Bio : Barbara Grosz

- Current : Research Professor, Harvard University

- BS in Math: **Cornell** (1969)
  MS, PhD in CS: **UCB** (1971, 1977 resp.)

- Responsible for Harvard being one of the first universities to integrate philosophy across different CS courses.

- Created the first computational model* of discourse.

- Centering Theory: Prior work (1983, 1993). *Pronouns, Names, and the Centering of Attention in Discourse.*

- A lot of work done in the same space by Aravind K Joshi (the third author).

*Barbara J. Grosz. 1977. The representation and use of focus in a system for understanding dialogs. In Proceedings of the 5th international joint conference on Artificial intelligence

Pronouns, Names, and the Centering
of Attention in Discourse

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Centering theory, developed within computational linguistics, provides an account of ways in which patterns of interutterance reference can promote the local coherence of discourse. It states that each utterance in a coherent discourse segment contains a single semantic entity—the backward-looking center—that provides a link to the previous utterance, and an ordered set of entities—the forward-looking centers—that offer potential links to the next utterance. We report five reading-time experiments that test predictions of this theory with respect to the conditions under which it is preferable to realize (refer to) an entity using a pronoun rather than a repeated definite description or name. The experiments show that there is a single backward-looking center that is preferentially realized as a pronoun, and that the backward-looking center is typically realized as the grammatical subject of the utterance. They also provide evidence that there is a set of forward-looking centers that is ranked in terms of prominence, and that a key factor in determining prominence—surface-initial position—does not affect determination of the backward-looking center. This provides evidence for the dissociation of the coherence processes of looking backward and looking forward.