















the tail entity Peter Grimes of relation composer. Because the tail entity of the relation composer should be a Music but such an entity constraint is unseen in the training set. The entity discrepancy causes MPE to fail to extract it. By contrast, since RelATE utilizes the support set of relation composer, it succeeds in recognizing Peter Grimes. (2) In Case 2, FSMPE extracts a redundant entity Dakota Dunes, resulting in an incorrect triple. This phenomenon indicates that the redundant entity pairs will be extracted wrongly without the guide of relation semantics. Since RelATE aggregates

the relation semantics to guide the entity extraction, this problem can be avoided. (3) In Case 3, PA-CRF recognizes the boundary of Ohio Connecting Railroad Bridge wrongly. That is because the unified paradigm will introduce too many tags, making it difficult to learn the dependency of so many tags. Thus, the tag sequence could be wrongly decoded. Thanks to the proper task decomposition, RelATE does not introduce extra entity tags so it could extract the head entity correctly.