

Mapping v1 Supersenses to v2 Supersenses

Ken Litkowski
CL Research
9208 Gue Road
Damascus, MD 20872

ken@clres.com

An earlier attempt to map v1 supersenses to v2 supersenses was more of a coarse process that still raised several questions. A fine-grained analysis provides a much better mapping. This process focuses on the example sentences (in some cases, phrases) in each category. Specifically, this process identifies the PDEP sense for the preposition in each example. There are several steps in this process, working through the characterizations of each v2 category, into a table containing the components of each step, starting with Guide. [Table 1](#) summarizes the v2 categories, with a line for each category, with the first column identifying the number of the hierarchy level, the second containing the name. The next columns identify the number of examples in the category, the number of different prepositions, and the number of senses that have been identified as appropriate to the supersense. [Table 2](#) examines and analyzes the instances tagged with the v2 categories in the STREUSLE corpus. the number with an indication of those tagged with the v1 categories, the number of distinct prepositions, and those that were identified as a PDEP preposition. ([nextPSST](#))

1. Analyzing a Supersense Category

The source for the Guidelines was used to extract the detail for each of the 50 categories. The source for each category was saved in a text file, one for each, used as the basis for the analysis. The text for a category begins with the name for the category in a hierarchical definition and continues until the next category. The analysis extracts the examples in the category, essentially identifying a line beginning with “\ex”. Within each example, we focused on the preposition(s), containing an item inside a brace following “\p”, which is bolded in the PDF paper. The text may also include other prepositions that are not in example lines. Such bolded prepositions occur in other discussions about a preposition; such material is generally not used for the analysis.

To analyze a supersense, we set up a new [template](#), create a bookmark and a link, supersense definition, history, instances (underlining preposition and disambiguating), direct tags (preposition, sense number, and definition), same v2 SST in PDEP, substitutables, v1 SST, definition analysis, comment. In [Table 1](#), the first column contains a bookmark that enables a link to the row summarizing the findings for the category. The second column identifies the name of the category and contains a link to the template for the category, where all the details are available. Each template contains the category number and the category name.

2. The Supersense Definition

The first line in the template contains exactly the definition from the Guide.

3. The Supersense History

Many of the categories contain a description of the history of the category, indicating the relation between v1 and v2. The history also contains exactly as it appears in the Guide, when it exists. Frequently, the history may provide links to itself or to other categories (perhaps simply identifying closely related categories). The history may also identify supersense names from v1, particularly of categories that have now been deleted.

When a category was used in v1 and is used in v2, there is usually no history. In a few cases, there is no history and the category was not used in v1 (e.g., [InsteadOf](#)).

4. Instances

All the examples in the Guide for the category that highlight a preposition. Do not include possessive examples or idioms that are clearly idioms that should not be tagged with a preposition sense (e.g., *over and over*). If an example is identified as having a construal (i.e., a role and a function), group the examples with the same construal. When an instance is tagged with an RF (role, function), include the RF for the instance. Underline the preposition in the example. Identify the PDEP sense(s) for the example, i.e., disambiguate the preposition, parenthesizing the PDEP sense at the end of the example. These will be listed in [Direct Tags](#) row. In the summary table of the categories, count the number of examples and the number of distinct senses in the instances. These preposition disambiguations are key to the effective mapping from v1 to v2.

5. Direct Tags

The “direct tags” row lists the senses that have been used in [Instances](#), followed in parentheses by the PDEP definitions.

6. Same Supersense Tag

Search the PDEP properties for senses that have the v2 category in the v1 'ssense' field (supersense tag), i.e., both v2 and v1 have the same supersense name. In some cases, there may be differences in use of the same name, as indicated in the History field. Some times may identify variant preposition (e.g., *thru* for *through*). Use "SELECT prep, sense, ssense FROM `prepprops` WHERE ssense like '%Recipient%'" in clresDB phpmyadmin. Some times, the PDEP supersense may also include other supersenses that were conflated in v1.

7. Substitutable Prepositions

For each sense in Direct Tags and Same SST, record the PDEP Substitutable Prepositions field. Examine their senses to determine if they should have the category in the new supersense.

8. PDEP Hierarchy

Locate the tagged senses for the category in the PDEP class hierarchy, considering the other senses as the class as potential belonging in the category. Search definitions in 'prepdefs' for other senses that can be included in category. To obtain the definitions for a specific class and subclass "SELECT prepdefs.prep, prepdefs.sense, prepdefs.def FROM `prepprops`, `prepdefs` WHERE prepprops.prep = prepdefs.prep and prepprops.sense = prepdefs.sense and prepprops.sup = "MeansMedium" and prepprops.subc = "Instrument";". The identification of senses by searching the database may be problematic, and also possibly useful. First, it may become evident that some senses are assigned incorrectly. Second, the analysis may improve the class and subclass assignments. ([next](#)) ([nextPSST](#))

9. V1 SST

When the supersense was not in v1, it is necessary to examine how it might have been used with the original set. This can be done by examining how the SREUSLE instances were tagged before. Search for instances that begin with “\tp\[A-Za-z]+”. From this we can identify lines that have this and use them to find the prepositions with the instances.

10. Definition Analysis

11. Functions

Record the functions used in the STREUSLE tagging for each category (role) and the number of instances for each function. These are available in the **Maps** folder in files with the name of the category (role) followed by “.map1to2.txt”. When opening such a file, the regex “[A-Za-z]+ ~> [A-Za-z]+” will obtain all Role->Function occurrences and used to count the functions. If the category was used in the v1 tagging, it will be noted with an asterisk. In the file **allcats.txt**, the role occurs with the regex “v1tag = “ following by the category name.

12. Comment

Table 1						
Examples of v2 Supersense Categories						
Hierarchy	Category	Examples	Prepositins	Senses	Average	Average
*1.0.0.0	Circumstance				0.012772	0.003193
1.1.0.0	Temporal	3	3	3	0.004497	2.251124
*1.1.1.0	Time				0.001923	0.000481
*1.1.1.1	StartTime	2	1	7	0.000770	2.500193
*1.1.1.2	EndTime	4	4	8	0.003778	4.000945
*1.1.2.0	Frequency	8			0.004286	2.001072
*1.1.3.0	Duration	19	7	7	0.001157	8.250289
1.1.4.0	Interval	0	0	0	0.007865	0.001966
1.2.0.0	Locus				0.004882	0.001221

Table 1
Examples of v2 Supersense Categories

Hierarchy	Category	Examples	Prepositins	Senses	Average	Average
1.2.1.0	Source				0.005572	0.001393
1.2.2.0	Goal				0.004517	0.001129
1.3.0.0	Path				0.008544	0.002136
*1.3.1.0	Direction	2	1	1	0.003333	1.000833
1.3.2.0	Extent				0.003399	0.000850
1.4.0.0	Means	5	2	17	0.000760	6.000190
1.5.0.0	Manner				0.007091	0.001773
1.6.0.0	Explanation				0.004225	0.001056
1.6.1.0	Purpose				0.005906	0.001477
2.0.0.0	Participant	0	0	0	0.008339	0.002085
2.1.0.0	Causer	5	3	23	0.008050	7.752013
2.1.1.0	Agent				0.011034	0.002759
2.1.1.1	Co-Agent	2	2	13	0.002494	4.250624
2.2.0.0	Theme				0.004011	0.001003
2.2.1.0	Co-Theme				0.000500	0.000125
2.2.2.0	Topic				0.006477	0.001619
2.3.0.0	Stimulus	20			0.009700	5.002425
2.4.0.0	Experiencer				0.005941	0.001485
2.5.0.0	Originator	8	3	4	0.013026	3.753257
2.6.0.0	Recipient	6	5	7	0.003441	4.500860
2.7.0.0	Cost	5	3	14	0.001083	5.500271
2.8.0.0	Beneficiary				0.001896	0.000474
2.9.0.0	Instrument				0.000740	0.000185
3.0.0.0	Configuration	0	0	0	0.008794	0.002199
3.1.0.0	Identity	10	2	3	0.000870	3.750218
3.2.0.0	Species	6	1	2	0.045834	2.261459
3.3.0.0	Gestalt				0.122926	0.030732
3.3.1.0	Possessor				0.001743	0.000436
3.3.2.0	Whole				0.015627	0.003907
3.4.0.0	Characteristic				0.035094	0.008774
3.4.1.0	Possession				0.047133	0.011783
3.4.2.0	PartPortion				0.001993	0.000498
3.4.2.1	Stuff				0.003781	0.000945
3.5.0.0	Accompanier				0.003456	0.000864
3.6.0.0	InsteadOf	4	2	8	0.008571	3.502143
3.7.0.0	ComparisonRef				0.009455	0.002364
3.8.0.0	RateUnit	4	2	2	0.011626	2.002907
3.9.0.0	Quantity				0.000570	0.000143
3.9.1.0	Approximator				0.001007	0.000252
3.10.0.0	SocialRel				0.004583	0.001146
3.10.1.0	OrgRole				0.062356	0.015589

Analysis of Category Tokens in v2

Table 2 provides the counts for the 5496 tokens in v2 that were the 14th STREUSLE column in each v2 category supersense. The table shows the hierarchy number for the category and the category name, with a link that describes the category (definition, history, example instances in the Guide, etc.). The table is based on the token number (sentid:tok). The sum of the 3rd (**v1 Old**) and the 5th (**v2 New**) columns is the count of how many tokens with tagged with the category. The 3rd column identifies the number of sentid:tok items that were tagged in v1. The 4th column (**Diff**) identifies the number of tokens that were tagged with different names in v1. The 5th column identifies the number of tokens that were newly tagged with the category in the latest tagging.

The 6th column (**Preps**) identifies the distinct prepositions occurring in the category; the 7th column (**PDEP**) indicates the number of prepositions included in the PDEP preposition inventory. The 8th column (**ADP**) indicates the tokens that were characterized as adpositions. The 9th column (**MWE**) identifies the number of prepositions (from the 7th column) characterized as multi-word expressions, i.e., containing a space. The 10th column (**Funct**) identifies the distinct different “functions” (the 15th column in STREUSLE).

Hierarchy	Category	v1 Old	Diff	v2 New	Preps	PDEP	ADP	MWE	Funct
1.0.0.0	Circumstance	76	39	7	25	13	62	17	3
1.1.0.0	Temporal	0	0	0	0	0	0	0	0
1.1.1.0	Time	352	205	5	39	19	231	21	8
1.1.1.1	StartTime	29	3	0	4	2	19	2	1
1.1.1.2	EndTime	29	0	1	4	3	17	1	1
1.1.2.0	Frequency	7	0	2	6	4	6	2	3
1.1.3.0	Duration	88	11	2	12	6	86	6	3
1.1.4.0	Interval	4	4	0	1	0	0	0	1
1.2.0.0	Locus	624	597	21	64	36	573	26	7
1.2.1.0	Source	66	60	8	7	4	72	4	1
1.2.2.0	Goal	210	208	24	17	11	212	5	3
1.3.0.0	Path	27	27	1	12	11	24	1	3
1.3.1.0	Direction	116	8	21	13	9	11	1	2
1.3.2.0	Extent	40	8	2	17	7	20	11	3
1.4.0.0	Means	17	2	0	4	4	8	0	2
1.5.0.0	Manner	90	58	8	31	9	81	22	6
1.6.0.0	Explanation	119	34	2	10	8	55	5	4
1.6.1.0	Purpose	328	86	35	8	4	130	4	3
2.0.0.0	Participant	0	0	0	0	0	0	0	0
2.1.0.0	Causer	5	2	1	4	3	5	0	3
2.1.1.0	Agent	33	6	128	15	5	32	0	5
2.1.1.1	Co-Agent	21	1	14	1	1	35	0	1
2.2.0.0	Theme	124	52	95	14	8	151	0	10

Table 2
Analysis of v1 Tagging to v2 Tagging

Hierarchy	Category	v1 Old	Diff	v2 New	Preps	PDEP	ADP	MWE	Funct
2.2.1.0	Co-Theme	12	7	2	5	5	11	0	3
2.2.2.0	Topic	180	57	37	12	10	180	3	3
2.3.0.0	Stimulus	96	41	27	9	9	115	0	8
2.4.0.0	Experiencer	22	5	85	11	4	21	0	4
2.5.0.0	Originator	56	56	74	12	4	58	0	4
2.6.0.0	Recipient	92	10	30	8	4	111	0	4
2.7.0.0	Cost	49	49	1	8	5	49	3	4
2.8.0.0	Beneficiary	80	11	14	11	6	81	0	6
2.9.0.0	Instrument	22	17	1	9	8	23	1	5
3.0.0.0	Configuration	0	0	0	0	0	0	0	0
3.1.0.0	Identity	56	56	0	5	5	40	0	2
3.2.0.0	Species	39	1	1	1	1	40	0	1
3.3.0.0	Gestalt	81	81	116	18	6	78	0	5
3.3.1.0	Possessor	4	3	320	12	2	4	0	3
3.3.2.0	Whole	75	44	68	14	5	76	1	5
3.4.0.0	Characteristic	114	114	25	43	11	123	35	8
3.4.1.0	Possession	40	40	5	8	8	45	1	5
3.4.2.0	PartPortion	62	62	1	15	12	43	8	5
3.4.2.1	Stuff	9	9	0	1	1	9	0	1
3.5.0.0	Accompanier	28	8	0	4	3	25	1	2
3.6.0.0	InsteadOf	9	9	1	3	2	1	3	2
3.7.0.0	ComparisonRef	117	117	39	14	13	88	2	7
3.8.0.0	RateUnit	5	5	0	2	2	5	0	1
3.9.0.0	Quantity	192	119	4	2	2	193	1	4
3.9.1.0	Approximator	72	3	4	14	7	10	7	2
3.10.0.0	SocialRel	11	11	210	12	3	24	0	3
3.10.1.0	OrgRole	64	64	62	17	9	71	1	11
Total		3992	2410	1504	578	314	3354	195	181

Category 1.0.0.0 - Circumstance	
Definition	
History	
Instances	
Direct Tags	
Same SST	
Substitutables	
V1 SST	
Definition Analysis	
Functions	83 instances: * Circumstance (64), Locus (18), Path (1)
Comment	

Category 1.1.0.0 - Temporal	
Definition	Supercategory for temporal descriptions: when, for how long, how often, how many times , etc. something happened or will happen.
History	The v1 category AGE (e.g., <i>a child of five</i>) was a mutual subtype of Temporal and ATTRIBUTE . Being quite specific and rare, for v2 it was removed, licensing both Time and \psst{Characteristic} prepositions. Combined with the changes to Time subcategories (see below), this reduced to 3 the number of labels in the Temporal subtree,
Instances	The plans are in progress. (in (3(2))) The plans are on hold. (on (19(9))) The plans are in limbo. (in (5(4)))
Direct Tag	in (3(2)) (expressing a period of time during which an event happens or a situation remains the case) on (19(9)) (engage in) in (5(4)) ((often followed by a noun without a determiner) expressing a state or condition)
Same SST	None
Substitutables	in (3(2)): during (?) in (5(4)): under (?)
V1 SST	Used State (had 77 instances, but most were phrases, but tagged as Manner->Locus, which don't seem to be Temporal, including both <i>on hold</i> and <i>in limbo</i>) Used Activity (had 18 instances, but did not seem to be Temporal, include <i>on duty</i> and <i>on business</i>)
Definitions	Not yet identified some to search for
Functions	No instances
Comment	Applies directly only to event descriptors with an aspectual quality that do not fit any of the subcategories (Time , StartTime , EndTime)

Category 1.1.1.0 - Time	
Definition	
History	
Instances	
Direct Tags	
Same SST	
Substitutables	
V1 SST	
Definition Analysis	
Functions	357 instances: Direction (2), Duration (1), Extent (2), Gestalt (3), Goal (1), Interval (31), * Time (313), Whole (4)
Comment	

Category 1.1.1.1 - StartTime	
Definition	When the event denoted by the governor begins.
History	None - Used in v1
Instances	The show will run <u>from</u> 10 a.m. to 2 p.m. (from (3(2))) a document dating <u>from</u> the thirteenth century (from (3(2)))
Direct Tags	from (3(2)) (indicating the point in time at which a particular process, event, or activity starts)
Same SST	frae (3(2)) (same as from (3(2))) from(5(3a)) (indicating the date at which something was created) since (1(1)) (in the intervening period between (the time mentioned) and the time under consideration, typically the present)
Substitutables	from (5(3a)): of (?)
PDEP Hierarchy	<u>Temporal->SimpleTime:Origin</u> "as far as","2(n)","in the intervening period between (the time mentioned) and the time under consideration, typically the present" "as from","1(1)","used to indicate the time or date from which something starts" "frae","3(2)","indicating the point in time at which a particular process, event, or activity starts" "frae","5(3a)","indicating the date at which something was created" "from","3(2)","indicating the point in time at which a particular process, event, or activity starts" "from","5(3a)","indicating the date at which something was created" "since","1(1)","in the intervening period between (the time mentioned) and the time under consideration, typically the present" <u>Analysis (Questionable)</u> as of (1(1)): "used to indicate the time or date from which something starts" come (1(1)): "on or at the arrival of (a specified date, time or season)"
Functions	29 instances: * StartTime (29)
Comment	Note that simple Time is used with verbs like <i>start</i> and <i>begin</i> : the event directly described by the PP is the starting, not the thing that started. 29 instances with all 29 StartTime function. Of 12 <i>since</i> instances, 9 are subordinating conjunctions, not prepositions.

Category 1.1.1.2 - EndTime	
Definition	When the event denoted by the governor finishes.
History	None - Used in v1.
Instances	The show will run from 10 a.m. <u>to</u> 2 p.m. (to (3(1b))) Add the cider and boil <u>until</u> the liquid has reduced by half. (until (1(1))) If we have survived <u>up to</u> now what is stopping us from surviving in the future? (up to (2(1a))) They will be in London from March 24 <u>through</u> May 7. (through (11(4)))
Direct Tags	to (3(1b)) (expressing a point reached at the end of a range or after a period of time) until (1(1)) (up to (the point in time or the event mentioned)) up to (2(1a)) (until) through (11(4)) (up to and including (a particular point in an ordered sequence))
Same SST	thro', thru (11(4)) (same as through (11(4))) till (1(1)) (same as until (1(1)))
Substitutables	to (3(1b)): till, until until (1(1)): till, through, to, up to up to (2(1a)): till, through, to, up to through (11(4)): till, until
PDEP Hierarchy	by (17(4)): "indicating a deadline or the end of a particular time period"
Functions	30 instances: * EndTime (30)

Category 1.1.1.2 - EndTime	
Comment	12 of the <u>until</u> instances and the 1 <u>till</u> instances are tagged as SCONJ:IN, where these are not prepositions, but are subordinating conjunctions followed by subordinate clauses. Other until instances are ADP:IN tags.

Category 1.1.2.0 - Frequency	
Definition	At what rate something happens or continues, or the instance of repetition that the event represents.
History	No history. Used in v1.
Instances	<p>Guests were arriving <u>at</u> a steady clip. (at (10(5a)))</p> <p>The risk becomes worse <u>by</u> the day. (by (14(3b)))</p> <p>I see them <u>on</u> occasion. (on (18(8a)))</p> <p>The camcorder failed <u>for</u> the third time. (for (14(12)))</p> <p>I skipped lunch <u>for</u> three days in a row. (for (12 (10)))</p> <p>I skipped lunch <u>for</u> the third day in a row. (for (14(12)))</p> <p>We arrived <u>for</u> our (third) visit. (for (14(12)))</p> <p>Frequency~>\psst{Manner}</p> <p>I see them <u>on</u> a daily basis. (on (8(3)), (9(3a)))</p>
Direct Tag	<p>at (10(5a)) (expressing an incomplete or attempted action, typically involving repeated movements)</p> <p>by (14(3b)) (in phrases indicating something happening repeatedly or progressively, typically with repetition of a unit of time)</p> <p>for (12(10)) (indicating the length of (a period of time))</p> <p>for (14(12)) (indicating an occasion in a series)</p> <p>on (8(3)) (having (the thing mentioned) as a topic; about)</p> <p>on (9(3a)) (having (the thing mentioned) as a basis)</p> <p>on (18(8a)) (at the time of)</p>
Same SST	<p>after (2(1a)) ((in phrases indicating something happening continuously or repeatedly) in the time following (an event or another period of time))</p> <p>at (5(3)) (denoting a particular point or level on a scale) (?) (Frequency, Value)</p>
Substitutables	<p>for (12(10)): during</p> <p>on (18(8a)): upon</p>
PDEP Hierarchy	
V1 SST	
Definition Analysis	
Functions	9 instances: * Frequency (7), \psst{Extent} (1), \psst{Manner} (1)
Comment	

Category 1.1.3.0 - Duration	
Definition	Indication of how long an event or state lasts (with reference to an amount of time or time period/ larger event that it spans).
History	No history. Used in v1

Category 1.1.3.0 - Duration	
<u>Instances</u>	<p>I walked <u>for</u> 20 minutes. (for (12(10)))</p> <p>I walked <u>in</u> 20 minutes. (in (3(2)))</p> <p>I walked to the store <u>in</u> 20 minutes. (in (3(2)))</p> <p>I walked to the store <u>within</u> 20 minutes. (within (6(3)))</p> <p>I walked a mile <u>in</u> 20 minutes. (in (3(2)))</p> <p>I walked a mile <u>within</u> 20 minutes. (within (6(3)))</p> <p>I mowed the lawn <u>for</u> an hour. (for (12(10)))</p> <p>I mowed the lawn <u>in</u> an hour. (in (3(2)))</p> <p>I mowed the lawn <u>within</u> an hour. (within (6(3)))</p> <p>I walked <u>for</u> the entire race. (for (12(10)))</p> <p>I walked <u>throughout</u> the night. (throughout (2(1a)))</p> <p>I walked <u>through</u> the night. (through (7(2)))</p> <p>I walked well <u>into</u> the night. (into (1(1)-1))</p> <p>The deal was negotiated <u>over</u> (the course of) a year. (over (14(5)))</p> <p>John went to the store <u>for</u> an hour. (for (12(10)))</p> <p>John left the party <u>for</u> an hour. (for (12(10)))</p> <p>I lifted weights <u>for</u> an hour. (for (12(10)))</p> <p>I walked to the store <u>for</u> a year. (for (12(10)))</p> <p>He arrived in town <u>over</u> the weekend. (over (14(5)))</p>
<u>Direct Tags</u>	<p>for (12(10))</p> <p>in (3(2))</p> <p>within (6(3))</p> <p>throughout (2(1a))</p> <p>through (7(2))</p> <p>over (14(5))</p> <p>into (1(1)-1)</p>
<u>Same SST</u>	<p>across (1(1)-1), down (5(2)), during (1(1)), during (2(1a)), for (12(10)), in the midst of (1(1)), into (1(1)-1), o'er, over (14(5)), thro', through, thru (7(2)) (9(2b)), throughout (2(1a))</p>
<u>Substitutables</u>	
<u>V1 SST</u>	
<u>Definition Analysis</u>	
<u>Functions</u>	90 instances: <u>Duration</u> (86), Gestalt (2), Extent (2)
<u>Comment</u>	

Category 1.1.4.0 - Interval	
<u>Definition</u>	A marker that points retrospectively or prospectively in time, and if transitive, marks the time elapsed between two points in time.
<u>History</u>	Version 1 featured a label called DEICTICTIME, under RELATIVETIME, which was meant to cover ago and temporal usages of other adpositions (such as in) whose reference point is the utterance time or deictic center. This concept proved difficult to apply and was (without good justification) used as a catch-all for intransitive usages of temporal prepositions. For v2, the new concept of <u>Interval</u> is broader in that it drops the deictic requirement (also covering within), while <u>Time</u> has been clarified to include intransitive usages of prepositions like before where the reference time can be recovered from discourse context.
<u>Instances</u>	No preposition instances (see Comment)
<u>Direct Tags</u>	
<u>Same SST</u>	
<u>Substitutables</u>	
<u>V1 SST</u>	
<u>Definition Analysis</u>	
<u>Functions</u>	4 instances: <u>Interval</u> (4)

Category 1.1.4.0 - Interval	
Comment	Discussion of this category primarily focuses on instances in the function position (Time ~> Interval , 31 instances), where the only instances of Interval ~> Interval used the adverb back .

Category 1.3.1.0 - Direction	
Definition	How motion or an object is aimed/oriented.
History	No history. Used in v1
Instances	The camera is aimed <u>at</u> the subject. (at (9(5))) The toddler kicked <u>at</u> the wall. (at (9(5)))
Direct Tags	at (9(5)) (expressing the object of a look, thought, action, or plan)
Same SST	after (6(2a)) ((with reference to looking or speaking) in the direction of someone who is moving further away) at (10(5a)) (expressing an incomplete or attempted action, typically involving repeated movements) into (4(4)) (in the direction of) off (4(3)) (so as to be removed or separated from) toward (1(1)) (in the direction of) towards (1(1)) (in the direction of)
Substitutables	toward, about, into, up to
VI SST	
Definition Analysis	along (1(1)): o', of (8(4)): off (2(2)): onto (7(n)): per (3(3)): to (1(1)): unto (3(n)) with (15(9)):
Functions	137 instances: Direction (136), Goal (1)
Comment	Most instances used "prototypical markers" known as <i>adverbs</i> , <i>particles</i> , and <i>intransitive prepositions</i> .

Category 1.4.0.0 - Means	
Definition	Secondary action or event presented as playing an intermediate causal role in facilitating (but not instigating) the main event.
History	In v1, Means was a subtype of \psst{Instrument}, but with the removal of multiple inheritance for v2, the former was moved directly under \psst{Circumstance} and the latter directly under Participant .
Instances	Open the door <u>by</u> turning the knob. (by (5(2))) They retaliated <u>by</u> shooting. (by (5(2))) They retaliated <u>with</u> shootings}. (with (4(3)) The owners destroyed the company <u>by</u> growing it too fast. (by (5(2))) Chlorophyll absorbs the light <u>by</u> transfer of electrons. (by (5(2)))
Direct Tags	by (5(2)) (indicating the means of achieving something) with (4(3)) (indicating the instrument used to perform an action)
Same SST	thro' (12(5)) (by means of (a process or intermediate stage)) (also Course, Via) through (12(5)) (by means of (a process or intermediate stage)) (also Course, Via) thru (12(5)) (by means of (a process or intermediate stage)) (also Course, Via) via (2(1a)) (by way of; through) (also Via)
Substitutables	through, thru, thro' (12(5)): by way of, via via (2(1a)): by means of, through

Category 1.4.0.0 - Means	
PDEP Hierarchy	<p><u>MeansMedium~>Means</u></p> <p>"at", "11(6)", "expressing the means by which something is done"</p> <p>"by", "5(2)", "indicating the means of achieving something"</p> <p>"by", "8(2c)", "indicating the means of transport selected for a journey"</p> <p>"by dint of", "1(1)", "by means of"</p> <p>"by force of", "1(1)", "by means of"</p> <p>"by means of", "1(1)", "with the help of; by using"</p> <p>"by way of", "3(3)", "by means of"</p> <p>"per", "2(2)", "by means of"</p> <p>"thro", "12(5)", "by means of (a process or intermediate stage)"</p> <p>"through", "12(5)", "by means of (a process or intermediate stage)"</p> <p>"thru", "12(5)", "by means of (a process or intermediate stage)"</p> <p>"via", "2(1a)", "by way of; through"</p> <p>"with", "4(3)-1", "identifying the content of a communication" (Questionable)</p> <p><u>MeansMedium~>Instrument</u></p> <p>"with", "4(3)", "indicating the instrument used to perform an action"</p> <p><u>Analysis (Questionable)</u></p> <p>over, o'er (15(6)): "expressing the medium by which something is done; by means of"</p> <p>over, o'er (15(6)-1): "by means of the resistant surface constituted by (an object)"</p> <p>per (2(2)): "by means of"</p>
Functions	
Comment	

Category 2.0.0.0 - Participant	
Definition	Thing, usually an entity, that plays a causal role in an event.
History	No history and not present in v1.
Functions	N/A
Comment	Not used directly - see its subtypes

Category 2.1.0.0 - Causer	
Definition	Instigator of, and a core participant in, an event.
History	None - Used in v1
Instances	<p>the devastation of the town wreaked <u>by</u> the fire (by (2(1a)))</p> <p><u>Causer</u>~>\psst{Gestalt}</p> <p>the devastation <u>of</u> the fire on the town (of (16(7b)))</p> <p><u>Causer</u>~>\psst{Source}</p> <p>the devastation <u>from</u> the fire (from (12(9)))</p> <p>fatalities <u>from</u> cancer (from (12(9)))</p> <p>FDR suffered <u>from</u> polio. (from (12(9)))</p>
Direct Tags	<p>by (2(1a)) ((after a passive verb) through the agency or action of)</p> <p>of (16(7b)) (because of)</p> <p>from (12(9)) (indicating a cause)</p>
Same SST	with (12(7c)): "because of (something) and as it happens"
Substitutables	<p>by: with</p> <p>of: from, because of</p> <p>from: because of, on account of, for</p> <p>with: because of, along with</p>

Category 2.1.0.0 - Causer	
Definitions	<p>(from <i>because</i>)</p> <p>"by reason of", "1(1)", "because of"</p> <p>"by virtue of", "1(1)", "because of; as a result of"</p> <p>"due to", "3(3)", "because of; owing to"</p> <p>"in bed with", "3(n)", "(for maladies, diseases and afflictions) because of"</p> <p>"in view of", "1(1)", "because of; as a result of"</p> <p>"in virtue of", "1(1)", "because of; as a result of"</p> <p>"o", "16(7b)", "(for maladies, diseases and afflictions) because of"</p> <p>"on account of", "1(1)", "because of"</p> <p>"on the score of", "1(1)", "because of"</p> <p>"owing to", "1(1)", "because of or on account of"</p> <p>(from <i>result</i>)</p> <p>"pon", "3(1b)", "as a result of accidental physical contact with"</p> <p>"after", "1(1)-1", "following in time and resulting from (an event or activity)"</p> <p>"by courtesy of", "2(1a)", "as a result of; thanks to"</p> <p>"by virtue of", "1(1)", "because of; as a result of"</p> <p>"courtesy of", "2(1a)", "as a result of; thanks to"</p> <p>"following", "1(1)", "coming after or as a result of"</p> <p>"on", "3(1b)", "as a result of accidental physical contact with"</p> <p>"thanks to", "1(1)", "as a result of; due to"</p> <p>"upon", "3(1b)", "as a result of accidental physical contact with"</p>
Functions	
Comment	

Category 2.1.1.0 - Agent	
Definition	Animate instigator of an action (typically volitional).
History	None. Used in v1.
Instances	<p>the decisive vote <u>by</u> the City Council (by (3(1b)))</p> <p><u>Agent</u>~>\psst{Gestalt}</p> <p>the decisive vote <u>of</u> the City Council (of (11(6)))</p> <p>It was the fault <u>of</u> the chairman}. (of (11(6)))</p> <p><u>Agent</u>~>\psst{Whole}</p> <p>There was a war <u>between</u> France and Spain. (between (5(4a)))</p> <p>a discussion <u>among</u> the board members (among (3(3)))</p>
Direct Tags	<p>by (3(1b)) ((after a noun denoting an action) through the agency or action of)</p> <p>of , o' (11(6)) (expressing the relationship between an abstract concept having a verb-like meaning and a noun denoting the subject of the underlying verb)</p> <p>between, betwixt (5(4a)) (with reference to a collision or conflict)</p> <p>among (3(3)) (occurring in or shared by (some members of a group or community))</p>
Same SST	<p>by (1(1)): "through the agency or action of"</p> <p>by (2(1a)): "(after a passive verb) through the agency or action of" (also <u>Causer</u>, \psst{Stimulus})</p>
Substitutables	<p>by (1(1), 2(1a)): with</p> <p>by (3(1b)): of, on the part of</p> <p>between (5(4a)): (involving)</p> <p>among (3(3)): in</p>
Functions	
Comment	Compare: <u>Co-Agent</u> ; see also: \psst{OrgRole}, \psst{Originator}, \psst{Source}, \psst{Stimulus}

Category 2.1.1.1 - Co-Agent	
Definition	Second semantically core participant that would otherwise be labeled Agent , but which is adpositionally marked in contrast with an Agent occupying a non-oblique syntactic position (subject or object). Typically, the Agent and Co-Agent engage in the event in a reciprocal fashion.
History	None - Used in v1
Instances	I fought in a war <u>against</u> the Germans. (against (1(1))) I talked/argued <u>with</u> my roommate about cleaning duties. (with 1(1), (6(4)))
Direct Tags	against (1(1)) (in opposition to) with (1(1)) (accompanied by (another person or thing)) with (6(4)) (in opposition to)
Substitutables	against (1(1), 3(1b)): with, versus between, betwixt (4(4), 5(4a)): (involving) by (9(2d)): of with (1(1)): next to, beside with (6(4)): against
Same SST	against, 'gainst, agin (1(1)) (in opposition with) against, 'gainst, agin (3(1b)) (in competition with) between, betwixt (4(4)) (indicating a connection or relationship involving two or more parties (also Co-Theme)) between, betwixt (5(4a)) (with reference to a collision or conflict) (also Co-Theme, Co-Patient) by (9(2d)) (indicating the other parent of someone's child or children)
Definitions	anti (1(1)): "opposed to; against" athwart (2(2)): "in opposition to; counter to" in the teeth of (2(1a)): "in spite of (opposition or difficulty)" thwart (2(2)): "in opposition to; counter to" upside (1(1)): "against, on" versus (1(1)): "against (especially in sporting and legal use)"
Functions	
Comment	See also: \psst{Accompanier}, \psst{SocialRel}

Category 2.3.0.0 - Stimulus	
Definition	That which is perceived or experienced (bodily, perceptually, or emotionally).
History	None - Used in v1

Category 2.3.0.0 - Stimulus	
<u>Instances</u>	<p><u>Stimulus</u>~>\psst{Beneficiary}</p> <p>My affection <u>for</u> you (for (2(2)))</p> <p>Her disdain <u>for</u> customers was apparent. (for (2(2)))</p> <p>He has/feels compassion <u>for</u> animals. (for (2(2)))</p> <p>He has/feels compassion \p{towards} animals.</p> <p><u>Stimulus</u>~><u>Causer</u></p> <p>Scared <u>by</u> the bear (by (2(1a)))</p> <p><u>Stimulus</u>~>\psst{Goal}</p> <p>We were listening \p{to} the music. (to (14(6)))</p> <p>You should listen \p{to} the music. (to (14(6)))</p> <p>You should pay attention \p{to} the music. (to (14(6)))</p> <p><u>Stimulus</u>~><u>Direction</u></p> <p>We were looking \p{at} the photo.</p> <p>I was angry \p{at} him.</p> <p>I startled \p{at} the noise.</p> <p><u>Stimulus</u>~>\psst{Topic}</p> <p>I care \p{about} you.</p> <p>That's what I love \p{about} the show.</p> <p>I took pride \p{in} the results.</p> <p>I was proud \p{of} the results.</p> <p>I was happy \p{with} the results.</p> <p>I was angry \p{with} him.</p> <p>I was in love \p{with} him.</p> <p>They bored me \p{with} their incessant talk about cats.</p> <p><u>Stimulus</u>~>\psst{Explanation}</p> <p>I am thankful/grateful <u>for</u> your help. (for (6(5)))</p>
<u>Direct Tags</u>	<p>for (2(2)) (affecting, with regard to, or in respect of)</p> <p>for (6(5)) (having (the thing mentioned) as a reason or cause)</p> <p>by (2(1a)) ((after a passive verb) through the agency or action of)</p> <p>to (14(6)) (concerning or likely to concern (something))</p>
<u>Same SST</u>	
<u>Substitutables</u>	
<u>V1 SST</u>	
<u>Definition Analysis</u>	
<u>Functions</u>	
<u>Comment</u>	

Category 2.5.0.0 - Originator	
<u>Definition</u>	Animate who is the initial possessor or creator/producer of something, including the speaker/communicator of information. Excludes events where transfer/communication is not framed as unidirectional.
<u>History</u>	<u>Originator</u> merges v1 labels DONOR/SPEAKER and CREATOR, which were difficult to distinguish in the case of authorship. DONOR/SPEAKER was a subtype of INITIALLOCATION, which inherited from LOCATION and \psst{Source}. CREATOR was a subtype of <u>Agent</u> . Moving <u>Originator</u> directly under <u>Participant</u> puts it in a neutral position with respect to its possible construals.

Category 2.5.0.0 - Originator	
<u>Instances</u>	<p><u>Originator</u>~><u>Agent</u> works <u>by</u> Shakespeare (by (4(1c))) The telephone was invented <u>by</u> Alexander Graham Bell. (by (2(1a))) The story was given/told to her <u>by</u> her editor. (by (2(1a)))</p> <p><u>Originator</u>~>\psst{Source} works <u>of</u> Shakespeare (of (7(3a))) The story was obtained <u>from</u> an anonymous White House employee. (from (4(3))) I bought it <u>from</u> this company. (from (4(3))) I heard the news <u>from</u> Larry. (from (4(3))) We learned a lot <u>from</u> Miss Zarves. (from (4(3)))</p>
<u>Direct Tags</u>	<p>by (4(1c)) (from the hand, mind, or inventive capacity of) by (2(1a)) ((after a passive verb) through the agency or action of) of (7(3a)) (expressing the relationship between an author, artist, or composer and their works collectively) from (4(3)) (indicating the source or provenance of someone or something)</p>
<u>Same SST</u>	None (not in v1)
<u>Substitutables</u>	<p>by (4(1c)): of by (2(1a)): with of (7(3a)): from, by from (4(3)): of</p>
<u>V1 SST</u>	
<u>Definition Analysis</u>	
<u>Functions</u>	
<u>Comment</u>	

Category 2.6.0.0 - Recipient	
<u>Definition</u>	The party (usually animate) that is the endpoint of (actual or intended) transfer of a thing or message, becoming the final \psst{Possessor} or \psst{Gestalt}. Excludes events where transfer/communication is not framed as unidirectional.
<u>History</u>	In v1, <u>Recipient</u> was the counterpart to DONOR/SPEAKER: <u>Recipient</u> was a subtype of DESTINATION, which inherited from LOCATION and \psst{Goal}. Moving <u>Recipient</u> directly under <u>Participant</u> puts it in a neutral position with respect to its possible construals.
<u>Instances</u>	<p><u>Recipient</u>~>\psst{Goal} She gave the story or spoke <u>to</u> her editor. (to (8(3))) What title did you give <u>to</u> your essay? (to (8(3)))</p> <p><u>Recipient</u>~>\psst{Direction} news <u>for</u> our readers (for (3(3))) He is yelling <u>at</u> me to get ready! (at (9(5)))</p> <p><u>Recipient</u>~>\psst{Agent} The news was not well received <u>by</u> the White House. (by (2(1a)))</p> <p><u>Recipient</u>~><u>Co-Agent</u> I'll have to check <u>with</u> my supervisor. (with (8(6)))</p>
<u>Direct Tags</u>	<p>at (9(5)) (expressing the object of a look, thought, action, or plan) by (2(1a)) ((after a passive verb) through the agency or action of) for (3(3)) (on behalf of or to the benefit of) to (8(3)) (identifying the person or thing affected by or receiving something) with (8(6)) (indicating responsibility)</p>
<u>Same SST</u>	<p>for (2(2)) (affecting, with regard to, or in respect of) (also Stimulus, Theme) with (9(7)) (in relation to) (also Activity, Co-Theme, Beneficiary, Theme, Topic)</p>

Category 2.6.0.0 - Recipient	
Substitutables	at (9(5)): toward (possibly 4(2), 4(2)-1), about by (2(1a)): with for (2(2)): with, of for (3(3)): on behalf of (maybe \psst{Beneficiary}) with (9(7)): by, through
V1 SST	DESTINATION instances don't seem to be Recipient .
Definitions	None
Functions	
Comment	There are 150 instances of Destination in v1 tags; the first 38 are to \psst{Goal}.

Category 2.7.0.0 - Cost	
Definition	An amount (typically of money) that is linked to an item or service that it pays for, could pay for, or given as the amount earned or owed.
History	This category was not present in v1, which had the broader category VALUE. VerbNet has a similar category called ASSET ; we chose the name Cost to emphasize that it describes a relation rather than an entity type (it does not apply to money with a verb like <i>possess</i> or <i>transfer</i> , for instance).
Instances	I bought/sold the book <u>for</u> \$10. (for (10(8a))) I got a refund <u>of</u> \$10. (of (4(2))) The book is priced/valued <u>at</u> \$10. (at (5(3))) I bought it <u>at</u> a great price/rate. (at (5(3))) You can ride the bus <u>for</u> free/\$1. (for (10(8a)))
Direct Tags	for (10(8a)) (charged as (a price)) of (4(2)) (expressing the relationship between a scale or measure and a value) at (5(3)) (denoting a particular point or level on a scale)
Same SST	None (not in v1)
Substitutables	for 10(8a): at at (5(3)): around (?), in (?)
V1 SST	above 9(3) Scalar/Rank,ValueComparison (higher than (a specified amount, rate, or norm)) at 5(3) Frequency,Value (as above) below 3(1b) Scalar/Rank,ValueComparison (lower than (a specified amount or standard)) by 13(3a) Value (indicating a quantity or amount) X by 16(3d) Value (expressing multiplication, especially in dimensions) X for 10(8a) Value (as above) in 12(9) Superset,Value (expressing a value as a proportion of (a whole) X into 8(8) Value (expressing division) X near 4(3a) ValueComparison (a small amount below (another amount)) o' 4(2) Extent,Value (as above) of 4(2) Extent,Value (as above) per 1(1) Value (for each (used with units to express a rate)) X to 11(4b) Value (indicating a rate of return on something, for example the distance travelled in exchange for fuel used) X to 12(4c) Value (indicating the power (exponent) to which a number is raised X up to 3(2) ValueComparison (indicating a maximum amount)

Category 2.7.0.0 - Cost	
Definitions	<p>against, 'gainst, agin (7(2c)): "in relation to (an amount of money owed, due, or lent) so as to reduce, cancel, or secure it"</p> <p>beyond (6(3a)): "above or greater than (a specified amount)"</p> <p>give or take (1(1)): "to within (a specified amount)"</p> <p>in proportion to (1(1)): "according to (a particular relationship in size, amount, or degree)"</p> <p>near to, nigh (4(3a)): "a small amount below (another amount)"</p> <p>to the tune of (1)): "amounting to or involving (a specified considerable sum)"</p> <p>under (7(3)): "lower than (a specified amount, rate, or norm)"</p> <p>underneath (5(n)): "lower than (a specified amount or standard)"</p>
Functions	
Comment	This is specifically about payment requested. If an amount is treated as property, then \psst{Possession} is appropriate. (In v1 SST, some PDEP instances meeting Cost criteria.)

Category 3.0.0.0 - Configuration	
Definition	Thing, usually an entity or property, that is involved in a static relationship to some other entity.
History	None. Not in v1.
Functions	N/A
Comment	Not used directly - see its subtypes

Category 3.1.0.0 - Identity	
Definition	A category being ascribed to something, or something belonging to the category denoted by the governor.
History	Generalized from v1, where it was called INSTANCE and restricted to the "(category) of (thing)" formulation. The relevant usages of as were labeled ATTRIBUTE.
Instances	<p>the state <u>of</u> Washington [as opposed to the city] (of (9(5)))</p> <p>The liberal state <u>of</u> Washington has not been receptive to Trump's message. (of (9(5)))</p> <p><u>As</u> a liberal state, Washington has not been receptive to Trump's message. (as (1(1)))</p> <p>I like Bob <u>as</u> a colleague. [but not as a friend] (as (1(1)))</p> <p>What a gem <u>of</u> a restaurant! [exclamative idiom: both NPs are indefinite] (of (9(5)))</p> <p>the problem/task/hassle <u>of</u> raising money (of (9(5)))</p> <p>the age <u>of</u> eight (of (5(2a)))</p> <p>They did a great job <u>of</u> cleaning my windows. (of (9(5)))</p> <p>She appears <u>as</u> Ophelia in Hamlet. (as (1(1)))</p> <p>He is usually a bartender, but today he is working <u>as</u> a waiter. (as (1(1)))</p>
Direct Tags	<p>of (5(2a)) (used to indicate a person's age in months or years)</p> <p>of (9(5)) (expressing the relationship between a general category or type and the thing being specified which belongs to such a category)</p> <p>as (1(1)) (used to refer to the function or character that someone or something has)</p>
Same SST	
Substitutables	
V1 SST	
Definition Analysis	
Functions	56 instances: Identity (51), \psst{ComparisonRef} (5)
Comment	Several instances describe Identity as the function, for \psst{Topic} and \psst{Characteristic}

Category 3.2.0.0 - Species	
Definition	A category qualified by sort, type, kind, species, breed, etc. Includes variety, selection, range, assortment, etc. meaning 'many different kinds'.
History	No history. Used in v1.
Instances	that sort of <u>business</u> (of (10(5a)), o' (10(5a))) A good type of <u>ant</u> to keep is the red ant. (of (10(5a)), o' (10(5a))) certain strains of <u>Escherichia coli</u> (of (10(5a)), o' (10(5a))) Modern breeds of <u>these homing pigeons</u> return reliably. (of (10(5a)), o' (10(5a))) Some poor sap applied the wrong brand of <u>paint</u> . (of (10(5a)), o' (10(5a))) This store offers a wide selection of <u>footstools</u> . (of (10(5a)), o' (10(5a)))
Direct Tags	of (10(5a)) (denoting the genus to which a given thing or quality belongs)
Same SST	None
Substitutables	None
V1 SST	
Definition Analysis	None
Functions	40 instances: Species (40)
Comment	This is close to <i>of</i> (9(5)). See Identity

Category 3.5.0.0 - Approximator	
Definition	An “operator” that semantically takes a measurement, quantity, or range as an argument and “transforms” it in some way into a new measurement, quantity, or range.
History	No history. Used in v1.
Instances	We have \p{about} 3 eggs left. We have <u>in the vicinity of</u> 3 eggs left. (not in PDEP) We have <u>over</u> 3 eggs left. (over (10(3))) We have <u>between</u> 3 and 6 eggs left. (between (3(3)))
Direct Tags	between (3(3)) (in the interval separating (two points on a scale)) over (10(3)) (higher or more than (a specified number or quantity))
Same SST	betwixt (3(3)) (same as between (3(3))) circa (1(1)) (approximately at, in, or of (a year or other expression of time)) minus (3(2)) ((of temperature) below zero by) o'er (10(3)) (same as over (10(3))) plus (3(2)) ((of temperature) above zero) under (7(3)) (lower than (a specified amount, rate, or norm))
Substitutables	circa (1(1)) (about, around) over (10(3)) ((more than), in excess of) minus (3(2)) ((below)) under (7(3)) (below, underneath)
V1 SST	
Definition Analysis	
Functions	
Comment	Similarly for <i>around</i> , <i>under</i> , <i>more than</i> , <i>less than</i> , <i>greater than</i> , <i>fewer than</i> , <i>at least</i> , and <i>at most</i> . These constructions are markedly different from most PPs; it is even questionable whether these usages should count as prepositions. Without getting into the details here, even if their syntactic status is in doubt, we deem it practical to assign them with a semantic label in our inventory because they overlap lexically with “true” prepositions.

Category 3.6.0.0 - InsteadOf	
Definition	A default or already established thing for which something else stands in or is chosen as an alternative.
History	No history and not present in v1.

Category 3.6.0.0 - InsteadOf	
Instances	I ordered soup <u>instead of</u> salad. (instead of (1(1)) I ordered soup <u>rather than</u> salad. (than (2(2)) <u>Instead of</u> ordering salad, I ordered soup. (instead of (1(1)) The new shirts were <u>gray instead of</u> black. (instead of (1(1))
Direct Tags	instead of (1(1)) (as a substitute or alternative to; in place of) than (2(2)) (used in expressions introducing an exception or contrast) (applies only to “rather than” when it is clearly a preposition, with a noun or gerund complement)
Substitutables	instead of (1(1)): in place of, in lieu of than (2(2)): except for, apart from (not the “rather than” sense)
Same SST	None
V1 SST	Used Comparison/Contrast (had 24 senses, but only “instead of” (1(1)) used this sense, and perhaps “to” (15(7)), “unlike” (2(1a)), and “versus” (2(1a))
Definitions	in place of (1(1)), (2(n)): “instead of” in lieu of (1(1)): “instead of” to (15(7)): “used to introduce the second element in a comparison” unlike (2(1a)): “in contrast to; differently from” versus (2(1a)): “as opposed to; in contrast to”
Functions	
Comment	But when over is used for a scene of liking or preference, see \psst{ComparisonRef}. See also: \psst{Accompanier}, \psst{ComparisonRef}, \psst{Co-Theme}

Category 3.8.0.0 - RateUnit					
	Traditional	Practical	Emotional	Analytic	Average
Average	0.007430	0.007558	0.007225	0.007418	0.007408
Implication	0.008828	0.011639	0.011521	0.012772	0.011190
Definition	Unit of measure in a rate expression.				
History	In v1, this fell under \sst{Value}				
Instances	The cost is \$10 <u>per</u> item. (per (1(1))) A fuel efficiency of 40 miles <u>per</u> gallon (of gas), (per (1(1)) Pizza is sold <u>by</u> the slice. (by (13(3a))) They charge <u>by</u> the hour. (by (13(3a)))				
Direct Tags	per (1(1)) (for each (used with units to express a rate)) by (13(3a)) (indicating a quantity or amount)				
Substitutables	by (13(3a)): in (?)				
Same SST	None				
V1 SST	Used in VALUE, all instances in STREUSLE were such tagged				
Functions					
Comment					

Template

Category 1.4.0.0 - Means	
Definition	
History	
Instances	
Direct Tags	
Same SST	
Substitutables	
V1 SST	
Definition Analysis	
Functions	
Comment	

Category 001 - Implication					
	Traditional	Practical	Emotional	Analytic	Average
Average	0.007430	0.007558	0.007225	0.007418	0.007408
Implication	0.008828	0.011639	0.011521	0.012772	0.011190
Vocabulary	although, as, despite, furthermore, henceforth, hereby, herein, heretofore, likewise, meantime, meanwhile, moreover, naturally, nevertheless, presumably, rather, regardless, so, someplace, such, than, there, thereafter, therefore, therein, thereof, thereon, theres, thereto, therewith, though, thus, whatever, whatsoever				
Semantic Characteristics					
Syntactic Characteristics					