

Physical Laws and Social Order

POSITIVE ION POISONING

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Some cloudy and rainy days, you don't feel like getting up. You feel lethargic, tired, and not very cheerful. Scientists attribute this to 'positive ion poisoning'.

Ions are microscopic particles that carry an electric charge. In air, ions are created when enough energy acts upon molecules of air and displace an electron which attaches to a nearby stable molecule that gets a negative charge. The molecule that loses an electron becomes a positive ion. Air molecules are broken apart by cosmic radiation, radio activity in soil, ultraviolet radiation, lightening, moving air flow friction, friction caused by air-borne sand and dirt, and falling water, etc.

As all living systems (including human beings) are bioelectric in nature, the electrically charged particles affect the way we feel and act. In natural setting a balance of positive and negative ions contribute to one's sensations and perceptions. Atmospheric ions can affect health, well-being, efficiency, emotions, and mental attitude of human beings.

According to experts, positive ions rob us of our good senses and dispositions while stimulate everything from plant growth to human sex drive. Negative ions are called good ions as they enhance our mood, stimulate senses, improve appetite, and provide relief from allergies. In their presence, the body is better able to absorb oxygen into blood cells, oxidize serotonin, and filter airborne contaminants. More than 5000 scientific documents (4); based on research in Israel, Europe, and the Orient; support the concept that high doses of negative ions have positive effect while opposite is true with exposure to high amounts of positive ions. Dr. Howard (4) from the Center for Applied Cognitive Sciences in Charlotte, North Carolina indicates that negative ions increase the flow of oxygen to the brain; resulting in higher alertness, decreased drowsiness, and more mental energy. Profound beneficial effect of negative ions on both mind and the body has been documented by many studies published in respected journals (7).

During hot and humid summer days, a familiar discomfort is caused by the fact that air becomes negative ion-depleted. Difficulties in breathing due to asthma and respiratory allergies in hot and humid air may have less to do with the amount of oxygen in the air than with massive negative ion depletion. Air electricity is quickly conducted to the ground by moisture in the air and what negative ions are left attach themselves to the dust

and contaminant particles and lose their charge. This leaves a preponderance of positive charge in the air. On the other hand, a cold winter sunny day makes a person more cheerful and energetic because of higher ratio of negative ions in the air as air is much less humid.

Normal ion count in fresh country air is 2000-4000 of negative ions per milliliter (cc). At a large water fall the count can go as much as 100,000 negative ions per cc (1). You might have felt refreshed near the ocean, a water fall, or taking a walk or opening a window while traveling (by a vehicle). Energy of falling water frees electrons from neutral particles of air adding to proportion of negative ions. That is why probably in some cultures, falling water fountains are considered to be good asset of a healthy landscape. Many of our practices increase the level of positive ions. They are produced by combustion, electronic equipment, and synthetic materials and fabrics.

The acceptable minimum concentration of negative ions for indoor air is 200-300 ions per cc. The optimal level is 1000-1500 negative ions per cc (3). On a sea-shore a ratio of about 2000 negative to 1000 positive ions exists to which human beings seem to respond most favorably (6).

Studies done at Toyota Central R & D Labs (5) indicated that negative air ions can improve fatigue and cognition of the drivers. In this study an exposure to 10,000 ions per cc was used. Artificial aero ionizing techniques in confined spaces have been used and are being used at some places in the world. Even large-scale techniques have been investigated to modify ion status of air for inducing desired side effects over a large area of general human population and the animal kingdom (2).

References:

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