THE ODYSSEY OF COFFEE Dr. John Freedman 2026

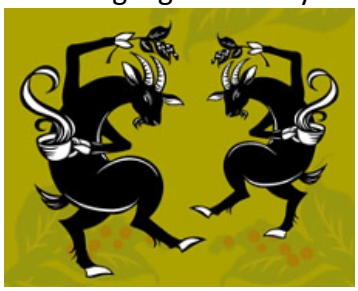
From Ethiopian forests to the Islamic world and on through Europe to the Americas and beyond in a story of global trade, technological change and marketing - the movement of a small African tree helped shape countries, economies, landscapes, and the daily routines of billions of humans around the world.

Origins: Ethiopia and the first coffee culture





Coffee's botanical birthplace was in the highland forests of southwestern Ethiopia, long before it was cultivated commercially. The oft-retold story of an ancient goatherd named Kaldi whose flock became energized after eating coffee berries is a charming legend but by no means a historical fact.


Ethiopia is the 5th largest coffee producer in the world today. While genetic studies confirm coffee's origins in Africa, it was in nearby Yemen that the coffee industry was born - here the crop was actively cultivated, widely consumed, processed, traded and shipped. Most of the commercial activity occurred in and around the city of Mocha beginning in the **early 1400s**. Cultivation took place in the highlands. Sufi communities are often credited with using coffee to remain alert during prolonged nighttime religious rites. In the early **1500s** coffee began to spread through the Arabian Peninsula and the Ottoman world, with Mocha as the commercial center. By the later 1500s coffee houses had become widespread and were important gathering places in cities such as Mecca, Cairo, Constantinople (Istanbul) gathering places in cities such as Mecca, Cairo, and Constantinople (Istanbul). They served as places for conversation, news, games, music, and business.Coffee initially encountereid suspicion in Christian circle s because of its association with the Islamic world and its reputation as 'Islamic wine'.



Coffee reaches Europe: the coffeehouse revolution



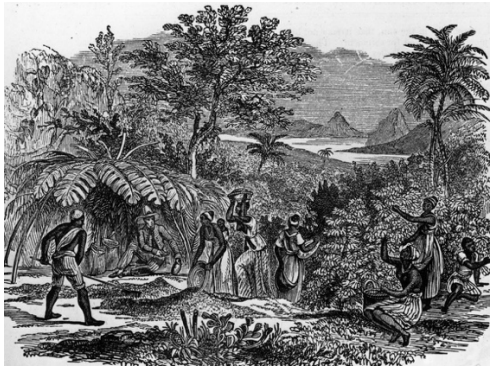


1600s: Coffee spread through Venice and other European trading centers. The story that Pope Clement V III personally tasted and then approved coffee is widely repeated but unsubstantiated.
1645: Venice opens it first coffee house.
1650: England's first coffeehouse opens in Oxford, established by an Ottoman Jewish entrepreneur.
1652: London's first well-known coffeehouse opens as coffeehouses multiply rapidly throughout Europe. London's coffeehouses earned the nickname 'penny universities': for the price of a cup, patrons could hear news, exchange ideas, and conduct business. Lloyd's of London traces its origin to Edward Lloyd's Coffeehouse where merchants and shipowners conducted business.

The colonial race for coffee - by thievery if necessary



European powers were determined to break Yemen's monopoly by growing coffee in their new colonies and shipping it as they did other prized commodities such as sugar, tea, and cacao. To do so required 'botanical appropriation' otherwise known as biopiracy. In the **late 1600s** the Dutch East India Company made the first breakthrough by transplanting Yemeni coffee plants to their Indonesian spice colonies. The first crop fell victim to massive flooding in 1696 but the crop soon took route - with the expression "a cup of Java" persisting to this day. In **1718** the Dutch also grew coffee on a large scale in their Dutch Guiana colony (present-day Surinam) and the French followed suit in French Guiana after the Dutch royal house presented a coffee tree as a gift to Louis XIV. In **1723** French naval officer Gabriel Mathieu de Clieu transported a coffee seedling from France to Martinique in a voyage that survived a pirate attack and a dearth of drinking water due to the need to divert water to keep the plants alive. The seedlings survived and became the foundation for extensive plantings in Martinique from whence it then spread throughout the Caribbean and Central America.





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Europeans moved coffee all around the tropical world including India and Ceylon (Sri Lanka), but most consequential was the Portuguese colonial territory of Brazil where coffee thrived and changed the landscape and economy after its introduction in **1727.** Brazil became the coffee giant and remains the #1 producer and exporter to this day. Coffee cultivation and trade was an imperial contest and involved massive land grants and exploited slave labor.



13.—Coffee-Plantation in Brazil. (From an engraving in the 'Travels' of Rugendas.)

Coffee's introduction to Brazil from French Guiana famously involves a tale of Portuguese military officer Francisco de Melo Palheta who initially failed in his diplomatic attempt to garner coffee plants as a gesture of good will from the French. Instead he seduced the Governor's wife who slipped him some coffee saplings in a bouquet of flowers. Whether Melo Palheta was truly the James Bond of coffee history in this manner remains unsubstantiated, but he did bring the first saplings to Pará in 1727. From there coffee cultivation spread north toward Rio and much of Brazil's massive expanse was 'painted green' with coffee plants.

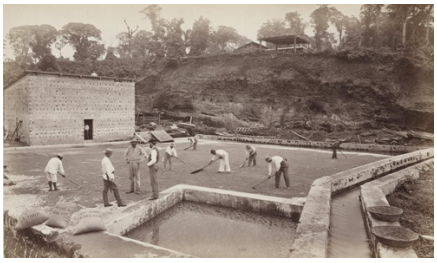
The nineteenth-century BOOM

Early 1800s: Cultivation expanded in the southeast, particularly in the Paraíba Valley.
1820s-40s: Brazil's exports grew rapidly and by **1830** it was #1 in the world. By **1850** it produced half of the world's coffee. In the **1860s-80s** the railroads helped move the coffee trade to Sao Paulo and its Santos area port and enabled enormous expansion of the already huge industry. The human cost was staggering and in fact Brazil' coffee industry along with its sugar industry was the #1 engine of the Atlantic slave trade.



Slavery was not abolished in Brazil until 1888, making it the last country in the Americas to do so.
As slavery was dismantled, São Paulo's coffee planters increasingly turned to immigrant labor - including massive numbers of Japanese whose descendants today make up the largest ethnic group in Sao Paulo. The Brazilian government subsidized immigration, bringing millions of immigrants to the country. The l labor system changed, but harsh and exploitative conditions persisted for many workers. The growth of coffee helped finance railways, ports, banks, and urban development. It also gave the coffee-growing elite enormous political influence - they ruled over a 'plantocracy' just as the sugar barons did.

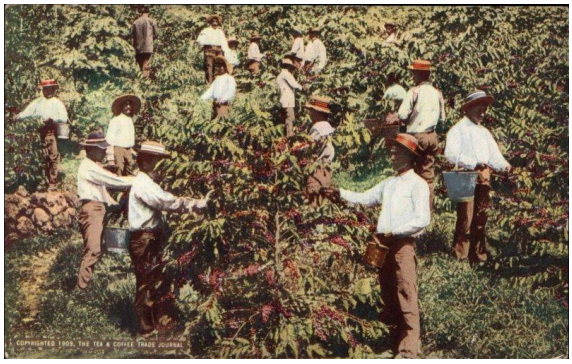
Costa Rica: coffee and the making of a nation


Costa Rica offers an interesting contrast to Brazil. Coffee became central to its economy, but production developed around a different pattern of landholding and labor. Coffee was first introduced into Costa Rica in the 1700s and the terrain was sheer perfection for fine Arabica plants: mountainous shaded jungles and rich volcanic soil. By **1820** it was trans-shipping coffee beans via neighboring Panama. In **1821** with independence from Spain, the government made the key decision to distribute coffee plants, provide land grants, and subsidize cultivation - coffee literally made the nation.
1832: Merchant George Stiepel arranged an export shipment arrangement through Chile, for large-scale shipment to European markets.
1840s: Direct trade with Britain developed in a big way and became the foundation of Costa Rica's international trade.
Coffee financed much of Costa Rica's early infrastructure and helped shape and finance both its political and social development. Unlike in Brazil where massive plantations (some bigger than all of Portugal!) were the rule, Costa Rica's coffee sector was built on small and medium-sized farms.

Coffee reaches into the Pacific





Hawaii's coffee history is important because it represents the creation of one of the world's best-known regional coffees, the Big Island's Kona coffee. The story began in **1813** when a Spanish advisor to Hawaii's King Kamehameha I introduced coffee plants. But the initial plantings did not succeed.
1825: Chief Boki of Oahu, brought coffee plants from Brazil and planted them in the Mānoa Valley.
1828: Missionary Samuel Ruggles introduced coffee to the Big Island, probably a Bourbon variety. This is considered the origin of Kona coffee. The volcanic slopes of Mauna Loa proved particularly suitable in elevation, rainfall, rich soil, sunshine, and afternoon cloud cover.
1836: A commercial coffee operation was also established at Kōloa on Kauai.
1892: A Guatemalan Typica variety of Arabica was introduced and became the ancestor of most of Kona's coffee today. The Kona coffee industry experienced ups and downs, particularly as sugar and pine-apples became very profitable, but in the mid- and later 20th century coffee regained importance as those other crops waned.



Coffee as a global crop

Coffee became a major British colonial crop in Ceylon (Sri Lanka) in the 19th century- but a devastating 'coffee rust' outbreak occurred in the **1860s** and the industry never recovered. British planters turned to tea.outbreak of coffee leaf rust in the **1860s and 1870s** destroyed mBritish planters increasingly turned to tea. Coffee became an important export crop in Guatemala, El Salvador, Nicaragua, and Colombia. Colombian coffee cultivation expanded and Colombia is the world's 3rd largest coffee producer today.

Kenya, Tanzania and Vietnam all expanded production dramatically under their British and French colonial overseers. Vietnam is the #2 producer of coffee today (albeit the less prized Robusta variety) today. Indonesia: Java, Sumatra, and Sulawesi remained major coffee-producing regions.
The spread of coffee also created a distinction between the two principal commercial species:
Arabica: Generally associated with higher elevations and more delicate flavor profiles. It is the variety originated in Ethiopia and was first cultivated commercially in Yemen.
Robusta: A hardier species, generally more resistant to disease and capable of growing in hotter, lower-elevation environments. Its exact origins are unclear but it became especially important in equatorial Africa and Southeast Asia.

The industrialization of coffee: the 19th and early 20th centuries





As coffee consumption grew, entrepreneurs began finding ways to make coffee easier to roast, grind, store, transport, and prepare. Some important milestones:
1820s–1830s: Commercial coffee roasting became increasingly mechanized.
1840s: Improvements in roasting equipment and grinding helped make prepared coffee more accessible.
1850: Folger's predecessor, the Pioneer Steam Coffee and Spice Mills, was established in San Francisco. J.A. Folger eventually acquired the business, which became the Folgers brand.
1892: Joel Cheek developed the coffee blend that became Maxwell House, named after the Maxwell Hou se Hotel in Nashville.
1900: Hills Bros. helped popularize vacuum-packed coffee, a key advance in keeping fresh, rich flavor.
1903: Decaffeinated coffee is invented





The invention of decaffeinated coffee is generally credited to German coffee merchant Ludwig Roselius. Roselius developed an early commercial decaffeination process after a shipment of coffee beans was accidentally soaked in seawater and he discovered that the beans had lost much of their caffeine.
He soon commercialized the process through his company, Kaffee HAG, using benzene as a solvent - benzene is now recognized as a serious health hazard, and this method is no longer used. Roselius marketed his coffee in France as 'Sanka' for *sans* (without) *kaffeine.*

Modern decaffeination uses different approaches, including:

- Direct solvent methods using approved solvents such as ethyl acetate or methylene chloride.
- Water-based processes, including the Swiss Water Process.
- Supercritical carbon dioxide extraction.

Decaffeinated coffee is not completely caffeine-free. It generally contains a small residual amount. The U.S. FDA requires coffee to be 97% caffeine-free to be labeled as decaf.

The espresso machine: from steam to modern espresso

1884: Italian inventor Angelo Moriondo patented the first steam-driven coffee machine in Turin, designed to expedite workers' coffee breaks. Many refinements too numerous to list soon followed.



Melitta Bentz and the paper coffee filter







Melitta Bentz, a German housewife in Dresden, was frustrated by the grounds and sediment left in her coffee. In **1908,** she experimented with a blotting paper from her son's school notebook as a filter, and the rest is history.

Instant coffee: coffee in seconds





The idea of making coffee soluble in water had been explored for centuries, but poor taste and consistency were a problem. Milestones on the road to modern instant coffee include:
1771: A British patent was granted for an early form of soluble coffee.
1901: Japanese-American chemist Satori Kato demonstrated a soluble coffee product at the Pan-American Exposition in Buffalo. Kato usually gets the nod as the key inventor of instant coffee.
1909: BelgianAmerican entrepreneur George Constant Louis Washington commercialized an instant coffee product in the United States which was a runaway success.
1938: Nestlé introduced Nescafé, following work undertaken in response to Brazil's surplus coffee production and the need for a practical way to preserve and use it.
World War II: Instant coffee became especially important to military forces because it was lightweight, portable, and quick to prepare.

Canned coffee: Japan's contribution



1969 – Japanese entrepreneur Tadao Ueshima of the UCC Ueshima Coffee Company developed the first canned coffee beverage.UCC's first canned coffee included milk. The concept became enormously successful in Japan and remains so. Canned coffee beverages of innumerable types and styles are a major beverage category in Japan and there is an extensive network of vending machines that make caned coffee - hot or cold - available virtually everywhere.

A few other inventions deserve a mention in the history of coffee

1948 - Gaggia produced the fore-runner of the modern motorized pump espresso machine
1986 - Nestle launched its Nespresso machine which would give birth to a long line of imitators and has become a mainstream household, cruise ship, and hotel fixture.
1992: The Keurig K-Cup capsule brewing system was invented by engineer John Sylvan. Today over 60 brands of coffee can be purchased in K-Cups. Sylvan has publicly lamented his invention due to the non-biodegradable waste generated by the plastic and foil capsules. He sold his share in the multi-billion dollar company in 1997 for $50,000.
2014- Nespresso introduced the high-tech digital Vertuo version of its capsule machine, with great success. The company operates a robust recycling program for used capsules.

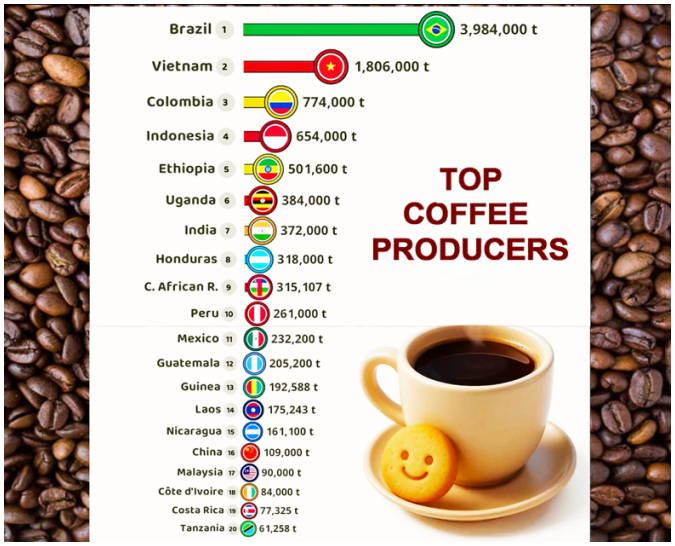
Starbucks: a capsule history of a transformative company and idea

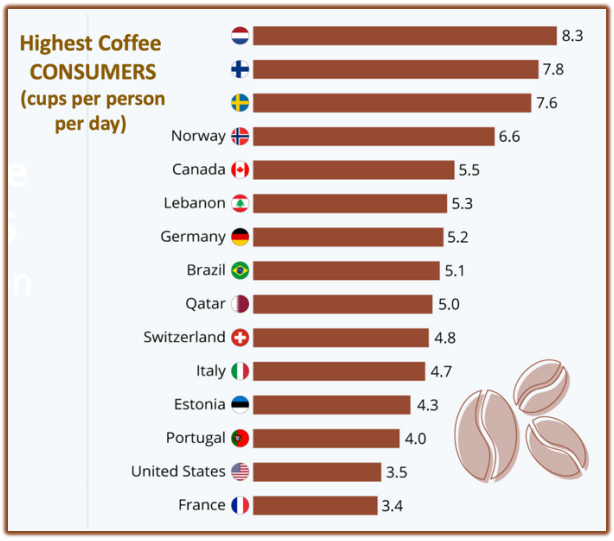




Love it or hate it, the history of Starbucks is a major chapter in the transformation of coffee culture.
1971: Starbucks opened its first store in Seattle's Pike place Market.
Its founders were Jerry Baldwin, Zev Siegl, and Gordon Bowker. It sold roasted coffee beans along with tea and spices- no coffee drinks!
1982: Howard Schultz joined Starbucks as director of marketing.
1983: Schultz traveled to Italy and became fascinated by the Italian espresso bar tradition. He saw coffeehouses as places where people could gather, socialize, and enjoy freshly prepared espresso drinks. He returned to Seattle convinced that Starbucks should become more than a retailer of coffee beans.
1985: Schultz left Starbucks and founded his own coffeehouse company, Il Giornale, which served both brewed coffee and espresso drinks.
1987: With financial backing from investors, Schultz bought out the Starbucks founders and merged the business with Il Giornale. The combined company took the Starbucks name.
1992: Starbucks went public, fueling a massive expansion throughout the USA and abroad.
2000s: Starbucks became a dominant worldwide brand, helping popularize espresso-based drinks among consumers in over 80 countries. Starbucks today has over 40,000 stores worldwide. Its huge success helped reshape expectations about coffee with consumers expecting a choice of origins and roasts with personalization of preparation and a café environment to not just visit but in which to spend time.

Coffee production and consumption today:





Coffee and health: some good news

The 2000s have seen a vast body of research studies on the health effects of coffee and the news is mostly very good and likely related to the chlorogenic acid in coffee, which is a potent anti-oxidant that can prevent or cellular damage. Large long-term studies have repeatedly shown an association between coffee-drinking and longevity. I take a deeper dive into this in my lecture on coffee and you can find some key data and discussion of the topic in the Reference List on my website: ScholarAtSea.com.

Coffee has come a long way from Kaldi and his goats.

