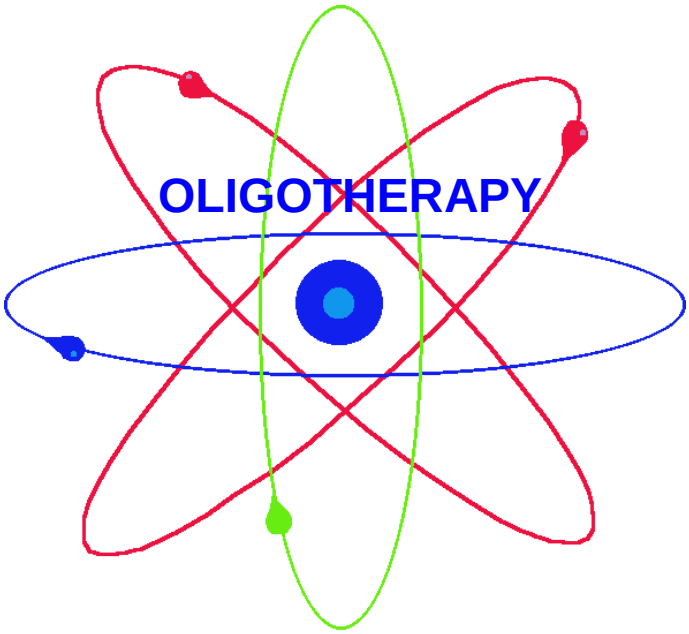


By

Dominique Richard © 2016.

Oligotherapy–Planetary–Metals uses small doses of individual trace minerals for therapeutic support, supplementing the necessary minerals for enzymatic functions. Trace elements are considered the "spark plugs of life". They help to create the combustion of nutrients into tissues and cells energy. These minerals regulate the body through their direct action on the central nervous system (CNS), parasympathetic and sympathetic autonomic nervous system (ANS), the endocrine system and immune system. **In PSC® embryonic plant extracts are found 27 oligo-elements**.

SEVEN TYPES of "BIOTHERAPIES" presently are in existence today.

1. **MEDICINAL EMBRYONIC PHYTOTHERAPY (MEP™)** uses fresh plant buds or any other embryonic tissues in the embryogenesis growth phase. In concentrated form 1:20 5 % of a mother tincture and 1:10 a 10% equivalent of a full mother tincture. Oligo-elements are present in the PSC embryonic plant extracts and not in the adult plants; they are the equivalent of an 8 X (DH) dilution, which is the same as the oligo-elements manufactured by various homeopathic laboratories.

2. **OLIGOTHERAPY** in a sense, oligotherapy, first widely applied in the 20th century by Dr. Jacques Menetrier, can be seen as a swing of the pendulum away from the mega-dosing culture. Moreover, while it is not strictly homoeopathy, the doses used can be near homoeopathic (in the same way that tissue salts are not strictly homeopathic, but work along the same principles). The minerals are in a more bioavailable organic form. In oligotherapy, as in homoeopathy, trace elements are chosen to match either the Constitution of the patient or Miasms and symptom(s) pattern. These trace elements can be given either singularly or as part of a combinatorial complex to specifically target conditions, and may be in a water-based solution or part of an embryonic plant extract.

3. **LITHOTHERAPY** makes use of homoeopathic dilution potencies derived from rocks and minerals. Lithotherapy uses very small doses of naturally occurring mineral compounds to restore enzymatic functions. The body typically destroys minerals in the process of trying to free them for use. Lithotherapy, by contrast, has a dechelating effect whereby, through substitution and other processes, it liberates the mineral without damaging it for the body's use. Lithotherapy remedies are believed to be very compatible with ion channel receptors and thereby generate large amounts of ionic flow into the cell by effectively opening the channels. Blood tests on a patient's mineral profile often reveal lowered, freely circulating mineral values. However, this may not indicate a deficiency but rather more of an inability by the body to utilize such entrapped minerals being encapsulated. Therefore, the dechelating effect of lithotherapy de-encapsulates trapped minerals so that the body may again be able to reutilize them. Minerals are responsible for enzyme production; unless one restores this ability to utilize them, treatments that try to correct enzyme or mineral deficiencies may end up causing mineral accumulations, which can prove disastrous.
4. **ORGANOTHERAPY** consists of homeopathically prepared glandular and tissue extracts. Ultramolecular informative dosages using a homeopathic dilution, per the French Pharmacopeia, established that the oligo-elements and homeopathic dilutions are as follows:
    - **4c to stimulate a function agonist**: dosage 10-15 drops three times daily.
    - 6c to regulate a function: dosage 10-15 drops three times daily.
    - **9c to inhibit a function antagonist**: dosage 10-15 drops three times daily.
    - 12c in homeopathy removes certain substances; for example, Kali iodatum 12c reduces elevated eosinophils from the blood. Dosage 10-15 drops three times daily.
    - 30c for pain: dosage 15 drops two times daily.
    - 100c or higher 1M or 10M for chronic conditions, or for the psyche. Dosage 10-15 drops or three pellets once a day. You would never use these high potencies with organotherapy.

Please Note: in organotherapy the only potencies being used are 4C agonist and 9C antagonist no others.

5. **ISOTHERAPY** is a type of treatment that administers the very same ***active causative agent*** of the respective disease in a homeopathic dilution referred to an Isode. ***Excrements*** (waste matter discharged from the body): urine, blood, saliva, exudate from sores, and even feces are taken from patients and then diluted into a homeopathic remedy and given back to the same patient. Effects have exceeded expectations in many people who had been suffering from longstanding chronic infections or conditions and suddenly began recovering after taking this isode. This dilution carries only ***a memory informative dosage*** of a virus, bacteria, fungus or parasite. Isopathy (derived from “isos pathos” or “equal suffering”) refers to the use of the exact substance that causes an illness as a therapeutic tool for that same

illness. It is the principle underlying modern, conventional immunotherapy, e.g., vaccinating with measles in an attempt to prevent measles, injecting pollen extracts to try to subdue pollen allergies, etc.

Urine therapy is the same as isotherapy but not diluted. Used for medicinal or cosmetic purposes, including the drinking of and bathing in one's own urine, as a remedy for chronic infections and skin conditions. Contrary to what one might initially think about urine therapy, there are some limited scientifically proven health benefits for urine therapy. Moreover, some chemical components of urine do have some well-known commercial and other uses, like urea and urokinase. For instance, urea in urine has been found to be antibacterial to bacteria-causing urinary tract infections specifically, and ingestion of urea has been found to increase this antibacterial activity in urine itself; urea added to cosmetic products is well known for its moisturizing - hydrating effects. Urinating in one’s bathtub is known very healthy for the skin with antiaging skin benefits.

When taken orally, people drink the midstream of their first morning urine. The origin of this unusual practice seems to be in certain religious rites among Hindus, where it is called amaroli in tantric religious traditions. While I do not recommend such therapy, it does appear to have merit for certain conditions but not a panacea. Still, it is not likely to be healthful or useful except for those rare occasions when one is buried beneath a building or lost at sea for a week or two. In such situations, drinking one's own urine might be the difference between life and death. Urine is one of the body's methods of ***getting rid of waste products*** and should not be daily practice to ingest unless absolutely necessary. As a daily tonic, needless to say, there are much tastier ways to introduce healthful products into one's blood stream.

6. **IMMUNOTHERAPY** is an allergy desensitizing treatments. The ingestion of ultramolecular potencies of an allergen given in an oral or in injectable route delivery.

7. **BIOCHEMISTRY** of Dr. Wilhelm Schüssler from Oldenburg, Germany in the early nineteenth Century. Dr. Schüssler chose the term "biochemistry" for this healing methods, taken from the Greek "bios" (life) and "chemistry" (science) of the elements. This is not to be confused with the modern usage of the term biochemistry by today's biologists and chemists. Dr. Schüssler was a physiological chemist, homeopathic physician and physicist, and felt that the 2,000 remedies used during his time could be simplified. He identified 12 major "tissue salts", which he located in every human cell. These tissue salts, also called "cell salts," are vital mineral constituents of the body. They combine with organic substances in the body to produce and maintain the ***infinite number of tissue-cells*** of which the human body is composed. He determined that any cell salt deficiency or imbalance may result in a, condition or disease; if the deficiency was corrected, the body could, in fact, heal itself. Thus, the symptoms varied according to the deficient "biochemic" cell salt.

According to this theory, conditions and diseases proceed with an alteration of the cell membrane. When the electrolyte balance changes, the tissue salts regenerate and regulate the cell membranes.

Added to this, are the fine-substance oscillations of the mineral substances that are necessary for the cells livelihood.

Dr. Schüssler described twelve different salts. Subsequently, a further twelve salts were added to the tissue salts mineral therapy, giving 24 in total. A process of trituration in accordance with homeopathic practice should prepare Biochemic Tissue Salts. In the preparation of each batch of tiny tablets, the processes involved occupy no less than twelve working days. These prolonged processes are essential in order to secure the full biochemical activity and extreme fineness of these vital cell foods, which are thereby reduced practically to molecular form. These “micro doses” are readily assimilated and are absorbed almost immediately to nourish the countless millions of tiny, living cells of the human body. These potencies may be high or low, the stages being determined on the decimal scale and indicated by the letter “x” (i.e. ten). Thus, we have 3x, 6x, 12x and so on. Long experience in the first aid treatment of everyday minor ailments indicates that the most generally useful potency is the 6x, and this is the potency usually recommended.

A very important note:

Homeopathy is a topic that arouses strong emotions. The front cover quote of some research as showing that homeopathy is a “waste of time”. This type of response to a scientific paper is not helpful in any shape. As a practicing homeopath for many years past tense, I was disheartened to see that yet again, one study that failed to demonstrate evidence of efficacy is considered sufficient reason to reject homeopathy as one potential form of treatment. The problem here lies in that we live in a very different time than that of Samuel Hahnemann. And that unless we detoxify and restore proper bodily function first, Homeopathy will still fail to address the many root causes that we faced today with increasing pollution and that in the midst of all the body's burden homeopathic remedies gets lost in the shuffle. When you have effectively detoxified a human body only then does homeopathic remedies could possibly work effectively providing the practitioner is proficient in choosing the correct remedy.

Oligotherapy remedies are considered to be catalysts that speed up metabolism at the cellular and tissue level. They provide essential nutrition to stop free radical activity, which destroys bodily tissue and cell. Oligo-elements are biologically essential mineral elements, which catalyze or regulate the action of a great number of enzymes in the living organisms. The human body perpetually eliminates these elements, and their loss has to be replenish through regular intakes.

Oligotherapy supplementation is believed to enhance the movement of ions, essential for life, into and out of the cells. Often present in very small quantities (micrograms) their actions extend to all levels of all metabolic reactions throughout the body.

Deficiency or excess of any key minerals can cause the disruption of many biochemical reactions and, by consequence, functional disorders that only mineral homeostasis can

correct or eliminate. Today's widespread recognition of the essential role of these substances is due to the outstanding work of researchers like Dr. Menetrier, and later Dr. Assoun, which established the fundamental relationship of minerals with Quantum Medicine. Even further, such research into micro-elements began in the 19th century by Gabriel Bertrand of the Pasteur Institute, by which he established their existence in 1894.

Trace elements are present in all living organisms. **They are the biological catalysts vital to the smooth functioning of the protein systems, enzymatic** and **genetic.**

Their specific roles are threefold, as they occur at the ***chemical***, ***physical*** and ***informational*** level.

Group	1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Period																			
1	1 H																		2 He
2	3 Li	4 Be												5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg												13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca		21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr		39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	*	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	**	103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Uut	114 Uuq	115 Uup	116 Uuh	117 Uus	118 Uuo

***Lanthanoids**	*	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb
****Actinoids**	**	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No

Element 117 discovered?

A 2010 paper published in Physical Review Letters claims the synthesis of a new element with atomic number 117. The abstract states "The discovery of a new chemical element with atomic number Z=117 is reported. The isotopes 293117 and 294117 were produced in fusion reactions between 48Ca and 249Bk. Decay chains involving eleven new nuclei were identified by means of the Dubna Gas Filled Recoil Separator. The measured decay properties show a strong rise of stability for heavier isotopes with Z>=111, validating the concept of the long sought island of enhanced stability for super-heavy nuclei."

Credit: WebElements™ to http://www.webelements.com/.

A new chemical element has been added to the Periodic Table: A paper on the discovery of element 117 has been accepted for publication in Physical Review Letters.

Synthesis of a New Element with Atomic Number Z=117, Oganessian, Yu. Ts., Abdullin Sh. F., Bailey P. D., Benker D. E., Bennett M. E., Dmitriev S. N., Ezold J. G., Hamilton J. H., Henderson R. A., Itkis M. G., et al., Phys. Rev. Lett., Apr/2010, Volume 104, Number 14, p.142502, (2010).

The Alkali Metals	The Alkaline Earth Metals
Lithium	Beryllium
Sodium	**Magnesium**
Potassium	**Calcium**
Rubidium	**Strontium**
Cesium	Barium
Francium	Radium

Trace elements play a role as an enhancer in activating enzymes. They behave as *cofactors enzymatic*. They are involved in both hydrolysis reactions of anionic peptides and phosphate esters, and in the process of decarboxylation or oxidation-reduction. They also have an important role in the synthesis of proteins and their stability, and finally they fit into the molecular structure of the enzyme.

Trace elements form complexes with proteins that are powerfully united but easily separable from the enzyme protein structure (with strong chelating agents) to play their role as *enzyme cofactors*. The action of trace elements is related to proteins and metallo-specific enzymes (EMS or Enzyme Metal Substrate). Most trace elements are qualitatively and quantitatively determined by atomic techniques and are detectable in body fluids, tissues and skin appendages.

In order to really speak of trace elements, we must consider their concentrations in biological fluids in volumes of less than in mg/liter. Thus, essential elements such as Sodium (Na), Potassium (K), phosphorus (P), Calcium (Ca), Magnesium (Mg), silicon (Si), and to a lesser extent elements such as boron (B) and Bromine (Br), are called macro-elements.

Trace elements should be provided by our food, but what we eat is often deficient and no longer fulfills its assigned role. Thus, nearly 10% of the population is deficient in Zinc, Selenium and Iron. These finding are causing serious environmental consequences and nutritional health problems, but often are seen as absurd as fanciful.

Microelements aimed at restoring cellular integrity.

Microelements are designed to produce a vibration at the same frequency as cells. A diseased cell, for example, possesses a different frequency than a healthy one does. Microelements re-educate the cells to normal activity, thereby creating the correct frequencies for the healthy functioning of the body's cell structure.

The Structure of Cells

The cell structure is made up of a wide range of elements, and it's important to understand how they each interact. The structure of all cells relies on the inter-connection between such elements as identified in the Periodic Table of Trace Elements.

Every cell is made up of an amalgam of metals. These elements are structured in a range of different ways dependent on the nature and function of the particular cell. Similarly, the levels of concentration of each element will vary according to the cell and organ to which it acts upon.

Cell Vibrations

The living cell can be compared to a set of oscillators and, in the same way, has the capacity to function as both a transmitter and receiver at the same time.

The cells making up every living human, animal, and plant body are living organisms, which are made up of a mass of individually vibrating cells, each with its own unique pattern and frequency.

Cells reproduce all the time. If a cell is damaged, it will automatically reproduce a damaged cell and of course fail to replicate vital information.

Cells with damaged frequencies

Inevitably, the frequency of cells can be weakened by repeated aggressions that can disturb metabolism, leading to pathology and medical disease.

All of these can disturb and corrupt the exact natural spin and vibration of cellular Trace Elements, which are the building blocks of cellular structure.

This disturbance in frequencies can corrupt the capacity of the Trace Elements contained in a cell to absorb the mirroring frequencies, which they need. This in turn can result in numerous Trace-Element deficiencies.

The Consequences:

The whole range of environmental pollution agents (including radioactivity) can give rise to a process of cellular mutation with numerous potential consequences, including:

- Reversal of rotation of natural cellular spin.
- Abnormal consumption of the body's essential energy, potentially slowing down, for example, hormonal development during the pre-puberty and puberty period.
- Allowing the creation of free radicals and decreasing immunity, generating new medical pathologies.

THE ROLE OF CO-ENZYME FACTORS

Many trace elements provide the role as co-enzyme factors that unify the operation of vitamins. Some trace elements, as Valley has demonstrated, are closely related to vitamins as they promote synthesis in the body. This research demonstrated that, as enzymes, trace elements serve as co-factors to biological activities, whether being catalytic, structural or as regulators. These enzyme-metal bonds, which, put together, are more than three miles long in the human body, are due to the formation of a complex by electron donors from the protein chain. They then will own the properties of organic complexes. Their specificity varies (e.g., replacement of zinc by Cobalt often is possible) and can be of more or less high affinity (when we speak of strong metal-metal enzyme or activator). Their stability in turn is subject to differences in pH of the body, a factor often overlooked in their crucial role in acidification.

HORMONAL INTERACTIONS

All practitioners of organo-therapy, which is the use of diluted homeopathic glandular substances, are well aware of this mode of action by trace elements on hormone metabolism. This action is the result of several mechanisms such as:

1. The fact that a metal may be necessary for enzyme synthesis or catabolism of a specific hormone. In this special way, the role of zinc in modulating the action of alpha-reductase is necessary for the synthesis of DHT, but it will also act through the resaturation concentration of the vitamin B6 on the synthesis of prostaglandins. Copper, too, acts through dopamine hydroxylase and by ceruloplasmin on brain amines.
2. The metal can also be required for the structure of a hormone, and consequently its identification by its receptor, either because it is part of covalent iodine as thyroxine, or because, by complexion, it activates the structure of the molecule. Zinc is often a

factor in growth as protein in NGF, Gustine, MIF, STF; it also appears to protect thiol groups of hormones from oxidation or enzymatic attack.

3. The metal may intervene in the unique setting of the hormone to its receptor.
4. The metal blocks ionic phenomena due to a hormone.

OTHER ROLES OLIGO-ELEMENTS PLAYS

The roles of oligo elements are varied, and it would take too long to enumerate them here. Zinc, while stabilizing cell membranes, also alters cellular movements, interacts with tubulin by promoting its assembly, and promotes oxygen binding to hemoglobin. Other metals form more complex interactions with nucleotides and nucleic acids in stabilizing their structures and binding them to specific sites. Thus, they work on the immune system, coagulation, and cell growth, the metabolism of bone and cartilage and on brain function.

OLIGOTHERAPY AND OLIGO ELEMENTS

OVERVIEW

The diet is the main source of trace elements and exposure to dietary trace elements has a direct impact on human's health of hundreds of millions worldwide. Insufficient intake of essential trace elements is a global problem. The deficiencies of iron, zinc, iodine and selenium result in millions of people being affected by many diseases and conditions, with very serious consequences in those countries where malnutrition is widespread. Moreover, the impact of toxic element species such as inorganic arsenic and methyl mercury on whole populations has come to the fore again as a priority for both the scientific community and health authorities.

Functional foods provide a potential benefit in the treatment or prevention of diseases. Many studies have demonstrated that a higher content of vitamins and minerals and phytonutrients are found in Biodynamic Organically Grown fruits and vegetables***, which*** contain no pesticides, insecticides or synthetic fertilizers. These conscientious growers go the extra mile to insure this through independent analysis of their soils and well waters for irrigation to insure that no toxic metals or toxic chemicals are found in the farming of their foods -- conscientious and more caring types of farmers than that of those who simply grow organic foods without these imperative measurable precautions.

For every element there exists a form with effects recognizable to our external senses and another form that exists in the highest "spin-state" that may only be recognizable by our inner senses. However, the effects of the higher "spin-state" also may be felt by our physical senses as the higher energy permeates our physical being. These effects may also transfer into our morphogenic field, resulting in enhanced levels of aetheric energy in the field.

The oligo-elements that are present in PSC extracts are very close (in amounts) to the ones used in homeopathy and oligotherapy; that is, 10-6 to 10-9 (D6 – D9) or (6X – 9X), at a concentration of at least 2,500 µg/kg (ppb).

The truth is that a person can feel the vibrational effects of energetic embryonic plant extracts, contrary to worn out adult plants loaded with toxins. Nature's nanosciences, and not man-made products, enable us to regain cellular health and our vibrant selves. And there is no need to process, alter, or re-engineer anything, since nanotechnology already occurs in nature.

Distribution of the mineral oligo-elements in a human body (average weight of 70 kg - 155 lbs.)	
Calcium	1.4 kg
Copper	150 mg
Iron	4 g
Magnesium	30 g
Manganese	20 mg
Molybdenum	9 mg
Nickel	10 mg
Phosphorous	700 g
Potassium	170 g
Silica	7 g
Sodium	100 g
Zinc	2.4 g

THE SPECIFIC DIATHESIS of patients is determined by their heredity and family history, their susceptibility to disease, and the behavior underlying their physical or intellectual abilities and disabilities.

The following classification should be considered as ways of work and research: patients are often faced with a combination more complex than simple membership in a defined diathesis. Accordingly, oligotherapy is not a minor discipline but requires experience, finesse and skill.

MAIN DIATHESIS: A mental or physical [inherited or acquired] chronic predisposition or disease state. Diathesis (tendencies/pre-disposition) can also suggest the miasm: for example, eruptive diathesis is psoric; rheumatic-gouty, lithic-uric acid or proliferative diathesis is sycotic; suppurative-ulcerative is syphilitic; and hemorrhagic diathesis is tubercular and cancer diathesis.

1. Diathesis: *Allergic or Arthritic*

Contrary to what one might think, this often affects a rather young person suffering from acute, but not serious, diseases.

The key features are:

Physical - Asthenia (fatigue), generally in the morning, which is not necessarily a sign of depression but more often an indication of magnesium deficiency. This weakness is improved by activity (motion versus sedentary), or by physical effort.

Intellectual - Memory disorders.

Psychological - Neuroticism, irritability, aggressiveness. But also optimism, dynamism and entrepreneurship. And finally, a tendency to emotivism, shyness, shakings and tics.

Cardiovascular - Palpitations - emotional tachycardia. Acute and transient intercostal pain. Hypertension functional. Hypotension essential.

Genital - Painful menstruation without organic cause.

Rheumatic disorders - Arthritis, painful, recurrent, little or no distorting, if not avoiding stagnation in older subjects. Algias, diverse and nonspecific, indicating pain, as in arthralgia (joint pain), cephalgia (headache), fibromyalgia, mastalgia (breast pain), myalgia (muscle pain). Neuralgia (sciatica, neuralgia ligament, intercostal)

Endocrine - Thyroid disorders, mostly hyperthyroidism.

Allergies - Migraines, urticaria, rhinitis, angioneurotic edema, asthma, eczema without infection.

Family History – Allergies, rheumatic diseases, cardiovascular diseases (angina pectoris, arteriosclerosis, hypertension, stroke, etc.).

Oligotherapy: Manganese (Mn).

2. Diathesis: *Hyposthenic-Hyposthenia* (a weakened condition; lacking in physical strength).

The subject presents a general frailty, a resistance effort, whether physical or intellectual. The conditions associated with this diathesis are often chronic.

These key features are:

Physical - Weakness, general morning physical fatigue.

Intellectual - Intellectual fatigability, Inattention and poor concentration.

Psychological – Pessimism, instability, mental and psychomotor, and lack of will.

ENT and respiratory disorders - Rhinitis and nasopharyngitis, mostly recurrent, otitis and sinusitis, laryngitis and tracheitis, bronchitis and pleura.

Genitourinary - Recurrent cystitis, leucorrhoea.

Endocrine - Thyroid disorders, primarily hypothyroidism.

Infectious diseases – Adenitis, pulmonary tuberculosis, intestinal and genital or urinary.

Allergies - Asthmatic or not, depending on some environmental conditions, operating against a background of chronic bronchitis and eczemas.

Family history – Tuberculosis.

Other type manifestations hyposthenic as listed above.

Oligotherapy: Copper-Manganese (Mn-Cu).

The first two diatheses are called primitive in the sense that they constitute the natural disposition of a healthy individual who inclines to this type of aggression response.

3. Diathesis: *Dystonia*

It is rarely primary, but makes the most of "aging" in the context of one of the two prior diatheses, unless it is the result of physical or psychological trauma.

These key features are:

Physical - General asthenia and premature aging.

Intellectual - Decreased intellectual ability, disorders of recent memory and memory holes.

Psychological – Arousal, hypersensitivity to noise, impatience with respect to the environment, the tendency to amplify concerns and frustrations, anxiety with either somatic symptom (stricture of the throat or solar plexus, esophageal ball), or purely psychological (irrational panic, agoraphobia, claustrophobia). Crying spasmodic, often without precipitating reason. Tendency to low self-esteem and fear of not achieving the goal. Trends neurotic.

Cardiovascular - Feeling of chest tightness, pain, pericardial angina type, instability of blood pressure. Circulatory Venous disorders (hemorrhoids, varicose veins, heavy legs, edema of lower limbs, numbness of limbs and extremities, tingling, impaired vasomotor postmenopausal).

Digestive – Gastritis, ulcers (primarily duodenum) and Colitis right sided.

Genitourinary - Malfunctioning kidneys (urea), urinary stones, rules overabundant, state of uterine fibroids and impotence.

Rheumatic disorders – Gout, osteoarthritis and phenomena of painful sympathetic origin.

Allergies - Eczemas, original and autonomic, angioneurotic edema, especially during menopause or post-menopausal, hay fever and urticaria.

Family history - Cardiovascular disorders and psychological, same nature as above

Oligotherapy: Cobalt-Manganese (Mn-Co) or Manganese-Copper-Cobalt (Mn-Cu-Co)

4. Diathesis: Anergic (Lacks immune response)

Suppressed defense immunosuppressed against attacks in general, whether mental/emotional or microbial. In addition, the body's physical reaction to these attacks is incorrect.

These key features are:

Physical - General asthenia, lower overall energy and vitality.

Psychological - Lack of interest both in the environment and for home or work life, thirst for solitude, loss of control (Abulia), and abnormal lack of ability to act or to make decisions. Worries about the absurdity of existence. Thoughts of death, Thanaphobia (fear of death), suicide or attempted suicide.

Digestive - Ulcerative colitis and anal fistula.

Dermatology – Acne and psoriasis

Rheumatism – Osteoarthritis, rheumatoid and spondyloarthritis (vertebral joints).

Infectious diseases - Purulent ENT infections, staphylococcus rebels and tuberculosis or severe acute.

Allergies - Eczemas infected, respiratory allergies accompanied by sinusitis and/or otitis.

Family history - Analogies with the behavior above.

Oligotherapy: Copper-Gold-Silver (Cu-Au-Ag).

Mismatch Syndrome

A mismatch syndrome incorporates at least one of the above-described four diatheses. It will complement one of them, or induce the transition from a healthy individual to one of the defined diathesis types.

The key features are:

- Cyclical Weakness.
- Crisis of hypoglycemia accompanied by "pump shot" between meals.
- Gastrointestinal bloating.
- Impotence or frigidity.
- Enuresis.

States: Cyclothymia-cyclothymic: a milder form of bipolar II disorder consisting of recurrent mood disturbances between hypomania and dysthymic mood. Nonpsychotic.

Oligotherapy: Zinc-Copper (Zn-Cu) or Zinc-Copper-Cobalt (Zn-Cu-Co).

It is obvious that the public should not try to self-diagnose or connect to one or another of these diatheses. Only a healthcare professional fully aware of the oligotherapies may determine what class an individual is in and what treatment best suits them.

THE WORK OF PROFESSOR DANIEL CHRISTIAN ASSOUN

The work of Dr. Christian Assoun focuses on three distinct and complementary areas:

1 - Implications of the elements in extra- and intra-cellular functions gave birth in the 1980s to the concept of quantum medicine.

2 – Generation of a system of analysis to establish the atomic states of these elements within the body (MAU, BGU, etc.).

3 - Determination of groups of elements with a specific action on a body function or physiological system, called the matrix, and trace element complex preparation to restore the balance of these matrices.

Unlike most current practices, which involve only a few trace elements, the work of Professor Assoun involves virtually all stable elements of the Periodic Table either in weight or in which he called "***Homeopathic Nanonutrition***". In this respect, nanonutrition can also supersede elemental-therapy techniques by providing a precision of hitherto unknown use.

A "nano" something is one billionth of whatever you are measuring. Imagine billionth-sized cellular and nutrient molecules programmed to operate optimally, traveling through your bloodstream, eliminating all your defects and with no manufacturing pollutants: this is worth investigating. As well stated by Quantum Nutrition Labs, a provider of nano-nutritive products, the significance of nanization is that it is not what you consume that counts, it is what you assimilate. Quantum's pioneering nanization process looks like a major breakthrough in nutrition technology.

The quantum

We consider a phenomenon to be quantum if it gives rise to an extremely small yet discrete amount of energy. The smallest field quantum (nanoquanta) is within the cellular environment and particularly within the membranes of DNA.

Generally, the speed of light (c) is connected to other quantities and constants such as momentum (p) associated with the Planck constant (h) and wave number (k), which in turn is connected to the same wavelength typically expressed in A°. (1 A° = 10-8cm).

The wave-particle duality rule energy issues

A wavelength is equal to the speed of light divided by the frequency associated with the quantum event expressed in Hertz (Hz).

So, there is still a wave-particle duality (quantum theory: quantum mechanics).

The quantum world is applicable to the biological environment (ref. Popp-Assoun-Li): Tissues - Organs - Cells - Biological fluids. The pathology of the light is at the origin of bio-degradation catabolic.

Catabolism of trace elemental excretion

It is therefore possible to describe all these biophysical states in a complex, comprehensive or partial, but one can also use analytical tools such as quantum type ICP-MS, ICP-AES techniques classified as atomic. These methods allow analysis of substrates and fluids, including urine, which represent the partial pathologic mechanisms of bio-degradation of natural or induced (endogenous or exogenous) substances. Endogenous: imbalance EMS (Enzyme-Substrate-Metal), protein synthesis and genetics. Exogenous heavy metal toxicity (chronic or accidental, ENT, lung and gastro-intestinal).

Pharmaceutical Compounding trace elemental restoration.

The correction or restoration of the MAU of a patient is by means of a pathologic selected and purified. The main major macronutrients (Na, K, P, Mg, Ca) have a significant effect of mask and are removed from the preparation as well as heavy metals and toxic.

Homeopath or homotoxicology some experts by experience may retain some toxic metals (4CH equivalent weight – 8X DH, 10 ppt concentration).

Methodology therapeutic food

PMP (Pharmaceutical Preparation Magistrate)

The MPP corresponds to a trace elemental nanonutrition outcome of MAU Trace elements correspond to the image given pathological these trace elements act as modes associated with the following:

a) Resonance frequency

b) Resonance memorial

c) Middle nanonutrition EMS

The PMP is the type cons memorial weight and resonance of the image pathological. Indeed, each function or organ that degenerates lose some of its memory associated with organic material components (proteins - enzymes - RNA - DNA). The administration of trace elements directly involved in biological or environmental degradation (entropy) will result resonance frequency with functional or organic system involved. All these mechanisms allow reflexology, rehabilitation, restoration of damaged environment. Thanks to the trace (trace element) that the mechanism is restored. In this case, a game is as important as the whole. This principle reflects the proper way to concepts and homotoxicology isotherapy.

The PMP is the custom and biocatalytic nanonutritionnal.

Restoration complete mineral lithology

PMP is the first step corresponds to a drug that acts quantum. On the deeper (Genetics - Protein synthesis - memory).

The second step is to administer mineral supplementation (micronutrient) can play the role of raw material weight reconstruction.

b) The metal hydrate and Generation X-FLNT4 (patented electrochemical manufacturing) mineral supplements have a high bioavailability and cytotoxicity zero. LD (lethal dose) 50 and cytotoxicity study compared with other chemical salts.

Spermatogenesis (sperm production) has considerably reduced during recent times and some reliable sources suggest that there is a 30 % reduction in man's ability to reproduce normally.

It has been epidemiologically shown that the dioxins, a group of 273 different chemicals, and 100 chemicals that promote dioxin formation, affect and alter the cellular and biological viability of our genetic material (DNA) and cause irreversible, carcinogenic and mutagenic reactions.

Consequently, human reproduction in ten years' time will be considerably compromised if measures are not adopted in the short term. Furthermore, the weakening of our immune system is a collateral effect of the pathological action of dioxins, furans and other toxic molecules that are currently produced by human activity. Urban waste incinerators produce large amounts of dioxins and furans, and often in an uncontrolled way that does

not respect the current standard of 1-4 ng of dioxins / m3. In some instances, this limit is exceeded by ten or 50 times.

In practice, we do not really know the levels of actual dioxin emissions from incinerators because dioxin detection and measuring equipment is very expensive. This explains why most municipal incinerators do not monitor dioxin emissions. Additionally, incinerators are often quite near residential areas and air currents will displace the fumes and the dioxins from them over tens of kilometers, thereby quietly affecting inhabitants and subjecting them to considerable health risks. While the risks were initially unavoidable and undetectable, they can be biologically confirmed in the short and medium term: cancers, allergies, fetal malformations, sleep and neurological behavior disorders, reduced walking distances, reflex activity lesions and memory effects.

Another problem is that molecules that are created become cooler around the walls and form stable molecules called dioxin promoters. It seems that these dioxin promoters are even more dangerous than the basic dioxins produced by the incinerator.

Despite all the recycling programs that have been implemented and which have variable results depending on the country (10 - 18 % at most), it is technologically, scientifically and chemically obvious that the thousands of incinerators in Europe and on Earth must continue to eliminate the waste from our activities and result in a considerable loss of our biological integrity (significant reduction in immunity and development of multiple pathological conditions).

Oligotherapy Indications		
Acne *Copper-Gold-Silver, Zinc-Copper, Silica, Sulphur, Phosphorus, Zinc.*	**Emphysema** *Manganese-Cobalt + Manganese-Copper + Sulphur.* ***Bronchiectasis**; Sulphur + Manganese-Copper.*	**Insomnia** *Lithium, Magnesium, Aluminum*
Allergies *Manganese* *or* *Manganese Copper+Sulphur.*	**Endometriosis** *Zinc-Copper, Magnesium*	**Laryngitis** ***Acute**: Copper + Bismuth.* ***Chronic**: Bismuth + Copper + Manganese-Copper + Sulphur.*
Anal Fissures *Manganese-Copper*	**Enuresis** *Zinc-Copper, Lithium, Magnesium.*	**Mastitis (Acute)** *Copper, Copper-Gold-Silver*
Anemia *Manganese-Copper-Cobalt, Iron, Nickel,* *Zinc for its absorption.*	**Fertility** *Manganese, Selenium, Vanadium, Zinc.*	**Mastodynia** *Copper, Zinc*
Angina *Germanium, Magnesium, Potassium or Manganese-Copper*	**Flu and Colds** *Copper*	**Muscle Cramps** *Potassium, Copper, Magnesium, Potassium*

Anthrax *Copper-Gold-Silver*	**Fibroma** *Manganese, Selenium, Zinc-Copper*	**Osteoporosis** *Copper, Baryta carb, Germanium, Phosphorus, Silica, Strontium*
Anxiety *Manganese-Cobalt-Copper + Lithium. Magnesium*	**Ganglions** *Manganese-Copper + Copper-Gold-Silver + Sulphur.*	**Pernicious Anemia** *Cobalt*
Arthritis and **Rheumatoid RA** *Copper, Magnesium, Manganese + Sulphur Phosphorus.* ***Coxarthrosis**; CuAuAr + MnCo + F + K + Mg*	**Gastritis** *Manganese-Cobalt, Magnesium, Lithium*	**Papillomas** *Aluminum-Magnesium-Silica*
Asthma *Manganese-Copper, Copper-Gold-Silver, Lithium, Sulphur*	**Glaucoma** *Germanium*	**Pharyngitis-Tonsillitis** *Copper, Sulphur*
Atherosclerosis *Vanadium, Magnesium + Manganese-Copper + Copper-Gold-Silver + Zinc*	**Gout** *Manganese-Cobalt + Sulphur + Lithium.* *or* *Manganese-Copper + Potassium + Sulphur + Lithium.*	**Prostate** (Adenoma) *Manganese-Copper + Zinc-Copper / Manganese-Cobalt + Manganese-Copper + Zinc-Copper.* **Calcified Prostate** *Silica.* **Prostatitis** *Manganese-Copper + Zinc + Copper.*
Cancer *Cesium increases pH alkaline.* *Germanium; Colon, Liver and Lungs.* *Molybdenum: Esophageal.* *Hodgkin Lymphoma: MnCo + CuAuAg + NiCo / MnCu.* *Potassium; deficiency a cause of cancer.* *Selenium (prevents).* *Copper-Gold-Silver + Zinc*	**Growth Problems** *Fluoride + Zinc + Manganese-Copper*	**Psoriasis** *Copper-Gold-Silver, Lithium, Magnesium, Sulphur.* *or* *Zinc-Copper / Zinc-Nickel-Cobalt + Sulphur + Copper-Gold- Silver.*
Cataracts *Zinc*	**Hair Loss**	**Retinal Detachment** *Germanium*

	Iodine + Manganese + Sulphur + Zinc-Copper	
Colitis *Copper, Zinc-Nickel-Cobalt. Manganese-Copper + Magnesium + Phosphorus + Lithium.* ***Colitis Right Sided**: Manganese-Cobalt.* ***Colitis Left Sided**: Manganese-Copper.*	**Heavy Metals** *Selenium: Cadmium, Lead, Silver.*	**Rosacea** *Manganese-Copper* *Manganese-Cobalt*
Constipation *Magnesium, Potassium*	**Hepatitis Viral** (all types) *Copper + Manganese-Copper.*	**Sexual Organs** *Gold, Zinc.*
Cognitive *Aluminum* *Baryta carb*	**Herpes** *Lithium* **Recurring**; *Manganese-Cobalt + Sulphur.*	**Sinusitis** *Manganese-Cobalt + Copper + Sulphur.* ***Rhinitis spasmodic**; Manganese / Manganese-Copper + Sulphur.* ***Rhino-pharyngitis**; Copper + Bismuth + Manganese.*
Cramps *Magnesium-Manganese-Copper-Phosphorus.*	**Hypercholesterolemia** *Manganese-Cobalt, Phosphorus, Sulphur*	**Strokes** *Gold*
Dental Cavities *Fluoride, Magnesium, Copper-Gold-Silver*	**Hypertension** *Manganese-Cobalt, Lithium, Zinc-Nickel-Cobalt, Potassium, Baryta carb, Germanium, Gold, Silica.* *or* *Manganese + Iodine + Sulphur + Manganese-Cobalt.*	**Tinnitus** *Manganese + Iodine + Magnesium.*
Depression *Copper-Gold-Silver, Lithium, Magnesium.* Depression with melancholia; Copper- Gold-Silver + Lithium. CuOrAg + Li Nervous Depression with Asthenia; Manganese-	**Hypoglycemia** *Chromium*	**Tonsillitis** *Copper + Bismuth.*

Cobalt- Copper-Zinc + Lithium.		
Diabetes *Chromium, Magnesium. Manganese-Cobalt + Zinc-Nickel-Cobalt.*	**Hypotension** *Copper-Gold-Silver + Manganese-Copper-Cobalt.*	**Thyroid** **Hypothyroidism**; *Iodine + Manganese-Copper + Zinc.* **Hyperthyroidism**; *Manganese-Iodine.* **Goiter Exophthalmic**; *Manganese + Iodine.*
Dupuytren's Contraction *Copper-Gold-Silver + Potassium.*	**Immune Stimulants** *Germanium; T-cells, Macrophage, Lymphocytes, NK.* *Gold; WBC's* *Zinc.* ***Lymphatic Insufficiency**; Potassium + Magnesium.*	**Vaginismus** *Magnesium, Lithium, Aluminum, Copper.*
Dysmenorrhea *Iodine + Sulphur + Zinc-Nickel-Cobalt.*	**Infections** *Copper, Germanium, Gold-Silver.*	**Varicosities** *Manganese-Cobalt + Copper- Gold-Silver + Fluoride.*
Eczema *Manganese + Sulphur.* ***Allergic Eczema**; Manganese.* ***Infected Eczema**; Copper-Gold-Silver + Manganese + Sulphur.*	**Insomnia** *Lithium, Magnesium, Aluminum.*	**Vertigo** *Magnesium, Manganese + Iodine / Manganese + Sulphur.*

ALUMINUM (Al): **aka ALUMINIUM (UK English)** is essential to some biological processes; nevertheless, its excess is very harmful. At very low concentrations, Aluminum is a soft sleep regulator without side effects. In conjunction with zinc, aluminum reacts as a ground modifier to correct intellectual and physical growth delays. Aluminum is of particular value in all problems associated with the brain such as mental sluggishness, attention deficit, memory and retention of information, as well as with difficulty getting to sleep and nocturnal agitation.

Until recently, aluminum was thought to be useless to life processes. It is now thought to be involved in the action of a small number of enzymes. For a technical explanation: "it may be involved in the action of enzymes such a succinic dehydrogenase and d-aminolevulinate dehydrase (involved in porphyrin synthesis)." Porphyrins are the conjugate acids of ligands that bind metals to form complexes. The metal ion usually has a charge of 2+ or 3+. Porphyrins are a group of organic compounds of which many occur in nature. One of the best-known porphyrins is heme, the pigment in red blood cells. Heme is a cofactor of the protein hemoglobin. They are heterocyclic macrocycles composed of

four modified pyrrole subunits interconnected at their α carbon atoms via methine bridges (=CH-). Porphyrins are aromatic. A heme (American English) or haem (British English) is a prosthetic group that consists of an iron atom contained in the center of a large heterocyclic organic ring called a porphyrin. Not all porphyrins contain iron, but substantial fractions of porphyrin-containing metalloproteins have heme as their prosthetic group; these are known as hemoproteins. Hemes are most commonly recognized in their presence as components of hemoglobin but they are also components of a number of other hemoproteins.

At high concentrations, aluminum reduces speech abilities and induces memory loss. Its accumulation in the brain is regarded as a cause of senility and lethargy. At medium concentrations, aluminum is considered as a cause of psoriasis and digestion disorders.

Calcium and Magnesium act as a counter-effect to aluminum. ***European Alder – Alnus Glutinosa (buds)*** detoxify excess aluminum from the body.

Physical: Aluminum promotes alkaline metabolic processes. It will help with all problems caused by over-acid conditions, like rheumatism and gout, and will decrease excessive acid formation in the stomach. Aluminum supports the absorption of iron in the intestines and normalizes conductivity in the nerves; it helps with symptoms of weakness, slowed down perception, and even paralysis.

Psychological/Emotional: Aluminum has a very calming effect on nervousness, fears and feelings of guilt. A typical indicator is the feeling of impending madness. Aluminum encourages the facility to express feelings, and releases behavioral patterns of holding onto things as well as holding back. Stimulates the desire for change and alteration.

Furthermore, aluminum helps with the loss of identity, finding ourselves again, and who we really are and our task in life. It encourages a sense of reality, soberness and alertness at any given moment, aids recognition of the seductions of modern life as the illusions they are and helps us to deal with them.

Hawthorn – Crataegus Oxyacantha (buds)
Purple Coneflower – Echinacea Purpura (embryonic roots)
St. John’s Wort – Hypericum Perforatum (buds of flowers)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Yarrow – Achillea Millefolium (young shoots)

BARIUM (Ba): Barium carbonate (also called witherite) is used to make the Baryta carb. remedy. Witherite was first discovered by William Withering in 1783.

Medicinally, it was given for tuberculosis and glandular swellings. Barium is an element found in the earth's crust in minerals such as barite and witherite. It glows in the dark after heating and its compounds are used in radiology. It is also used to make fine glassware and optical glass.

Baryta carb. is used mainly for children and the elderly. A keynote for the remedy is slow physical, intellectual, or emotional development. Both children and elderly people requiring Baryta carb. may be intellectually challenged.

Children who need this remedy tend to be late walkers and talkers, with large heads. The genitals and other parts of the body may not have grown properly. They may suffer from

short stature or Down's syndrome. Because they are susceptible to infection, they have acute, recurrent tonsillitis.

Elderly people who require this remedy may have senile dementia or may have suffered a stroke with a possible handicap.

Baryta Carbonica is one remedy, which is most easily understood by comprehending its essence, which runs through the whole remedy picture. All Baryta individuals have some aspect of their personality that has not matured fully. Sometimes it is just one isolated aspect, such as social skills, while at other times it is several. Some Barytas have a global underdevelopment of the personality, one that affects all aspects, resulting in a clearly immature individual.

Baryta mur. has strong links with the nervous system. It is most appropriate for people with a predisposition to develop an aneurysm (ballooning of an artery).

The remedy is generally used for nervous symptoms, which may develop into manic nervous states. Baryta mur. is best suited to adults who behave "childishly" and to children who cannot play or interact with others because of their dullness or delayed mental development. Baryta mur. may be prescribed for mental disability in children whose development is delayed, and for elderly people with retardation. Principal physical symptoms treated with this remedy include disorders of the nervous system such as seizures, perhaps occurring periodically, with stiffness, restlessness, and a loss of sensibility. The hands and feet may swell, and the limbs may feel paralyzed and heavy, with trembling and twitching.

Baryta mur. is additionally used for acutely swollen glands, possibly the cervical or parotid glands, accompanied by a sore throat and possibly tonsillitis. Stroke symptoms or severe eczema may also respond to the remedy.

Beech – Fagus Sylvatica (buds) P
Bilberry – Vaccinium Myrtillus (young shoots) P
Cedar of Lebanon – Cedrus Libani (young shoots) P
Fig – Ficus Carica (buds)
Giant Redwood – Sequoia Giganteum (young shoots)
Mistletoe – Viscum Album (young shoots) P
St. John’s Wort – Hypericum Perforatum (buds of flowers)

BORON (B): Calcium metabolism — an inadequate level of boron is also suspected in negatively influencing the body’s uptake of magnesium and calcium, possibly resulting in bone density loss and elevated blood pressure.

Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Bramble – Rubus Fructicosus (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Fig – Ficus Carica (buds)

Grape Vine – Vitis Vinifera (buds)
Hazel – Corylus Avellana (buds)
Maize – Zea Mays (germinating seeds)
Olive – Olea Europaea (young shoots)
Raspberry – Rubus Idaeus (young shoots)
Rosemary – Rosmarinus Officinalis (young shoots)
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
Wormwood – Artemisia Annua (young shoots)

CESIUM (Cs): Is a Powerful mineral with the ability to raise the body's pH. Cesium is nature's premier body alkalinizer, among the most alkalizing elements in the human body second only to Rubidium and Potassium.

Cesium Chloride is one of the most alkaline elements. Otto Warburg won a Nobel Prize for showing that cancer thrives in anaerobic (without oxygen), or acidic, conditions. Research by Keith Brewer, PhD and H.E. Sartori has shown that raising the pH, or oxygen content, range of a cell to 8.0 creates a deadly environment for cancer. The pH scale ranges from 0 to 14, with numbers below 7 representing an acidic condition and above 7 representing an alkaline, or oxygenated, condition. When cesium is taken up by cancer cells, it raises the pH, or oxygen content, of the cell. The cells that die are absorbed and eliminated by the body.

Hazel – Corylus Avellana (buds)

CHROMIUM (Cr): is helpful for several disorders: sugar metabolism deregulations, atherosclerosis, heart diseases and growth defects. Paradoxically, the highest chromium deficiency is not found in the third world. This is because in developed countries, sugar and cereal refining depletes these essential foods of more than half their chromium contents. In the body, chromium is linked to a macromolecular complex called GTF (Glucose Tolerance Factor), which is essential for activating insulin release, and thus glucose uptake and storage by cells.

This very helpful GTF also ensures low blood cholesterol rates.

As a key role in sugar metabolism, chromium is always advised in the treatment of diabetes and hypoglycemia. Moreover, its good influence on hypercholesterolemia also makes it a very precious agent for curing arterial hypertension and cardio-vascular diseases.

Psychological/Emotional: Chromium encourages mental regeneration and healing. It takes away feelings of being under pressure. The richness of the world of ideas and creative imagination can be discovered and versatile ideas and enthusiasm are the results. Chromium brings color into your life. Greek Chromos, Color. Chromium encourages the desire for self-determination and individuality. It stimulates us to discover

and develop our own capabilities and to realize important dreams in life. Chromium promotes all processes of mental healing.

Bilberry – Vaccinium Myrtillus (young shoots) P
Black Currant – Ribes Nigrum (buds)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Elm – Ulmus Campestris (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hornbeam – Carpinus Betulus (buds)
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Linden Tree – Tilia Tomentosa (buds) P
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
White Willow – Salix Alba (buds)
Yarrow – Achillea Millefolium (young shoots)

COBALT (Co): is indicated in the case of anemia, sympathetic nervous system disorders (at the level of blood vessels or digestive tract), irritability and tiredness. Essential for the formation of vitamin B12, metabolism of fatty acids, and synthesis of hemoglobin.

Trace elements. Cobalt is valuable in cases of headaches, migraines, vasomotor disorders, vertigo and tinnitus. This is due to the sympathicolytic effect that Cobalt exerts on vascular receptors. As well, interestingly, Cobalt has a regulating influence on stomach and bowel receptors.

Cobalt is a well-known regulator of the Neuro vegetative system. It is beneficial for preventing vascular spasms (arteritis) and digestive spasms. Cobalt is also prescribed as a relaxing agent releasing anxiety symptoms, headaches, anger, and heart palpitations.

As chromium is a powerful agent for activating blood cell production, its use in conjunction with iron and nickel is very efficient for correcting anemia in children and pregnant women. It is also a powerful agent for supporting menopausal symptoms.

Psychological/Emotional: Cobalt, like chromium, enhances a desire for change and new experiences. It awakens curiosity and joy in living, removes melancholy and strong yearnings, and promotes wit and cunning.

Cedar of Lebanon – Cedrus Libani (young shoots)
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Eyebright – Euphrasia Officinalis (buds of flowers)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Horsetail – Equisetum Arvense (young shoots)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Silver Birch – Betula Verrucosa (buds) P
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate P

COPPER (Cu): is advised in the case of general fatigue, anemia, osteoporosis, hair loss, heart strokes, nervous disorders, and psoriasis and skin diseases. Immune system, artery strength, helps form hemoglobin from iron and assists in metabolizing vitamin C and the oxidation of fatty acids.

This major oligo-element is very efficient for infectious, chronic or acute inflammatory diseases (i.e. chronic inflammatory rheumatisms). Copper is also very helpful with preventing flu and cold during epidemic bursts.

Copper is seldom represented in the human body, with a total weight of only 75 to 150 mg, but its role is fundamental. Its action is sustained by other elements, such as zinc, manganese, iron and magnesium.

Copper is part of some enzymes driving oxidative and reduction processes. It is a necessary element for protein synthesis, iron absorption and red cells production. It is also an anti-infectious agent (for both bacteria and viruses), because it stimulates the immune reticulo-endothelial system and regulates both thyroid and adrenal glands.

Psychological/Emotional: Copper increases dream activity and promotes the inner world of pictures and imagination; it supports creative imagination and dissolves confusion. It creates neutrality and balancing of mood, and promotes free expression of feelings. Copper makes it possible to live out and enjoy senses and sexuality.

Copper encourages a sense of aesthetics and beauty, as well as the development of conscious culture. It fortifies a sense of justice, and promotes friendship and love towards all beings.

Ash – Fraxinus Excelsior (buds)
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Bramble – Rubus Fructicosus (young shoots)
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)

Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds)
European Alder – Alnus Glutinosa (buds)
Fig – Ficus Carica (buds)
Grape Vine – Vitis Vinifera (buds)
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Horse Chestnut – Aesculus Hippocastanum (buds)
Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mountain Pine – Pinus Montana (buds)
Oak – Quercus Pedonculata / Robur (buds) P
Olive – Olea Europaea (young shoots)
Propolis Blend
Raspberry – Rubus Idaeus (young shoots)
Rhodiola – Rhodiola Rosea (buds of flowers and embryonic roots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Service Tree – Sorbus Domestica (buds)
Silver Birch – Betula Verrucosa (buds) P
Silver Fir – Abies Pectinata (young shoots) P
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Walnut – Juglans Regia (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (buds) P
White Birch – Betula Pubescens (flower male-catkins) P
Wormwood – Artemisia Annua (young shoots)
Betulinic Acid Concentrate

GERMANIUM (Ge): Inorganic Germanium is a fundamental element such as iron or calcium. It also occurs in small quantities in many foods as well as in the Earth's outer crust. In 1871, Mendeleev, the creator of the Periodic Table of all the Earth's elements, first predicted its existence. He termed the yet undiscovered 31st element "ekasilicon."

Several years later, the German, Clemens Winkler, isolated this missing element and christened the substance germanium in honor of his homeland. In 1948, germanium was first used as a semi-conductor in the transistor similar to the way silicon is used in computer chips.

As a naturally occurring element, germanium fills a niche between silicon and selenium, another very important trace mineral that plays an essential role in maintaining human

health. Fifty years ago, scientists did not believe that trace minerals were vital to our physical well-being. Twenty years ago, selenium was still regarded as toxic to humans.

Benefits of Germanium

- Alleviates Angina when therapeutic doses are consumed.
- Improves the health of arteries.
- Lowers blood pressure in some persons afflicted with hypertension.
- Helps to prevent Raynaud's Disease.
- Reduces the incidence of Gangrene in persons with Raynaud's.
- Block the replication of the HIV virus by stimulating the body's production of Interferon, increasing the body's production of Macrophages and NK-Lymphocytes.
- Helps to suppress some forms of Cancer.
- Prolongs the survival time of persons afflicted with Colon Cancer.
- Prolongs the lifespan of persons afflicted with Colon, Liver and Lung Cancers.
- Significantly inhibits the development of Lung Cancer.
- Inhibits the growth of some forms of Detrimental Fungi: Germanium inhibits the growth of Candida albicans.
- Activates resting Macrophages and converts them to cytotoxic (killer) Macrophages.
- Stimulates the production of Suppressor T-Cells CD-8.
- Lowers total serum Cholesterol levels.
- Enhances the body's utilization and facilitation of Oxygen.
- Lowers the requirement for Oxygen consumption by Organs.
- Protects against Carbon Monoxide asphyxiation.
- Alleviates various Eye Ailments: Germanium retards the progression of Cataracts (by preventing the cross-linking of the lens).
- Has been successfully used in the treatment of Detached Retinas.
- Alleviates Glaucoma.
- Rejuvenates the Blood Vessels that supply the Retina of the Eyes.
- Prevents decreased Bone strength, and increases lowered bone density caused by Osteoporosis.
- Temporarily alleviates Epilepsy.
- Effectively alleviates Pain.

Bilberry – Vaccinium Myrtillus (young shoots) P
Cedar of Lebanon – Cedrus Libani (young shoots)
Horse Chestnut – Aesculus Hippocastanum (buds)
Linden Tree – Tilia Tomentosa (buds)
Mountain Pine – Pinus Montana (buds)
Service Tree – Sorbus Domestica (buds)

GOLD (Au): is a golden remedy for fighting infections because it promotes wound healing, tissue reconstruction and immune stimulation through an enhancement of the

destructive power of white blood cells. Gold is often associated with copper and silver in the treatment of infectious diseases.

Physical: Gold promotes the distribution of energy and vitality in the body. It is 'warming' and promotes a well-functioning circulation. It helps with problems and diseases of the sexual organs, supports functioning of glands, and assists healing damages to bones and tissues. Regulates conduction of impulses in the nervous system.

Psychological/Emotional: Gold helps us out of depression; fear of death, and in severe cases, inclination to commit suicide. It gives self-confidence and confers self-consciousness, releases destructive influences. Gold brings forth our innermost core, our essence to light, gives meaning to life, and enables realization of good deeds and projects. Represents generosity and magnanimity.

Gold is usually stored in the liver, the spleen and bone marrow of the human body. Its incredible multi-functionality allows it to cure many different diseases: heart problems, stroke, hypertension, hemorrhoids, tuberculosis or neoplasia.

Gold is very efficient for children, as it stimulates growth and helps to prevent ear-nose-throat infections.

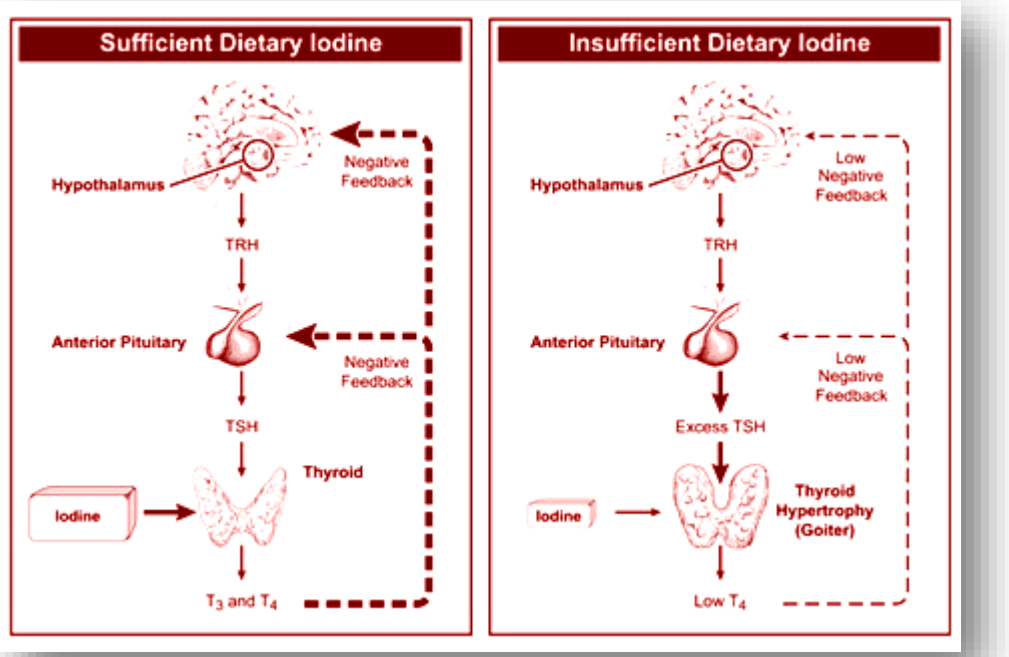
Hazel – Corylus Avellana (buds)
Propolis Blend P
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)

IODINE (I): is a non-metallic trace element and required by humans for the synthesis of thyroid hormones. Iodine deficiency is an important health problem throughout much of the world. Most of the Earth's iodine is found in oceans, and iodine content in the soil varies with region. The older an exposed soil surface, the more likely the iodine has been leached away by erosion. Mountainous regions, such as the Himalayas, the Andes, and the Alps, and flooded river valleys, such as the Ganges, are among the most severely iodine-deficient areas in the world[1].

Iodine is an essential component of the thyroid hormones, triiodothyronine (T3) and thyroxine (T4), and is therefore essential for normal thyroid function. To meet the body's demand for thyroid hormones, the thyroid gland traps iodine from the blood and incorporates it into thyroid hormones that are stored and released into the circulation when needed. In target tissues, such as the liver and the brain, T3, the physiologically active thyroid hormone, can bind to thyroid receptors in the nuclei of cells and regulate gene expression. In target tissues, T4, the most abundant circulating thyroid hormone, can be converted to T3 by selenium-containing enzymes known as deiodinases. In this manner, thyroid hormones regulate a number of physiologic processes, including growth, development, metabolism, and reproductive function[1, 2].

The regulation of thyroid function is a complex process that involves the brain (hypothalamus) and pituitary gland. In response to thyrotropin-releasing hormone (TRH) secretion by the hypothalamus, the pituitary gland secretes thyroid-stimulating hormone (TSH), which stimulates iodine trapping, thyroid hormone synthesis, and release of T3 and T4 by the thyroid gland. When dietary intake is sufficient, the presence of adequate

circulating T4 and T3 feeds back at the level of both the hypothalamus and pituitary, decreasing TRH and TSH production. When circulating T4 levels decrease, the pituitary increases its secretion of TSH, resulting in increased iodine trapping as well as increased production and release of both T3 and T4. Iodine deficiency results in inadequate production of T4. In response to decreased blood levels of T4, the pituitary gland increases its output of TSH. Persistently elevated TSH levels may lead to hypertrophy (enlargement) of the thyroid gland, also known as goiter[3].



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2. Dunn JT. What's happening to our iodine? J Clin Endocrinol Metab. 1998;83(10):3398-3400. (PubMed)
3. Larsen PR, Davies TF, Hay ID. The thyroid gland. In: Wilson JD, Foster DW, Kronenberg HM, Larsen PR, eds. Williams Textbook of Endocrinology. 9th ed. Philadelphia: W.B. Saunders Company; 1998:389-515.

Cedar of Lebanon – Cedrus Libani (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Elm – Ulmus Campestris (buds)
Hazel – Corylus Avellana (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Propolis Blend
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)
White Birch – Betula Pubescens (flower male-catkins)
Betulinic Acid Concentrate

IRON (Fe): is a good element for recovering from anemia, fatigue, brittle nails, constipation, breathing defects, shortness of breath, and low iron blood concentrations, misbalanced diets, pregnancy, breastfeeding and all conditions with chronic bleeding consequences like ulcer, recto-colitis or menstruation.

Iron is well represented in the human body, with a total weight of 4 grams. It is a constitutive element of blood hemoglobin and muscles myoglobin, but many metabolic enzymes also require iron for their optimal functioning.

Psychological/Emotional: Iron has a stimulating, activating effect, encourages activity, initiative, dynamism, endurance, willpower, ability to assert ourselves, and the ability to be enthusiastic about something. Iron promotes the urge to research, discover and conquer. It also said to promote an upright attitude and honesty. Iron promotes inner calm and promotes courage. It will purify consciousness of painful and unpleasant memories, stimulate alertness and deepen meditations. Iron also supports the mental processing of perceptions and experiences, thereby helping complete unfinished cycles.

Ash – Fraxinus Excelsior (buds)
Beech – Fagus Sylvatica (buds) P
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Black Poplar – Populus Nigra (buds)
Boxwood – Buxus Sempervirens (young shoots)
Bramble – Rubus Fructicosus (young shoots)
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds)
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds) P
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Hornbeam – Carpinus Betulus (buds)
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Lemon Tree – Citrus Limonum (bark)
Lilac – Syringa Vulgaris (buds)
Linden Tree – Tilia Tomentosa (buds)

Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots)
Mountain Pine – Pinus Montana (buds)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Oak – Quercus Pedonculata / Robur (buds) P
Olive – Olea Europaea (young shoots)
Passion Flower - Passiflora Incarnata (buds of flowers)
Propolis Blend
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
Rhodiola – Rhodiola Rosea (buds of flowers and embryonic roots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Service Tree – Sorbus Domestica (buds)
Silver Birch – Betula Verrucosa (buds)
Silver Birch – Betula Verrucosa (embryonic germinating seed-rootlets)
Silver Fir – Abies Pectinata (young shoots)
Sour Cherries Montmorency - Prunus Cerasus (buds)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
White Birch – Betula Pubescens (buds)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Wormwood – Artemisia Annua (young shoots)
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate

LITHIUM (Li): is a metal that gives a monovalent cation Li +. It is the lightest metal (density 0.55). It is soluble in water, belongs to the alkali metals, is subject to varying combinations, easily attaches to bromine (anti-anxiety agent), and acts as solubilizing uric acid.

Features

At the level of the exchange membrane, Li + ions are involved in nerve transmission at the synaptic membrane where they compete with the ions K + and Na +. These ions inhibit the conversion of ATP in cyclic AMP, partially replacing Mg + + ions that activate the reaction. At the level of hydration regulation: lithium has an antagonistic action as an anti-diuretic hormone. At thyroid levels: by inhibiting the release of thyroxine by blocking the stimulating effect of TSH, this explains the appearance of goiter in 3% of patients treated with lithium. Glucose tolerance: high dose, lithium acts by disrupting the activity of hexo-kinase and pyruvate kinase, and interfering in the synthesis of glycogen. In lipid

metabolism: slowing thyroid function, lithium reduces lipolysis and favors the formation of lipid reserves; in rats, it stimulates the metabolism of triglycerides.

Directions: In terms of weight dosage:
In manic-depression (about ± 500 mg / day split into three or four times daily)
Chemotherapy (antineoplastic action) (12 mg / day)
In catalytic doses (2000 mg / liter, two to six ml / day, or four to 12 mg/day):

Anxiety, emotional instability
Tendencies depressive
Neuro-vegetative-problems
Anxiety related insomnia
Syndrome, painful muscle-muscle tension
Apathetic states
Neurosis dermatosis
Renal calculi, Uricemia, rheumatism
Anti-aging male and female (enhances the action of other trace elements).

Lithium is principally used for treating psychosomatic conditions like anxiety, hyper emotiveness, insomnia, nervous breakdowns, lack of will, psychic disorders, arterial hypertension, obesity, cellulites, blood vessels and nerves disorders associated with menopause, instability, irritability, aggressiveness, unsettlement, personality and behavior dysfunctions in children or elders, inhibitions, and inadaptability at work or in the family. Lithium is also worthy for the treatment of some dermatosis and some kinds of rheumatisms. Lithium and bromide are often combined together for a strengthening of their effects.

Crab Apple – Malus Sylvestris (buds)
Grape Vine – Vitis Vinifera (buds)
Hazel – Corylus Avellana (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Propolis Blend
St. John's Wort – Hypericum Perforatum (buds of flowers)

MAGNESIUM (Mg): is indicated in the case of nervous and cardiac disorders, slow growth, behavior instability, mental confusion, breakdowns, irritability, repetitive infections, spasmophilia, anxiety crisis, fatigue, cramps, hypersensitivity, muscular pains and palpitations. Most people are deficient in magnesium, although none of their diets are necessarily magnesium-deficient. The problem with magnesium is that it's a laxative and thus works against its own absorption. That is why only topical transdermal magnesium is effective -- it can reach the cells and correct a deficiency. The purpose of oligo-element magnesium is to de-encapsulate trapped minerals and re-utilize them through recirculation.

Magnesium is a very important element for the nervous system and will prove beneficial in the case of Neuro vegetative dystonia and spasmophilia, as well as for nerve inflammations or painful rheumatisms. Finally, magnesium is advised as a complement for curing intestinal disorders like colitis.

Magnesium is the most abundant salt in the human body after calcium and phosphorous. More than 70% of human magnesium is trapped in the skeleton, combined with calcium and phosphorous in the very complex structure of bones. The remaining 30% of magnesium is found in soft tissues (muscles, bowels, nervous tissue) and liquids.

Magnesium is a very active biological factor. It is required at the cellular level for production and transfer of energy, muscle contraction, protein synthesis and the propagation of action potential in neurons.

Ash – Fraxinus Excelsior (buds)
Beech – Fagus Sylvatica (buds)
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Black Poplar – Populus Nigra (buds) P
Boxwood – Buxus Sempervirens (young shoots)
Bramble – Rubus Fructicosus (young shoots) P
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots) P
Cowberry – Vaccinium Vitis Idaea (young shoots) P
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots) P
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds) P
European Alder – Alnus Glutinosa (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds) P
Giant Redwood – Sequoia Giganteum (young shoots) P
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds) Polycrest
Hazel – Corylus Avellana (buds) P
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Hornbeam – Carpinus Betulus (buds) P
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots) P
Lilac – Syringa Vulgaris (buds)
Linden Tree – Tilia Tomentosa (buds) P
Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots) Polycrest
Mountain Pine – Pinus Montana (buds)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Oak – Quercus Pedonculata / Robur (buds) P
Olive – Olea Europaea (young shoots)
Propolis Blend

Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots) Polycrest
Rosemary – Rosmarinus Officinalis (young shoots) P
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Service Tree – Sorbus Domestica (buds) P
Sour Cherries Montmorency - Prunus Cerasus (buds)
Silver Birch – Betula Verrucosa (buds)
Silver Birch – Betula Verrucosa (embryonic germinating seed-rootlets)
Silver Fir – Abies Pectinata (young shoots)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds) P
Sweet Chestnut – Castanea Vesca (buds) P
Tamarisk – Tamarix Gallica (young shoots)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds) P
Wayfaring Tree – Viburnum Lantana (buds) P
White Birch – Betula Pubescens (buds)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Wormwood – Artemisia Annua (young shoots)
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate

MANGANESE (Mn): is advised for the relief of general tiredness, sexual weakness, insomnia, vertigo, arthritis, fretfulness linked to pregnancy, diabetes, loss of maternal instinct, general fretfulness, schizophrenia, epilepsy, slow growth, multiple allergies, pancreatic fatigue and non-traumatic pain in the knees.

Manganese has a balancing action upon the immune system, especially in the case of allergies like asthma, hay fever, headaches with digestive and ocular disorders, skin rashes, digestive allergies, and so on.

Without manganese, plants would not be able to perform their photosynthetic conversion of light into energy through photosynthesis. Despite its very low abundance in the human body (20 mg only, mainly stored into the liver), it is an indispensable element for a large number of enzymes involved in important energetic metabolic pathways (synthesis and catabolism of sugars and fats). Manganese is also present within the reproductive organs, as it is needed for the biosynthesis of sexual hormones. This element is also essential for bone growth and joint affections.

Ash – Fraxinus Excelsior (buds)
Beech – Fagus Sylvatica (buds)
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Black Poplar – Populus Nigra (buds)
Bramble – Rubus Fructicosus (young shoots) Polycrest
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots)

Cowberry – Vaccinium Vitis Idaea (young shoots) P
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds)
European Alder – Alnus Glutinosa (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds)
Giant Redwood – Sequoia Giganteum (young shoots) Polycrest
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds) P
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Hornbeam – Carpinus Betulus (buds) P
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots) P
Lilac – Syringa Vulgaris (buds)
Linden Tree – Tilia Tomentosa (buds)
Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets) Mistletoe – Viscum Album (young shoots)
Mountain Pine – Pinus Montana (buds)
Oak – Quercus Pedonculata / Robur (buds) P
Olive – Olea Europaea (young shoots)
Propolis Blend P
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots) P
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Service Tree – Sorbus Domestica (buds)
Silver Birch – Betula Verrucosa (Sap) Polycrest
Silver Fir – Abies Pectinata (young shoots) P
Sour Cherries Montmorency - Prunus Cerasus (buds)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)

Wormwood – Artemisia Annua (young shoots)
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate

MOLYBDENUM (Mo): is a very useful element for the energetic metabolism of a very ancient group of archaebacteria that still inhabits some inhospitable areas on our planet. Molybdenum helps in getting copper out of the cell, as both elements use the same receptor sites. Molybdenum is also important for some plant enzymes. The human body holds permanently about 9 mg of it, although scientists have no idea what for. It appears that low molybdenum levels may be a cause of esophageal cancer.

Bilberry – Vaccinium Myrtillus (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Grape Vine – Vitis Vinifera (buds)
Hazel – Corylus Avellana (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)
White Birch – Betula Pubescens (flower male-catkins)

NICKEL (Ni): Any loss in nickel could trigger liver or kidney disorders. This happens when the food is too high in saturated fats or refined sugars, as the industrial chemical processes of food usually get rid of nickel as a side effect.

Our body holds 10 mg of nickel, 80% of which is stored in the skin. Nickel has been proven to be toxic to the liver in the case of inner surcharge (affecting ink makers, goldsmiths, people who work with ceramics or rubber) or skin contact (people who manipulate nickel-steel coins) leading to rashes and eczema.

Nickel has long been considered as a useless and even toxic compound for the human body before it was acknowledged as a very fundamental factor for the stability of nucleic acids RNA and DNA, thus providing homeostasis at the cell nucleus level.

Nickel is also a cofactor for enzymes dealing with the metabolism and storage of sugars and lipids in the liver. Finally, nickel is known as a hypotensive factor and a heart modulator, as it cancels the effects of adrenaline in the body.

Physical: Nickel promotes the absorption and utilization of iron. It promotes the activity of the liver and detoxification of the organism. Nickel helps with pain that arises periodically, like headaches.

Psychological/Emotional: Nickel promotes a feeling of security within us and helps with fearfulness, sadness and irritability. It helps with letting go of oppressive images, like recurring nightmares. Nickel fortifies the power of regeneration. Nickel promotes creativity and inventiveness. Nickel keeps us young mentally and encourages a playful nature.

Beech – Fagus Sylvatica (buds)
Bilberry – Vaccinium Myrtillus (young shoots)

Black Currant – Ribes Nigrum (buds)
Black Poplar – Populus Nigra (buds)
Bramble – Rubus Fructicosus (young shoots) P
Cedar of Lebanon – Cedrus Libani (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
European Alder – Alnus Glutinosa (buds) P
Giant Redwood – Sequoia Giganteum (young shoots)
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hornbeam – Carpinus Betulus (buds)
Horse Chestnut – Aesculus Hippocastanum (buds)
Linden Tree – Tilia Tomentosa (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots)
Oak – Quercus Pedonculata / Robur (buds)
Raspberry – Rubus Idaeus (young shoots)
Service Tree – Sorbus Domestica (buds)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
Betulinic Acid Concentrate

PHOSPHORUS (P): is indicated in the case of growth slowness with bone and teeth alteration, osteoporosis, rickets, nervous and physical tiredness, brain dysfunction, muscular atony, anemia and susceptibility to bacterial infections.

It also helps calcium in every aspect of its metabolism. Catalytic phosphorous is advised for spasmophilia, vascular and respiratory spasms, and some kinds of osteoporotic rheumatisms.

Phosphorous is widely spread in every cell of the human body, most of it in phosphate compounds. It is the most important salt after calcium. An average human adult holds some 700 grams of phosphorous in his body, the vast majority of which is stored in the skeleton as part of the bone mineral structure.

Non-antibiotic compounds that disarm specific bacteria like that of Phosphates-Phosphoric Acid-Phosphorus.

Surgeons have long known that after a surgery, the levels of inorganic phosphate fall. Scientists at the University of Chicago hypothesized that phosphate depletion itself signals P. aeruginosa to become lethal when present in the intestinal tract of a stressed host. Experiments with mice showed that the harm caused when P. aeruginosa express lethal toxins inside the intestinal tract can be mitigated by providing excess phosphate. A phosphate, an inorganic chemical, is a salt of ***phosphoric acid***. In organic chemistry, a phosphate, or organophosphate, is an ester of phosphoric acid.

Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Boxwood – Buxus Sempervirens (young shoots) P
Bramble – Rubus Fructicosus (young shoots)
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds)
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Lemon Tree – Citrus Limonum (bark)
Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Oak – Quercus Pedonculata / Robur (buds)
Olive – Olea Europaea (young shoots)
Passion Flower - Passiflora Incarnata (buds of flowers)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Silver Birch – Betula Verrucosa (buds)
Silver Birch – Betula Verrucosa (embryonic germinating seed-rootlets)
Sour Cherries Montmorency - Prunus Cerasus (buds)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (buds)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Wormwood – Artemisia Annua (young shoots)

Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate

POTASSIUM (K): is indicated in the case of constipation, fatigue, heart arrhythmia, and muscular cramps or weakness. It helps fight water retention and the pains associated with menstrual periods.

Like sodium, potassium has an essential role to play in cell membrane permeability. It allows the normal propagation of nerve signals, and regular heartbeat.

Potassium is quantitatively the third element in the human body. An average human body holds about 170 grams of potassium, mainly (90%) inside the cells.

Lipophilic toxins are fat soluble and much more difficult to dispose of because the body retains the fat that these toxins are attached to. One of the primary symptoms of lipophilic toxins is ***severe*** and ***chronic Potassium Deficiency***. The shorted cellular membrane lacks the electromagnetic intensity to fuse oxygen and sodium molecules into potassium, resulting in sodium excess, and a systematic potassium deficiency. Potassium salts make up the majority of bile salts, which are essential to digest dietary lipids. The long-term dysfunction of the cellular membrane damages or disables fat digestion, which in turn dramatically affects fat-soluble nutrient absorption.

Arnica - Arnica Montana (buds of flowers)
Beech – Fagus Sylvatica (buds)
Betulinic Acid Concentrate: P
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds): P
Black Elder – Sambucus Nigra (buds): P
Boxwood – Buxus Sempervirens (young shoots): P
Bramble – Rubus Fructicosus (young shoots)
Cramp Bark – Viburnum Opulus (embryonic bark)
Caraway - Carum Carvi (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and potassium. The only seed *Bipolar* for potassium regulation.
Cowberry – Vaccinium Vitis Idaea (young shoots)
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots): **P** contains Caseolin, Oleosin and potassium.
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds): P
Elm – Ulmus Campestris (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds): P
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Juniper – Juniperus Communis (young shoots)
Lemon Tree – Citrus Limonum (bark): **P**

Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and potassium.
Mistletoe – Viscum Album (young shoots)
Mountain Pine – Pinus Montana (buds)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and potassium.
Oak – Quercus Pedonculata (buds)
Olive – Olea Europaea (young shoots)
Propolis Blend
Purple Coneflower – Echinacea Purpurea (embryonic roots): P contains Caseolin, Oleosin and potassium.
Raspberry – Rubus Idaeus (young shoots)
Rhodiola – Rhodiola Rosea (buds of flowers and embryonic roots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and potassium.
Silver Birch – Betula Verrucosa (buds)
Silver Birch – Betula Verrucosa (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and potassium.
Silver Birch – Betula Verrucosa (sap) Polycrest *contains the highest amount of potassium* One liter = 350 mg potassium.
Silver Fir – Abies Pectinata (young shoots)
Sour Cherries Montmorency - Prunus Cerasus (buds)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheatgrass – Triticum Aestivum (embryonic germinating seed-rootlets): P contains Caseolin, Oleosin and 42mg potassium per 30ml.
White Birch – Betula Pubescens (buds)
White Birch – Betula Pubescens (flower male-catkins): P
White Willow – Salix Alba (buds)
Wormwood – Artemisia Annua (young shoots)
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate: **P**

SELENIUM (Se): provides good protection for the cardio-vascular system and helps the body to eliminate pollutants and toxic agents like heavy metals (quicksilver, lead and cadmium). It also helps fight against senility and ageing, tissue breakdown and tissue hardening.

Selenium has a very anti-oxidative action, neutralizing free radicals, reinforcing the immune system, promoting antibody production and sometimes preventing cancer development. It is also a good enhancer for male sexual power.

Once considered as a toxic compound, selenium is now the very type of a new oligo-element recently acknowledged to be considerably useful.

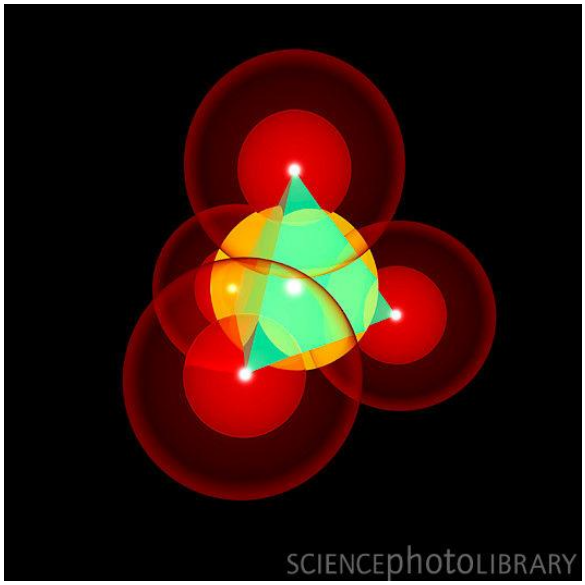
Selenium is broken down through cooking and contact with metals. In males, this element is principally stored in the testes, where it prevents sperm cells from ageing.

Ash – Fraxinus Excelsior (buds)
Black Currant – Ribes Nigrum (buds)
Bramble – Rubus Fructicosus (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark) P
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Elm – Ulmus Campestris (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds) P 1,400 ppb.
Hedge Maple – Acer Campestre (buds)
Hornbeam – Carpinus Betulus (buds) P 900 ppb.
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Linden Tree – Tilia Tomentosa (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
Rosemary – Rosmarinus Officinalis (young shoots)
Sweet Almond – Prunus Amygdalus (buds) P 1,000 ppb.
Sweet Chestnut – Castanea Vesca (buds)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Yarrow – Achillea Millefolium (young shoots)

SILICA (Si) aka SILICON. The geometric shape of the silicate molecule - the Tetrahedron - is best envisioned as a force field rather than a solid object. The silicate molecule sits at the center of a tetrahedron at whose four corners are four oxygen atoms whose negative charges cause them to push as far apart from each other as possible, thus creating the tetrahedral shape.

The tetrahedron shape is widespread in the submicroscopic structure of not only minerals, but of living cells in humans, animals and plants. The shape comprised of 4 triangles is the most flexible and strongest 3-dimensional shape there is. It encompasses the smallest volume and has the largest surface area of any 3-dimensional shape. It is the only 3-dimensional shape whose every corner is exactly the same distance from every other corner.

http://www.all-around-us.com/science/intuitive/s-intsc1.htm



Credit: RUSSELL KIGHTLEY/SCIENCE PHOTO LIBRARY

Silica displays many important biological properties. First, it is an excellent hardener for bones, and its use accelerates the recovery of broken ones. Second, this element ensures the good health of the skin, nails, hair and the conjunctive tissue. Finally, silica is good for removing cellulites in women through its very drastic diuretic effect. People who suffer from osteoporosis may also benefit from this multi-functional element as it promotes calcium uptake by bones.

Silica (silicon dioxide) may also help the curative process of adenopathy and osteitis, whereas, when associated to magnesium and aluminum, it may reverse the papilloma formation process. Silica also reinforces the hydration of skin and helps the body to clear its excretive organs from excessive mucus. Silica has also been advised for the recovery of prostate dysfunction and in the case of high cholesterol or hypertension.

Five to ten percent of the mass of the Milky Way still persists as gas, with a fraction of a percent in the form of microscopic dust grains of *silicate* and graphite.

The following is from the President of the Glycan group, Prof. Dr. Christian Daniel Assoun Biotherapeutic Physician and co-founded the concept of ***Quantum Medicine*** (1979) with Doctor Lambin Dostromont MD. He is also specialized in High Temperature Chemistry (Plasma Technologies) and membrane mechanisms (glycan-proteins), lanthanides, metal and metalloids involved in protein synthesis.

1 - SILICON'S BIOLOGICAL ROLE

Silicates, which constitute about one third of all the minerals and around 90 percent of the Earth's crust are molecules built on the elements of Silicon and Oxygen. Silicate molecules are the building blocks in Quartz, Amethyst, Carnelian and many other Quartz minerals.

It was thought to be a trace element for many years but research during the last twenty years has shown that it is in fact a ***secondary macro-element***. Here's a quick reminder of these major elements:

Macro-elements:

Sodium (Na), Potassium (K), Phosphorous (P), Calcium (Ca), Magnesium (Mg).

Secondary macro-elements:

Silicon (Si), Boron (B), Bromine (Br), Rubidium (Rb), Strontium (Sr).

The amount of silicon in the average human body is about 7 grams, almost twice the amount of iron, which shows its importance at a biological and structural level.

It is found virtually everywhere including in the blood (about 10 mg /liter equal to one tenth (1/10) of the calcium level) and the organs and tissues: bone, blood vessel walls, spleen, tendons, muscles, liver, pancreas, kidneys, heart, endocrine system, eyes, skin... it is also present in the heart of the smallest biological cell because it contains three centrioles made of silicon.

The very high levels of silicon in the fetus reduces with age to such an extent that extra-cellular levels can be reduced by as much as 80 % in elderly people.

Silicon is poorly available in its non-soluble form (colloidal) but at about 10 %, a non-specialized protein actively transports it. Furthermore, even in its organic form, i.e. the atypical acid Si(OH)4 is changed by replacing one hydroxyl (OH) combination with at least one hydrocarbon (CH) combination, silicon is a very unstable metalloid that is quickly polymerized and this has also limited the concentration of elemental silicon in organic silicons to a maximum of 1 gram. On the other hand, the body can use over 65 % of organic silicon.

The daily requirement to maintain the silicon level in the body at the right level are quite high because it requires a daily intake of 15 - 25 mg of elemental silicon per day for maintenance and up to 40 mg in compensation (collagen restructuring). Most organic silicons contain about 500 mg of elemental silicon and sometimes much less.

2 – SILICON

2-1 Silicon's physico-chemical properties

Silicon (Si) is a metalloid - a metal crystal with reverse optoquantum properties, when means that when it is irradiated by UV radiation, it produces an electric current and, under very specific electrical conditions, it can emit a quantifiable radiation - which as we have seen makes up almost 28 % of the earth's crust (27.7) and this makes it the fourth most abundant element behind hydrogen, nitrogen and oxygen and the second component of the earth's crust behind oxygen. The Swede, Jöns Jacob Berzelius, discovered it in 1824.

In its amorphous form, it is a brown powder; in its crystalline form, it is a metallic gray. As a solid, it does not react with oxygen, water or most acids. Silicon dioxide dust (SiO2) is slightly toxic and irritant. It is 14th in the periodic table, its atomic number is 14, and its valence can be 2 and/or 4. Its atomic weight is 28.0855 amu. Its melting point is1,410°C, its boiling point is almost the double at 2,680°C and its critical temperature is 4,920°C. Its density is 2.32 g/cm3.

The etymology of its name is based on the Latin word silicis meaning flint (which is in fact an impure form of quartz).

It is the main element in clay, granite, quartz and sand. To produce silicon commercially, silicon dioxide (SiO2) is reacted with carbon at 2,000° C. It is used for glass production in the most common form as the dioxide SiO2. Silicon carbide is one of the hardest substances known to man and is used in some polishes. It is used in semi-conductors in its monocrystaline form.

2-2 Mineral form

It is most widespread as the dioxide. In its purest form, the dioxide forms quartz. In this form, the silicon dioxide forms strong bonds with oxygen called covalent bonds where each silicon atom is linked to two oxygen atoms hence the name dioxide for this substance.

The second solid form in which silicon is found is as silicates. Silicates are the main components of rocks and semi-precious or fine stones.

Silicon oxide is used in the semi-conductor, sand paper and abrasives glass and cement industries. It is also used as a thermal insulation (refractory furnaces, car spark plugs, etc.)

2-3 Liquid form

The natural liquid form of silicon is ortho-silicic acid, an atypical acid Si(OH)4. This is the form that is present in plants where their chemical processes produce organo-silicates that are used by the plant. However, most of the silicon is oxidized and so only, a very small proportion is biologically available.

2-4 Organic silicon

To be called organic, as we have seen, the silicon must contain one or more hydrocarbon groups and these are also called silanes and usually have the following form: CHx Si(OH)3

It is in this form that it has greatest bioavailability for the body and the hydrocarbon group and the hydroxyl radicals (OH) are both necessary for this.

3 – BIOLOGY AND SILICON

3-1 Silicon and Human Biology

With more than 7 g in our bodies, silicon is one of the top 10 natural elements found in our bodies. Various studies over the last twenty years have shown the importance of silicon in human biochemistry.

The daily requirement is estimated at 40 mg of elemental silicon. Ingesting 20 ml of Si-Glycan-3 provides 40 mg of elemental silicon and thereby covers this need. Under optimal conditions, silicon can promote better health. However, it is not the miracle treatment that some manufacturers would like us to believe. Organic silicon is a nutritional supplement that is very useful.

3-2-1 Colloidal organic silicon - Ossification and Joints

Bone and bony tissue have an abundant matrix that encloses sparsely distributed cells. This matrix is made up of about 25 % water, 25 % fibers - mainly collagen) and 50 % mineral salts (Ca). When the salts are deposited on the collagen fibers in the matrix, crystallization occurs and the bony tissue hardens; this process is called calcification or mineralization. Bone's hardness is due to this crystallization and its suppleness to the presence of collagen fibers. The latter provide more malleability, in other words, they make bone less brittle, e.g. an eggshell or oyster shell does not contain these fibers and is much more brittle.

Calcification cannot occur unless this collagen is present. Different work has shown the undeniable role of silicon in collagen fiber synthesis where it is also associated with vitamin C.

Furthermore, we know that high concentrations of silicon are always found in areas of high calcification: e.g. the extremities of bones that are growing. Its concentration in these sites varies depending on the mineralization and increases at the same time as it increases. When mineralization of a site is complete, the level of silicon is at its lowest. Silicon therefore appears to be an essential element for bony growth and its deficiency

may be a limiting factor, e.g. a chick with a silicon deficiency has skull abnormalities associated with a significant fall in bone's collagen content and abnormalities in long bones and connective tissue.

In cases of bone disease, supplementing with colloidal organic silicon produces excellent results both in terms of the pain reaction and remineralization of the bone. Silicon and calcium work closely together and calcification of fractures can be greatly accelerated by colloidal organic silicon supplements.

Because of its role in bone mineralization and growth, colloidal organic silicon is an excellent remedy for osteoporosis. Trials conducted on different types of osteoporosis - senile, cortisone induced and post-menopausal - have shown very good results especially for post-menopausal osteoporosis where biological testing of the bony tissues showed a large increase in recalcification. Ageing produces two important skeletal effects: demineralization and a reduction in collagen. The mineral loss starts in women at about 30 years of age and increases between 40 and 45 years old when estrogens, and/or DHEA diminish. This process continues with age. In men, the demineralization starts at about 50-60 years of age. The reduction in collagen results in rigid and brittle bones, which makes them more susceptible to compound fractures.

3-2-2 Colloidal organic silicon - Joints

There are three types of joint: fibrous, cartilaginous and synovial. Their common feature is the presence of connective tissue that contains elastin or collagen. We know of the essential role played by silicon in the synthesis of these two fibers.

Joints must be flexible to allow movement and resist tension. The can degenerate or age prematurely which results in wear and irritation as in arthrosis. Effected joints are usually those that carry the body's weight: spine, hips, knees, feet and some joints in the hand. Arthrosis appears in general at about 46 to 50 years old and its frequency will increase with age if nothing is done. They occur more frequently in women. Arthrosis involves a deterioration of the articular cartilage, which has a role similar to a sponge that absorbs shocks. When this disappears, the bones can touch each other and this leads to pain and wear.

Colloidal organic silicon is even able to act in the pain process and cartilage regeneration. Its rapid action on the pain is the first to be perceived. Cartilage regeneration then follows. The greater the decline in our silicon levels the more spectacular the results in terms of pain: rheumatism of the knee, the back or the fingers are soothed in a few days or a few weeks. These results are usually long lasting: it involves a reconstruction.

In respect of arthritis, which is an inflammation where cartilaginous and osseous lesions follow synovial lesions, with swelling, occasional redness and heat in the joint, there can be a tenfold clinical improvement. Once again, colloidal organic silicon is acting on both the pain and the inflammatory processes.

For rheumatoid polyarthritis, an autoimmune condition where the body attacks its cartilages and joint surfaces leading to inflammation, pain and loss of joint function, it is important to treat the condition as soon as possible to avoid fibrous tissue replacing the synovial membrane and blocking the joint. This synovial membrane contains elastin which gives it is flexibility. Colloidal organic silicon acts on elastin production as well as the

inflammatory process. Rheumatoid polyarthritis effects 1 % of the population and three out of four people affected are women.

3-2-3 Colloidal organic silicon - Cardio-Vascular Function and the Circulation.

Silicon is an integral part of blood vessel walls: its presence is essential for synthesizing elastin and collagen fibers. It therefore helps conserve the elasticity of blood vessels. This property and it contractibility are two important characteristics for the proper function of the blood circulation. Silicon must also be present for vascular tone.

There is a relationship between the concentrations of silicon in the aorta tissue - the aorta is very rich in elastin and collagen fibers - and arteriosclerosis (hardening of arteries causing hypertension). Arteries subject to arteriosclerosis have a silicon level that is much lower than healthy arteries. Silicon helps conserve the integrity of vascular elastin fibers and reduces the permeability of arterial walls; it increases the intra-cellular cement and the thickness of elastin fibers; it also maintains a high level of hydrolase, the enzyme that can change cholesterol esters into free cholesterol. Lipid infiltrations within the vascular system are inversely proportional to the silicon levels.

In people with weak venous valves, blood tends to collect under the influence of gravity; this results in an overloading of veins and their walls start to distend. Over time, this wall loses its elasticity, stretches and becomes flaccid. The valve failure leads to a dilated and tortuous vein known as a varicose vein.

Because of its good bioavailability, colloidal organic silicon acts effectively on vascular tone and on the good function of these vessels. It provides the vessels with flexibility and thereby has an indirect effect on blood pressure. Better circulation leads to warming of the skin. Colloidal organic silicon in conjunction with vitamin E is also very useful for eliminating swollen vessels. Blood also carries hormones and their action will be enhanced if the circulation works properly.

Within the cardiac system, connective tissue envelops and separates. It is found in the epicardium that makes up the external layer of the heart. The endocardium that lines the inside of the myocardium lies on a fine layer of connective tissue. It is also connective tissue that divides the myocardium into distinct auricular and ventricular muscle masses. The fibrous connective tissue rings and sheets act as electrical insulation between the auricles and ventricles.

The heart also has valves that stoop backflows of blood. These valves consist of dense connective tissue covered in myocardium. The valves open and close in reaction to pressure changes caused by the cardiac muscle's contractions and relaxations. Most heart problems are related to the coronary artery circulation insufficiencies caused by blood clots or the fatty arteriosclerosis deposits. The presence of silicon, which is a connective tissue component, is the best insurance for maintaining the integrity of cardiac surfaces.

3-2-4 Colloidal organic silicon - Muscles and Tendons

There are three types of muscle tissue: striated, cardiac and smooth. In this section, we are going to look at striated muscle tissue, which is mainly attached to bones but can also be attached to the skin and deep fascia’s. This muscle tissue is surrounded and protected by fascia, which is a large band of protective fibrous connective tissue. This fascia, called

deep, keeps muscles together and separates them into functional groups. It allows the muscles to move freely, transports nerves and vessels and, above all, it fills the spaces between muscles.

Three layers of connective tissue (epimysiumn perimysium and endomysium) extend from the deep fascia to protect and strengthen the muscle; the first envelope protects the muscle, the second protects the fascia of 10 to 100 muscle fibers and the third penetrates to the interior of each fascia and separates each muscle fiber. These three layers extend and provide the collagen fiber for the connective tissue that connects the muscle to the bone. When they extend beyond the muscle, they become a tendon. When striated muscle contracts, it pulls on the tendons and its connective tissue envelops. These are stretched then contract and pull the bone to which they are attached causing it to move.

We have already seen the role of colloidal organic silicon in connective tissue and on its collagen fibers. In this case, it provides flexibility and mobility to muscles and tendons. It also helps eliminate pain.

Another fascia called superficial fascia is found between the skin and the deep fascia of the muscles; it is called the sub-cutaneous layer. It consists of loose connective tissue and has several functions; it stores water and fat, forms an insulating layer that prevents loss of body heat (don't forget that muscle contractions generate up to 85 % of body heat), protects the body from external shocks and allows blood vessels and nerves to enter and leave muscles.

Through its percutaneous action, colloidal organic silicon helps strengthen some of the superficial fascia's functions. It provides better protection against the impact of climatic damage: humidity, cold, rain, and pressure changes. Silicon provokes an increase in the number of red blood cells, which indirectly results in better oxygen transportation, and muscles consume large amounts of oxygen when working. It can therefore produce better performances.

3-2-5 Colloidal organic silicon - Intervertebral Discs

Intervertebral discs act as shock absorbers: they are constantly being subjected to compression. Each disc is made of an external ring of fibro-cartilage - called the annulus fibrosis - and a soft internal structure that is pulpy and very elastic, the nucleus pulposus. The discs form good joints that allow a range of movements for the spine. Their role is also to absorb vertical shocks by being compressed: they become flattened, enlarge and spread out in their intervertebral spaces.

It is known that the cartilaginous tissue contains up to 100 mg / kg of silicon in fresh tissue. The body' silicon content reduces as we discussed earlier due to its poor bioavailability for man. However, we need silicon to renew our cartilage. It ensures the integrity of our cartilaginous tissues, nourishes them and stimulates collagen production. The fibro-cartilage is rich in networks of collagen fibers whilst the nucleus consists of elastin fibers. Colloidal organic silicon through its high bioavailability acts effectively on the regeneration of intervertebral discs.

3-2-6 Colloidal organic silicon - The Skin

We are not telling anyone anything original when we say that the skin owes its flexibility to the presence of special collagen fibers that are poorly renewed as we get older, which

results in a slackening of the cutaneous tissue, wrinkles, etc. Using exogenous collagen has several drawbacks, firstly the cost and the very poor rate of collagen recuperation by the body. Furthermore, using exogenous collagen can have an asphyxiating effect on the skin and can stop it from respiring and, in the long term, may lead to local cancers. Colloidal organic silicon supplementation on its own or in conjunction will help maintain the amount of collagen fibers and thereby delay skin ageing without having the disadvantages of the products mentioned above.

Conclusion

Silicon has multiple roles within the body. Apart from its involvement in many biochemical reactions, we can consider that it is also potentiates other metals and metalloids; it would appear that this is how silicon works as a co-factor in some enzyme reactions (Enzyme Metal Substrate). Its role in protecting glycan-proteins (proteins on the cell surface) should not be forgotten either. Colloidal organic silicon supplementation can be considered as a nanonutrition supplement at several cellular levels that allows the body, through clearing out some stored aberrations, to be more receptive to other treatments. In this sense, we can consider a silicon supplement as having an impact on many pathological conditions. Finally, the anti-free radical's effect of silicon appears to be established and at the same time, this confirms its broad anti-ageing effect on the body.

The human body holds about seven grams of silica, which function complementarily with calcium by maintaining the hydration of soft tissues and the elasticity of collagen and elastin in conjunctive tissues. Silica is a kind of "cellular soft cement" that slows down any ageing process inside the body.

Silica is also a very good element for children, as it helps the regulation of endocrine glands. Its lack in the bodies of adolescents may lead to unstable nervous system and intellectual deficiency.

Arnica - Arnica Montana (buds of flowers)
Ash – Fraxinus Excelsior (buds) P 60,000 ppb.
Bilberry – Vaccinium Myrtillus (young shoots) P 79,000 ppb.
Black Currant – Ribes Nigrum (buds)
Boxwood – Buxus Sempervirens (young shoots)
Bramble – Rubus Fructicosus (young shoots) P 70,000 ppb.
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots) P 38,000 ppb.
Cowberry – Vaccinium Vitis Idaea (young shoots) P 38,000 ppb.
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots) P 37,000 ppb.
Elm – Ulmus Campestris (buds)
European Alder – Alnus Glutinosa (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Grape Vine – Vitis Vinifera (buds) P 40,500 ppb.
Hawthorn – Crataegus Oxyacantha (buds) P 70,000 ppb.
Hazel – Corylus Avellana (buds)

Hornbeam – Carpinus Betulus (buds)
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots) Polycrest
Juniper – Juniperus Communis (young shoots)
Linden Tree – Tilia Tomentosa (buds) P 38,000 ppb.
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mistletoe – Viscum Album (young shoots) P 78,000 ppb.
Mountain Pine – Pinus Montana (buds) P 59,000 ppb.
Oak – Quercus Pedonculata / Robur (buds) P 30,000 ppb.
Olive – Olea Europaea (young shoots) P 37,000 ppb.
Propolis Blend
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots) P 37,000 ppb.
Rosemary – Rosmarinus Officinalis (young shoots)
Service Tree – Sorbus Domestica (buds) P 41,000 ppb.
Silver Fir – Abies Pectinata (young shoots) Polycrest
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Yarrow – Achillea Millefolium (young shoots)

SILVER (Ag): is a precious metal that has always been acknowledged as a powerful germicide. Long ago, people would drop a silver ring into drinking water to stay healthy.

Silver is a wide-range bactericide that is very helpful in all infectious diseases. It diminishes fevers and allows the diseased person to recover. The trilogy of silver with copper and gold behave like a natural antibiotic.

Physical: Silver appears 'cooling' and directs heat and pain away; a typical indication would be the inability to tolerate the heat. It stimulates the vegetative nervous system, helps harmonize the functioning of the inner organs and encourages fertility in women. By balancing the functioning of the organs, many types of headaches, particularly left-sided ones, are dissolved. Silver stimulates the activity of body fluids, improves health of skin and ability to cope with light, fortifies the ability to see and the sense of balance, and gets rid of dizziness.

Psychological/Emotional: Silver releases the emotions and encourages proper expression of feelings. It promotes generosity and empathy. Silver helps us become more flexible mentally or remain so and let go of influences and dependencies, particularly if these go hand in hand with feelings of helplessness. The imagination and the ability to visualize are all stimulated by silver. It also helps maintain control and balance on a psychic level. Silver promotes the receptive, mediumistic side of our nature. It encourages a sense of community and an interest in traditional values. Silver also enhances the ability

to see varying qualities of light and to harmonize inner life rhythms with the cycles of nature.

Beech – Fagus Sylvatica (buds) P
Black Currant – Ribes Nigrum (buds) P
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Grape Vine – Vitis Vinifera (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Propolis Blend P
Silver Fir – Abies Pectinata (young shoots) P

SODIUM (Na): A lack of sodium is very rare. It may happen in case of severe diarrhea, vomiting, excessive perspiration, chronic nephritis or a diet strictly devoid of salt combined with strong diuretic medicines or herbs. However, some illnesses like Addison's illness (concerning adrenal glands) are also responsible for sodium deficiency in the body.

Sodium has always been used for meat conservation. It is definitely necessary for human life (our body contains 100 grams of sodium) but must also be considered as a dangerous enemy because our civilization tends to abuse salt.

Sodium is the predominant ionic element in the blood and extra-cellular fluids, as opposed to Potassium, which is predominant inside the cells.

Sodium and Potassium are very important for maintaining the right balance between the different fluids of the body, and their ratio is highly controlled. Sodium is necessary for cell hydration, acid-alkaline equilibrium and muscle cells excitability.

The salt added to food is Sodium chloride that contains 40% sodium (1 gram of table salt contains 400 mg of sodium).

The excess of salt in diet is very frequent and is the source of many troubles: water retention, cellulites, overweight, hypertension, and stomach ulcer.

Excessive sodium usually leads to potassium depletion, which is one of the causes for cancer.

Beech – Fagus Sylvatica (buds) P 147,000 ppb.
Black Currant – Ribes Nigrum (buds) P 51,000 ppb.
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots) P 75,000 ppb.
Cowberry – Vaccinium Vitis Idaea (young shoots) P 60,000 ppb.
Cramp Bark – Viburnum Opulus (embryonic bark)
Dogwood – Cornus Sanguinea (buds) Polycrest 198,000 ppb.
Hazel – Corylus Avellana (buds)
Holly – Ilex Aquifolium (young shoots)
Hornbeam – Carpinus Betulus (buds) P 98,000 ppb.
Horse Chestnut – Aesculus Hippocastanum (buds) P 60,000 ppb.
Horsetail – Equisetum Arvense (young shoots)
Mistletoe – Viscum Album (young shoots) P 46,000 ppb.
Oak – Quercus Pedonculata / Robur (buds) P 148,000 ppb.
Olive – Olea Europaea (young shoots) P 48,000 ppb.

Propolis Blend
Purple Coneflower – Echinacea Purpura (embryonic roots)
Rhodiola – Rhodiola Rosea (buds of flowers and embryonic roots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Silver Birch – Betula Verrucosa (embryonic germinating seed-rootlets)
Sour Cherries Montmorency - Prunus Cerasus (buds)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Chestnut – Castanea Vesca (buds) P 100,000 ppb.
Virginia Creeper – Ampelopsis Veitchii (young shoots)
Walnut – Juglans Regia (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
Wormwood – Artemisia Annua (young shoots)

STRONTIUM (Sr): is a common element, which is naturally found in bones. Studies show supplementation with Strontium in its various forms is well tolerated and completely safe. Strontium lies directly below calcium on the Periodic Table of elements, which puts calcium, strontium and magnesium all in the same chemical family. They are all naturally occurring metals found in the soil, in foods, and in your body.

As an alkaline earth element, strontium is similar to calcium in its absorption in the gut, incorporation in bone, and elimination from the body through the kidneys. Strontium is naturally present in trace amounts with around 100 micrograms in every gram of bone, so when you supplement with strontium you are simply making more of this element available for incorporation into your bone.

A 2004 study published in the New England Journal of Medicine suggests that Strontium ranelate may be at least as good a treatment for osteoporosis as currently available oral drug therapies including Fosamax (alendronate), Actonel, (risedronate), Evista (raloxifene), and the injectable hormone Forteo (teriparatide).

In one study, researchers hypothesized that strontium might also improve cartilage metabolism. Strontium appears to help reduce dental carries according to a 10-year study. *Nutrition Rev 1983; 41:342-4*.

Bilberry – Vaccinium Myrtillus (young shoots) P
Black Poplar – Populus Nigra (buds)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Giant Redwood – Sequoia Giganteum (young shoots) P
Horse Chestnut – Aesculus Hippocastanum (buds) P
Mistletoe – Viscum Album (young shoots)
Mountain Pine – Pinus Montana (buds)
Propolis Blend

SULPHUR (S): has a very interesting role in rheumatology, but also in skin disorders like eczema and in digestive diseases. It has very efficient anti-oxidizing properties that are beneficial for fighting ageing in the joints and the brain.

Sulphur also acts as a broad antiallergic agent. It may cure many respiratory syndromes like asthma, bronchitis, laryngitis, rhinitis and hay fever. It strengthens skin and hair. On the contrary, a lack of Sulphur leads to brittle nails and dry hair.

Finally, Sulphur is beneficially associated with Manganese.

Arnica - Arnica Montana (buds of flowers)
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Eyebright – Euphrasia Officinalis (buds of flowers)
Grape Vine – Vitis Vinifera (buds)
Hazel – Corylus Avellana (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Sweet Almond – Prunus Amygdalus (buds)
Tamarisk – Tamarix Gallica (young shoots)
Walnut – Juglans Regia (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
Wormwood – Artemisia Annua (young shoots)

TIN (Sn): Physical: Tin encourages the development and activity of the cerebrum and harmonizes the nervous system. It encourages the healing of spasms, states of weakness and paralysis that can be traced back to disturbances in the nervous system. Tin helps greatly with chronic problems, particularly in the area of the respiratory tract, secondarily with the liver and gallbladder problems like colic. Tin controls the sense of taste.

Psychological/Emotional: Tin helps transform emotions into concrete form; it helps us put feelings into words. Tin encourages enthusiasm, tolerance, trust and a friendly attitude and gives us the courage to master everyday difficulties. It dissolves sorrow into relief. Tin encourages realization of our dreams. It has inspiring effects and helps developed our innermost talents and abilities. Tin brings sociability and generosity to guests. It encourages musical talent.

Bilberry – Vaccinium Myrtillus (young shoots)
Bramble – Rubus Fructicosus (young shoots)
Cedar of Lebanon – Cedrus Libani (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Elm – Ulmus Campestris (buds)
Grape Vine – Vitis Vinifera (buds)

Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Maize – Zea Mays (embryonic germinating seed-rootlets)
Mountain Pine – Pinus Montana (buds)
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
Service Tree – Sorbus Domestica (buds)
Silver Birch – Betula Verrucosa (buds, seeds and SAP) P
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Yarrow – Achillea Millefolium (young shoots)

VANADIUM (V): We now know for sure that a lack of vanadium in the body is one of the promoting factors for atherosclerosis.

Vanadium has long been ignored as an oligo-element, but more and more scientists are reconsidering it, as it seems to play a key role in the metabolism of cholesterol, mainly by preventing the bad cholesterol to sediment inside blood vessels and by lowering triglyceride levels in blood.

Although no one knows exactly how vanadium works at the biochemical level, it has been noticed that chicks and rats whose food was depleted from this very element, die younger and display a range of dysfunctions in their reproductive systems.

Maize – Zea Mays (embryonic germinating seed-rootlets)
Propolis Blend
Sweet Almond – Prunus Amygdalus (buds)
Walnut – Juglans Regia (buds)

ZINC (Zn): A Zinc-based treatment has proved efficient in the case of late growth (even nanism), late sexual maturation, hair loss, some kinds of skin diseases like acne and psoriasis, loss of sensorial abilities (taste, smell) and also early cataracts. Zinc shows a mainly endocrine tropism, with a direct action upon the pituitary gland (hypophysis), but its action on skin, hair and nails is really worth noticing.

The abundance of zinc in the human body is very low, about 300 milligrams per kilo, which is equivalent to 1.7 to 2.4 grams per adult. This catalytic element is present inside the active site of numerous enzymes involved into the metabolism of lipids, sugars, nucleic acids and the transcription of genes. Zinc also protects cell membranes from oxidization.

In western societies, people with hepatic deficiency, severe infection or having undergone a particularly intense traumatic shock (extensive burns, heart stroke, heavy surgery) have often been found to be zinc-depleted.

Psychological/Emotional: Zinc promotes the development of intelligence and abstract thinking. It helps with exhaustion, weakness, loss of courage and fearfulness, restlessness, sleep disturbance, particularly with loss of sleep due to too many ideas and thoughts running through the mind. Zinc encourages spontaneity and intuition. Zinc indicates great changes in your life. It breaks up worn out structures and helps use these upheavals in a meaningful way for creating better circumstances in our life. It brings idealism and intensifies our lives. Zinc encourages the ability to communicate.

As an essential trace mineral, zinc is second to iron as the most plentiful trace element in the body. It is needed for a number of enzymatic functions in the body, as well as for immune function, prostate health, antioxidant production and more. When you think zinc, think productivity. From helping to create new skin cells to boosting the immune system, this mineral works overtime to produce the cells you need to keep healthy. Over 200 enzymes have been identified as zinc dependent.

Zinc is essential for the growth of healthy cells, which in turn can help the immune system stay strong. Zinc's quick cell replication skills come in handy when you have cuts or wounds. It's vital for the production of collagen, the connective tissue that helps wounds heal. Tests have shown that the rate of healing TRIPLED after using zinc.

Zinc supplementation is essential before and after any surgical procedure. Calamine lotion derives its healing power from its rich zinc content. Zinc is also found in many cold lozenges and some over-the-counter cold remedies. In 1976, Dr. Robert Henkin said: "In the farthest reaches of our imagination, I don't think we have any idea how important and how widespread zinc deficiency problems are." Zinc, in the case of Restless Legs Syndrome, can aid in the absorption of minerals such as iron to help prevent deficiencies, in addition to having a calming ingredient. There’s no denying that Zinc plays a vital role in the overall health of our body.

Ash – Fraxinus Excelsior (buds)
Beech – Fagus Sylvatica (buds)
Bilberry – Vaccinium Myrtillus (young shoots)
Black Currant – Ribes Nigrum (buds) P 4,500 ppb.
Black Elder – Sambucus Nigra (buds)
Black Poplar – Populus Nigra (buds)
Bramble – Rubus Fructicosus (young shoots)
Caraway - Carum Carvi (embryonic germinating seed-rootlets)
Cedar of Lebanon – Cedrus Libani (young shoots)
Cowberry – Vaccinium Vitis Idaea (young shoots)
Crab Apple – Malus Sylvestris (buds) 1:10 double strength
Cramp Bark – Viburnum Opulus (embryonic bark)
Dandelion – Taraxacum Officinale (embryonic roots) 1:10 double strength
Dog Rose – Rosa Canina (young shoots)
Dogwood – Cornus Sanguinea (buds)
Elm – Ulmus Campestris (buds)

European Alder – Alnus Glutinosa (buds)
Eyebright – Euphrasia Officinalis (buds of flowers)
Fig – Ficus Carica (buds)
Giant Redwood – Sequoia Giganteum (young shoots) P 4,800 ppb.
Grape Vine – Vitis Vinifera (buds)
Hawthorn – Crataegus Oxyacantha (buds)
Hazel – Corylus Avellana (buds)
Hedge Maple – Acer Campestre (buds)
Holly – Ilex Aquifolium (young shoots)
Horse Chestnut – Aesculus Hippocastanum (buds)
Horsetail – Equisetum Arvense (young shoots)
Juniper – Juniperus Communis (young shoots)
Lilac – Syringa Vulgaris (buds)
Linden Tree – Tilia Tomentosa (buds)
Maidenhair Tree – Ginkgo Biloba (buds)
Maize – Zea Mays (embryonic germinating seed-rootlets) Mistletoe – Viscum Album (young shoots)
Mountain Pine – Pinus Montana (buds)
Nigella – Nigella Sativa (embryonic germinating seed-rootlets)
Oak – Quercus Pedonculata / Robur (buds) P 7,000 ppb.
Propolis Blend
Purple Coneflower – Echinacea Purpura (embryonic roots)
Raspberry – Rubus Idaeus (young shoots)
Rosemary – Rosmarinus Officinalis (young shoots)
Rhodiola – Rhodiola Rosea (buds of flowers and embryonic roots)
Rye – Secale Cereale (embryonic germinating seed-rootlets)
Service Tree – Sorbus Domestica (buds)
Silver Fir – Abies Pectinata (young shoots)
Sour Cherries Montmorency - Prunus Cerasus (buds)
St. John's Wort – Hypericum Perforatum (buds of flowers)
Sweet Almond – Prunus Amygdalus (buds)
Sweet Chestnut – Castanea Vesca (buds)
Tamarisk – Tamarix Gallica (young shoots)
Walnut – Juglans Regia (buds)
Wayfaring Tree – Viburnum Lantana (buds)
Wheat Grass– Triticum Aestivum (embryonic germinating seed-rootlets)
White Birch – Betula Pubescens (flower male-catkins)
White Willow – Salix Alba (buds)
Wormwood – Artemisia Annua (young shoots)
Yarrow – Achillea Millefolium (young shoots)
Betulinic Acid Concentrate

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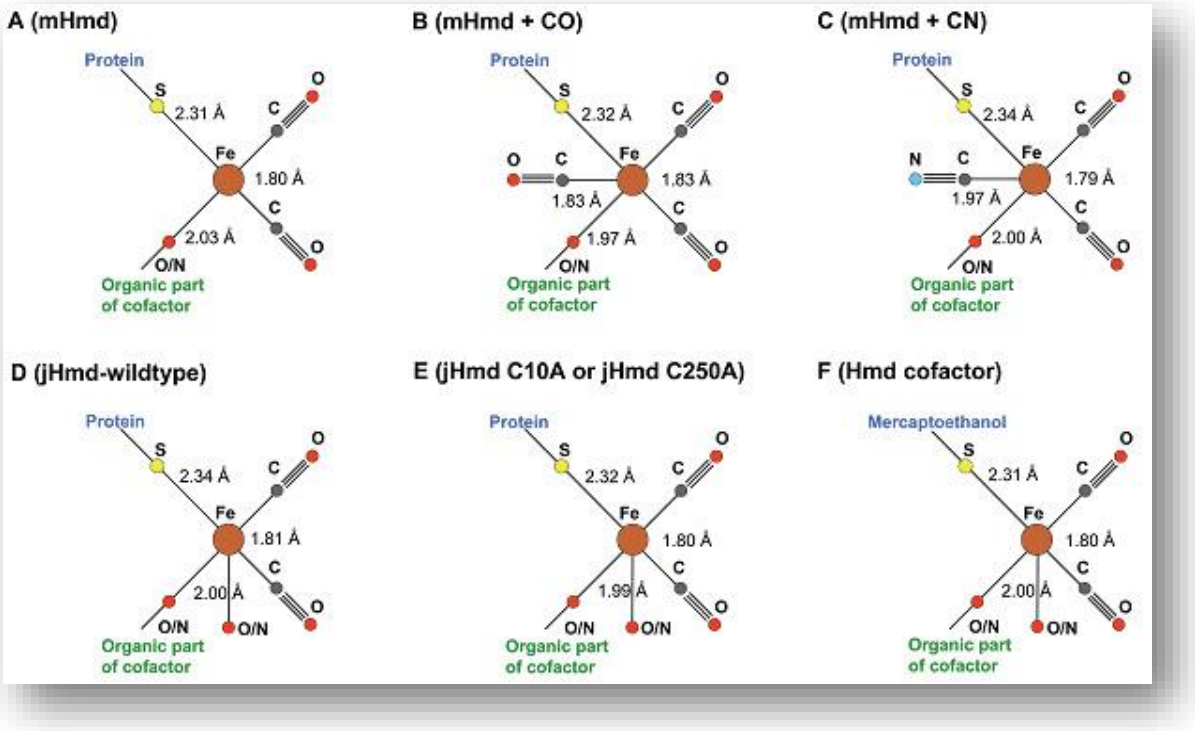
Trace Elements in Biological Systems



Structural models for the iron site in mononuclear hydrogenase under different biochemical conditions.

Previous and current research

Trace elements such as metals play a key role in the structure and function of about 30% of all proteins. Many biocatalytic processes depend on the presence of metal ions. Research performed by the Meyer-Klaucke team deals with metal functionality, binding and selectivity in biological systems. The group's projects combine structural techniques with molecular biology, biochemistry and further methods aiming at a complete understanding of metal related biological processes. Apart from methods development (Korbas, 2006; Wellenreuther, 2007), current research includes:

Proteins of the metallo-β-lactamase superfamily. This superfamily, with an active site capable of binding up to two metal ions, catalyzes a variety of enzymatic processes. Beside the global metal binding motif, the overall fold of α-sheets and β-helices is

conserved within the superfamily (Kostelecky 2006). *Their physiological importance varies from* ***putative association*** with ***cancer*** and ***antibiotic resistance*** to different roles in ***cellular detoxification***.

Metal regulation. Members of the ferric/zinc uptake regulator (Fur/Zur) family are the central metal-dependent regulator proteins in many Gram-negative and -positive bacteria. They are responsible for the control of a wide variety of basic physiological processes and the expression of important virulence factors in human pathogens. Therefore, ferric Fur has gathered significant interest as a potential target ***for novel antibiotics***. Recently, research has unlocked the crystal structure of FurB from ***Mycobacterium tuberculosis***, which together with biochemical and spectroscopic data allows researchers to propose the functional role of this protein. Although the overall fold of FurB with an N-terminal DNA binding domain and a C-terminal dimerization domain is conserved among the ferric/zinc Zur/Fur family, large differences in the spatial arrangement of the two domains with respect to each other can be observed. The biochemical and spectroscopic analysis revealed that ***Mycobacterium tuberculosis*** FurB is Zn(II)-dependent and is likely to control genes involved in the bacterial zinc uptake. The combination of the structural, spectroscopic, and biochemical results enabled them to determine the structural basis for functional differences in this important family of bacterial regulators (Lucarelli, 2007). Recent biochemical, crystallographic and spectroscopic data have now shed light on the activation and metal discrimination mechanisms in this protein family.

New metal binding motifs. Hydrogenases ***play a vital role in anaerobic metabolism.*** These are enzymes that catalyze the reversible oxidation of molecular hydrogen. Their structure and catalytic mechanism are of considerable applied interest as models for the development of efficient catalysts for hydrogen-fueled processes. Despite intensive efforts, however, the understanding of how hydrogenases react with H2 is only in its infancy. The only mononuclear hydrogenase, Hmd, harbors an iron containing cofactor of yet unknown structure. X-ray absorption spectroscopy determined two CO, one sulfur, and two nitrogen/oxygen atoms coordinated to the iron, the sulfur ligand being most probably provided by the protein. In active Hmd holoenzyme, the number of iron ligands increased by one when one of the Hmd inhibitors (CO or KCN) were present, indicating that in active Hmd, the iron contains an open coordination site, which is proposed to be the site of H2 interaction (Korbas, 2006).

Complexation and toxicity of copper in higher plants. II. Different mechanisms for copper versus cadmium detoxification in the copper-sensitive cadmium/zinc hyperaccumulator.

Enhances repair of ***chlorophyll-protein complexes,*** but not by exclusion, since the content of Cu in their shoots was increased by about 25%. Extended x-ray absorption fine structure (EXAFS) measurements on frozen-hydrated leaf samples revealed that a large proportion of Cu toxicity in higher plants is bound by sulfur ligands. This is in contrast to the known binding environment of cadmium and zinc in some species, which is dominated by oxygen ligands. Clearly, hyperaccumulators detoxify hyperaccumulated metals differently compared with nonaccumulated metals. Furthermore, strong features in the Cu- extended x-ray absorption fine structure EXAFS spectra ascribed to metal-metal contributions were found, in particular in the Cu-resistant specimens. Some of these features maybe due to ***Cu binding to metallothioneins***, but a larger proportion seem to result from *biomineralization*, most likely Cu(II) oxalate and Cu(II) oxides. Additional

contributions in the EXAFS spectra indicate complexation of Cu(II) by the nonproteogenic ***amino acid nicotianamine***, which has a very high affinity for Cu(II) as further characterized here (Mijovilovich et al., 2009).

Mijovilovich A, Leitenmaier B, Meyer-Klaucke W, Kroneck PM, Götz B, Küpper H. Complexation and toxicity of copper in higher plants. II. Different mechanisms for copper versus cadmium detoxification in the copper-sensitive cadmium/zinc hyperaccumulator Thlaspi caerulescens (Ganges Ecotype). Plant Physiol. 2009 Oct;151(2):715-31. DOI:10.1104/pp.109.144675. Epub 2009 Aug 19. PMID: 19692532 [PubMed].