmosphere of the society's meetings, coffeehouses provided a more relaxed atmosphere which encouraged discussion, speculation, and exchange of ideas.

Hooke's diary gives examples of how information could be exchanged in

coffeehouse discussions. At one meeting, at Man's coffeehouse, Hooke and Wren traded information about the behavior of springs. "Discoursed much about Demonstration of spring motion. He told a pretty thought of his about a poysd weather glass. . . . I told him an other. . . . I told him my philo-sophicall spring scales. . . . He told me his mechanick rope scale." On another occasion Hooke exchanged recipes for medical remedies with a friend at St. Dunstan's coffeehouse. Such discussions also allowed scientists to try out half-formed theories and ideas. Hooke, however, had a reputation for being boastful, argumentative, and overstating his case. After an argument with Hooke in Garraway's, Flamsteed complained that he had "long observed it is in his nature to make contradictions at randome, and with little judgmt, & to defend ym with unproved assertions." Hooke, claimed Flamsteed, "bore mee downe with wordes enough & psuaded the company that I was ignorant in these things which that hee onely understood not I."

But Hooke's coffeehouse boastfulness was the unwitting trigger for the publication of the greatest book of the Scientific Revolution. On a January evening in 1684, a coffeehouse discussion between Hooke, Halley, and Wren turned to the theory of gravity, the topic of much speculation at the time. Between sips of coffee, Halley wondered aloud whether the elliptical shapes of planetary orbits were consistent with a gravitational force that diminished with the inverse square of distance. Hooke declared that this was the case, and that the inverse-square law alone could account for the movement of the planets, something for which he claimed to have devised a mathematical proof. But Wren, who had tried and failed to produce such a proof himself, was unconvinced. Halley later recalled that Wren offered to "give Mr Hook or me 2 months time to bring him a convincing demonstration thereof, and besides the honour, he of us that did it, should have from him a present of a book of 40 shillings." Neither Halley nor Hooke took up Wren's challenge, however, and this prize went unclaimed.

A few months later Halley went to Cambridge, where he visited another scientific colleague, Isaac Newton. Recalling his heated coffeehouse discussion with Wren and Hooke, Halley asked Newton the same question: Would an inverse-square law of gravity give rise to elliptical orbits? Like Hooke, Newton claimed to have proved this already, though he could not find the proof when Halley asked to see it. After Halley's departure, however, Newton devoted himself to the problem. In November he sent Halley a paper which showed that

an inverse-square law of gravity did indeed imply elliptical planetary orbits. But this paper, it turned out, was just a foretaste of what was to come. For Halley's question had given Newton the impetus he needed to formalize the results of many years of work, and to produce one of the greatest books in the history of science: *Philosophiæ natu-ralis principia mathematica* (Mathematical principles of natural philosophy), generally known as the *Principia*. In this monumental work, published in 1687, Newton demonstrated how his principle of universal gravitation could explain the motions of both earthly and celestial bodies, from the (probably apocryphal) falling apple to the orbits of the planets. With the *Principia*, Newton at last provided a new foundation for the physical sciences to replace the discredited theories of the Greeks; he had made the universe submit to reason. Such was the impact of his work that Newton is widely regarded as the greatest scientist in history.

Hooke insisted that he had given Newton the idea of the inverse-square law in letters exchanged a few years earlier. But when he made his case in another coffeehouse discussion following the presentation of the first volume of the *Principia* to the Royal Society in June 1686, Hooke failed to convince his scientific colleagues. There was a world of difference between advancing an idea in a coffeehouse and proving its correctness; Hooke had not published his ideas or formally presented them to the society; and he had a reputation for claiming to have thought of everything before anyone else (though, in many cases, he actually had). "Being adjourned to the coffee-house," Halley wrote to Newton, "Mr Hooke did there endeavour to gain belief, that he had such thing by him, and that he gave you the first hint of this invention. But I found that they were all of the opinion, that . . . you ought to be considered as the inventor." Despite Hooke's protestations, the coffeehouse had given its verdict, which still stands today.

Toward the end of the seventeenth century, the dissemination of scientific knowledge through London's coffeehouses took on a new, more structured form. A series of lectures on mathematics was given at the Marine Coffee House, near St. Paul's, starting in 1698, after which coffeehouses became popular venues for lectures of increasing complexity. Equipped with the latest microscopes, telescopes, prisms, and pumps, James Hodgson, a former assistant of Flamsteed's, established himself as one of London's foremost popularizers of science. His course of lectures in natural philosophy promised to provide "the best and surest Foundation for all useful knowledge" and included demonstrations of the properties of gases, the nature of light, and the latest

findings in astronomy and microscopy. Hodgson also gave private lessons and published a book about navigation. Similarly, the Swan Coffee-House in Threadneedle Street was the venue for lectures on mathematics and astronomy, while another coffeehouse, in Southwark, was owned by a family who taught mathematics, published books on navigation, and sold scientific instruments. Special lectures on astronomy were organized at both Button's coffeehouse and the Marine to coincide with an eclipse of the sun.

These lectures served both commercial and scientific interests. Seamen and merchants realized that science could contribute to improvements in navigation, and hence to commercial success, while the scientists were keen to demonstrate that their apparently esoteric findings had practical value. As one English mathematician observed in 1703, mathematics had become "the business of Traders, Merchants, Seamen, Carpenters, Surveyors of lands, or the like." Entrepreneurs and scientists teamed up to form companies to exploit new inventions and discoveries in navigation, mining, and manufacturing, paving the way for the Industrial Revolution. It was in coffeehouses that science and commerce became intertwined.

The coffeehouse spirit of innovation and experiment extended into the financial sphere too, giving rise to new business models in the form of innumerable novel variations on insurance, lottery, or joint-stock schemes. Of course, many of the ventures hatched in coffeehouses never got off the ground or were spectacular failures; the drama of the South Sea Bubble, a fraudulent investment scheme that collapsed in September 1720, ruining thousands of investors, was played out in coffeehouses such as Garraway's. But among the successful examples, the best known began in the coffeehouse opened in London in the late 1680s by Edward Lloyd. It became a meeting place for ship captains, shipowners, and merchants, who went to hear the latest maritime news and to attend auctions of ships and their cargoes. Lloyd began to collect and summarize this information, supplemented with reports from a network of foreign correspondents, in the form of a regular newsletter, initially handwritten and later printed and sent to subscribers. Lloyd's became the natural meeting place for shipowners and the underwriters who insured their ships. Some underwriters began to rent regular booths at Lloyd's, and in 1771 a group of seventy-nine of them collectively established the Society of Lloyds, which survives to this day as Lloyd's of London, the world's leading insurance market.

Coffeehouses also functioned as stockmarkets. Initially, stocks were traded

alongside other goods at the Royal Exchange, but as the number of listed companies grew (rising from 15 to 150 during the 1690s) and trading activity increased, the government passed an act "to Restrain the Number and Practice of Brokers and Stockjobbers," imposing strict rules on stock trading within the exchange. In protest, the stockbrokers abandoned the exchange and moved into the coffeehouses in the surrounding streets, and one in particular: Jonathan's, in Exchange Alley. One broker's advertisement from 1695 reads: "John Castaing at Jonathan's Coffee House on Exchange, buys and sells all Blank and Benefit Tickets; and all other Stocks and Shares."

As the volume of trade grew, the drawbacks of the informal nature of coffeehouse trading became apparent. Brokers who defaulted on payment were prevented from entering Jonathan's; although there was no way to stop them trading elsewhere, banishment from Jonathan's meant a significant loss of business. Defaulters' names were written on a blackboard to prevent readmission a few months later. Nevertheless, problems remained, so in 1762 a group of 150 brokers struck an agreement with the proprietor of Jonathan's: In return for an annual subscription of eight pounds each, they would be granted use of the premises, with the right to exclude or expel untrustworthy brokers. But this scheme was successfully challenged by a banished broker, who argued that coffeehouses were public places that anyone should be able to enter. In 1773 a group of traders from Jonathan's broke away and decamped to a new building, initially known as New Jonathan's. But this name did not last long, as the *Gentlemen s Magazine* reported: "New Jonathan's came to the resolution that instead of its being called New Jonathan's, it should be called The Stock Exchange, which is to be wrote over the door." This establishment was the forerunner of the London Stock Exchange.

This period of rapid innovation in public and private finance, with the floating of joint-stock companies, the buying and selling of shares, the development of insurance schemes, and the public financing of government debt, all of which culminated in London's eventual displacement of Amsterdam as the world's financial center, is known today as the Financial Revolution. The need to fund expensive colonial wars made it necessary, and the fertile intellectual environment and speculative spirit of the coffeehouses made it possible. The financial equivalent of the *Principia* was *The Wealth of Nations*, written by the Scottish economist Adam Smith. It described and championed the emerging doctrine of laissez-faire capitalism, according to which the best way for governments to

encourage trade and prosperity was to leave people to their own devices. Smith wrote much of his book in the British Coffee House, his base and postal address in London, and a popular meeting place for Scottish intellectuals, among whom he circulated chapters of his book for criticism and comment. So it was that London's coffeehouses were the crucibles of the scientific and financial revolutions that shaped the modern world.

Revolution by the Cup

As the Financial Revolution was under way in England, revolution of a different kind was brewing in France. During the eighteenth century, Enlightenment thought in France had flowered under thinkers, such as the philosopher and satirist Francois-Marie Arouet de Voltaire, who extended the new scientific rationalism into the social and political spheres. After offending a nobleman with a witticism in 1726, Voltaire had been imprisoned in the Bastille prison in Paris and was only released on condition that he went to England. While there he immersed himself in the scientific rationalism of Isaac Newton and the empiricism espoused by the philosopher John Locke. Just as Newton had rebuilt physics from first principles, Locke set out to do the same for political philosophy. Men were born equal, he believed, were intrinsically good and were entitled to the pursuit of happiness. No man should interfere with another's life, health, liberty, or possessions. Inspired by these radical ideas, Voltaire returned to France and detailed his views in a book, *Lettres philosophiques*, which compared the French system of government unfavorably with a somewhat idealized description of the English system. As a result, the book was immediately banned.

A similar fate befell the *Encyclopedic* compiled by Denis Diderot and Jean Le Rond d'Alembert, the first volume of which appeared in 1751. Its contributors included Voltaire, along with other leading French thinkers such as Jean-Jacques Rousseau and Charles-Louis de Secondat Montesquieu who, like Voltaire, had been greatly influenced by Locke. With such a lineup of contributors, it is hardly surprising that the *Encyclopedic* came to be seen as the definitive summary of Enlightenment thinking. It promoted a rational, secular view of the world founded on scientific determinism, denounced ecclesiastical and legal abuses of power, and infuriated the religious authorities, who successfully lobbied for it, too, to be banned. Diderot quietly continued his work even so, and the *Encyclopedic* was eventually completed in 1772, with each of its twenty-eight volumes delivered to

subscribers in secret.

As in London, the coffeehouses of Paris were meeting places for intellectuals and became centers of Enlightenment thought. Diderot actually compiled the *Encyclopedic* in a Paris coffeehouse, the Café de la Regence, which he used as his office. He recalled in his memoirs that his wife used to give him nine *sous* each morning to pay for a day's worth of coffee. Yet it was in the coffeehouses that the contrast between France and England was especially apparent. In London, coffeehouses were places of unrestrained political discussion and were even used as the headquarters of political parties. The English writer Jonathan Swift remarked that he was "not yet convinced that any Access to men in Power gives a man more Truth or Light than the Politicks of a Coffee House." Miles's coffeehouse was the meeting place of a regular discussion group, founded in 1659 and known as the "Amateur Parliament." Pepys observed that its debates were "the most ingeniose, and smart, that I ever heard, or expect to heare, and bandied with great eagernesse; the arguments in the Parliament howse were but flatte to it." After debates, he noted, the group would hold a vote using a "wooden oracle," or ballot box—a novelty at the time. No wonder one French visitor to London, the Abbe Prevost, declared that London's coffeehouses, "where you have the right to read all the papers for and against the government," were the "seats of English liberty."

The situation in Paris was very different. Coffeehouses abounded—six hundred had been established by 1750—and, as in London, they were associated with particular topics or lines of business. Poets and philosophers gathered at the Café Par-nasse and the Café Procope, whose regular patrons included Rousseau, Diderot, d'Alembert, and the American scientist and statesman Benjamin Franklin. Voltaire had a favorite table and chair at the Procope, and a reputation for drinking dozens of cups of coffee a day. Actors gathered at the Café Anglais, musicians at Café Alexandre, army officers at the Café des Armes, while the Café des Aveugles doubled as a brothel. Unlike the salons frequented by the aristocracy, the French coffeehouses were open to all, even to women. According to one eighteenth-century account, "The coffee-houses are visited by respectable persons of both sexes: we see among them many various types: men-about-town, coquettish women, abbes, country bumpkins, journalists, the parties to a law-suit, drinkers, gamesters, parasites, adventurers in the field of love or industry, young men of letters—in a word, an unending series of persons." Within a coffeehouse, the egalitarian society to

which Enlightenment thinkers aspired might, on the surface, appear to have been brought to life.

But the circulation of information in French coffeehouses, in both spoken and written form, was subject to strict government oversight. With tight curbs on freedom of the press and a bureaucratic system of state censorship, there were far fewer sources of news than in England or Holland. This led to the emergence of handwritten newsletters of Paris gossip, transcribed by dozens of copyists and sent by post to subscribers in Paris and beyond. (Since they were not printed, they did not need government approval.) The lack of a free press also meant that poems and songs passed around on scraps of paper, along with coffeehouse gossip, were important sources of news for many Parisians. Even so, patrons had to watch what they said, for the coffeehouses were filled with government spies. Anyone who spoke out against the state risked being imprisoned in the Bastille. The archives of the Bastille contain reports of hundreds of trivial coffeehouse conversations, noted down by police informers. "At the Cafe de Foy someone said that the king had taken a mistress, that she was named Gontaut, and that she was a beautiful woman, the niece of the due de Noailles," reads one report from the 1720s. "Jean-Louis Le Clerc made the following remarks in the Cafe de Procope: that there never has been a worse king; that the court and the ministers make the king do shameful things, which utterly disgust his people," reads another, from 1749.

French coffeehouses highlighted the paradox that despite the intellectual advances of the Enlightenment, progress in the social and political spheres had been hindered by the dead hand of the *ancien regime*. The wealthy aristocracy and clergy, a mere 2 percent of the population, were exempt from taxes, so the burden of taxation fell on everyone else: the rural poor and the wealthier members of the bourgeoisie, who resented the aristocracy's firm grip on power and privilege. In coffeehouses the contrast between radical new ideas about how the world might be and how it actually was became most apparent. As France struggled to deal with a mounting financial crisis largely caused by its support for America in the Revolutionary War, coffeehouses became centers of revolutionary ferment. According to one eyewitness in Paris in July 1789, coffeehouses "are not only crowded within, but other expectant crowds are at the doors and windows, listening *a gorge deployee* [open-mouthed] to certain orators who from chairs or tables harangue each his little audience; the eagerness with which they are heard, and the thunder of applause they receive for every

sentiment of more than common hardness or violence against the government, cannot easily be imagined."

As the public mood darkened, a meeting of the Assembly of Notables (the clergy, aristocrats, and magistrates) failed to sort out the financial crisis, prompting King Louis XVI to convene the States-General, an elected national assembly, for the first time in over 150 years. The meeting at Versailles degenerated into confusion, however, prompting the king to sack his finance minister, Jacques Necker, and call out the army. Ultimately, it was at the Cafe de Foy, on the afternoon of July 12, 1789, that a young lawyer named Camille Desmoulins set the French Revolution in motion. Crowds had gathered in the nearby gardens of the Palais Royal, and tensions rose as the news of Necker's dismissal spread, since he was the only member of the government trusted by the people. Revolutionaries stoked fears that the army would soon descend to massacre the crowd. Desmoulins leaped onto a table outside the cafe, brandishing a pistol and shouting, "To arms, citizens! To arms!" His cry was taken up, and Paris swiftly descended into chaos; the Bastille was stormed by an angry mob two days later. The French historian Jules Michelet subsequently observed that those "who assembled day after day in the Cafe de Procope saw, with penetrating glance, in the depths of their black drink, the illumination of the year of the revolution." It literally began at a cafe.



Camille Desmoulins gives a speech outside the Cafe de Foy on July 12, 1789, setting the French Revolution in motion.

The Drink of Reason

Today, the consumption of coffee and other caffeinated drinks is so widespread, both in and out of the home, that the impact of coffee's introduction and the appeal of the first coffeehouses is difficult to imagine. Modern cafes pale by comparison with their illustrious historical forebears. Yet some things have not changed. Coffee remains the drink over which people meet to discuss, develop, and exchange ideas and information. From neighborhood coffee klatches to academic conferences to business meetings, it is still the drink that facilitates exchange and cooperation without the risk of the loss of self-control associated with alcohol.

The original coffeehouse culture is echoed perhaps best in Internet cafes and wireless-Internet hot spots that facilitate the caffeine-fueled exchange of information, and in coffee-shop chains that are used as ad hoc offices and meeting rooms by mobile workers. Is it any surprise that the current center of coffee culture, the city of Seattle, home to the Starbucks coffeehouse chain, is also where some of the world's largest software and Internet firms are based? Coffee's association with innovation, reason, and networking—plus a dash of revolutionary fervor—has a long pedigree.



A coffeehouse in late-eighteenth-century Paris