Has some guy called Bell defeated great Einstein??

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Abstract

Because of found mistakes, which we are lazy to correct, we need to check and recheck the foundations of Physics. As examples of mistakes: "all" scientists used solution of dust collapse almost century, but it was wrong [Journal of Cosmology, 6, 1473-84, 2010] and my own paper: the unreal *coordinate singularity* of black hole surface is actually real [J. Contradicting Results Sci. 1, 9-13, 2012]. Outstanding person and a successful scientist Rudolf Peierls also noticed errors [Surprises in Theoretical Physics, Princeton University Press, 1979]; I have not got the unappreciated his work, so I can not agree with him. Honest work on the errors, as I understand, has not begun. You postpone everything until the Second Coming? But God speaks: Matthew 25:26.

PACS numbers:

Note, my mentioned in abstract paper is downloadable from here: [1]. The site of journal is "dead".

I. AUTHORITY OF EINSTEIN AND WHY WE MUST RESPECT AUTHORITY

The quote from 2014-Wikipedia on Einstein:

He developed the general theory of relativity, one of the two pillars of modern physics (alongside quantum mechanics).[2][3] He is best known for his massenergy equivalence formula $E = m\,c^2$ (which has been dubbed "the world's most famous equation").[4] He received the 1921 Nobel Prize in Physics "for his services to theoretical physics, and especially for his discovery of the law of the photoelectric effect".[5] The latter was pivotal in establishing quantum theory... Later, with the British philosopher Bertrand Russell, Einstein signed the RussellEinstein Manifesto, which highlighted the danger of nuclear weapons... Einstein published more than 300 scientific papers along with over 150 non-scientific works.[6][8] His great intellectual achievements and originality have made the word "Einstein" synonymous with genius.[9]

The quote from viXra:1402.0019, see [2]:

It is pity, that they call any authority argument as "fallacy". Why to become a president, if anyone would insult you on the streets and not willingly obey? Atheist: "obeying to authority... brought us two world wars." Me: just because Stalin and Hitler killed the respect for human achievements (e.g. I am published in Physical Review, thus have more authority as You all here), it does not mean, that authority and respect are bad. They were just killed by criminals. That is sin of criminals, not of an obeying authority. The Love to God was killed by satan in you. It is sin of satan, not of Love. So, dear atheistic brothers: repent to be good. The Charlotte, if she is alive, shall read the Plato's investigations before saying "Plato wrong, I am right". For destruction of sanity of such great mind, Charlotte must bring us the exact quotes and show the exact point in text, there Plato "made" mistake in (mathematical?) arguments. The Plato has derived the knowledge: "we all know the God do am", hasn't he? My source tells, that has. Do You know this part of Plato's work? Can You give me more precise reference, the book title? After that, please tell me, is this part the logically complete? Has the Plato the axioms or not, thereby? Atheist: Plato is polytheist, thus is wrong. Me: Plato is not crazy, he is acknowledged wise man. God Father, God Son,

God Holy Spirit: the God Holy Trinity.

II. CLEAR SIGNS OF BELL'S MISLEADING MISTAKE.

A. The Einstein's Relativity

Let particle A be quantum entangled with particle B. The system has wave function $f = f(A, B)$. So then you measure the particle A in point PA, the f becomes collapsed, so the probability to find particle B in state S becomes 100%. The point, where this happened with B is PB. Take the Inertial Coordinate System W1, the events PA and PB in spacetime happen simultaneously in W1. But take another moving Coordinate System W2, then the events PA and PB are not simultaneous: the part of wave-function f is collapsed (particle A was measured), but measurement outcome of particle B is not fixed (because that part of wave-function is still not collapsed). So you get no entanglement between A and B, but which is there, so it is contradiction. Therefore: the function f is always collapsed within all spacetime, if somewhere sometime a measurement of A (or B) is done. Another words: event of measurement collapses this entangled function within all spacetime (past and future). Thus, particles A and B are classical. Perhaps Einstein smiles in afterlife! Let him become thrilled, see below.

B. Are there really inequalities in Bell's research?

In the book "Quantum Enigma" (ask for file, if needed) the Rosenblum tried to derive Bell's inequality following way. Out of some region are flying the entangled pairs of particles (A,B). The Alice catches particle A and measures it's polarization with polarizator (getting as outcome only "yes" or "no": is the spin closer to first axis FA of polarizator or not). Same does the Bob with particle B. If the axis FA of polarizators are aligned, then there is no difference in protocols of results (when Bob and Alice will compare the records). But if Alice turns her axis by angle Θ, then the difference in protocols becomes, say, 5%. After that Alice's act the Bob also turns his axis (in opposite direction) same amount. But in relation to Alice the angle of difference β (same angle is in Section IV) between people changes from Θ to $2\,\Theta$. So because Bob turns the axis in relation to SHIFTED direction (by Θ) of Alice's axis, so the more distant position of Alice axis, the difference in results may increase more

than 5%. The 5% Bob would get, if the angle of difference β changes from 0 to Θ, but now the angle of difference β changes from Θ to $2\,\Theta$. So it is not certainly the 5% in addition. That was missed by Rosenblum.

III. CRITICAL VIEW AT BELL'S PAPER [3]

See formula (3): $< \vec{\sigma}_1 * \vec{a}\ \vec{\sigma}_2 * \vec{b} >= -\vec{a} * \vec{b}$, must there be $<$ SIGN$(\vec{\sigma}_1 * \vec{a})$ SIGN$(\vec{\sigma}_2 * \vec{b}) >$ instead? The SIGN operator acts following way: SIGN$(-2.67) = -1$, SIGN$(4.8) = 1$, SIGN$(0.7) = 1$.

It is very, very suspicious. Why the Bell has not given the derivation of such important result, the formula (3)? Is it "result", or hypothesis? The Tartu University was unable to give me answer: where is the derivation of formula (3)? How it was derived? Was it derived?

A. From letters to Dr. Groote, language: Estonian

Valemid (1) ja (2) tähendavad, et arvutakse keskmine katse tulemustest. Kuid valemis (3) keskendamise operaatori <> sees pole katse tulemused. Sest katse tulemused on diskreetsed väärtused SIGN$(\vec{\sigma}_1 * \vec{a}) = \pm 1$ ja SIGN$(\vec{\sigma}_2 * \vec{b}) = \pm 1$ (see on hästi näha lk.403). Kuid pidevad fuktsioonid $\vec{\sigma}_1 * \vec{a}$ ja $\vec{\sigma}_2 * \vec{b}$, mis on praegu artiklis, valemis (3), pole katse tulemused.

Aitäh kiire vastuse eest, Dr. Groote. Sina kirjutasid: "kui $\vec{\sigma}_1 * \vec{a} = +1$, siis $\vec{\sigma}_2 * \vec{a} = -1$" Kuid see ei ole nii kirjutatud, kui Bell kirjutab. Vaata, lk.403: "measurement of $\vec{\sigma}_2 * \vec{a}$... the value -1". Minu arusaamas sõnale "measurement" vastab SIGN operaator. Seega ei kehti sinu $\vec{\sigma}_2 * \vec{a} = -1$, vaid minu SIGN$(\vec{\sigma}_2 * \vec{a}) = -1$. Igatahes, asjaolu, et MEASUREMENT of $\vec{\sigma}_2 * \vec{a}$ võttab ainult kaks väärtust (+1 või -1) peab olema valemi (3) tuletuse sees. Kuid see üldse ei paista välja, ka mina (kui tuletasin see valem) pole kasutanud SIGN operaatori. Tuletus on lihtne ja varsti loodan Sulle saata, nimelt Belli artiklis [3] valem (3) mina tuletasin. Kuid puht mehaaniliselt, mitte kvant-mehaaniliselt. Järelikult, Einstein oleks rõõmus.

IV. DERIVATION OF FORMULA (3) IN EINSTEIN'S STYLE.

Let us derive (3) without quantum-mechanics. Alice and Bob. Particle arrives at Alice with spin σ_1, the detector of Alice has axis $\vec{a}$. Let both vectors be entirely in the plane of detector (perpendicular to particle's flight). The angle between these vectors is ϕ (in cylindrical coordinate system with flight direction as axis). The angle between $\vec{a}$ and $\vec{b}$ is β, thus, the angle between $\vec{\sigma}_1$ and $\vec{b}$ is $\phi - \beta$. In Einstein's style holds $\vec{\sigma}_2 = -\vec{\sigma}_1$. So, the angle between $\vec{\sigma}_2$ and $\vec{b}$ is $\phi + \pi - \beta$. Let a, b, $\sigma = |\vec{\sigma}_1| = |\vec{\sigma}_2|$ be norms of according vectors. Then

$$< \vec{\sigma}_1 * \vec{a}\ \vec{\sigma}_2 * \vec{b} >= \frac{1}{2\pi} \int_0^{2\pi} \sigma^2\, a\, b \cos(\phi)\cos(\phi + \pi - \beta)\, d\phi = -\frac{\sigma^2}{2}\, a\, b \cos(\beta) = -\frac{\sigma^2}{2}\, \vec{a} * \vec{b}\,.$$

Thus, $\sigma^2 = 2$. So, the Bell has meant photon $s = 1$ with $\sigma^2 = s(s+1)$, hasn't he? But, in case of typing mistake (in (3)) may even be $\sigma = 1$. The typing mistakes are not rare even in most top journals and prominentest authors, as prime example: Black Hole "Hawking temperature" in two abstracts of [4] is different. But must be the same, because it is his most famous discovery. Has the World gone with true one?

So how realy the Bell has got formula (3)? The Bell refers to Bohm's 1957 paper. However Bohm treats not spin 1/2 particles, but photons and also has not provided the formula (3), i.e. has not calculated the correlation function. But the Bohm has formula (2) (not Bell's formula (2)). There are two spin 1/2 particles with opposite spin-vectors (in spherical coordinates) and with uniform probability distribution. Thus, the Bell's getting of formula (3) is better to coincide with my derivation. But what does it mean? The Bell has not used the quantum mechanics while getting the formula (3), because I have not used it. We must forgive the "human factor" inside Bell's "groundbreaking" paper, the former candidate for Nobel Prize and let God has mercy on Bell's soul. The great Einstein also has shown the "human factor", saying without objective proof on Bohm: he did well, but not that, what I have asked.

V. MORE CRITICS ON BELL'S PAPER

Meie kalli Bell surm oli müstiline: kui ta poleks surnud, siis samal aastal oleks saanud Nobeli preemia oma artikli eest. Sel juhul meil poleks olnud lootust teda kritiseerida.

Vaadake valem (10), seal sees pole ajast t sõltuvust. Kuid härra Bell kirjutab samal lehel: "the function (10) is not stationary". Kuidas nii??? Ta proovib selle aja sõltuvuse tõestada

ja kirjutab: "thus $P(\vec{b},\vec{c})$ cannot be stationary." Kritiseerin: 1) selle $P(\vec{b},\vec{c})$ pole valemis (10), seal on $P(\vec{a},\vec{b})$, 2) jälle pole selge kus kohta tuleb sõltuvus ajast t, sest kõik vektorid $\vec{a}$, $\vec{b}$ ja $\vec{c}$ on konstantsed (eks ju?).

VI. THE BELL'S CASE TELLS: FOUNDATION OF QUANTUM MECHANICS IS NOT CORRECT

The Bell has destroyed the Bohm, but I have destroyed Bell. Thus, I am left with David Bohm. I am convinced, that the quantum potential of Bohm can be detached from the wave function of Bohr and describe the actions of God's Grace. The whole spacetime, the present and past, are fine tuned by Holy Trinity.

Look in wikipedia "Robertson-Schrödinger uncertainty relations" in article "Uncertainty principle", or read e.g. [5]. In wikipedia is written the variance

$$\sigma_A^2 =< (A-a)\psi|(A-a)\psi > ,$$

where $a =< \psi A\psi >=< A >$ is average over operator A. Thus, it is scalar product of two vectors $< f_1|f_2 >$, where

$$f_1 = (A-a)\psi\,, \qquad f_2 = (A-a)\psi\,.$$

It is not the same as average

$$< (A-a)^2 >=< \psi|(A-a)^2|\psi >$$

and the assumption, that operator A is Hermitian ($A = A^{T*}$) does not help us. Indeed, the vector $\gamma = A\psi$, if being complex conjugated, does not change itself from being vector to operator:

$$\gamma^* = (A\psi)^{T*} = \psi^* A^{T*}\,,$$

because the operator A^{T*} acts here not to the right (as the rule was saying), but to the left, on vector ψ^*. As example $A = d/dx$, $\psi = x$. Then $\gamma = (d/dx)x = 1$, then $\gamma^* = (1)^* = 1$. Also get in mind, that

$$\psi^* A^{T*} = x\,(d/dx) = 1\,,$$

because operator (d/dx) must here act to the left, on the x. Thus, the rule "operator acts to the right", is not always holding in the "Martila's brain physics".

Hereby more of my considerations:

Take $< \psi|A\,B - B\,A|\psi >$, if $A|\psi >= a|\psi >$ and $B|\psi >= b|\psi >$, then always $A\,B = B\,A$. If in text is written: $< \psi|A|\psi >< \psi|B|\psi >$, then this is not equal to $a\,b$, because the ψ with B is not the ψ with A.

As I understood from W. Heisenberg original paper http://scarc.library.oregonstate.edu/coll/pauling/bond/papers/corr155.1.html, the author has written in the beginning, that uncertainty formula comes from the disturbing of the system by the measuring devices.

See News paper "Exploiting Subtleties in the Uncertainty Principle" http://www.rochester.edu/news/show.php?id=5692 on Jeff Z. Salvail's article *Nature Photonics* 7, 316-321 (2013).

A. Critical Remarks on Heisenberg's microscope

In the D. Bohm and B.J.Hiley book "The Undivided Universe", London-Routledge, 1993, page 14 is the microscope. But I see, that 1) assumed, that particle-wave duality is true, 2) is missed the point, that the photon in Compton Effect shall be with changed the energy $h\nu = f(\theta)$, which can be measured at point Q, 3) if the uncertainty principle is not assumed from the beginning, then at point Q we can measure all properties of photon very exactly. Thus, we can measure the arriving angle and the θ, 4) the lense can be the one from telescope, thus with corrected optical defects (the photons of all energies arrive at same point Q).

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[1] Dmitri S Martila. On Naked Singularities of spacetime Curvature. J Contradicting Results Sci. 2012;1:9-13. Available from: http://jcrsci.org/sites/default/files/10.5530jcrsci.2012.1.4.pdf

[2] Dmitri Martila. 2014. Return to Innocence or Vaccine Against Atheism. http://viXra.org/abs/1402.0019 (viXra:1402.0019)

[3] John S. Bell, On the Einstein Podolski Rosen paradox, Physics, 1, 195-200 (1964). See "Bell's theorem" in Wikipedia, there is "free" file.

[4] S.W. Hawking, Particle Creation by Black Holes, Comm. Math. Phys. 43, 199-220 (1975), S. W. Hawking, Black hole explosions? Nature 248, 30-31 (1974).

[5] Schrödinger, E. (1930), "Zum Heisenbergschen Unschärfeprinzip", Sitzungsberichte der Preussischen Akademie der Wissenschaften, Physikalisch-mathematische Klasse 14: 296303; Griffiths, David (2005), Quantum Mechanics, New Jersey: Pearson.