

Quantum Man

"Time is of No Object. I have no Money to spend."

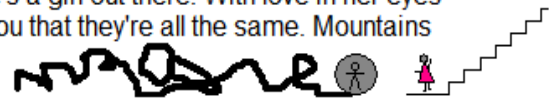


A microscopic man walks into a new bus station called "Pollen Transit" and asks how much it costs to get from Canada to California. The bus station says it is "FREE". The man asks how long will it take to get there? The bus station says they cannot guarantee how long it will take to get there, but eventually it will happen. The bus station says that the man may even make several trips back to the original starting point before actually getting to the destination, and it could take weeks or years to arrive in California. The man says "that's kind of like how my old transit station worked, all I wanted to do is go to the mall, but they drove me all around town before taking me to the mall. That's just the way the bus system works! They were charging me money, but at least your transit system is FREE. Time is not an object for me, only money is. I do not have any money, so I will take your transit system and consider the ride there a long holiday, and if I die before I get there, I'm okay with that. When I die, please leave me on the bus because I do eventually want to be buried in California."

How is it possible that a microscopic man could eventually end up in the destination he desired, costing him no energy, if time was no issue to him? From this thought experiment we can see that in microscopic containers, one can travel to one location to the next location without expending any energy, as long as time is not of concern.

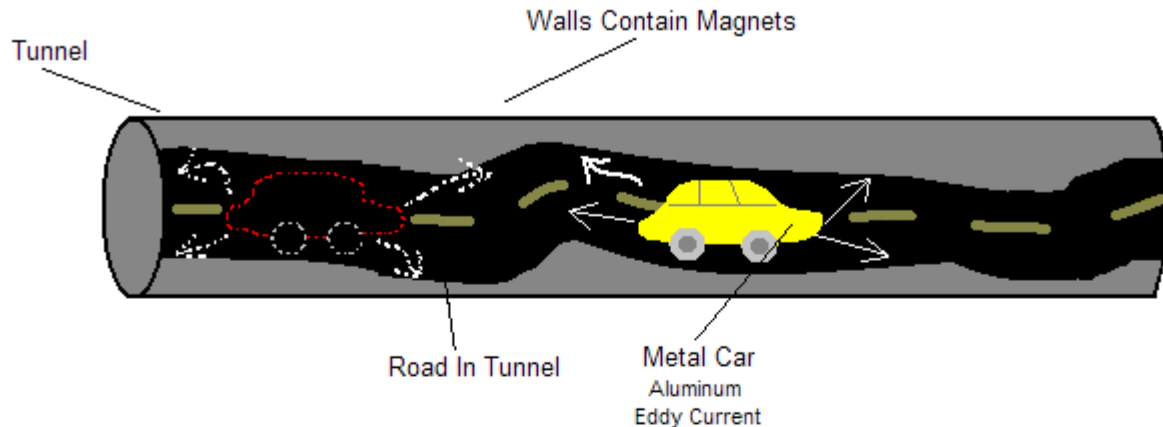
Actually the energy came from the initial kick or jarring of the pollen when it first was inserted into the water at rest. A Brownian object at rest must take energy from the temperature of the fluid it is in to begin moving, but only once when it first accelerates. This is a temporary violation of the second law of thermodynamics which is ignored by scientists since the second law of thermodynamics is a statistic, not a law. Text books should say it is a general default statistic, not a law. If an intelligent man (Olson) were to figure out how to continually slow down the drunken "pollen bus" over and over again with a braking system not inside the pollen but in a wall, he would then cool the fluid without expending energy. The energy to get the pollen moving originally came from the sun, which heated the fluid to room temperature. Energy is conserved. It is shown with the Olson particle decelerators that statistics are general defaults, not laws. Vibrations and random sweeps, are useful motion in a wall.

"But why? Why are you going to California, Quantum Man?" Someone told me there's a girl out there. With love in her eyes and flowers in her hair. Took my chances on a small pollen bus. Never let them tell you that they're all the same. Mountains and the canyons start to tremble and shake. The children of the sun begin to awake.



Olson Chaotic Drunk Driver Thought Experiment

controlling chaos by adding environment constraints



Imagine a drunk driver is travelling on a road that has walls, or through a tunnel. The car is mostly conductive metal which can produce eddy currents.

I am not proposing this as a useful solution to slow down drunk drivers. This is purely to demonstrate that a chaotic random moving object can be slowed down, even if the object is heading in a path that is unpredictable in a constrained container. The only way a (drunk) car can be slowed down is if we can increase the probability of interacting with the object externally. Pretend that we have no control over the brakes in the car itself, our only option is external interaction. We have no way of knowing if the car will swerve right, left, or even go in reverse, or even drive back and forth erratically. We can interact with the object only if it passes near walls or contact surfaces. In this case, the walls are the road walls or tunnel walls. We also have access to the roof of a tunnel and the floor. Even if the car had wings and could fly, it would still be drunk chaotic flying, and the object would still come near the walls at many points in time since the movement is random.

We know for a fact that a macroscopic object can be slowed down - this is how all braking systems work in cars. We also know for a fact that the braking system does not need to be in the car itself - the braking can be applied externally by walls or by contact areas that interact with the object when it passes by those contact areas. We also know for a fact that the object doesn't even need to completely come into contact with a surface to interact with it since an invisible field can interact with an object (i.e permanent magnetic field).

The chaotic drunk driver is not going in a straight path and not going one way. He is going both forward and backward and swerving all over the road even turning around and going in many directions. He is a really drunk sailor. He can be slowed down.

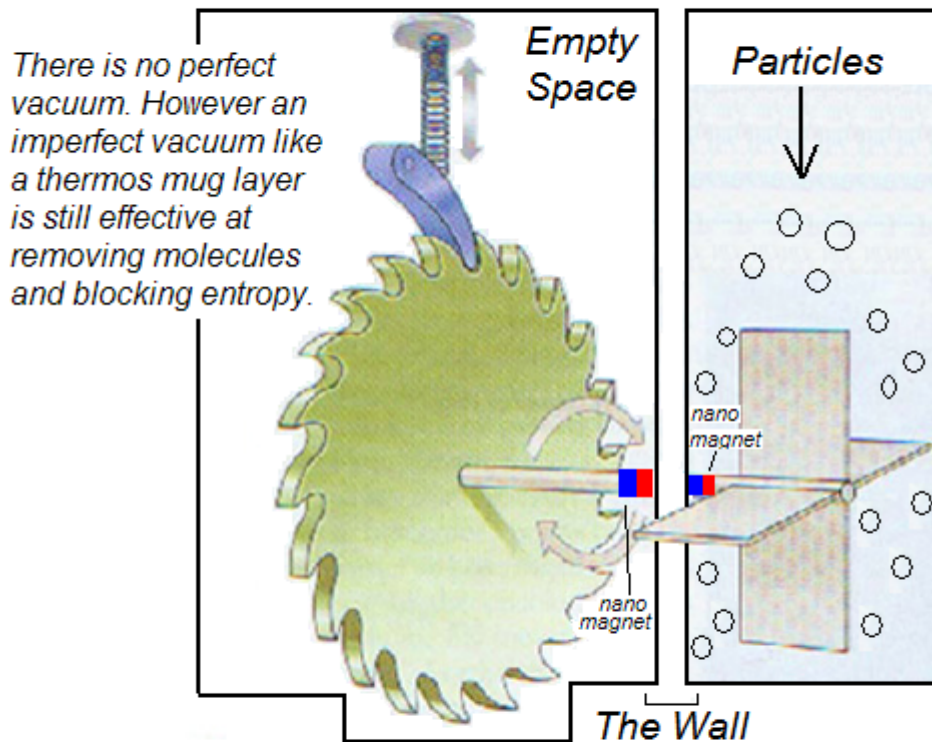
In this case the car is the conductor and eddy currents occur in the car metal. This can be reversed so that walls contain eddy currents and the car is a magnet.



Brownian motion also contains a drunk sailor or driver moving in a container. There is information in the container: we know the object will interact with walls. We can increase the probability of interacting with walls by creating a narrow gap. The tube and object are an information system. It provides wall interaction probability info. The drunk can even vibrate back and forth and brakes still brake. There is no need for an intelligent demon, the entire tube is a brake. We don't care where the driver is located in the tube, the walls respond to sweeping motion.

Taming Maxwell's Demon?

Olson's "The Wall" thought experiment challenges Feynman by separating concerns. The particles create collisions on the paddles, but empty space on the other side allows no collisions to take place on the pawl.



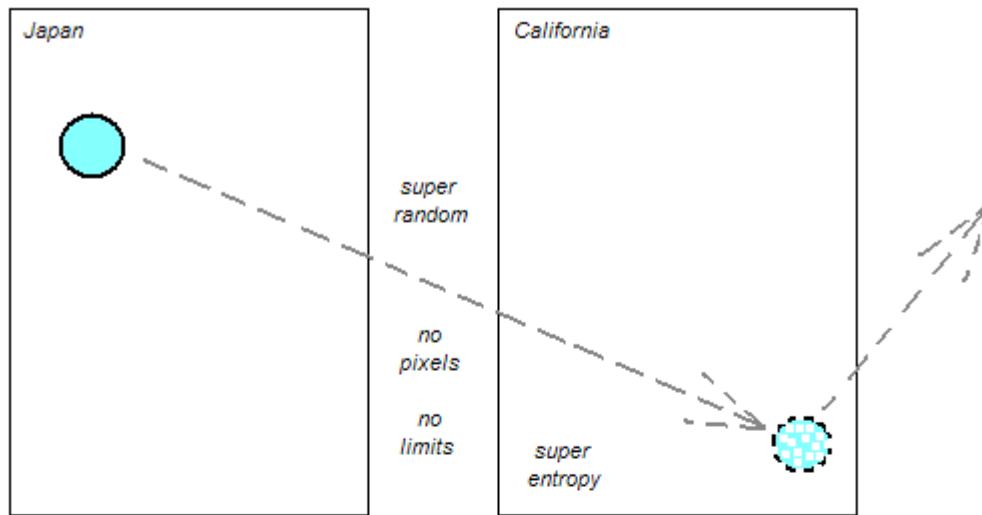
The paddle turns a rod which connects via a magnetic field to another rod in another empty space container. The pawl is not hit by molecules since it is in empty space.

This system is more complex than it needs to be - a one way ratchet is not required to produce useful work despite what most scientists claim. Vibrations can produce useful work/ heat by the vibrations being slowed by eddy currents, friction, or static charge connected externally via invisible magnetic fields.

Note: This is an upgrade to the Brownian Ratchet. Ratchets are needlessly complex when separating hot from cold. The other Olson designs are much simpler and practical than the brownian ratchet. The ratchet is included in this paper to show complexity = bad

Random Chaotic Container Information Theory

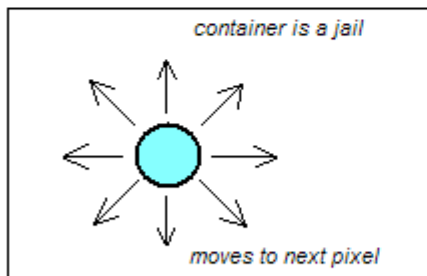
partial constraint and order



Consider a particle in a container that can teleport to other parts of the container and to other containers kilometers away, randomly with no order.

This particle would not be predictable in any way. It could be in Japan at one moment and then in California the next moment. Truly random and chaotic Brownian motion would consist of a particle which could teleport to different parts of a container. Thank goodness this is not the case, and Brownian moving objects have some predictable qualities.

The predictable quality of a Brownian moving object looks as follows:



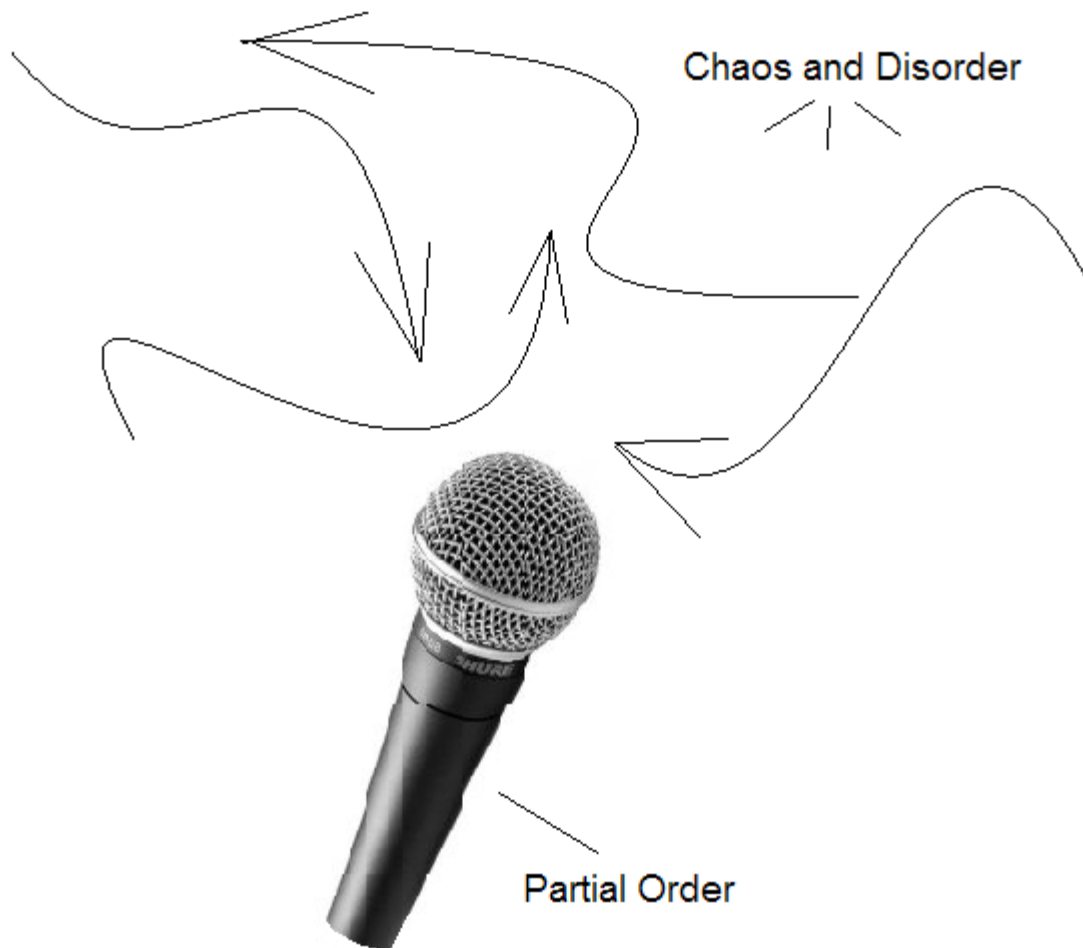
The object leaves a smear or a trace and can only move to the next pixel or slot near it.

I am not suggesting smears or slots or pixels actually exist physically, I'm just pointing out that a particle cannot randomly blip itself to another 3 meters away or 50 kilometers away, thank goodness. I can imagine such a chaotic and disturbing universe.

If a car or helicopter had a similar possible path and a drunk was in control of the moving object, could humans externally brake or slow down that object? The answer is obvious: only if it is in a constrained container with fields that interact with the object when it comes near the container walls, such as a tunnel the object is passing through. There must be resistance in the path of the object, applied externally if we have no control over the object internally. Wall brakes need no feed of energy.

Can an object always be jailed inside a tunnel with room to move, but never be allowed full freedom? Of course, we can easily control the environment a Brownian object is moving through in the lab.

Olson Particle Microphone Thought Experiment

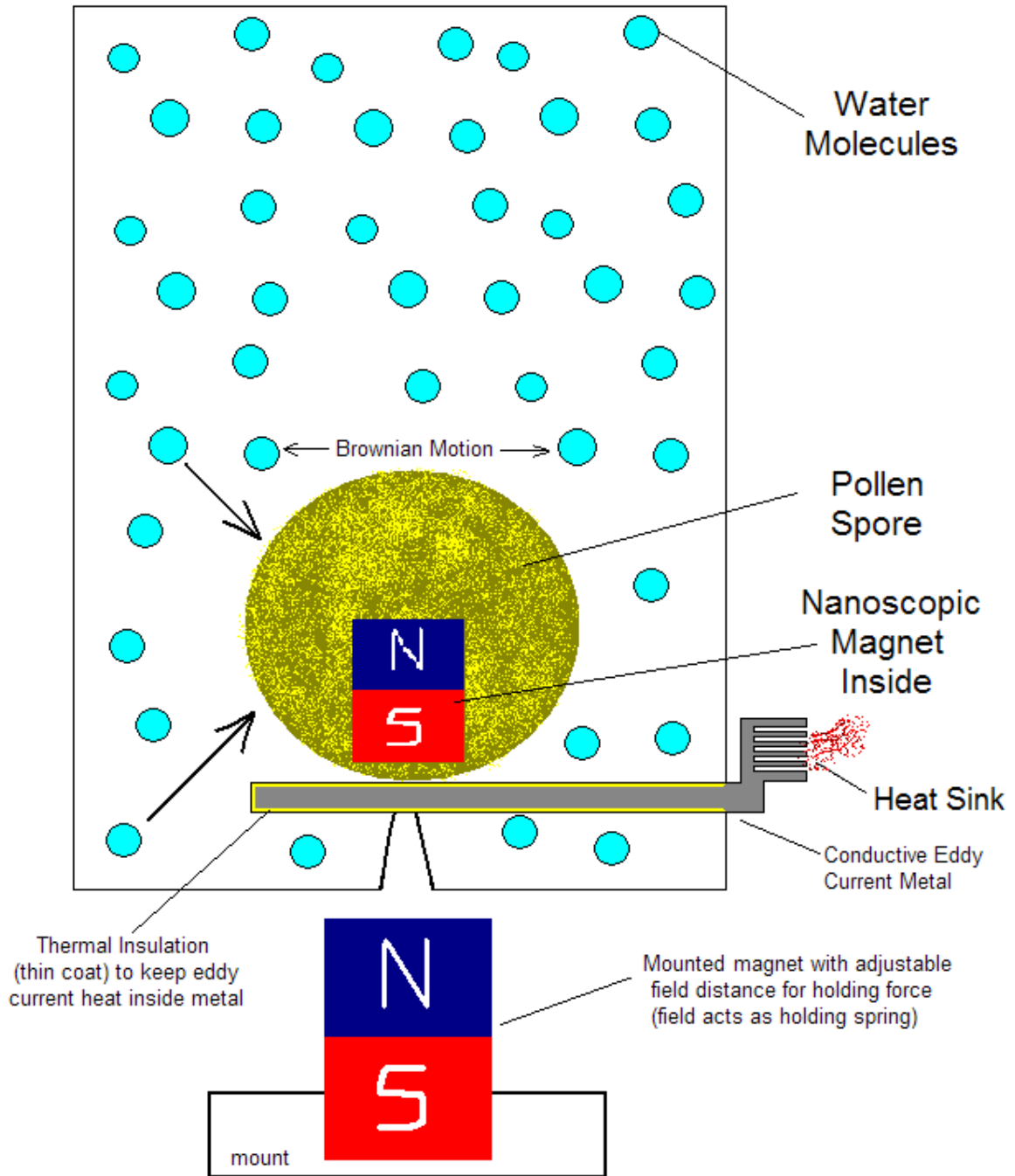


It is mathematically probable that a microphone will pick up some sound, even if the microphone is placed at a concert where instruments are putting out music in many different directions and even if the volume is fluctuating randomly, and even if the music is unorderly, chaotic, terrible sounding, and drunken. Some of the sound will even cancel out if the sound waves hit other sound waves in the other direction with instruments blaring all over the place and the crowd yelling. However the probability of the microphone picking up some sound in a random environment is extremely high since not all the sound cancels out.

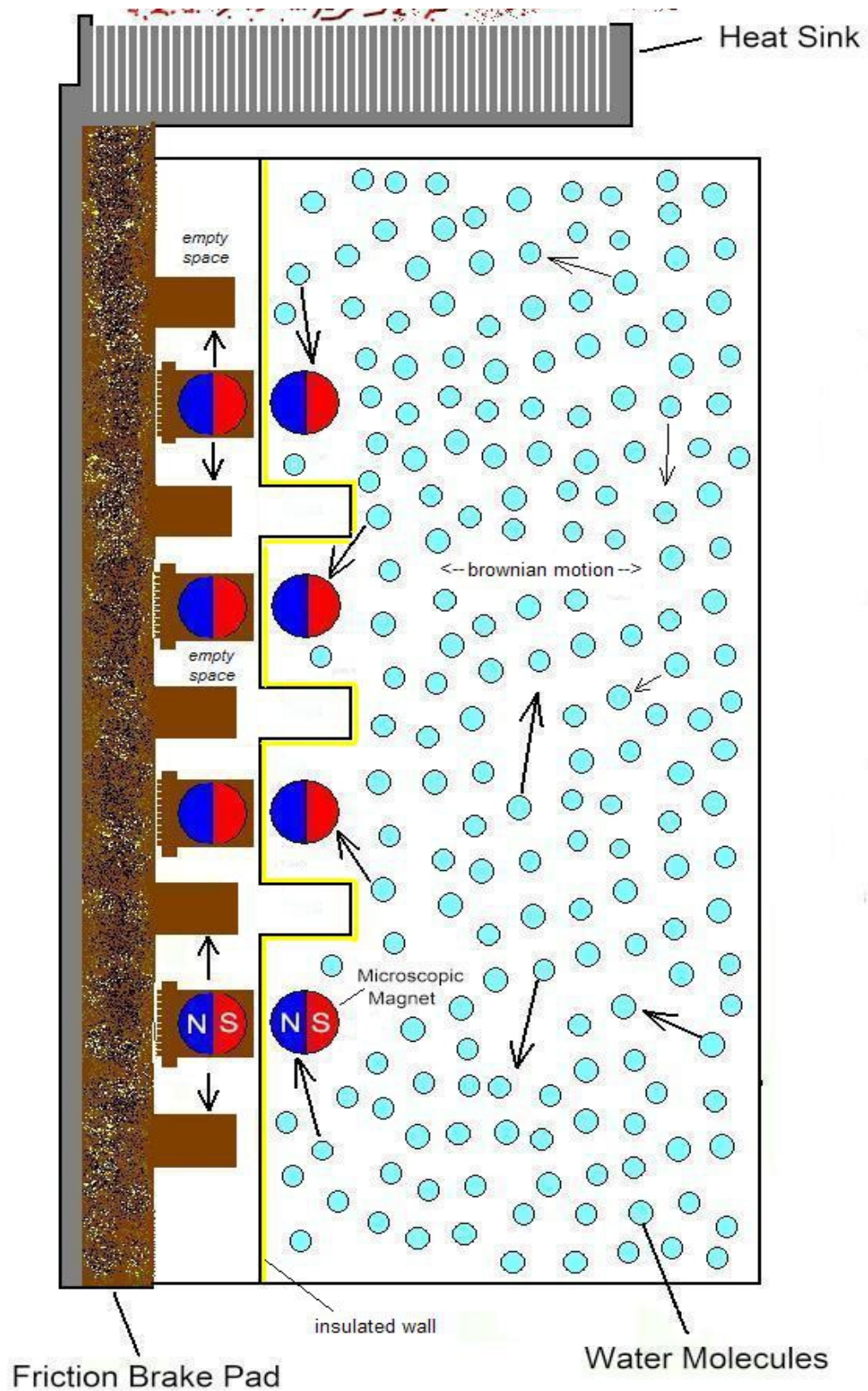
Random sound is not free energy, as the collisions that took place caused a transfer of energy to take place. The sound was generated by people or instruments. Logically, Brownian collisions act like chaotic waves too, and therefore they also can be slowed and interrupted. Kinetic molecule movement is energy from the Sun. Classical physics portrays particles as tiny billiard balls. Quantum mechanics, on the other hand, also represents them as waves. A microphone is not a ratchet since it is a different kind of energy extraction system functioning on collisions. A mic is not sensitive enough to extract energy via Brownian motion, but a small vibrating microscopic nano magnet held at the bottom of a container is similar to inserting a microphone into complete chaos. That magnet can interact with metals.

If a small nano coil and magnet were used to extract energy from random brownian motion due to internal kinetic energy of a fluid, one problem would be the Johnson/Nyquist noise in the coil itself. One would have to test to see whether a magnetic field produced by Johnson noise would cause equally as much brownian motion backfiring into the system so that no energy could be extracted.

Olson Brownian Pollen Interference



This pollen thought experiment is to demonstrate that pollen vibrates in water due to Brownian motion, and if that pollen were to contain a magnet it would have a magnetic field that would affect aluminum or copper (eddy currents). The pollen is not needed in the other Olson diagrams since a nano magnet will vibrate without any need for actual pollen. However since people are introduced to Brownian motion via Pollen, this thought experiment helps visualize exploiting Brownian Motion with pollen. One must be familiar with eddy currents, eddy brakes, and what eddy currents cause (heat) in order to understand why the water will cool over time when the pollen is braked or decelerated by resistive eddy currents in the aluminum, which slow the magnet vibration.



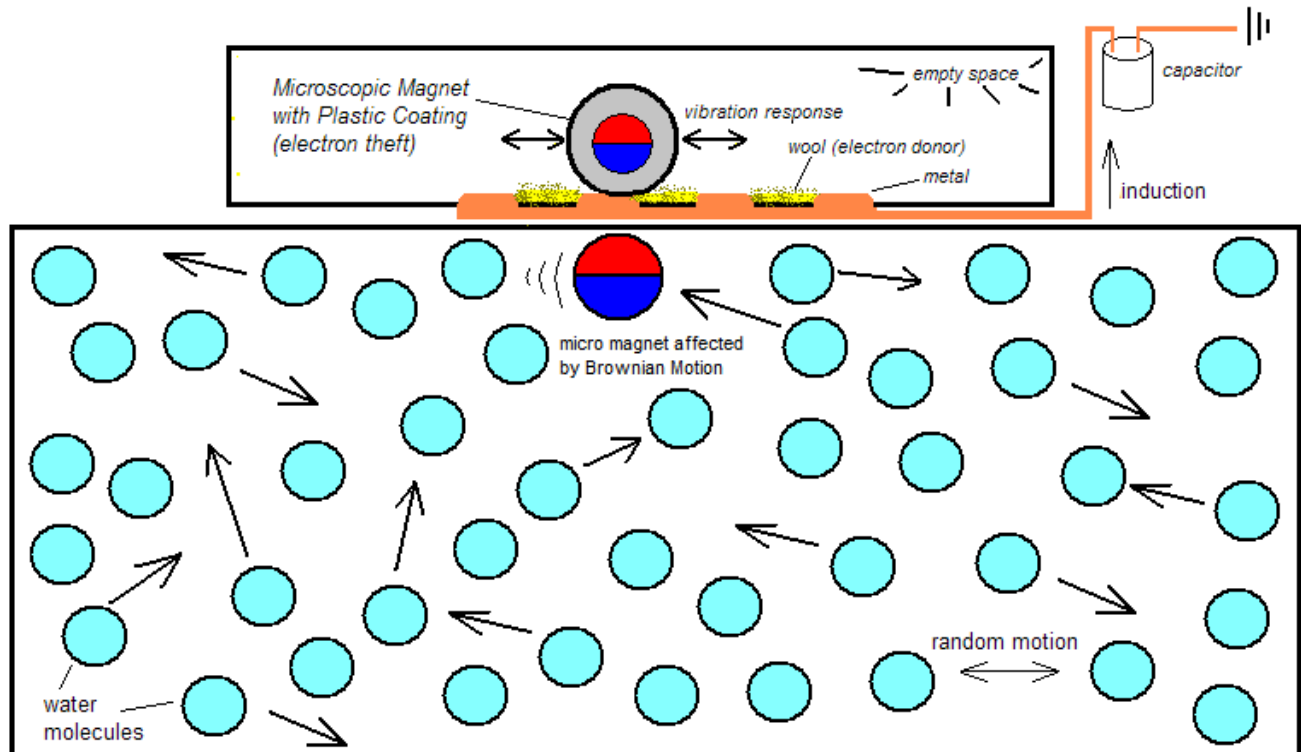
Olson Particle Decelerator (friction)

Brownian Motion Interference

In this device magnets moving by brownian motion are connected to other magnets which are slowed down by friction. This cools the fluid as heat is transferred out of the water to a heat sink without expending any energy. This would violate the 2nd law if verified to work.

Olson Static Charge Generator

Brownian Motion Interference



Atoms in plastic and wool both have electrons, but a plastic holds onto its electrons more than wool. The level of electron affinity can be varied by changing the substance. When the Brownian motion transfers vibrational movement to the plastic coated magnet, the plastic moves in response to the moving magnetic field. Some of the electrons from the wool are transferred to the plastic coated nano magnets. This gives the plastic an overall electron surplus.

The plastic insulator generates a charge on its surface, and eventually vibrates closer to the metal plate randomly. By induction, the metal plate becomes electrostatically charged.

The electric charge causes drag in the system and the molecules in the liquid reservoir cool down. It is a molecule decelerator... but also an electric generator. The liquid used to cause Brownian motion does not have to be water, it can be other fluids. The energy is coming from the internal energy of fluids at room temperature, and Brownian motion is being interfered with. No matter which direction the microscopic magnets vibrate in a fluid (due to Brownian motion), motion is transferred to e-static drag. It need not be directional like a ratchet, and it need not require an intelligent demon. It is a regenerative molecular brake.

(The system can be configured to short out and cause spark, or a circuit can be added to use the electric charge)

Since the electrostatic generator above functions at room temperature without any temperature differential, it would violate the second law of thermodynamics. It would produce electricity from a room temperature substance. Can the electrostatic differential between wool and plastic be used to form a non equilibrium system to exploit the second law of thermodynamics? Can random electric charges be produced over and over continually violating the second law? This device is simpler than the brownian ratchet since it has no springs, pawls, or gears. Plastic and wool create a permanent differential since plastic is an electron theft and wool is an electron donor. The materials used need not be wool and plastic; other substances could be used which give up electrons easier (electron donor) or steal electrons easier (electron theft).