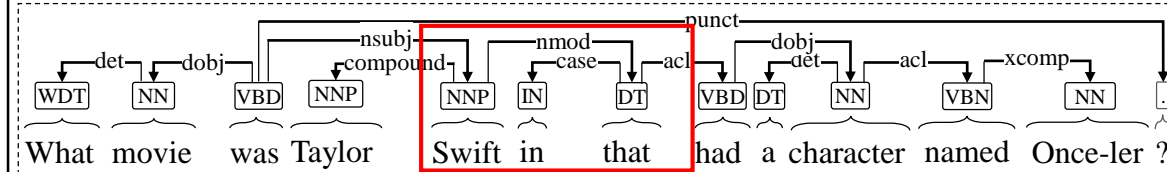
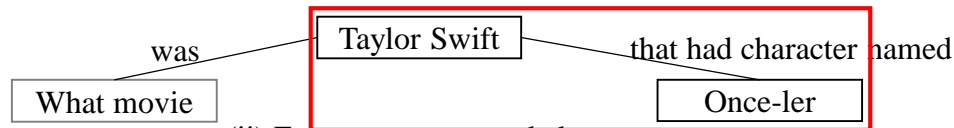


What movie was Taylor Swift in that had a character named Once-ler ?

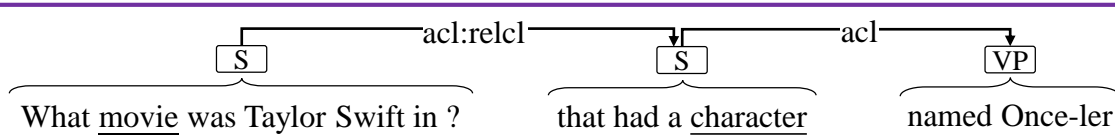


(i) Erroneous dependency tree

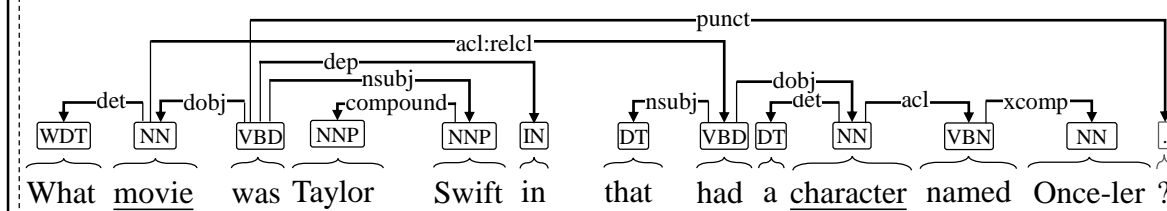


(ii) Erroneous ungrounded query

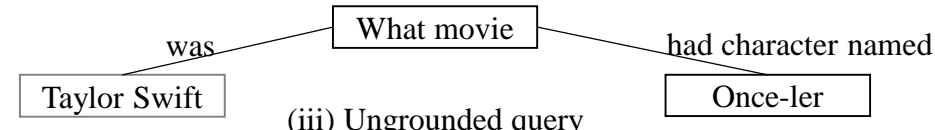
(a) Dependency-based SP approach



(i) Skeleton



(ii) Dependency tree

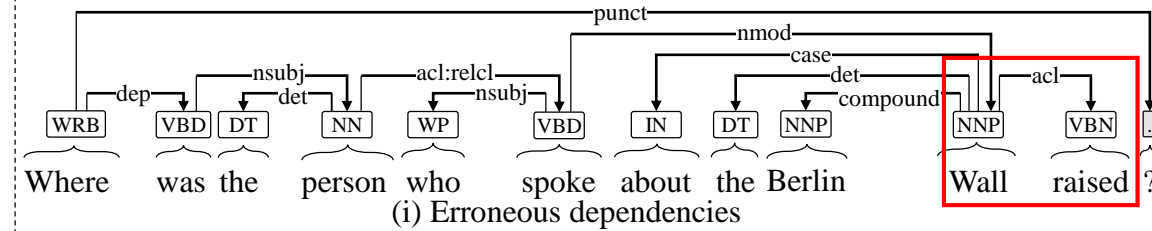


(iii) Ungrounded query

(b) Skeleton-based SP approach

Case Study 1: Skeleton in SP approach

Where was the person who spoke about the Berlin Wall raised ?

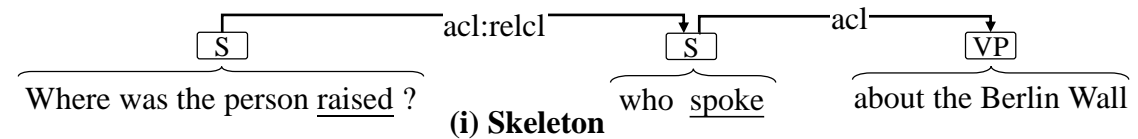


(ii) Erroneous dependency path

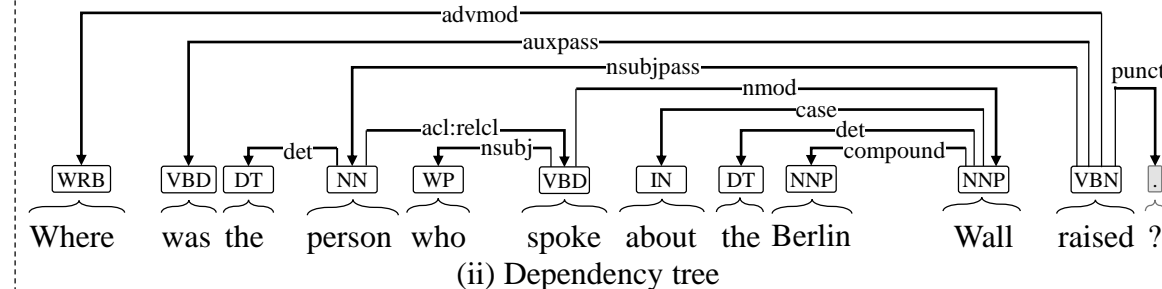
Path 1: [—, place of birth, —, speaker_s, —, speeches, or, presentations, on, this, topic]
 Path 2: [—, parents, —, speaker_s, —, speeches, or, presentations, on, this, topic]

(iii) Candidate Paths

(c) Dependency-based IR approach



(i) Skeleton



(ii) Dependency tree

{Where, advmod, raised, nsubjpass, person, acl:relcl, spoke, nmod, Berlin Wall}

(iii) Dependency path

Path 1: [—, place of birth, —, speaker_s, —, speeches, or, presentations, on, this, topic]
 Path 2: [—, parents, —, speaker_s, —, speeches, or, presentations, on, this, topic]

(iv) Candidate Paths

(d) Skeleton-based IR approach

Case Study 2: Skeleton in IR approach