

History of Islam

An encyclopedia of Islamic history

The Beneficial Effects of Lightning

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The Qur'an is a book of guidance and wisdom. About 20 percent of its verses allude to scientific matters or natural phenomena. For example:

"He it is who shows you the lightning, (causing) fear and hope, and He it is Who rises up the heavy clouds." (13:12).

*"And among His Signs —
He shows you lightning,
(In it there is) hope and fear,
And He brings down rain from the heavens,
Then He bestows life to earth after it is dead —
Indeed, in that are Signs for a people who reason." (30:24)*

Yusuf Ali, in his commentary on these verses asks several questions about lightning: "Why look to evil rather than to good? To punishment rather than to mercy? To the fear in the force and fire of the lightning rather than to hope of good and abundant crops in the rain which will come behind the lightning clouds" (note 1818); "Nay, thunder itself which may frighten you, is but a tame and beneficent force before Him, declaring His praises, like the rest of creation. Thunder thus aptly gives the name to this Surah of contrasts, where what we may think is terrible is shown to be really a submissive instrument of good in God's hands" (note 1819); and: "To cowards, lightning and thunder appear as terrible forces of nature. Lightning seems to kill and destroy where its irresistible progress is not assisted by proper lightning conductors. But lightning is also a herald of rain-bearing clouds and showers that bring fertility and prosperity in their train" (3530).

Journals publish articles on injuries and death caused by lightning. However, the Qur'an specifically mentions the hope of lightning as a good or beneficent force. This article addresses this issue.

What are ions?

After a storm, the air feels clean and fresh filled with negative ions. People often report feelings of pleasantness and well-being following an electrical storm. Electrical storms are generally preceded by higher levels of positive ions and followed by higher levels of negative ions.

Air is made of individual molecules. When the outer electrons of two or more atoms join together, the resulting particle is a molecule. Each molecule, in turn, contains smaller particles of positive and negative charges (protons and electrons). Under normal circumstances, the number of protons and electrons are equal, and so their charges cancel out and leave the molecule electrically neutral. However, negatively charged electrons are lighter and more mobile. If they happen to absorb energy from intense sunlight, they tend to “jump” from one molecule to another. When a negative charge jumps from a molecule, it upsets the equilibrium and leaves behind more positive than negative charges. Thus the molecule becomes a positive ion. The electron arriving at the new molecule brings with it an extra negative charge. This molecule now becomes a negative ion. When the energy supply is removed, the electrons return toward the vacated spaces, and everything becomes balanced and has a zero charge.

Oxygen, a prime example of small gaseous molecules, remains neutral as long as the proton-electron balance is maintained. Since atoms have equal numbers of protons and electrons, they have no charge. However, if an electron is lost or gained, the molecule becomes positively or negatively charged, respectively, and an ion is created.

The simplest way to visualize an air ion is to consider it a tiny charge of static electricity carried by the air. This charge can be either positive or negative. The charged particles, or ions, are not merely suspended in the atmosphere; rather, they are part of the air’s very fabric. The air we breathe contains billions of tiny, invisible, electrically charged energy packets called ions, each of which have either positive or negative charges. Every time we take a breath, ions fill up our lungs and are carried by our blood into every cell in our body. Without ions in the air, our body could not process oxygen properly.

A lack or imbalance of ions affects the environment in which we live and breathe. Research shows that most of us who live, work, and travel in closed spaces suffer some degree of negative ion starvation or positive ion overabundance. This has become extremely evident to NASA in its space travel program.

People are spending their lives submerged in an atmospheric ocean of nitrogen, oxygen, and a small percentage of other elements, plus the toxins and pollution of our industrial world. In cities like New York, Los Angeles, Hong Kong, Tokyo, Mexico City, Karachi, Delhi, Bangalore, Mumbai, Calcutta, and many other densely populated cities, there may be few or no detectable negative ions at all during heavy traffic and high pollution periods.

In nature, abundant ions are generated wherever energy is transferred into the air by the friction within wind, rain, and surf. Certain events occurring in nature, such as lightning discharges, falling water, and air friction can cause electrons to be torn loose from a molecule. These orphan electrons are then adopted by other nearby molecules, which transform them into negative ions. The parent particles become positive ions.

Negative ions carry the air’s electrical energy. Some examples of nature’s ion generators are solar (ultraviolet) and cosmic radiation, air friction, lightning, falling water (the splitting of water into droplets by waterfalls), ocean surf and waves, evergreens and Earth’s radioactivity (from natural radiation in rocks and soil).

The ion effect: Serotonin hypothesis

An excess of positive ions and a lack of negative ions can produce uncomfortable effects. Scientists have demonstrated that small air ions are biologically active. Moreover, they can stimulate the over-production of serotonin, a powerful neurotransmitter and very active neurohormone that causes

profound nerve, glandular, and digestive effects throughout the body. Tests show that positive ions increase the production of serotonin and that negative ions decrease the hormone level.

High serotonin concentrations are associated with migraines. Negative ions accelerate the oxidative degradation of serotonin, whereas positive ions deactivate the enzymes that break it down. Thus more negative ions should reduce migraines. A higher serotonin level also produces tachycardia, higher blood pressure, bronchial spasms and even asthma attacks, increased intestinal peristalsis (intestinal contractions and dilations to push the contents through), increased sensitivity to pain, and increased aggression. Reduced serotonin levels result in a mentally relaxed state and reduce feelings of depression. Negative ions appear to reduce serotonin by enhancing monoamine oxidizing activity. Paradoxically, mental illness is often treated successfully with drugs that inhibit this activity and raise serotonin levels in the brain.

The three major effects of positive ion excess are irritation and tension, exhaustion, and a hyperthyroid response. The common symptoms of dizziness, headaches, depression, anxiety, and a generally lower level of physical and mental functioning were shown to be alleviated and, in most cases, reversed by increasing the negative ions in the air.

Positive ions

Many people find a pre-storm atmosphere heavy and oppressive. This has been attributed to the high levels of positive ions building up in the air, which are also believed to trigger storm sensitivity in asthmatics and many other people. In the hours before a certain storm arrived, hundreds of people reported to hospital with severe asthma attacks. Was this due to positive ions?

Scientists have found that if the air is charged with too few negative and too many positive ions, we become anxious, tired, and tense. This positive-ion poisoning results from weather disturbances, central air conditioning, smog, and driving too long. It even has been linked to heart attacks, aggravated asthma, migraines, insomnia, rheumatism, arthritis, hay fever, and most allergies. However, a negative electrical charge imparts positive feelings of health and vitality.

Negative ions

Refreshing places, usually located in the mountains and near waterfalls and seashores, where health resorts are traditionally situated, have high negative ion concentrations. Areas with high levels of positive ions often make us feel uncomfortable and irritable.

In addition to providing a rewarding visual experience, waterfalls may be beneficial to our health. Those wishing to enhance their body and mind through breathing exercises should do so by a waterfall. Nearly everyone agrees that visiting a waterfall is a stimulating, refreshing, and energizing experience.

The energy produced by falling water causes negative ions, for as the falling water breaks into droplets, electrons (negatively charged parts of an atom) are separated from water atoms. These electrons combine with oxygen atoms in the air to create negative ions, which then are inhaled and absorbed into the bloodstream. Negative ions are not known to permanently cure anything. However, experts believe that they help our bodies by accelerating the delivery of oxygen to our cells. Some researchers believe that they may stimulate cells that regulate the body's resistance to disease.

Plants grown in an ion-enhanced atmosphere show a marked increase in size and growth rate. Air-borne bacteria greatly diminish in number when there is a high negative ion count in the air. Synthetic materials, forced air circulation, improper humidity levels, excess static electricity, and a lack of fresh air

all contribute to an ion imbalance. Natural negative ion levels should be maintained through full-spectrum lighting; natural materials on walls, floors, and furniture; windows that open to the outside; and living plants. These should be kept in mind when designing a place in which to live.

On average, 1,500 ions are found in a cubic centimeter (roughly the size of a sugar cube) of fresh air. Of these, about 45% are negative ions and the rest are positive ions. At Yosemite Falls in California, a reading of 100,000 negative air ions per cubic centimeter was recorded.

The fresh air after a thunderstorm, on a mountain top, or by the seaside are due to high negative ion concentrations. The reduced well-being often felt in highly polluted areas, cars, smog-enclosed areas, artificially air conditioned offices, or in hot dry weather conditions are usually due to an unduly low negative ion balance. Negative ions can be found in the billions on mountain tops, waterfalls, and by the sea. Radioactive substances in Earth's crust and cosmic rays cause most ionization. But fire, crashing water, and plants during photosynthesis also produce negative ions. They give the air its invigorating freshness, which is so good for us.

Physiologically, the presence of negative ions in a sweat bath is as important as the heat. The discovery of negative ions in certain types of saunas a few years ago became headline news in Finland. Until then, the sauna's healing power was attributed to relaxation and increased circulation. Now, negative ions add startling new possibilities.

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