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Title: ATP by Mitochondria induced UV radiation supersedes chemiosmosis based on H+ gradient across inner membrane

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Abstract
Chemiosmosis in mitochondria is thought supported by the acid-bath chloroplast experiment to show a change in bath pH from 4 to 8 produces a H+ ion gradient across the thylakoid membrane to synthesize ATP as shown in Figure 1. However, pH change is accompanied by a release in metabolic heat that increases bath temperature. In chloroplasts, the thylakoid membrane contains submicron stacks of grana, the heat locally conserved by simple QED creating EM radiation beyond the UV instead of an increase in temperature. Simple QED relies on real photons and differs from the virtual photons in Feynman's QED. Hence, chemiosmosis by H+ gradients does not occur, and instead ATP is synthesized from oxidation of food molecules by UV radiation.

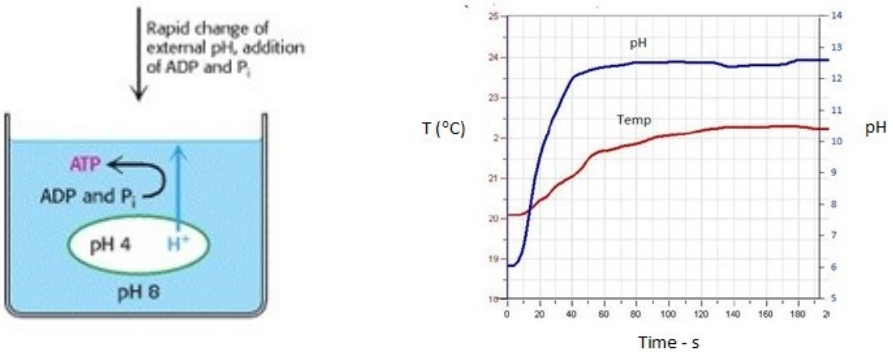

Figure 1. Chemiosmosis Acid-Bath Experiment

Biography
Thomas Prevenslik developed simple QED for nanoscale heat transfer. Heat absorbed in nanostructures places interior atoms under high EM confinement that by the Planck law denies constituent atoms the heat capacity to conserve heat by an increase in temperature. Instead, heat is conserved by emitting EM radiation. In the instant topic of ATP from metabolic heat in mitochondria, the atoms in grana conserve metabolic heat by emitting EM radiation beyond the UV that breaks down food molecules to synthesize ATP.

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