TOWARD A MATHEMATICAL THEORY OF CREATIVITY

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The methodology of systems design sets out a number of techniques for exploration, stimulation and orientation of (individual and group) creativity. Some of those techniques are studied using mathematical tools. In connection with these aspects, the paper shows forth some mathematical models of usual techniques in exploration, stimulation and orientation of creativity (mathematics for heuristics, models for brainstorming, models for Delphic surveys,) etc.

The second part of the paper is devoted to the description of creative-inventive systems and to the formalization of the *newsiness* and the *process of innovation emergence.* By analogy with the mathematical theory of learning, a framework for a (possible) mathematical theory of creativity is proposed. The model uses the theory of discrete controlled random processes.