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THE FEATURES OF THE COGNITIVE DISC FOR THE TASKS OF THE SYSTEM AND FINANCIAL ANALYSIS

At the modern stage of development of the civilization the globalization is a common system phenomenon in the post-industrial (information) society: in technics – it manifests in the view of the intensification of growth of the sources and consumers of information of the first (in the view of signals) and second sort (in the view of data) in the environment of creating and using of the information resources, products and services; in economics – it manifests in the view of the global economic integration, transnationalization and internationalization of activity of the directly vertically and horizontally integrated economy subjects of different organizational-legal forms in the economic system of the country.

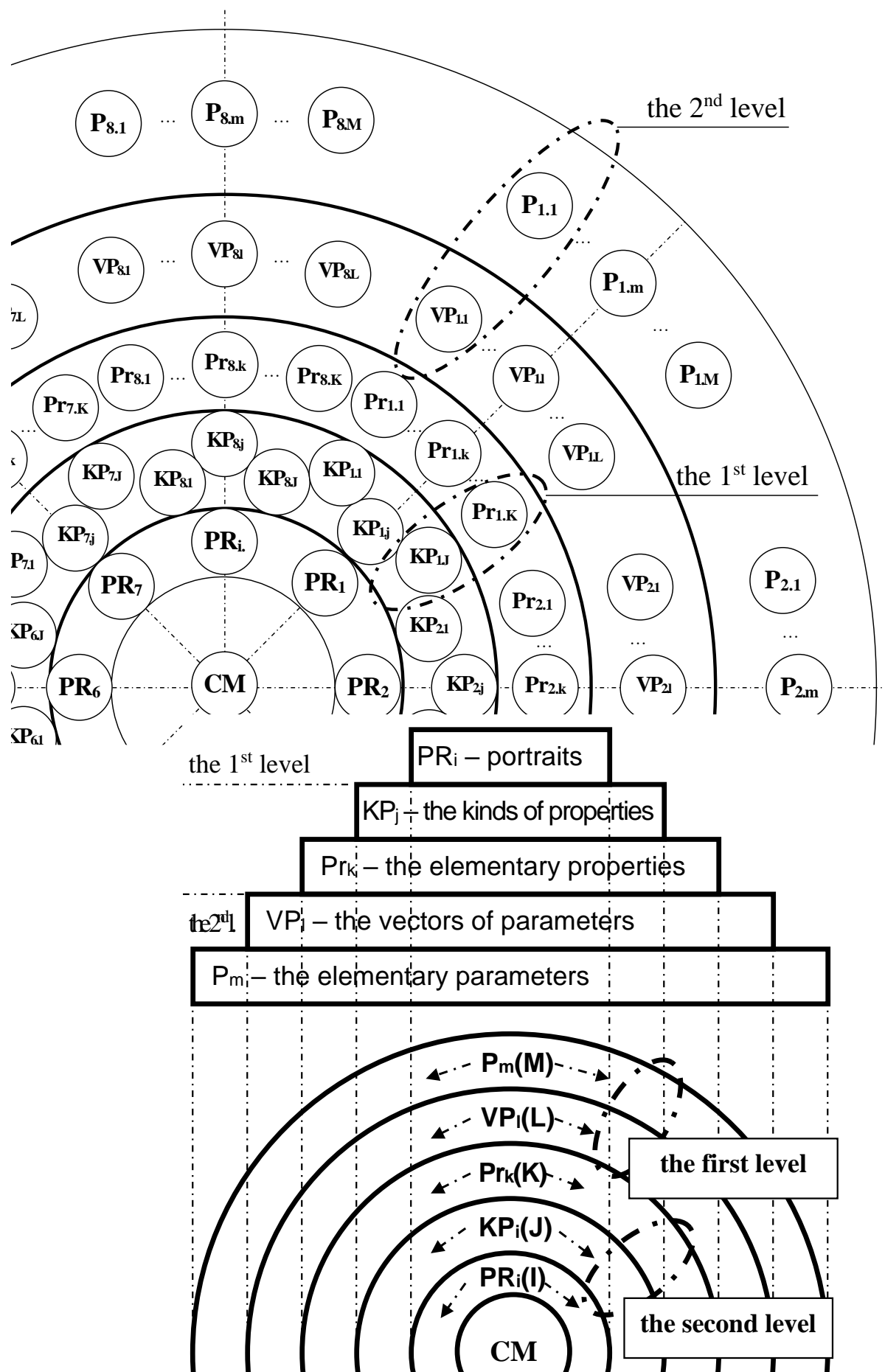
The cognitive model has a large quantity of the ways of representation: “the cognitive circle”, “the cognitive ring”, “the cognitive cylinder” and “the cognitive sphere”, which are related with the problem spheres of their use.

The ways of presentation of the cognitive model are related with the problem environments of practical use of the cognitive modeling technology: the fundamental sciences – technics and economics; the applied sciences – psychophysiology of sensory systems, molecular biology and physical chemistry.

The cognitive disk and the cognitive multilevel disk act as the main flat ways of presentation of the cognitive model as the means of the system analysis of the difficult objects, processes and phenomena, along with as the volumetric ways of representation of the cognitive model: “the cognitive cone”, “the cognitive cylinder” and “the cognitive sphere”.

There are distinguished the several ways of analytical formal description of the cognitive model in the view of the cognitive disk or ring (the flat presentation): the calculus using the corteges on domains (the frame model) and the calculus using the theory of graph and the theory of sets (the graph model).

The presentation of the cognitive model in the view of the cognitive disk (circle) – the (re)constructed on the plane (in width and depth) repertoire of parameters, which includes a circular set of portraits (PR_v^I) with a certain scientific justification (SJ_v^I) and the mutually embedded disks at the two disk levels: a set of the kinds of properties (KP_v^J) and a set of properties (Pr_v^K), a set of the vectors of parameters (VP_v^L) and a set of elementary parameters (P_v^M).



Pic. 1. The structure of the cognitive disk and the multilevel cognitive ring

The structure of the cognitive disk and the cognitive multilevel disk includes the portraits, the kinds of properties, the properties, the vectors of parameters and the parameters.

The cognitive model (CM) has the portraits ($PR_{u,i} |_{u,i=\overline{1,8}}$) with the power of set – I and the integral power of set: for the analog system ($Z = u + i$), for the electronic information system it is calculated ($Z = u \cdot i$).

The portrait of the cognitive model ($PR_{u,i} |_{u,i=\overline{1,8}}$) includes directly the kinds of properties ($KP_{u,i,j} |_{u,i,j=\overline{1,8}}$) with the given power of set J and the integral power of set: for the analog system ($Z = u + i + j$), for an electronic information system it is calculated ($Z = u \cdot i \cdot j$).

The kinds of properties ($KP_{u,i,j} |_{u,i,j=\overline{1,8}}$) includes directly the elementary properties ($Pr_{u,i,j,k} |_{u,i,j,k=\overline{1,8}}$) with the given power of set K and the integral power of set: for the analog system ($Z = u + i + j + k$), for the electronic information system it is calculated ($Z = u \cdot i \cdot j \cdot k$).

The elementary property ($Pr_{u,i,j,k} |_{u,i,j,k=\overline{1,8}}$) includes directly the vectors of parameters ($VP_{u,i,j,k,l} |_{u,i,j,k,l=\overline{1,8}}$) with the given power of set L and the integral power of set: for the analog system ($Z = u + i + j + k$), for the electronic information system it is calculated ($Z = u \cdot i \cdot j \cdot k$).

The vector of parameters ($VP_{u,i,j,k,l} |_{u,i,j,k,l=\overline{1,8}}$) includes directly the elementary parameters ($P_{u,i,j,k,l,m} |_{u,i,j,k,l,m=\overline{1,8}}$) with the given power of set M and the integral power of set: for the analog system ($Z = u + i + j + k + m$), for the electronic information system it is calculated ($Z = u \cdot i \cdot j \cdot k \cdot m$).

There are a large quantity of the possible directions of practical use of the cognitive modeling technology for the system and financial analysis of the difficult objects, processes or phenomena: for the system analysis of the information-educational environment – allows to carry out the system analysis of the information-educational environment and to increase the efficiency of functioning of the automated training system (the new navigators for the modern means of training Joke_D and others); for the financial analysis of the functioning of the organization – allows to carry out the financial analysis of the efficiency of functioning of the organization based on the data of the primary registers of accounting (the pools of document).