

The background of the slide is a dense, close-up photograph of dark brown coffee beans. The beans are piled together, creating a textured, repetitive pattern of oval shapes with a central crease. The lighting is slightly darker towards the edges, giving a sense of depth to the bean pile.

Specialty Coffee in the Home

Michael McNeil Forbes

Outline

- What is coffee?
- Tasting
- Home Brewing Methods:
 - Immersion Methods
 - Filter Methods
 - Pressure Methods
- Seattle Coffee Tour and Equipment

Coffee: Species

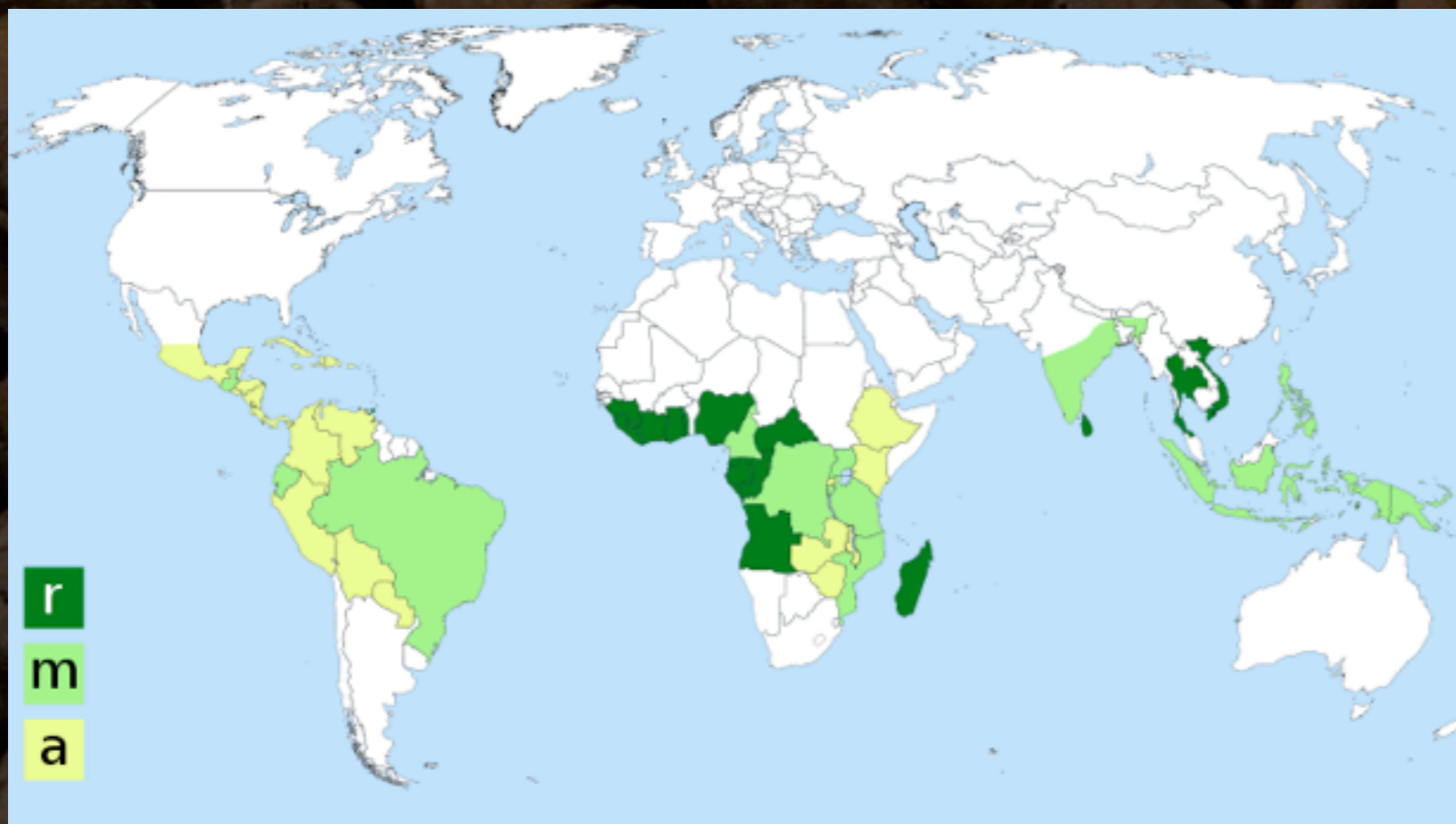
- Coffea Arabica (Arabica)
 - Most specialty coffee is 100% arabica
- Coffea Canephora (Robusta)
 - More robust plant
 - Used in commodity coffee (instant coffee for example)
 - Higher caffeine levels but inferior flavour
 - Occasionally added to espresso for crema stability
- Others (rarely seen)

Coffea Arabica

- Many varieties
 - Think wine: Cabernet, Merlot, etc.
- Flavour profile influence
 - Regions and varieties
 - Processing
 - wet vs dry, fermentation
 - Roasting
 - Brewing



Coffea Arabica: Origins



- Latin America
Bolivia, Brazil,
Columbia, Costa Rica, El
Salvador, Guatemala,
Honduras, Mexico,
Panama...
- Arabia and Africa:
Ethiopia, Kenya,
Rwanda, Tanzania...
- Pacific
Hawaii, Indonesia, Java,
Papua New Guinea,
Sumatra...

Coffea Arabica: Sample Characteristics

- Kenya:
 - Robust complex flavours, but not very balanced
very interesting, but generally not my preference
- Ethiopia:
 - Strong “top” notes (floral and citrus)
quite sensitive to brewing conditions
- Central America (Costa Rica esp.)
 - Well balanced, clean
not as interesting, but balance can be stunning, esp. after a few sips

Coffea Arabica: Discussing Flavour

- One of the most complex flavours
 - Over 800 aroma compounds
- Flavour notes
 - caramel, chocolate, citrus, earthy, floral, fruity, herbal, nutty (esp. espresso), etc.
- I use musical analogies and mouth-feel
 - High notes (fruity, floral, sour)
 - Low notes (earthy, chocolate, bitter)
 - Where is my tongue stimulated?



Tasting Coffee

- **Aroma**

Taste espresso immediately to savour volatile components!

- **Flavour**

See SCAA Coffee Cupper's Handbook

- **Acidity**

High acidity good “neat”

Low acidity better with milk

- **Balance**

Does it excite all parts of your tongue?

- **Mouthfeel**

Smooth, gritty, clean

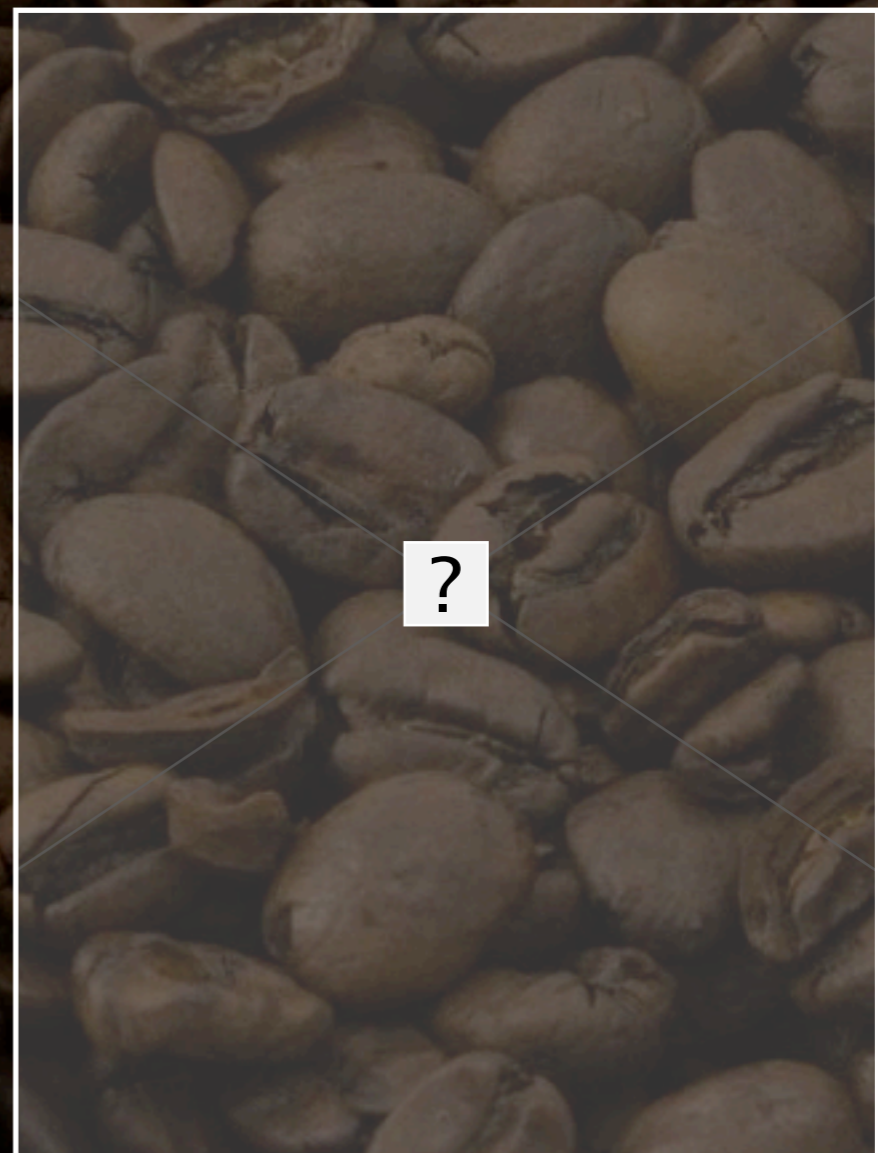
What parts of your tongue are stimulated?

- **Aftertaste**

Is the coffee clean or does it linger?

Storing Coffee (Roasted)

- Coffee degrades rapidly
 - Use ground coffee within *minutes*
 - Use whole beans within *weeks*
- Prevent oxidation
 - Air-tight bags (one-way valve to release CO₂)
 - No moisture
- Long term storage?
 - Deep-freeze individual servings
- Aging coffee?
 - Occasionally a coffee will age well (on



Home Roasting?

- A reasonable option if you don't have good local roasters:
- Green stores longer
- Green beans cheaper (~half) than roasted coffee
- Cons: Introduces one more variable



What makes coffee good?

- Many variables must be controlled
- Better to ask...

What can make coffee *bad?*

- Fruit quality
- Under/over ripe cherries
- Processing
Mold, fungi during fermentation, poor storage, ...
- Roasting
Burnt coffee, uneven roast



What can make coffee *bad?*

- **Brewing:**
 - **Bad water**
Chlorine, improper mineral content, bad taste...
 - **Burnt beans (bad grinders)**
Blade grinders can be bad for this
 - **Under/over extraction**
Brew time, inconsistent grind
 - **Water temperature**
 - **Old coffee**



Brewing Methods

Immersion Methods

- French Press
- AeroPress®
- Clover®
- Clever™ Dripper
- Turkish/Greek



French Press (Plunger)

- Full immersion
- Scalable
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation



French Press (Plunger)

Pros

- Scalable
- Consistent
- Full immersion of coffee
- Full body (pick up bloom)

Cons

- Somewhat messy
- Sediment (“dirty”)
- Can mask subtle flavours

French Press Variations

- Spoon off bloom
- Filter after brew
- Agitation



Clover®

- Temperature control
- Metal filter
- Full immersion
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation



Clover®

Pros

- Flavour clarity
 - No masking by bloom
- Consistency
 - Temperature/brew time

Cons

- Expensive (\$13000)
 - No longer available: Starbucks owns
- Lacks body

AeroPress®

- Full immersion
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation



AeroPress®

Pros

- Consistent
- Full immersion of coffee
- Adjustable body
 - Inverted vs normal, metal vs paper
- Easy to clean
- Inexpensive
- Portable

Cons

- One cup at a time
- Plastic?

Turkish/Greek Coffee

- Full immersion
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation
- Very consistent at high altitude



Pour-over Methods

- Melita
- Hario v6o
- Chemex®
- Clever™ Dripper
- Hario Woodneck
Cloth filter



Pour-over (Hario v60)

- Manually pour water
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation
 - Pouring technique



Pour-over (Hario v60)

Pros

- Clean cup (no sediment)
- Adjustable body
- Easy cleanup
- Inexpensive

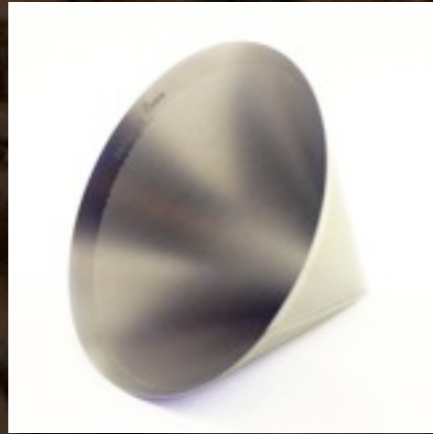
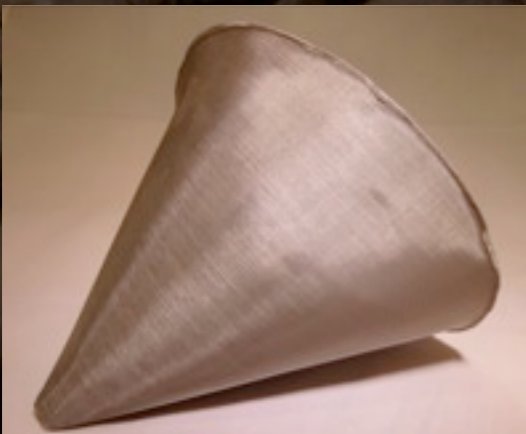
Cons

- Inconsistent
 - Depends on pouring technique
- Uneven extraction
 - Top grounds under-extracted
- One cup at a time

Chemex®

- Custom filter
 - Very clean cup
- Brew several cups
- Beautiful glass design
- Can get metal filters

Kaffeologie, Coava Kone



Clever Coffee Dripper

- Full immersion
- Variables:
 - Coffee weight
 - Grind size
 - Water temperature
 - Brew time
 - Agitation



Clever Coffee Dripper

Pros

- Consistent
- Full immersion of coffee
- Adjustable body
- Easy to clean
- Inexpensive
- Portable

Cons

- One cup at a time
- Plastic?

Pressure Extraction

- Moka-pot
- Vacuum pot (siphon)
- Espresso



Moka-pot (Bialetti Brika)

- “Stovetop Espresso”
 - Not really espresso
- Pressure (~2 bar)
- Variables:
 - Grind size
 - Distribution
 - Cannot tamp, making even distribution tricky
- Great for cappuccino



Vacuum Pot (Siphon)

- Immersion with filter
- Vacuum draws water through filter



Espresso

“Espresso is a 45ml (1.5 ounces) beverage that is prepared from 7-9 grams of coffee through which clean water of 192F - 198F (88C - 92C) has been forced at 9-10 atmospheres of pressure, where the grind of the coffee has made the brewing ‘flow’ time approximately 22-28 seconds.”

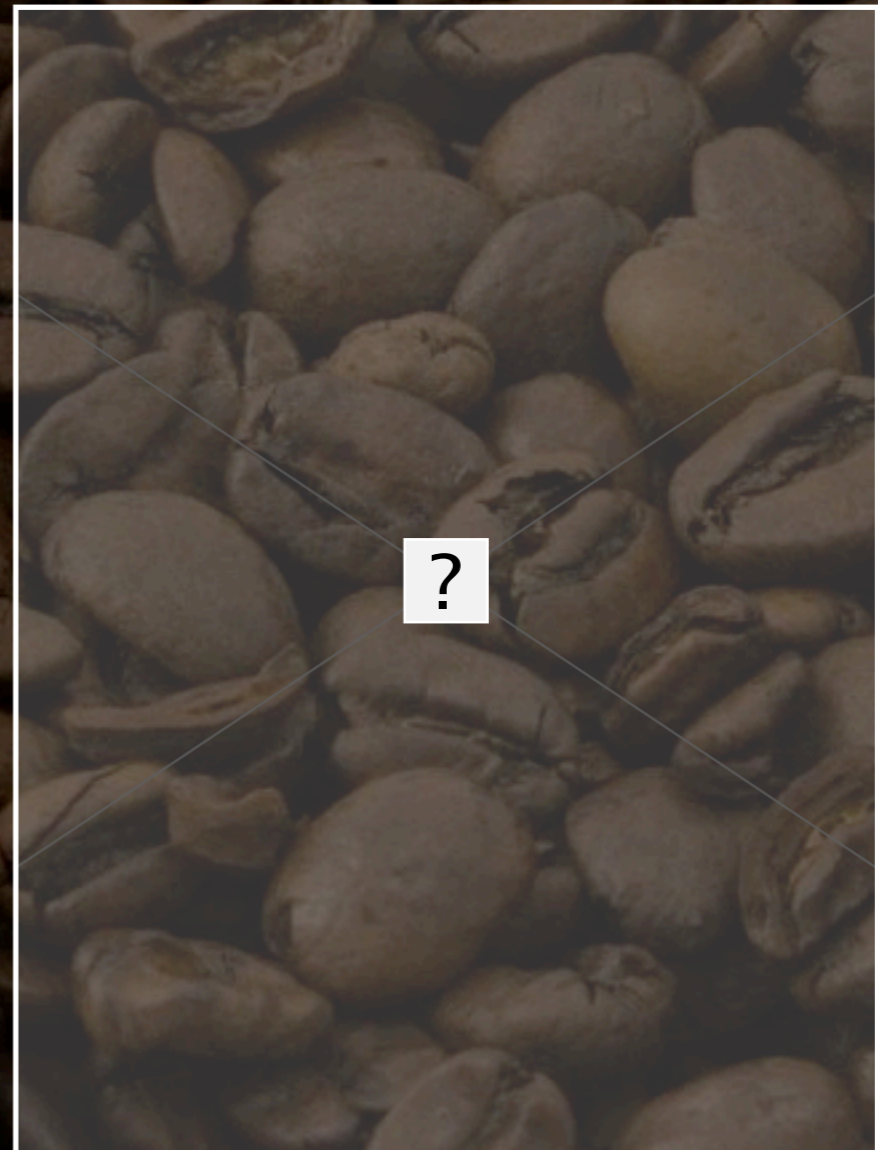
SCAA definition 2010

Espresso

- Espresso = Pressure
 - not Espresso (speed)!
- Extracted at 9bar
 - Extracts oils
non-water-soluble components
- Doppio Ristretto shots
 - Less caffeine than brewed coffee
- Aromatic components
 - Drink immediately!
Within 30s to 1min from extraction
- Great espresso can be sweet (without sugar)!
- Usually a blend
 - Single Origin (so) shots becoming popular.

Coffee Cupping

- Like wine tasting
- Used to evaluate coffee
- Light roast to expose defects and flavours
- Standardized brewing method



Seattle Cuppings

- Stumptown on 12th

Every day at 3PM

- Victrola on Pike

Wednesdays at 11AM

Coffee Resources: Web

- coffeegEEK.com

Huge resource: equipment reviews, forums, discussions about all aspects of coffee

- www.home-barista.com

Forums about home roasting, etc.

- www.coffeeresearch.org

Good collection of articles about the science of coffee

- www.coffeed.com

Forums

- www.sweetmarias.com

Equipment: grinders (incl. manual), brewers, roasters. Green beans: (home roasting specialists)

- www.scaa.org

Specialty Coffee Association of America

- [Intelligentsia brew guides](#)

- tehcoffee.com

Reviews of local baristas and shops

Coffee Resources: Book

- Michael Weissman:
God in a Cup
Interesting story about the business of
3rd wave coffee
- Scott Rao:
Everything but Espresso
Great technical discussion of brewing
- David Schomer:
*Espresso coffee: Professional
Techniques*
Local pioneer of precision espresso

Acknowledgements

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