

Error Recovery Feature o Error recovery feature

- - Detect what kind of errors occur in input
 - Recover the errors
- Applications of this feature
 - Aid for word processing
 - Educational support system for second language learners





Difficulty of Robust Parsing

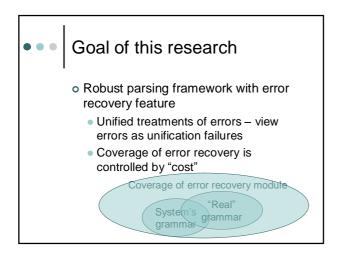
- Why it is difficult to analyze informal documents?
 - Even with the best effort, not all sentences can be covered
 - Grammatical rules for exceptional phenomena can over-generate, causing a drop in precision

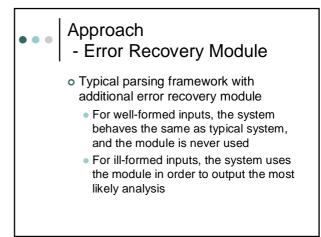
Related Work (1/2)

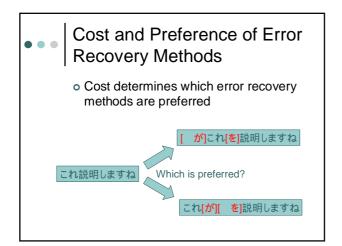
- o Individual treatments for each errors
 - Rephrasing [Sagawa et. al., 1994]
 - Particle ellipsis and inversion [Yamamoto et. al. 1992]

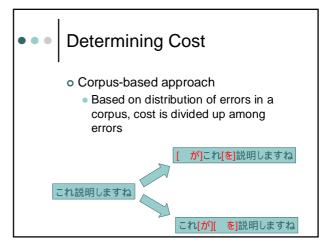
Related Work (2/2)

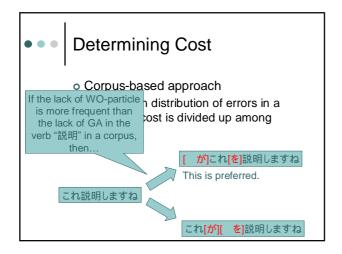
- General approach for errors
 - Multi-staged approach
 - Partial parsing [McDonald, 1992]
 - Two-staged analysis with meta-rules [Weischedel et. al., 1983]
 - Bottom-up parsing with top-down error detection [Kato, 1992]
 - Unified approach
 - Preference semantics [Fass et. al., 1983]
 - Abduction [Hobbs et. al., 1993]

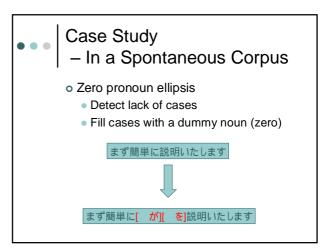


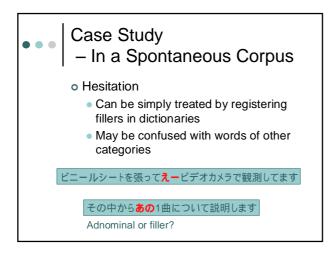


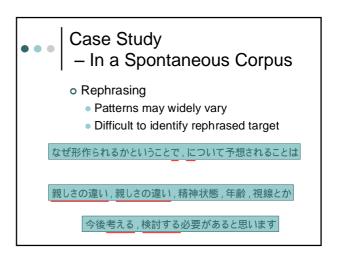


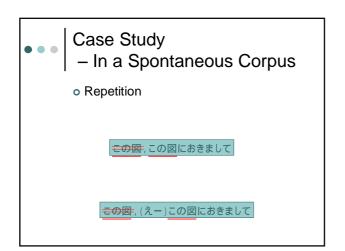


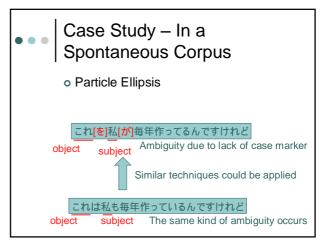




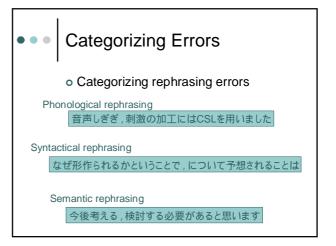


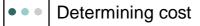






Future Direction
Categorizing errors, especially rephrasing in spontaneous corpuses
Determining cost





- Count errors in large corpus and divide up costs among errors
- Current research focus is to find suitable framework
 - Unsupervised learning approach
 - Data mining approach



- o Background: Needs to parse informal texts
- Research goal:
 - To build a robust parsing framework
 - Error modification
- Approach: Add an error recovery module to an ordinal parsing framework
- Future Direction:
 - Categorize and annotate errors
 - Find suitable framework to determine cost