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Meet espresso's exacting master

David Schomer's precision makes his coffee sublime

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Robert Hood / MSNBC.com

One of Schomer's trademark rosetta patterns atop the milk in a café latte.

By Jon Bonné
 MSNBC

SEATTLE, May 9, 2003 - David Schomer will ruin your morning coffee. His insistence on producing espresso by some of the most exacting standards imaginable shows off the perfect subtleties of coffee to customers who live in a city that knows its brews. One sip of Schomer's product and your weak morning mug will never taste the same.

His methods and his palate are demanding, and his Espresso Vivace business sets a gold standard, or perhaps a golden-brown standard, for high-end coffee. Coffee bars as far away as Georgia have used his beans.

He manages his 28 employees to a rigorous set of standards. While the Starbucks of the world hustle would-be java jockeys through perhaps five days of training, Vivace's new employees spend months just working up to a spot in front of an espresso machine. They usually start as a bar back, cleaning counters and restocking supplies. Over their first few months, they patiently observe the process while Schomer and his staff assess their talents, and then finally get to try



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 David Schomer explains how he makes a perfect cup of coffee.

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Assuming they can hack it, training never really stops — there's a company-wide mandate to keep refining the espresso process.

For Schomer, the key is to build a staff that's committed to a craft, even if that craft wouldn't naturally be espresso, and to have them consider their work as creative output, not just someone's daily fix.

"The best baristas are artists who would like to make a living without being degraded," Schomer says. "We try to get them to see the beauty in the coffee."

Waiting on the bean

That beauty starts with the scent of hay, which is what green coffee beans smell like. Schomer and his staff buy samples from all over the world (Brazil, Africa, East Asia), examine the specimens for defects, and smell to ensure there is no animal or fermented scent. They roast a small sample to help bring out the beans' true scents and any remaining defects.

If the beans still pass muster, they sign a contract with suppliers for between three months and a year. New shipments are left on pallets to season until any residual "green stick" taste of a new bean is replaced with a citrus-like brightness that signifies a healthy acid content and a readiness to roast.

Beans are roasted on site, blended for taste and packed in plastic packets that contain a small vent to let out excess nitrogen. Peak flavor emerges within a week after roasting, and then they're ready to grind and brew.

That's where the real precision begins. Schomer tested various grind methods and settled on the traditional burr grinders used in Italy, which he insists must operate under 900 revolutions per minute. The goal is to make the grinding edge into something more like a knife that fractures the bean than a mortar and pestle that would crush it into a pulp. His goal is a uniform powder with grains small enough to release the coffee's full flavor in a flash. Too coarse a grind and surface area is reduced, allowing essential oils of the coffee to remain trapped inside

the granules.

Holding back

Then it's time to make coffee. Espresso is as much process as product, an exact method developed in the early 20th century by Italians as a way to speed up the brewing process. Successful espresso requires water pressure evenly spread across the top of the coffee grinds, so they must be packed densely and uniformly. Schomer settled on heavy, traditional Italian flat packers; he instructs his baristas to use between 40 and 60 pounds of pressure to push down the grounds before spinning the packer to polish the surface. Water must first be uniformly heated, and the entire infusion has to happen within a traditional 25-second window. If it's too slow, the coffee's delicate oils overheat and burn; if it's too fast, the brew is weak, sour and astringent.



Robert Hood / MSNBC.com

Thick streams of dark, hot coffee pour from Schomer's espresso machine.

That process is known as ristretto ("restricted" in Italian) because it limits the espresso shot to the most fragrant oils and extract that can be quickly pulled from the grinds, leaving behind bitter compounds. It also produces crema — a thick layer of emulsified oils and extracts that lies atop the coffee.

Schomer's success lies in mixing a rigorous reliance on science — this is, after all, a man who describes crema as a "polyphasic colloidal foam" — with a demand for aesthetics. In his mind, most coffee makers can manage one or the other, but not both. "If espresso professionals were heart surgeons," he argues, "three-fourths of us would die on the table."

Left brain, right brain

Schomer's first coffee experience came in the early 1970s at the Wet Whisker on Seattle's Pier 70, where as a customer he learned about the basics of roasting. Its owners eventually went on to found Seattle's Best Coffee, which has \$130 million a year in sales.

'If espresso professionals were heart surgeons, three-fourths of us would die on the table.'

— DAVID SCHOMER

He joined the Air Force in 1974 and specialized in metrology, the precise study of measurements. That expertise took him to the electronics lab at Boeing's facilities outside Seattle, which produced measurement standards used around the world.

From there he went to study flute at Cornish College of the Arts in the mid-1980s. He wanted to stay in

Seattle but knew his local music gigs wouldn't pay his bills. The city had trafficked in high-end coffee for years but its role as coffee mecca was just beginning, with espresso carts sprouting up everywhere.

Coming out of school one day, he looked down Broadway — the main street in Seattle’s Capitol Hill neighborhood — and saw an empty spot by a local bank; it was, he reckoned, the perfect spot for a cart.

So Vivace was born in April 1988, and with it a caffeinated obsession.

At first, he was frustrated by his inability to get consistent espresso shots — an unreliable result to his scientist’s mind. He tinkered with all sorts of variables: the grind, the machine, the bean quality. In 1994, he targeted the temperature, threading a wire probe inside the machine’s chamber and down through the packed grinds. He found variations of up to eight degrees and began to work for consistent temperatures.

To Schomer and his fans, the crusade for perfection offers not only great coffee but also a symbolic protest of sorts against corporate coffeedom. In much the way Europe’s Slow Food movement targeted the McDonalds of the world, Schomer’s efforts stand as an anti-Starbucks.

“Guys like David, they really look at it from the other angle. They say, ‘I’m not going to punish the customer by serving him as fast as possible. I’m going to ask for a little bit more of his time, but I’m going to reward him with a really excellent cup of coffee,’” says coffee consultant Willem Boot, who has opened coffee bars in the United States and Europe. “He has collected a lot of disciples throughout the years.”

'All to enhance the flavor'

Schomer’s focus remains on the quality of the coffee, but he may be best known for introducing U.S. customers to “latte art,” intricate ribbon patterns in the foam atop his cappuccinos, macchiatos and lattes that result from carefully manipulating the cup and milk pitcher.



Robert Hood / MSNBC.com

Schomer's latte art makes his coffee as nice to look at as it is to drink.

A traditional pattern is the rosetta, or leaf — with ribbons of white froth and brown coffee to define its shape. Baristas might also make hearts or thin concentric circles that radiate out like a butterfly’s wings from the center of the cup. The aesthetic value is unmistakable, of course, but the baroque approach is all science.

“They are naturally occurring of wave actions in viscous liquids,” Schomer says. “The texture was all to enhance the flavor of the coffee — and still is.”

In Italy, these drinkable designs have a half-century-old history, but they are rarely replicated on these shores — in part because the necessary milk texture is nothing like the aerated foam at your local coffee bar. Vivace employees steam up a dense, rich concoction that contains air but almost no bubbles. When properly prepared, the top of the mixture is so smooth it actually shines.

The side benefit of Schomer's unwavering focus on quality is that it's actually profitable: Vivace has been in the black since 1992, even though his prices are slightly lower than chain stores. Perhaps, then, he might see potential in an alternative sort of coffee capitalism — taking on the majors in the quality game?

Unlikely. Schomer insists his standards would be all but impossible to replicate in other cities; when it has been, that's usually because he teaches those willing to pay a modest fee and come learn his secrets. He does sell unground coffee on the Web, but otherwise he insists he's not interested in sating every coffee drinker's thirst: "I want to be a neighborhood espresso bar."

A perfect balance?

After years of tinkering, Schomer finally solved his temperature dilemma — settling on a constant 203.5 degrees. Right below that, he says, is a sour zone that dilutes the coffee; right above it and a burnt taste emerges. The temperature gives him his perfect combination: thick liquid, smooth crema and the most natural sugars — a perishable work of art that must be consumed within minutes.

The solution: fitting his machines with proportional-integral-derivative (PID) controllers, precision devices that manipulate inputs to achieve a constant output and are designed for robotics and high-tech manufacturing, not beverages.

Still, he keeps reviewing his process over and over again, looking for flaws he might have missed. As he walked an onlooker through the process one recent day, he spoke with frustration about one of his machines remaining just a touch inconsistent.




Electrical spikes, perhaps? The humidity? The weather?

One way to find out.

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