

Breville

Coffee by
Design





- 2 Java Juice
- 4 The Deconstructed Cup
- 12 Lait Men
- 13 Craftsmanship from
Crop to Cup
- 14 Coffee Talk
- 16 Bean Brainiacs
- 19 I Heart Latte
- 20 Homemade Coffee &
Dark Chocolate Ice
Cream Recipe



Java Juice

Despite the similarities in ingredients, there are a variety of different styles of coffee drinks to try. Experiment to see which you prefer.



Macchiato

Italian word for 'Marked'
2-3oz (60-90ml) cup or glass
1 single espresso
2 teaspoons textured milk

Texture the minimum amount of milk you can (enough to cover the end of the steam wand) and set aside.

Extract a single espresso into a suitable espresso glass or cup.

Swirl textured milk in the jug to re-integrate the texture.

Spoon 2 teaspoons of milk into the center of the espresso.



Mocha

6-7.5oz (180-220ml) glass
1 single espresso
5oz (150ml) cold milk
Drinking chocolate

Begin texturing milk to desired temperature.

At the same time extract single espresso.

Stir 1 teaspoon of drinking chocolate into espresso shot.

Swirl textured milk in the jug to re-integrate the texture.

Pour milk directly into the center of the espresso with the milk jug tip close to the espresso surface.

Steady consistent pour is the secret. Garnish with drinking chocolate.



Piccolo

3oz (90ml) glass
1 single espresso
5oz (150ml) cold milk

Begin texturing milk to desired temperature.

At the same time extract single espresso.

Swirl textured milk in the jug to re-integrate the texture.

Pour off some milk from the jug into the sink (Piccolo only).

Pour milk directly into the center of the espresso with the milk jug tip close to the espresso surface.

Steady consistent pour is the secret.



Americano/ Long Black

7-8.5oz (200-250ml) glass
1 double espresso

Extract a double espresso.
Pour in hot water to fill cup.

Flat White

6-7.5oz (180-220ml) cup
1 single espresso
5oz (150ml) cold milk

Same method as Piccolo.



Iced Latte

Tall glass
1 double espresso
Cold milk
Flavored syrup (optional)
Ice

Combine espresso, milk and syrup (optional) in a glass. Stir well then top with ice.



Affogato

7-8.5oz (200-250ml) low profile glass
1 double espresso
1 scoop vanilla ice-cream
Chopped pistachios or grated chocolate (optional)

Extract espresso, set aside.

Scoop ice-cream into glass.

Pour espresso directly over ice-cream.

Garnish with chopped pistachios or grated chocolate.

The Deconstructed Cup

by Harold McGee
Culinary Science Writer
author of *On Food and Cooking*



A well-made cup of coffee is one of life's good things, a happily affordable, everyday pleasure. And as foods and drinks go, it's pretty simple to make. All it takes is roasted coffee beans, water to extract their deliciousness, a pot, and some heat. Yet coffee lovers over the centuries have come up with dozens of different brewing devices. Home coffee machines have been evolving especially rapidly in recent years, some of them costing as much as a thousand visits to a café.

Why? Well, as simple as coffee making may be, the quality of the result is exquisitely sensitive to details of the process: such things as how the beans are ground, the relative proportions of coffee and water, the temperature of the water, and the duration of the extraction. The appeal of the new generations of coffee makers is the control they offer over these critical aspects of brewing, the consistency in quality that results, and the convenience of leaving it to the machine to get it right without our vigilance.

Whether you're making campfire coffee, dripping a cup by hand or in a machine, or pulling espresso shots, a general understanding of what you're doing can help you do it better, and enjoy the process as well as the results.



COFFEE BEANS: Creating Flavor

Coffee starts with the cherry-like fruits of two tree species native to northern Africa and now grown in many tropical and subtropical countries. When the coffee cherries are harvested, the seeds are removed from the surrounding pulp and then dried and exported to coffee makers all over the globe.

These raw coffee 'beans' are similar to dried pinto or soy beans: they're hard, aroma-less packages of basic nutrients for the sprouting seedling, proteins and carbohydrates and oils. They also contain protective bitter and astringent compounds, including caffeine, that deter animals from eating the seeds along with the tasty pulp.

*Ripe cherries
waiting to be picked*



We make these uninteresting pale-green beans coffee-colored and delicious and grindably brittle by roasting them. High heat breaks down a portion of the bean nutrients and defenses and causes the fragments to react with each other, a crazily complex process that generates many hundreds of new kinds of molecules. Among them are sweet and sour and bitter and savory tastes, a host of aromas, and characteristic brown pigments.

Coffee flavor is determined by the composition of the original beans, and the degree to which they're roasted. Typical roasting temperatures can run between 375 and 425°F (190-220°C), and roasting times between 90 seconds and 15 minutes. Beans mildly roasted to a matte brown color produce a light-bodied drink with a distinct acidity, and often delicate fruity and flowery notes. More extensive roasting produces deeper-colored beans and a cup with less acidity, a fuller body, and a rounder, more generic roasted flavor. Dark roasting produces brown-black beans that are distinctly oily in appearance and have a grilled aroma, more bitterness, and a thin body.

*Roasted coffee
being cooled on the
roaster's cooling tray*



COFFEE BEANS: Freshness

To make a good cup of coffee, it's important that the beans be recently roasted, ideally within a few days of the brewing. Unlike raw beans, roasted beans are not chemically stable, and they start changing the moment the roasting stops. Some coffee connoisseurs think that flavor can actually improve over the first few days. But roasted coffee soon develops stale, rancid flavors as its unsaturated oils are attacked by oxygen in the air.

Whole coffee beans keep reasonably well for a week or two at room temperature, or a couple of months in the freezer, before becoming noticeably stale. Whole beans keep as long as they do in part because they're filled with carbon dioxide generated during the roasting, which helps exclude oxygen from the porous interior. Grinding the beans releases the carbon dioxide as well as some desirable aromas. It also hugely increases the surface area of bean material that's exposed to the air. So it's best to grind whole beans just before brewing, or if you use pre-ground coffee, to brew within a few days of the grinding. Vacuum-packed beans and grounds are protected from oxygen and last longer, but be sure to check the date on the package. Even with vacuum-packed coffee, fresher is better.



Before using frozen coffee, warm the unopened package up to room temperature first, so that no flavor-damaging moisture will condense on the beans when you expose them to the air.

GRINDING:

Even Particle Size

When we brew coffee, we expose particles of the coffee bean to water to extract the components that contribute flavor, body, and color, while trying to minimize the extraction of unpleasantly bitter and astringent substances. The extraction process is influenced by a number of different factors. First among them is the size of the coffee grounds. The smaller the particle, the faster it will give up its contents to the water. No matter what the brewing method and its optimal grind, it's important that the grind be reasonably even. In a mixture of fine and coarse particles, the fine ones will give up their desirable components quickly and start to cause bitterness while the coarse ones still have good flavor trapped inside.

There are two standard types of coffee grinder. The rotating blade of inexpensive electric propeller grinders smashes all the bean pieces indiscriminately until it's stopped, so coarse and medium grinds end up containing some fine powder. More expensive burr grinders, which may be electric or manual, crush the beans between adjustable grooved plates, and allow bean fragments to fall free of the mechanism as soon as they're small enough. Burr grinders give a more even particle size.





BREWING:
Water
Temp and
Extraction
Time

While the coffee grind determines how easily water can get into the particles and extract their contents, the actual process of extraction is controlled by the water temperature and the brewing time. The hotter the water and the longer the brew, the more completely solubles are extracted from the coffee particles. A balanced flavor results when between 20 and 25% of the bean materials are extracted into the water. With a lower extraction the brew is bland and sour; a higher extraction tends toward harshness.

Coffee can be and is brewed in room-temperature water, but such cold-brewing takes hours. The best standard coffee is brewed with water between 180 and 205°F, or 80 and 96°C. At the upper end of that range, water extracts both more aromatics and more bitterness. At the lower end, the coffee comes out smoother but less fully flavored.

The extraction time is the easiest variable to adjust during the brewing, and it depends mainly on the fineness of the grind. The coarse grounds used in plunger pots are usually extracted for 4 to 6 minutes, drip and stovetop devices extract medium grounds for 2 to 4 minutes, and espresso machines extract fine grounds for about 30 seconds.

BREWING:
Coffee
Strength

Coffee strength—the concentration of coffee solubles in the brew, and the intensity of flavor—is determined primarily by the proportions of ground coffee and water. Different brewing methods call for different proportions, and the coffee strength we aim for in any one of them is a matter of taste. At the extremes, typical American drip coffee is made with a ratio of one part coffee to 15 parts water by weight, while the ratio for espresso is 1 to 5 or even higher.

It can be fun to experiment in order to find the proportion of coffee to water that you prefer. You'll find that it's better to start with a brew that's too strong rather than too weak, because strong but balanced coffee can be diluted with hot water and remain balanced. Weak coffee tastes watery and acidic and can't be improved.

To brew consistently, it's best to measure the coffee by weight rather than volume. Coffee scoops may be more convenient than using a scale, but they're not as reliable. A standard scoop can contain anywhere between 8 and 12 grams of coffee depending on the grind and how compacted it is. And an additional gram or two can make a noticeable difference in flavor. A typical amount of coffee for an 8-ounce cup of drip coffee is 16 grams.

ESPRESSO:
Super
Extraction

Espresso coffee stands apart from all the other coffee brews. It contains three to four times more coffee-bean extract, including a fine emulsion of the bean oils that other methods largely leave behind in the grounds. The result is an intense, rich, full-bodied brew whose flavor persists in the mouth long after it's been swallowed. A distinctive mark of a well-made espresso is the crema, a creamy foam created by the carbon dioxide gas from fresh and freshly ground beans and a variety of bubble-stabilizing coffee components.

True espresso coffee is made with a machine that heats water to around 200°F, 93°C, and then pushes it through very fine grounds with the force of nine atmospheres of pressure, or well over 100 pounds per square inch, by mechanical or hydraulic means. The pressure emulsifies the coffee oils into the brew. Inexpensive approximations of espresso machines extract with boiling water and relatively weak steam pressure, and don't produce as balanced and delicious a result.





Milk in Coffee Drinks

Coffee is frequently partnered with milk, which moderates coffee's strong flavor by diluting it and binding some of the astringent and bitter components. And milk provides its own flavor, notably sweetness from the milk sugar lactose. A quarter-cup or 60 ml contains the equivalent of almost a teaspoon of sugar—which is why you don't need to add sugar to a café au lait. Milk proteins and fat both contribute body, so milk drinks also feel more substantial and lingering in the mouth.

Milk is also good at forming a persistent foam that can lend an appealing body, both full and light, to cappuccinos and lattes. Milk bubbles get their staying power from heat, which unwinds some of the milk proteins and encourages them to form a delicate but solid network around the bubbles, a kind of structural reinforcement. The most common and well-honed method of foaming milk is with the steam wand on an espresso machine, but there are other and simpler ways. Steam itself doesn't form bubbles; it's water vapor and simply condenses into liquid again when it hits the cooler milk. Instead, the steam wand is designed to inject air into the milk to form bubbles, and the steam does the heating to stabilize them. You can improvise a milk foam simply by shaking a little cold milk in a jar until it foams, and then heating the jar briefly in the microwave to set the proteins in the bubble walls.



Serving Coffee

Freshly brewed coffee is best enjoyed immediately. Its flavor is evanescent, evolves as it cools, and suffers from further heating, which drives off aroma, increases acidity, and develops harshness. Preheat cups so that they don't cool the coffee too quickly. If you want to serve a pot of coffee over an extended time, brew or transfer it into a preheated insulated container. Don't keep it hot by continuing to heat it. The gentlest way to reheat cold coffee is to warm it slowly in the microwave on low power, taking a few minutes per cup.

Lait Men

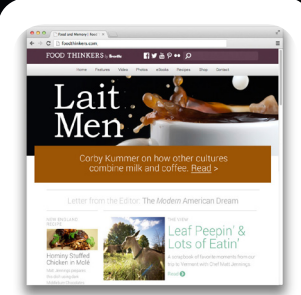
by Corby Kummer
Senior editor of *The Atlantic*
author of *The Joy of Coffee*

I wish I was a sufficiently sophisticated coffee drinker to wave away milk when it's offered, with a curt, I-take-it-straight wave, the way I saw the real coffee men (and women) I interviewed do while researching my book *The Joy of Coffee*. But after doing my best to imitate them, I admitted the truth: I like milk in my espresso, and usually in my brewed coffee too.

Coffee men like Jerry Baldwin, one of the three founders of Starbucks and later the owner of Peet's, want customers to appreciate the full range of flavors in the coffee they've trekked to Kenya or up a Guatemalan mountain to procure. Listening to customers order latte after cappuccino after latte one day, he said in exasperation, "Sometimes I want to tell everyone once a week that it's the cow's day off."

But milk can deeply and broadly enhance the flavor of coffee, acting as olive oil in vegetables and in cream sauce can: as a flavor amplifier that attenuates the subtlest notes in a blend. And there's no way around the comforting, stomach-settling effect warm milk has. Milk softens and elongates a short shot, and provides a pillowy cushion to set off what can be the angular, intensive flavors of a well-pulled espresso.

So there's your rationale.



The screenshot shows a web browser displaying the article "Lait Men" on the FoodThinkers website. The article title is prominently displayed at the top, followed by a sub-headline: "Corby Kummer on how other cultures combine milk and coffee." Below this, there is a "Letter from the Editor: The Modern American Dream" section. The main content area features two article thumbnails: "Chicken in Milk" and "Leaf Peepin' & Lots of Eatin'".

Read Corby Kummer's full article on [FoodThinkers.com](#) and learn how other cultures combine milk and coffee.



Craftsmanship from Crop to Cup



Meet Toby Smith

The founder of Toby's Estate talks about the world of coffee.

Wake up and smell the coffee. And if you do, you may notice that it has a different quality from the Folgers and Maxwell House of yesteryear.

There is an evolution brewing in the North American specialty coffee scene.

Great boutique roasters are redefining the coffee experience. And Australian roaster Toby's Estate is among the true masters in the art of specialty coffee. Led by founder Toby Smith — whose extreme dedication to coffee craftsmanship extends from crop to cup and reflects a real respect for the coffee-growing community — Toby's Estate roasts and serves coffee in cafes all over the world.

Today, Smith likens what's happening in the North American espresso scene to paddling onto a huge wave, and he's just about to paddle onto it.

Coffee Talk

In 2013, the Australian Breville coffee product design team came to the US to conduct in-market research and attend the Specialty Coffee Association of America event. While they were visiting, we had a chance to meet with them and discuss the global coffee movement and trends they see in the market.

Phil McKnight

Global Business Manager



“My favorite coffee is a classic single espresso. It’s the best for tasting all the coffee nuances and major flavor components.”

Rob Grassia

Senior Designer



“I prefer milk-based coffee, which I know for a lot of espresso enthusiasts is not the purist form. Cappuccino, latte, flat white – all those I quite enjoy.”

Gerard White

Design Manager



“I drink three cups of coffee a day. They’re mainly espresso coffees. I try to keep it to three cups because otherwise I’m bouncing off the walls.”

According to the design team, consumer expectations on taste and service have evolved greatly over the past decade. Today consumers want more than just a hot cup of coffee; they place more emphasis on being able to taste the coffee’s origins.

“They want to know where their coffee is from, and understand its provenance, the country, the estate on which it was grown, the altitudes, and

all the nuances,” says Phil McKnight. “This sophistication is a great shift in the consumer mind over the last 10 years.”

People care about the quality of their coffee because they’re more engaged with food in general. Consumers are not just interested in the caffeine buzz a cup of coffee can deliver. They really want to experience a taste.

“We’re at the very beginning of the third wave of coffee, where mainstream roasters don’t control the coffee scene,” explains McKnight.

There are boutique roasters who are sourcing direct from the farm and often buying green beans from cooperatives. These roasters have direct trade relations with the farmers themselves so they have more control over the quality of the beans and their end product.

With this new interest in beans and sourcing, consumers have a desire to try new brewing methods. For example, single cup pour over and cold brew beverages have emerged in the past three to five years. Consumers are making a return to more simple methods of brewing coffee. And technological advances and new products coming to market are spurring others to try new brewing techniques.

“Every country has a different way of making coffee. These different flavor profiles and brewing methods showcase how varied the coffee trends are globally,” says Gerard White.

For example, in the United States and North America, people are very engaged with the drip filter market. Most people have a drip filter coffee machine in their house and enjoy a darker roast. Whereas in the Southern Hemisphere, in places like Australia, New Zealand, and South Africa, consumers favor the espresso market and prefer a lighter roast.

“Keeping up with trends in the global coffee market helps us design better products and ultimately helps us brew a better tasting cup of coffee or espresso,” says Rob Grassia.

The Buzz Around Coffee

The Breville design team talks about what’s trending in the coffee and espresso market.



Bean Brainiacs

“One of the core tenets of the Breville brand is simplicity. We always make sure that when a consumer has an experience with a Breville product, that the experience is simple. The product can be complicated, but the experience of using that product cannot be.”

Phil McKnight

Over the past six years, Breville designers have tackled an extremely complicated challenge: making a perfect espresso at home.

“Breville thinks about coffee differently in that we really want to understand the consumer. We try and get inside the consumer’s mind and understand how they operate. We like to have insight on their real experiences in their kitchen before designing products for them, so we really understand their habits and their environment. What they love, what they don’t like.”

Gerard White

Breville conducts market and competitor research, of course, but more important are the in-home visits that they conduct globally. The product development process includes seeing how consumers use products to discover learnings that can be turned into products or enhanced features.

People want simplicity, they want convenience, and they don’t want mess.

When designing first the Dual Boiler™ and then the Oracle™, the design team kept one common scenario in mind:

A couple is having a dinner party, and at the end of the meal, they want to make six coffees for their guests.

The designers set out to develop a system that would allow the consumer to make coffee quickly and easily and without any diminishment in the performance.



Espresso Machines for Home

Take a closer look at two espresso machines geared toward the coffee connoisseur.



the Dual Boiler™

Shop Now 



“I get most of my inspiration from the commercial space. It’s the commercial space that drives quality for new technology as they understand what consumers want, because they’ve got consumers coming through their doors every day. We translate that experience into an easy, seamless, simple, appliance to use in your home. The consumer does not have to be a barista, but they can act like one if they want to.”

Phil McKnight



There was a real difficulty in bringing commercial temperature and pressure control to a domestic appliance.

The Breville designers and the engineers on the project researched and reverse engineered a lot of commercial equipment to find out how that process worked. With a greater understanding of the complexities, they came up with a machine that would fit on a countertop and deliver the same precision control over temperature and pressure found in much larger, commercial units.



In 2011, Breville launched the Dual Boiler, a machine with a twin boiler system -- an espresso boiler and a steam boiler -- so the coffee and the milk can be prepared simultaneously.

During the development of the Dual Boiler, the designers recognized that although many people enjoy good espresso and will venture to cafes for them, they avoid making espresso at home because the process seems intimidating.



The Oracle

Automated or manual controls
— it's the espresso machine
expertly designed to simplify.

With the Oracle, Breville set out to achieve a level of automation that would eliminate some of the technical challenges other machines commonly have when brewing an espresso. At the same time, the design team wanted to make sure the user could have as much control over the machine as they wanted, and they would be able to get the same results cup after cup.

“We understand that consumers love the taste of manual espresso, but they don't necessarily love the complexity. So we automated the most difficult parts of that process: automating grinding, dosing, and tamping, and automating milk texturing.”

Phil McKnight



the Oracle™

Shop Now 

I Heart Latte

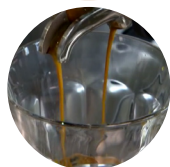
Espresso



Use only fresh roasted coffee.



Grind, distribute evenly, tamp with ~30 pounds of pressure.



Adjust temperature for coffee type ~200°F +/-.
Look for a steady, straight flow of coffee.



Shot should be dark auburn brown, 1.5 to 2 ounces. Swirl slightly to prep for milk.

Steamed Milk



Use your favorite milk and fill a chilled jug nearly halfway.

Tip: Purge steam wand right before using.



Place steam wand 1/2 inch into milk and aerate (hear it hissing) until milk is warm.



Submerge wand and continue to steam milk until jug is hot to the touch ~140-150°F.

Tip: Clean wand immediately with damp cloth.

Swirl milk in the jug to smooth out bubbles.



Latte Art



Tilt the cup or espresso toward the milk jug and pour a dot slowly in the center of the mug to integrate the crema and milk.



Draw the pour through the dot to the cup's rim while settling the cup back to level and stop.



When you see the milk cloud come through the espresso, start to ease the flow to finish the pour.



Enjoy!

Homemade Coffee & Dark Chocolate Ice Cream

by Chef Seamus Mullen

Ingredients

3 cups unpasteurized, non-homogenized whole milk with cream
1/2 cup sugar
1 dash salt
2 egg yolks, lightly beaten
2 tablespoons finely ground espresso beans, I like Stumptown Hairbender
1 double shot espresso
1 tablet of bittersweet organic chocolate, I like to use Mast Brothers, broken into smallish pieces

Instructions

Bring milk and half of sugar to a boil.

Meanwhile, whisk yolks with other half of sugar, salt, ground espresso, and brewed espresso and gently warm in a bowl over a pot of simmering water.

Once milk comes to a boil, remove from heat and allow to cool a few minutes, then temper with egg yolks, and cook over a bain marie, stirring constantly with a rubber spatula, until custard coats the back of a spoon.

Remove custard from heat, strain through a fine mesh sieve, and set aside in the fridge to cool down.

Once the custard has cooled completely, fold in chocolate pieces and spin in ice cream machine according to manufacturer's instructions.

Once the ice cream is finished, set aside in the freezer for 20 minutes to finish setting up.



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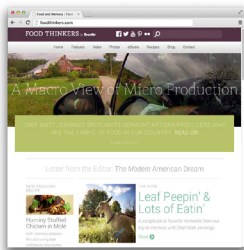
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