

Quantum electrodynamics and Neils Bohr

Having just finished the wonderful Pais biography the understandability of quantum is made obvious *by for example the half-life decay of a mother atom to a daughter atom could never be predicted on mechanical ie classical grounds but only the overall supremely accurate forecast of half of all the atoms having decayed for that particular radioactive element.* There is the statistical nature of quantum. Thus complementarity becomes an acceptance of competing equally justified propositions. Einsteins clock experiment failed because he did not take into account the change in the measuring device itself which of course is uncertain.

It is probably naive to translate this into biological problems but " the essential non-analysability of *atomic stability in mechanical terms presents a close analogy to the impossibility of a physical or chemical explanation of the peculiar functions characteristic of life*". In one sense life in the world is a synthetic phenomena and therefore not susceptible to a mechanistic explanation.