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The Concept of Cell Symbiosis Therapy

The Way Out of the Therapeutic Dead End

In July 2003, “the roof of the genetic world caved in” as one researcher commented. What had happened? At an international genetics congress in Melbourne, genetic researchers from all over the world declared the “the end of the beginning” and “the beginning of the new era” in genomics research. Prior to this, the conclusive findings of one of the most ambitious research projects in modern medicine had been published; since the end of the 1980s, an alliance of international research groups had catalogued all the genes of the human nuclei, comprising over 3 billion sequences in total, using computer-assisted automatic sequencing machines. The expectation was that the human genome contained at least 120,000 genes—special sections in DNA with a coded sequence of the DNA building blocks: the four classic nucleic bases adenine (A), guanine (G), cytosine (C) and thymine (T). This assumption was based on the fact that there are over 100,000 proteins in human cells, which require a genetic blueprint for their synthesis outside the nucleus. On top of this, there are the some 20,000 regulating genes that are necessary to guide the genetic expression—the total process of the transcription of genes from messenger RNA transcripts to completed protein. In a parallel research program, genetic researchers sequenced the genes of DNA molecules in the nuclei of murine (mouse) cells. The findings were alarming: the murine nuclear genome had about 24,000 genes, nearly the same as the human nuclear genome of approximately 25,000 genes. Today, genetic researchers speak of only 21,000 human nuclear genes. This is hardly more than the number found in the tiny threadworm used in genetic research, which is only a few millimetres in length with exactly 969 cells. In comparison, humans have roughly 50 billion cells. In contrast, simple plants such as *Arabidopsis thaliana* (*thale cress*) feature proportionally more nuclear genes than human nuclei.

The Nobel prize laureate David Baltimore, one of the most respected leaders of opinion on genetic determinism of human existence at the time, observed in an almost desperate commentary on the preliminary findings of the Human Genome Project published in 2001:

“Unless the human genome contains a lot of genes that are opaque to our computers, it is clear that we do not gain our undoubted complexity over worms and plants by using many more genes. Understanding what does give us our complexity ...remains a challenge for the future” (Baltimore, D. 2001 Our Genome Unveiled. *Nature* 409:814-816).

What Baltimore and the vast majority of his colleagues do not state, after the collapse of the genetic worldview, is the fact that all fundamental theories of modern gene technology focussed medicine on cell energy, cell information and cell-to-cell communication are in need of comprehensive revision.

This author, on the basis of analysis of a great diversity of evolutionary biological research data, postulated (in contrast to the perceptions of contemporary evolutionary researchers) that the human nucleus in actuality has a double genome: an evolutionary biologic legacy, borne from the integration of two primeval akaryotic unicellular micro-

organisms, which simultaneously formed the nucleus,. This postulate of the “hermaphroditic” nature of human cell systems has proven to be most fruitful in therapeutic practice, for the understanding of health and illness, ageing and death.

In the early 1970s, previously unknown procaryonts were brought up from the depths of the ocean where absolutely no sunlight penetrates by remotely operated vehicles (ROV). For a long time, these organisms were classified as a new form of bacteria. Later, however, comprehensive sequence comparisons of the nucleic acids and proteins of these micro-organisms showed fundamental differences to bacteria, so that evolutionary biologists reclassified the 5 kingdoms of life to three domains: Archaea, single-celled organisms lacking nuclei; Bacteria, which also lack nuclei; and Eukarya, organisms *with* nuclei (single-celled protists, single- and multi-celled algae, single- and multi-celled fungi, plants, animals and humans).

The revolutionary realization—that all Eukarya, including humans, owe their existence to a unique act of fusion in the history of evolution, namely the colonization of a voluminous type of Archaea as host/stem cell by single-cellular organisms from the bacterial domain—was decisive. This formation of an intracellular symbiosis from members of two different domains, and the integration of the two inherently incompatible alien genome cultures into a common nucleus, termed “cell symbiosis” by the author, took place 2.1 billion years ago at a very striking point of time in the Earth’s history.

The first of three periods when the earth was completely covered by ice occurred some 2.4 billion years earlier. Geologists have shown that before this Ice Age, the Earth’s atmosphere was free of molecular oxygen (O_2), but dominated by carbon dioxide (CO_2) and methane gas (CH_4). The CO_2 was a result of volcanic activities in the Earth’s crust, whereas the methane gas (CH_4) was produced by the ubiquitous Archaea which convert CO_2 into CH_4 .

After the melting of the global ice sheet, the O_2 concentrations of the atmosphere rose exponentially, while methane concentrations fell exponentially. Cell symbiosis took place at exactly the point in time that these two atmospheric gas curves intersected.

To date, evolutionary biologists still have not answered the question as to how the strictly anaerobic Archaea (as they are still now termed in textbooks) for which minimal amounts of O_2 are highly toxic and their bacterial symbionts which had already developed an O_2 -dependant respiratory chain could encounter each other in the same milieu. The puzzle can be immediately resolved once you know that a certain type of Archaea, under gradually increasing threat to existence by O_2 gas pressure, in the ocean and in the earth’s atmosphere, evolved to facultative aerobics and learned to metabolize CH_4 with the aid of O_2 in a moderately O_2 -enriched milieu, and to obtain electrons and protons for the essential supply of adenosine triphosphate (ATP). This ATP metabolism has been demonstrated by microbiologists in methane-producing archaea and bacteria. In oxygen-free milieus, however, the same archaea can survive by switching ATP production to the oldest metabolic pathway in all organisms – glucose degradation (glycolysis). This action of facultative aerobic archaea was the decisive condition for cell symbiosis with the bacterial symbionts which had already developed an O_2 -dependent respiratory chain.

Until the end of the 1990s, evolution researchers were able to secure and publish important findings about human cell symbiosis: roughly 60% of the genes in the human genome are derived from the genes of stem cells of facultative aerobic archaea (termed as

A-genome by the author). The A-genome is dominant during the cell division cycle from the S-phase (the DNA replication phase). The remaining genes (termed as B-genome by the author) come predominantly from the genes ascribed to the bacterial symbionts in the mutual nucleus. The B-genome is dominant during the phases of differentiated cell activities depending on the respective cell types.

On the basis of the scenario sketched here, the author was able to reinterpret the process of cancer. In the 1920s, the biochemist and later Nobel prize winner, Otto Warburg, first described the phenomenon that cancer cells, despite the presence of O₂, seemed to undertake ATP production mainly via glycolysis in the cytoplasm. This “Warburg Phenomenon” is to this day still controversially discussed as the progeny of these bacterial symbionts, which evolved to the highly complex performers in all cell types – termed mitochondria – and have been shown to have a not inconsiderable O₂ consumption, also in cancer cells.

In 2002, Australian cancer researchers published the findings of a precise measurement of the actual O₂ consumption in the MCF-7 breast cancer cell line, commonly used for such analyses, over a five-day period using the latest oxygen electrodes. At the same time, the researchers criticized measurements of this type as being too short-term. The puzzling result was that the O₂ consumption in these cancer cells was not much below that of many intact differentiated cells and glycolysis not much higher. But the researchers could not identify 65% of the metabolic substrate for the production of electrons and protons needed for O₂-dependent ATP production. (Guppy et al. Contribution to different fuels and metabolic pathways to the total ATP turnover of proliferating MCF-7 breast cancer cells. *Biochem J.* (2002). May 15; 364 (pt1): 309-15).

These findings demonstrate that the “hermaphroditic” nature of the human cell system is to this day still not understood by clinical cancer researchers. In order to resolve this dilemma the author has adopted the well-founded assumption that the cancer process reflects – like a rear view mirror - the development phases of evolution: the functional disturbance on the regulatory level of aerobic O₂ utilization for ATP production by means of the enzymatic oxidase system in mitochondria, forces a protective switching at the regulatory level of facultative aerobic O₂ utilization for ATP production by means of the enzymatic oxygenase system in the cytoplasm. Such an evolutionary-biologically programmed protective switching can for the first time explain the up until now non-identified substrate portion for the O₂-dependent production of electrons and protons in tumor cell colonies and also the Warburg Phenomenon.

Warburg had postulated an either/or situation as he had assumed a structural defect in the cytochrome oxidase complex of the respiratory chain of mitochondria: Either O₂ respiration in the intact differentiated cells in mitochondria, or glycolysis without utilization of O₂ despite the presence of O₂ in the cytoplasm. However, to the postulated model of the double genome a system of doubled O₂ utilization has to be assigned. Under long term chronic cell stress of a diverse nature the cells active in division can regress to the evolutionary biological older intermediate stage of ATP production – both ATP production with O₂ utilization in mitochondria and in the cytoplasm with varying proportions and also ATP production through glycolysis without O₂ utilization in the cytoplasm, the latter proportionally dependent on the state of regression of the forming cancer cells. The B-genome gradually is losing control over the differentiated cells

performance in favour of an increasing dominance of the A-genome as an archaic programmed strategy of survival.

In this context it can also be explained why since the declaration of “War against Cancer” in the USA in 1971 the expectation of survival in the most common solid carcinomas has not been markedly improved. Aggressive therapy with pharmaceutical toxins and ionizing radiation is still based on the objectively false theory of chance genetic mutation as the cause of cancer. This form of therapy can only inhibit or destroy more or less differentiated cells which are found in the regulations phase of the facultative aerobic ATP production. Simultaneously, however, there is still the danger that surviving cancer cells through the production of oxygen and nitrogen radicals associated to the therapy are forced into the strictly anaerobic phase or find themselves already in this phase. These cancer cells, resistant to conventional therapy, metastasize and dictate the fate of cancer patients.

Proof that this is the case is supplied by the recent discovery of tumor stem cells in solid carcinomas, firstly breast cell carcinomas in 2003 and since then in many other cancer cell types. These tumor stem cells are today regarded as the really dangerous cancer cells against whose uninhibited division tendency there are still no treatment methods in conventional cancer therapy (Clarke, M.F., Fuller, M. Stem Cells and Cancer: two Faces of Eve. Cell (2006), 126, 1111. Huntley, B.J.P., Gilliland, D.G. Leukaemia Stem Cells and the Evolution of Cancer Stem-cell Research, Nature Reviews Cancer 2005 Apr. 5:4,311).

In contrast, forms of therapy derived from the concept of cell symbiosis have yielded impressive success in treatment (Lowenfels, D. The Dual Strategy of the Immune Response. A Review of Heinrich Kremer's Research on the Pathophysiology of AIDS, Cancer and Other Chronic Immune Imbalances. Townsend Letter, June 2006, 68-75 (USA). This is true not only for “over-therapied” patients, but also for other tumor sufferers in all stages, patients with cellular and humoral immune deficiencies, inflammatory illnesses, autoimmune diseases, cardiac diseases, atherosclerosis, diabetes (also therapy resistant forms), osteoporosis, burn-out syndrome, CFS, fibromyalgia, neurodegenerative diseases including Alzheimer's disease and other forms of dementia, Parkinson's disease, depression, psychoses and many more symptomatic states and deficiencies in performance which can be classified primarily as mitochondriopathies.

The realization of the author that, in short, contrary to the then-current theories, the respiratory chain of mitochondria operates as a light quantum- (photon-) processor was decisive for the development of recipes for the Cell Symbiosis Therapy® (Kremer, H. The Secret of Cancer: Short-Circuit in the Photon Switch, Townsend Letter. Aug/Sept 2007, pp.121-124).

The multidimensional modulated information generated by this is transferred to the delocalized electrons of the double bonds in the adenine molecule of adenosine triphosphate. This explains why ATP, directly or indirectly ‘activating’ or rather ‘informing’, has to be involved in practically all metabolic processes. Thus, for example, the complex modulated ATP nucleobases ‘inform’ the necessary nucleobase building blocks before every neosynthesis of a DNA or RNA sequence, conveying a coded oscillating energy to them.

The geneticist Baltimore's question quoted above on "what gives us our complexity" can in principal be answered as follows: information is a non-material size that is communicated from a space/time independent matrix of potential information to our 'antennae molecules' like ATP as 'creative information' via quantum dynamic series. So, cells are not simply thermal generators but information transforming media. But not all ATP is the same: ATP information modulated in human mitochondria is certainly more complexly modulated than ATP information modulated in mice. Similarly, ATP modulated under facultative aerobic conditions is certainly less complexly modulated than mitochondrial ATP from intact differentiated cells, or conversely, ATP modulated under glycolytic anaerobic conditions is certainly the least complexly modulated. Cancer researchers speak of the latter as 'dedifferentiated' cells.

Baltimore should have asked himself why, after copying a protein coded DNA sequence to a messenger RNA sequence and after the processing of this sequence, a poly A tail has to be attached to the 'mature' messenger RNA as otherwise protein synthesis would not work. The instructions for this process cannot be found in the genes. So, how do the cells know what they have to do? The answer is that the 270-odd adenine molecules of the poly A tail, which originate from modulated ATP, are resonance coupled to the non-material information field. If you imagine these poly A tails to be variable light quantum modulated adenine elements, then this results in a coded light quantum profile and anyone can understand the total organism as a highly complex 'informed' light quantum field. (For a quantum dynamic model concept see the publication of the Nobel price laureate David Bohm (1990) *A New Theory of the Relationship of Mind and Matter*. Philosophical Psychology: Vol. 3 N. 2.271-86).

This is why in Cell Symbiosis Therapy[®], natural substances are deployed which absorb and emit photons above certain wavelengths in the near UV range and in the visible spectrum. The therapeutic potential of such natural substances has been confirmed in recent research publications (Middlestone, E., Jr, et al (2000) *The Effects of Plant Flavonoids on Mammalian Cells: Implications for Inflammation, Heart Disease, and Cancer*. *Pharmacol. Res.* 52,673-751; Aggarwal B.B. et al. (2003) *Anticancer Potential of Curcumin: Preclinical and Clinical Studies*. *Anticancer Res.* Jan-Feb: 23(1A):363-98).

The concept of Cell Symbiosis Therapy[®] has been supported particularly by the fascinating new findings of experimental and clinical research into ageing processes. In conjunction with the discovery of the new enzyme class, sirtuin (silent information regulators) that mute certain genes and molecules by removing an activating molecular group – astonishing effects have been detected in all eukarya. Thus, for instance, the sirtuin enzymes of mice which are particularly predisposed for cancer and diabetes, are activated by particular natural substances from the large family of vegetable polyphenols. In comparison to normal control mice, the predisposed mice lived considerably longer and developed strikingly fewer cancer, diabetic or neurodegenerative diseases.

These research data prove that there is a superordinated regulatory system, also in humans, as sirtuin enzymes have also been detected in the nuclei, the cytoplasm and the mitochondria of humans. As a result, photon-absorbing vegetable polyphenols activate the O₂-dependent mitochondrial activity via multiple networked regulatory cycles. The long held scientific bias that the ageing process and the typical diseases connected to it, like cancer, diabetes, cardiovascular diseases and neurodegenerative disease types are unavoidable natural deterioration processes can now be challenged (Wood, J.G. et al. (2004), *Sirtuin Activators Mimic Caloric Restriction and Delay Aging in Metazoans*).

Nature, 430, 686-89. Porcu, M., Chiarugi, A. (2005) Sirtuin interacting Drugs: From Cell Death to Lifespan Extension. Trends in Pharmacological Sciences, 26 N. Sinclair, D.A. (2005) Towards a Unified Theory of Caloric Restriction and Longevity Regulation, Mechanisms of Aging and Development, 126:9,987.

Structurally analogous, photon-modulating vegetable polyphenols (free from chemical residues, heavy metals and contaminants) are an essential part of dispensing of the Cell Symbiosis Therapy® both in combined and special galenic preparation forms. Polyphenols cannot be synthesised by mammals, which is why for humans they have the characteristics of vitamins. They are essential for intact mitochondrial function and for this reason vegetable polyphenols in an appropriate combination with other natural products are indicated for the prevention and treatment of serious defects in mitochondrial performance, systemic diseases and premature ageing. They are prescribed as nutritional supplements therapeutically by doctors and alternative practitioners in an individual preventative or treatment concept.

Note:

Information about certified education seminars on the principles and practice of Cell Symbiosis Therapy® for doctors and therapists, about laboratory documented treatment reports and participation in medically supervised research in a multi-centre practice study on applied Cell Symbiosis Therapy® can be found at www.cellsymbiosis-netzwerk.de.

Recommended Literature:

Heinrich Kremer MD: The Silent Revolution in Cancer- and AIDS –Medicine, 510 pages, 7 illustrations and 17 plates.
To be released at www.Xlibris.com; Fall 2008

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