There wasn't Big Bang.

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Abstract

Two ideas gave birth to this paper : The law of the galaxies scattering and the existence of the infinitely large and infinitely small numbers.

Content

1). The construction of the infinitely large and infinitely small numbers.

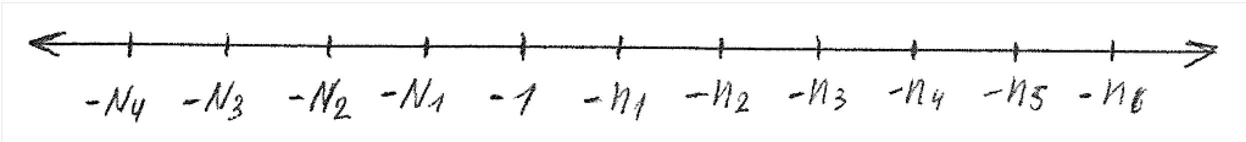
Let us consider the equation: 1 + x = x (1.1)
It's solution is N_1- infinitely large number. It is possible to write for it :
$1 = N_1 - N_1 = N_1 \cdot (1 - 1) = N_1 \cdot n_1$ (1.2)
$n_1 = 1 - 1$ (1.3) $n_1 = \frac{1}{N_1}$ (1.4)
n_1- infinitely small number.
Let us construct the second infinitely large number N_2 so :

$$N_2 = 2^{N_1} \quad (1.5)$$

N_1 corresponds to the number of the natural numbers, and N_2 - to the number of the real numbers. So we have : $N_2 > N_1$ (1.6)
Let us form the second infinitely small number n_2 so : $n_2 = \frac{1}{N_2}$ (1.7)
(1.4) + (1.6) + (1.7) = (1.8) : $n_2 < n_1$ (1.8)
The following infinitely large and infinitely small numbers we'll form by the formule : $N_{i+1} = 2^{N_i}$ $(i = 1, 2, 3, \dots)$ (1.9)
$n_k = \frac{1}{N_k}$ $(k = 1, 2, 3, \dots)$ (1.10)
$N_{i+1} > N_i$ $(i = 1, 2, 3, \dots)$ (1.11)
$n_{i+1} < n_i$ $(i = 1, 2, 3, \dots)$ (1.12)

This process is endless. That means, that there isn't exist neither maximal infinitely large number, nor minimal infinitely small number.

Picture (1.1)



Picture (1.2)

2). The law of the galaxies scattering.

If a is the distance from the Earth to some galaxy, and $\dot{a}$ is it's radial velocity, then:

$\frac{\dot{a}}{a} = H$ (2.1)

Here H is constant. This law for the expending Universe theoretically derived Fridman, and later experimentally Habble. There was given the name of Habble for H. $H = 2{,}3 \cdot 10^{-18} \cdot sec^{-1}$ (2.2)

Using integration we can derive from (2.1): $a = a_0 \cdot e^{H \cdot t}$ (2.3)

And $t = \frac{1}{H} \cdot ln\left(\frac{a}{a_0}\right)$ (2.4)

3). Two examples of the using this law.

Astronomers experimentally measured the distance from Earth now to galaxies which emitted the light when they were at $10^{28} cm$ from the center of the Universe, and had the radial velocity nearly $c = 3 \cdot 10^{10} cm/sec$. This light flew that distance by the time $t_1 = \frac{10^{28} cm}{(3 \cdot 10^{10} cm/sec)} \approx 3 \cdot 10^{17} sec \approx 10^{10} years$ (3.1).

But what time t_2 it took of these galaxies to flew from a_0 to $10^{28} cm$? This depends from a_0 which separate them from the center of the Universe at the time $t = n_1$. This a_0 can be any positive number, so as a – radius in the spherical system of the coordinates. Let us see the case $a_0 = n_1$ and from (2.4), (2.2), (1.4) we have:

$t_2 = \frac{10^{18} \cdot sec}{2{,}3} \cdot ln\left(\frac{10^{28} cm}{n_1 cm}\right) = \frac{10^{18}}{2{,}3} \cdot [28 \cdot \ln(10) + \ln(N_1)] \cdot \sec$ (3.2)

In other case, if $a_0 = 10^{-33} cm$ at $t = n_1\ sec$, then this galaxy achieve the distance $10^{28} cm$ at the time :

$$t_3 = \frac{10^{18} \cdot sec}{2{,}3} \cdot ln\left(\frac{10^{28} cm}{10^{-33} cm}\right) = 2 \cdot 10^{12} years \qquad (3.3)$$

Let us find the velocity of this galaxy at the time $t = n_1\ sec$. From (2.3) we have:
$\dot{a} = H \cdot a$ (3.4)

$$\dot{a}(t = n_1) = H \cdot a_0 = 2{,}3 \cdot 10^{-18} sec^{-1} \cdot 10^{-33} cm = 2{,}3 \cdot \frac{10^{-51} \cdot cm}{sec} \quad (3.5)$$

So, the way "to" the galaxy from the second example makes for $2 \cdot 10^{12} years$, and the way "fro" light from this galaxy makes only $10^{10} years$.

[Simple rule : galaxies were, are, will be everywhere and ever.]

When this galaxy was at $a_0 = 10^{-33} cm$, then some galaxies also were between $10^{-33} cm$ and $10^{28} cm$. And on the other side of $10^{28} cm$ also were galaxies.

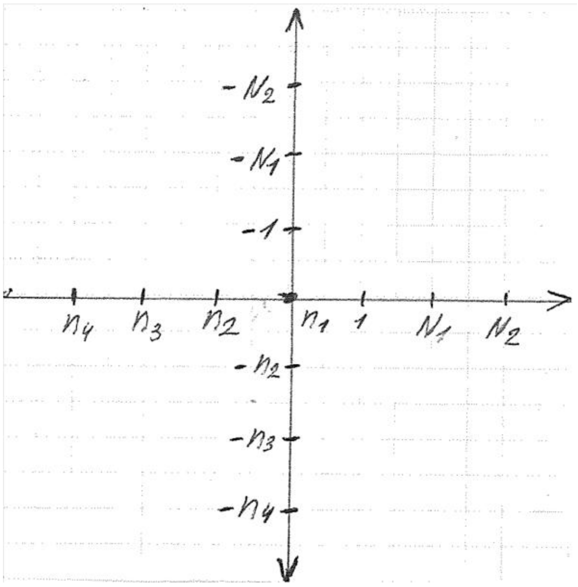
When the galaxy with $a_0 = 10^{-33} cm$ and velocity $2{,}3 \cdot \frac{10^{-51} \cdot cm}{sec}$ accelerated to the velocity $c = 3 \cdot 10^{10} cm/sec$ and reached $10^{28} cm$, then the space between $10^{-33} cm$ and $10^{28} cm$ became full of new galaxies which were before this time at $a_0 < 10^{-33} cm$.

And the galaxies, which were on the other side of $10^{28} cm$, now flew away further, but their place don't became empty, it will be full by the galaxies, which before were between $10^{-33} cm$ and $10^{28} cm$. But they will be accelerated so that their velocities will became more then $= 3 \cdot 10^{10} cm/sec$. And then the light, they emitted back, will flew not back, but after them, so that we will not see them.

4). Planes and semi-planes.

Let us look at n_1 and $-n_1$: $-n_1$ = - (1-1) = - 1 + 1 = 1 – 1 = n_1 (4.1)

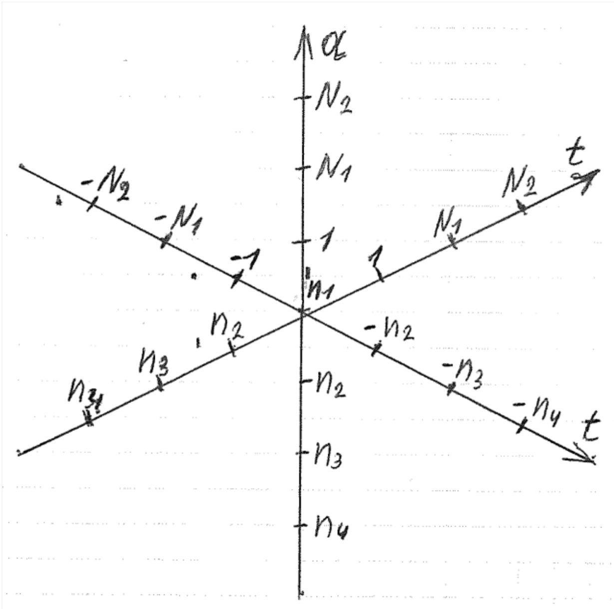
That means that these numbers are topologically the same. Then, using Picture (1.1) and Picture (1.2), we can draw a Picture (4.1) :



Picture (4.1)

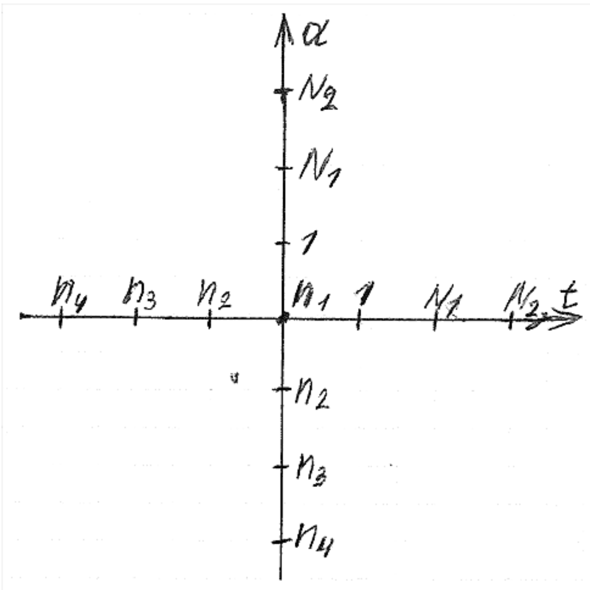
The radius can be only positive, but the time can be positive and negative. So Picture (1.1) describes the radius, and Picture (4.1) describes the time.

In order to trace the movement of the galaxies with the help of the radius and the time, we must place the picture (1.1) in the center of the picture (4.1) so that radius was perpendicular to time-plane, and the points n_1 cm and n_1 sec coincide. So (point of view is above of the time-plane):

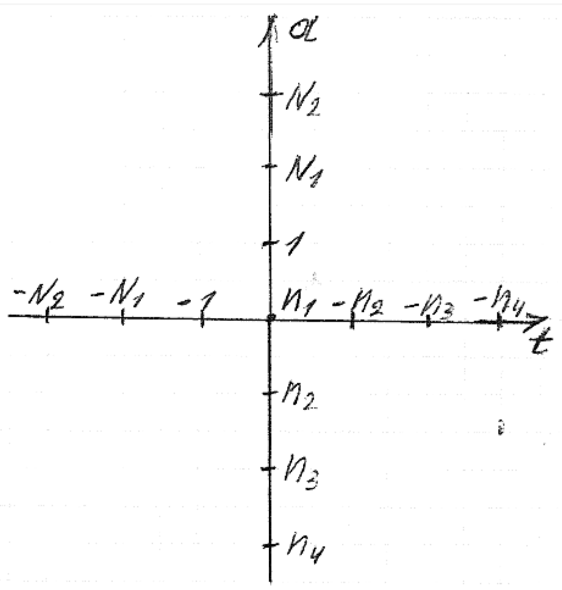


Picture (4.2)

Planes:

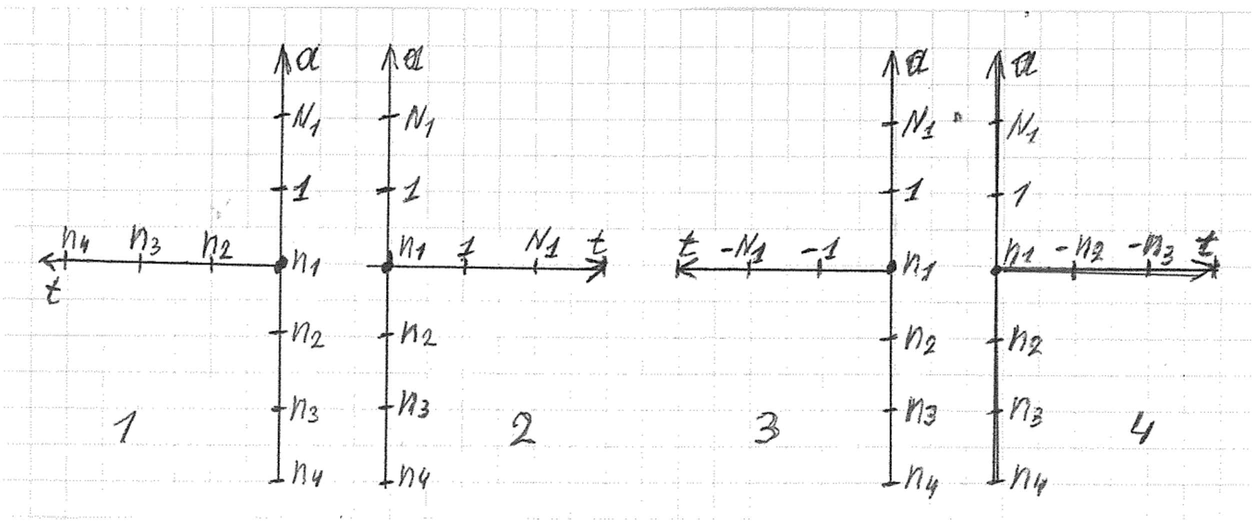


Picture (4.3)



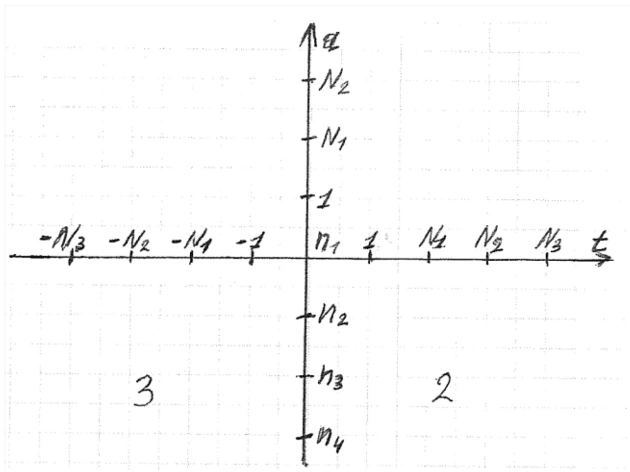
Picture (4.4)

we cut by the radius line into 4 semi-planes :



Picture (4.5)

Now we connect semi-plane 3 with semi-plane 2 by the radius line:



Picture (4.6)

5). Trajectories of the galaxies.

Let us try to trace trajectories of galaxies on plane (3 2) (Pictures (4.6), (5.1)).

From (2.4) we have: $t = \frac{1}{H} \cdot \ln a - \frac{1}{H} \cdot \ln a_0$ (5.1)

Let the first galaxy has $a_0 = 1$.

$a_1 = N_1 \quad t_1 = \frac{1}{H} \cdot \ln N_1$ $\qquad a_{-1} = n_1 \quad t_{-1} = \frac{1}{H} \cdot \ln n_1 = -\frac{1}{H} \cdot \ln N_1$

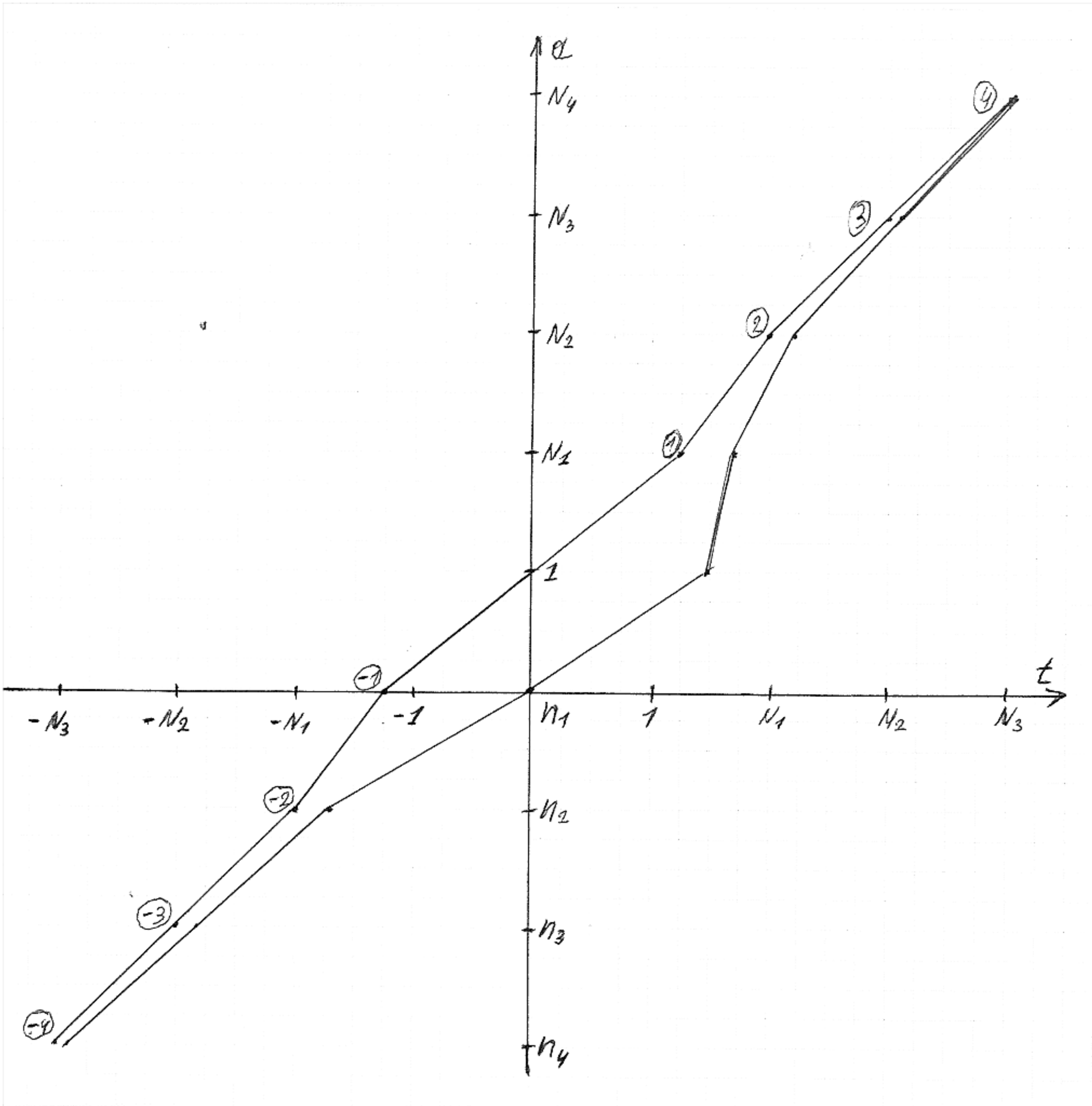
$a_2 = N_2 \quad t_2 = \frac{1}{H} \cdot N_1 \cdot \ln 2$ $\qquad a_{-2} = n_2 \quad t_{-2} = \frac{1}{H} \cdot \ln n_2 = -\frac{1}{H} \cdot N_1 \cdot \ln 2$

$a_3 = N_3 \quad t_3 = \frac{1}{H} \cdot N_2 \cdot \ln 2$ $\qquad a_{-3} = n_3 \quad t_{-3} = \frac{1}{H} \cdot \ln n_3 = -\frac{1}{H} \cdot N_2 \cdot \ln 2$

$a_n = N_n \quad t_n = \frac{1}{H} \cdot N_{n-1} \cdot \ln 2$ $\qquad a_{-k} = n_k \quad t_{-k} = -\frac{1}{H} \cdot N_{k-1} \cdot \ln 2$

(n = 2, 3, 4, …) $\qquad$ (k = 2, 3, 4, …)

These coordinates represented in the Picture (5.1) as upper line ($a_0 = 1$). The next line referred to $a_0 = n_1$.



Picture (5.1)

The formula (5.1) shows, that every galaxy has it's own trajectory (it's own a_0) which never cross the trajectory of another galaxy (with another a_0).
We see in the Picture (5.1) that second galaxy is situated at $t = n_1$ in the point $= n_1$. How can a galaxy has room in such a point ? It can. How many points with size n_2 contain in a point with the size n_1 ? $x = \frac{n_1}{n_2} = \frac{N_2}{N_1} > N_1$ (5.2) That is infinite large number which can contain all visible part of the Universe. When the Universe contracts, it's galaxies also contract. First to the size n_1, then to n_2, n_3, and so on. There velocities also slow down (3.4): $\dot{a} = H \cdot a$. Galaxies, which were far away (a > $10^{28} cm$) also contract, get a < $10^{28} cm$ and so became visible in ordinary light. Then they contract to the size n_1, n_2, n_3, and so on. Contraction

goes evenly, without sharp movements. So does expansion. No such things as the Big Bang.
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