

Ways to Energize Thinking about Speech Research

Mary P. Harper
The Human Language and
Communication (HLC) Program
mharper@nsf.gov



[Perspective #1]

- Look at the interaction between developmental processes and human speech skills.
 - Onset of over-generation of “ed” rule marks an interesting transition in development.
 - Learning language is a continual process

[Perspective #2]

- Neuroscience is a good place to look for hypotheses:
 - Learning and Memory, Perceptual Modeling, Temporal Coding
 - How do people process words? Does it depend on type (nonsense, low frequency names, high frequency names, new words, well known words)? Does this change with age?
 - What cognitive factors lead to disfluent speech?

Perspective #3

- Energize the community: increase enthusiasm for this challenging problem
 - History of the Field
 - Student competitions
 - Speech kits for kids
 - Advance of the year award
 - Find new ways to achieve better mutual understanding between researchers with different perspectives:
 - Large versus Small
 - Industry, Research Institute, University

[Perspective #4]

- Language Modeling:
 - To tightly integrate or not to tightly integrate
 - Better constraints in the first pass
 - New methods of getting training data (especially Switchboard)