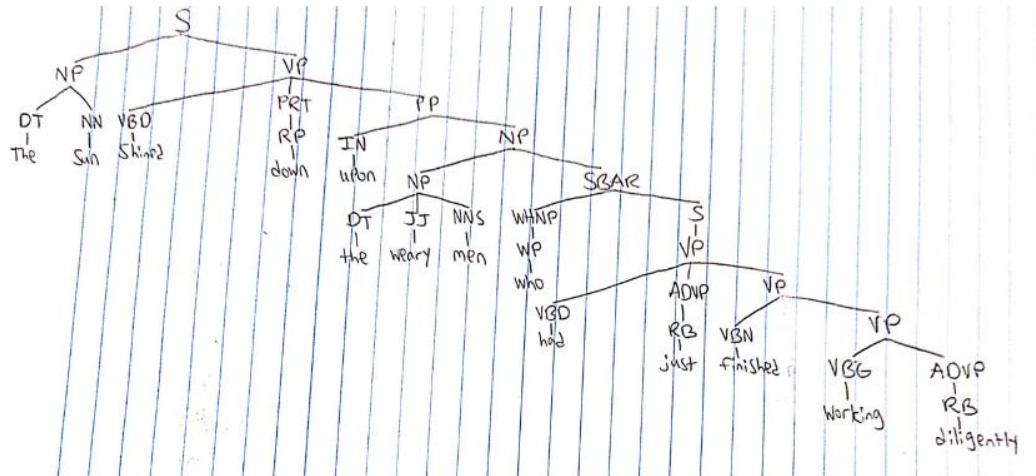# CS4395 Assignment 5 Sentence Parsing

1. Sentence for the assignment:

The sun shined down upon the weary men who had just finished working diligently.

2. PSG Tree:

Definitions were found here: https://gist.github.com/nlothian/9240750

S – simple declarative clause that doesn't have any special characteristics that would put it under a different clause

NP – noun phrase

DT - determiner

NN – noun, singular or mass

VP – verb phrase

VBD – verb, past tense

PRT – particle; a category that should precede RPs

RP - particle

PP – prepositional phrase

IN – preposition or subordinating conjunction

JJ - adjective

NNS – noun, plural

SBAR – clause preceded by a (possibly empty) subordinating conjunction

WHNP – Wh-noun phrase. Precedes a clause with an NP gap. Could be null or lexical, containing a wh-word (in the case of this particular sentence, it precedes the wh-word "who")
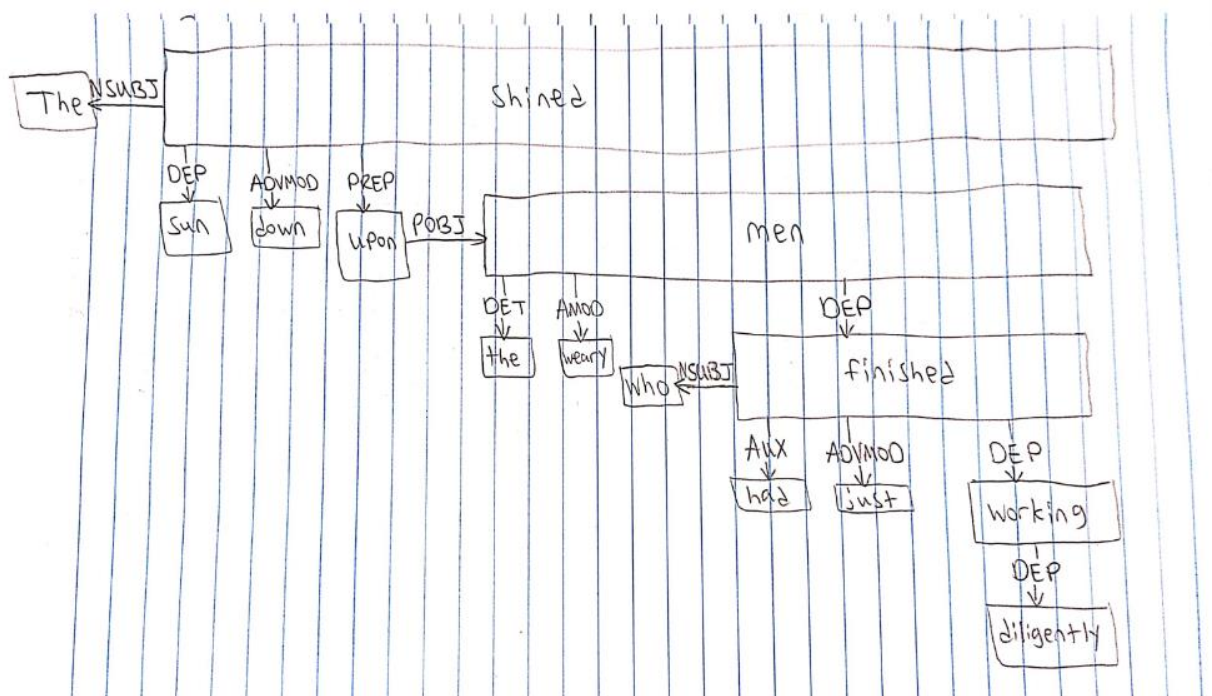
WP – wh-pronoun

ADVP – adverb phrase

RB - adverb

VBN – verb, past participle

VBG – verb, gerund, or present participle

3. Dependency parse:

Definitions were found in the Stanford Dependencies Manual:

NSUBJ – nominal subject; a noun phrase which is the syntactic subject of a clause.

DEP – dependent; this label is used when the system is unsure of a precise dependency relation and therefore uses DEP as a general dependency.

ADVMOD – adverb modifier; non-clausal adverb or adverb-headed phrase that modifies the meaning of the word it is connected to.

PREP – prepositional modifier; a prepositional phrase that modifies a verb, adjective, noun, or another prepositional phrase that it is connected to.

POBJ – object of a preposition; the head of a noun phrase which follows either a preposition or adverbs "here" and "there".

DET – determiner; the relation between the head of a noun phrase and the determiner of that noun phrase.

AMOD – adjectival modifier; adjectival phrase that modifies the meaning of a noun phrase.

AUX – auxiliary; non-primary verb of the clause

4. SRL parse:

Predicate: Shined
Arguments:
  The Sun – ARG1
  upon the weary men who had just finished working diligently – ARG2
Modifiers:
  down – DIR

Predicate: had
Arguments: none
Modifiers: none

Predicate: finished
Arguments:
  the weary men – ARG0
  who – reference to ARG0
  working diligently – ARG1
Modifiers:
  just – TMP

Predicate: working
Arguments:
  who – ARG0
Modifiers:
  diligently – MNR

Argument descriptions (definitions found in my course's slides):

ARG0 – the one performing the action.

- For the verb "finished": "the weary men" states the fact that it was the men who had finished working. "who" references "the weary men," thus why it is also included.
- For the verb "working": "who" is referring to the people who had performed work.

ARG1 – a passive actor.

- For the verb "shined": "the sun" did the indirect action of shining, thus why it is considered to be a passive actor
- For the verb "finished": "working diligently" is what is acted upon and is what the verb "finished" describes.

ARG2 – the instrument, or often denoting the person that benefits from the action

- For the verb "shined": the argument "upon the weary men who had just finished working diligently" states the people who benefitted from action of the sun shining.

Modifier descriptions:

DIR – describes motion in the sentence.

TMP – describes when an action occurred.

MNR – describes how an action was executed.

5.

3 parse types were performed on the sentence "The sun shined down upon the weary men who had just finished working diligently": PSG, dependency, and SRL. For the PSG tree, I liked how it went in depth about what each part of the sentence was grammatically and how it was displayed in a clean tree format. However, I thought that there was a lot of nesting of phrases and clauses which made it tough to follow at times. For instance, the subject "had just finished working diligently" was not just a subject but also a VP at the same time, which contained yet another VP "finished working diligently." For dependency parsing, I liked that it was made very obvious what parts of the sentence depended on others. If looking at it at a high level without taking into consideration the dependency relations, it made sense as to why multiple parts of a sentence relied on a single word. However, I think this type of parsing is the most confusing of the three, as the dependency relations were tough to fully understand. For SRL, I believe that this one was very useful, as it described more so what the sentence was about rather than what the sentence was. I also think this type of parsing was the easiest to understand of the three, as the labels were very clear on what they represented. However, I think of the three this one was the least clean representation of the sentence, as it broke down the sentence based on its verbs rather than giving structure to the entire sentence.