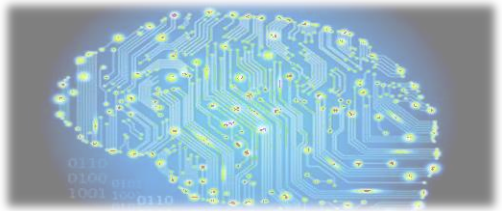
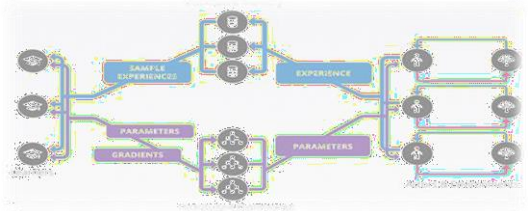

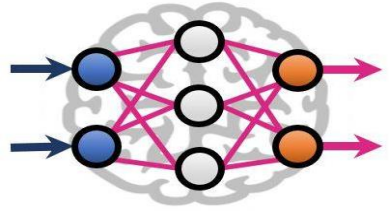
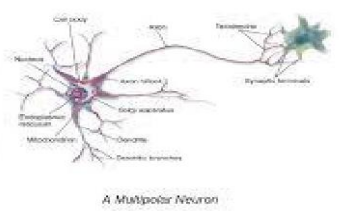

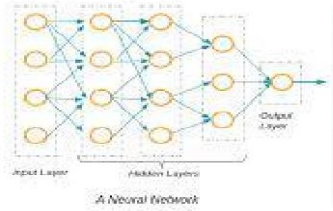

Review : Automatic Acquisition of Hyponyms from Large Text Corpora

Automatic Acquisition of Hyponyms from Large Text corpora 리뷰

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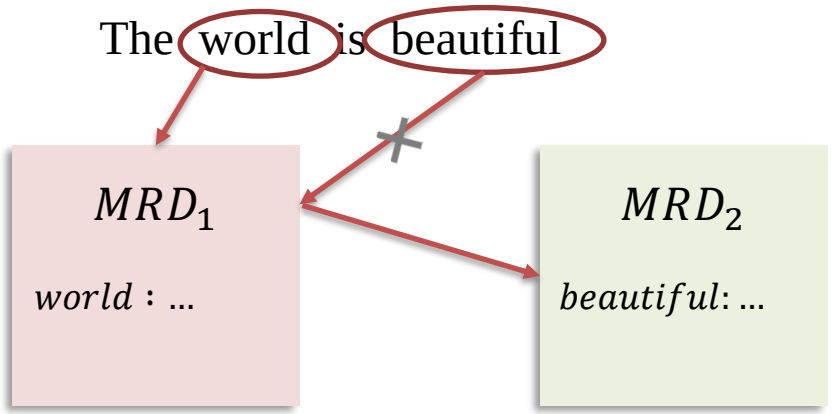
2021. 08. 24.

Introduction

- **Extracting lexical information**
  - ➢ Machine Readable Dictionary(MRD)
    - ✓ fixed entries : find terms and expressions that are not defined MRDs (other textual resource)



- view corpus also as a source of information about language it is written in

Introduction

- **Find lexical-relation with pattern**

$NP = Noun\ Phrase$

  - Hyponym relation

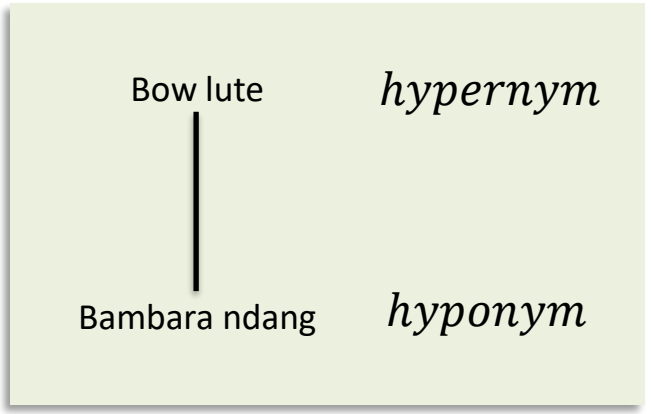
"The bow lute, such as the Bambara ndang, is plucked and has an individual curved neck for each string."

$NP_0\ such\ as\ \{NP_1, NP_2, \ldots, (and|or)\}\ NP_n$

imply

$for\ all\ NP_i, 1 \leq i \leq n, hyponym(NP_i, NP_0)$

$hyponym("Bambara\ ndang", "bow\ lute")$



hyponym ***hypernym***

Frame : L_0 is a (kind of) L_1

Introduction

- **Pattern-based, Pattern recognition**
  - LDOCE : use hierarchy of patterns, part-of-speech(POS), wildcard character pattern
  - Taxonomy
    - Noun taxonomy in MRD
      - start with "Any" – NP

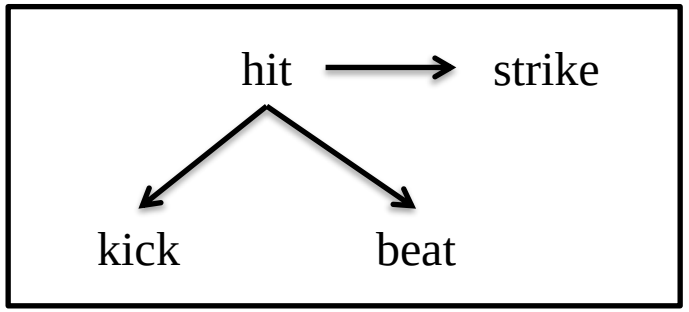
$$MRD\ (Webster\ 7^{th})$$

nectar : any delicious drink
discord : any harsh or unpleasant sound

    - Key verb(and Key noun, Function noun) taxonomy in MRD
      - verbs are described as : $to\ \boldsymbol{VERB}$

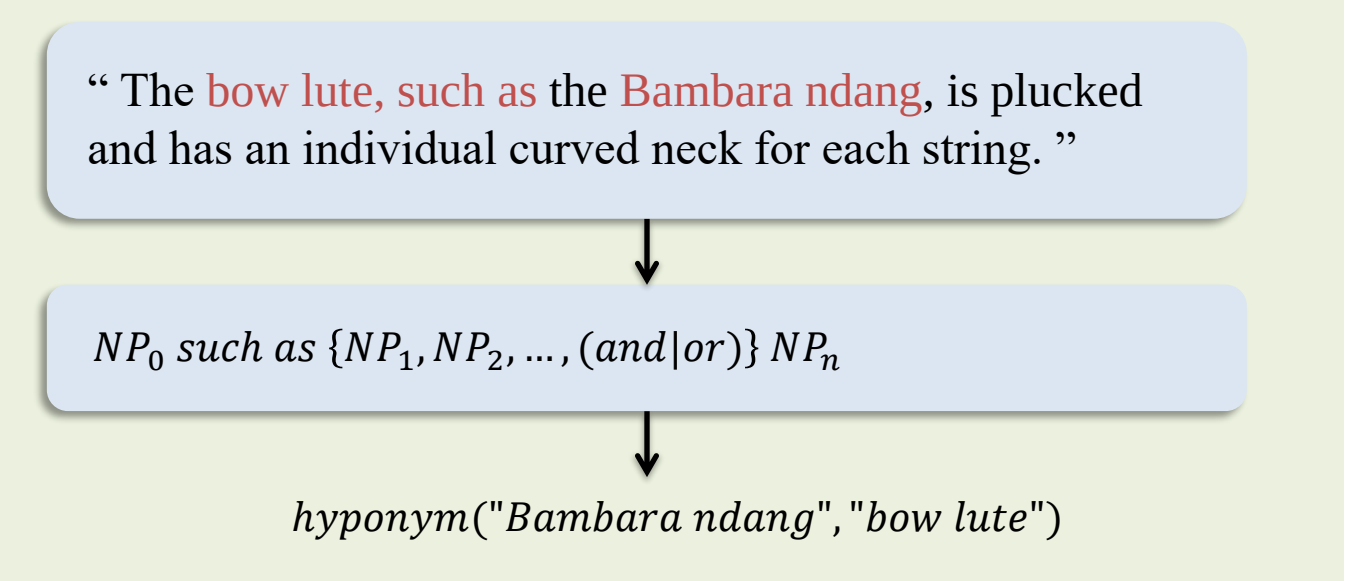
$$MRD\ (LDOCE)$$

strike : to hit
kick: to hit with the foot
beat : to hit many times



Introduction

- **Pattern recognition vs Parsing**
  - ➢ Pattern recognition is more accurate and efficient than parsing
    - ▪ Apply pattern-based relation recognition



  - ➢ Building lexical hierarchy automatically

pattern-based > complex parser, knowledge base

Introduction

- **Identify hyponymy relation**
  - ➢ Finding constructions that indicate the relation of interest (frequent, reliable)
  - ➢ Identify a set of lexico-syntactic patterns

I. They occur frequently and in many text genres.
=> many instances of the relation

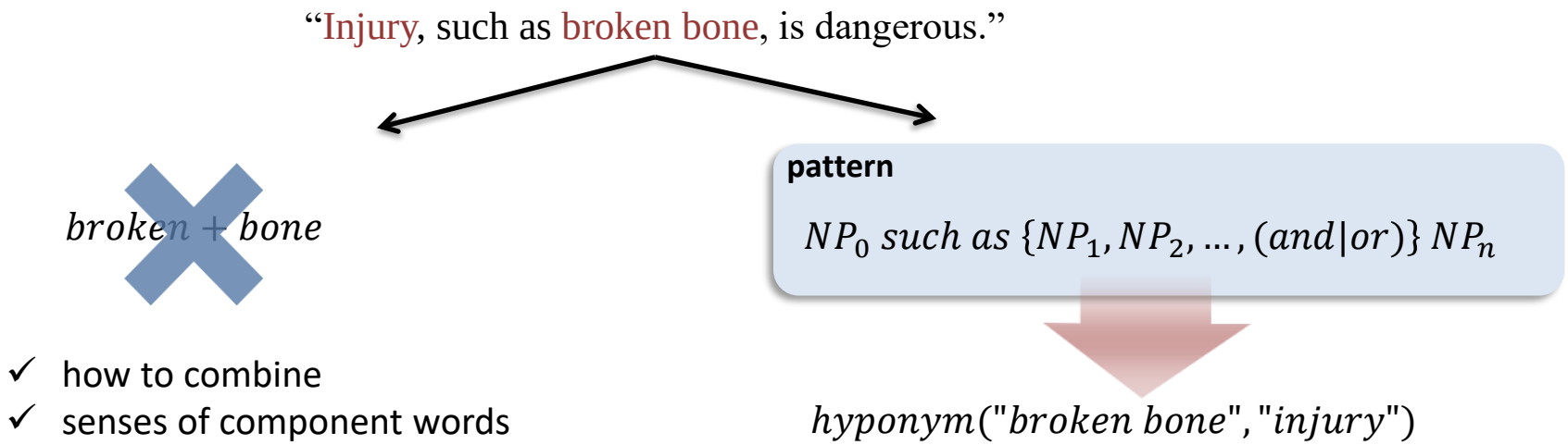
II. They (almost) always indicate the relation of interest.
=> information will not be erroneous

III. They can be recognized with little or no pre-encoded knowledge.
=> not require the tools that help build

$$NP_0\ such\ as\ \{NP_1, NP_2, \ldots, (and|or)\}\ NP_n$$

Introduction

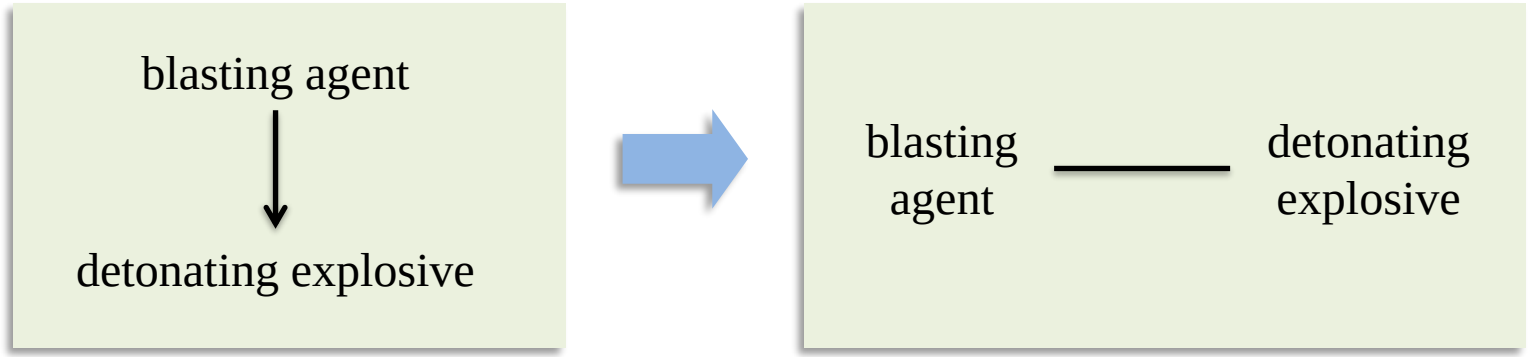
- **Usage hyponymy relation**
  - ➢ Lexicon Augmentation
    - Augment and verify existing lexicons, including ones built from MRDs (WordNet, thesaurus etc.)
  - ➢ Noun Phrase Semantics
    - Identification of the general meaning of an unfamiliar noun phrases.



Introduction

- **Usage hyponymy relation**
  - ➢ Sematic Relatedness Information
    - Relations as closely related semantically instead of as hyponymic.

$$hyponym(\text{"}detonating\ explosive\text{"}, \text{"}blasting\ agent\text{"})$$



- Not ISA relation. but, imply that the terms' meanings are close.
- Useful for improved synonym expansion and for finding chains of semantically related phrases.

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Thank you