Noun Phrase Coreference Resolution is one of the most challenging tasks in Natural Language Processing with numerous applications within and outside NLP. After briefly reviewing limitations of previous approaches, this talk introduces a new structured model for learning coreference resolution and anaphoricity detection in a joint fashion. Specifically, we use a latent tree to represent the full coreference and anaphoric structure of a document at a global level, and we jointly learn the parameters of the two models using a version of the structured perceptron algorithm. Our joint structured model is further refined by the use of pairwise constraints which help the model to capture accurately certain patterns of coreference. Our experiments on the CoNLL-2012 dataset, the main benchmark for this task, show large improvements compared to various competing architectures.