A blog on
Theories of Problem Solving
for Innovation and Invention

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I. Introduction to this Blog

Theories of problem solving have been with us since the beginning of solving problems using our brains. They have not always been advertised in neon lights to make us aware of them; nonetheless they have been present in our subconscious. Furthermore we have always been solving problems. Time spent solving problems can range from an intellectual hobby like chess, or a tedious interruption like untying a knot, to a professional occupation like writing computer code for quantum qubit processors. The word theory spans the intellectual range of simple algorithmic heuristics such as 'knit one purl two', in making a thread pattern on a background cloth, to deconvolution of electron scattering spectra.

Then there is another level of intellectual challenge regarding problem solving. That is in developing models of how the brain does it. The scope of this blog covers the development and analysis of heuristics used in all manner of problem solving including that of an individual's brainstorming to a team's challenge to solve a vehicle safety problem by tomorrow!

My industrial experience with the latter has brought me to the appreciation of what can be accomplished by an individual or a team working only from memory; i.e., with out crutches such as computers, cell phones, and handbooks. It begins with an assigned problem, then a search for information to compliment a technologist's short-term and long-term memory, and finishes with a cloistered, intense, brainstorming event. Multiple solution concepts (non-engineered ideas) are found without filtering.

There is a down side in this experience. As the cloistered team progresses in its intense discussion, fresh ideas begin to wane and the leader is found wanting in ways to rejuvenate its enthusiasm. This was the beginning of my interest in learning, developing, and teaching structured problem solving methodology. This blog is designed for problem solvers to share ideas in heuristics and thinking models for problem solving.

> A glossary of problem solving terminology is available on this blog. It is living document meant to accommodate new and missing terms. Please submit yours.