

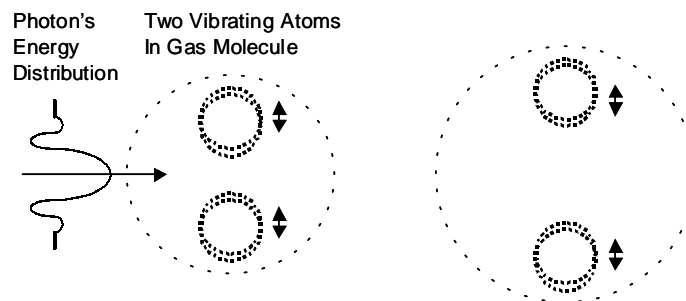
For Immediate Press Release

Light mill's rotation thrills kids and baffles scientists. First introduced by Sir William Crookes in the mid 19th century, the mechanism of mill's motion continues to be a source of much debate. At one time light rebounding was thought to cause its motion except that dark paddles of the mill recede from light. Presently, gas flow along the edges of the paddles is thought to move the paddles.

However, the edge effect cannot explain the reversal of light mill rotation when light mill is placed in cold surroundings.

Quantum mechanical explanation confirms the new experimental result. If a photon of light is absorbed between two atoms the consequent bounce increases the pressure. In reverse, if a photon is emitted, two atoms bounce *toward each other* with consequent decrease in pressure. Since all gas molecules are composed of at least two atoms, the atoms can move together or away from each other in the framework of momentum conservation.

Direction of light mill movement depends on the absorption-emission state of dark paddles compared to the gas molecules. When dark paddles emit heat the neighboring gas molecules absorb heat photons and gas pressure increases over the entire dark surface.



Photon Absorbed in Gas Molecule Increases Average Atomic Separation

However, when absorption prevails at dark paddles then gas pressure becomes lower at its surface. In the freezer dark paddles cool off faster and gas molecules then radiate more heat into the dark paddles. Molecules radiate heat while conserving momentum and atoms move toward each other with a resulting decrease in average atomic separation. In the freezer the dark surfaces of the paddles acquire lower pressure than bright surfaces.

“Yes, you can duplicate this in your teacher’s lounge. At times we need to rework the present to see the future.”