A COMPUTER SIMULATION OF THE SIQUELAND & LIPSITT EXPERIMENTS ON CONDITIONED HEAD - TURNING IN NEOPHYTES

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Experimental results have been published regarding the effect of reinforcement parameters on probability of response occurrence over successive presentations of a tactile stimulus. These results show that, in neophytes, head turning to tactile stimulation may be influenced by environmental events which function as reinforcers. It has been suggested that some stimuli may under certain conditions have complex function for the human newborn's behavior and very early in life begin to reflect interactions between eliciting and learned cue functions (Einar R. Siqueland & Lewis P. Lipsitt, 1971).

The data from three Siqueland & Lipsitt experiments were input to a computer model of early cognitive development in order to study the innate structures and learning mechanisms present in the neophyte and their relevance to building adaptive knowledge based learning systems. This paper describes some of the results of this research with particular regard to :

- the formation of conditioned responses in the presence of environmental reinforcement;
- the ability to keep generated expectations of events reverberating for 'long' periods;
- The ability to form differential responses;
- the ability to perform adequately in the presence of environmental noise;
- the ability to condition against an innate bias.

References: Siqueland, E.R & Lipsitt, L.P.(1971) -
Conditioned Head-Turning in Human Newborns
Early Learning and Early Experience
Ed. W.Sluckin, Penguin Books.