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ALTERNATIVE VIEW ON THE PROCESSES OF METABOLISM OF RESEARCH HIS OPTIONS IN WARM-BLOODED SPECIES.

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Inasmuch as the global integration of all the phenomena of nature, the authors, as in the earlier their writings use the general approach to the study of metabolism as holistic phenomena. The purpose of this work was the study of the phenomenon of mutual connectedness between the physical and chemical parameters of metabolism. In addition, their exact correlation of fundamental physic-chemical constants at the level of the average and marginal values for justification of an alternative perspective on the nature of the metabolism, including parameters and mechanism of combustion of glucose, in warm-blooded species.

Most likely, that in the specific regulation of metabolic processes warm-blooded species special role played by the subgroup of elements of iron-Palladium and Iridium and hydrogen peroxide. The latter was discovered by the research ability of chemical elements, messages from piling up in the biosphere, due to the biological significance of $\delta_{b/s}$. Numeric value of $\delta_{b/s}$ it is the ratio of the mass of the contents of chemical elements in biosphere to his massive fortune in the earth crust. As expected, the most important were carbon, nitrogen, hydrogen, and oxygen, the four basic elements of the structure of any organic compound with coefficients $\delta_{b/s}$: 38,462: 782,609, 157,895, 10,500 and 1,490, respectively. But the most surprising result was that for the Palladium and iron $\delta_{b/s}$ = 38,462 38,462, and 3.66 and 25,81 multiple exceeding the respective of the factor for hydrogen and oxygen. Given the iridium anomaly (excess concentrations of Iridium is relatively natural content in the Earth's crust in a layer of soil from the horizon of the extinction of the dinosaurs 65 million years ago), the resulting outcome is quite interesting for future research in the field of biology and medicine. If the cell bodies of the dinosaurs, selectively focused Palladium and Iridium for regulating metabolic processes, and with the mass died out enriched them that soil layer, then what is the role of these elements for modern warm-blooded species.

Marginal and weighted average of physic-chemical parameters of the processes of metabolism warm-blooded species closely interrelated and correlated well with the basic fundamental physical and chemical constants.

In particular, the specific energy of $\Delta G_{\neq}$ break chemical bonds, specific for carbohydrates, proteins and fats as the main source of compounds metabolism, that is, on average, on each link corresponds to the heat of reaction is complete burning coal to carbon dioxide: $C_{(S)} + O_{2(g)} = CO_{2(g)} + (\Delta G_{\neq} = 395, 458$ kJ/mol). This value is shown as a fundamental constant in many other physic-chemical processes and, also the most accurate mechanism to maintain optimal body temperature warm-blooded.

The value of internal average temperature of the body and the corresponding values of the free heat of metabolism for different kinds of warm-blooded separates

lower bound t_{min} = 26,7–29,3 °c and upper limit of $t_{max} \leq 46$°C. Border separating monotremes (echidna, platypus), for optimum heat of metabolism is ΔQ_t = 127,6425 kcal/mol, and the t_{body} = 30,0−31,0°C. Top same border locked extinct species (pholidota dinosaurs) respectively with ΔQ_t = 180,153 kcal/mol, respectively, and t_{body} = ~ 43 °C.

The man and the primates are exactly in the middle of the temperature interval warm-blooded t_{body} = 36,0–37,0 °C, and free internal heat of metabolism ΔQ_t=152,9196 kcal/mole and the equidistant from dangerous upper and lower limits that provides unique value t_{body}= 36,52422 °C.

Limit the amount of deposit (Partial fate) CH_2-groups in the formation of the full combustion of organic compounds of different nature (starch, primary alcohols, alkanes and alkenes) to the CO_2 and H_2O by using standard conditions is $\Delta H_{\neq}$ = 648,2868 kJ/mol. This value is very close to the warmth of optimum combustion of glucose, $\Delta H_{\neq}$=640,2431 kJ/mol (ΔQ_t=152,9196 kcal/mol) that matches the mechanism accurate maintain optimal body temperature at $t_{body} = \Delta Q_t / c_{p(\mathrm{H2O})}$ = 36,5 °C at which water has the smallest share of heat capacity.

The reaction of the complete oxidation of glucose to carbon dioxide and water (the analogy of processes in the cells of animals and humans), flows, as known, with release of ΔG_m=-2879 kJ/mol (-686 kcal/mol) free warmth, and reverse. The reaction of the synthesis of glucose from carbon dioxide and water (the analogy of plant cells) from absorption of the same amount of heat $C_6H_{12}O_6 \leftrightarrow 6CO_2+6H_2O \pm 686$ kcal/mol.

The release at the same time such quantity of heat, that considerably exceeds the value of the internal heat of warm-blooded ΔQ_t necessary for support in the body of the warm-blooded optimal temperature t_{body} = 36,5 °C, fundamentally impossible. So will the real mechanism that underlies the warm-blooded metabolism, this incomplete burning of glucose from chip away of carbon mono oxide: $C_6H_{12}O_6 + ½ \cdot O_2 = C_5H_{10}O_5 \cdot ½H_2O + CO + ½ \cdot H_2O$.

Total thermal effect burning glucose under this scheme can be evaluated taking into account the reaction of incomplete burning of the coal to the Mono oxide of carbon (carbon monoxide): $C_{(S)} + O_{2(g)} = CO_{(g)} + (\Delta G_m$=-137,200 kJ/mol), namely: $\Delta H_{\neq} = 5\ \Delta G_m + ½\ (c_{p(\mathrm{H2O})} M_{\mathrm{H2O}}) = 5\ (-137{,}200) + ½\ (74{,}426) = 648{,}2868$ kJ/mol

Therefore, the optimal energy balance provided by burning glucose in the cell not to carbon dioxide, carbon oxide and Mono, which is a mild oxidation due to antioxidant further binds free radicals in secure compounds and counteracts their branching, complete oxidation to CO_2 occurs only when leaving on the surface of the lung. The proposed scheme the appropriate process.