Difficulty in Feedback with Query Likelihood

- Traditional query expansion [Ponte 98, Miller et al. 99, Ng 99]
  - Improvement is reported, but there is a conceptual inconsistency
  - What's an expanded query, a piece of text or a set of terms?
- Avoid expansion
  - Query term reweighting [Hiemstra 01, Hiemstra 02]
  - Translation models [Berger & Lafferty 99, Jin et al. 02]
  - Only achieving limited feedback
- Doing relevant query expansion instead [Nallapati et al 03]
- The difficulty is due to the lack of a query/relevance model
- The difficulty can be overcome with alternative ways of using LMs for retrieval (e.g., relevance model [Lavrenko & Croft 01] , Query model estimation [Lafferty & Zhai 01b; Zhai & Lafferty 01b])