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Reinvigorating Polluted Water Ecosystems with KELEA (Kinetic Energy Limiting Electrostatic Attraction) in Combination with Biochar and Water Supplement

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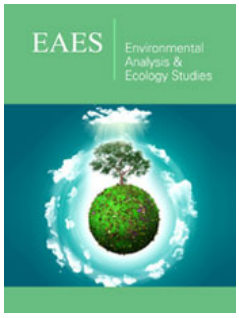

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Abstract

This article introduces a simple and cost-effective method to restore ecological allostasis in disordered environments damaged by water pollution. It is achievable by elevating the water level of a life force energy appropriately called KELEA (Kinetic Energy Limiting Electrostatic Attraction). KELEA is proposed as the driving force of the Alternative Cellular Energy (ACE) pathway. This pathway differs from cellular energy obtained via metabolism from the calories in consumed food. Previously pulverized, heated, and subsequently pelleted volcanic rock material, marketed as Kiko Technology, can initiate a continuing process beginning with KELEA activation of water molecules. This can lead to a reduction in dissolved contaminants, some of which can be further removed using adsorbing charcoal (42-Biochar). This combination has led to a reemergence of normal fauna in a treated tributary of the Big Spirit Lake in Iowa. Many of the resulting adaptive environmental changes may reflect an early increase in the levels of beneficial microbes within the treated water. Continuing allosteric adaptations can recreate an environment conducive to larger animal species' survival. Providing sufficient cellular energy to empower Nature's capacity for self-healing represents a major paradigm shift from relying upon filtrations and additions of complex chemicals to cleanse polluted water.

Keywords: Nature's allostasis; ACE Alternative Cellular Energy; Water pollution; Tipping points; Kiko; Blue green algae; cyanobacteria

Introduction

Most natural phenomena undergo considerable day-to-day and/or season-to-season variabilities. Yet, through allosteric adaptations to temporary changes [1], Nature maintains a rather constant and predictable mean value when viewed over extended periods. There is, however, a growing realization that some phenomena, such as global warming, may have exceeded the limits from which natural restoration toward the norm is no longer possible. So too can be the intrinsic capacity of Nature to recover from excessive regional levels of water and atmospheric pollution. This irreversibility reflects the folly of humans who have forced aspects of Nature beyond what have become tipping points [2]. These situations can be framed within the context of the accumulation of detrimental effects surpassing and overwhelming the resilient capacity of natural repair and regeneration. Nature has endowed humans with many wonderments in terms of beauty and resources. Humans have also gained a better understanding of ways of assisting Nature to return to a more self-sustainable eco-balance. There is both an opportunity and an obligation to use this understanding to give back to Nature.

This article describes the continuing secondary benefits that can be triggered by using a simple approach to initiate improvements in the quality of water, which has been environmentally damaged. The approach is based on the cost-effective utilization of a natural force termed KELEA, an abbreviation for Kinetic Energy Limiting Electrostatic Attraction [3]. It is proposed that Nature depends on this energy to prevent the fusion and potential annihilation of electrostatically attracted opposing electrical charges. KELEA also serves as a life force energy mainly through its ability to loosen the electrostatic hydrogen bonding between water molecules [4]. It reduces the bonding of water molecules to hydrophilic chemicals as well as to various electrolytes. Conversely, KELEA can increase the capacity of water to accommodate hydrophobic molecules, including oxygen. Many chemical reactions can be equated with the transfer of KELEA between the reacting molecules. KELEA's life-supporting activities occur through what has been termed the Alternative Cellular Energy (ACE) pathway [5]. A reasonable speculation is that KELEA comes to the earth in association with the electrical charges that comprise cosmic rays. It has been further proposed that the atmospheric electrical charges, which are created by the greatly increased levels of manmade electromagnetic transmission, have reduced the levels of KELEA reaching the earth's surface. This is a potential explanation for some of the environmental changes affecting the earth, including a reduced natural self-correcting allostatic ability to maintain healthy water.

Regional Areas of Unhealthy Water

The quality of water in many lakes and rivers has deteriorated over the last several decades [6]. In addition to the proposed reduction in KELEA, much of the deterioration is blamed on contaminating toxic chemicals, including fertilizers, pesticides, industrial wastes, and heavy metals. Among the unfavorable outcomes is the loss of diversity of life forms, with periods of excessive growth of dominating organisms like toxin-producing algae, phytoplankton, and in some locations, invasive species such as zebra mussels in the Great Lakes of North America [7]. Anaerobic microbial metabolism can lead to the production of malodorous hydrogen sulfide (H_2S) and methane (CH_4).

Increasing the Availability of KELEA

Certain compounds and devices with fluctuating electrical charges can amplify the local levels of KELEA [8]. When placed into or even nearby to water, these compounds and devices can increase the level of KELEA in the water. Volcanic rock material that is formed into small pellets after being pulverized into a fine powder and heated to around 1,200° Celsius provides a low-cost way of increasing the levels of KELEA in accumulated bodies of water. These pellets are being marketed under the name Kiko. Relatively few Kiko pellets are needed in a body of water because the locally loosened water molecules can begin to attract KELEA with the further horizontal and vertical spreading of the KELEA-mediated water-activating process.

Capacity of Biochar to Adsorb Toxins and to Add to the Level of Water Activation

Biochar refers to carbon-rich particulate material that can be produced by the burning of biological materials in an environment with insufficient oxygen to convert the carbon content of the material to carbon monoxide and/or carbon dioxide [9]. The resulting carbon particles typically have an excess of negative hydroxyl charges that can bind positively charged heavy metals, some of which can further link to other negative charges. In this way, adding biochar to water can help reduce levels of both positive-charged and negative-charged toxic chemicals. Electrostatic biochar (animated ash) can also attract environmental KELEA enabling an additional level of water activation.

Beneficial Microbes

Nature has a dynamic fluidity of interacting components, broadly classified as inorganic or organic. Bacteria and other microbes play major roles in the bilateral conversions between these two categories. They also form the foundations for the continuing vitality of other life forms, including plants, animals, and humans. Alterations within the microbial populations are associated with many types of disorders. An empirical observation is that KELEA activated water is more supportive of beneficial versus altered microbes. This is supported by ongoing studies, which include the additional use of small additions of minerals and amino acids supplements to KELEA activated water.

Specific Protocol

Mr. Steve Gruhn added 6 Kiko pellets plus approximately 20 pounds of 42-biochar in two water-permeable bags. The bags were submerged into the water in a narrow tributary close to where it enters the Big Spirit Lake in Iowa. Within a few days, he recorded a noticeable reduction in the surface algae and a marked reduction in the detection of hydrogen sulfide gas. Without any further interventions, the water became progressively clearer over the next several weeks. What next occurred was truly remarkable. A beaver appeared and constructed a dam across the waterway (Figure 1). A long-term resident could not recall seeing signs of beavers anywhere along this waterway over the last 20-30 years. Beavers are sometimes considered keystone species in helping to create ecological environments that are supportive of other animals [10]. Consistent with this premise, there were sounds and sightings of bullfrogs and the appearance of muskrats' mounds. Again, the long-term resident could not recall hearing or seeing either over the last 20-30 years. He also saw far more birds than on his prior visit. The indications are that the improved water quality is extending further along the tributary with more live animals appearing on the water banks. The simple intervention has seemingly restored a sustainable and expanding self-correcting ecosystem. Indeed, the bags containing the Kiko pellets and biochar have now been removed from the water.

Figure 1: Photograph of the beaver dam across the tributary to the Big Spirit Lake. The photo was taken by Mr. Steve Gruhn three months after he had added KELEA-attracting Kiko pellets and 42-biochar to this same site. At the time of the addition, the water at this location was covered with blue green algae and was producing noxious hydrogen sulfide gas.

The use of Kiko pellets in conjunction with biochar was seemingly able to reduce certain critical components, which were preventing spontaneous and adaptive repair of the ecosystem. Bringing these components back below the threshold or trigger point has reenabled a continuing capacity for self-repair. Having pushed Nature beyond these thresholds, it is fitting that humans actively contribute to Nature's reentry into the allosteric zone of self-reinvigoration. Based on these results, several other tributaries into the Big Spirit Lake have now been treated using all three approaches (Kiko pellets, biochar, and nutrients). Quality of water improvements are occurring in the treated areas. Other areas of contaminated water are currently undergoing similar treatments with equally favorable results. These include water on a major golf course that had been contaminated for years with blooms of toxic algae.

Perspective

Conventional efforts to enhance water quality typically focus on eliminating toxic substances through filtration, absorption, and chemical interventions to control overgrown harmful organisms. The repeated occurrences of noxious algae blooms and the persistent presence of pesticides, fertilizers, pharmaceuticals, industrial wastes, and heavy metals in Big Spirit Lake and its tributaries underscore the limitations of these methods. Additionally, the invasive zebra mussels throughout the lake contribute to clogged pipes and diminished plankton levels. While Nature can naturally adapt to certain levels of disturbances through allostasis, exceeding these levels leads to a breakdown in self-repairing mechanisms. This then results in disorder, which becomes further reflected in the loss of wildlife and consequential additional environmental damage. Rather than trying to address individual aberrations, such as using copper to poison zebra mussels [11], a more straightforward approach is to simply provide Nature with additional life-force energy. This is intended to bring Nature back into the allostasis zone (Figure 2). By doing so, Nature can initiate further progressive allosteric adaptations toward self-repair. Thus, even minimal human intervention by elevating the water levels of KELEA has the potential to reinvigorate multiple life forms. The life-repairing process probably begins with the support of beneficial microbes, possibly reactivating some that had become dormant. These beneficial microbes, in turn, contribute to creating favorable environments for more complex life forms, fostering further environmental improvement. The approach of harmonizing with Nature, rather than manipulating individual components, extends to the use of KELEA in improving human and animal health, agriculture, and creating more efficient industrial processes, including fuel consumption.

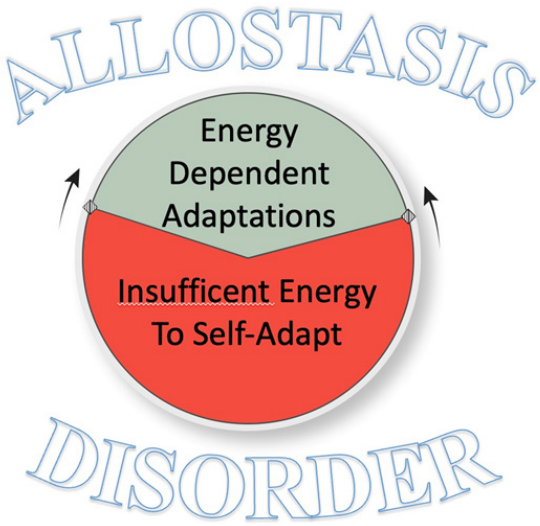

Figure 2: An illustration of the limited extent to which Nature by itself can respond to changed environmental conditions using energy-dependent allosteric adaptations. Additional sources of energy are required to bring a discorded, energy-insufficient, environment back past the tipping points (◖◗) into the zone of self-correcting allostasis. KELEA can potentially provide this energy, especially through its water-activating actions. Only minimal amounts of KELEA, as indicated by the arrows, may be required to initiate the self-healing process.

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