ABSTRACT: Research in ontology learning from text has been mainly focused on entity recognition, taxonomy induction and relation extraction. In this work we approach a more challenging research issue, consisting in detecting semantic frames from texts, and using them to encode web ontologies. We exploit a new generation frame detection system, which is able to identify FrameNet frames and their argument boundaries from text parsing. In addition, we enrich frames with the results provided by a super-sense tagger, which extracts and classifies concepts and named entities from texts according to WordNet super-senses. The enrichment results include argument restrictions for the elements of a frame, and domain specializations, based on domain lexical unit detection for the target of a frame. The results are encoded according to the Lexical MetaModel, which allows a complete translation of lexical resources, keeps trace of the learning metadata, and enables custom transformations of enriched frames into modular ontology components, known as content ontology design patterns.