

Coffee is continued

week 11

- Coffee bean is seed of coffee plant.
- Dri. cherry
- Coffee bean = seed



Arabica

- High altitude
- 70% production
- Susceptible to insects
- need caring

Robusta

- Sea level
- 30%
- Hard to insects
- High in caffeine

Generally quality: Arabica > Robusta

high end robusta > low end arabica

↳ hard to find.

- Robusta is used for filler / cost reducer.

Coffee Cherry

Skin / pulp

- Removed within few hours after harvest (exception in Natural dry)
- It is not edible like cherry, it is a byproduct

Mucilage

- Sticky, sugary → called honey
- Surrounds 2 seeds
- not unique to ~~any~~ coffee

Parchment

Silver skin

Coffee bean

Processing Coffee Beans

1) Natural / Dried in the Fruit

- Topla
- Kurut
- Oldest method
- Good for when there is no water
- up to 4 weeks
- beans will keep many fruit flavor → fruitful coffee.
- After drying pulp is removed mechanically

2) Wet processing

- Skin is removed (mechanically)
- Beans are put into fermentation tanks until mucilage is no longer sticky.
- Sugar breaks down in ferm. (~12 hours - 6 days)
- Over ferm. → sour
- Yapışkanlık giderince kalın mucuslu su ile atılır.
- Fermentation → acidity of coffee
- Washing after ferm → fruit flavor ↓ acidity ↓

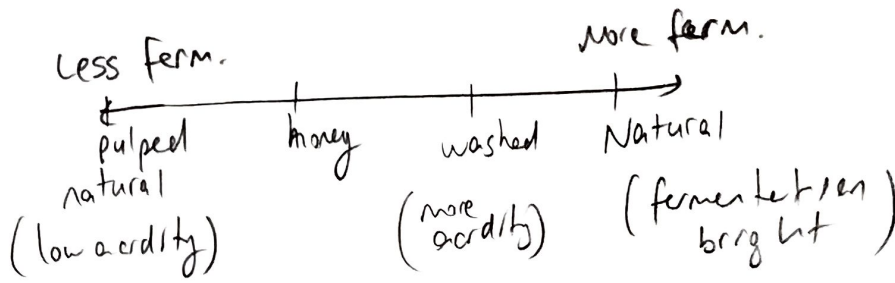
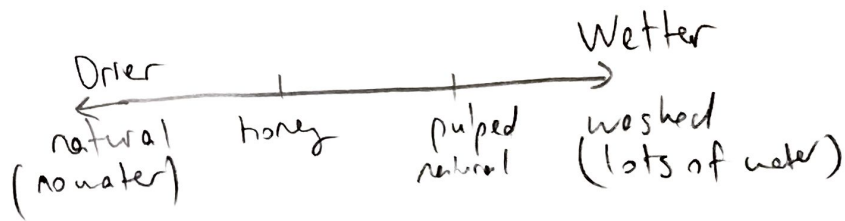
Geride
bu

3) Pulped Natural

- Ferm. yapmadan mucuslu su ile yıkanır.
- Pressure washing → uses less water → Semi Dry
- No ferm → no risk of over/under ferm. → quality ↑
- Without ferm → flavor is consistent but bland (fazla tatlı olmuyor)
- Not used in superior coffee.
- We rarely buy this

4) Honey Process

- Skin & pulp are removed
- Some or all of mucilage remains



Roasting

'Raw' green beans → brown beans

↳ hard as unpopped popcorn → roast → fragile

130-220°C, 30sec - 15 minutes

- Piserken içindeki hava buhar olup çıkardığı yarıyor.

Drum Roasting

- Smaller scale (small batch) → 5-120kg per batch

slower → quality ↑

- 230°C, 12 min,

- eliminates all acidic flavors

Hot air Roasting

- Less time

- Industrial

High temp
Protein
Sugar
Phenolic not
other

react with each other → Maillard reactions

at 160°C → kavrulur besleyici
↳ sonra daha fazla → 200°C
gaz çıkıyor

Roasting ↑ → oil escapes ↑ to surface → glossy surface

- When desired roasting \rightarrow water or air \rightarrow cool down

0-3 minutes \rightarrow drying

3-8 \rightarrow yellowing

8-8.5 \rightarrow first crack (brown)
 \rightarrow bean size doubles

8.5-10 \rightarrow development
 \rightarrow caramelize

11-14 \rightarrow second crack
 \rightarrow med-light
 \rightarrow surface is oily

15+ \rightarrow dark roast
 \rightarrow not used tutarsen \rightarrow bitter
 \rightarrow very oily



less weight less acid more bitter

- hotter \uparrow \rightarrow darker \uparrow \rightarrow flavor balance \uparrow

- in early stage sugar \rightarrow acids

- as roasting continues \rightarrow acids \downarrow
astringency \downarrow
bitterness \uparrow

\rightarrow kahve cekirdeklerinin kavrulma derecesi yavaş roasting flavor basketin oluyor.

Light Roast

- Not heated after 1st crack \rightarrow no oil in the surface

- Milder

- Highest acidity

- More caffeine

Medium Roast

- Heated after 1st crack.
- But before 2nd crack.

- Larger body > light roast
- No oil in the surface
- Acidic (but less)
- AKA American Roast

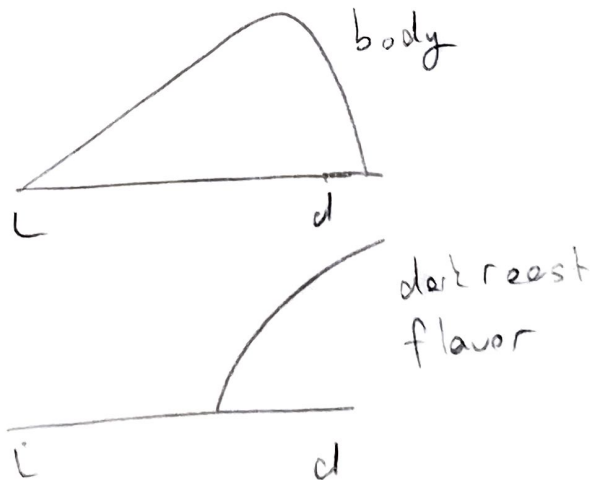
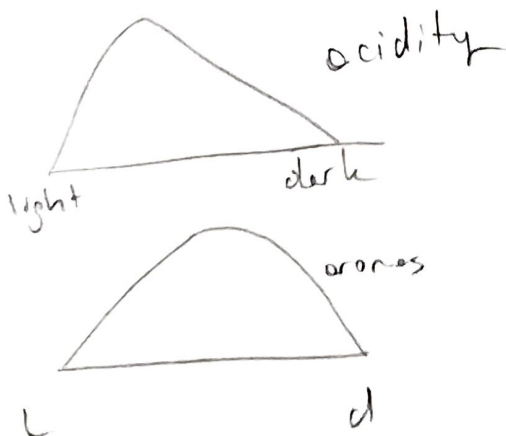
Medium Dark

- A few seconds may break things.
- 2nd crack
- Some oil
- Strong bittersweet after taste.
- Flavor and aroma ↑

Dark Roasted

- Shiny out layer (more oil) → bardatta belliolabilar
- Heated until end of 2nd crack.
- 240°C, not > 250°C → charcoal
- Original flavor of coffee is gone
- Bitter, smoky, burnt taste.
- less caffeine than light ones.

usually used for
espresso
Italien



Darker color \neq more caffeine

they are almost same but light roast $>$ dark roast.

Coffee oil is not oil. Moisture + CHO \rightarrow caramelized.

As a result of roasting, CO_2 is produced

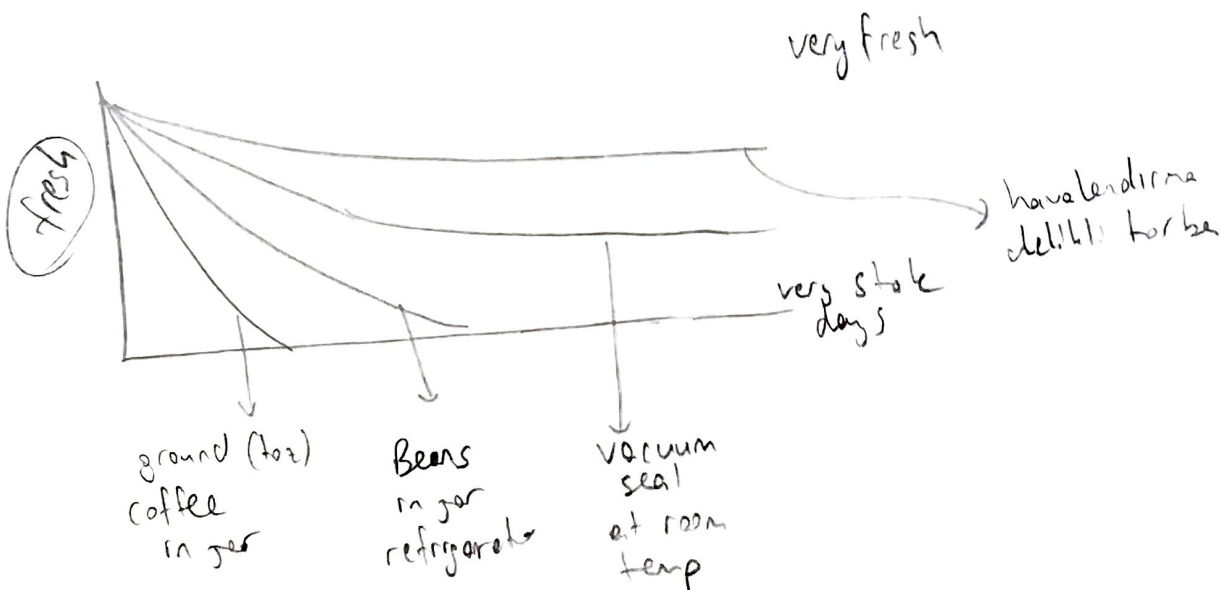
\rightarrow pressure $\uparrow \rightarrow$ crack

- CO_2 escape \rightarrow CO_2 is acidic, less CO_2 better ①
 \rightarrow denleken bloom yapması için zaman lazım
 CO_2 dışarıya çıkar
 \rightarrow ② CO_2 repels water.

Su koyulduğu zaman bubble yapar (CO_2 çıkışı).
 \rightarrow coffee is fresh.

30-40sn bubble yapmasını bekler, sonra brewing devam

Roasting sırasında çok fazla CO_2 çıkarıyor fakat beende kalıyor.
Bu yüzden storage kaplarında hava deliği var (patlamasını diye)



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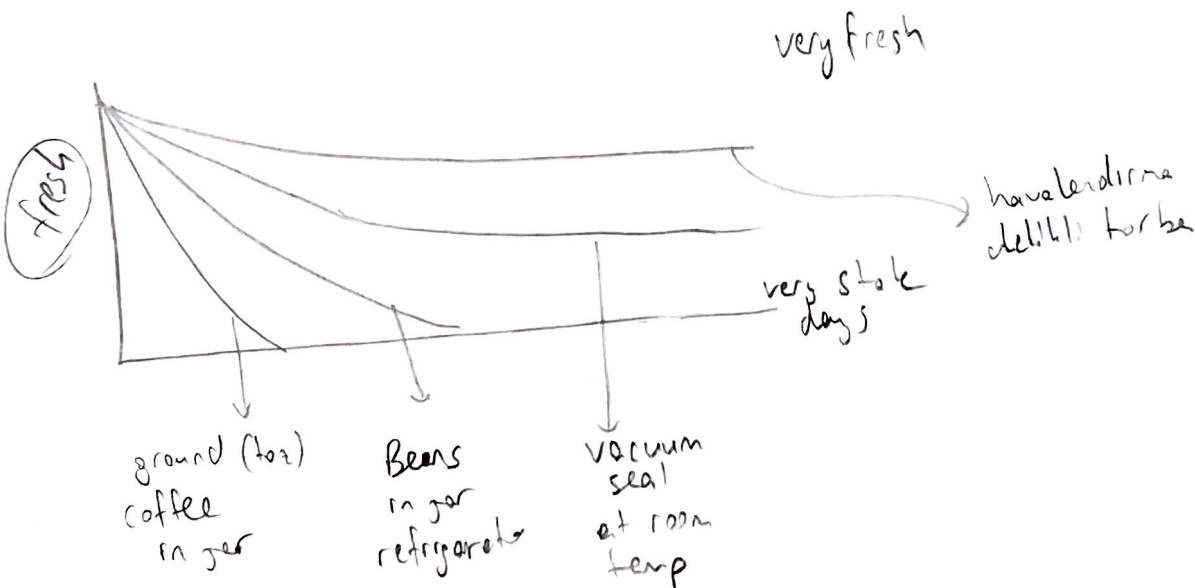
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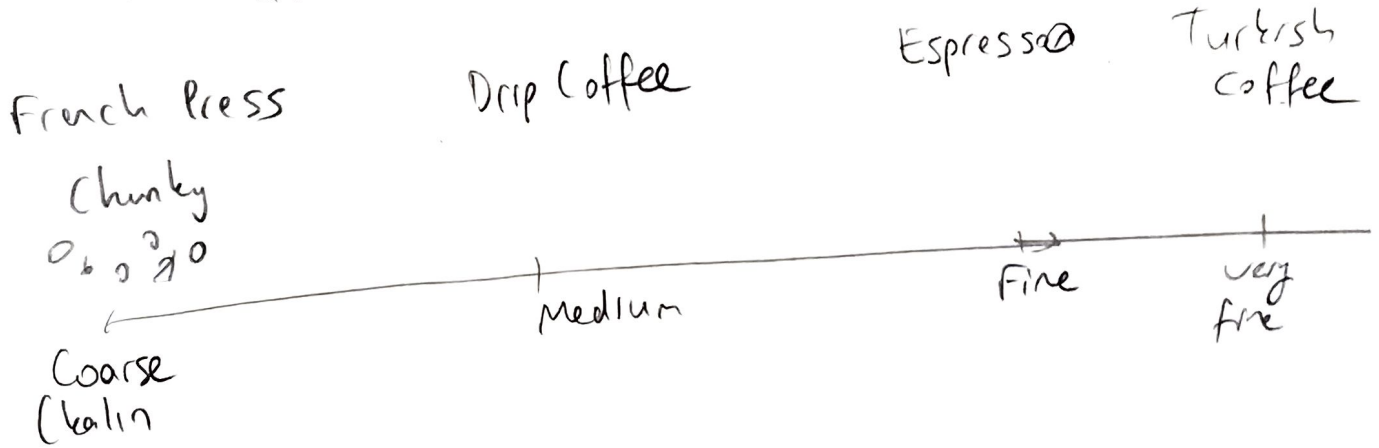
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Roasting sırasında çok fazla CO_2 çıkarılır fakat hemen kaybolur.
Bu yüzden storage kaplarında hava deliği var (patlamasını diye)



Grinding Coffee

- Smaller particle, greater surface area → faster contents extracted
- Range of particles (küçükli büyüklü) → hard to brew
 - ↳ small → over extract (bitter)
 - ↳ large → less/under extract (weak)



Brewing

Arab version

- Finely powdered beans + water + sugar in cezve
- köpürme kadar kaynat
- has to be drunk right away, ıslanmazsa asketti acılastırır

French

- Bez ile filtrelenecek
- Drip pot



- su kaynama noktasından az 1
- temas zamanı kısa
- sediment yok, uzun süre durabilir
- ⊖ az zaman, az kahve ekstraksiyonu
- reduced bitterness and astringency
- deeper flavors daha besli

Machine-Age Espresso

- rapidly, for one customer

- basınca ile.

- oil çıkıyor, tiny droplets → flavor

- power of the machine

French Press

- Adan suyu kaynatıyor. Kahve kaynatıyor unutmuş.
- Kahveyi kaynatacaktır. Metal ile dibine ittiriyor.

- Sudan daha az okusun oluyor kahve.


- Kahvenin tadının
kötü olma riskleri → grinding beans too coarsely → acidic watery
less contact time
too low temp

excessive fine grind
long contact time
high brew temp → harsh bitter

optimal 85-93°C, high temp

- In brewing 20-25% of beans are subtracted.
cup contains 1.3% - 5.5% bean solids by weight

French Press →  coarse ground coffee

Percolator →  coffee moka pot da aynı şekilde
basınca + sıcaklık ile su kaynatıp yökseleiyor.
Düserken kahvenin rinden geçiyor

Drip Coffee →  filter
gravity pulls coffee ↓

V60 - Chemex

Both gravity



may be weaker
water pulled quicker

Aeropress

- Kahveyi koy
- Su ekle
- let it bloom (CO_2 çıkıyor)
- Daha fazla su ekle
- Kapat.
- Ters çevirip, bas, filtreden süzülür

Espresso

- Forcing near boiling water through finely ground coffee at high pressure
- coffee + foamy cream
- cappuccino ve coffee latte yapmada da kullanılıyor
- 9 bar basınca geçiyor (cihazda 15 bar basınca olursa
ancak 9 bar oluyor)
- espresso does not contain higher caffeine.
↳ less contact time (30 sec) → less caffeine
- there is no filter, there is drainer
↳ aroma is not lost

Cold Brew

- (Not) espresso based over ice

- Coffee grounds are steeped in water ~24 hrs.
- Then dilute to taste, served chilled
- Sıcak demlenmeden farklı tatlar çıkar.
- Sweeter than Americano or filter coffee, lower acidity
- Does not require electricity

Americano → espresso su katılarak
Filter kahve → tanırsın cihazdan çıkar, elyle su yok.

Lungo → 2-3 espresso.

Long black → sıcak suya espresso katılarak.

strong
no milk ↓ espresso
with milk ↓ macchiato

smooth & creamy
wet milk ↓ latte
| + chocolate
↓
mocha
frothy milk ↓ cappuccino

Turkish Coffee


- Very finely ground
 - Arabica is considered best, but robusta or blend is also used
 - Coffee + water + sugar in cezve
 - ↳ sonradan ekleniyor
o yüzden bosta sığıyorsun
Salep eklenabiliyor.
 - Cardamom, meşke veya
- Kumda kahve pisirme → altında sıcaklık var.
↳ ne kadar batırırsan o kadar sıcak
↳ kontrol edebiliyorsun

Milk and cream reduce astringency but these also bind aroma
weakens overall coffee flavor

Decaffeinated Coffee

- Soak green beans with water
- Extract caffeine by adding a solvent.
- Steam the beans to evaporate remaining solvent
- ord coffee → 60-180 mg per cup
- decaf → 2-5 mg

Instant Coffee

- 170 derece kaynatıp basınç ile extractions.
 - Daha sonra water is removed
 - 1- Spray dry, normal sepet. Gaz - sıvı - katı.
 - 2- Freeze → basınç düşür. Gaz → katı, sıvı yok. (Nescafe Gold)
 - ↳ daha pahalı teknoloji
- pressure  temp

⊕ Coffee contains some nutrients and high in antioxidants

⊖ Decaf, caf. extracted using solvents, Does not have all benefits.

⊕ Caffeine, brain function ↑, metabolism ↑

⊕ Alzheimer's, Parkinson's ↓

⊕ Type 2 diabetes ↓

⊕ Low risk liver disease

⊕ Low depression, suicide

⊕ Live longer

⊖ cause anxiety, disrupt sleep

⊖ addictive

⊖ withdrawal symptoms

- Barista brewed kahveloride kate kolestrola arttinen noide
obligo.

↳ Boiled, plunger pot, espresso.