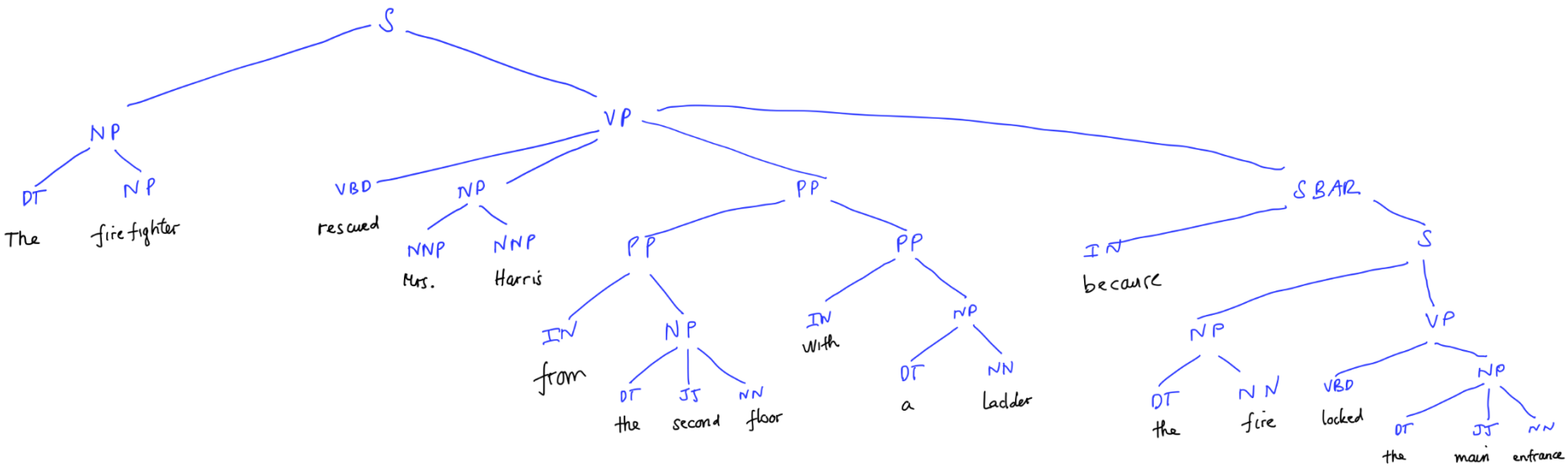
Syntax Parsing

The firefighter rescued Mrs. Harris from the second floor with a ladder because the fire locked the main entrance

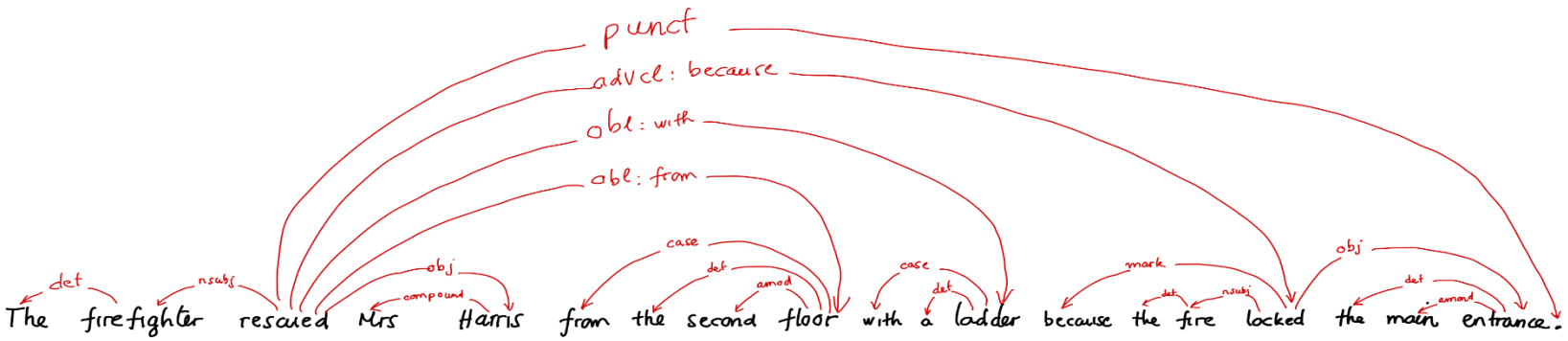
1. PSG Tree of Sentence

- **S**: Simple declarative clause
- **NP**: Noun Phrase
- **VP**: Verb Phrase
- **SBAR**: Clause introduced by a (possibly empty) subordinating conjunction
- **DT**: Determiner
- **NN**: Noun, singular or mass
- **VBD**: Verb, past tense
- **NNP**: Proper Noun, singular
- **PP**: Prepositional Phrase
- **IN**: Preposition or subordinating conjunction
- **JJ**: Adjective


S
NP
DT
The
NP
firefighter
VP
VBD
rescued
NP
NNP
Mrs.
NNP
Harris
PP
PP
IN
from
NP
DT
the
JJ
second
NN
floor
PP
IN
With
NP
DT
a
NN
ladder
SBAR
IN
because
S
NP
DT
the
NN
fire
VP
VBD
locked
NP
DT
the
JJ
main
NN
entrance

2. Dependency Parse of Sentence

- **det:** determiner
- **nsubj:** nominal subject
- **obj:** object
- **compound:** compound
- **obl (with/from):** inderect norminal.
- **advcl (because)** abverbial clause modifier
- **punct:** punctuation
- **case:** case-marking
- **amod:** adjectival modifier
- **mark:** marker



3. SRL Parse of Sentence

First Verb

V: rescued

ARG0: The firefighter

ARG1: Mrs. Harris

LOC: from the second floor

ARG2: with a ladder

CAU: because the fire locked the main entrance

- The first argument ***ARG0*** (The firefighter) is the one doing the action-rescuring Mrs. Harris.
- The second argument ***ARG1***(Mrs. Harris) is the passive one. The person rescued by the firefighter
- ***LOC*****:** is the modifier - It describes where the rescued action happened. It is the second floor.
- The third argument ***ARG2*** (a ladder) is the 'instrument' of the action. The firefighter use the ladder to rescue Mrs. Harris.
- **CAU**: is the modifier – it describes the reason of action.

Second Verb

V: locked

ARG0: The fire

ARG1: The main entrance

- The first argument ***ARG0*** (The fire) is the agent cause the entrance to be locked
- The second argument ***ARG1***(The main entrance) is the passive agent. It is the one that being lock because of the fire

4. Summary

The PSG tree benefit it is very simple and similar to contect-free-grammar (CFG). The final result is the sentence was broken into each individual token which define part of speech (POS). Because it is similar to CFG so can be perform without the context. We just need to set a rule and let the algorithm run. The Dependency Parse is kind of like an upgrade version ot PSG. It also contain POS but provide more information on the sentence which usually base on context. It make user easily recognize the main idea of the sentence. The SRL parse is an extreme case of Dependency Parse, just by looking at SRL we can clearly see the main idea of the sentence, and the relationship between the agent. It interpreted the sentence in high level, it is the same as the way human interpreted the sentence which require a lot of sample and computation power to achive it.