#### The GreySmith Virtual Architecture

#### **GreySmith Institute of Advanced Studies**

# Steps of Action

- Research the neural correlates
- Design phenomenal simulations
- Design Java version of simulations
- Build Organic Simulations/BBDs
- Design Integration Models
- Design Representational Languages

# Steps of Action -2

- Determine functional role of memory areas
- Design Value-Function Language
- Design High Integration Models
- Design Cognitive Architecture
- Design Meta-Cognitive Control center
- Design AM Language compiler
- Design Intentional Virtual Machine
- Design Volitional Virtual Machine

#### **Research Neural Correlates**

- Research correlates of Memory
- Research correlates of Attention
- Research correlates of Intention
- Research correlates of Volition
- Research correlates of Consciousness

#### **Design Phenomenal Simulations**

Design Neural and Neural Network Simulations
Design group and heterogeneous Group Simulations
Design Organ Level Simulations
Design Integrated Simulations
Design Highly Integrated Simulations

#### **Design Java Simulations**

- Design Java Neuron
- Design Java Networks
- Design Java Group and Heterogeneous Groups
- Design Java Organ Level Simulation
- Design Java Integrated Simulations
- Design Java Highly Integrated Simulations

### Design Organ Level BBDs

- Once the Java Simulations are built
  - Reprogram Organ Level Simulations in C Variants
  - Begin evaluation/redesign strategy
  - Begin to design specifications for end Variation
  - Evaluate variations to determine best variation
  - Finalize specifications.

# **Design Integrated Models**

- Once the Design of Integrated Models are completed in Java
  - Reprogram integrated model in C Variants
  - Begin evaluation/redesign cycle
  - Begin to design specifications for end variant
  - Evaluate variations to select best variation
  - Finalize Specifications

### Design Representational Languages

- Design Implicit Functional Cluster Quale
- Design Explicit Clump
- Design Explicit Symbolic Language
- Design Declarative Quale
- Design Sequencing Language
- Design Skill Memory Quale

# Determine Functional Role of Memory Areas

- Map out Primary Sensory Perception areas
- Map out Secondary Sensory Perception Areas
- Map out Functional Modules
- Determine Functional Roles of Modules
- Confirm Functional Roles via fMRI

### **Design Value-Function Language**

Convert Functions to explicit clumps
Create Symbolic Links to each clump
Devise Functional Code to select a specific function
Devise a similar code to select value clumps
Implement Complicit term generators

# **Design Highly Integrated Model**

- Bring together Organ Integrations, with languages proposed to form Highly Integrated Model
  - Reprogram into a C Variant Language
  - Start evaluation/redesign cycle
  - Start working towards specifying end Model
  - Evaluate Variations to determine best variation
  - Design Final Specification

## **Design Cognitive Architecture**

- Rework Highly Integrated Design to allow outside Interface.
  - Analyze operation of highly Integrated Design
  - Determine requirements for Meta-cognitive system
  - Reprogram Simulation to include interface for regulation of operation
  - Reprogram Simulation for outside generation of programs and link for Virtual Machines

# **Design Metacognitive Control Center**

- From Models, determine sane system parameters
- Implement management and control set point interface to regulatory system.
- Set up sane set points for Defaults in regulation storage area

# Design AM Language Compiler

- Design an interface to the SMA that lets us insert preformed macros into the macro-list and extract new macros as they are formed.
- Create a meta-heuristic interface to the SMA macrolist that lets us search for the best fit macro
- Create an evaluation mechanism that determines the quality factor of macros
- Create a genetic algorythm that combines macros to get new macros.

# Design AM Language -2

- Create Compiler that optimizes new macros
- Create rewind capability based on tailing a log
- Create feedback mechanism that includes information on how well the macro worked in its evaluation
- Create variation of Metaheuristic search that makes previous versions of the macro taboo when searching for rewind version.

#### **Design Intention Virtual Machine**

- Design random impulse interface
- Link to it, Biases and regulatory center
- Set up outcomes evaluation
- Set up outcomes Rule-Base
- Link to it biased random impulse interface to make options generator
- Use outcomes evaluation to select options rule
- Use AM Language Interface to execute option

# **Design Volition Virtual Machine**

- Feedback operation of Intention Virtual Machine to outcomes evaluation section.
- Create Meta-Outcomes Evaluation section
- Create second-order Macros from sequences of macros
- Create a Meta-Heuristic search to find second-order macros
- Use intention to select from multiple meta-outcomes

# **Design Volition Virtual Machine -2**

- Use AM Language to execute second order macros
- Feedback outcomes of operation of AM Language to outcome evaluations to indicate success of second order macros.