

The sacred halls of our body

The Hydration Code · Chapter 6

BOOK

The Hydration Code

CHAPTER

6 of 10

AUDIO IN GERMAN

6 minutes

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Within us our organism has created clean rooms and vaults which it floods with the purest water it is able to produce. Our body is by no means an open vessel in which fluids mix indiscriminately. It resembles rather a precise biological high-performance unit with strictly guarded security areas. Among these special zones are our eyes, the testes, the amniotic fluid and the fluid of the brain and the ear.

The body goes to enormous lengths to protect these sacred halls from burdensome external influences. What we attempt in the outside world with elaborate techniques of drinking water treatment, our body accomplishes in absolute perfection. It uses a highly specialised filter technique to create, for its noblest organs, an environment far purer than the rest of the water in our system. These exclusive zones form the necessary foundation for our health and the continuation of life.

The fluid of the eye offers all of us perhaps the most illuminating example of this striving for purity. So that we may enjoy clear sight, the vitreous body must be as pure as can possibly be. Since it consists of about 99% water and has scarcely any blood supply of its own, the water here does not serve as a mere means of transport. It acts as a neutral basis for the undisturbed function of sight. Even the tiniest clouding by inorganic substances would alter the viscosity and thus impair the physical nature of the entire medium as well as our eyesight.

It is exactly the same with our cerebral fluid, the cerebrospinal fluid. Our neurons operate with electrical impulses in the millivolt range and therefore depend on an undisturbed environment. Foreign ions or inorganic residues in the cerebral fluid would represent massive disruptive factors that could interrupt the precise conduction of stimuli between the nerve cells. At this point absolute purity is the basic prerequisite for our mental clarity and flawless processing of information.

To protect our reproduction, the blood-testis barrier and the blood-placenta barrier serve as chemically isolated high-security rooms. A man's sperm and a woman's embryos react just as highly sensitively to the smallest quantities of pollutants. Some substances can act like poisons that damage the genetic material and threaten the genetic code. Were pesticides or other highly reactive burdens to penetrate these areas, they could react directly with our DNA.

In these zones, therefore, an environment of the purest water must necessarily prevail, so that the integrity of future generations is preserved. To guarantee this extreme purity, our body uses filtration mechanisms at the molecular level. The walls of our smallest blood vessels form the first decisive barrier. Their cells are firmly bound to one another by so-called tight junctions, as if by a weld seam. Embedded in these barriers are channels that act as intelligent locks.

In 2003 Peter Agre received the Nobel Prize in Chemistry for the discovery of aquaporins. These are precisely those tiny channels that are permeable exclusively to water molecules. They are so narrow that the water molecules can only pass through them one by one, lined up as on a string of pearls. Dissolved salts, proteins or organic molecules are consistently held back. The concentration of foreign substances in the target spaces thus falls drastically, even when the blood serum in the rest of the body still contains considerable quantities of dissolved substances.

The balance of our senses is anchored deep in the inner ear. In the endolymph, the so-called ear fluid, hearing and the sense of balance depend decisively on the precise viscosity of the fluid. Since water here serves above all as the physical carrier of the finest mechanical vibrations, any uncontrolled material burden would disturb the highly sensitive mechanics of the cochlea. Contamination would distort the signals and endanger our orientation in space.

An equally fascinating masterpiece is the thymus gland. It serves as the central maturation centre for the T lymphocytes of our immune defence. This gland lies in a completely isolated, aqueous environment, shielded by the blood-thymus barrier. Here absolute clarity must prevail while the body trains its special units. In this school of the immune system the cells learn to distinguish between friend and foe. Any material burden in this area could distort the training of the immune cells and thus increase the risk of false reactions or autoimmune processes.

From all these facts it may be inferred that our body pursues a profound striving for inner purity. It creates these aquatic clean rooms to secure the stability and the unfolding of life in all its facets. A further decisive aspect of this fascinating technique is protection against oxidative stress in our highly sensitive organs. The clean-room strategy minimises in these zones the presence of free radicals and metallic residues that could attack and destroy the sensitive cell membranes.

By consistently filtering out potentially reactive substances, among them the body's own free radicals, the organism creates a protected zone. Ageing processes are slowed and the regenerative capacity of the cells is raised to a maximum. Ultimately, the pure water here acts as a biological shield that enables the building blocks of our life to unfold their full power undisturbed from outside.

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