Colloidal Systems

The Spark of Life

Colloids and colloidal systems are essential to life. They function in every body cell, in the blood, and in all body fluids, especially the intercellular fluids. All life processes take place in a colloidal system, and that is true both of the normal fluids and secretions of the organism, and of the bacterial toxins, as well as, in large measure, of the reactions, which confer immunity. The three main branches of chemistry are organic, inorganic, and colloidal. Organic chemistry pertains to carbon, and is the study of all compounds related by carbon, usually in combination with hydrogen and oxygen. Carbon is considered to be the foundation of living matter. That is, atoms in the molecules of life are organized around is--somewhat like a hub. Proteins, fats and carbohydrates are all examples of compounds that contain carbon. Inorganic chemistry means there is no carbon, and is the study of substances in the mineral kingdom.

Colloidal chemistry deals with both organic and inorganic substances affected by two conditions: (1) size of particles, and (2) particle dispersion in a medium, such as a liquid. Together, the particles and the medium are called a colloidal system. Much of the chemistry of the body is colloidal and supported by colloidal systems. Colloids and systems are most important for their electrical and vibrational qualities, and this is especially critical in the fluid that bathes all the cells of the body. A colloidal system may consist of one kind of colloid or a combination of solid, liquid or gas colloids dispersed in the medium. Essentially, particle size distinguishes colloidal systems from other material systems, such as suspensions and solutions (suspensions have larger particles and solutions have smaller). There is no visible accumulation of inorganic or organic particles either in the solution or settled on the bottom. Particle size is extremely small, ranging from 0.1 to 0.001 of a micron in diameter. A micron is one-millionth of a meter, and a meter is about 40 inches. Therefore, a micron is four one-hundred-thousandths of an inch. So, at 0.1 to 0.001 of a micron, a colloid measures about four-millionths of an inch to about four one-hundred-millionths of an inch, or 10 angstroms at the small end of the range. The smallest colloids are only about 10 times larger than the smallest atom hydrogen. If the particles are within 1 to 100 nm and are uniformly charged, no stabilizer is required to maintain suspension indefinitely in deionized water, as long as there is no disruptive influence.

Colloids do not settle, and are filterable by ordinary techniques in the same sense as filterable bacteria, whereas coarser particles in the dispersion size range are retained. They differ from "particles" in molecularly dispersed systems in that dispersed colloids cannot pass through the fine pores of passive membranes. Because of their size, colloids diffuse slowly. The number of particles varies according to the cube of the size change, so if size is reduced 50%, the overall number is multiplied by eight. Ideal size is element-dependent. In manufacturing, size is controlled by frequency, amperage and micromeshes, among other things. The highest quality colloid will have a certain maximum number of particles. They will be of the minimum possible size, and ideally no more than a "handful" of atoms hooked together per molecule of water utilized, and in a negatively charged state: This will prevent further aggregation at that size. A clear colloidal dispersion will appear turbid when a sharp

and intense beam of light is passed through. The scattered light also takes on a cone shape within the solution. A critical indicator of a colloidal system's quality is its color. Color varies with concentration and particle size, as well as the use of stabilizers, and presence or absence of other trace elements.

One of the properties of colloids is tremendous surface area. Imagine a one-inch cube with its six sides. Now cut it in half. Where the cut was made, you now have two new surfaces, each an inch square. Thus, the total surface area of the two pieces has increased from six square inches to eight. The more cuts, the more total surface area. One cubic inch of a mineral like colloidal gallium, after being cut into trillions of pieces, will cover seven and one-half acres and still be a continuous sheet! The significance of such a large area is the high total energy from the electrical charge each surface is capable of carrying. The most important characteristic of colloidal systems is surface charge on the particles. Charged particles repel each other, overcoming the tendency to aggregate and remaining dispersed. Particle size plays a major role in the capacity to bear a charge, and the colloidal size range is set by this capacity. The smaller the particle, the greater the surface and the greater the charge, that can be applied. Only heterogeneous, highly dispersed colloidal systems, containing the smallest possible particles, have a well-developed surface area. Particle charge is not automatically increased as the substance is made finer, but total charge in the system will increase.

In a colloidal system, the colloids represent 30% of the total system by volume, and the container-medium 70%. The Earth is made up of 30% colloids and 70% water, as is the human body. This specific ratio is not a coincidence, but a consequence of Natural Law. In addition to particle size and ratio, a colloidal system must have three other qualities; (1) It must be heterogeneous, meaning that it contains at least two dissimilar components, such as gold particles and a water medium; (2) The system must be multiphasic, meaning that it is a combination of solid/liquid, gas/liquid, etc.; (3) The particles must be insoluble, meaning they don't dissolve in the medium. These three qualities interact with each other to give colloids their unique nature. A fascinating thing about colloids is that the system retains its colloidal properties as long as a larger number, if not all, of the particles are in the proper size range. Also, even though the particles aren't dissolved, they don't pile up due to gravity unless disturbed. A solid dispersed in a liquid is called a sol; a solid or semi-solid colloidal system is a gel. An emulsion consists of one liquid dispersed in another. An aerosol, such as smoke or mist, consists of a solid or liquid dispersed in a gas. Some alloys are solid-in-solid colloids. The most common system, especially where human physiology is concerned, is the sol, or solid-in-liquid dispersion. Coarse particles will tend to fall out even if they have received an electrical charge like the smaller particles, because gravity will have a greater influence than the electrical forces that maintain the dispersion. Given a constant particle size, the more likely the attraction force will overcome the repelling charge, creating larger masses.

At some point, the mass will precipitate out due to gravitation. At lesser concentrations, the attraction force is insufficient for precipitative particle bonding, and groups are light enough that gravitation will not pull them out of solution. This is an ideal colloidal system. Colloid

systems can be destroyed because particles can aggregate, become larger and non-colloidal in size, and drop out of the medium. This is of extreme importance to health. It is crucial in the blood, the fluid systems in body cells, and especially in the fluid surrounding cells. Collapse of the colloidal system immediately precedes the onset of symptoms because the charge is lost and the energy level plummets. This compromises cellular communication and threatens the functioning of the cells, as toxins and waste cannot be removed. Eventually, the flow of life stops and there exists a dead zone. It is a focal area for the condition, which underlies disease symptoms. Colloidal integrity thus plays a very important role in health.

A colloidal system holds a state of balance in which the mutual repulsion of its particles staves off coagulation or combining. The living colloidal elements are capable of combining with themselves and with all substances in the human body--even heavy metals--as well as with nearly all other chemical compounds. They will do so when conditions require it, and at some point in the process, the colloidal system may be destroyed. From this combining, result astronomical numbers of compounds and structures, including repair proteins, and then the morbidly evolved upper development forms. If the body is in balance, colloidal combination will be harmonious, which is to say naturally constructive or healthfully destructive. The colloids of life will immediately sense any electrical compromise in the medium, and this will signal for response, such as evolution to more complex forms. An area where this is particularly significant is blood clotting. Although it contains particles much larger than colloidal size, the blood contains an alkaline colloidal system.

The colloids of life normally form platelets, which clot the blood. If the colloidal system is compromised by loss of charge (acid diet), one response of the colloidal microzymas in the blood is to polymerize. Platelets become excessive and start forming aggregations, and blood clots are also formed. As aggregations fall out of the system, they may bind to the walls of arteries and veins, which are predisposed to this by mycotoxic damage. The individual may then have symptoms of oxygen deprivation: low energy, cold hands and/or feet, light-headedness, high blood pressure, poor circulation--all of which precede stroke and heart attack. All living things are dependent upon colloids from the soil for life and health. By absorption, the root systems of plants assimilate colloids of life. These plants ultimately participate in building and fueling the bodies of all living things that consume them. Thus, all "health symptoms," as well as infectious and degenerative disease symptoms, originate from the same microforms--the colloids of life. Being in harmony with our colloids of life means energy and health. Being out of harmony with them is the One Disease, which ultimately leads to the One Sickness, (malnutrition and toxicity) which then leads to poor quality of life--and low quality of death!

Important Colloidal Minerals

Colloids of the metal transitional elements can play an important role in maintaining the delicate balance between energy or tiredness, health or disease, life or death. As a supplement, they are ready to combine and work with the body's colloids. Taken under the tongue, they are rapidly absorbed, bypassing the digestive process, which is usually compromised to some degree and often greatly.

1. Gallium is a metalloid (resembles a metal) known to form anti-tumor compounds. It has specific areas of catalytic activity in the human brain and has been reported to reduce the rate of brain cancer in laboratory animals. Supplementing the diets of pregnant women with gallium reduces the rate of brain cancer in their children.

2. Gold has several valuable effects in the body. Prior to about 1941, and as early as the '20s, colloidal gold was used in the presence of arthritis, skin ulcers, burns, certain nerve-end operations, and various types of punctures, obesity, and inoperable cancer. It then fell into disuse with the advent of antibiotics and other toxic drugs of the orthodox pharmacopoeia. Colloidal gold can have a psychologically balancing and harmonizing effect, particularly with regard to unstable mental and emotional states such as depression, seasonal affective disorder, melancholy, sorrow, fear, despair, anguish, frustration, and suicidal tendencies. Gold has the potential to repair damaged DNA. Gold is also a conductor of electricity, which may help in cellular communication, metabolism, and regeneration.

3. Rhodium and Iridium are superconductors. Superconductors are materials that allow electric current to flow through them without resistance. The superconductive potential of these substances may be activated in biomolecules. Research shows that cells in living tissue communicate with each other in a superconductive fashion. Electrons that flow through a superconductor are known to pair off and convert into light, and this may be happening during the process of cellular communication. These conductive metals are effective in stimulating electrical impulses at the cellular level, inducing the flow of electricity in and among cells. Using precious metals in the presence of cancer has been shown to correct altered DNA through the coupling of these elements with the cells, via a transfer of encoded bursts of ultraviolet laser light. Superconductors assist light transfer, and gallium, gold, rhodium, iridium, osmium, ruthenium, palladium and platinum increase the light found in the human body.

Electrical conductivity plays a role in our level of awareness, or level of consciousness. Our nervous system is a complex antenna system. There is infinite information constantly vibrating all around us. The way a dowser finds water isn't with the stick, but a resonance between water's subtle vibration and the idea (thought is vibration) of water in the dowser's consciousness.

In the brain, certain nerve cell structures called dendrites can be encouraged, by meditation to grow and increase the number of interconnections. This powers up the brain and increases receiving ability, thus raising awareness. Increased electrical conductivity and light transfer may encourage dendrite growth, and vice versa. In research, these metallic elements have been used as agents against mycotoxins, tumors, adenocarcinoma, reticular fibrosarcoma, reticular cell sarcoma, lymphosarcoma, osteosarcoma, and other cancers. They have also been used in clinical settings in the presence of AIDS, decreased mental capacity, hepatitis, diverticulitis, increased retinal blood pressure, sleeping disorders, toxicity, allergic reactions, high blood pressure, deviant blood parameters, heavy metal toxicity, and oxygen

deprivation. People taking these elements have expressed a profound clarity of mind and increased energy levels. Colloids of these precious elements have been found in high concentrations in the following healing foods and herbs: carrots, aloe leaf, grape seeds, slippery elm, watercress, acemannan, St. John's wort, blood root, Essiac tea, shark cartilage, bilberry juice, and sheep sorrel.

Colloidal Behavior

Since surfaces present, and interact through, electrical and magnetic energies, the electrical characteristics of colloids take on fundamental importance. For example, sick, dead and broken-down cells are attracted to colloids by electromagnetic force, as iron filings are attracted to a magnet. The resulting complexes are carried into the lymph, which recycles what it can, while the rest are carried to the bloodstream to be eliminated. The recycling/breakdown process is carried on by a normal level of fermentation, and it is highly likely that colloidal microzymas provide the enzymes. The surface energies of colloids have powerful effects on physical and chemical activity. It is well known that like charges repel and opposite ones attract, thus surface charges on colloids maintain an energetic system that resists coagulation. Often behaving like enzymes in life processes, certain colloids act as catalysts in chemical reactions. The high surface energies that may accompany them account for the action and sensitivity of colloids in the living system. The electrical potential on the surface of a colloid is known as the zeta potential. Zeta potential is basic to life. Red blood cells become immobile and aggregate due to loss of zeta potential. The highly negatively charged particles of colloidal minerals impart a vibrational energy which breaks the cells apart and restores the zeta potential--the negative spark of life.

The Colloid Computer

All living organisms are composed of highly structured colloidal systems and these form the basis of a gigantic colloidal computer. Every cell has an internal colloidal system arranged in patterns to create specific functions. The cells surrounding nerve fibers--glial cells in the brain, Schwann cells in the rest of the body--are made up of high-zeta-potential colloids arranged in a structured matrix. In an analog computer, information is transmitted by voltage levels or by current intensity. Glial and Schwann cells form the basis of a direct-current analog healing system. The body produces a negative electrical current across a bone break or damaged tissue, which mediates the healing process--by attracting nutrient ions to the area. Glial cells and Schwann cells are semiconductors just like transistors and there is a direct correspondence between these cells and the acupuncture meridian system. The blood-brain-barrier is very likely an electro-chemical phenomenon in which the balance of electrolytes in the brain and nervous system is critical.

When the electrolyte balance is disturbed and the crystalline structure of this vital liquid changes, (cell phone usage) unwanted materials may pass the barrier. Since a colloidal system supports intercellular fluid, the same situation may exist here, so that if the colloidal system is compromised, the electrolytes loose their ability to reject unwanted substances. The permeability of the barrier is altered by external, pulsed electrical and magnetic fields of extra-low frequencies such as signals transmitted by cell phones, computers, power lines, and hundreds of industrial and household products. Everything from hair dryers, razors, electric

ranges and ovens, refrigerators, air conditioners, TV sets, computers, washing machines, clothes dryers, even electric wrist watches emit these frequency waves. Potentially the existence of the human race is threatened by these signals, as they alter the chemistry of life.

Colloidal dispersion is threatened with collapse by ELF signals when the zeta potential of the colloidal system is low. At this point, it takes very little stress to trigger flocculation in the system. This occurs with most colloids at a zeta potential of around 1 millivolt. The increase in zeta potential achieved by adding high energy colloids and anionic electrolytes to the body will protect us from these harmful energies. Colloids and electrolytes relate to and support one another by their electrical bio-energy. Health is vitally characterized by organized matter that carries a high negative surface charge. Death/disease is the neutralization of a colloidal system in an area of the body by the positively charged influence of toxins, residues from acid-forming food, and resulting morbidly evolved microforms and their acids. There are dead-zones that exist in the blood as rouleau, as fused cells in tissues, and in the intercellular fluid itself. Toxins and debris in the system promote loss of negative surface charge and act as mortar to glue cells together, reducing function and efficiency. Given the chance, the body will deal with these areas in an electrical manner. Highly negatively charged colloidal mineral particles will be attracted to these zones, exert their influence and re-establish balance, allowing blood cells to dissociate and open up cellular communication in tissue. They do this by providing the negative spark of life.

A most crucial area for appreciating the significance of colloids and their flocculation is the intercellular fluid. The flow of life is maintained in the space between cells, where the living system has enclosed part of the ocean, so to speak. The specialized cells of the tissue spongework rely upon this substance that bathes them, maintains pH, brings in oxygen and nutrients, carries away wastes, and shields them from toxins. The flow moves from the capillaries through the interstitial spaces, then, after exchanges with the cells, back into the lymphatic channels. If the lymphatic flow is not maintained, chemical changes take place in the stagnant fluid.

The parts beyond cease to receive the materials needed. Should this movement be arrested in any part of the body, however small the area, and however short the time--what is called disease begins. It may be some time before the signs of obstruction become evident, for the surplus capacity of the system is so great. There is only one disease. All the 414 or so diseases described in textbooks of medicine are fundamentally forms of one and the same disorder. The problem to be solved in every case of sickness is, for what reason has the flow of intercellular fluid ceased, and in what site has it ceased? But the final reason is the presence is the fluid of the microform (pathogen), which is really a chemical toxin. Nutritional deficiency, the other major factor, must be addressed.

There is an intangible circulation--the flow of vitality, life-force, bioenergy--along the neuro-endocrine system, following the physiological processes of absorption, assimilation, and elimination. As long as this flow is unhindered, the individual is in a state of health. It is the extraordinary surface areas of he colloidal system, which makes it capable of carrying a high

level of charge and thus vibrational energy, or bioenergy. The neuro-endocrine system, the neuro-lymphatic system and the muscular system are all tied together via the acupuncture meridians. In addition to food, the body ingests, assimilates and excretes subtle vibratory energies, including normally invisible light frequencies. The interstitial and lymphatic system is a vital site of parenteral digestion. In the lymphatics there is a real digestion of the entering fluid carried on by the ferments supplied by their cell population. And in the intercellular fluid, there is a constant building up and tearing down, through enzyme activity. Poisonous waste products from dietary sources find their way into the fluid and interfere with the flow because they cannot be perfectly digested. They are acid decomposition products, which create a condition of anoxia in the fluid. Besides the anoxia, the lack of ferment needed to break up the pathological substances itself causes interference with the flow. Failing the breakdown of the materials in question, deposition will occur. When flocculation (precipitation, deposition) occurs, the signs of disease appear.

Our fundamental anatomical elements, the colloidal microzymas in every cell are the electrical, or bioenergetic nature of the fluid that supports the flow, and it is primarily a colloidal system, in concert with molecular electrolytes, that constitutes its electrical nature. Colloids play a critical role in the vital function of intercellular communication. The DNA molecule transmits its blueprint information to other cells by means of encoded bursts of ultraviolet laser light. The optical pathways for this information are "light tubes" consisting of highly structured cellular water. The structure of cellular water is created by minute quantities of highly charged colloidal minerals. In the billions of cells comprising tissues and organs, energy is obtained from certain metals, among them iron, iodine, manganese and copper. There are some 32 minerals in the body, with traces of at least as many others. Colloidal nutritional chemistry is the science, which converts those elements into particles so minute they can be utilized directly by cells and the intercellular fluid. Ideally, a nutrient should be administered in such a form that its essential constituent will travel through the body until it reaches the part where it is required, and that it arrives at that organ or tissue in such a state as to be used to the greatest advantage. To administer a substance in chemical form because it has been isolated from matter, may be to misunderstand the chemical and physical changes which take place in assimilation, and thus to supply the material in a form from which it has to be converted.

Even though the body can convert substances, this is no reason for the administration of agents in less than ideal form, especially when the physiology is weakened. The treatment of a disease condition by the administration of various compounds is much more completely understood when it is realized that the reactions deal largely with colloidal materials and systems. Nutritional and remedial treatments become most efficient when they can be based entirely upon this principle or can include it, eliminating or minimizing further disturbance to the system. An element in the ionized state is always associated with its corresponding ions. Thus, ionized potassium chloride separates into potassium ions and chlorine ions, and the net charge of the system is neutralized. When the element is administered in the colloidal state, however, it is introduced alone as an active agent, the charge in the particles is quite definite, and activity is correspondingly great. The extreme toxicity of many combined or non-colloidal elements is avoided when administered in the form of colloidal sols. The remarkable fact that colloidal silver and iodine do not stain the skin, whereas pharmaceutical

preparations of silver and iodine do so strongly, is a further indication of the striking difference between colloidal sols and ordinary solutions. A substance, to be fully efficient, must be in a colloidal state, or very easily convertible to it in the body of the subject.

The electrically charged particles of some metal sols have activity and catalytic power so great as to be barely conceivable. They can induce chemical reactions, which would otherwise require conditions unattainable in the human subject. They cause strong chemical actions out of all proportion with the quantity of matter brought to bear. This intense power of promoting reactions and of being themselves left free at the end of the reaction results in very small quantities of metal sols being capable of effecting changes highly disproportionate to the amount of sol present. Metal sols have the additional therapeutic advantage of acting most rapidly in slightly alkaline solutions, so that when properly prepared they are not affected adversely by normal blood.