

Speech by Shimanishi Sensei (August 2005)

I have been in water business for some time. So today under the title of Water: Now and Future, I would like to share some of my thoughts with you.

From time immemorial, farmers have revered, feared and served the God of Water with highest piety.

Only plants are capable of creating organic matters. All animals, like the predators they are, depend their lives on these plants. If plants are not around, animals' fate would be starvation and death.

In other words, the benefits that come from plants are actually benefits coming from the water. But despite the place of important that the water occupies, little study had been done because it had been more fashionable to study petro-chemistry and high polymer chemistry.

It was about 10 years ago when suddenly the study of water began appearing in academic circles .

A hundred years ago, no one could have fathomed that we would reach a point where water, that can extinguish fire, would be considered as fuel.

The total amount of water on this earth is about 1.4 billion cubic kilometers, of which 97.5% is sea water. The water that the land animals can use is about 0.003 to 0.008% of the remainder of water. And because of this fact, we have witnessed many disputes in various parts of the world, and even a war over water may soon occur.

These days global warming is causing deforestation in many areas of the earth. Floods occur frequently from heavy rains and river water is having a harder time maintaining its integrity. We are driven to the awareness that we must do something to renew this water and be able to use it over and over again.

Water is a wondrous and mysterious being. It is an inflammable being, despite the fact that it consists of two combustible elements called hydrogen and oxygen.

As you know the water consists of hydrogen ion and oxygen ion (or hydroxide ion) and remains in a irreversibly stable state, despite the fact that these plus and minus ions are separated from each other.

We will not be able to use this water once it is contaminated with sundry pollutants from dissolutions and mixing. We will need to filter these contaminants out; otherwise we will experience water shortage. We have to work nights and days cleaning contaminated water so that we can use the water again and again.

Polluted water means that contaminants, either organic or inorganic matters which are not part of water's molecules, get trapped evenly in the space between molecules of clusters that resemble grape vines. Some are suspended in a colloidal form and some are simply dissolved in the water. Pollution refers to the state where these contaminants are rotting within the water. It should be noted that the water itself does not rot and has not changed its molecular structure at all. Water is water at any stage.

To prove this point Push this water through reverse osmosis or distillation. And pull away the contaminants. Water remains the same. It hasn't changed its character or its composition.

I repeat: water does not rot. Period. It is the contaminants within the water that rot. Water does not have to explain its identity. Water is water. It's a wondrous and mysterious being indeed.

Every water on the earth, be it rain, river water or ground water, is pure water. These waters are unfortunately polluted in different degrees and so before we use these waters, we will need to remove the contaminants (mostly organic matters) from them for our uses to the degree that waters become harmless to living beings, to meet a minimum standard for the living beings' survival.

With regards to the purification of these waters, we have primarily depended on the method called Activated Sludge Method, a system that relied heavily on the power of microbes. Call it Nature's way of cleaning. However this natural cleaning method cannot match the digression spurned by petrochemical pollution. This is the primary reason for the pollution of water today. And yet little has been done to take care of these pollutions.

The amount of oxygen in water can be measured this way: 16/18, which is to say that, of one liter of water, 900 g is oxygen.

My original thought was to take advantage of this oxygen's presence in water that carries energy called "ion", which the oxygen in the air does not carry. By activating this oxygen, thus increasing the power of oxidation, I could stop the rotting process of organic matters within the water (the reverse of reduction state of oxidization) and pull away the contaminants through the process called Agglutination.

The oxygen in the air can dissolve in water. It is commonly referred to as Dissolved Oxygen or D.O. Its oxidizing power is limited and therefore cannot be depended on for the process of purifying or cleaning the contaminated water. In the scientific community this fact has been known and therefore cleaning water using oxygen had not been pursued vigorously.

So rather than working with the Dissolved Oxygen, we thought of activating the oxygen within the water's molecules, to create radical oxygen, called -OH by introducing

minerals in an ionized state. It was our fortune that we have succeeded in making this a reality.

Now these ideas and means are chemically checked and proven with the use of Precision Equipment. Many different technologies are being developed, taking advantage of this fresh angle and approach to the treatment of polluted water.

It has also been proven that this approach I referred to as Activated Oxygen Formula is not only effective in the cleaning of polluted water, but in the growth of plants and animals alike. It is therefore an unexpected boom to such industries as agriculture, and fisheries.

70% of our body is water; 70% of the mother earth is water. Over 90% of plants are water. Need I say more how important water is in our lives? The living beings cannot survive without water!!!

On the average water covers the earth with the thickness of several meters. But know the fact that even one gram of this water does not leave the mother earth. In one form or another, this water stays on this earth. It's recycled all the time. Water shares the same fate as the earth itself. Its last day is when the earth dies.

Therefore man has to respect this water with utmost respect and humility of "thank you for allowing us to use you." Otherwise we will head toward the doomsday.

The water the earth has does not belong to any particular country or race. We must give an utmost care and share the benefits this water gives us - equally. Water belongs to the entire mankind.

We must not exhaust our wisdom and must do our utmost to prevent a scramble like Water War.

Addendum:

A team of scientists from Tokyo University (under Prof. Shin-ichi Someya), the University of Wisconsin, and the University of Miami has come with a conclusion that OH Radicals, believed to cause the process of aging, has had nothing to do with aging. The team further went on to explain the part that the damaged DNA in the Mitochondria, small organ within a cell, plays in the aging process. It was announced in NATURE on its July 15th issue, 2005. Active oxygen, referred to as Radical Oxygen, was believed to oxidize the inside of our body, damaging genes and cell membranes, thus referred to as harmful substance. It was thought that these radical oxygen attacked Mitochondria, thus promoting the aging process. The market is full of products that claim to fight this aging process. According to Professor Someya, "In the animal study using mice, we were able to deny the traditional view that radical oxygen was damaging Mitochondria. A new understanding of this mechanism will connect us to a new anti aging development."