

SYNERGETICS IN GAMES

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What for do we spend our time on games? We do it for relaxation or make a rest. Besides, we want to keep up or to improve our skill, to compare it with partner's one and with our own previous achievements.

Honest games, based on mathematical probabilities, suchlike roulette, solitaire, throwing of a coin etc., - don't answer these interests. They only allow to "try your fortune". Logical games consist in reaching an aim beginning from the certain start position and taking into consideration opportunities and restrictions, determined by the rules. They must ensure objective estimation of partners' actions during the party or on the completion of it. Otherwise, adopted decisions may impede and even exclude attaining of the aim with objectively correct actions.

Really, reaching of a goal by a shortest path (permitted by rules) becomes possible because of strict correlation of influence on a lots of factors. However, expenses on correlation itself will increase expenditures on the way to the win. It will take place even in the case when the next step is not directed straight to the aim. Sometimes these expenses justify themselves on wins, but still far from always. The level of estimation's objectivity is particularly essential, when writing computer versions of logical games. The most objective are estimations based on exhaustive informations on opportunities, restrictions and potentialities of all partners at the every stage of the game. estimations, based on analogies and all

the more on intuition are less objective. But it is that take place in amateur and even in professional games.

We offer the reference system which allows to compare any objects (states) with each other in the bounds of some set, and to form an estimate of changes in degrees' of freedom number (opportunities), measures of stabilization (restrictions) and potentialities after transitions within the limits of this set. Using these estimations, we've compared transitions within the limits of number of sets of different complication and capacity: triangles, Bravais lattices, classes of symmetry, all the regular systems of points from plane and Fedorov groups of symmetry and also phase states of ice.

It may seem unexpected, but such a synergetical method is quite applicable to chess and other logical games. In the situations like these one order turns into other by the certain rules. Deviations from the initial order is accompanied with its destroying through increasing of degrees' of freedom number; creation of new order causes its decreasing. There is no initial order in a game "noughts and crosses", and the game consist in creation of new one with decreasing of degrees' of freedom number.

Comparison the offered sheme of estimations with generally accepted ones confirmed its universality, synergetical richness of content, objectivity and fine pictoriality.

We offer You to be convinced of it with the demo-versions of following computer programs: commentator of chess games and plaing program "noughts and crosses" on "3*3" board. We wish You success.

The principals of estimations and algorithm for program-commentator are designed and realized by Dmitry V. Girenko, Kemal Kadyev and Vasily V.Burov. Program "noughts and crosses" is written by the schooll-boys, members of

Moscow child club "Computer". The leader of elaborations is bachelor of physics and mathematics Dmitry M. Mazo. Design is of artist Andrey Kryukov.

Now we develop the playing and training chess programs and computer versions of other logical games.