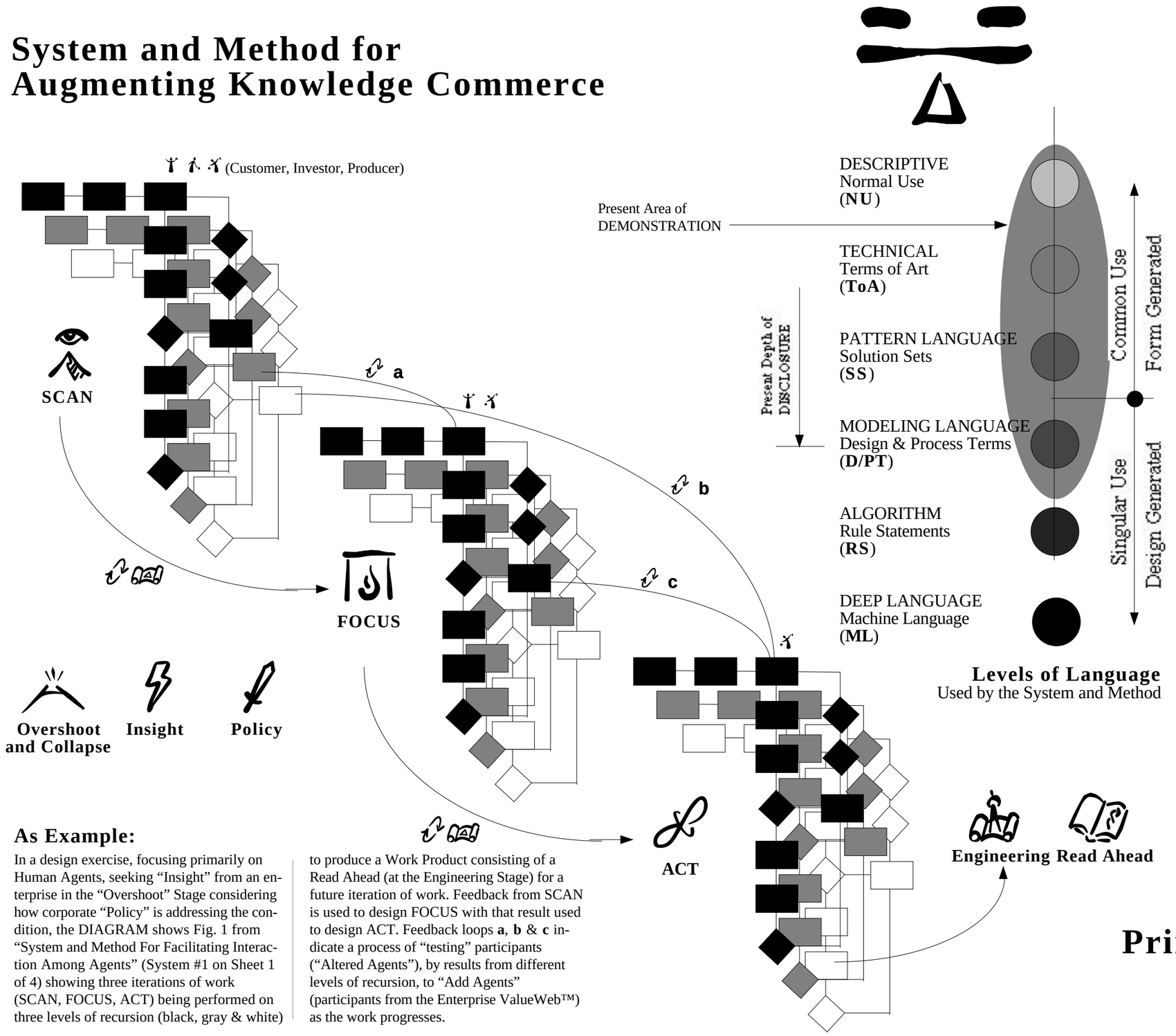
Table 2

System and Method for Augmenting Knowledge Commerce



As Example:

In a design exercise, focusing primarily on Human Agents, seeking "Insight" from an enterprise in the "Overshoot" Stage considering how corporate "Policy" is addressing the condition, the DIAGRAM shows Fig. 1 from "System and Method For Facilitating Interaction Among Agents" (System #1 on Sheet 1 of 4) showing three iterations of work (SCAN, FOCUS, ACT) being performed on three levels of recursion (black, gray & white) to produce a Work Product consisting of a Read Ahead (at the Engineering Stage) for a future iteration of work. Feedback from SCAN is used to design FOCUS with that result used to design ACT. Feedback loops **a**, **b** & **c** indicate a process of "testing" participants ("Altered Agents"), by results from different levels of recursion, to "Add Agents" (participants from the Enterprise ValueWeb™) as the work progresses.

Rule of Recursion

All elements that define viability, on one level of recursion, of a system must occur on all levels of recursion of the system.

For a *complex* agent to be viable or for a simple agent to be effective in a complex environment, (of agents) the Agent must be "acted upon" (and/or be acting) at a minimum of three Levels of Recursion ("above," at the level of the Agent and a level "below" the Agent).

Actions that on a single Level of Recursion that are additive, on multiple Levels of Recursion will usually be multipliers. *leverage* is accomplished by employing more than one Level of Recursion (thus, dealing with the Requisite Variety Rule: Variety must equal Variety). Generally, greater complexity can be dealt with or accomplished by employing Recursion than by action on one level of a system (given the same number of actions and level of resources).

Emergence happens "between" (out of) Levels of Recursion.

Rule of Iteration

All things being equal, a single iteration of work, in isolation, is additive between steps while multiple iterations of work (in a continuous process) multiplies results.

Work iterations must happen in rapid succession and within time compression for maximum effect.

Rule of Feedback

Feedback is the message from a sensor of the system to the controller of the system of the difference between performance and expectation. Positive feedback amplifies; negative feedback attenuates.

Feedback on feedback and/or feedback between Levels of Recursion is feedback of a *complex* kind and is required for the governance (self correction) of complex and emergent systems.

Rule of Iterative, Feedback Driven Systems acting on Multiple Levels of Recursion

These systems exhibit *increasing returns* and learning. They co-evolve (with their environment) emergent behavior. They are open-ended and cannot be predicted or controlled.

These systems can be *operated* in a way so that the desired *kinds* of results are consistently accomplished. This is possible when the Rules of Iteration, Feedback and Recursion are employed in a System of specific architecture (as described) that employs sufficient critical mass. Emergence is the result of complexity. Complexity is a factor of iteration, feedback, recursion, critical mass and the number of Agent (nodes) interactions in a specific time period and place.

Principles of Iteration and Feedback and The Rule of Recursion