

Quantum teleportation and mental telepathy[☆]

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Abstract

The quantum paradigm has created need for a revised approach to phenomena such as mental telepathy previously considered beyond valid science. Experiments that support Bell's inequality demonstrate an observed state change at distant sites faster than light speed in a manner that could not have been preset (Weihs et al., 2008). Quantum teleportation relies on a particular feature of quantum mechanics, entanglement. Practically instantaneous transfer of data from one human to another without technological aid requires a sound scientific explanation. Here we provide a compound hypothesis to explain observational data that have no supportable classical explanation: (i) direct teleportation, and (ii) photonic transfer of a quantum of data to a coding mechanism. A collective mode of energy storage as a geometric assortment of Böse quasiparticles with internal structure can support a time-varying multi-component frequency generator, tuner, and receiver. This kind of substructure can provide a superposed stratum for teleportation and also an encoding and decoding complex for photonic transfer. Activity-dependent inhibition in the reticular formation of the thalamus can relax neurophysiological constraints on the formation of a central coherent quasiparticle. Thalamico-cortical and cortico-cortical feedback loops provide energy, material synchronisation, and specific low-frequency oscillations in the electromagnetic spectrum capable of supporting condensation and end to end communication. This theory lays open a field for examination of finer levels in the observational¹ study of consciousness. The required establishment of resonance connects the mental to parallel theories of energetic focusing and harmonisation in the body. From here a sound and principled theory of mind will lead to the commencement of a valid psychiatric theory and an improved approach to bodily health.

Quantum mechanics at the linear

Given a linearly prepared quantum, $|\Psi\rangle$, the observation of one of an entangled, and thus superposed pair, $|\Psi, \Phi\rangle$, of these quanta conserves momentum in such a manner as to violate EPR locality. This quantum teleportation provides a theoretical mechanism for the instantaneous modification of the quantity entangled, as represented by

$$\mathcal{H}|\Psi\rangle|\Phi\rangle \longrightarrow |\Psi', \Phi'\rangle; \quad \mathcal{S}|\Psi', \Phi'\rangle \longrightarrow |\Psi'', \Phi''\rangle,$$

where \mathcal{H} is a Hadamard operator, and \mathcal{S} depends on the physical properties of the entangled pair.

¹A series of observations results in *data* that can be subjected to experiments (on that data) that test a hypothesis — *observational experiments*. Combined with ethically sound *interference* that produces data we have the scientific method that adds to the body of knowledge we call *science*. Compare cosmology with animal husbandry. A hypothesis, the Bayesian prior, does not affect the data, might not affect that which is observed, but is necessary prior to interference. Interference without proven knowledge, a theory, and a hypothesis is the downfall of scientists, their funding sources, and those from whom they receive time and space to work in peace, who turn physics into stamp-collecting, like those who perform germ-line modification without any overall understanding of quantum biology or the ramifications of their behaviour or activities.

[☆]This paper is a result of many years work, initially resulting from anecdotal evidence with my father and then Valerie Rockefeller in 1989 and confirmed with my grandmother Betty McPhail in 2001 and then the folk at the Auckland City Mission. The interpretation of quantum mechanics is my own, but after looking around I realised that it must be the same as that of the New Zealand Māori and my ancestors. The most appropriate term for it, since there are historically a number of mis-interpretations, is the *Pōneke interpretation*, not just *quantum mechanics*.

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An energetically pumped lattice of quantum oscillators can achieve a coherent state of higher collective energy (Fröhlich, 1968a,b),

$$|\Sigma\rangle \xrightarrow{nE_n} a |\Sigma\rangle \longrightarrow |\Sigma^*\rangle,$$

with n quanta of energy, and a the creation operator. Such a condensate can be realised as an energy quantum, or quasiparticle (Giamarchi et al., 2008), with momentum-conserving internal structure (Lagoudakis et al., 2008) that can be understood with a quasiparticle quantum physics (Dalfovo and Stringari, 2001). The potential function of the Hamiltonian differs from the quantum atomic model both in the relative momenta and field strengths, yielding quasilattices rather than spherical harmonics. A recursive structure of hierarchical or geometric entanglements can be understood with a quasiparticle quantum chemistry,

$$\mathcal{H} \left\{ \begin{array}{l} \mathcal{H} |\Sigma_{1,1}^*\rangle \cdots |\Sigma_{1,p}^*\rangle \longrightarrow |\Sigma_{1,1}^{*'} \rangle, \dots, |\Sigma_{1,p}^{*'}\rangle = |\Sigma_{i,1\dots p}^{*'}\rangle \rightarrow |\Gamma_1\rangle, \\ \vdots \\ \mathcal{H} |\Sigma_{a,1}^*\rangle \cdots |\Sigma_{a,q}^*\rangle \longrightarrow |\Sigma_{a,1}^{*'} \rangle, \dots, |\Sigma_{a,q}^{*'}\rangle = |\Sigma_{a,1\dots p}^{*'}\rangle \rightarrow |\Gamma_a\rangle \end{array} \right\} \longrightarrow |\Pi\rangle.$$

Given the time-varying potential, \mathbf{V}_i , of the physical substrate and interparticle interactions of the i th quasiparticle, $V_{b_i} + \mathbf{V}_{\Sigma_{i,1\dots p}^*}$, and recalling a time variation in each quasiparticle, spatial proximity weights the interactions between quasiparticles. A change in any component of \mathbf{V}_i or $|\Sigma_{i,1\dots p}^*\rangle$ may operate on $|\Sigma_{i,1\dots p}^*\rangle$ so as to nonlinearly alter the quantum probability distribution,

$$|\Sigma_{i,1\dots p}^*\rangle \xrightarrow{V_{b_i} \rightarrow V_{b_i}'} \mathcal{V} |\Sigma_{i,1\dots p}^*\rangle \longrightarrow |\Sigma_{i,1\dots p}^{\delta}\rangle.$$

A threshold observation, to first order, forces a classical token, or observable, on a quantum, such as a vortex in a condensate, so that the overwhelming potential change evolves and critically selects an eigenstate, such as the vortex being described as left or right handed,

$$\mathcal{O} |\Sigma_{i,1\dots p}^{\delta}\rangle \longrightarrow o |\gamma_i\rangle + \oint \lambda \omega,$$

where each $|\gamma_i\rangle$ is a basis for the function approximation,

$$|\Gamma_i\rangle \propto \sum_{j=1}^N g_j |\gamma_j\rangle.$$

A quantum energy transfer can cause change in

$$|\Pi^*\rangle \xrightarrow{V_{\Pi^*} + \oint \lambda \omega} a^\dagger |\Pi^*\rangle \longrightarrow |\Pi^?\rangle + \oint \lambda \omega,$$

so that a waterfall of decoherence may necessitate further pumping and cohering,

$$|\Pi^?\rangle = |\Sigma_{i,j}\rangle \xrightarrow{mE_m} a |\Sigma_{i,j}^{*'}\rangle \longrightarrow \text{condensation} \longrightarrow |\Pi\rangle.$$

The emitted quantum may, in synchronicity, cause downstream change.

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