Annotator consistency when classifying sequence attributes

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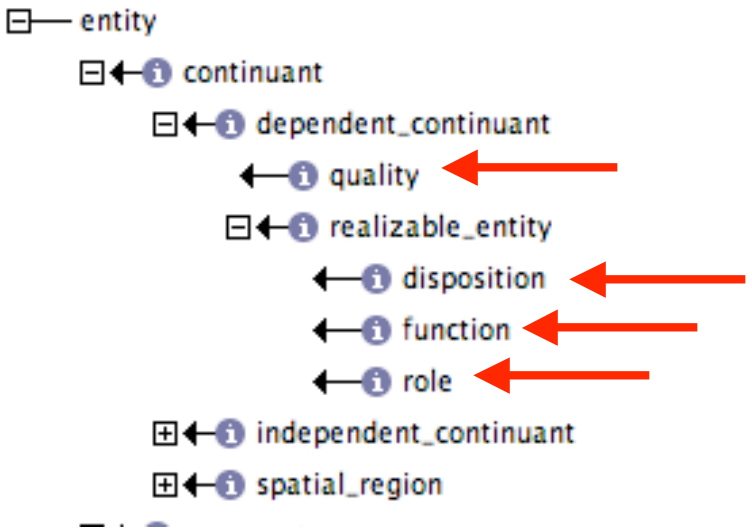
Aim: to classify SO sequence_attributes into BFO classes.



Definitions

name: quality def: "A dependent continuant that is exhibited if it inheres in an entity or entities at all (a categorical property)." [] **in·here** (ĭn-hîr′) *intr.v.* **in·hered, in·her·ing, in·heres** To be inherent or innate.	id: snap:Function name: function def: "A realizable entity the manifestation of which is an essentially end-directed activity of a continuant entity in virtue of that continuant entity being a specific kind of entity in the kind or kinds of contexts that it is made for." []
id: snap:Disposition name: disposition def: "A realizable entity that essentially causes a specific process or transformation in the object in which it inheres, under specific circumstances and in conjunction with the laws of nature. A general formula for dispositions is: X (object) has the disposition D to (transform, initiate a process) R under conditions C." []	id: snap:Role name: role def: "A realizable entity the manifestation of which brings about some result or end that is not essential to a continuant in virtue of the kind of thing that it is but that can be served or participated in by that kind of continuant in some kinds of natural, social or institutional contexts." []

Example

- Monocistronic
- This term describes something about a gene.
- Is it a quality that inheres in a gene, is it a disposition of the gene, is it a role of the gene or the function of the gene?

Procedure

- 2 annotators
- Select 30 attributes randomly
- Assign each term into a category with no conferring
- Add justification
- Calculate statistical analysis
- Discuss
- Perform test again

The Kappa statistic

- Various *ad hoc* methods exist for assessing agreement on classification tasks.
- The Kappa statistic takes into account the expected agreement by chance.

Squibs and Discussions
Assessing Agreement on Classification Tasks:
The Kappa Statistic
Jean Carletta

http://acl.ldc.upenn.edu/J/J96/J96-2004.pdf

$$K = \frac{\text{Proportion of time annotators agree} - \text{Proportion of agreement expected by chance}}{1 - \text{Proportion of agreement expected by chance}}$$

0 = no agreement
1 = total agreement
0.8 is ‘reliable’

Results

- First round - we had not discussed our interpretation of the BFO classes.
- Score = 0.36
- Second round - had talked about our previous agreement/disagreement and what we interpreted the BFO classes to mean
- Score = ?

What next?

- 1. Make SO attribute classes that reflect BFO.
- 2. Order the attributes according to new base hierarchy
- 3. Use the structure to compose better definitions of attribute terms.