

Linking Verbs

The antenna shall be mounted in a position that meets manufacturer's requirements and provides maximum coverage of the GPS constellation.

"and provides"

Does this verb pair with

Shall be mounted

Or

Meets

How do we specify that a link must or must not be present before the pattern matches.

If a link to the prior verb is not possible, then we need a ClauseTerminator on the coordinate phrase, so the relative pronoun clause can be rolled up.

If a link is present, then we can roll up the clause by anding the two verbs.

We will have situations where there is ambiguity – the verb could pair with both. In this case, the match will fail, requiring something else to establish the structure, although we could create an ambiguity job.

What happens when we don't get a match, but there is no other choice?

He met John yesterday, and meets Fred tomorrow.

These two must match.

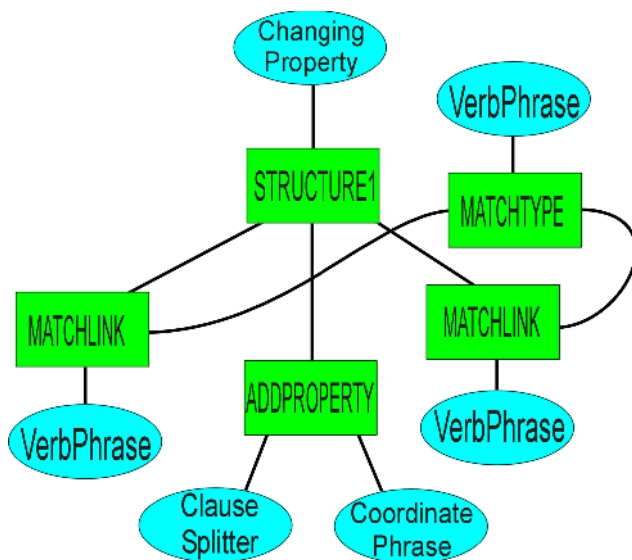
The antenna shall be mounted in a position that meets manufacturer's requirements and provide maximum coverage of the GPS constellation.

This could be

"shall be mounted..... and (shall) provide...."

Or it could be a mistake. Only if it is inconsistent should we say anything, or we could put it in a list of doubtfuls.

How do we describe the pattern – it may not be describable in a simple text form.



Textually, it would be something like

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STRUCTURE1(ChangingProperty, {MATCHLINK(VerbPhrase,
MATCHTYPE(VerbPhrase)), ADDPROPERTY(ClauseSplitter, CoordinatePhrase),
MATCHLINK(VerbPhrase)
```

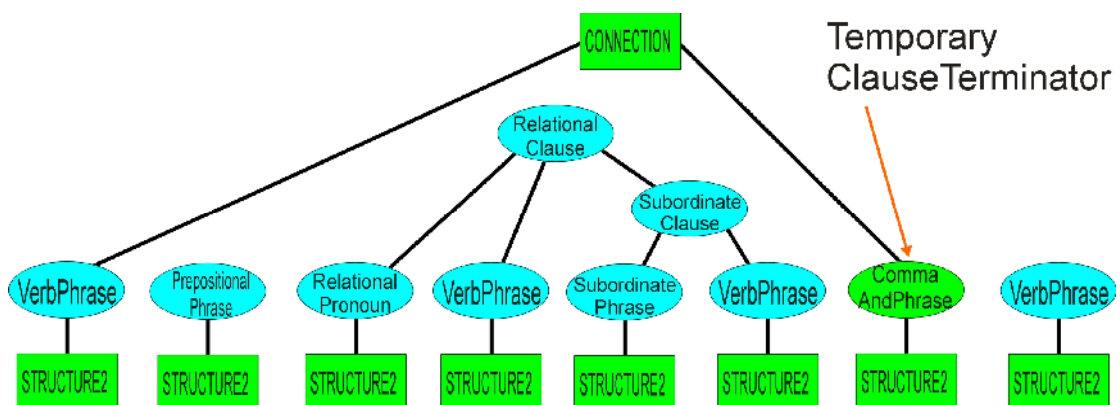
An alternative approach would be to have a simpler pattern, such as

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STRUCTURE1(CheckVerbMatch, {CoordinatePhrase, VerbPhrase})
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Its job would be to recognise the pattern, then go and find the matching verb, and “fix up” the CoordinatePhrase so the clause structure will work out correctly.

The equipment shall be connected to the unit that was running when the accident occurred, and tested for six hours.

The link is found between “connected” and “tested”. How would the intermediate clauses recognise their bounding? If we put a ClauseTerminator on the comma to terminate the nested clauses, how can we make the main clause not recognise it?



We could make the object dynamic, in that it is a ClauseTerminator for patterns within its range, but not for patterns that start before the initial connection of its range, or extend after it.

This would be the first time we had an object assessing whether it would accept a pattern based on the extent of the pattern.

What happens when the verbs are adjacent?

The bus arrives at and departs from a bus stop.

We find a link between “arrives” and “departs”, put an “AfterChain” on the “and” (it would already have one from other patterns). We then get

CompositeVerb CoordinatePhrase VerbPhrase

- and another pattern grabs it – we might add “MatchingVerb” to help it along, so

CompositeVerb CoordinatePhrase ANDWITH(MatchingVerb, VerbPhrase)

to ensure the absence of doubt. Alternatively, we could use

VerbPhrase CoordinatePhrase ANDWITH(CheckCompatibility, VerbPhrase)

The CheckCompatibility is a symbol that makes us run a check – it works for verbs and infinitives. We can have CheckSimilarity for a pattern like

NounPhrase, Prepositional, NounPhrase, CommaPhrase, NounPhrase
CoordinatePhrase, NounPhrase

If we have

..., welding of structures, brazing and soldering

Or

...workmanship of welding, brazing and soldering

We can use a similarity check to decide what goes with what.

We could use similar methods for

Either A or B
Between A and B

where we need local bounding around A until we recognise the object within a context.

He said either one does it his way, working on it day after day, with all that involves, including night work, or one doesn't.

He said either one will do.

It would be useful to first prove there is an "or" (no "or" and we have a NounDeterminer), then put a bound on the phrase between the "either" and the "or". We could use TemporaryClauseInitiator and TemporaryClauseTerminator here.

We also have to handle nesting

It was either A, with its use of either B or C, or D.

There is an example in SmartBus

to support interchange of components between vehicles, including between differing makes and models of buses.

The first "between" operates on a plural noun, so it doesn't need an "and", the second "between" also operates on a plural noun, but does have an "and".

Putting temporary bounds would be good, as it handles the NounVerb "makes".

An example with no "and" – make "between" a simple preposition.

"Unproductive Dwell Between Stops With Doors Closed".