Review #3

Proposal Number:	0705154
Performing Organization:	Pace University
NSF Program:	Robust Intelligence
Principal Investigator:	Benjamin, David P
Proposal Title:	RI: Collaborative Research: Cognitive Robots: Integrating Perception, Language and Problem Solving in Behavior-based Robots
Rating:	Fair

REVIEW:

What is the intellectual merit of the proposed activity?

There is mention of hardware robots but the example of figure 8, and most of the technical discussion of robots, appears to assume a simulated world. In any case little attention is given to the complexities of general robot planning and motion in a real-world environment. The technical details are vague. The image schemas of section 3.2 are discussed in largely metaphorical terms with assurances that the actual "walk" (and other) schemas will not be a static picture of legs, but rather a working model of virtual legs. It is not discussed what constitutes a working model. The tasks are sufficiently abstract that one cannot judge how difficult they are. The evaluations are similarly discussed only in vague terms.

What are the broader impacts of the proposed activity?

The broader impacts include dissemination of results and interdisciplinary course development. Other claims are misleading at best. They state that "Very few universities offer women access to advanced education and research in technologies such as robotics." On the contrary I know of no universities that possess advanced educational and research technologies but deny them to women. They suggest some laudable advantages that would follow from successful NLP and vision system. However, it is unlikely that the project will "solve" the natural language or computer vision problems sufficiently generally to realize these advantages.

Summary Statement

The investigators propose to implement a robot programming language, RS, in the SOAR architecture to form the basis of a new architecture called ADAPT. A language and a vision system will be added to yield a full range of cognitive abilities.