

Abstract Submitted  
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**Education at Brown U. & the Theory of Elementary Waves (TEW)** JEFFREY BOYD, Independent — Two alumni of Brown's Applied Math Dept propose a new idea that is at odds with Wave Particle Duality (WPD). The Theory of Element Waves (TEW) pictures particles and waves traveling in the opposite directions. What is the evidence? How did education at Brown five decades ago prepare them to formulate new ideas? There are 5 experiments in which TEW and WPD predict different outcomes. Two of these have been conducted and favor TEW over WPD. The other 3 are proposed. The first experiment involves a neutron interferometer.(1) When bismuth is added inside the NI to slow down one of two waves, abolishing all interference inside the NI, that interference can be restored by inserting an analyzer crystal downstream from the NI. According to WPD, neutrons & waves go from the reactor to the detectors; so it makes no sense that a crystal inserted downstream could restore interference upstream. TEW says the waves go in the opposite direction: so the results make sense. We also propose a double slit experiment, in which TEW and QM predict different outcomes. Our education prepared us for a lifetime of learning. 1. Kaiser, H., R. Clothier, S. A. Werner, et.al, "Coherence and spectral filtering in neutron interferometry," *Physical Review A*, 45, #1 (Jan 1, 1992): 31-42.

Jeffrey Boyd  
Independent

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