Glossary

Adaptative sensory responses (ASRs): ASRs occur in response to unchanging or repetitive sensory input. One well documented example of this is demonstrated by optical illusions such as the Troxler fading in which a light colored circle surrounding a central dot disappears when the subject stares at the dot. The mind body tends to disregard unchanging stimuli and ASR phenomena that occur inappropriately may blind the mind-body to some sensory data needed to properly regulate the mind-body.

Adduct or DNA Adduct: Specifically, the coupling of any toxin such as mercury or other heavy metal, nitrite or other chemical group with DNA. The consequences may include inappropriate activation or deactivation of an allele to which a toxin binds.

Afferent/ Efferent Nerve Transmission: Generally, afferent nerve impulses are those that are sensory, incoming to the central nervous system. Efferent nerve impulses are generally meant to be motor, outgoing from the central nervous system. The terms may be used in a relational sense, therefore, any particular signal is both efferent (outgoing) relative to its origin and afferent to its target.

Allele: From Wikipedia, the free encyclopedia - An allele is any one of a number of alternative forms of the same gene occupying a given locus (position) on a chromosome. An example is the gene for blossom color in many species of flower - a single gene controls the color of the petals, but there may be several different versions of the gene. One version might result in red petals, while another might result in white petals.

Many organisms are diploid - that is, they have two sets of homologous chromosomes in their somatic cells, and thus contain two copies of each gene. An organism in which both copies of the gene are identical - that is, have the same allele - is said to be homozygous for that gene. An organism that has two different alleles of the gene is said to be heterozygous. Often one allele is "dominant" and the other is "recessive" - the "dominant" allele will determine what trait is expressed. For example, in the case of blossom color, if the "red" allele is dominant to the "white" allele, in a heterozygous flower (with one red and one white allele), the petals will be red. An exception is "codominance", where both alleles are active - a blending of traits may result, e.g., pink petals.

A wild type allele is an allele which is considered to be "normal" for the organism in question, as opposed to a mutant allele which is usually a relatively new modification.

Allergen/Antigen: Synonymous terms for any substance that stimulates the immune system.

Algorithm: http://www.wikipedia.org/wiki/Algorithm Generally, an algorithm is a list of instructions for accomplishing some task, and the task can be anything that has a recognizable end-point (or result). Often, some of the specific steps in the procedure are to be repeated until the task is done. Normally, there are different algorithms for the same task, some better than others. A cooking recipe is one kind of algorithm. Some recipes for making potato salad, for example, have "peel the potato" before "boil the potato", while some have the "boil" step before the "peel" step; but, they

all call for those steps to be repeated for however many potatoes there are, and they all end when the potato salad is ready to eat.

Algorithms are essential to the way computers process information, because a computer program is essentially an algorithm that tells the computer what specific steps to perform, and in what specific order to perform a specific task, such as calculating the employees' paychecks or printing the students' report cards. In that context, an algorithm is a well-defined method or procedure for solving a problem, usually a problem in mathematics or otherwise relating to the manipulation of information. Some people restrict the definition of algorithm to procedures that eventually finish, while others also include procedures that run forever without stopping.

Algorithms are often implemented as computer programs but can also be implemented as electric circuits or even performed directly by humans.

Angiotensins: Angiotensin I and II are formed in biological fluids by enzymatic cleavage of proteins. Angiotensin II is a potent vasoconstrictor and is important in hypertension.

Antibody: An antibody also known as an immunoglobulin is a large Y-shaped protein used by the immune system to identify and neutralize foreign objects like bacteria and viruses. The antibody recognizes and binds to a unique part of the foreign target, termed an antigen.

Autonomic Control System (ACS): This term refers to all other than conscious level control systems in the body including the autonomic nervous system (usually limited in definition to the sympathetic and parasympathetic nervous systems), and all energetic level control systems such as morphogenic fields.

Autonomic Nervous System (ANS): By definition, the sympathetic and parasympathetic nervous systems.

Autonomous Nervous Systems: An NMT term that refers collectively to the sympathetic and parasympathetic nervous systems and also includes the autonomous nervous systems of the heart, the spinal cord, the enteric nervous system, and the lymphatic immune information processing system referring to the neuro-like properties of immune system cells.

Base Pair: n. One of the pairs of chemical bases joined by hydrogen bonds that connect the complementary strands of a DNA molecule or of an RNA molecule that has two strands; the base pairs are adenine with thymine and guanine with cytosine in DNA and adenine with uracil and guanine with cytosine in RNA.

Biophoton: From Wikipedia, the free encyclopedia - Biophotons are photons (light) produced by cell activity, in a phenomenon also known as ultraweak bioluminescence and dark luminescence. The exact origin of this emission is as yet unclear. Like all objects animate and inanimate, cells emit a characteristic "black body" distribution of wavelengths of photons, in a manner directly related to temperature. However, after compensating for this distribution, a number of photons (on the order of as many as 100 photons/cm^2/sec) are detected over a range of wavelengths in the visible to ultraviolet range. The amount of light emitted is quite small; comparable to that observed from a candle viewed at a distance of 10 kilometers. The detection of these photons waited upon

development of sensitive photomultipliers in the 1960s and 1970s.

It is not particularly surprising for a cell's metabolism to produce light; for example, many bacteria and other cells produce light through the use of a particular protein (luciferin). Given the extremely small number of photons produced (the above number corresponds roughly to a single photon per cell per hour, assuming a rather large cell diameter of 100 micrometers), for many years the predominant theory was that these photons were a random by-product of cellular metabolism.

Normal cell metabolism occurs in a chain of steps, each step involving a small energy exchange, for greater efficiency. With some degree of randomness ensured by thermodynamics, it would then be expected that some (unknown) number of these chains would possibly "skip" one or more steps. The resulting loss of efficiency would then be detected as a photon being emitted.

According to the simplest model of this theory, the observed frequency at which photons would be detected would then be expected to obey a standard random distribution. However, some scientists have claimed to detect a significant variance from the expected distribution of photons, as well as an additional coherence or coordination of the time when photons are emitted by distinct cells. The photons emitted as part of this (unknown) luminescent process were dubbed "biophotons" (by F. A. Popp) to indicate their origin.

At present there is no adequately tested theory for the production of these extra photons; and the final answer may require a careful examination of the experimental method, and could involve a variety of modes of production. For example, in keeping with the "random production" theory, biophotons are more prevalent in damaged cells, presumably due to the extra presence of free radicals.

In the absence of a mechanism which produces these photons, some have speculated that biophotons are involved in various cell functions such as mitosis; or alternatively that they are produced and detected by proteins in the cell nucleus, possibly DNA.

It is further speculated by some that these emissions are part of a system of cell to cell communication of more complexity than the modes of cell communication already known, such as chemical signaling; and that they are important in the development of larger structures such as the organs.

Some have been inspired to associate biophotons with the concept of "Qi" from acupuncture, and these emissions have even been postulated as being fundamental to consciousness.

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Brain reward cascade: Quoted from www.torquerelease.com: Breakthrough Brain Research Links Chiropractic, Treatment to Addictive Behaviors; Kenneth Blum, Ph. D., D.A.C.A.C.D.; John G. Cull, Ph.D., FAABM and Jay Holder, D.C., D.A.C.A.C.D.:

A "brain reward cascade" of neurotransmitters, when operating properly, results in feelings of well-being. If an imbalance impedes the normal flow of the "cascade", the feelings of well-being are supplanted by anxiety, anger,... or by craving substances which alleviate the negative emotions. Disruption of the "brain reward cascade" results in Reward Deficiency Syndrome ("RDS").

"RDS" can be manifested in mild forms (such as the chain smoker) or more severe forms as in the chemical addict. A genetic based biochemical inability to derive reward from everyday activity links these extremes in behaviors. Alcohol addiction, obesity (as a result of carbohydrate binging), nicotine addiction, attention-deficit/hyperactivity disorder, cocaine addiction, Tourette's disorder, and post-traumatic stress disorder are centrally mediated "RDS" behaviors. Anomalies of the Dopamine D2 Receptor genes, Dopamine Transporter genes, and Dopamine Beta hydroxylase genes predispose individuals to "RDS".

Lack of dopamine receptors results in the inability to cope with stress and causes craving. A number of substances (i.e., alcohol, cocaine, marijuana, nicotine, carbohydrates) that release neuronal dopamine may be taken in the attempt to gain temporary relief of stress and craving. These substances can be used singly, in combination, or to some extent interchangeably (have you noted how often recovering alcoholics crave nicotine and/or sugar?).

Circulating Immune Complex: The 3D proteinaceous chemical forms that arise when antigen and immunoglobulin combine.

Cognitive Valuation: +ve and -ve CV Faults: Positive Cognitive Valuation Fault: When the ACS looks at some subject and attaches incorrect meaning to it. Negative Cognitive Valuation Fault: When the ACS looks at some subject and does not register an awareness of it in any way.

Cognitive valuation generally refers to the concept of an overarching awareness that exists and is erroneous (+ve CV fault) or of awareness that does not exist at all (-ve CV fault) of a condition, or aspect of a condition. Key to this concept is the understanding that the ACS is a nested hierarchy of structures cooperating to perform the control functions necessary to operate the body efficiently. Just as in other areas of NMT we may find that awareness exists; but is not properly distributed within the ACS. Correction of faults in cognitive valuation occurs at two levels, the distribution of awareness of correct cognitive valuation to all levels of the ACS, and the correction of the specified +v/-ve cognitive valuation fault.

Coherence: Logical connection or relationship; congruity; consistency. OED

Crossover Autoimmune Response: The immune system attack on self tissues based on ACS confusion and related to positive findings in elements of the Allergy Pathway such as "inappropriate tagging of afferent stimuli", and "awareness of distinction of self/allergen, or self/infectious agent.

Dysplasia: [dɪs'pleɪzɪə] n. Abnormal development of an organ or part of the body, including congenital absence. ETYMOLOGY: 20th Century: New Latin, from dys- + -plasia, from Greek plasis a moulding. dysplastic [dɪs'plæstɪk] adjective

Dystonia: [dɪs'təʊnɪə] n. A neurological disorder, caused by disease of the basal ganglia, in which the muscles of the trunk, shoulders, and neck go into spasm, so that the head and limbs are held in unnatural positions. ETYMOLOGY: from dys- + -tonia from Greek tonos tension, from teinen to stretch.

Dystrophy: ['dɪstrəfɪ], dystrophia [dɪ'strəʊfɪə] n. Any of various bodily disorders, characterized by wasting of tissues

See also: muscular dystrophy. ETYMOLOGY: 19th Century: New Latin dystrophia, from dys- + Greek trophe food. dystrophic [dɪs'trɒfɪk] adjective

Endogenous: Meaning, part of self, and not originating outside the body.

Endogenous Allergen: Some self substance, originated inside the body, that is provoking an inflammatory and allergic response from the immune system.

Endotoxins and Exotoxins: Bacterial Toxigenesis (from UW-Madison Bacteriology) Toxigenesis, or the ability to produce toxins, is an underlying mechanism by which many bacterial pathogens produce disease. At a chemical level, there are two types of bacterial toxins, lipopolysaccharides, which are associated with the cell walls of Gram-negative bacteria, and proteins, which are released from bacterial cells and may act at tissue sites removed from the site of bacterial growth. The cell-associated lipopolysaccharide (LPS) toxins are referred to as endotoxins and the extracellular diffusible toxins are referred to as exotoxins.

Endotoxins are cell-associated substances that are structural components of the outer membrane of Gram-negative bacteria. However, endotoxins may be released from growing bacterial cells or from cells that are lysed as a result of effective host defense (e.g., lysozyme) or the activities of certain antibiotics (e.g., penicillins and cephalosporins). Exotoxins are usually secreted by bacteria, but in some cases they are released by lysis of the bacterial cell. Hence, either type of bacterial toxin may ultimately act in close association with the cells that produce the toxin, or at tissue sites remote from the original point of bacterial invasion or growth. Some bacterial toxins may also act at the site of colonization and play a role in invasion.

Enteric Nervous System (ENS): The discrete nervous system imbedded in structures of the gastrointestinal system that performs templated control functions for processes and influences function from one end of the alimentary canal to the other. It works interactively with ANS, and

CNS. All control systems of the body are considered part of the ACS.

Enzymes: Enzymes are proteins that catalyze (i.e., increase or decrease the rates of) chemical reactions. In enzymatic reactions, the molecules at the beginning of the process are called substrates, and they are converted into different molecules, called the products. Almost all processes in a biological cell need enzymes to occur at significant rates. Since enzymes are selective for their substrates and speed up only a few reactions from among many possibilities, the set of enzymes made in a cell determines which metabolic pathways occur in that cell.

Exogenous: Meaning, not part of self, and originating outside the body.

Exogenous Allergen: Some substance originating outside the body, that is provoking an inflammatory and allergic response from the immune system.

Future Vigilance Statements: All pathways may be completed with a statement to the effect that the mind-body be instructed to maintain a vigilance for the future presentation of subject matter of the pathway delivered, (infectious agents, PSPs, toxins, exogenous analogs, etc.) and upon recognition of such future presentation to reapply the therapeutic intention content of that previously applied NMT clinical pathway.

Histone: From Wikipedia, the free encyclopedia - Histones are chromosome proteins that act as spools around which DNA winds, thus facilitating the compaction necessary to fit the largegenomes of eukaryotes inside cell nuclei. Five histone types are known (H1, H2A, H2B, H3, and H4). Two each of H2A, H2B, H3, and H4 are assembled to form a nucleosome together with DNA, thereby packing it tight. H1 is needed for histone-DNA-complexes to form a 30-nm fiber, which packs the DNA even more tightly. In general, genes that are active have less bound histone, while inactive genes are highly associated with histones during interphase.

Hyperplasia: [ˌhaɪpəˈplæzɪə] n. Enlargement of a bodily organ or part resulting from an increase in the total number of cells. hyperplastic [ˌhaɪpəˈplæstɪk] adjective

Hypertrophy: [haɪˈpɜːtrəfɪ] n. (plural: -phies) Enlargement of an organ or part resulting from an increase in the size of the cells. hypertrophic [ˌhaɪpəˈtrɒfɪk] adjective

Immune Complexes (IC's): The chemical result of Ig and antigen combination. Some may be tissue fixed, and others may be soluble and circulate in the blood and body fluids.

Immunoglobulin: An antibody also known as an immunoglobulin is a large Y-shaped protein used by the immune system to identify and neutralize foreign objects like bacteria and viruses. The antibody recognizes and binds to a unique part of the foreign target, termed an antigen.

Indolyl-acryloylglycine (IAG) Increased levels of Indolyl-acryloylglycine (IAG) have been found in several conditions including Autism, Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD), and Obsessive Compulsive Disorder. Indolyl-acryloylglycine (IAG), a derivative of indolyl acetic acid is a product of abnormal tryptophan metabolism produced by bacterial action in the intestinal tract. Evidence supports the association of indole metabolism error with mental

illness, and many psychoactive drugs contain the indole nucleus. Under some conditions, tryptophan can induce activation of specific behavioral aberrations in individual clients.

Infectious Agent Pathway Rationale: NMT does not diagnose either the presence of, or specific type of any infectious/pathogenic organism. Any such diagnosis requires laboratory testing. It is the position of NMT that it is sufficient that the ACS at some level perceives that there is some sort of infectious agent resident in a tissue of the body in order to cause the ACS to inappropriately facilitate destructive immune system activity in that and perhaps other tissues.

Instantaneous State: Instantaneous physiological state refers to the immediate condition of something.

Instantaneous physiological state refers to the actual physiological status at any given moment in time.

Lectins: From: www.vectorlabs.com Since the 1880's, it has been known that extracts from certain plants could agglutinate red blood cells. In the 1940's, agglutinins were discovered which could "select" types of cells based on their blood group activities. Although "lectin" was originally coined to define agglutinins that could discriminate among types of red blood cells, today the term is used more generally and includes sugar-binding proteins from many sources regardless of their ability to agglutinate cells. Lectins have been found in plants, viruses, microorganisms and animals, but despite their ubiquity, their function in nature is unclear. Although lectins share the common property of binding to defined sugar structures, their roles in various organisms are not likely to be the same.

Most lectins studied to date are multimeric, consisting of non-covalently associated subunits. A lectin may contain two or more of the same subunit, such as Con A, or different subunits, such as Phaseolus vulgaris agglutinin. It is this multimeric structure which gives lectins their ability to agglutinate cells or form precipitates with glycoconjugates in a manner similar to antigen-antibody interactions. Although most lectins can agglutinate some cell type, cellular agglutination is not a prerequisite. Some lectins can bind to cells and not cause agglutination, such as succinylated Con A, or the lectin may not bind to cells at all. The latter property may be a consequence of the structure of the lectin or the absence of a suitable receptor oligosaccharide on the cell surface. Since agglutination of cells is the assay most generally employed to measure lectins, many non-agglutinating lectins may exist in nature but have not been easily detected.

In spite of our ignorance about the function of lectins in nature, this unique group of proteins has provided researchers with powerful tools to explore a myriad of biological structures and processes. Because of the specificity that each lectin has toward a particular carbohydrate structure, even oligosaccharides with identical sugar compositions can be distinguished or separated. Some lectins will bind only to structures with mannose or glucose residues, while others may recognize only galactose residues. Some lectins require that the particular sugar be in a terminal non-reducing position in the oligosaccharide, while others can bind to sugars within the oligosaccharide chain. Some lectins do not discriminate between a and b anomers, while others require not only the correct anomeric structure but a specific sequence of sugars for binding. The affinity between a lectin and its receptor may vary a great deal due to small changes in the carbohydrate structure of the receptor. All of these properties that are peculiar to lectins enable

the researcher to discriminate between structures, to isolate one glycoconjugate, cell or virus from a mixture or to study one process among several. Since virtually all biological membranes and cell walls contain glycoconjugates, all living organisms can be studied with lectins.

Another property of some lectins is an ability to induce mitosis in cells that are normally not dividing. This property has been exploited extensively in an attempt to understand the process of lymphocyte blastogenesis and the biochemical and structural alterations associated with mitogenesis. It is not clear why some lectins are mitogenic since the structures to which mitogenic lectins bind are not necessarily the same, and not all lectins with similar binding specificities are mitogenic. It is likely that binding to the cell surface alone is not sufficient to cause mitosis but that other interactions on the cell surface are equally important.

LIIPS: Lymphatic-Immune Information Processing System: Immune system and nervous system cells are enormously similar and each do processes of synapse formation and data transfer as well as inflammatory activity. The LIIPS concept considers that the immune system as a whole including its various lymphatic nodes and the spleed may be considered to function as an autonomous nervous system distributed throughout the body and interfacing with the CNS and other data processing systems of the mind-body.

Metallothioneins: Metallothioneins (MTs) are ubiquitous low molecular weight proteins and polypeptides of extremely high metal and sulfur content. They are thought to play roles both in the intracellular fixation of the essential trace elements zinc and copper, in controlling the concentrations of the free ions of these elements, in regulating their flow to their cellular destinations, in neutralising the harmful influences of exposure to toxic elements such as cadmium and mercury and in the protection from of a variety of stress conditions (Kägi & Schäffer 1988).

Metaplasia: [ˌmɛtə'pleɪzɪə] n. The transformation of one kind of tissue into a different kind if tissue.

Micro-RNA: Micro-RNA is variously referred to as RNAi, i.e., interrupt RNA or interference RNA and is a recently discovered nonprotein producing small RNA product. RNAi is transcribed from introns, the portions of DNA that have been considered genetic garbage data. RNA has traditionally been known to produce only protein products that become the structural proteins and enzymes of the body. Micro-RNA does not produce protein. It functions as a mechanism for affecting the expression of any gene. This particular mechanism of regulating gene expression does not directly regulate production of the RNA product of the gene. It regulates further down the metabolic chain by attaching to free strands of RNA in a complementary fashion and in so doing chemically blocking the translation of that strand of RNA into its intended protein product.

Motor End Organ (MEO): The combination of a nerve ending and a cell that does work such as a secretory cell, or muscle cell. The MEO is the point at which the motor instruction from the nervous system produces its effect in the tissues of the body.

Oncogenes: Genes that can activate cell division in cells that normally do not divide or do so only slowly. A gene that when over-expressed leads to cancer, but which normally functions in cell division. An oncogene is a gene that has sustained some genetic damage and, therefore, produces a protein capable of cellular transformation.

Other-Than-Conscious: That which is referred to as "other than conscious" (OTC) in NMT is defined as the entirety of all neurological and energetic intelligence of which the subject has no subjective awareness. It is all that exists on the other side of the mind from that of which we are aware, separated by a barrier of incomprehension from consciousness. The activity of the other than conscious mind seems to have quantum characteristics in the sense that thought images with a unitary and iconographic character exist and can be perceived from outside the self and can be projected outward from the self. It is the exchange of this OTC/OTC communication that is the basis of muscle response testing (MRT).

OTC/OTC Communication: The communication that takes place between practitioner and subject during NMT sessions, and consisting of the non-verbal aspect of the protocol. This is a zero point field level influence in which a holographic, iconographic representation of the concepts represented by the verbal language portion of the protocol. The degree of clarity and comprehension within the practitioner of the verbal language statements of the protocol is directly related to the quality of the communication on an OTC/OTC level. The quality of this communication is also directly related to the facility, experience, and skill developed by the practitioner in framing and projecting such OTC/OTC communication.

Pattern Perturbation: In the practice of NeuroModulation Technique pattern perturbation is the phasic dis-harmony between any two or more morphic fields. The influence of this dis-harmony produces a qualitative and quantitive compromise in the expression of the field. All life is the manifestation of vibrant morphic resonance of a nested hierarchy of such fields and any such compromise is of import regarding the optimal health of a living thing.

Perturbation: The action of perturbing; the fact, or condition of being perturbed; disturbance, disorder, commotion; mental agitation, or disquietude; trouble. Oxford English Dictionary, 1971

Phosphorylation: Cell metabolic processs are almost invariably enzyme driven. Chemical processes that occur freely at the levels of chemical resource and energy availability within the ambient environment are processes that cannot be regulated to any significant degree. An example is a forest fire that continues at a rate consistent with availability of free energy in the environment, and the availability of organic material as a substrate for the process of burning. Metabolic processes require a high degree of control to be consistent with the requirements of life. Therefore, nearly all chemical processes within cells do not proceed freely; but, are induced to occur one molecule at a time by the action of enzymes and other proteins that function as process driving chemicals.

It is the phosphorylation of these enzymes and chemical process proteins that "charges" them with energy that puts these machine-like chemicals into an energetic state in which they can trigger a specific chemical reaction to occur.

From Wikipedia, the free encyclopedia -

In biochemistry, phosphorylation is the addition of a phosphate (PO4) group to a protein or a small molecule. Phosphorylation is a tremendously important event. In the database MedLine almost a hundred thousand articles on phosphorylation are present. The large majority of these is dedicated

to protein phosphorylation.

Beyond doubt, protein phosphorylation is the most important regulatory event in eukaryotic cells. Many enzymes and receptors are turned on or off by phosphorylation and dephosphorylation. Phosphorylation is catalyzed by various specific protein kinases, whereas phosphatases dephosphorylate. Regulation of protein activity is very important in cells. For example, the p53 tumor suppressor gene activates genes that cause a cell to stop growing, or even to kill itself (apoptosis). However, this activity should only be present if the cell is damaged. Therefore, the p53 protein is extensively regulated. In fact, p53 contains more than 18 phosphorylation sites.

Phosphorylation is a very fast way of regulating proteins. In the simplest way of regulation, the protein is simply not there until it is needed. Steroid hormones like estrogen, for example, act as transcription factors, causing the proteins they regulate to be produced. However, this takes time, and it also takes time until the proteins degrade again and the action stops. If the protein is regulated by phosphorylation, it is constantly present in "standby" mode. When an activating signal arrives, the protein becomes phosphorylated and performs its action. Upon the deactivating signal, the protein becomes dephosphorylated again and stops working. This is the mechanism in many forms of signal transduction, for example the way in which incoming light is processed in the light-sensitive cells of the retina. The network underlying phosphorylation can be very complex. Often, protein A phosphorylates B, and B phosphorylates C, but A also phosphorylates C directly, and B can phosphorylate D, which may in turn phosphorylate A.

Within a protein, phosphorylation can occur on several amino acids. Phosphorylation on serine is the most common, followed by threonine. Tyrosine phosphorylation is the most rare. However, since tyrosine phosphorylated proteins are relatively easy to purify using antibodies, tyrosine phosphorylation sites are relatively well understood.

There are other kinds of phosphorylation besides protein phosphorylation:

ATP, the "high-energy" exchange medium in the cell, is synthesized in the mitochondrion by addition of a third phosphate group to ADP in a process referred to as oxidative phosphorylation. ATP is then used at various points in the series of reactions that constitute glycolysis, to transfer energy to other small molecules.

ATP is synthesized at the expense of solar energy by photophosphorylation in the chloroplasts of plant cells.

Promoter: From Wikipedia, the free encyclopedia - In genetics, a promoter is a DNA sequence that enables a gene to be transcribed. The promoter is recognized by RNA polymerase, which then initiates transcription.

Proto-oncogene: A proto-oncogene is a gene whose protein product has the capacity to induce cellular transformation given it sustains some genetic insult.

Protein: From Wikipedia, the free encyclopedia -

Proteins (originally meaning first thing when discovered in 1838 by Berzelius) are one of the primary constituents of living things and viruses, and as such as one of the chief classes of molecules studied in biochemistry. As enzymes, proteins are often considered the "machines of the cell." They are an important component of human nutrition.

Proteins can be used for energy, but they must first be converted to common metabolic intermediates. This releases ammonia, an extremely toxic substance. It is then converted in the liver into urea, a much less toxic chemical, which is excreted in urine. Some animals convert it into uric acid instead.

Proteins differ from chiefly from carbohydrates in that they contain much nitrogen and a little bit of sulfur, besides carbon, oxygen and hydrogen.

Proteins are biopolymers consisting of one or more strings of amino acid residues joined head-to-tail via peptide bonds. Each string folds into a 3-dimensional structures. There are four levels of protein structure:

Primary structure: the linear amino acid sequence forming the polypeptide.

Secondary structure: structures stabilized by hydrogen bonds between the C=O and N-H groups of different peptide bonds.

Tertiary structure: structures stabilized by interactions between the amino acid side chains on a single polypeptide.

Quaternary structure: the association of multiple polypeptide subunits to form a functional protein.

The primary structure is held together by covalent bonds, which are made during the process of translation. The process by which the higher structures form is called protein folding and is a consequence of the primary structure. Although any unique polypeptide may have more than one stable folded conformation, each conformation has its own biological activity and only one conformation is considered to be the active or native conformation.

If a region of a protein has any secondary structure, it is either an alpha helix or beta sheet. The string is folded further into larger 3-dimensional structures that are held together by hydrogen bonds, hydrophobic interactions, and/or disulfide bonds.

Proteins are generally large molecules; sometimes having molecular masses of up to 3,000,000 (the muscle protein titin has a single amino acid chain 27,000 subunits long). Such long chains of amino acids are almost universally referred to as proteins, but shorter strings of amino acids are referred to as "polypeptides," "peptides" or very rarely "oligopeptides". The dividing line is somewhat undefined, although a polypeptide may be less likely to have tertiary structure and may be more likely to act as a hormone (like insulin) rather than as an enzyme or structural element.

Proteins are generally classified as soluble, filamentous or membrane-associated (see integral

membrane protein). Nearly all the biological catalysts known as enzymes are proteins. (Certain RNA sequences were shown in the late 20th century to have catalytic properties as well.) Membrane-associated exchangers and ion channels, which move their substrates from place to place but do not change them; receptors, which do not modify their substrates but may simply shift shape upon binding them; and antibodies, which appear to do nothing more than bind, all are proteins as well. Finally, the filamentous material that makes up the cytoskeleton of cells and much of the structure of animals is also protein: collagen and keratin are components of skin, hair, and cartilage; and muscles are composed largely of proteins.

Proteins can be picky about the environment in which they are found. They may only exist in their active, or native state, in a small range of pH values and under solution conditions with a minimum quantity of electrolytes, as many proteins will not remain in solution in distilled water. A protein that loses its native state is said to be denatured. Denatured proteins generally have no secondary structure other than random coil. A protein in its native state is often described as folded.

One of the more striking discoveries of the 20th century was that the native and denatured states in many proteins were inter-convertible, that by careful control of solution conditions (by for example, dialyzing away a denaturing chemical), a denatured protein could be converted to native form. The issue of how proteins arrive at their native state is an important area of biochemical study, called the study of protein folding.

Through genetic engineering, researchers can alter the sequence and hence the structure, "targeting", susceptibility to regulation and other properties of a protein. The genetic sequences of different proteins may be spliced together to create "chimeric" proteins that possess properties of both. This form of tinkering represents one of the chief tools of cell and molecular biologists to change and to probe the workings of cells. Another, area of protein research attempts to engineer proteins with entirely new properties or functions, a field known protein engineering.

Protein deficiency is often discussed in relation to nutrition especially as it relates to starvation and malnourishment in Third World Countries. It may be an overlooked health factor even in developed countries such as the United States, where diets may rely heavily on carbohydrates, may lack essential amino acids, and there is societal pressure to be thin. Protein deficiency can lead to sympotoms such as fatigue, insulin resistance, hair loss, loss of hair pigment (hair that should be black becomes reddish), loss of muscle mass (proteins repair muscle tissue, low body temperature, and hormonal irregularities. Severe protein deficiency is fatal.

Excess protein can cause problems as well, such as foundering (foot problems) in horses.

Proteins can often figure in allergies and allergic reactions to certain foods. This is because the structure of each form of protein is slightly different, and some may trigger a response from the immune system while others are perfectly safe. Many people are allergic to the particular proteins found in peanuts, or those in shellfish or other seafoods, for example, but it is extremely unusual for the same person to react to all three.

Pseudogene: Scientists in Japan and at the University of California, San Diego (UCSD) School of Medicine have discovered a novel regulatory role for one pseudogene, showing that it stabilizes a similar

protein-coding gene on another chromosome. When the pseudogene was disabled, protein production from another normal gene was compromised, with resulting abnormal kidneys and bones in laboratory mice. When a functioning pseudogene was re-introduced into mouse embryos, the mice developed normally. This suggests that the many pseudogenes that were previously thought to be defective copies of normal genes may function supplementally to normal genes and contribute to the factors that regulate the gene, thus producing for each normal gene even greater possibilities for expression.

Published in the May 1, 2003 issue of the journal Nature, the study was led by Shinji Hirotsune, M.D., Ph.D., Division of Neuro-Science, Research Center for Genomic Medicine, Saitama Medical School, Japan. Hirotsune collaborated with Anthony Wynshaw-Boris, M.D., Ph.D., UCSD associate professor of pediatrics and medicine, in whose lab he first starting exploring pseudogene function several years ago.

"These findings have implications for treating human disorders," said Hirotsune. "The mice get disease if the pseudogene is interrupted, so theoretically it's possible that a malfunctioning pseudogene may cause human disease, as well."

Retrovirus: Retrovirus transforms normal animal cells into cancer cells, finds UPCI researchers. University of Pittsburg Cancer Institute website SAN DIEGO, April 10, 1997 – A retrovirus that was isolated from mouse melanomas can transform normal mouse melanocytes into melanoma cells, according to research being presented by UPCI scientists on April 16 at the annual meeting of the American Association for Cancer Research. "This is the first evidence that a retrovirus can cause the development of melanoma," said Elieser Gorelik, MD, PhD, professor of pathology at the University of Pittsburgh Medical Center. Melanocytes are the skin's pigment-forming cells that become malignantly transformed into life-threatening melanoma, whose underlying causes remain obscure. The incidence of melanoma is increasing more rapidly than any other cancer.

In their study, the researchers grew mouse melanocytes in the laboratory and exposed them to C-type ecotropic retrovirus derived from a mouse melanoma called B16. Infected cells then changed shape and started behaving like melanoma cells. The melanoma-associated retrovirus belongs to the family of mouse leukemia viruses that has been shown to induce leukemia and lymphoma in mice. These retroviruses do not contain an oncogene, or cancer-causing gene. Thus, the researchers speculate that the melanoma-associated retrovirus inserts itself randomly into a normal melanocyte's genetic material. There, it somehow upsets normal cellular genetic activity, perhaps by triggering the abnormal expression of one of the cell's own oncogenes or by interfering with a cell's tumor suppresser gene, which normally prevents the cell from becoming cancerous. As a result, normal melanocytes might undergo malignant transformation.

The researchers' current goal is to find out which cellular genes the virus is disturbing. "Once we have this information, we can look at human melanomas to determine whether the same cellular genes are also acting incorrectly. These findings can help us understand the molecular mechanisms underlying melanoma in people," remarked Dr. Gorelik.

RNAi: Micro-RNA is variously referred to as RNAi, i.e., interrupt RNA or interference RNA and is a recently discovered nonprotein producing small RNA product. RNAi is transcribed from introns, the portions

of DNA that have been considered genetic garbage data. RNA has traditionally been known to produce only protein products that become the structural proteins and enzymes of the body. Micro-RNA does not produce protein. It functions as a mechanism for affecting the expression of any gene. This particular mechanism of regulating gene expression does not directly regulate production of the RNA product of the gene. It regulates further down the metabolic chain by attaching to free strands of RNA in a complementary fashion and in so doing chemically blocking the translation of that strand of RNA into its intended protein product.

Second messenger: From Wikipedia, the free encyclopedia - In biology, second messengers are low-weight diffusible molecules that are used in signal transduction to relay a signal within a cell. They are synthesized or released by specific enzymatic reactions, usually as a result of an external signal that was received by a transmembrane receptor and pre-processed by other membrane-associated proteins. There are two basic types of second messenger molecules:

Hydrophobic molecules like diacylglycerol and phosphatidylinositols are membrane-associated and diffuse from the plasma membrane into the juxtamembrane space where they can reach and regulate membrane-associated effector proteins.

Hydrophilic molecules are water-soluble molecules, like cAMP, cGMP, and Ca2+, that are located within the cytosol.

These intracellular messengers have some properties in common: They can be synthesized/released and broken down again in specific reactions by enzymes. Some (like Ca2+) can be stored in special organelles and quickly released when needed. Their production/release and destruction can be localized, enabling the cell to limit space and time of signal activity.

Sensory End Organ (SEO): Anything the body is capable of sensing is sensed through the action of a particular type of SEOs. An SEO is the combination of a sensory nerve ending with a specially modified tissue cell that physically deforms in a way that fires that sensory nervewhen stimulated by the sensation the SEO is supposed to register. Each sensation that the mind-body can know is transmitted by its own SEO type, e.g., pressure, stretch, light, smell, heat, etc. If your body can sense something, then a special SEO exists to measure it.

Signal transduction: From Wikipedia, the free encyclopedia - In biology, signal transduction describes the uptake of environmental signals by cells, the intercellular communication between cells in a multicellular organism, and the signal recognition, transmission, and resulting action within a cell. A typical signal transduction pathway consists of the following steps :

5) Biosynthesis of a hormone.
6) Storage and secretion of the hormone.
7) Transport of the hormone to the target cell.
8) Recognition of the hormone by the hormone receptor.
9) Relay and amplification of the signal that leads to defined biochemical reactions within the target cell. The reactions of the target cells can, in turn, cause a signal to the hormone-producing cell that leads to the down-regulation of hormone production.
10) Removal of the hormone.

11) The signal transduction can be altered at any of these steps. The single most important mechanism to do this is phosphorylation.

Tagging of Afferent Stimuli: "Inappropriate tagging of afferent stimuli" is the incorrect a or correlation of meaning and significance to particular afferent signals. Mid brain nuclei moderate the receipt of afferent stimuli from the body. According to Guyton 99% of all stimuli are ignored. That means there is a process by which the ACS evaluates all stimuli and determines which stimuli are relevant to the body's needs. For this to occur, some interpretation of stimuli must occur. Not only are much of the afferent stimuli ignored; but also stimuli of great relevance to safety and survival are parsed out of the flow of stimuli, and routed for immediate response. Such stimuli include perceptions of exposure to harmful chemistry, and strong pain or stretch afferents. *A **"fault in the tagging of afferent stimuli"*** is the inappropriate assignment of meaning to incoming sensory signals. This may range from an allergic response to an innocuous substance, or the perception of pain in circumstances that should not result in pain. The nuclei involved with this process appear to be primarily the amygdala (recently found to be the seat of fear) and basal ganglia; but in some cases the reticular activating system. The concept of tagging of afferent stimuli is this author's interpretation of current readings in neurology.

Transcription factor: From Wikipedia, the free encyclopedia - In genetics, a transcription factor is a protein that binds DNA at a specific promoter or enhancer region, where it regulates transcription. Transcription factors can be selectively activated or deactivated by other proteins, often as the final step in signal transduction.

Translation: The synthesis of protein on a template of messenger RNA; consists of three steps: initiation, elongation, and termination. Making of a polypeptide sequence by translating the genetic code of an mRNA molecule associated with a ribosome.

From Wikipedia, the free encyclopedia: In general terms, translation is the act of transforming (or adapting) a message or signal from one form to another.

In linguistics, translation is putting a message (whether spoken, written, or otherwise recorded) rendered in one language into another (compare with transcription). Machine translation (automatic translation performed by a computer) is regarded as one of the most important goals in natural language processing.

In biology, translation is the process of protein biosynthesis in which messenger RNA is used as a template to produce a specific protein according to the rules specified by the genetic code.

TrIQs – Transformative Information Quanta: TrIQs is to the meaning that defines correction what IFs are to the meaning that defines pathophysiology. TrIQs are the the packets of information that defines into existence something of positive value to the mind-body.

Ubiquitin Enzyme System for Lysing of Proteins: This is simply a system of enzymes that cleaves proteins into smaller pieces. This may be done for at least two reasons. A protein may be broken up in the process of degrading and recycling its parts. Another reason is that within the long chains of amino acids that make up various proteins are chains of amino acids called polypeptides or peptides that

can be separated out from the longer protein chain. Many of these sequences of amino acids are highly active biologically and are the body's own drugstore. An example is angiogenic compounds to cause the development of new blood vessels that is within the chain of amino acids of fibrinogen, a blood protein associated with clotting.

Annu Rev Biochem. 1998;67:425-79. The ubiquitin system.Hershko A, Ciechanover A. Unit of Biochemistry, Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel.

The selective degradation of many short-lived proteins in eukaryotic cells is carried out by the ubiquitin system. In this pathway, proteins are targeted for degradation by covalent ligation to ubiquitin, a highly conserved small protein. Ubiquitin-mediated degradation of regulatory proteins plays important roles in the control of numerous processes, including cell-cycle progression, signal transduction, transcriptional regulation, receptor down-regulation, and endocytosis. The ubiquitin system has been implicated in the immune response, development, and programmed cell death. Abnormalities in ubiquitin-mediated processes have been shown to cause pathological conditions, including malignant transformation. Selectivity of protein degradation is determined mainly at the stage of ligation to ubiquitin. The mode of action of ubiquitin-protein ligation systems and the signals in proteins recognized by these systems are of interest.

Zero-Point Field: Known in physics as the "electromagnetic zero-point field of the quantum vacuum". Termed "zero-point field" for the fluctuations in energy noted at the temperature of absolute zero at which no energy was once believed to exist. The zero-point field is the universal field upon which all other phenomena of the universe are manifested. All that exists is represented as holographic interference patterns of various levels of energetic complexity, quality, and quantity. All that exists, or has existed is postulated to be in a state of perpetual connectivity within this fabric of the universe.

NMT Abbreviations

Symbols

√	check
∨	decreased
∧	increased
>	greater than
<	less than
≤	less than or equal to
<	less than
≥	greater than or equal to
-ve	negative
+ve	positive
± ve	positive or negative

A

A	Amygdala
AAP	Anti-Aging Pathway[2]
ABM	Analog Body Map
ACS	Autonomic Control System
ACSEP	ACS Entrainment Pathway[2]
ACSEPs	ACS Entrainment Patterns – One type of information fault
ACSCONIP	ACS Conscious Integrity Pathway[1]
ACSVBSP	ACS Vitality – Bandwidth – Synchronization Pathway[1]
Adnm	Addendum e.g., AP, IAP, or AGP pathway addendums
AFP	Attractor Field Pathway[1]
AGP	Altered Genome Pathway[2]
Amy	Amygdala
ANHMFB & CSS or ANHM-B	Ancestral nested hierarchy of morphic fields of the body and constituent sub- sets
ANSEP	ANS Expropriation Pathway[2]
AP	Allergy Pathway[C]
APC	Aggravated Physiology Check
ASNP	Addictive Substance Neurochemistry Pathway[2]
ASR	Adaptative Sensory Response
AST	Adverse Seed Thought
ASTP	Adverse Seed Thought Pathway
AWR or Aware	Awareness

B

BCCNP	Used as shorthand for all bioresonant cellular communication, intracelluar nanaomemory and intercellular networking properties.
BDNF	Brain-derived Neurotrophic Factor
BG	Basal Ganglia

Bld	Blood system
BMTSP	Body Map/Template/Set Point Pathway[1]
BN	Bone or Osseous system
BST	Beneficial Seed Thought
BTP	Biological Terrain Pathway[2]
BWCP	Body Weight & Composition Pathway[2]

C

C	Cerebrum
Cb	Cerebellum
Chemo	Chemoreceptor, chemical, or chemotherapy, depending on context of use
CIC	Circulating immune complexes (Soluble forms found in body fluids)
COH	Consciousness of healing
COP	NMT – Cavitation & Osteochondrosis Protocol[1]
CPQQ	Clinical Pathway Qualifying Query[C]
Crd	Spinal cord or autonomous nervous system of the cord
Crx	Corrected
CrxAP	Correction Amplification Pathway
CRF	Corticotrophin Releasing Factor
CRP	Craniosacral Rhythm Pathway[2]
CRPS	Complex Regional Pain Syndrom (priorly RSD)
Crx	Corrected
CrxAP	Correction Amplification Pathway[C]
CSP	Chemosensor Sensizitation Pathway[2]
CSS	Constituent Subsets
CT	Connective tissue
CTP	Consciousness Transformation Pathway[1]
CV	Cardiovascular or cognitive valuation depending on context of use
CV Fault	Cognitive Valuation Fault
CWD	Cell Wall Deficient form of bacteria

D

DAMPs +i/-i	Damage associated molecular patterns +i=proinflammatory, -i= anti inflammatory. Ratio determines net inflammatory vs protective DAMPs +i/-i influence.
DNARP	DNA Repair Pathway[2]
DOCs	Delusion of Consciousness – NMT Advanced level IF type

E

EAP	Exogenous Allergy Pathway[C]
EC	Extracellular
EEI	Exogenous Energetic Intelligence – NMT Advanced level IF type
EnAn	Endogenous Analog
Endo	Endocrine or endogenous – depending on context of use
EndoAP	Endogenous Allergy Pathway

ENT	Enteric nervous system
EP	Elemental Pathway[1]
Exo	Exogenous
ExAn	Exogenous Analog
ExoAP	Exogenous Allergy Pathway
Ext	Extracellular

F

FFACs	Faults in Filtering of afferent stimuli, abstraction of those stimuli into meaning and significance, and conceptualization of this to an image of internal and external reality.
FV	Future Vigilance

G

GEF	Global Evaluation Form
GEFP	Global Emotional Fault Pathway[2]
GIFP	Generic Information Fault Pathway[1]

H

HC	Hippocampus
HM	Heavy Metal
H-MB	Human mind-body
H/M-MB	Human/Microbial mind-body = H/M mind-body
HOC	Halogenic Organic Compounds
HEPP	Holographic Energy Pattern Pathway[1]
HP	Hormone Pathway[2]
Ht	Heart or autonomous nervous system of the heart
HT	Hypothalamus

I

IA	Infectious Agent
IAP	Infectious Agent Pathway[C]
IAPAGP	IAP – AGP Addendum[1]
ICs	Immune complex molecules, generally fixed to body tissues
IC	Intracellular
ID	Identity
II	Innate Intelligence
IGP	Implanted Genome Pathway[2]
InP	Inhibitory Pathways
Int	Intracellular
IS	Immune system
ISIP	Immune System Integrity Pathway[1]
ISRP	Immune System Response Pathway[2]

ITI	Informational Transformation Index (percentage, maximum 100%)

J

K

KTP	Karma Transformation Pathway[1]

L

L	$\log_{10}1000$ value, or Limbic system depending on context of use
LAAPs	lifestyle-associated molecular patterns
Lim	Limbic system
LP or LPGI	Liver, pancreas, and GI tract
Lym	Lymphatic system

M

MBP	Metabolic byproduct of an ingestant
MEO	Motor End Organ
MiFP	Miasm Field Pathway[1]
MF-MF	Morphic field to morphic field (perturbation between morphic units)
MFP	Morphic Field Pathway[C]
Mld/Fu/Ye	Mold, Fungus, Yeast
MPP	Metabolic Process Pathway[2]
MRT	Muscle Response Testing
Myc	Mycoplasm
MRT-D	Muscle Response Testing – Dynamic
MRT-D-a	Muscle Response Testing – Dynamic - acknowledge
MRT-D-c	Muscle Response Testing – Dynamic - correction
MRT-S	Muscle Response Testing – Static
MRT-S-a	Muscle Response Testing – Static - acknowledge
MRT-S-c	Muscle Response Testing – Static - correction

N

NAFIs	Negative Attractor Field Influences – NMT Advanced level IF type
NanB	Nanobacteria
NHMf…	Nested hierarchy of morphic fields of…
NHMFB&CSS or NHMFB, or NHMF-B	Nested hierarchy of morphic fields of the body and constituent subsets.
NMT	NeuroModulation Technique – The Feinberg Method
NPRP	Neurological Process Repatterning Pathway[2]
NS	Nervous system

O

OTC	Other than Conscious
OTCIP	OTC Interference Pathway[1]

P

P	Parasympathetic nervous system
P&A	Present and ancestral
PAAR	Pathophysiologically anchored autonomic regulation
PAET	Pathophysiologically anchored emotional tone
PAETP	Pathophysiologically Anchored Emotional Tone Pathway[2]
PaINs	Pathophysiological Intracellular Nanomemory Patterns
PaINNETs	Pathophysiological Intercellular Nanomemory Networks
PAMPs	pathogens associated molecular patterns
PAP	Physical Agent Pathway[1]
PCT	Physiological Control Templates
PDP	Pernicious Data Pattern
PEP	Patient Efficiency Pathway[C]
PINs	Physiological Intracellular Nanomemory Patterns
PINNETs	Physiological Intercellular Nanomemory Networks
PINP	PIN Pathway[1]
PMP	Pernicious Memory Pattern
PNHMFB	Present Nested Hierarchy of Morphic Fields of the Body
PNHMFB & CSS	Present nested hierarchy of morphic fields of the body and constituent sub-sets
PNS	Parasympathetic Nervous System
PONS	Patterns of non-presence
PPP	Practitioner Power Pathway[C]
PrPC	Prion Protein Cellular
Pr	Practitioner
PSP	Pernicious Synaptic Pattern
Pt	Patient
PWY	Pathway

Q

QD	Quantitative Dissonance

R

R	Reticular activating system
RAS	Reticular Activating System = Reticular formation
ReIFs	Residual IFs
Rep	Reproductive tract
Resp	Respiratory tract
RF	Reticular formation = Reticular Activating System
RFF	Regional Field Fault

S

%Sp	Percentage of present space consciousness
S	Sympathetic nervous system
SAMPs	self-associated molecular patterns
Scn	Scan or Scanned
S. Scn	Session scan
Sens	Sensory
SEO	Sensory End Organ
SMP	Sensory/Motor Pathway[C]
SNS	Sympathetic Nervous System
SOC	Source of creation
SSP	Surrogate Safety Pathway[C]
SSRP	System Sensitization and Reactivity Pathway[1]
Sx	Symptoms
Sympts	Symptoms

T

%T	Percentate of present time consciousness
T	Thalamus
TMRP	Tensegrity Matrix Repatterning Pathway[2]
Tox	toxin
TP	Toxin Pathway[C]
TrIQs	Transformative Information Quanta
TRRP	Tissue Repair and Remodel Pathway[2]
TSB	Total System Burden
TSP	Troubleshooting Pathway[C]
TTP	Tension Transformation Pathway[1]
Tx	Treatment

U

UMF	Unified Morphic Field

V

VLCFAs	Very long chain fatty acids
VOC	Volatile Organic Compounds
VP	Vaccine Pathway[2]
VVMP	Virtual Visceral Manipulation Pathway[2]

WXYZ