

*Nobel Laureate Murray Gell-Mann's scientific, objective, plain disproof of quantum entanglement hype and its censorship by deceivers who cater to popular superstitious pseudoscience*

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**ABSTRACT**

It is common amongst the bigoted elite physicists and mathematicians to dismiss radical writings by a non-famous, non-Nobel Laureate as mere worthless “opinion”, without bothering to waste time reading it to even bother to find out whether it is based on facts and proof tested by experimental or observational data. Then they close down the discussion and refuse to enter further correspondence. So this paper consists entirely of a short quotation from Murray Gell-Mann’s very poorly organized book *The Quark and the Jaguar*, published in 1994, disproving popular superstition/fairy tale quantum entanglement hypes and media sponsors.

**GELL-MANN DEBUNKING THE OBFUSCATORS OF QUANTUM ENTANGLEMENT**

*The Quark and the Jaguar*, 1994, ch. 12, “Quantum Mechanics and flapdoodle”, quotation from page 167:

“While many questions about quantum mechanics are still not fully resolved, there is no point in introducing needless mystification where in fact no problem exists. ... theoretical work done by the late John Bell ... involves two photons moving in opposite directions, have given readers the false impression that measuring the properties of one photon instantaneously affects the other. ... faster-than-light communication ... ‘paranormal’ phenomena ...”

*The Quark and the Jaguar*, 1994, ch. 12, “Quantum Mechanics and flapdoodle”, quotation from page 172 (**bold print** added to key points):

“The principal distortion disseminated in the news media and in various books is the implication, or even the explicit claim that measuring the polarization, circular or plane, of one of the photons somehow affects the other photon. **In fact, the measurement does not cause any physical effect to propagate from one photon to the other.** ... the situation is like that of Bertlemann’s socks, described by John Bell in one of his papers. **Bertlemann is a mathematician who always wears one pink and one green sock. If you see just one of his feet and spot a green sock, you know immediately that his other foot sports a pink sock. Yet no signal is propagated from one foot to the other.**”

**CONCLUSION**

Difference between 1<sup>st</sup> quantization (classic QM and Bohm’s theory) and 2<sup>nd</sup> quantization (QFT):

In first quantization (non-relativistic i.e. false QM epicycles), a photon’s polarization is described by a single wavefunction which is indeterminate until measured. QM of the standard non-relativistic textbook sort, where the field potential is classical not quantized as in QFT. This leads to quantum entanglement of “the” wavefunctions, which “collapse” to a determinate value only when measured.

In second quantization (relativistic, correct QFT, e.g. Feynman’s path integral for amplitudes for all possible paths), a photon doesn’t have “a single wavefunction”, but instead it has an infinite number of wavefunction amplitudes, one for every possible path and interaction graph, including wavefunction amplitudes for possible interactions with measuring apparatus, electrons in edges of screen slits, etc.

**Instead of a single wavefunction existing for each photon, and only collapsing when measured, each photon has an infinite number of wavefunctions – one for every route and possible interaction (including interactions with electrons at the edges of slits in screens and electrons in photon detectors) – which must be summed in a path integral. Multipath interference replaces**

**“wavefunction collapse.” Bigots don’t even consider path integrals (multipath interference, a simple physical mechanism) as a replacement to QM myths! They just excluded it from Bell’s inequality!**

**What about the basic problem of whether the path integral *really* represents the exchange of virtual particles taking all paths, or whether this is just a convenient mathematical fiction or “model”? The path integral sums wavefunctions (amplitudes) for all possible paths of 2nd quantization. Surely this conflicts with the 1st quantization picture whereby an electron has merely a single wavefunction (amplitude). Interference between multiple possible electron orbit “paths”, *if the path integral is real (as suggested by the successes of path integrals in particle physics, the SM)* surely provides a mechanism to explain the uncertainty principle? Why is it that highbrow mathematicians are so prejudiced against any possibility of a mechanical understanding of QFT? Why keep to dogma?**