



Why is natural language difficult for machines?

- Ambiguities all over the place!

e.g.,

- @Word level (morphology)

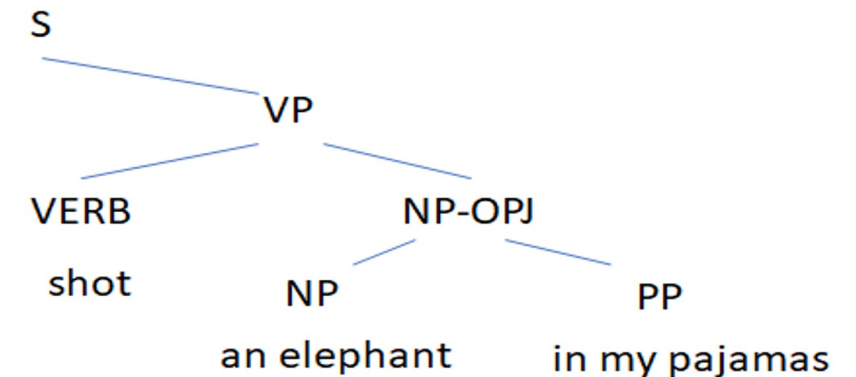
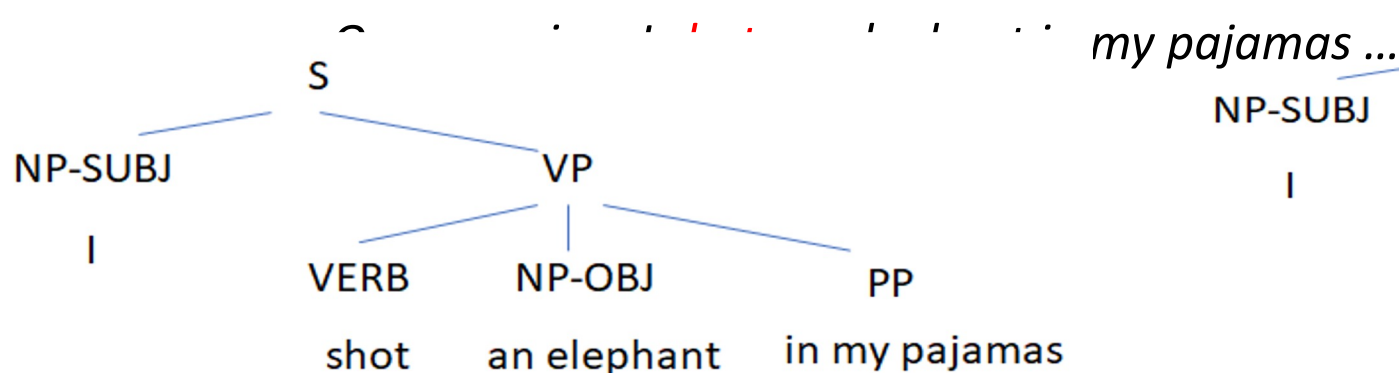
- *Time* (NOUN) *flies* (VERB) *like* (ADP) *an* (DET) *arrow* (NOUN).
- *Fruit* (NOUN) *flies* (NOUN) *like* (VERB) *a* (DET) *banana* (NOUN).



<https://www.biography.com/actors/groucho-marx>



- @Phrase level (syntax) and @word meaning



freepic.com

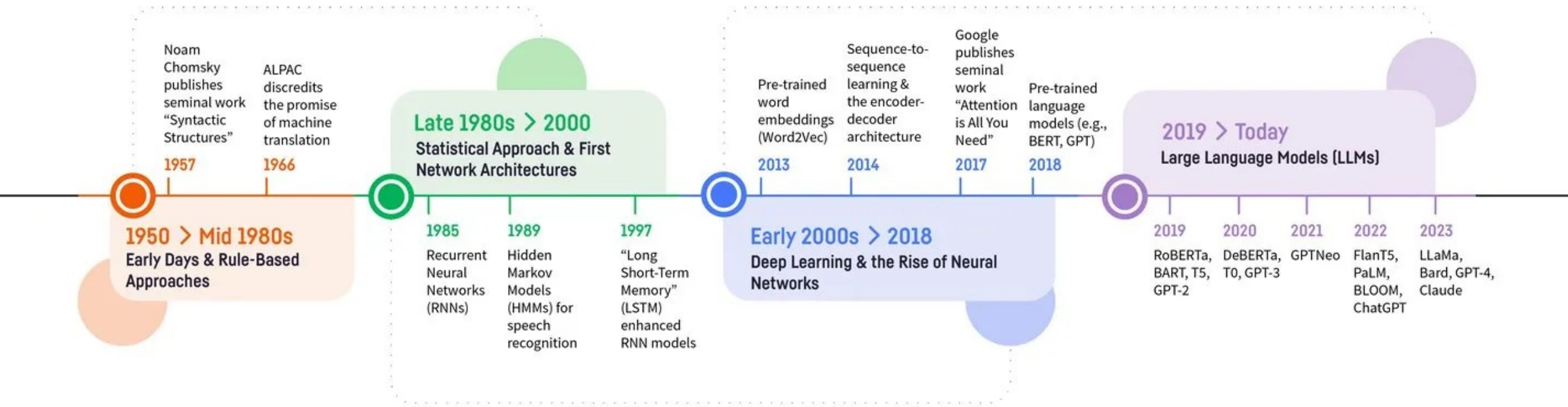


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Why is natural language difficult for machines?

- Discrepancies between competence grammar and language use
 - Text: spelling errors, typos, sloppyness in punctuation, mixing of languages (e.g. a mix of German and English), characteristics of spoken language in written text, ...
 - Speech: omissions, hesitations, fresh starts, (dialectal) varieties, ...
- MEANING!!!
 - Lexical and morpho-syntactic ambiguities
 - Pragmatics
 - Literal versus metaphoric readings
 - Language grounding

The History of NLP



<https://medium.com/@jeevanchiru17/the-evolution-of-natural-language-processing-ad214cb9f6ca>

Interaction / Communication

