

The Wizard of Of

Prepositions are often the remnant of a larger concept and provide compression –

The anesthesia required for the surgery to be performed on the ankle

Anesthesia for surgery on ankle

Anesthesia for ankle surgery

Each preposition has multiple meanings. Part of the job of reading text is to decompress the text – to turn it back to the form where the preposition disappears, or the collocated verb is used, so the preposition only has one meaning.

For Of:

RelationObject

Analysis of data -> someone analyses data

The most common use.

RelationSubject

Attendance of physician -> physician attends

RelationSubjectRelationObject

Owner of boat -> owner owns boat

We need to know what are ownable things, so we don't get caught by

He accused the owner of fraud.

The relation subject may be a parent – a bottle is a container.

A bottle of medicine

RelationObjectRelationSubject

Employee of company -> company employs employee

ComponentOfObject

Atrium of heart

AttributeOfObject

Temperature of body

ToBeGroupOf

Beam of electrons

ReverseHave

Disease of body part

ToBeFoundIn

Pattern of use (could be RelationSubject)

And all the ones we haven't encountered yet.

"With" has a similar number of meanings. Until we can work out which meaning, we can't say we understand the text.

What happens when there is insufficient context to settle on a particular meaning – we have to carry multiple meanings forward, after trimming away all the impossible ones.