

# GROUP ELECTRICAL BEHAVIOR OF ATOMS, AND FORCES, ELECTROPHYSIOLOGY OF MAN

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**Abstract:** Direct electric current is actually changing, at bright, ultraviolet and partially infrared frequencies. Photons are tiny electrical currents.

The nerves propagate a continuous and not a changing electric current, at least those of the insulating cells, of the myelin sheath! Those nerves that do not have an sheath propagate a changing current.

In nature, an oscillator can transmit the same energy to more people, for each one. The oscillator usually has an excitation threshold and is stimulated to greater energy. This is also the case with nerves, where a neuron in the spinal cord gives many stimulation and reaches the nerves of the extremities with a large electrical potential.

The electrical voltage depends on the amplitude of the oscillation of the atoms of inorganic nature, or of the nerve cells.

The group behavior of individuals is complex, and rather with macroscopic quantities such as electrical voltage and intensity, we can monitor them.

The LRC circuit proves that there is no ion transfer, but electrical impulses, and DNA is a complex capacitor, LRC circuit, that is excited and excited.

The electrical pulse in the body is given by the first fertilized cell, which regenerates and lives as long as the body lives. The other of the division follows a series of differentiations. In the formed brain of the organism, where it ends, it is no longer divided, but is long-lived

**Keywords:** electrical voltage, Direct electric current, large electrical potential.

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## INTRODUCTION

The scientists dance as the first one drags the dance. This is how the energy potentials of the nerves were formulated, which are passed through by changing currents, which are excited, not what the nerve has. The nerve is a good conductor of electricity and transmits both direct and changing current. But the nerves, surrounded by electrical insulation, of myelin sheaths, transmit a continuous electrical current.

Direct electric current is actually changing into light frequencies.

Individuals have a threshold of arousal and are stimulated to greater energy.

Electrical voltage depends on the amplitudes of oscillation of the atoms that have it.

## METHODOLOGY

Induction and abduction are the main tools of this work and are often explicitly stated.

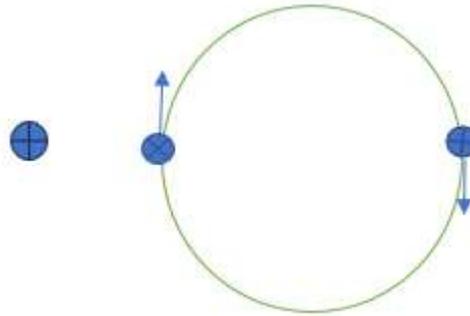
The experiment becomes a tool of methodology, since the conclusions of the experiments enter into the inductive thoughts.

The description, or rather the attempt to describe, of the complex atomic world, is used to become the feeder of inductive and deductive thoughts.

Because the analysis ends up in atoms, as the smallest particles, they (the charged parts of atoms) are perceived as indivisible.

**GROUP BEHAVIOR OF HYDROGEN ATOMS**

In a hydrogen atom, two equal-mass bubbles of the dilute ether orbit in a circle at velocity  $c$  at the base level. In fact, each bubble rotates around its axis with great frequency (self-rotating) and the axis of rotation is parallel and contiguous to the vector of the external velocity of the bubble.



A hydrogen atom with the two bubble-particles orbiting their center of mass at a speed of  $c$ , this is a bound photon. Each bubble self-rotates around an axis parallel to the velocity vector.

These two bubble particles are at a resolution where they exist indivisible in matter, or at a resolution where there are infinitely divisible ones, they are particles-structures of smaller ones. Each particle is a magnetic monopole and both are dipoles. But you know about electric charges, so it's an electric dipole.

Between the particles, there is a force of attraction  $F = \frac{ke^2}{R^3}$ ,  $R=2R'$ ,  $R'$  = radius of rotation around the center of mass, and this force is for rotating bodies, which have a centripetal force.

We assume that there is a positive particle, close to the atom, as shown in the figure, and at a distance  $r$ , with respect to the nearest particle. Because now, it is not a matter of attracting rotators, we consider the positive particle to be stationary temporarily, from the two particles of hydrogen, two forces are exerted on it, such as,  $F = \frac{ke^2}{(r+R)^2}$ , and . Because in oscilloscopes where motions or electric currents of particles are recorded, they operate under the rule of electric potentials (or magnetic, which are equivalent to electric), e.g. the classical oscilloscope which has a cathode ray tube, we will continue the analysis, no longer with the forces exerted on the other particle, but with the electric potentials. In a first approach, it is, and  $F = \frac{ke^2}{(r)^2}$

$$V = \frac{ke}{(r + R)}, V = \frac{ke}{(r)}$$

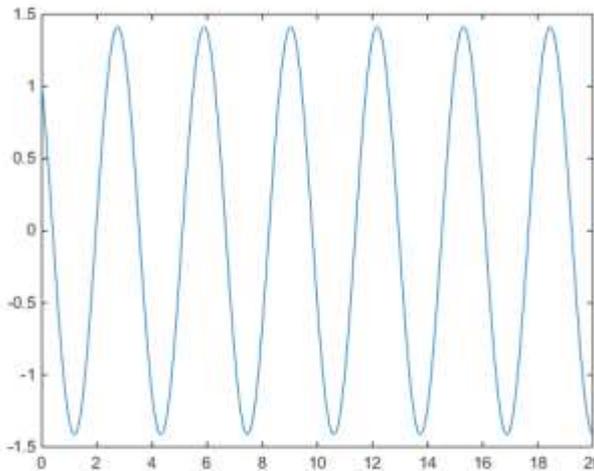
But the electric particles of hydrogen rotate around its center of mass, in radius as we said,  $R', R' = R'_{max} \cos(\omega t + \varphi)$ .

Then a total difference in electric potential is imposed on the nearby electric particle, the and,  $V = \frac{ke}{(r+R'_{max} \cos(\omega t + \varphi))} + \frac{-ke}{(r+R'_{max} \cos(\omega t + \frac{\pi}{2} + \varphi))}$

$$V = \frac{ke \{-(r + R'_{max} \cos(\omega t + \varphi)) + r + R'_{max} \cos(\omega t + \frac{\pi}{2} + \varphi)\}}{(r + R'_{max} \cos(\omega t + \varphi))\{r + R'_{max} \cos(\omega t + \frac{\pi}{2} + \varphi)\}}$$

And here we have the simple harmonic oscillation that occurs in the numerator,

$R' \cos(\omega t + \varphi) + R' \cos(\omega t + \frac{\pi}{2} + \varphi)$ , in large format, to become sharp



The figure was made in Matlab and this is driven under electric potential differences. The maximum oscillation amplitude that was a unit in both cosines of the numerator, here gives a maximum oscillation amplitude, equal to 1.4. It is as if he added the two maximum oscillation amplitudes and each got it equal to 0.707. In electricity, we gave that the electrical voltage, When,  $V = kI^2$  the current is changing, then the active amperage of the current, is 0.707, if we put a current of one Amp. And added, the two amplitudes of the oscillation of the current, the oscillation amplitude of the current is double.

And Matlab, on the other hand, does not understand the relation we give for the electric voltage, but the relation that the established physics also accepts, because  $I = 0.707$  is the active voltage and it perceives  $P = 1, V = \frac{P}{I}$ , and gives the electric voltage  $V = 1.41!$  And this happens in nature, in individuals! This voltage formula is accepted and depicted by Matlab and if it is a summation of oscillating currents, it doubles (adds up the two equal amplitudes), the same oscillation amplitude of the two currents.

As you can see, the constraint that comes with the equation,

$$V = \frac{ke \{-(r + R' \cos(\omega t + \varphi)) + r + R' \cos(\omega t + \frac{\pi}{2} + \varphi)\}}{(r + R'_{max} \cos(\omega t + \varphi))\{r + R' \cos(\omega t + \frac{\pi}{2} + \varphi)\}}$$

It is, i.e. the hypothetical charge,  $r > R'$ , to be at a distance greater than the radius of hydrogen, which is accepted to happen in nature. And as you can see, the hypothetical electric charge has a changing electric potential, imposed by the two particles of the hydrogen atom. I'm not trying to give you the blueprint in Matlab, it's difficult, but it's not necessary, since you already accept the variability of the electrical potential! And already from nature's simplest atom, hydrogen, you get an idea of the more complex electrical state of more complex atoms and nature in general! And we will proceed to more macroscopic analyses!

Of course, in the hypothetical electric particle, now put another hydrogen atom. You understand electrical complexity! But then, put another hydrogen atom, not next to it, but opposite the first one, parallel to the levels of the electrical rings. Of course, the two particles, if they have the same phase of rotation, create a much greater electric potential. So, the first conclusion that comes out is that as a group, hydrogen atoms are in a different phase and more, they are in random positions, not just in the two we analyzed. And because in a gas tube, no macroscopic polar phenomena occur, if no external electric potential is applied, but also magnetic ones, then the hydrogen atom I presented to you, rotates with a lower frequency, that is, the ring, around an axis of rotation on the diameter of the ring.

Let's move on to the group description. Gas has gravity and heat and pressure. Refer to my paper PHYSICS AND MATHEMATICS OF THE THEORY OF THE WHOLE<sup>1</sup>, WHERE YOU WILL FIND THAT THE THERMAL FREQUENCY OF THE HYDROGEN ATOM AT 273 K is  $8.75 \times 10^{10}$  Hz and the gravitational frequency is  $69.6 \times 2 = 139$  GHz. occurs in the radial fluctuation of hydrogen atoms, as well as gravitational fluctuation.

<sup>1</sup> International Journal of Mathematics and Physical Sciences Research, Oct 2025-March 2026

The pressure of the gas gives energy to the hydrogen atoms, which have an external velocity and collide with each other, as described in the kinetic theory of gases. The average collision frequency, formulates the electrical frequency, due to the pressure of the gas and for hydrogen is in the hundreds of MHz.

Gravitational, thermal, and collision frequency are eigenfrequencies of the gas. But we also told you about the frequency of rotation around the diameter axis of the ring, and this is electrical eigenfrequency.

I didn't have a hydrogen tube, I have a Neon, Argon, and Fluorine tube. Of course, at low pressure. I connected the electrodes to the electrodes of the oscilloscope and took the waveforms, and the frequencies were 220-640 KHz. These are the eigenfrequencies of rotation around the diametric axis of atoms. And, of course it's hydrogen nearby and not too far away, at the pressure of an atmosphere.



**360KHz Eigenfrequency Waveform Low Pressure Neon Tube**

The following waveform is with the electrodes of the oscilloscope, i.e. it is of the air, which had an ultrasonic frequency of 240 KHz.



When I had a high-precision frequency monitor, with a special antenna, on the balcony of my house, I would catch the eigenfrequency of the air, in the ultrasounds.

#### THE GROUP ELECTRICAL BEHAVIOR OF METAL ATOMS

The structure of the most complex atoms of metals is more complex. We will draw safe conclusions about their electrical condition.

First, two plates of different metals show a difference in electrical potential, which is measured. Second, a metal plate shows a weak magnetic field on a meter. This means that the metal atoms are electrically polarized and naturally small magnets. Their overall orientation on the metal plate gives the electric and magnetic voltage.

Mind you, when I say electrically polarized, I don't mean it's the electric dipoles you know, oriented. If this were the case, it would show the voltmeter, difference in electric potential, on one plate.

The atoms of the metal in a plate have uniform and oscillation with the same phase as their atoms, in their privileged frame of reference. Because their orientation is random, one plate does not show a difference in electrical potential. But when it comes to two plates of different metals, the amplitudes, phases and periods of oscillations are different and thus there is an electric potential difference between the plates.

They have hypothesized that metals have magnetic regions, where atoms are oriented, the Weiss regions. These are, also, electric polar regions, as explained above.



**Copper small plate eigenfrequency waveform, 1.3 MHz**

**AND WE CONTINUE IN GROUP BEHAVIOR OF LIVING TISSUES**

I think now is the right time for living matter. You know that physiologists experimented on frogs' legs, on the giant axons of the squid, and you know the electromyograms of neurologists. They got the so-called energy potentials.

Initially, as exciters, they had coils called inductors, and they are miniatures of the Rumkfort coils that you know in physics. I had such a coil and I took the waveform of the electric potential, which was like squares continuous, discontinuous. Then they got electronic exciters, which produced the same waveforms. I got the impression that exciters affect energy potentials! The electrodes were parallel to the nerve.

I had bought mollusk tentacles from a supermarket for cooking. I took a tentacle, put it on the oscilloscope, and see what I got,



**Mollusc tentacle waveform, eigenfrequency 8 MHz**

I cut the tentacle in two, connected one piece to one oscilloscope electrode and the other electrode to the other piece. The outer parts, I joined them to the sine oscillator electrodes, at 500 Hz initially (i.e. at a frequency used in exciters by physiologists). See what I got, the oscilloscope in order,



Tentacle energy potentials, excited by a sine oscillator at 500 Hz. The frequency is approximately 800 KHz.

What you see means that the stimulator affects the frequency and amplitude of oscillation of the nerves where it is applied.

NOT FOR PHYSIOLOGISTS TO SAY, FOR US TO FIND OUT TOO

You know that the egg is a giant cell. I carefully broke the shell, inserted the spike of the red electrode voltmeter, into the yolk and grounded the other. I was getting an electrical potential of about 3 mVolt.

This means, by inductive generalization, that all cells are electrically polarized, as I have already analyzed, (no, they have an electric charge, the yolk or the egg, obviously they do not have Sodium, Potassium and Calcium ions, which doctors and biologists say, that the cells have - and have - do have. And in fact, there are no inflow and outflow channels in the yolk, where do the ions flow out of the yolk, into the egg white; Or the egg, which will emit the ions?). I do not dispute that there are Sodium and Potassium ions, inside and outside the cell. But they don't deny either, that there are their channels in the cell's cortex and they even found them and isolated them and see how, in NEUROSCIENCE AND BEHAVIOR. When there are channels and a difference in charge density, then it is moved to smooth out the difference. In a Thompson circuit, there is a pulse regression, at the poles of the capacitor, and accept that electrons (ions) are reciprocating. Is a capacitor formed between the extracellular space and the interior, for ions to flow in and out? Never detected!

However, no one can deny that in composite atoms, electric polarity is formed in their structure, constantly! In the egg yolk, the atoms are arranged spherically in the spherical yolk and their polarity is oriented so that they have their positive pole outwards. Polarity, as we pointed out, comes from the same phases of the oscillations of the atoms, the cells here.

AND NOW, A SIMPLE AMAZING EXPERIMENT, WHICH WILL CHANGE ELECTROPHYSIOLOGY

I took the tentacle of the mollusk again. Now I connected it with a 9 Volt battery and in series the ammeter. I was getting DC, 13.4 mAmp!

This experiment proves that nerves transmit a continuous current and not an alternating one, as they claimed with energy potentials! A good conductor of current, transmits both direct and changing current. In other words, the sodium and potassium pumps in the nerve cells go to waste. These transmit direct current, which has nothing to do with these pumps.

NOW LET'S LOOK AT THE NATURE OF DIRECT CURRENT

As you have seen here, from inorganic nature we are led to explain what happens in living things.

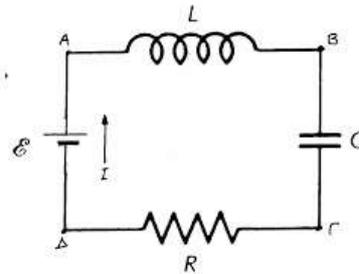
We talked about the hydrogen atom, the electrical ring. There we observed the rotation of the charged particle, on the circle, forming the absolutely continuous electric current.

Now imagine, a large number of rings, one next to the other, so that they form a line, that is, a line of an electric conductor. All these people are in the same phase.

As it was found, the direction of the current, which is changing, depends on one phase, of one particle. An electric variable current will be propagated on the line, at a frequency of  $3.27 \times 10^{15}$  Hz, i.e. at the frequency of ultraviolet radiation. But even at frequencies of light radiation, again the changing current is perceived as continuous. I refer to photocells, the photons that incident and excite it, are tiny continuous currents! DIRECT CURRENT IS VARIABLE WITH LUMINOUS AND ULTRAVIOLET FREQUENCIES AND PARTIALLY INFRARED.

In the line of hydrogen atoms that have the same phase, the first atom starts from phase zero, and in phase  $\pi$ , he finds the particle of the second atom being in phase zero. And when it is also in phase  $\pi$ , it finds the particle of the next one in phase zero (or  $2\pi$ ). And so on, it's as if electric charge is flowing in the line of atoms. Do not forget,  $q=It$ , the current flowing through the conductor, in the time that flows through it, will give the electric charge, which is now not leaked by ions, but is a continuum of atoms oscillating with the same phase.

**LRC CIRCUIT PROVES, ELECTRON NON-REGRESSION**

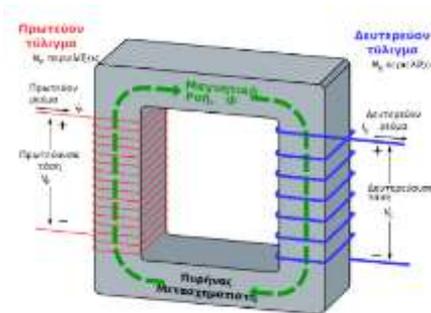


Here you see an LRC circuit, it produces AC and electromagnetic waves if it goes to an antenna. As you can see, in order for the circuit to be excited, it needs an electric force, and in this one it can be a battery, and even 9 Volts. This is the brutal reality!

SO, IF ELECTRONS WERE RECIPROCATING, THEY HAD TO PASS THROUGH THE BATTERY, WHICH IS IN SERIES IN THE CIRCUIT.

At one time, one might say it can happen. But in the direction of direction to the negative terminal of the battery, they do not pass through. They are neither electrons, nor ions. These are pulses of the conductor atoms, the resistance and which end up stimulating multiple atoms in the capacitor armatures. These pass through the battery. In one armament atoms have a phase of  $2\pi f$  and in the other when they arrive,  $(2+1)\pi f$ . The frequency of the pulses depends on the materials of the circuit.

**WHAT IS ELECTRIC POTENTIAL**



In a transformer, the electrical voltage and active intensity of the alternating current, which passes through the coils of the primary coil, are altered. If the coils of the coil are more in the secondary coil than the first, we have an increase in the electrical voltage and a drop in current. The formula that applies is, where N is the number of spirals.  $\frac{V_p}{V_s} = \frac{N_p}{N_s}$

The transformer is ideal and we have no energy losses. Then,

$$P = V_p I_p = V_s I_s$$

We said that the spirals of the secondary are more, so the conductor is longer. The current that leaked the first coil, of a smaller conductor, will now leak through the second coil, of a larger conductor. So, it will leak it in a longer time, so the current  $I=q/t$ , will be smaller. But the energy must be conserved. Then the electrical voltage will be greater. And because the electrical voltage is variable, as we described to atoms, then the wave will have a greater amplitude of oscillation. In multimeters we get the active values of variable current and electrical voltage.

$$V_{pmax} \cos(\omega t + \varphi) I_{pmax} \cos(\omega t + \varphi) = V_{smax} \cos(\omega t + \varphi) I_{smax} \cos(\omega t + \varphi)$$

$$V_{smax} > V_{pmax}$$

The above reveals that the electrical voltage is the result of the amplitude of the atoms of the battery poles, or the capacitor armatures, or the metal plates, or wherever it occurs. Insulating materials, such as plastics, are not good conductors of current and do not exhibit electrical voltage. Their atoms have various electrical phases which cancel each other, and do not obey electrical stimulation, due to the cohesive bonds, within and between their atoms. That is, when we consider that two atoms, it is as if they are two masses connected by a spring, here the spring has no elasticity in the insulators.

TO UNDERSTAND ELECTRICAL PHYSIOLOGY, WE AGAIN RESORT TO INORGANIC NATURE

Look at an experiment I did that says a lot. I took a light meter and operated it in the room. I was getting a reading, from the light of the room, low. I put a common light bulb opposite and lit it. Now I was getting a bigger reading on the light meter. Insert in between, glass jar transparent, full of tap water. Now the light meter reading was almost tripled. With whatever color of the lamp, the light meter reading multiplied!

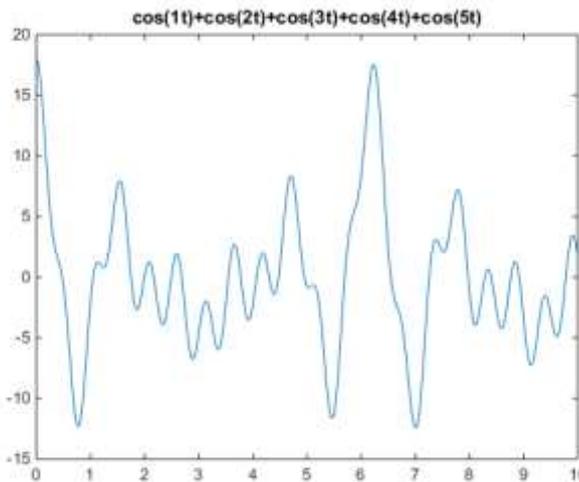
This means that the atoms of the water molecules absorbed the radiation and emitted it multiplied. Because the color of the light was the same before it fell on the jar and afterward, the photons were of the same frequency. One atom absorbed a photon, they were excited, excited and neighboring and now more were radiating. This means that the atom has a threshold of energy to accept and is stimulated to greater energy. That is, three atoms shared the initial energy of the photon with the interinfluence, and the three rose to the initial energy of the first incident photon. And as we said, photons are tiny electrical direct currents.

Now, let's go to the man. First approach. A neuron in the spinal cord gives the continuous current to move the arm. Along the way, it meets three neurons and stimulates them. And so on, nerve fiber is formed by the neurons and this ends up in the ulnar motor nerve. In the final course of the nerve signal, the current is large and was determined by the continuous excitations of all and more neurons.

Second approach. Neurons are nerve cells, with a nucleus, DNA, endoplasmic reticulum, etc. The current, transmitted by the nerve synapses, which now follow the rhythm we did in the first approach, triple the cells along the way. So, neurotransmitters, substances such as acetylcholine, do not transmit current through chemical reactions, they are good conductors of electricity. And this was found for this particular neurotransmitter. And if there is a chemical reaction to a neurotransmitter, it simply serves the electrical transmission.

THIRD APPROACH

When two or more oscillations are added, from initial neurons with different luminous frequency, to a neuron, to the neural synapses, then a changing electrical potential is formed, and a small idea is given to us by Matlab, where I add four cosine oscillations, with the same oscillation amplitude and different frequency.

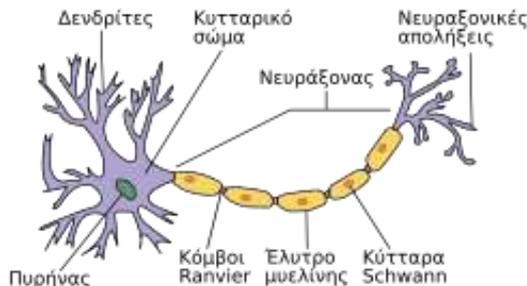


As you can see, the frequency is many times higher and the oscillation amplitude, much greater, than the equal oscillation amplitudes of all four cosines and fluctuates. So, we have a much greater electrical potential and current than the four oscillations, when they unite in a neuron, with the neural synapses. And this neuron will transmit the same electrical potential to more neurons, which, as we said, also happens with light falling on a jar of water.

NOW FOR THE INSULATION OF THE PIPELINES

As you know, in DC cables, there is insulation. This is necessary, because if the cable was bare, they would come into contact with the air atoms. And the frequency is such that it is coordinated with the frequency of the air molecules, if the ducts are without insulation and we have an electrical leak! For variable current transmission cables, no insulation is needed!

And see now! This is a typical neuron, which has on its axon that carries the current, myelin sheaths, i.e. current insulators! The current is continuous!



Now, there are the Ranvier nodes, where myelin is disrupted. There are plenty of sodium ions there. So, Ranvier nodes are stations of rising electrical voltage, like the positive terminals of the battery, in the attenuating electric current.

And finally, we find what happens mainly, in multiple sclerosis, where the sheath, the insulation, is destroyed! THE SCHWANN CELLS THAT FORM THE SHEATH DEGENERATE, THEIR EIGENFREQUENCY CHANGES, THEY TUNE TO THE FREQUENCY OF THE ELECTRIC CURRENT THAT FLOWS THROUGH THE NEUROAXON AND ARE DESTROYED! MORE PROBABLE, IT IS INCREASING THE ELECTRICAL POTENTIAL, IT IS INCREASING THE CURRENT PASSED IN NEURONS, AND IT BURNS THE SHEATHS.

FOURTH APPROACH, INSIDE THE NEURON CELL

Schematic representation of a eukaryotic cell, taken from Wikipedia.

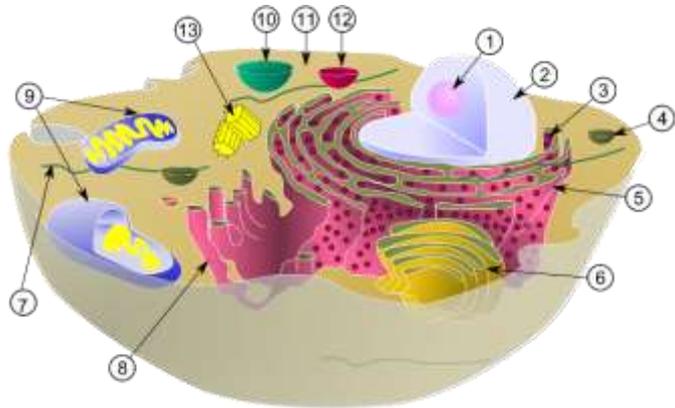


Diagram of a typical animal eukaryotic cell, where the subcellular units are also represented.

Organelles :1.Core,2.Core,3.Ribosome,4.Vesicle,5.Rough,endoplasmic,network,(ED),6.Device,Golji,7.

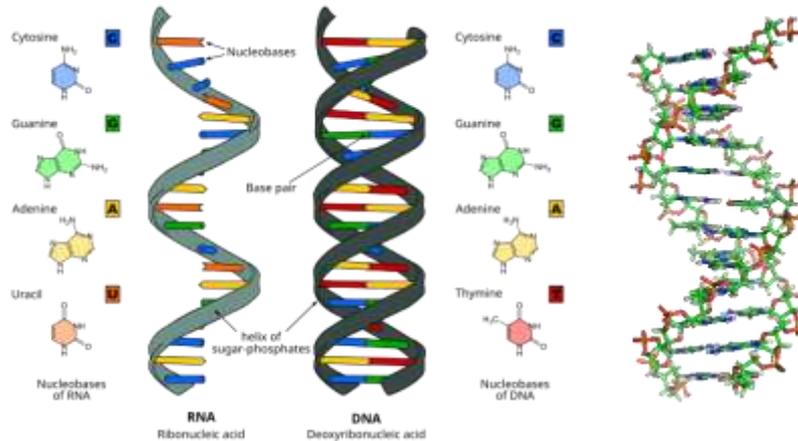
Cytoskeleton,8.Smooth,endoplasmic,reticulum,9.Mitochondria,10.Vacuum,11.Cytoplasm,12.

Lysosome,13.Centrosomate The whole cell is surrounded by the plasma membrane.

CHEMICAL COMPOSITION

Living cells are made up of a limited number of chemical elements. Carbon (C), hydrogen (H), oxygen (O), nitrogen (N), phosphorus (P) and sulfur (S), which make up about 99% of its weight, play a special role. Its chemical components can be classified into inorganic (water (H<sub>2</sub>O + mineral ions) and organic proteins, carbohydrates, fats and nucleic acids. An animal or plant cell consists approximately (% w/w) of water 75-85%, proteins 10-20%, lipids 2-3%, carbohydrates 1% and minerals (acids, bases, salts) 1%. The latter, although found in very small concentrations, help cellular functions by keeping the pH constant.

DNA, the chain, with the bases, Wikipedia.



**ELECTRICAL FUNCTION OF DNA**

As is well known, DNA is divided into parts and has telomeres at its ends. It has been found that the sequence of bases is different from the rest of the DNA in telomeres. Telomeres are subject to deterioration, the continuous division of the cell, they shrink and are responsible for the aging of the body! Proteins such as histones are attached to telomeres! So I argue, that an electric capacitor is formed, DNA is an electric capacitor! And the frequencies of the alternating electric current, the frequencies of the continuous!

But I gave you the diagram of the LCR circuit, which is now also a DNA molecule! Let's not hide, we need a stimulator!

**BUT BEFORE THE STIMULATOR, THE ROLE OF THE CELL**

All the organelles of the cell are electric bodies. And the cytoplasm, which consists mainly of water! Water is a good conductor of direct current!

The pulse of DNA is received by the organelles through the cytoplasm. And the entire electrical set transmits the electrical signal to the axons, which you saw above!

At the same time, the cell is a receiver of electrical signals from other cells through neurosynapses. And it carries this signal, as a stimulator in the DNA! Muscle and bone cells do not transmit electrical signals, they do not have cell-to-cell transmitters!

**IT ALL STARTS WITH THE CONCEPTION OF THE FETUS**

You know the formation of the first cell, from sperm fusion with oocyte and then embryo and then us! The DNA of the spermatozoon and the egg already have the electrical stimulation by the genital cells of the parents! And inductively, we arrive at the first one or many beginnings of life, the first, or the first fertilized cells!

Obviously, they also got the electrical stimulation, from molecules of inorganic matter, which preceded them! And this, from the gravitational energy of hydrogen atoms, which came to atomic fusion and these to more complex fusions, the transformation of the star into a planet, etc.

**IT IS THEREFORE FOUND THAT THE ORIGINAL FIRST FERTILIZED CELL IS REGENERATED BY CONTINUOUS DIVISIONS (THE OTHER IS DIFFERENTIATED).**

This cell nests in the brain, where neurons live for tens of years, lives as long as a person lives! And it gives the initial electrical pulse of the whole organism! And it is stimulated by the pulse of the body!

**EPILOGUE**

Direct electric current is actually changing, at bright, ultraviolet and partially infrared frequencies. Photons are tiny streams.

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The electrical pulse in the body is given by the first fertilized cell, which regenerates and lives as long as the body lives. The other of the division follows a series of differentiations. In the formed brain of the organism, where it ends, it no longer divides, but is long-lived.

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