The Token

E-Periodical International

بسم الله الرحمن الرحيم

In the Name of Allah, the Most Compassionate, the Ever-Merciful

And how many a town (is such as) We destroyed! Our torment came upon them at night or (whilst) they were asleep at noon.

(al-Aʿrāf, 7 : 1)

Volume #01

Issue #03

Monday, July 18, 2022 - H/O Lahore - Pakistan| 35* Celsius 50% Humidity in Air - Wind 08 km/h | More than 5.0K

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Science

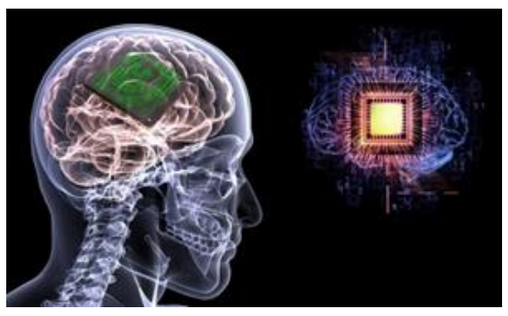
Modern Science in Human Body

Written by Shahid Hamid Gill

Human body is a compendium of various sciences. The following script would shower light on the elements of modern science in human body. It may strike your mind astonishing information but there is no way to flee from the veracity that there's variety of modern science components similarity by default in human body.

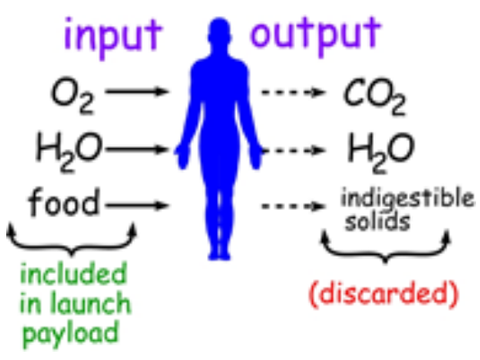
CPU- Brain

The CPU (Central Processing Unit) is similar to the brain because it controls almost everything the computer does. For more illustration, the computer brain is a microprocessor called the central processing unit (CPU). It's the CPU's job to perform the calculations necessary to make the computer work the transistors in the CPU manipulate the data. You can think of a CPU as the decision maker. Hence, our brain almost does the same job.



Inputs and outputs:

In human body, there are various inputs such as oxygen, food, and water are inputs whereas waste and carbon dioxide are outputs.

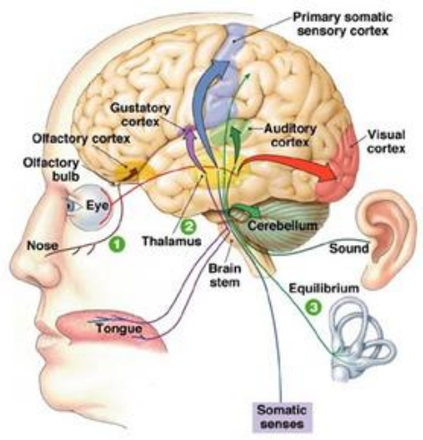


Hard Disk:

In Human, Brain is the Main almost equivalent of Hard Drive. In Brain, hippocampus is exact equivalent of **HDD**. Because it has permanent memory storage area of our brain. Once you store an information in your brain, It will become read only.

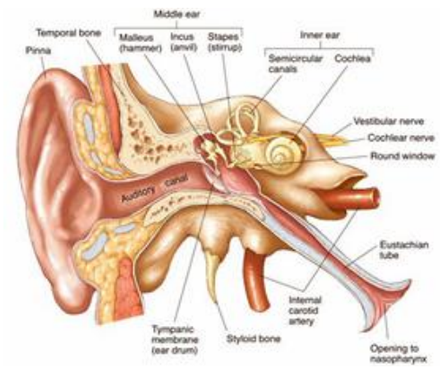
Sensor and Messenger:

The sensory nervous system is a part of the nervous system responsible for processing sensory information. A sensory system consists of sensory neurons, neural pathways, and parts of the brain involved in sensory perception. The 5 senses are the five main tools used by humans to perceive the world. Those senses are sight, smell, hearing, taste, and touch. The sensors are, eyes, nose, ears, tongue and skin. Our brain receives signals from each of these organs, and interprets them to give us a sense of what's happening around us. Neurologists might argue that in reality there are far more than five senses — anywhere from 9 to 21. Neurons carry messages in the form of electrical signals called nerve impulses. To create a nerve impulse, your neurons have to be excited. Stimuli such as light, sound or pressure all excite your neurons, but in most cases, chemicals released by other neurons will trigger a nerve impulse.



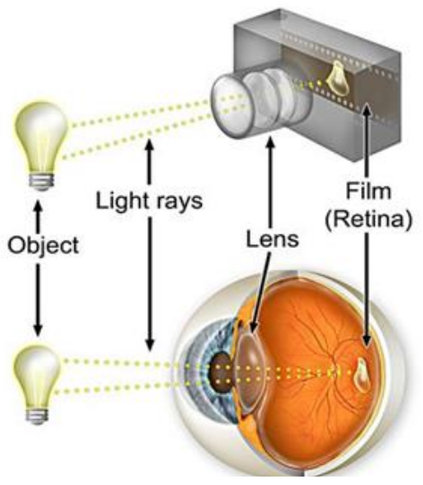
Audio Recording:

The Ears, human organs work like an audio device that receive or record the sound. The quality of recording or receiving depends upon individual's organ by functionality or built-in structure. If there is any flaw, surely, it affects the quality of receiving sound.



Video Recording:

Human eyes are vital organs of the body for capturing videos. No visual scene can be recorded without these organs. These eyes work like camera Lens.



Flash Back Technique:

Just think of someone who you saw before, the image, voice, action will be recalled by the brain as fast as it can. When trauma happens, the way the mind remembers an event is altered. These memory disturbances can create vivid involuntary memories that enter consciousness causing the person to re-experience the event. These are known as flashbacks, and they happen in PTSD and Complex PTSD. Flash back technique is usually exercised in films or movies.

Vibration:

Similarly, to mobile vibration, whole body vibration (WBV) ensues. Whole body vibration (WBV) is a generic term used when vibrations i.e. mechanical fluctuations of any frequency are transferred to the human body. When high frequency vibrations (above 50 Hz) enter human body through the hands, occupational safety concerns may arise.

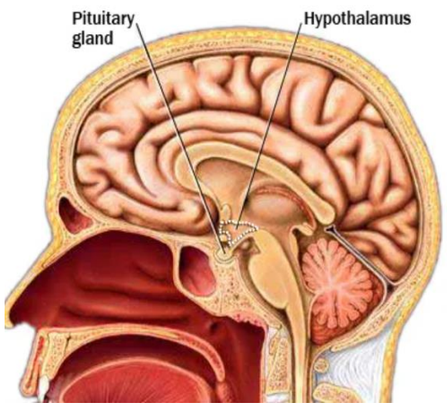
Though mobile vibration is used by many users but it's still believed that it does some harm to your body. It's been proved in some researches that vibrations contribute to low sperm count, head-ache, stomach problems, and sometime loss of balance. Long term exposure can be hazardous. On other hand, similarly to mobile vibration use, some of the experts deem that minimum 15 minutes a day of whole-body vibration (WBV) 3 times a week may aid weight loss, burn fat, improve flexibility, enhance blood flow, reduce muscle soreness after exercise, build strength and decrease the stress hormone cortisol.

Thermostat:

Hypothalamus action of brain controls thermoregulation. When it senses internal temperature becoming too low or high, it sends signals to muscles, organs, glands,

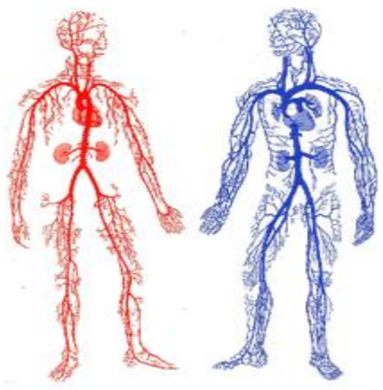
and nervous system.

They respond in a variety of ways to help return temperature to normal. So it is also a similarity to thermostat function



Electrical Wiring:

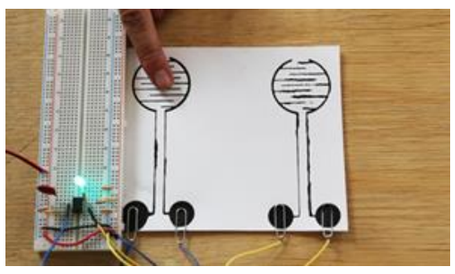
Veins & Arteries are good example of an electrical wiring. Throughout the body, every organ is connected with natural wiring (i.e. arteries, veins) that provides the blood supply. Arteries are blood vessels responsible for carrying oxygen-rich blood away from the heart to the body. Veins are blood vessels that carry blood low in oxygen from the body back to the heart for reoxygenation.



Good conductor:

In life, the human body comprises matter and energy. That energy is both electrical (impulses and signals) and chemical (reactions). Flow of charges and ions constitute electric current. As our body cells contain various ions like sodium ion, potassium ion, chloride ion etc. which have the tendency to conduct electricity and this makes our body good conductor of electricity.

Like any other electrically conductive material, the human body can store electric charge if properly insulated. (Please don't try)



Double pump:

Every cell in the body depends on the heart, the body's hardest-working organ. It is a single organ, but it acts as a double pump.

The first pump carries oxygen-poor blood to your lungs, where it unloads carbon dioxide and picks up oxygen. The second pump delivers oxygen-rich blood to every part of your body. Blood needing more oxygen is sent back to the heart to begin the cycle again.

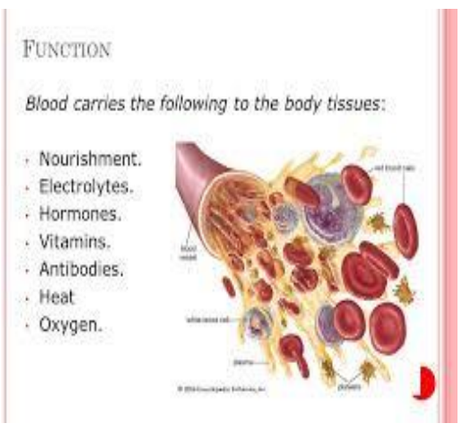
Filtration Machines:

Liver is the organ below the lungs that acts like a filter for the blood. Chemicals and impurities, including from drugs and medications, are filtered by the liver. The liver has many other essential functions.

The kidneys filter substances such as urea, uric acid, and creatinine out of the blood plasma and into the ureters. The liver also removes toxins from blood. During digestion, it cleans blood that has been enriched with vitamins before sending it back out to the rest of the body

Supplier or Transporter:

Blood has a number of functions that are central to survival, including supplying oxygen to cells and tissues. providing essential nutrients to cells, such as amino acids, fatty acids, and glucose, removing waste materials, such as carbon dioxide, urea, and lactic acid, protecting the body from infection and foreign bodies through the white blood cells, transporting hormones from one part of the body to another, transmitting messages, and completing important processes, regulating acidity (pH) levels and body temperature, engorging parts of the body when needed, for example, a penile erection as a response to sexual arousal.



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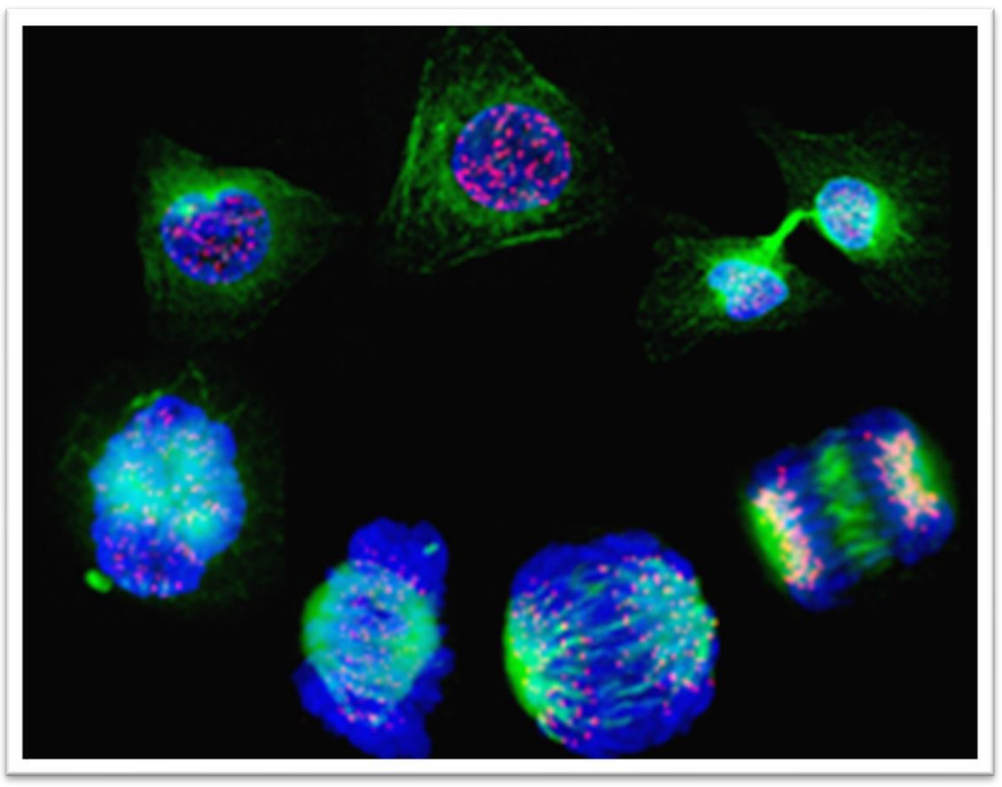
Generator:

Generating or producing new cells: Cells in many tissues in the body divide and grow very quickly between conception and adulthood.
But some cells, such as skin cells or blood cells are constantly dividing.

When cells become damaged in any way or die, the body produces new cells to replace them. This process is called cell division.



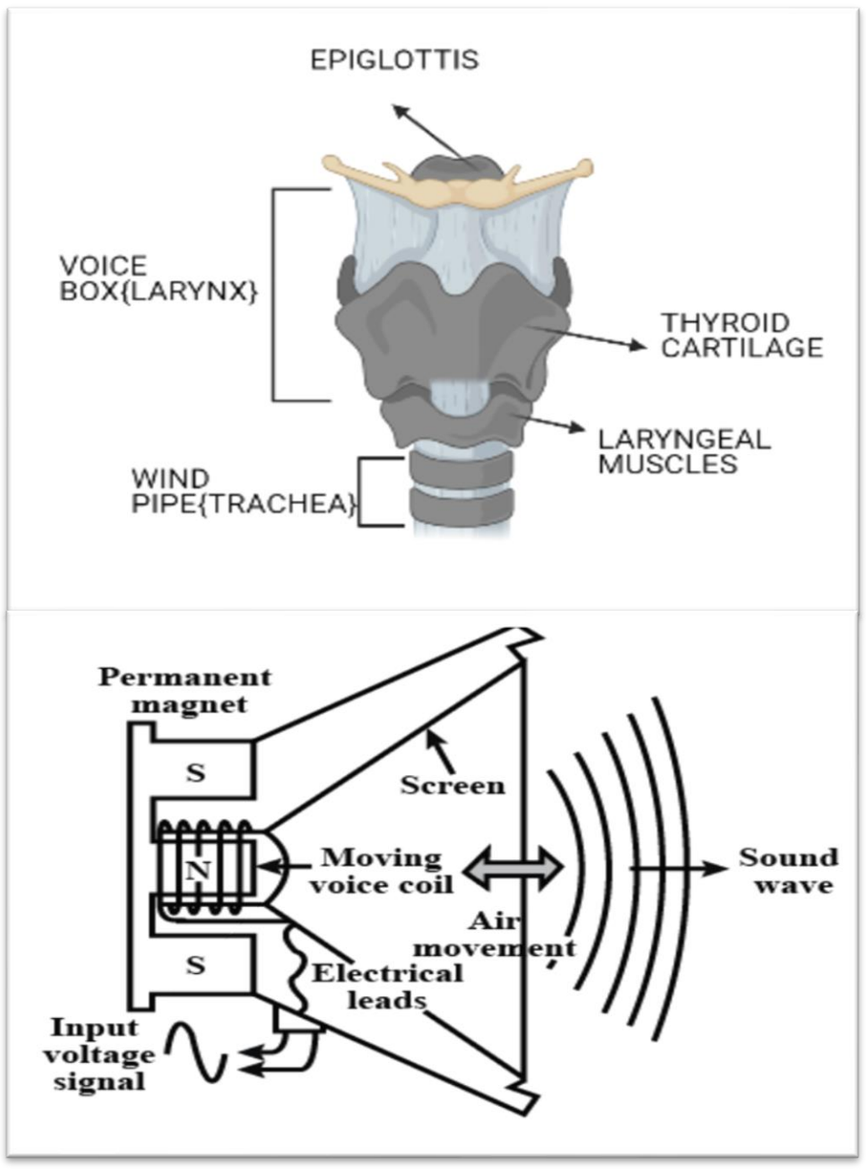
Loud Speaker or Sound System:

The vocal folds (vocal cords) are attached within the larynx to the largest of the laryngeal cartilages known as the thyroid cartilage or "Adam's apple". The vocal folds produce sound when they come together and then vibrate as air passes through them during exhalation of air from the lungs.

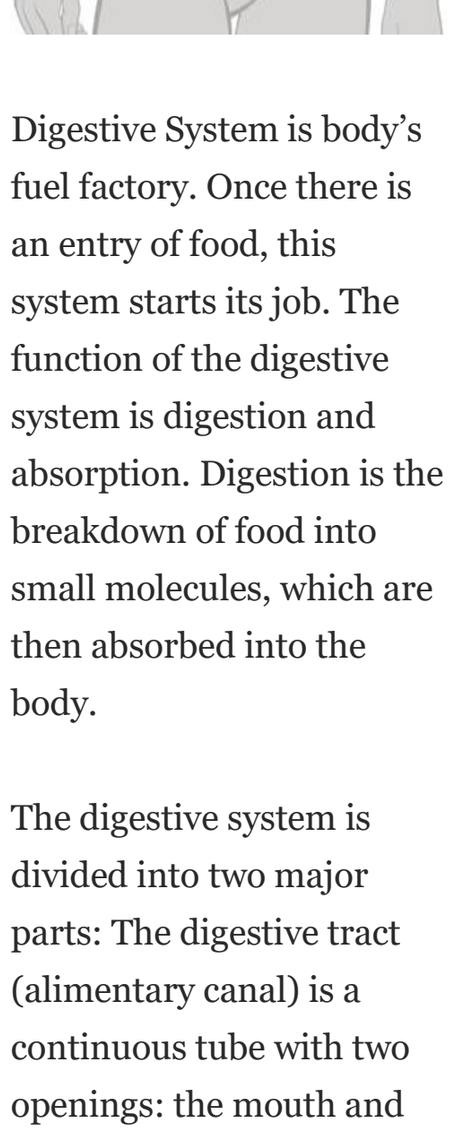
Larynx –

- The larynx is known as the voice box of the body.
- It is that part of the body that produces the voice.
- It is present in the neck region of the human body.

To form the sound lucid and to remain away from the harshness, the vocal folds should vibrate simultaneously in a symmetric way and continuously.



Fuel Factory:



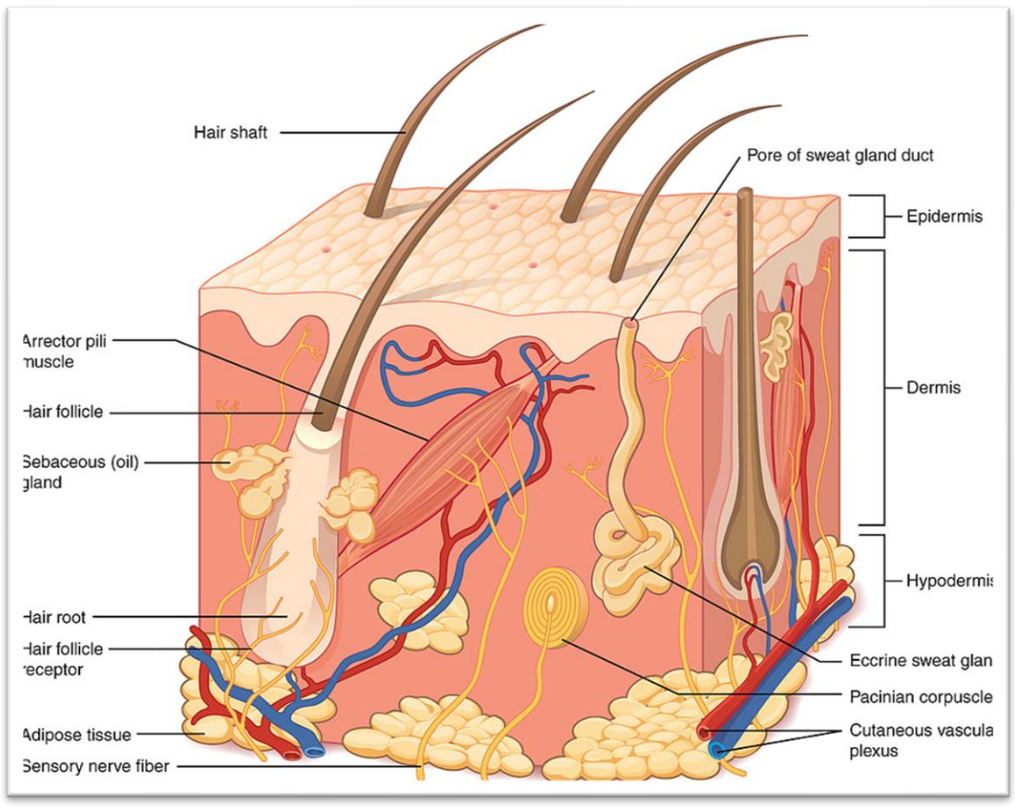
Digestive System is body's fuel factory. Once there is an entry of food, this system starts its job. The function of the digestive system is digestion and absorption. Digestion is the breakdown of food into small molecules, which are then absorbed into the body.

The digestive system is divided into two major parts: The digestive tract (alimentary canal) is a continuous tube with two openings: the mouth and the anus. The major parts of the digestive system: salivary glands, pharynx, esophagus, stomach, small, intestine, large Intestine, rectum, accessory digestive organs e.g., liver, gallbladder, pancreas.

Barrier:

Eyelid: an eyelid is a thin layer of skin that covers and protects the eye. The eye contains a muscle that retracts the eyelid to "open" the eye either voluntarily or involuntarily.
Human eyelids contain a row of eyelashes that protect the eye from dust particles, foreign bodies, and perspiration.

Skin: the primary function of the skin is to act as a barrier. The skin provides protection from: mechanical impacts and pressure, variations in temperature, micro-organisms, radiation and chemicals.



Human Sound Working System –

The mechanism for producing the human voice can be split into three parts namely-

1. Lungs
2. Articulators
3. The vocal folds inside the voice box

Lungs

- Lungs are the pair of a squeeze, air-filled organs
- Fitted on both sides of the chest.

Articular –

- Some of the articulators are the tongue, the upper and lower lip, gums and teeth, and the glottis.

The vibration rate decides the sound pitch . And when the voice is rough, the reasons could be following

1. Vocal folds are not closing fully
2. Vibrating asymmetrically.

Muscles joints with vocal cords could make the cords rigid or loose. When the vocal cords are tight and thin, the type and the quality of voice is different from when they are loose and thick.

well-developed machine:

The human body is a well-developed machine that moves efficiently. It contains various modern scientific development. Some of the glimpses are mentioned to illustrate the motif.