

PEPINO Alexia
M1 Ecophysiology Ethology

All about chocolate





The Origins



- Chocolate comes from cacao tree :
Theobroma cacao, which grows in equatorial regions
- Fruits are the cacao beans
- Cacao means « food of the gods »
- Curative virtues are already known by Aztecs

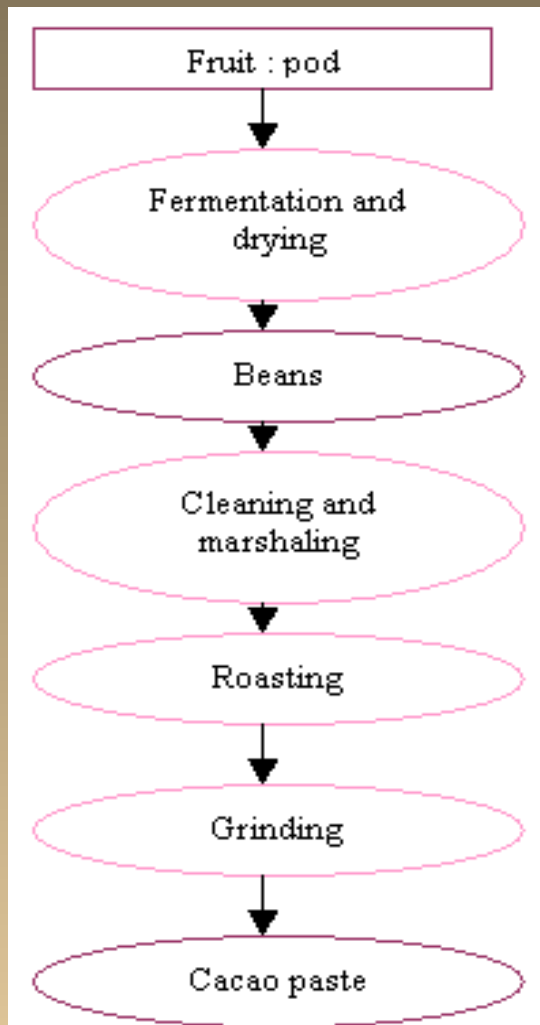


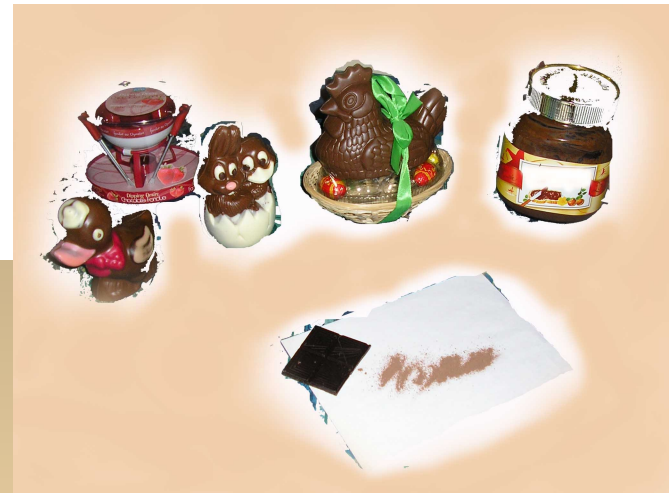
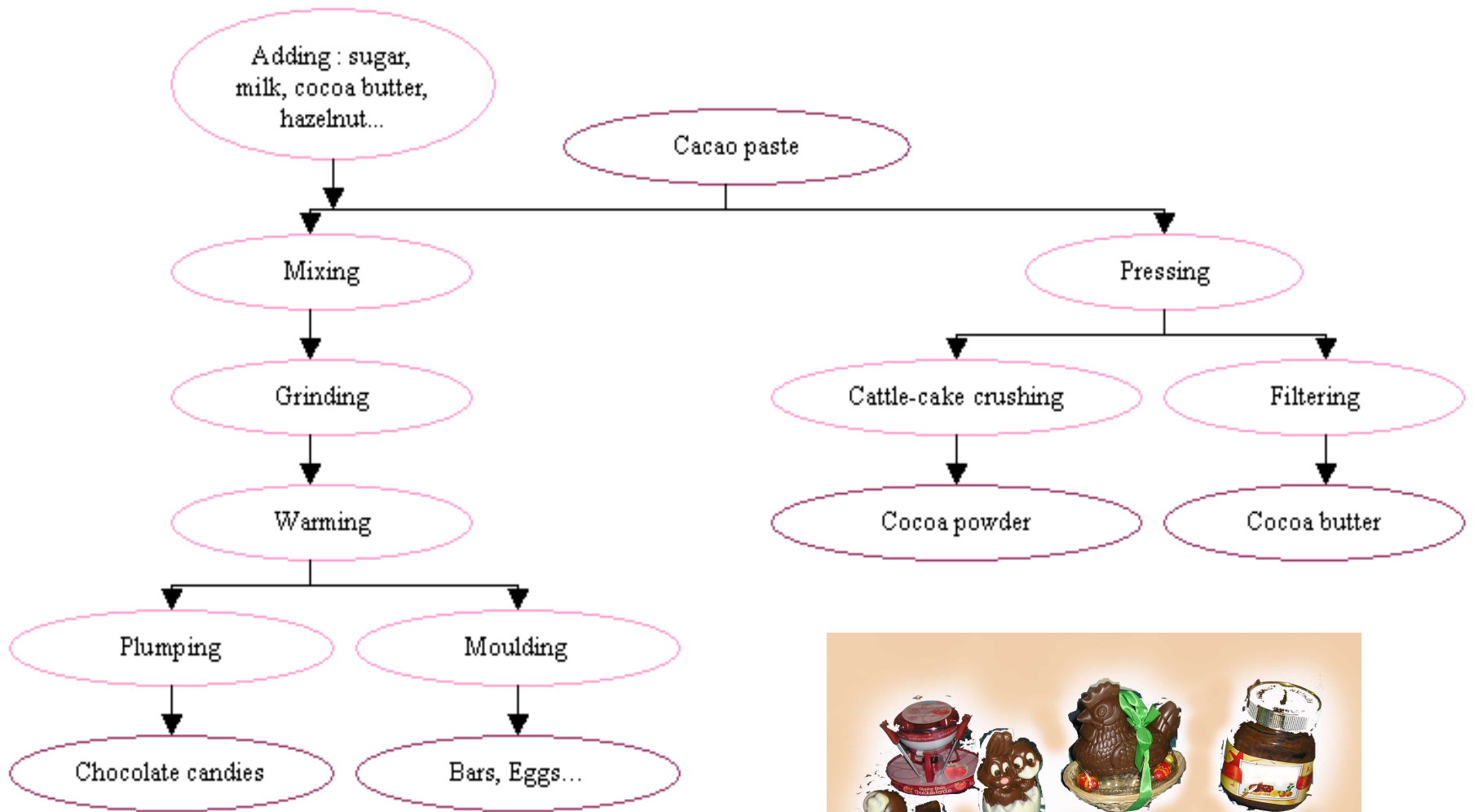
The Historic

- In the 1800s : invention of moulding processes
- In 1825 : extraction of cocoa butter from cocoa beans
- In 1847 : chocolate bars
- In 1875 : manufacture of milk chocolate
- In 1879 : Lindt's creation



The Fabrication





The different Types



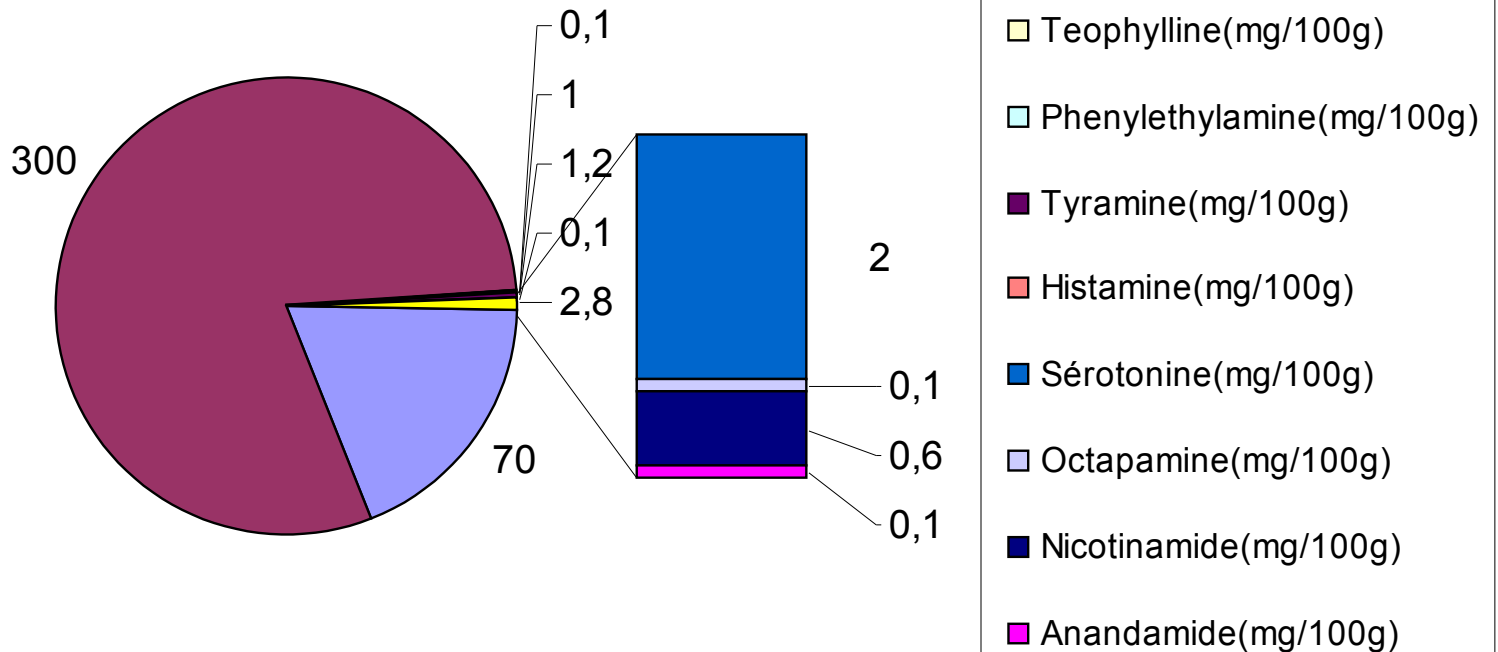
- Black chocolate or unsweetened chocolate
- Milk chocolate, which contains less than 40% of cocoa
- White chocolate, which contains butter, cocoa, sugar, milk and flavour
- Cover chocolate for cakes and candies

The effects on the Health

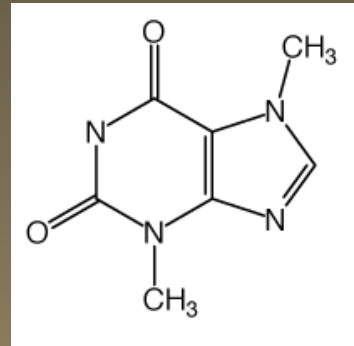
- Stimulates the release of endorphins, natural body hormones
- Prevents against heart diseases, but can increase the obesity risk
- Contains over 300 chemicals and it is not known how all of these affect humans

The level Composants

Chemicals of chocolate



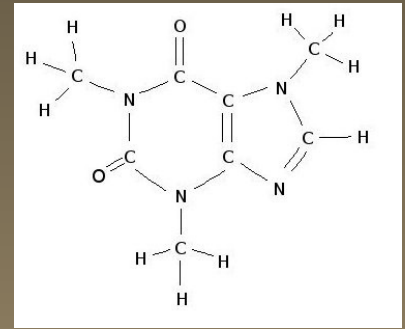
Theobromine



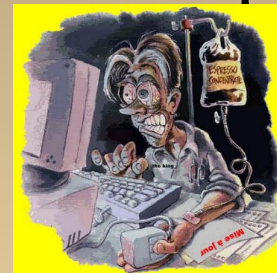
- 300mg/100g
- Similar to caffeine : increases epinephrine secretion, which have energizing virtues
- Toxic for all animals : example for dogs



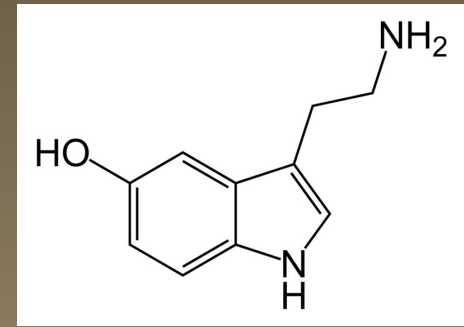
Caffeine



- 70 mg/100g
- Psychotonic substance
- Action of nervous system : activation of diencephale and cortex
- Increases vigilance, performances, visual perception, tiredness resistance and period of intellectual efficacy



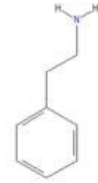
Serotonine



- 2 mg/100g
- Responsible of the denomination of chocolate like a love drug
- Role on mood : antidepressing virtue, like ecstasy

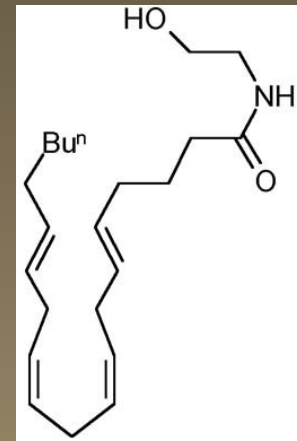


Phenylethylamine



- 1 mg/100g
- Chocolate amphetamine
- Stimulates the brain's pleasure centres and reaches peak level during orgasm
=> aphrodisiac
- Stimulates the heart and increases vasodilatation => antidepressant

Anandamide



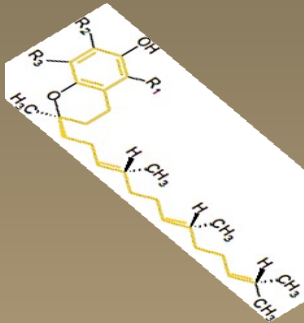
- 0,1mg/100g
- Its targets are the same brain structures as THC of cannabis



- Increases the production of production
=> psychoactive ingredient and source of well-being

E vitamine

- Antioxydizing = antiageing

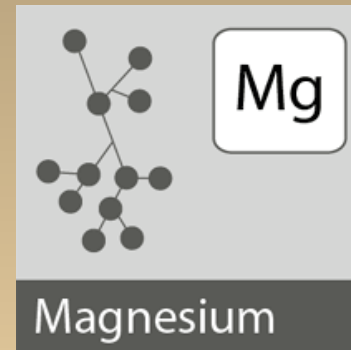


Flavonoids

- Against heart diseases, antioxydizing, immunostimulating
- Increases the intestinal transit

Magnesium

- 60-120mg/100g
- Stimulates muscular decontraction => explain that chocolate is appreciated during women period



Polyphenols

- 500-840mg/100g
- Have beneficial effects on the health: decrease stress oxydant, cardiovascular and chronic diseases
- Decrease plaque formation => against decay

Fatty acids

- 30g/100g
 - Chocolate contains 61% saturated acid which increase bad cholesterol formation and 93% insaturated acid which increase good cholesterol formation
- => No really action on cholesterol

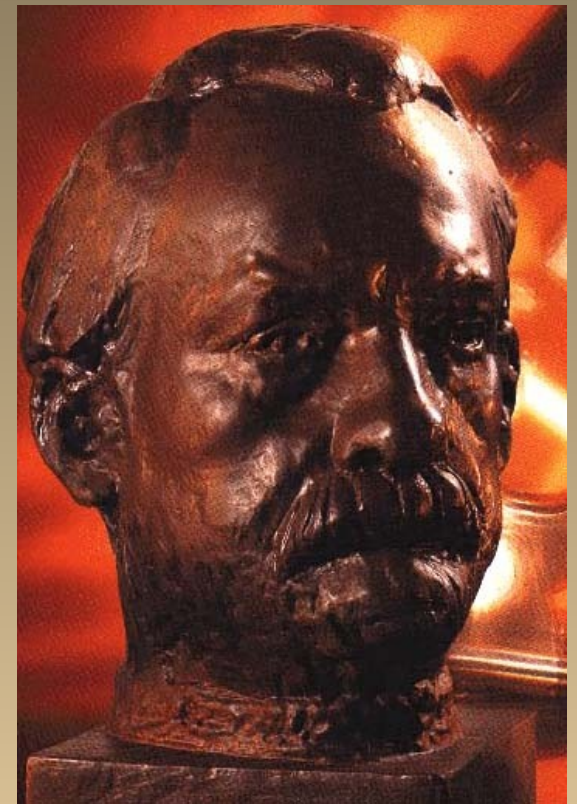
Conclusion about the effects

- A most protective food at the cardiovascular level :
antioxydizing (flavonoids, polyphenols)
- Have psychophysiological effects => dependance
(theobromine, caffeine, serotonin,
phenylethylamine, anandamide)
- Chocolate is too a dental friendly with
antibacterial, immunostimulating
- No evidence that it increases acne, obesity or
migraine



All these beneficial effects are valid subject to what is possible : to eat an entire bar by day is no good for the health, even if you want to take weight !

The Utilisations



To finish : The love filter

- To warm 2 vanilla pod during 10 minutes in 1L of milk
- To press and to take away the beans
- To add 2 tablespoonful of cocoa and $\frac{1}{4}$ L of warm water
- To add the warm milk, 2 tablespoonful of red sugar and honey
- During whipping, to add $\frac{1}{2}$ teaspoon of tabasco and a little salt and rum
- To drink warm

