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On The Table #26

An Open Letter To All Espresso Researchers (hello alt.coffee)

Dear cyber reader, I have had the pleasure of participating in the world wide espresso discussions that have become possible with the internet. Principally through a new acquaintance Brian Gomes da Costa from London guiding me in.

I am impressed with the intellectual rigor and raw energy displayed in the discussions I have monitored. However, I find that the conclusions and observations of the contributors are all being made using espresso machines that change temperature significantly during the brewing of a shot.

It is not possible to purchase an espresso machine that controls brewing temperature during extraction better than +/- 2.5 degrees Fahrenheit, a five degree range of possible brewing water temperatures. I have spent several years carefully measuring brewing water temperatures of all major machines, and it is very rare for one to hold a five degree range of error during the brewing of a shot of espresso. Most machines change six to ten degrees during the extraction. Often the range of error wanders up and down with usage of the machine as well. One of the widest selling espresso machines in the world has a thirty degree range of possible brewing water temperatures through the course of the day. To repeat measurement experiments yourself, please see my article [Engineered Mediocrity Part I—Measuring Your Brewing Water Temperature](#).

As was stated by Sig. Sergio Michael of Illy Caffè at the SCAA summit on espresso several years back, each water temperature gives you a different (espresso) coffee. My own work on modified LaMarzocco machines has proven this to be very true.

(Several years back John Blackwell of LaMarzocco International and I engineered a modification to the LaMarzocco group head that stabilized the brewing temperature to 4/10ths of a degree F. during an extraction, and 2 degrees F. over the time cycle of the mechanical thermostat. During normal operation my bar machines show a range of 2 degrees variation every five minutes or so.)

The change in my espresso was remarkable and immediate. When we

held close to 203 degrees during extraction we had an explosion of sweetness in the shot. A rich caramel flavor that I had only experienced very infrequently in the past, was now the signature of the shots I made. Given, of course, that all other factors were in perfect control. I quickly learned to surf the thermostat cycle for the optimum zone.

In addition to astounding flavor improvements, I saw a much deeper red-brown color, and thicker texture in the crema oozing out of the machine. And of course, an experienced espresso puller relies on color and texture to indicate a successful extraction.

This precise control of water temperature opened up the research for myself. Previously my espresso always featured a blandness in the flavor, compared to brewing with the temperature stabilized, in the great majority of shots I brewed. Color was always lighter as well throughout the extraction. And this holds very true, the worst machines out there will always offer a blondish looking crema without the deep red brown color that intensifies as you narrow in on the perfect brewing temperature for your roast and altitude.

For example, the change in the espresso made possible by the new packer design we developed last year would have been "hidden" within temperature variation before we developed our modified machine. Not to mention subtle aspects of blending, distribution, packing and on and on. When you are stuck with varying temperature during brewing you can only realize gross improvements, such as the difference between stale and fresh coffee, in your espresso research program.

Therefore, making subtle conclusions based on the flavor or texture or color of your espresso extraction is not possible. You can not know if things seem better because you are on to a better technique, or blend, or grinder or whether your machine just happened to drift through a temperature band that favored your coffee.

So, what can you do?

Gather data on your espresso machine and present it to the distributor. Raise your collective voices for better temperature control. The machine engineers can do this, it is just a question of market demand. We are the market, and the internet is our powerful tool to communicate with each other. Ever since I stood up at the SCAA Espresso Summit in Long Beach and pointed out that we have no cuisine yet because of inadequate espresso machines a few years back, coffee magazines will not run my articles, what a surprise.

So our beautiful, seductive cuisine is stuck. I believe that the coffee is sensitive to changes in the brewing water temperature of 1/10th of a degree Fahrenheit. And we will never release the espresso from it's prison of mediocrity until we have the technology. In my experience, caffè espresso can taste exactly like the roasted coffee smells during grinding after that technology is developed. After five centuries of effort

we will hold the golden ring.

If you have any comments about my conclusions, please [please send me email](#) or contribute them to the ongoing discussions at [alt.coffee](#).

Ciao for now!

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