Vetrov Anatoly Nikolaevich, author of the unique cognitive modeling technology
www.vetrovan.(spb.)ru
The RF, Saint-Petersburg city

THE APPLIED DEVELOPMENTS DIRECTION "COGNITIVE MODELING IN THE APPLIED TECHNICAL SCIENCES AND TECHNOLOGIES" ("NNT") OF "THE SRI "SFA CMT" OF "THE RA(N)S" NAMED AFTER V.N. VENIAMINOV" (PART 2)

The developed "The applied developments direction "Cognitive modeling in the applied technical sciences and technologies"" ("NNT") treats to the applied developments divisions of "The scientific-research institute "System and financial analysis based on cognitive modeling technology" of "The RA(N)S" named after V.N. Veniaminov" ("The SRI "SFA CMT" of "The RA(N)S" named after V.N. Veniaminov" – The SRI) as the first SRI in structure of "The SIO "Academy of cognitive natural sciences"" ("The SIO "ACNS""), an additional component of science and education system of the modern country for creation, distribution and use of the main and derivative scientific results of the cognitive modeling technology (CMT) (www.vetrovan.(spb.)ru) [see the applied developments directions and scientific-researches laboratories of The SRI]: 1) it is executed by the principle of "administrative-economy submission"; 2) works in several main directions, which allow to provide development of the applied main and derivative scientific results (my second report on SRW from 2006-2008(9) y. was submitted to "The SPbSETU "LETI"" and The Government of The RF for the translation, carrying out of int. action and receiving of "The Nobel Prize"); 3) includes several various main divisions: III. "The scientific-researches laboratory "The research of applications of the noo-sphere knowledge and technologies: the (heavy) mechanical engineering, instrument making, polygraphy, reprography and foto-cinema-technics, easy and food-processing industry, transport, architecture, construction and other branches"" ("SNZT") (*) [***the applied developments in area "Applications of mechanical engineering"*** – usage of theory of machine engineering science and details of machines, usage of theory of mechanical engineering materials, usage of theory of technology of mechanical engineering, usage of theory of foundry production, usage of theory of forge-stamp manufacture, usage of theory of assembly manufacture, usage of theory of cutting of materials, usage of theory of electrical-physical-chemistry processing, usage of theory of thermal and strengthening powder materials, usage of theory of nonmetallic products manufacture, usage of theory of machine-tool construction, usage of theory of robotics, usage of theory of tool manufacture, usage of theory of mining mechanical engineering, usage of theory of metallurgical mechanical engineering, usage of theory of reactor construction, usage of theory of turbine construction, usage of theory of special power installations, usage of theory of chemical and oil mechanical engineering, usage of theory of locomotive construction and carriage building, usage of theory of engine construction, usage of theory of motor car industry, usage of theory of shipbuilding, usage of theory of aircraft construction, usage of theory of space technics and rocket production, usage of theory of hoisting-transport mechanical engineering, usage of theory of building and road mechanical engineering, usage of theory of municipal mechanical engineering, usage of theory of tractor and agricultural mechanical engineering, usage of theory of mechanical engineering for light industry, usage of theory of polygraphical mechanical engineering, usage of theory of mechanical engineering for food-processing industry, usage of theory of mechanical engineering for trade and public catering, usage of theory of household machines and devices, usage of theory of manufacture of weapon, usage of theory of other branches of mechanical engineering, usage of theory of cognitive modeling technology in applications of mechanical engineering;

the applied developments in area "Applications of instrument making" – usage of theory of theoretical bases of instrument making, usage of theory of general technology of production and equipment in instrument making, usage of theory of designing and constructing of devices, usage of theory of devices for measurement of electrical and magnetical sizes, usage of theory of devices for measurement of mechanical sizes, usage of theory of devices for measurement of time and frequency, usage of theory of devices for measurement of structure and physical-chemical properties of substances and materials, usage of theory of devices for thermal-technical and thermal-physical measurements, usage of theory of devices for measurement of acoustical sizes and characteristics, usage of theory of devices for measurement of optical and lighting-technical sizes and characteristics, usage of theory of devices for measurement of ionization radiations, usage of theory of devices of not destroying control of products and materials, usage of theory of general structural elements, units of measuring devices and systems, organizer means, usage of theory of cognitive modeling technology in applications of instrument making;

the applied developments in area "Applications of polygraphy, reprography and photo-cinema-technics" – usage of theory of polygraphy, reprography and photo-cinema-technics, usage of theory of cognitive modeling technology in applications of polygraphy, reprography and photo-cinema-technics;

the applied developments in area "Applications of light industry" | – usage of theory of textile industry, usage of theory of knitted industry, usage of theory of clothing industry, usage of theory of tanning industry, usage of theory of fur industry, usage of theory of industry of artificial leather and film materials, usage of theory of shoe industry, usage of theory of leather-haberdashery industry, usage of theory of bristle-brush manufacture, usage of theory of accessories manufacture, usage of theory of cognitive modeling technology in applications of light industry;

the applied developments in area "Applications of food-processing industry" – usage of theory of food raw material and auxiliary materials, usage of theory of processes and devices of food manufactures, usage of theory of elevator and flour-grinding industry, usage of theory of mixed fodder industry, usage of theory of baking and macaroni industry, usage of theory of confectionery industry, usage of theory of sugar industry, usage of theory of starched industry, usage of theory of barmy industry, usage of theory of brewing industry, usage of theory of spirituous industry, usage of theory of high-alcohol drinks industry, usage of theory of vinous industry, usage of theory of soft drinks industry, usage of theory of canning, vegetable drying and food-concentrate industry, usage of theory of food-gustatory industry, usage of theory of tobacco industry, usage of theory of meat and bird fancier processing industry, usage of theory of manufacture of eggs and egg products, usage of theory of dairy industry, usage of theory of creamery industry, usage of theory of cognitive modeling technology in applications of food-processing industry;

the applied developments in area "Applications of architecture and construction" (*) – usage of theory of engineering-theoretical bases of architecture and construction, usage of theory of building materials and products, usage of theory of building constructions, usage of theory of technology of construction-installation works, usage of theory of technology of production of building materials and products, machines, mechanisms, equipment and tool, used in construction and industry of building materials, usage of theory of engineering researches in construction, usage of theory of architectural-building designing, usage of theory of regional lay-out, usage of theory of town-planning, usage of theory of objects of construction and engineering support of construction objects, usage of theory of tendencies, dependences and laws in architecture and construction, usage of theory of cognitive modeling technology with dynamic cloning, verification and subverification, usage of theory of iterative cycle and technique of use of cognitive modeling technology, usage of theory of parametrical cognitive models block for architecture and construction (buildings and constructions based on cognitive circle, cognitive disc, cognitive cylinder, cognitive cone and cognitive sphere), usage of theory of ways of representation of structure of cognitive models and difficult problem environments: formal classical of the 0^{th} generation (logical and production models), nonformal classical of the 0^{th} generation (semantic network, frame network and ontology), formal new of the 0^{th} generation (calculus of theory of sets and corteges on domains and innovative calculus of theory of sets and graphs), nonformal new of the 0^{th} generation (multilevel structural scheme and multilevel encapsulated pyramids combining theory of graphs and theory of sets), flat of the 1^{st} generation (cognitive circle and cognitive disc), volumetric of the 1^{st} generation (cognitive cylinder, cognitive cone and cognitive sphere), flat and volumetric of the 2^{nd} generation (one-, two-, three-, four-, five- and more cognitive circle, cognitive disc, cognitive cylinder, cognitive cone and cognitive sphere), hybrid of the 3^{rd} generation (combinations of the existing cognitive models), usage of theory of algorithm of formation of cognitive models structure, usage of theory of technique of research of cognitive models parameters, usage of theory of algorithm of analysis of a posteriori results of research, usage of theory of adaptive automation means of architecture and construction (automation means of formation and research based on cognitive circle, cognitive disc, cognitive cylinder, cognitive cone, cognitive sphere, one-, two-, three-, four-, five- and more cognitive sphere and others), usage of theory of statistical substantiation of practical use of received results, usage of theory of factors influencing to efficiency of construction of buildings and constructions, usage of theory of organization and plan of carrying out of experiment, usage of theory of research of parameters of parametrical cognitive models block, usage of theory of preliminary processing of a posteriori results of diagnostics, usage of theory of choice of statistical analysis methods of generated data sets, usage of theory of analysis of productivity dynamics of construction, usage of theory of dispersion, regression, discriminant, cluster analysis, multivariate scale, factor analysis, bibliographical lists;

the applied developments in area "Applications of transport" – usage of theory of railway transport, usage of theory of motor transport, usage of theory of sea transport, usage of theory of air transport, usage of theory of pipeline transport, usage of theory of industrial transport, usage of theory of municipal transport, usage of theory of interaction of different types of transport, usage of theory of mixed transportations, usage of theory of other types of transport, usage of theory of cognitive modeling technology in applications of transport].

IV. “The scientific-researches laboratory "The research of applications of the scientific problems of agro-industrial complex"” (“SNPAK”) [***the applied developments in area “Applications of agriculture and hunting economy”*** – usage of theory of agricultural biology, usage of theory of soil science, usage of theory of agriculture, usage of theory of agricultural land improvement, usage of theory of agro-chemistry, usage of theory of plant-growing, usage of theory of agricultural plants protection, usage of theory of animal industry, usage of theory of veterinary science, usage of theory of preparation of production of agriculture, usage of theory of hunting and hunting economy, usage of theory of forestry economy, usage of theory of economics and organization of agriculture, usage of theory of mechanization and electrification of agriculture, usage of theory of cognitive modeling technology in applications of agriculture and hunting economy; ***the applied developments in area “Applications of fish economy and aqua-culture”*** – usage of theory of biological resources of The World ocean and internal reservoirs, usage of theory of aqua-culture, usage of theory of fish breeding, usage of theory of industrial fishery, usage of theory of technical operation of fleet of fishing industry, usage of theory of technical operation of fish seaports, usage of theory of technology of processing of raw material of water origin, usage of theory of equipment for fish-processing industry, usage of theory of cognitive modeling technology in applications of fish economy and aqua-culture; ***the applied developments in area “Applications of water economy”*** – usage of theory of scientific bases of water economy, usage of theory of water-economy construction, usage of theory of hydraulical-technical and hydro-ameliorative constructions, usage of theory of irrigating and water supply, usage of theory of irrigating systems, usage of theory of drying systems, usage of theory of sewage waters, their clearing and use, usage of theory of quality of water, usage of theory of test, measurement and control in water economy, usage of theory of mechanization and automation in water economy, usage of theory of complex use of water resources, usage of theory of cognitive modeling technology in applications of water economy].

The applied developments directions and scientific-researches laboratories of The SRI allow to develop the main and derivative scientific results of CMT.