How to make Theoretical Physics valid for the longest
How to make Theoretical Physics valid for the longest

„The first principle is that you must not fool yourself and you are the easiest person to fool.‘‘

R. P. FEYNMAN

"The difference between a good experiment and a good theory is in the fact that the theory gets old quickly and it is replaced by another one, based on more perfect ideas. It will be forgotten quickly.

The experiment is something else. The experiment, which has been thought well and performed carefully, will step in the science forever. It will become its part. It is possible to explain such experiment differently in different periods of times."

P. L. KAPICA
We will review the experiments of Fizeau, Harress, Kaufmann, Michelson - Morley, which led to the emergence of Einstein's special and general relativity theory. Einstein, A.: Sobranie naučnych trudov v četyrech tomach pod redakciej I. E. TAMMA, Ja. A. SMORODINSKOGO, B. G. KUZNECOVA, Izdateľstvo "Nauka", Moskva 1966

- Nobel laureates in physics are mostly physicists, who mainly create and defend physics. Einstein never received a Nobel prize for relativity...
- Why Einstein’s theory of relativity is not generally accepted as correct even after 100 years.
- Why it nevertheless no one truly understand.
- For nearly 100 years ago have been Nobel Prize winners said:

  „- Die Relativitätstheorie ist eine mathematische und keine physikalische Theorie.
  - Die Theorie ist bei weitem noch nicht experimentell abgesichert, die Meßergebnisse der Sonnenfinsternisexpeditionen lassen noch andere Deutungen zu.
  - Das Relativitätsprinzip ist nur für masseabhängige Bewegungen gültig
  - Die Relativitätstheorie widerspricht den fundamentalen Vorstellungen über Raum und Zeit: der euklidische Raum und die üblichen Zeitvorstellungen müssen verbindlich bleiben.
  - Speziell bei Lenard kamen dann noch die Bedeutung der Anschaulichkeit in einer Theorie und die entscheidende Rolle des „gesunden Menschenverstandes“ hinzu.“

- The theory of relativity is a mathematical and not a physical theory.
- The theory is far from being confirmed experimentally, the results of the solar eclipse expeditions allow other interpretations.
- The principle of relativity is only valid for mass-dependent movements
- The theory of relativity contradicts the fundamental ideas about space and time: the Euclidean space and the usual concepts of time must remain binding.
- Especially with Lenard, the importance of clarity in a theory and the decisive role of "common sense" were added.
- (Math has no EXPERIMENT, only definitions., Assumptions)

http://btp2x1.phy.uni-bayreuth.de/roessler/LFB/Lehrerfortbildung2012/Schoenbeck.pdf
Linear form of the interference field
Fresnel: \( \alpha = 0.44 \), \( v - \alpha u \), \( v + \alpha u \), \( u = 7.059 \text{ m/s} \)

Theory must use drag coefficient \( \alpha \) and aether.

**Fizeau's Experiment**

Non linear form of the interference field

**Fizeau's Experiment**

We do not need any drag coefficient \( \alpha \). \{ or \( \alpha = 1 \) \}

Fizeau's experiment confirms also that the interference field has a non-linear form.
This is simultaneously proves that the drag coefficient always equals one and the interference field has a non-linear form. Consequently, the interference fields are identical only for the shift of the interference fringes about 0 and/or 100 and 50 divisions.

Kaufmann's Experiment

Kaufmann's Experiment – diagram

<table>
<thead>
<tr>
<th></th>
<th>1631 V</th>
<th>2603 V</th>
<th>3250 V</th>
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<tbody>
<tr>
<td>$y_b$ [cm]</td>
<td>0.1236</td>
<td>0.1493</td>
<td>0.1664</td>
</tr>
<tr>
<td></td>
<td>0.1119</td>
<td>0.1302</td>
<td>0.1616</td>
</tr>
<tr>
<td>$\beta$</td>
<td>2°</td>
<td>3°11'</td>
<td>4°30'</td>
</tr>
<tr>
<td>$y$ [cm]</td>
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<td>0.3873</td>
<td>0.4985</td>
</tr>
<tr>
<td>$y_{T}$ [cm]</td>
<td>0.0629</td>
<td>0.09947</td>
<td>0.12557</td>
</tr>
</tbody>
</table>

$y_T$-theoretical value (our new theory): $y_b$ [cm] = $y_T$ [cm]
Asymmetrical Form of Intensity of the Moving Charge Electric and Magnetic Field

Fig. 2.7, 2.8., 2.9. 2.10 At level (x, y) section of the "hyperoloid" of the intensity for various speeds of the moving charge have a shape of all types of Pascal's screw stocks with charge at the beginning of the coordinates.
Intensity of the Moving Charge Electric Field

system of coordinates \((x, y, z)\) connected with the medium causing propagation of light. Let the electric field intensity in this medium propagate at speed \(c\) in all directions.

\[
\not{E}_{ad} = \nu \cdot \Delta t_{ad} = \frac{\nu}{c + \nu} (\nu \cdot t - r) = -\frac{\nu}{c + \nu} r'
\]

\[
\not{E}_{id} = \nu \cdot \Delta t_{id} = \frac{\nu(r - vt)}{c - \nu} = \frac{\nu}{c - \nu} r'
\]

Fig. 2.1. The intensity of the stillstanding charge

\[
\frac{E_{i0}^{id}(r')}{E_{i0}^{id}(r)} = \left(\frac{r'}{r^2 + \not{E}_{id}^2}\right)^2 = \left(1 - \frac{\nu}{c}\right)^2
\]

\[
\frac{E_{i0}^{id}(r)}{E_{i0}^{id}(r)} = \left(\frac{r^2}{r^2 + \not{E}_{id}^2}\right)^2 = \left(1 + \frac{\nu}{c}\right)^2
\]

\[
E_{i0}^{id} = E_{n0} \left(1 - \frac{\nu}{c} \cos \theta \right)^2
\]

\[
E_{i0}^{id} = E_{n0} \left(1 - \frac{\nu}{c} \cos \theta \right)^3
\]

It is evident that with increasing distance \(r_i (i = 1, 2, 3, \ldots)\) the respective "retardation of intensity" \((\not{E}_{id}^2)\) also increases, as can be seen in equation

\[
\not{E}_{id} - \nu \cdot \Delta t_{id} = \frac{\nu(r - vt)}{c - \nu} = \frac{\nu}{c - \nu} r'
\]
Calculation of the kinetic energy of a body moving at the velocity of \( v \)

Analogically for the intensity of the gravitational field one could write:

\[
g_{\text{mov}} = g_{\text{still}} \left( 1 - \frac{v}{c} \cos \vartheta \right)^2
\]

For the potential energy:

\[
\frac{dW_p}{dh} = mg_{\text{still}} \, dh
\]

For the potential energy:

\[
\frac{dW_p}{dh} = -mg_{\text{mov}} \, dh = -m \left( \frac{g_{\text{mov}}}{1 - \frac{v}{c} \cos \vartheta} \right)^2 \, dh
\]

By substituting \( g_{\text{mov}} = \frac{dv}{dt} \) and \( \frac{dh}{dt} = \nu \), we get:

\[
\frac{dv}{1 - \frac{v}{c} \cos \vartheta} = \nu \, dh
\]

Solving by substitution \( 1 - \frac{v}{c} \cos \vartheta = z \)

we get:

\[
T_{\text{kin}} = \frac{mc^2}{\cos^2 \vartheta} \left[ \ln \left| \frac{1 - \frac{v}{c} \cos \vartheta}{1 - \frac{v}{c} \cos \vartheta} \right| + \frac{\nu \cos \vartheta}{1 - \frac{v}{c} \cos \vartheta} \right]
\]

For \( \vartheta = 0^\circ \) we have the kinetic energy in the direction of motion

For \( \vartheta = 180^\circ \) we have the kinetic energy against the direction of motion

If \( 0 < \frac{v}{c} \ll 1 \) utilizing the series

\[
T_{\text{kin}} = T_{\text{kin}} = \frac{1}{2} m v^2
\]
Corrected Newton’s Laws of Motion

- **First law:**
  "Every mass (atom, molecule, particle, body, vacuum, transmission medium) persists in the status of the quasi-rest or quasi-uniform motion in a quasi-circle, or quasi-ellipse (excentricity e \(\rightarrow\) 0) as far as it the external forces do not force it to change its status. (This notion is called the **generalized law of inertia**)."

- **Third law:**
  All movements in physics are **based on principle of action - reaction** and **on velocity of stable particles** (e-, p+, n0, D, He-3, α). **- Action**, as a motion of stable particles (e-, p+, n0, D, He-3, α), is characterized by alternating acceleration and deceleration motion in the source, along ellipse or quasi-ellipse (excentricity e \(\rightarrow\) 0).

  Stable particles of various speed (leptons μ-, τ-, baryons, mesons), bosons W+, W-, Z (β electrons) are characterized by kinetic energy in direction of motion as particle

\[
T_{\text{kin id}} = mc^2 \left[ \ln \left| 1 - \frac{v}{c} \right| + \frac{v}{c} \left( \frac{1}{1 - \frac{v}{c}} \right) \right]
\]

- **Reaction** creates in the transmission medium, electromagnetic waves, as unstable “particles” - neutrinos νe, νμ, ντ, mesons π0, π+, π-, η, K and gamma rays (f > 10^19 Hz) are characterized by kinetic against direction of motion as wave

\[
T_{\text{kin ad}} = mc^2 \left[ \ln \left| 1 + \frac{v}{c} \right| - \frac{v}{c} \left( \frac{1}{1 + \frac{v}{c}} \right) \right]
\]

- Accompanying activity of reaction on movement of stable particles in the transmission medium are waves, or “unstable particles” i.e. neutrinos and mesons.
• What is Quark?
• Two energies, which are measured in opposite directions, and we consider them as **quarks are actually two different kinetic energy of a single proton,**
  the **first in the direction of its movement,**
  and the **second in the opposite direction.**
Quarks are actually locked (confinement) in proton, as is clear from the individual tables.
• **QUARKS = proton of different speeds**
  • A pair of quarks of one generation = one speed of proton:
    • u,d quarks are in the proton at speed of **proton: from** \( v = 0.05875c \) to \( v = 0.105065c \)
    • c,s quarks are in the **proton at speed of proton from** \( v = 0.713c \) to \( v = 0.7805c \)
    • t quark is in the proton (neutron) at speed of **proton (neutron):**
      \( v= 0.994637c \) for **top quark:** 169 100MeV
      \( v= 0.994766c \) for **top quark:** 173 400MeV/c²
    • b quark is in the proton (neutron) at speed of **proton (neutron):** \( v= 0.8665c \) for 4.2 GeV
      **bottom quark**
CONFINEMENT OF QUARKS Up - Down

| v/c  | Tkin id = mc^2[ln |1-v/c| + (v/c)/(1-v/c)] | Tkin ad = mc^2[ln |1+v/c|- (v/c)/(1+v/c)] |
|------|---------------------------------------------|---------------------------------------------|
| 0.05875 | Down quark  \( Tkin id = 1.7550 \text{ MeV} / p: \) \[ \] = 0.0018704988039450329861777626124876 | Up quark  \( Tkin ad = 1.5 \text{ MeV} / p: \) \[ \] = 0.0015986835148543461794415692315 |
| 0.075 | Down quark  \( Tkin id = 2.92697671 \text{ MeV} / p: \) \[ \] = 0.0031195396113692225967210545118109 | Up quark  \( Tkin ad = 2.4 \text{ MeV} / p: \) \[ \] = 0.002553219719161004341317048303 |
| 0.081622 | Down quark  \( Tkin id = 3.5 \text{ MeV} / p: \) \[ \] = 0.0037302615346601410853636615401917 | Up quark  \( Tkin ad = 2.81404106871 \text{ MeV} / p: \) \[ \] = 0.0029991740444424494322328316937 |
| 0.08878 | Down quark  \( Tkin id = 4.18366235 \text{ MeV} / p: \) \[ \] = 0.0044589013511482922312132108807756 | Up quark  \( Tkin ad = 3.3 \text{ MeV} / p: \) \[ \] = 0.0035171037326795615947714523093 |
| 0.094686 | Down quark  \( Tkin id = 4.8\text{MeV} / p: \) \[ \] = 0.005115691849402266243256221387619 | Up quark  \( Tkin ad = 3.72637 \text{ MeV} / p: \) \[ \] = 0.0039715278483606256196473452168 |
| 0.105065 | Down quark  \( Tkin id = 6 \text{ MeV} / p: \) \[ \] = 0.0063947340594173847177662769260429 | Up quark  \( Tkin ad = 4.53026 \text{ MeV} / p: \) \[ \] = 0.00482830150265965022910406573 |

Quarks are actually locked (confinement) in proton as is clear from the individual tables.
Quarks are in the proton at speed of proton: from $v = 0.713 \, c$ to $v = 0.73333 \, c$

$s$ quark $m_0 = 70 – 130 \, \text{MeV}/c^2$, $95+5–5 \, \text{MeV}/c^2$ [1]

$m_0 = 80–130 \, \text{MeV}/c^2$, Theorized Murray Gell-Mann (1964) George Zweig (1964) Discovered 1968, SLAC

[1] Citation: J. Beringer et al. (Particle Data Group), PR D86, 010001 (2012) (URL: http://pdg.lbl.gov)


c quark $m_0 = 1.16–1.34 \, \text{MeV}/c^2$, $m_0 = 1.29+0.05–0.11 \, \text{GeV}/c^2$[1] Decays into Strange quark (~95%), Down quark (~5%)[2][3]

<table>
<thead>
<tr>
<th>$v/c$</th>
<th>$T_{\text{id}} = m c^2[\ln (1-v/c) + (v/c)/(1-v/c)]$</th>
<th>$T_{\text{ad}} = m c^2[\ln (1+v/c) - (v/c)/(1+v/c)]$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.713</td>
<td>charm quark $T_{\text{id}} = 1.160 , \text{GeV}/p$: $[ ] = 1.236047494268773255524413529431$</td>
<td>strange quark $T_{\text{id}} = 1.160 , \text{GeV}/p$: $[ ] = 1.236047494268773255524413529431$</td>
</tr>
<tr>
<td>0.72585</td>
<td>charm quark $T_{\text{id}} = 1.270 , \text{GeV}/p$: $[ ] = 1.353558277163014343783820940418$</td>
<td>strange quark $T_{\text{id}} = 1.270 , \text{GeV}/p$: $[ ] = 1.353558277163014343783820940418$</td>
</tr>
<tr>
<td>0.73333</td>
<td>charm quark $T_{\text{id}} = 1.340 , \text{GeV}/p$: $[ ] = 1.428157273269882586967801846816$</td>
<td>strange quark $T_{\text{id}} = 1.340 , \text{GeV}/p$: $[ ] = 1.428157273269882586967801846816$</td>
</tr>
</tbody>
</table>

Quarks are actually locked (confinement) in proton as is clear from the individual tables.
| v/c   | Tkin id = $mc^2[\ln |1-v/c| + (v/c)/(1-v/c)]$ | Tkin ad = $mc^2[\ln |1+v/c| - (v/c)/(1+v/c)]$ |
|-------|----------------------------------|----------------------------------|
| 0.994766 | top quark Tkin id = 173.4 GeV / p: | Tkin ad = 179.9968678 MeV / p: |
|        | [ ] = 184.8078143171624183434454 | [ ] = 0.191838683558878228973 |
| 0.994637 | top quark Tkin id = 169.1 GeV / p: | Tkin ad = 179.9660877927 MeV |
|        | [ ] = 180.2249215745799592957129 | [ ] = 0.191806433786441122906 |
| 0.8665  | bottom quark Tkin id = 4.2 GeV / p: | Tkin ad = 149.961333459543879 MeV |
|        | [ ] = 4.476313841592169302436394 | [ ] = 0.159827140990503087217669575 |
| 0.73333 | charm quark Tkin id = 1.340 GeV / p: | strange quark Tkin id = 1.4281572732698825869678018 |
|        | [ ] = 1.4281572732698825869678018 | Tkin ad = 117.4.1941 MeV / p: |
|        | [ ] = 1.3535582771630143437838209404184 | [ ] = 0.12514431408438967945446850497659 |
| 0.72585 | charm quark Tkin id = 1.270 GeV / p: | strange quark Tkin id = 1.236047494268773255524413529431 |
|        | [ ] = 1.3535582771630143437838209404184 | Tkin ad = 114.4854937636 MeV / p: |
|        | [ ] = 1.236047494268773255524413529431 | [ ] = 0.12201738104659464824870350196726 |
| 0.713  | charm quark Tkin id = 1.160 GeV / p: | strange quark Tkin id = 0.006394734059417384717766276926 |
|        | [ ] = 1.236047494268773255524413529431 | Up quark Tkin ad = 4.530260 MeV / p: |
|        | [ ] = 0.006394734059417384717766276926 | [ ] = 0.0048283015026596502291040657295924 |
| 0.105065 | Down quark Tkin id = 6 MeV / p: | Up quark Tkin id = 4.18366235 MeV / p: |
|        | [ ] = 0.004458901351148292231213210880775 | Up quark Tkin ad = 3.3 MeV / p: |
|        | [ ] = 0.004458901351148292231213210880775 | [ ] = 0.003517103732679561594771452309324 |
| 0.08878 | Down quark Tkin id = 1.7550 MeV / p: | Up quark Tkin id = 1.7550 MeV / p: |
|        | [ ] = 0.0018704988039450329861777626125 | Up quark Tkin ad = 1.5 MeV / p: |
|        | [ ] = 0.0018704988039450329861777626125 | [ ] = 0.0015986835148543461794415692315107 |
Leptons (electron, muon, tau), $W^+ - Z$ bosons and neutrinos (electron neutrino, muon neutrino, tau neutrino) can be replaced with electron moving at different speeds from 0.001c up to 0.999.. c:

- **Electron, electron neutrino** are in the electron at speed of electron: $v = 0.995308032046$ c
- **Muon, muon neutrino** are in the electron at speed of electron: $v = 0.99971316674$ c
- **Tauon, tauon neutrino** are in the electron at speed of electron: $v = 0.999994396590953$ c
- **$W^+ - Z$ boson and neutrino** are in the $\beta$ electron at speed of electron: $v = 0.99999364465781184$ c
- **$Z$ boson and neutrino** are in the $\beta$ electron at speed of electron: $v = 0.999994396590953$ c
- **Higgs Boson 125300 MeV/c** speed of proton: $v = 0.9928305$ c

$\beta$ electron is radiated from a neutron

Hyperons, mesons and quarks can be replaced by proton and neutron, or alpha particle respectively, moving at different speeds from $0.1c$ up to $0.999.. c$:

- **Lambda hyperón 2286,46 MeV and pion $\pi^0$**: 134.9766(6) MeV are in the proton at speed of proton $v = 0.8022863362$ c
- **hyperon Chí c (2645)+ 2646,6MeV and pion $\pi^\pm$**: 139.57018(35) MeV are in the proton at speed of proton $v = 0.819183027$ c
- **hyperon 6,165 GeV and meson K- 493.7 MeV** are in the alpha particle at speed of alpha particle $v = 0.7533$ c
Radius of force reach of particles

The higher the speed of particle, the shorter radius of its own force range (it is significant for $v > 0.05c$).

At the same time it is the explanation of the short radius of force range of the particles of strong fields. Slow speed is accompanied by the long radius of force range.

<table>
<thead>
<tr>
<th>$v/c$</th>
<th>$r([0^\circ])$ [fm]</th>
<th>$r([180^\circ])$ [fm]</th>
<th>$d_p$ [fm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10^{-6}$ (300m/s)</td>
<td>3.0719</td>
<td>3.75224</td>
<td>3.06.10^9</td>
</tr>
<tr>
<td>$10^{-3}$ (300km/s)</td>
<td>1.66934</td>
<td>2.1798</td>
<td>6.12.10^3 (6pm)</td>
</tr>
<tr>
<td>0.03</td>
<td>0.6917</td>
<td>1.0324</td>
<td>6.824</td>
</tr>
<tr>
<td>0.04</td>
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<td>0.78267</td>
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<td>0.06</td>
<td>0.35832</td>
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<td>0.07</td>
<td>0.1716</td>
<td>0.35832</td>
<td>1.27312</td>
</tr>
<tr>
<td>0.1</td>
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<td>0.1516</td>
<td>0.5299</td>
</tr>
<tr>
<td>0.11</td>
<td>0.04895</td>
<td>0.0373</td>
<td>0.1937</td>
</tr>
<tr>
<td>0.19</td>
<td>0.0421</td>
<td>0.1516</td>
<td>0.0373</td>
</tr>
<tr>
<td>0.5</td>
<td>0.1716</td>
<td>0.35832</td>
<td>0.04895</td>
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<tr>
<td>0.7</td>
<td>0.04895</td>
<td>0.0373</td>
<td>0.0373</td>
</tr>
</tbody>
</table>

High speed is accompanied by the short radius of force range.
The Universe is the Cathedral of Science.

Doubts are anteroom Cathedral of SCIENCE.

Confirming our theory in Universe.

1. Movement Principles of the Fast-Spinning Bodies

2. Nuclear Fusion

3. Neutrino Oscillations

4. Orbit Radius and Speed of the Sun Around the Center of Gravity of the Solar System

Interesting: Einstein’s Theory of Relativity Can not Explain ...

Movement principles of the fast-spinning pulsars, Nuclear Fusion,
Wave – Particle Duality as Kinetic Energy Against and In Direction of Motion
the 4th Maxwell’s equation, Lorentz equals without the help of Space-Time,
Confinement of quarks, Great Table of Elementary Particles
Spectral line Hα, Neutrino Oscillations, Non-linear Form of the interference field

Kinetic energy of a charge moving at the velocity of v has two different values:
against direction of motion as wave, $T_{kin ad} = mc^2 + \ln \left|1 + \frac{v}{c}\right| - \frac{v/c}{\left(1 + \frac{v}{c}\right)}$,
in direction of motion as particle $T_{kin id} = mc^2 \left[\ln \left|1 - \frac{v}{c}\right| + \frac{v/c}{\left(1 - \frac{v}{c}\right)}\right]$

Yukawa potential

5. Spectral line Hα

6. Great Table of Elementary Particles

7. Corrected Newton’s Laws of Motion
[\ln |1-v/c| + (v/c) / (1-v/c) ], [\ln |1+v/c| - (v/c) / (1+v/c) ] ..... [ ] it is crucial for the correct quantitative values in most relationships.

**QUALITATIVE TRUTH** verified by all physicists:

1. Electron emits electromagnetic waves if and only if it is moving (alternately) accelerated and (decelerated) [after almost zero eccentricity ellipse].
2. Moving charge creates not only electric but also magnetic field.

We have a magnetic field if and only if we have moving charges.

**QUANTITATIVE STATEMENTS** then create different theories from different authors. For example, Maxwell's electromagnetic theory, Bohr's atom model, Lorentz force ...

These **quantitative** statements can be improved over the centuries and become closer to the truth.

For example, using the asymmetric shape of the electric field of the moving charge, we can deduce:

a) 4. Maxwell's equation that Maxwell did not deduce. (p.30 [1])

b) Calculating of the Lorentz relation for force from the relation for the electric field of a moving charge (p.28 [1])

c) Gaussian Law (p.29 [1])

d) Faraday's Law (p.29 [1])

e) Kinetic energy in the direction of motion as Newton's - Einstein's kinetic energy of a particle moving in the transmissive medium and kinetic energy of waves (against direction of motion of a particle) that this particle is creating - leaving in transmissive medium - like Maxwell's energy.

What is also an elegant explanation of the **400-year-old dispute** in physics: WAVE - PARTICLE DUALITY.


- Given this large number of new facts, it would be very desirable to create as many discussions as possible on the above topics, to approve or correct them as we correct some past claims - e.g.:

  **Bohr's electron skipping** from one energy level to another is replaced by a **fluent**, very fast electron motion after an almost zero eccentricity ellipse,

- **Einstein's** relation for kinetic energy $mc^2 - moc^2$ to replace with a relationship $mc^2 [\ln |1-v/c| + (v/c) / (1-v/c) ]$ for particle $mc^2 [\ln |1+v/c| - (v/c) / (1+v/c) ]$ for wave

The faculty professors are fully engaged in their teaching duties. There is no time left for doubts in anteroom Cathedral of SCIENCE.