

# Neutrinos and Long-Range Interactions

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From the [original article](#) in 1976. Author: [Ray Peat](#).

## Introduction

What's implied by "a wave"? Something which undulates, ripples, or waves—something which persists, and undergoes a change which is transitory, but a change in shape and energy which extends both through space and through time. We can perceive such movement because our senses operate with some intrinsic generality. If the action of rippling water is reduced to a series of sets of points, it is meaningless until we restore the wholeness and generality which encompasses those points.

To have a "wave without a medium," as most contemporary physicists believe they must, means to them that we must suspend our materialistic common sense, and believe in an abstract reality. They neglect the possibility that the extension through space, the spatial interactions, might be a property of matter interacting with the light, and they deny the other major possibility, that light could be waves in a medium which fills space. I want to suggest that both of these processes may be operating to different degrees, depending on material conditions.

In place of a medium, the physicists have come to believe in "fields", mathematical expressions of forces, which ultimately exist as distortions of the geometry of space. So they present us with a space which really exists, so that it can have a geometry and be distorted, but which has no properties other than those introduced into it by things and their forces. Waves of "gravity," for example, will influence geometry in a way so that things will move toward each other—they are like signals, indicating to the other object how it should behave. Although most physicists have a perverse love for abstractness, for mathematizing the world and making space into a formal but empty something, this scheme of a space with no properties is potentially fruitful, if we use it only as a starting point to free us of the formalisms of Cartesian and Leibnizian space and time, and if we immediately start filling it up with what we need to account for observed interactions of things.

Some of Reich's apparently most muddled comments about light (e.g., "If 'light' is due to local orgone lumination and does not 'travel through space' at all, it is quite understandable that in the Michelson experiment no phase difference could be observed in the light beams which were 'sent' in the direction of the ether 'drag' and perpendicular to it") seem to have been intelligent attempts to describe physically what he could directly perceive about the nature of consciousness and perception itself: that it is a "lumination" of the living material in resonance with a "lumination" in the world beyond the organism. A "chemical" illustration of this process is the "resonance of electrons" which makes some molecules act as an electronic unity, rather than as a cluster of individual atoms stuck together.

Bandyopadhyay and Chaudhuri (1971) have described how gravity can be accounted for on the basis of charged particles tending to move into a region where the dielectric constant is greater, by assuming that the dielectric, the "neutrino sea," tends to be associated with matter. A similar effect has been used to separate living cells from dead ones—in pure water, living cells with a high dielectric constant will move toward a concentration of charge. This experiment, incidentally, shows a dielectric moving on a charge gradient and suggests how the neutrino sea would tend to be concentrated around matter. If the "ether" is in fact a "neutrino sea," as Dudley has argued, then this is a very important property: it would not only be "dragged along" with the earth, but its density would change according to the density of ordinary matter in that region, and this would resolve the question of whether Reich's orgone accumulator was a Tesla box which accumulated electrons, or an orgone accumulator—charge would concentrate neutrinos, and vice versa.

It has occurred to me to wonder how quickly this association can be formed: for example, could a lense escape its concentration of ether by moving very rapidly? According to Dudley, the neutrino sea is isotropic, with neutrinos moving at various velocities up to their maximum, which may be the speed of light; if this is so, then maybe some of the slower neutrinos could be escaped from at high speed, like running thru a swarm of annoyed bees.\* Presumably, a lense's refractive index could be changed slightly by putting it in different environments or by moving it at high speeds. If the field of neutrino concentration reacts quickly, then a kind of mechanical resonance between objects should be possible, in which vibration could be transmitted by fluctuations in the neutrino gradient. Dudley's suggestion that phonons and rotons can interact with the neutrino sea would also imply the possibility of mechanical resonance directly through the ether. Charge oscillations would also presumably cause oscillations of the dielectric medium, the neutrino sea. At first this seems to be an excessively peculiar idea, and it may seem better just to think of purely electrical interactions, as in the London forces, with electronic fluctuations or protonic fluctuations (Kirkwood). Phonon-electron interactions, for example, are certainly conceivable without assuming an oscillating medium. But it may be that there are "resonant interactions" which don't involve ordinary sound or electromagnetic processes. A fairly large neutrino "resonant domain" in a metal could, for example, absorb waves of radiation in a way consistent with the photoelectric effect.

\* If it takes time to establish resonance, this would happen—but if neutrinos are caught as easily as outrun, there would be no effect. And if force is exerted by the charged matter on the neutrinos, they would no longer be part of the sea, but would be part of that particular material system. (A slight excitation might be the closest kind of coupling between atoms and ether.)

Reich's observations of lumination in evacuated tubes might result from a process like this: in a corona discharge, air molecules are ionized, and emit light on recombination: in the dielectric, water, salts become highly ionized; high fluxes of neutrinos might provide the dielectric conditions which promote ionization of the gas molecule in the tube, with light caused by recombination. (This is a matter of shifted equilibrium and not of energy—thermal energy, for example, can be adequate. The neutrinos, etc., might provide the energy.)

Some Russians have proposed that the forces involved in psycho-kinesis may be related to gravity, and that these forces may be what makes life possible, and that they may constitute the material form of mental activity. Drs. A. P. Dubrov and V. N.

Pushkin are among those who think something like gravity is involved in psycho-kinesis. The people who have been studied in the USSR move things somewhat as if they had a static electrical charge on their hands, but that has been eliminated as the responsible force; one man presses a book between his hands, gradually removes his hands, and keeps the book suspended. Uri Geller, who performs on U.S. television, says he thinks he is directing some kind of energy outside of his body—his most interesting act is bending nails and keys. These various kinds of psycho-kinesis all are consistent with Dudley's postulations regarding the neutrino sea. Also, Uri Geller's in particular recalls Michael Polanyi's studies of bending and breaking forces in metals and crystals; Polanyi explicitly proposed an "excitable ether" in connection with other observations, but nearly all of this scientific work was in the field of "long range interactions"—friction, adsorption, breaking, and reaction rates, for example, were studied in ways which revealed the inadequacy of the conventional "crystal lattice" and "atom to atom" ideas of interaction.

If we hold the mystical-mechanist world-view of conventional physics, things like psycho-kinesis have to be subsumed under "conspiracy" or "delusion." Enough people have seen the performances of Boris Yermolayev, Uri Geller, et al., that a theory of "conspiracy and delusion" now has to be treated as a "lunatic fringe" idea.

In outline, the biophysics of neutrinos might be something like this: biological water, being uniquely ordered, could provide extensive systems of "resonant domains" of interaction with the neutrino sea; these crystalline regions would tend to be mutually stabilizing through resonance with each other, the co-ordination might include electronic and electromagnetic interaction, accounting for the tissue "lasing" apparently involved in the observations of Gurwitsch and others; special interactions between organisms and neutrinos should be measurable in various ways, and might account for the "time" effects of N. A. Kozrev, Reich's lumination and many other of his effects, and maybe for the loss of weight that has been observed at the moment of death by various investigators (however, it also seems that loss of order in cellular water would reduce solubility of gases, and cause a measurable weight loss from gas emission at death). If the organism is seen as a kind of lens or pump for the ether, the neutrino sea, then special cases of its interaction would be expected to involve anything which normally depends on "ether excitation": reaction rates, metal bending or breaking, adsorption, crystallization, and nuclear reactions are some processes suggested by the work of Polanyi and Dudley. The effects of "healers" hands on enzyme rates might be a case of this that is already well known. I think there have also been claims about mental effects on crystallization and nuclear fission.

If consciousness itself importantly involves the neutrino sea, then the ether could be an additional channel for perception and communication, that is, a channel for direct resonance between the organism and what it perceives.

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