



Maillard, Noma and IMAS

Since ancient times, we have utilized the fact that food unfolds its aroma when cooked over heat. This chemical process is known today as the Maillard reaction, named after the French chemist Louis-Camille Maillard in 1912 when he researched the reaction between sugars and amino acids/(proteins).

The process gives roasted coffee, toast, cakes, and meat their brown color and extra flavor. The Michelin gourmet restaurant Noma has established a Nordic Food Lab, where they research the taste of foods with different preparations or by addition of ingredients.

International Maillard research at IMARS studies both the flavor and shelf life of foods, as well as the aging process of tissues, -since the reaction also occurs naturally in the body.

Green coffee beans can be stored for a very long time without their quality diminishing. While roasting releases the bean's aroma, it also starts its aging process simultaneously:



Balance goes both ways. Therefore, find the right balance in everything to be in harmony with life. Chinese medicine considers all disease as "imbalance" in the body or with the surroundings:



Homeostasis and Cybernetics

The body will always try to counteract changes by maintaining balance. Therefore, any "input" will be met with a reaction that preserves homeostasis/the internal balance. -First described as "milieu intérieur" by the French physiologist Claude Bernard in 1878, and later reformulated as homeostasis by Bernard's Harvard colleague Walter Cannon in 1932, most physiological processes are regulated by feedback, which is often negative, slowing a process or adjusting it by, for example, initiating an opposite process, often via another path. **Homeostatic systems can often reach the same goal from different starting points and by different routes.** They are self-regulating and ultra-stable until their threshold for stress is exceeded. Thus, homeostasis is usually the last thing the body releases before disease "suddenly" occurs "out of the blue".

Maintenance of homeostasis can also be called cybernetic regulation. - A concept taken from the Greek "kybernetes" = helmsman, governor, or pilot and named by an American mathematician Norbert Wiener in 1948. **In cybernetic regulation, cause and effect can mutually condition each other via feedback loops.** With this feedback, cybernetic systems are often subject to controlled changes within well-defined limits (example: a radiator or a refrigerator) until they may one day be

pushed beyond their tolerance range, after which drastic changes or breakdowns can occur. (Cybernetics also includes the idea that "the eyes that see affect what is seen"...)

The body will therefore ALWAYS seek towards an internal balance if possible. Thus, when you introduce nutrients that bring the system out of balance, the body **must** constantly "fight against getting out of balance." Conversely, if you introduce a balancing diet, the system **can** quietly return to its natural equilibrium, characterized by well-being, good mood, vitality, and wellness. This is the very purpose of detox wellness.

People who have tried detox wellness have experienced the following:

Sharpened senses and an extremely "feel-good" sensation, clearer eyes, absence of illness, the feeling of a "blossoming," good mood with easy access to smiles and increased vitality.

Some sources also state:

- All the body's cells receive their nutrients and oxygen by diffusion from the blood's capillaries, while organisms like fungi, jellyfish, corals, and flatworms primarily nourish themselves by direct diffusion from their surroundings. In plants, both growth, cell nutrition, substance transport, opening/closing of leaves, and the movement of plant tendrils in climbing plants occur via osmotic pressure, also called "sap tension" in the plant or tree.
- When a cell becomes too large relative to its surface, it can no longer be nourished by diffusion, so it must divide (or invent a capillary system).
- If a red blood cell is placed in pure water, water will enter the cell until it bursts. If placed in very salty water, water will be drawn out of the cell, causing it to deform and shrink. Our body functions best at a 0.9% saline solution. (Iso-tonic).
- The intestines absorb nutrients from what you eat or drink and add the absorbable components to the blood, "useful" or not...(!) merely following the laws of physics regarding absorbability and diffusion.
- The body uses the raw materials and materials you provide or add to it, so even though it can produce some materials itself, **it always takes from the pile of what is offered/provided.** And since it often has several options to reach the same end product, it can use different ways to achieve its desired result. (Just as you can build houses from different materials).
- For example, if plant protein is present, it is incorporated into muscles; if meat protein is present, it is used correspondingly. And this generally (mostly) works well.
- Phytosterol from plants competes with the absorption of cholesterol from meat and lowers cholesterol levels in the bloodstream. Phytosterols contain fewer double bonds than cholesterol, which gives the molecule more rotational freedom around its bond-axes.
- Increased intake of phytosterols increases cholesterol excretion via bile.
- In the case of an outright shortage of a raw material, the process can stall until new supplies of the right building block arrive (vitamin deficiency, for example). If delivery takes too

- long, the body finds a more or less "creative solution" in the meantime (if possible), or continues to build without it...
- Most small molecules are fairly uniformly structured, while larger molecules can occur in different variants. Occasionally, the end product will have slightly different properties depending on what is built into it, as proteins can "fold" differently depending on content.
- All our cell membranes contain phospholipids, glycolipids, and sterols.
- Polyunsaturated fatty acids (PUFA) lower the melting point of cell membranes because they cannot pack as tightly together as saturated fatty acids, making the membrane more mobile/flexible/loose.
- Cholesterol increases the melting point of membranes and makes the membrane wall more inflexible/hard, so there must be a balance between these two.
- The Maillard reaction is a carbonyl reaction between a sugar and an amino acid, which at 140-165 degrees forms a brown bread crust in a short time or turns potatoes into chips. When the temperature is below 55 degrees, this carbonyl process still occurs but can take days to years. The presence of water inhibits the process, but in some cell functions, it still occurs enzymatically, as some cell processes require it.
- If the body "burns" incorrectly, "oxidative stress" can occur. Incorrect combustion can be due to malnutrition, lack of vitamins/enzymes, or chemical disturbances in the tissue.
- Similarly, the body can also suffer from "carbonyl stress" (from food) or "chemical stress" (from smoking, medication, allergic reactions, environmental factors).
- Carbonyl stress reduces performance in high-intensity sports.
- Recent studies show that our "harmless" pesticides cause worker bees to lose their orientation ability and queen bees to die (they receive the most concentrated feed), causing entire bee colonies to suddenly die. Therefore, pure organic is strongly recommended for detox wellness.

But since no one knows any of this for certain yet, it's just exciting reading.

Enjoy the detox wellness.

"But the centurion (Greek: kybernetes) was more convinced by the captain and the ship's owner than by what Paul was saying" - Greek Bible quote.

(Centurion: Officer in the Roman Empire's armed forces, whose badge of honor was a vine stick). Or in other words: you choose your role models yourself, or whom you want to listen to.

Detox-Wellness Plan:

Start the day with a glass of pure water, green tea, or a cup of tea made from the juice of 1/2 organic lemon and 1-2 teaspoons of organic honey. All three have cleansing effects.

- Eat a banana (possibly with oatmeal cooked with 1-2 dates) and as much fruit as you desire.
- Lunch: 1 avocado and a boiled egg without salt or a raw vegetable salad.
- And a glass of apple juice (organic natural juice or freshly pressed) mixed with low-sodium mineral water and a small amount of spirulina (algae powder). Find a blend that tastes good, more is not always necessarily better.
- Dinner: Make a freshly pressed juice containing beetroot and a bit of cabbage or celery. Create your own recipes, find them online or in books. Otherwise, eat as usual, but drink the juice first.

Ingredients suitable for detox juicing: All kinds of cabbage, especially Brussels sprouts (use sparingly as it tastes bitter and can cause gas), pak choi, celery stalks, parsley, lettuce, cucumber, lime, broccoli, blueberries, pineapple, coconut milk, ginger, and turmeric (in moderation), all kinds of sprouts, onions, garlic, grapefruit, almond milk, watermelon, apples, marigolds, seaweed, algae powder. You can also juice many other things, but this list mentions detox ingredients. Only juice as much as you drink, as the juice reacts with air after being made and should not be stored for "later." Feel free to add some crushed flax seeds to your juice or 1/4 teaspoon of olive oil (for absorption of fat-soluble vitamins).

Afternoon: Make another juice. (without beetroot and cabbage). No snacks.

Evening: Eat what is normal for you, but reduce your salt intake to help the sodium-potassium pump, which is the cell's driving force.

- Half an hour before bedtime, drink a cup of green tea or "tea" made from 1 red chili and 1-2 cm of fresh ginger sliced in about 3 liters of water (enough for 4-5 days, store in the refrigerator after cooling). Add a teaspoon of organic honey to your tea. (1 cup here is 0.2 dl). Or make tea from 1-2 cm of fresh ginger and 1 tea bag of peppermint or chamomile. Evening tea is strengthening and supports the body's nightly cleansing process.

Avoid ready meals, fast food, and "street food," hard cheese, processed cheese, and deli salads, sweets.

General rule for 21 days: Replace more of "the unhealthy" with "the healthy," so you (re)find the natural balance state in the body. If you've lived very unhealthily, this can take a long time, and if you've lived very healthily, the change may not be as drastic. Eat "simply."

- Ensure to exercise at least 1/2 hour at least 3 times a week. (Max 30 hours/week...).
- Spend 1/2 hour in the sauna when you have time for it. (Remember extra water before and after).
- Feel free to use cold water rinses or winter bathing if you like this.
- Detox-wellness is definitely more fun if you are 2 doing it together, but it can also be done alone if you can mobilize some willpower and self-discipline. If it seems too overwhelming, you can perhaps just implement some of the ideas or do it a few days a week. -And maybe become a bit more stringent if you feel it does good...

Enjoy your detox-wellness.