Linguistic Specifications for DanNet Version 2

Bolette S. Pedersen & Anna Braasch, Center for Sprogteknologi, Københavns Universitet, Sanni Nimb, Jørg Asmussen, Nicolai Sørensen, Henrik Lorentzen & Lars Trap-Jensen, Det Danske Sprog- og Litteraturselskab

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Contents

1. Introduction

These specifications cover the Danish lexical-semantic wordnet DanNet Version 2, which has been developed by Centre for Language Technology, University of Copenhagen, and the Society for Danish Language and Literature.

The specifications present the types of information present in DanNet, and how they are to be interpreted linguistically. For a more in depth treatment of the methodological and linguistic choices we have made, as well as information about the sources used for the project, we refer to Pedersen et al. 2009, EuroWordNet (Vossen (ed.) 1999), Princeton WordNet (Fellbaum (ed.) 1998), and the Generative Lexicon (Pustejovsky 1995). Additionally, see our list of publications on wordnet.dk. DanNet now contains 65,000 so-called synsets, or sets of synonyms. A synset is the set of words in a given language that refer to the same concept. It is thus possible to equate a *synset* with a *concept*. Synsets are the central building blocks or nodes in the wordnet, and they are related to one another by semantic relations. Furthermore, synsets and relations are further specified by semantic characteristics or *features*.

All 65,000 synsets are provided with an ontological type and a link to the closest hypernym. Presently, more information is supplied about concrete substantives, these having on average four semantic relations to other synsets. 5,000 Danish synsets are linked to the equivalent English synset in Princeton WordNet (by the relation eq_has_synonym), also labelled Princeton Core.

Approximately 30% of the material has been produced semi-automatically with no further annotations; this is especially true for actions, events, properties and abstract entities. Concrete objects have received the most attention and as such have more relations than other concepts (for more information on the description of artifacts in DanNet, see Nimb, 2009). Approximately 2% of the material has been validated by others than the DanNet editors, see section 6.

Figure 1 shows a small excerpt of the wordnet from the area concerning musical instruments. The squares correspond to synsets and the lines to relations. The arrows illustrate the hyponymy relation, i.e. the closest hypernym. The relations are inherited such that *trompet* ("trumpet") inherits all the relations that its hypernym has, meaning made_by *fremstille* ("manufacture"), used_for *frembringe musik* ("making music") and *blæse* ("blow"), has_mero_part *mundstykke* ("mouth piece"), *rør* ("pipe") and *ventil* ("valve"), as well as has_mero_made_of *metal*.
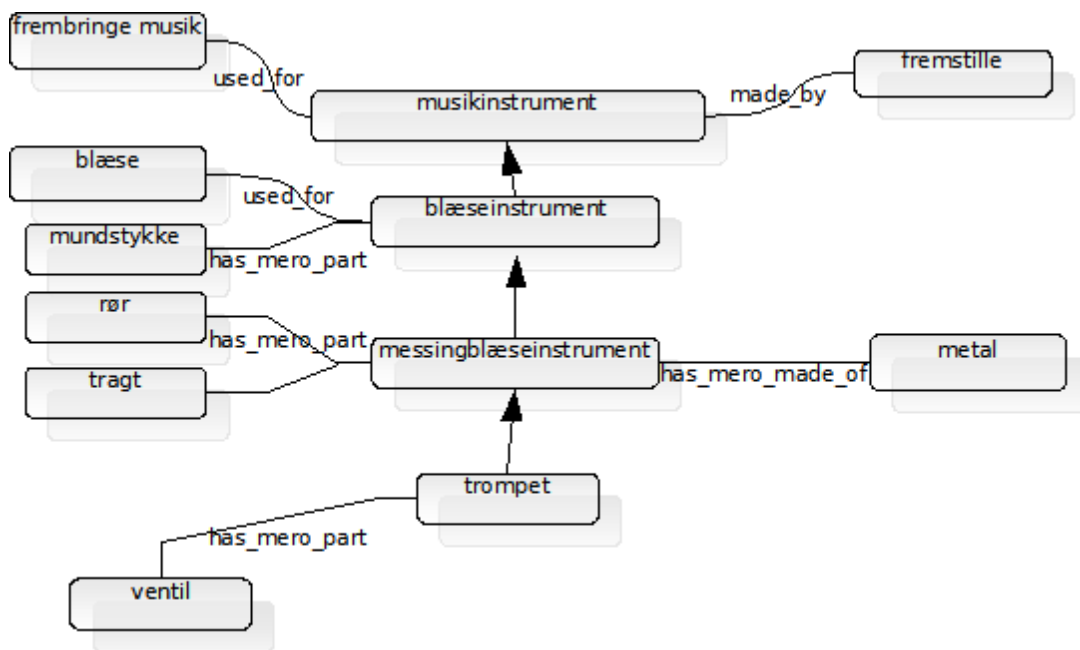
Figure 1: Graphical display of *trompet* and the relations it inherits from its hypernyms.

Figure 2 and 3 show two other graphical representations of *musikinstrument* ("musical instrument") from the webpage andreord.dk, where it is possible to browse DanNet online with Danish relation names (for a more thorough review of this browser, see Johannsen & Pedersen 2010). Figure 2 shows all relations given or inherited by *musikinstrument*, while figure 3 shows the largest groups of hyponyms for this concept.
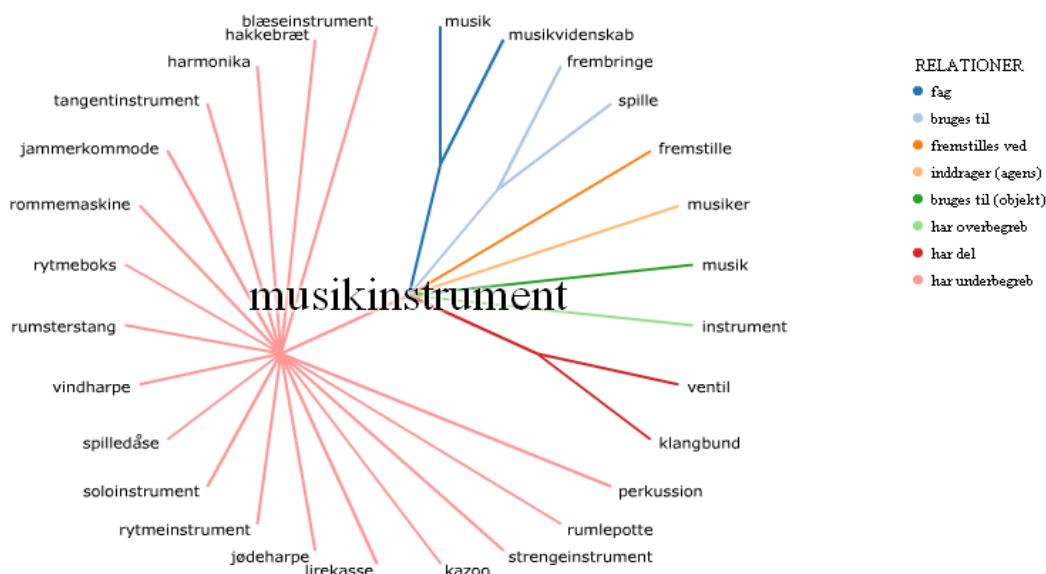
Figure 2: *Musikinstrument* shown with all its relations
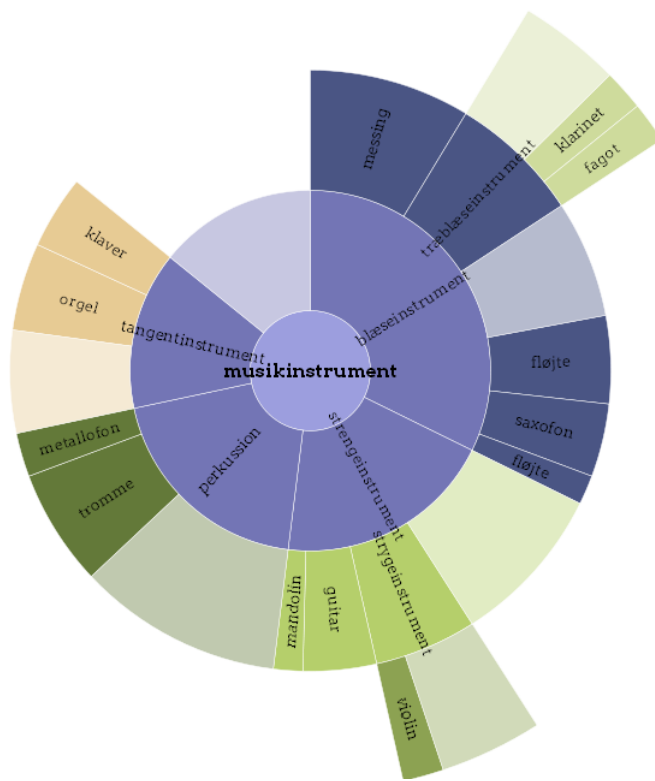
Figure 3: *Musikinstrument* shown with the largest groups of hyponyms such as wind instruments, string instruments etc.

2. Overview of editorial principles

Word selection

The vocabulary in DanNet is a subset of *Den Danske Ordbog* (DDO), a corpus-based monolingual dictionary of modern Danish (online version: ordnet.dk/ddo). Two principles guided the selection:

- Frequency
- Focus on concrete objects

This means that highly frequent terms are generally in DanNet if they are concrete objects, while some frequently used words from other semantic domains, such as actions and abstract entities, still may be missing.

Organization of the lexical network

DanNet is organized by closest hypernym. Hypernyms were automatically extracted from DDO but adjusted by the DanNet editors. In addition to closest hypernym, each synset has an ontological type from the EuroWordNet-ontology, cf. section 4.

The hypernyms used in DDO's meaning definitions were not taken from an established ontological system, but chosen by the individual editor in concordance with the general editorial guidelines for the dictionary. This means that one DDO-editor has chosen *lære* as the hypernym for *informatik* ("informatics") and *bromatologi* ("food science"), while another has chosen *fag* as the hypernym for *samfundsfag* ("social science") and a third has chosen *videnskab* for *datalogi* ("computer science"). In these cases it has been the task of the DanNet editors to harmonize the wordnet, which often happens by collecting words such as *fag*, *lære*, and *videnskab* in one synset, as least in the cases where there are no good reasons for maintaining the division. As far as possible we have attempted to harmonize these cases.

In the 'classical' taxonomy sisters are often disjunctive, i.e. they rule out one another (shirt vs. trousers) and cannot be hypernyms of one another. Often, the hyponymy relation denotes an attribute or function which runs contrary to this classical taxonomy, for instance in the case of a lemma which designates a specific function rather than a 'kind'. In this, the hyperonymy relation is stated as has_hypernym with the feature *ortho* (orthogonal) to show that it refers to a different dimension than the classical 'kind of'. An example is *vejtræ* which is any kind of tree lining a road, or *fødselsdagskage*, which is any kind of cake eaten at a birthday. Such sister concepts are not mutually exclusive; a *vejtræ* can also be a *klatretræ* ("tree for climbing").

Generally, one has to be aware how big a part of the ordinary vocabulary which has been described as *non-taxonomic* and that this affects the structure of the net to a large degree. It has not always been obvious which perspective to adopt when constructing the wordnet, and often it might be a good idea to adopt multiple perspectives at the same time. For DanNet we have adopted a layman's approach to the overall structure of the wordnet so that we do not develop a deeper hyponymy structure than is obvious to a non-specialist. The taxonomic hypernyms for *stol* ("chair") that are described in DanNet are thus *siddemøbel* ("piece of furniture for sitting in"), *møbel* ("piece of furniture"), and *genstand* ("object"). This does not mean that other perspectives on furniture are not found in the wordnet. In insurance terminology, for instance, the terms *bohave* and *indbo* are often used for all the possessions found in a dwelling, and more specifically *løsøre* for all the movable objects in a dwelling. These concepts are in DanNet, but not necessarily in the taxonomical structure except that they have a hypernym; in this case *samling* ("collection"), in the sense of a number of objects.

Likewise, the net will often appear somewhat heterogeneous, in that e.g. *genstand* has subordinate categories such as *møbel* ("furniture"), *bygningsværk* ("building") and *transportmiddel* ("vehicle"), but also quite specific concepts like *gulvtæppe* ("carpet") and *dyne* ("blanket"), which do not have any immediately obvious hypernym except for *genstand* (object/entity).

If one wishes to use DanNet to extract groups of semantically related concepts, it is important to note that this can be done in two ways. One can try to identify the hypernym(s) best describing the group of concepts one is interested in, e.g. *legemsdel* ("body part") or *føde* ("food"). As it not always easy to predict if the concepts one wishes to find have the same hypernym, it is possible to find a larger group of related terms by extracting concepts via the ontology. The ontology makes it possible to search for types such as COMESTIBLE or BODY_PART. In this way, *muskler* ("muscles"), *knogler* ("bones"), and *organer* ("organs") are returned when searching for BODY_PART, but these do not have *legemsdel* as a common hypernym.

Polysemy and sense distinctions

DDO is the starting point for the sense distinctions established in DanNet. We have, however, merged senses where we thought DDO too fine-grained for what we can express in DanNet by relations and features. This is especially true for the subsenses of verbs. Generally we have tried to give different hypernyms for polysemous terms, or otherwise to differentiate subsenses formally by relations or features.

As example would be the two closely related senses of *frokost* ("lunch") in DDO:

1) *det kolde måltid der indtages midt på dagen*
("The cold meal eaten in the middle of the day")

2) *måltid der serveres (for gæster) midt på dagen*
("Meal served (for guests) in the middle of the day")

Both have *måltid* as genus proximum in DDO's definition, but sense 1 is given the hypernym *måltid* and the second *sammenkomst*. In such cases the definition of sense 2 is adjusted to *sammenkomst midt på dagen hvor der serveres varm eller kold mad* ("assembly in the middle of the day were hot or cold food is served"). A formal differentiation of polysemous words is alas not always possible.

In the database different senses are separated by means of homograph numbers, main sense numbers, and subsense numbers which come from the printed version of DDO. An entry always has a main sense number which is added to the lemma following an underscore: *bil_1* refers to the first (and coincidentally only) main sense of the lemma *bil* ("car"). Entries with the main sense number _0 are not yet included in DDO.

Subsenses have both a main sense number and a subsense number, such that *karet_1_2* refers to the second subsense of the first main sense of the lemma *karet* ("horse-drawn carriage"). From the name it can be seen that there are at least two other senses of *karet*: a main sense (*karet_1*) and a subsense (*karet_1_1*); there is, however, no guarantee that these are actually included in DanNet.

Homograph numbers are separated from the lemma with a comma, such that *slæde,1_3* signifies the third main sense of the first homograph of *slæde* ("sleigh").

Systematic polysemy is when groups of words exhibit the same variation in meaning. Terms referring to institutions, for instance, can often be used both in the sense of the building housing them and the people they represent. In these cases, each sense is coded as a separate synset, i.e. one for the institution, one for the building, and one for the group of people, which are each connection by the relation "reg_polysem", regular polysemy. This has also been attempted in the cases where these senses are not consistently listed in DDO. In DDO, most animals have an extra sense denoting the animal as food (e.g., *lam*, which can either mean "lamb" or "mutton"), but not all words for edible animals have this subsense. Since systematic polysemy is rather comprehensive and requires new corpus research because many of the senses are missing from DDO, it must be noted that systematic polysemy is not fully covered for all relevant semantic groups in DanNet.

Synonymy

Synonyms are as a rule given in the same synset corresponding to one concept, e.g. *hustru*, *viv* and *kone* ("spouse", "wife") are seen as the same concept. This is true even if they belong to different registers. There are also examples where two concepts are listed as near-synonyms of one another by way of a relation; this is done in cases where the semantic distance is seen as too big to merge them.

Connotation and gender

DanNet contains certain features, such as connotation (negative/positive) and gender (male/female). For illustration, words like *rappenskralde* (glossed in DDO as "loud-mouthed woman") and *knag* (glossed "a person one likes") are coded with negative and positive connotation respectively, and *rappenskralde* furthermore given the feature 'female', where *knag* is gender-neutral and therefore underspecified for this feature. For most features given a connotation it is also stated which aspect this connotation applies to, i.e. appearance, behaviour, intelligence, etc.; see figure 4 which shows how negative terms for men and women are distributed over different areas. For more information, see Pedersen & Braasch, 2009.
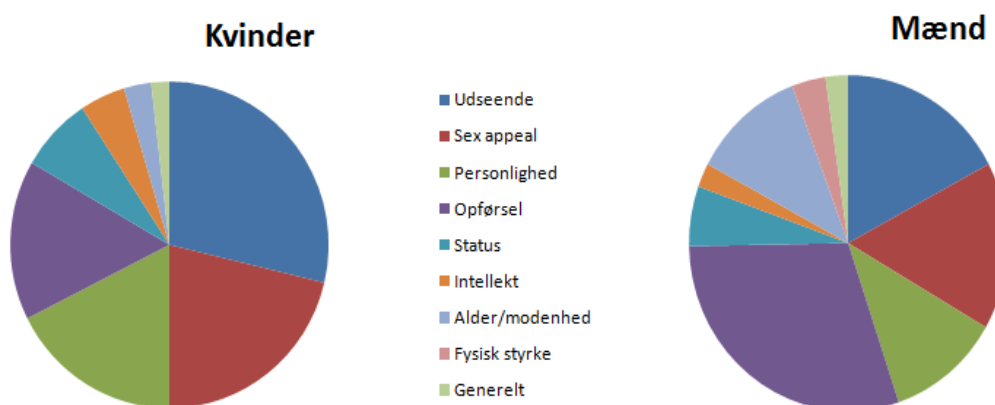
Figure 4: Negative and positive terms for men and women distributed on different aspects of the denotation such as appearance, sex appeal, personality, conduct, status, age etc.

3. Relations and features

Version 2 contains the relations given in the figure below. Relations in **bold face** are specific to DanNet (and thus neither in Princeton WordNet nor EuroWordNet).

concerns	*fodboldmål* **concerns** *sport*
used_for	*hammer* **used_for** *hamre*
used_for_object	*clipse* **used_for_object** *clips*
made_by	*bagværk* **made_by** *bage*

has_holo_madeof	*mel* has_holo_madeof *brød*
has_holo_member	*partimedlem* has_holo_member *parti*
has_holo_location	*oase* has_holo_location *ørken*
has_holo_part	*øje* has_holo_part *ansigt*
has_hyperonym	*birketræ* has_hyperonym *træ*
has_hyperonym ortho	***vejtræ* has_hyperonym *træ***
has_mero_madeof	*brød* has_mero_madeof *mel*
has_mero_member	*parti* has_mero_member *partimedlem*
has_mero_part	*hånd* has_mero_part *finger*
has_mero_location	*ørken* has_mero_location *oase*
role_agent	*passager* role_agent *rejse*
role_patient	*modtager* role_patient *modtage*
involved_agent	*violin* involved_agent *violinist*
involved_instrument	*violinist* involved_instrument *violin*
near_synonym	*si* near_synonym *dørslag*
Reg_polysem	*kanin* (dyr) reg_polysem *kanin* (kød)
xpos_near_synonym	*behandle* xpos_near_synonym *behandling*
eq_has_synonym	*bil* eq_has_synonym *car* (link to Princeton WordNet)

Additionally, relations and synsets have semantic features:

Feature on synset	Feature on relation
BC = ID for a synset (The synset constitutes a base concept in Princeton WordNet)	Disjunct = ID for a synset (The relation is disjunct with another relations, such as *skål* has_mero_made_of *glas* OR *porcelæn* OR *plastic*)
Connotation = positive; negative (The synset has a positive or negative	NEG (The relation is to be interpreted negatively, i.e.

connotation, i.e. *fjols* connotation = negative)	*ungkarl* role_agent ≠ *gifte_sig*)
Sex = male; female (The synset refers to a male or a female)	Ortho (The relation is orthoginal, i.e. non-taxonomical; only related to has_hyperonym as in *vejtræ* is_a *træ*, ortho)
Domain= (see below)	Restrict (The relation is specified in relation to an inhreited relation as in *maleri*: involved_agent *maler*; restriction of the inherited involved_agent *kunstner*)

4. Domain

Information about domain in DDO called 'sysfag' has been automatically inserted in DanNet, in part by the relation 'domain', in part by the feature 'domain' (Domain from DDO). The attribute value consists of the same abbreviations for the individual domains as are used in DDO, which are explicated below.

Background: Sysfag in DDO
The element Sysfag ("theme") had two purposes when DDO was edited:

1. It was possible to check have a given subject was being covered by entries while work was ongoing on the first edition.
2. It was desired to make possible at a later date the extraction of a given subject's vocabulary for a subject-specific dictionary.

The guiding principle was that Sysfag should be marked as soon as possible, including for words or senses which are mostly or wholly part of everyday language. For instance, words like *penge* ("money") and *værktøj* ("tool") were given Sysfag. The editors added sysfag based on their first intuition and without systematically examining how similar words were marked, and because it was only possible to add one sysfag-element to each word, words from similar semantic areas - even synonyms - might have different sysfag values (e.g. *tallerken* ("(dinner) plate") has "mad" ("food"), but *kop* has *bolig* ("dwelling")). Later this has been partly revised for greater consistency, but certainly there still exists some undesirable inconsistency. While making the digital edition of DDO is was decided to allow as many sysfag for a sense as is thought relevant, and in the future DDO will contain more information on sysfag which can be transferred to DanNet.

Some senses were not marked with information on sysfag due to oversight from the DDO-editor. In other cases the information may be missing because the DDO-editor decided not to mark a concept which belongs to several domains, because adding multiple sysfag was not allowed, and choosing one over another would skew the distribution. Finally, the information may be faulty because the field was not visible on the print that was checked during the second round of editing.

In the long term DDO will be expanded with information about sysfag for words that are currently lacking it, both existing articles and the undefined b-words.

DDO distinguishes between the sysfag element and another domain-element, *fag* ("subject" or "profession"). Fag was specified in the printed dictionary and used to mark that something was a technical term. Fag was only given for polysemous lemmas in that it's most important function was to make the article easier to read. Therefore the element fag cannot be used to extract domains from DDO, as all the monosemous technical lemmas lack this information.

Some sysfags turned out to be used so little they were not carried over into DanNet: fis (hunting and fishing), bød (cooperage), mus (music and dancing; separated into msk and dan instead), euf (relating to European politics), træ (woodworking industry).

Below is given a list of the different sysfag categories and the DanNet relations they have been converted to. Some domains include a brief description of the kind of words the domain contains.

Domains

Total	Approx. number of lemmas in DDO with this domain	The synset in DanNet to which the domain is linked	Comments (in Danish)
aku	106	21100 akustik_2	akustik: lyd, akustik, klang, forskellige ord der betegner 'at lyde på en bestemt måde'
akæ	63	3072 arkæologi_1	arkæologi: fund, grav, oldtidsgenstande, økser
ana	1021	21101 anatomi_1	anatomi: legemsdele; adjektiver der betegner fysisk udseende (fx arrret, askeblond etc.). Jf. 'fyo'
apo	50	13826 farmakologi_1	apotek, piller, salve
ark	586	21104 arkitektur_1	arkitektur: dele af huse, by-ord, bygninger, udsmykning på huse, design-ord, arkitekt-ord, parker, verber der betegner at tegne etc.
asl	31	21106 astrologi_1	astrologi: astrologi-ord
ast	195	3073 astronomi_1	astronomi: planeter, stjerne, himmel, verdensrum, årtusinde, århundrede
aut	384	1517 motorkøretøj_1	automobil: dele af biler, biler, bilulykke (overlap med 'ber'), jf. 'tra'
bag	176	31913 bage_3_1	bagerhåndværk: bageord, kager, brød jf. 'mad'
bal	33	15198 ballet_1	ballet: balletord, jf. 'dan' (dans)
ban	266	47279 bankvæsen_1	bankvæsen: bank, konto, veksle, lån, valuta, afdrag
ber	198	12796 beredskab_2_1	beredskabskorps: redningstjeneste, alarm, ambulance, redning, ulykke, brand

bik	105	3074 biokemi_1	biokemi: bl.a. vitaminer, dna, protein, gær-ord
bio	618	3075 biologi_1	biologi:væv, gen, økologi, ord der betegner alder (fyrrer og tresser fx) (jf. 'ana' anatomi, 'zoo' zoologi og 'bot' botanik)
bog	270	2024 bog_1	Bogvæsen bilblioteks-ord, redaktører, bøger, dele af bog
bol	1193	5259 bolig_1	Bolig: boliger, boformer, ting der hører til i en bolig. Overlap med køkkenting med sysfag 'mad'
bot	1804	13808 botanik_1	
byg	318	37077 byggeri_1 4761 byggeri_2	
byt	271	37077 byggeri_1	
cyk	68	1522 cykel_1	
dan	126	24172 dans_1	
dip	45	22977 diplomati_1	
dri	121	47286 driftsøkonomi_1	
drk	424	116 drik_1; drikkevare_1	Drikkevarer, alkohol (jf nyd (nydelsesmiddel))
dyr	12	6886 dyrlæge_1	Jf zoo (zoologi)
edb	607	36946 (edb_1; informationsteknologi_1)	
ele	224	47287 elektronik_1_1	
elt	127	47287 elektronik_1_1	
ene	220	5740 energi_2_1	
erh	1453	16747 erhvervsliv_1	
etn	253	23672 etnologi_1 3070 antropologi_1	
fam	466	2402 familie_2_1 37029 familieliv_1	

fil	306	3081 filosofi_1	
fje	236	38211 fjernsyn_1, tv_1	
flm	209	1812 film_1	
fly	116	5402 fly_1_1; flyvemaskine_1	
fob	32	6768 forbruger_1	forbrugerstof
fol	58	23675 folkloristik_1	
for	96	24559 forsikring_1	
fot	179	37000 foto_1	
fri	475	37035 hobby_1	
frm	27	10977 frimærke_1	
frs	103	6294 frisør_1	
fsk	180	47285 fiskeri_1	
fyo	414	3085 fysiologi_1	fysiologi, fysiske (kropslige) lidelser (fx 'andengradsforbrænding', kropslige egenskaber, fx 'ansigtskulør' og kropslige handlinger bredt forstået (fx også 'armsved' og 'afslappethed' (jf. 'ana', 'sun' og 'hel')
fys	787	3084 fysik_1	
gas	739	36942 gastronomi 1975 madlavning	gastronomi, madlavning. Jf 'mad'.
geg	1305	3087 geografi_1	
gel	497	3088 geologi_1	
gla	20	3788 glarmester_1	glarmesterhåndværk
gra	136	47284 layout_1	Grafisk industri
han	927	36941 handel_1	
hav	177	47283 havebrug_1	
hel	364	37034 helse_1_1; sundhed_1	sundhedsord undtagen fysiske/fysiologiske ting (der har sysfag 'fyo'). Domain-relation 'Helse' og 'sundhed' i DanNet.

her	22	21125 heraldik_1	Våbenskjold, ordener
his	471	3092 historie_3_2	Ældre folkeslag Meget bred gruppe
hvn	56	17096 havnevæsen_1	
hyg	390	37036 hygiejne_1	Personligt toilette, cremer etc.
håa	271	47235 håndarbejde_1	
hån	437	37038 håndværk_1	
ind	131	16806 industri_1_1; industriområde_2	
jag	101	11679 jagt_1_1	
jer	88	16815 jernbane_1_1	Jernbanevæsen, jf. tra (transportmidler)
jur	1366	31825 jura,1_1	
kem	712	3095 kemi_1	
kin	88	3095 kemi_1	
kom	882	36949 kommunikation_1	ytringsverber og ytringsverbalsubstantiver
kon	153	40348 adel_1 17028 kongehus_1_1	kongehus, adel, fyrste, hof
kri	469	2122 kriminalitet_1	Jf pot (politi)
kul	544	36947 kultur_1	
kun	656	15477 kunst_1	
lam	12	47301 landmåling_1	
lan	670	1956 landbrug_1	
leg	72	38712 leg_1	
lgg	132	38712 leg_1	
lit	532	15318 litteratur_2	
log	33	21140	

		logik_2	
mad	1454	11676 (fødevare_1;madvare_1) 17549 føde mad æde ædelse	mad, madlavning
mal	363	37045 maling,1_2 22701 malerarbejde_1	Farver, maleord
mas	75	9947 teknik_2_2	Maskiner, motorer
mat	746	3105 matematik_1	
med	2108	3106 lægevidenskab_1; medicin_2	
met	566	23691 meteorologi_1	Vejr
mia	85	13851 mineralogi_1	Mineraler, diamant mv.
mij	267	38145 miljø_1	Affald, miljø, forurening, genbrug
mil	1145	36939 militær_1	
min	31	47299 minedrift_1	
mot	4	1510 motorcykel_1	
msk	1619	37862 musik_1 36936 musikvidenskab_1	
mtl	122	21149 metallurgi_1	Metallurgi – læren om metaller
mur	54	47292 murerhåndværk_1	
myt	126	3110 mytologi_2	
møn	21	18025 mønt_1	mønter
mål	255	16112 måleenhed_1	Ord der betegner størrelser, måleenheder
nat	190	3112 naturvidenskab_1	Ret intetsigende gruppe med mange naturord og ord for naturlige fænomener i bred forstand. Fx også ord der betegner noget med tid.
nyd	317	10582 nydelsesmiddel_1	Alkohol-ord, rygning mv. Sammenfald med drk
nøk	79	47290	

		nationaløkonomi_1	
oad	575	12793 administration_2_1	Offentlig administration
okk	78	40804 okkultisme_1	
opt	163	21155 optik_1	
pap	51	47293 papirindustri_1	
per	79	47291 personalhistorie_1	
pol	1552	26726 politik_1	
pom	23	47300 keramik_1_2	Pottemageri
pos	176	17143 postvæsen_1	
pot	136	12826 politi_1	
pre	318	38818 presse,1_1 38216 medie_1	
psy	2002	3115 psykologi_1	
pæd	101	34723 pædagogik_1_2	
rad	101	9744 radio_1	
red	8	16911 redningstjeneste_1	
rej	216	23224 rejse,1_1_1	hotel (dog flest under 'erh'), turist, charter-, rejse, ferie. Sammenfald med 'fly' og 'trf'/'tra'.
rek	50	36731 reklame_1_1	reklame, annonce, tilbud,
rel	1505	23698 religionsvidenskab_1	religionsord
rum	34	47296 rumfart_1	rumfart, astronaut, raket
sad	8	70918 saddelmageri_2	lille gruppe: tømme, saddel, saddelmager (jf. skr (skrædderi)
sam	941	3121 samfundsvidenskab_1	samfund: stor gruppe, meget forskellige ord: arbejder, bolig, bonde, civil, samfund, valg, vismand, statsformer
san	33	47297 sanitet_1	sanitet, afløb, wc, kloak (jf. 'hyg' (hygiejne))

scl	146	3124 sociologi_1	sociologi – ord der omhandler relationer mellem mennesker, ord der betegner grupperinger i samfundet og bestemte typer af mennesker – overlap med 'sam' (samfund)
sex	470	24453 sexliv_1 37040 samliv_1	
ska	189	12832 skattevæsen_1	skatter, afgifter (men mange *afgift-ord er ikke med her), fradrag. Sammenfald med øko, nøk og med de områder skatten dækker (mij fx).
skb	187	223 skib_1	forskellige slags skibe og både men overlap med fx 'mil' (miltær) (skibe der bruges i militæret), 'tra' transportmidler (skibe der bruges til transport).
ski	204	47280 skibsbygning_1	skibsbygning: dele af skibe, ting der bruges i forb. med sejlads og skibsbygning
skm	37	31966 skomageri_1	skomager, forskellige slags sko
sko	87	47289 skovbrug_1	sḱ ovbrug, nogle enkelte træsorter (meget sammenfald m. tøm (tømmerhåndværk) og sne (snedkerhåndværk)) nogle træbetydninger 'ved fra dette træ' mangler sysfag el. har botanik som fag
skr	21	31972 sy_1_2	skrædder : skrædder- og sy-ord, meget sammenfald med håa (håndarbejde)
sla	46	6797 slagter_1	slagterhåndværk
sme	28	1810 smede_1	smedehåndværk
sne	35	47295 snedkerfag	snedkerhåndværk
soc	453	37032 forsorg_1_1; socialforsorg_1	socialforsorg, bistandshjælp, institutioner, invalid-, misbrug (overlap med bl.a. pol, oad, sam)
spi	391	24160 spil,1_1	spil, sammenfald med leg, lgg (leg og spil) og edb (computerspil kan have edb som sysfag)
spo	1675	1771 (idræt_1;sport_1)	sportsord
spr	1953	23701 sprogvidenskab_1	sprogtermer; forskellige sprog; grammatiske termer; ord med betydning "måde at tale på", fx pibe, pruste, stønne... (jf. 'kom'). Desuden mange pronominer.
sta	36	47294 statistik_1	statistik
sun	324	2129 sundhedssektor_1; sundhedsvæsen_1	sundhedsord undtagen fysiske/fysiologiske ting (=fyo). Overlap med 'hel' helse og 'med' (medicin).
søf	437	7042 søfart_1	Ord vedr. søfart, sejlads. Overlap med ski (skibsbyggeri) og skb (skibe)
tan	88	13862 odontologi_1	Tandlægevidenskab tandlæger, fyldninger, rodbehandling etc.
tea	360	15442 teater_1	Teaterord (overlap med ballet (bal) og dans (dan))

tek	707	36943 teknik_2	Teknik i bred forstand
tel	201	47281 telekommunikation_1	Telekommunikation. Telefoni, mobiltelefoner, telegram etc.
tin	215	47282 tekstilindustri_1	Forskellige tekstiler, tekstilfabrik etc. Overlap med 'skr' skrædderi og 'håa' håndarbejde
tol	49	12840 toldvæsen_1	Toldvæsen, toldkontrol
tra	407	4272 transportmiddel_1	Transportmidler, dele af transportmidler. Overlap med 'trf'.
trf	697	36945 trafik_1	Offentlig trafik, trafikanter, vejforhold, vejarbejde, skiltning mm.
typ	107	47288 typografi_1	Ord i forb. med redigering, typografi, korrektur etc.
tøj	1057	2099 tøj_1	Tøj, beklædningsgenstande, dele af beklædningsgenstande. Sko har sysfag 'sko'
tøm	44	47298 tømrerhåndværk_1	tømrerhåndværk
und	1297	27172 uddannelse_1	Undervisning og uddannelse: klasser, karakterskala, skoler, fag etc.
vid	468	27034 videnskab_1	Videnskab forskning, forskellige videnskaber (men sammenfald med andre sysfag der betegner de forskellige videnskaber)
vær	36	37038 håndværk_1 5793 værksted_1	Værktøj mm.
våb	282	2311 våben_1	våben
zoo	2116	13893 zoologi_1	Dyr og alt vedr. dyr jf. 'lan' (landbrug)
øko	1405	42854 økonomi_1	afgift, beløb, lån, pris, penge, markeds-, etc.

Higher level of domain information

If coarser domain information is desired, the domains can be grouped as follows:

Religion and philosophy

fil (filosofi)
log (logik) jf. mat (matematik)
rel (religion)
okk (okkultisme)
asl (astrologi) Jf. astronomi

Social condistions

vid (videnskab) Jf. und (undervisning og uddannelse)
und (undervisning (og uddannelse)) Jf. pæd (pædagogik), vid (videnskab)
sam (samfund i bred forstand, dvs.begreber der ikke hører under kun ét af delområderne herunder)
oad (offentlig administration)
scl (sociologi)
pot (politi)
kon (kongehus)
jur (jura)
kri (kriminalitet)
soc (socialforsorg)
for (forsikring)
fob (forbrugerstof)
trf (trafik)
red (redningstjeneste)
ber (beredskabskorps)
jer (jernbanevæsen)
hvn (søfart)

Politics

pol (politik i bred forstand – politiske begreber der ikke hører under diplomati eller militær)
dip (diplomati)
mil (militær) jf. ber (beredskabskorps)

Economy and industry
Group 1: economy

øko (økonomi i bred forstand – økonomiske begreber der ikke hører under kun ét af delområderne herunder)
dri (driftsøkonomi)
nøk (nationaløkonomi)
ban (bankvæsen)
ska (skattevæsen)

Group 2 Business

erh (erhvervsliv i bred forstand – begreber der ikke hører under kun ét af delområderne herunder)
lan (landbrug)
hav (havebrug)
sko (skovbrug)
fis (fiskeri og jagt)
fsk (fiskeri)
jag (jagt)
han (handel)

tol (toldvæsen)
rek (reklame)

Group 3 Industry

ind (industri i bred forstand – begreber der ikke hører under kun ét af delområderne herunder)
pap (papirindustri)
kin (kemisk industri)
pla (plastindustri)

Group 4 Trade and craft

hån (håndværk i bred forstand – dvs. begreber der hører under kun ét af delområderne herunder)
bag (bagerhåndværk)
gla (glarmesterhåndværk)
mal (malerhåndværk)
mur (murerhåndværk)
pom (pottemagerhåndværk)
sad (sadelmageri)
skm (skomageri)
skr (skrædderi)
sla (slagterhåndværk)
sme (smedehåndværk)
sne (snedkerhåndværk)
tøm (tømrerhåndværk)
frs (frisørhåndværk)
san (sanitet, VVS)
typ (typografi) jf pre (presse), bog (bogvæsen)

Group 5: Building activities

byg (byggeri i bred forstand - dvs. byggebegreber der ikke hører under byggeteknik eller skibsbygning)
byt (byggeteknik)
ski (skibsbygning)

Science

edb (it)
mij (miljø)
ene (energi)

Group 1 Traditional science

nat (almen naturvidenskab; naturvidenskab der ikke hører under kun ét af delområderne herunder)
aku (akustik)

mat (matematik)
sta (statistik)
lam (landmåling)
ast (astronomi) Jf. asl (astrologi)
fys (fysik)
ele (elektronik)
opt (optik)
kem (kemi)
gel (geologi)
mia (mineralogi)
bio (biologi)
bik (biokemi)
bot (botanik/planter)
zoo (zoologi/dyr)
ana (anatomi) Jf. fyo (fysologi), sun (sundhed), med (medicin) hel (helbred)
fyo (fysologi) Jf. ana (anatomi), sun (sundhed), med (medicin) hel (helbred)

Group 2 Technical sciences

tek (teknik i bred forstand, dvs. tekniske begreber der ikke kun hører under ét af delområderne herunder)
mas (maskinteknik)
vær (værkstedsteknik)
mtl (metallurgi)
våb (våbenteknik)
min (minedrift)
rum (rumfart)
elt (elektroteknik)

Geography

fol (folkloristik)
geg (geografi)
rej (rejser)
etn (etnologi/etnografi/antropologi)

Health

psy (psykologi)
fam (famile)
sex (sex- og samliv)
pæd (pædagogik)

Group 1 Health

hel (helbred) Jf. sun (sundhedsvæsen), fyo (fysiologi), ana (anatomi)
dyr (dyrlægevidenskab)
apo (poteksvæsen)
hyg (hygiejne)
med (medicin)
sun (sundhedsvæsen) jf fyo (fysiologi) ana (anatomi) hel (helbred)
tan (tandlægevidenskab)

Culture
Group 1 books, press

bog (bogvæsen)
gra (grafisk presse) Jf. typ (typografi)
pre (presse)

Group 2 Culture

kul (kultur i bred forstand, begreber som ikke kun tilhører ét af underbegreberne nedenfor)
kun (kunst)
ark (arkitektur) Jf. byg (byggeri)
fot (foto, fotografi)
tea (teater)
flm (film)
rad (radio) jf. fje (fjernsyn)

Group 3 music and dance

msk (musik)
dan (dans)
bal (ballet)

Leisure

bol (bolig) jf. mad (mad)
tøj (tøj) jf. skr (skrædderi)
tin (tekstilindustri) Jf. ind (industri)
håa (håndarbejde) jf. skr (skrædderi)
fje (fjernsyn) Jf. rad (radio)
spo (sport)

Group 1 Transport

tra (transportmidler i bred forstand, dvs. begreber som ikke hører under et af de specifikke delområder herunder). Jf. rej (rejser)
aut (automobilteknik)

cyk (cykelteknik)
mot (motorcykelteknik)
fly (fly)
skb (skb) Jf. ski (skibsbygning)

Group 2 Comestibles

mad (mad i bred forstand, dvs. begreber som ikke hører under et af de specifikke delområder herunder)
gas (gastronomi) – OBS skelnen mellem mad og gas er ikke foretaget i DDO – bør slås sammen
drk (drikke)
nyd (nydelsesmidler)

Group 3 Games

leg (leg og spil i bred forstand, dvs. begreber som ikke hører under et af de specifikke delområder herunder
lgg (leg)
spi (spil)

Group 4 Hobbies

fri (fritid og hobby i bred forstand, dvs. begreber som ikke hører under et af de specifikke delområder herunder) Jf. spo (sport), lgg (leg og spil)
frm (frimærker)
møn (mønter)

Literature and language

lit (litteraturvidenskab)
spr (sprog og sprogvidenskab) (jf. kom (kommunikation)

Group 1 Communication

kom (kommunikation i bred forstand, dvs. begreber som ikke hører under et af de specifikke delområder herunder) Jf. spr (sprog og sprogvidenskab)
pos (postvæsen)
tel (telekommunikation)

History

per (personalhistorie)

Group 1 history

his (historie)
akæ (arkæologi)
her (heraldik)

5. Ontological type

Every synset in DanNet has an ontological type. Most of the ontological types in DanNet are from the EuroWordNet ontology. Ontological types added to DanNet are set in bold in the tables below. For more information about the ontology, see Vossen 1999.

Concrete objects (1st Order Entities)

```
Origin
        Natural
                Living
                        Plant
                        Human
                        Creature
                        Animal
        Artifact
```

```
Form
        Substance
                Solid
                Liquid
                Gas
        Object
```

```
Composition
        Part
                BodyPart
        Group
```

```
Function
        Vehicle

        Representation
                MoneyRepresentation
                LanguageRepresentation
                ImageRepresentation
        Software
        Place
        Occupation
        Instrument
        Garment
        Furniture
        Covering
        Container
        Comestible
        Building
        Artwork
```

Actions, events, properties and abstract objects (2nd and 3rd Order Entities)

```
SituationType
        Dynamic
                BoundedEvent
                UnboundedEvent
        Static
```

```
                    Property
                    Relation
SituationComponent
              Cause
                          Agentive
                          Phenomenal
                          Stimulating
              Communication
              Condition
              Existence
              Experience
              Location
              Manner
              Mental
              Modal
              Physical
              Possession
              Purpose
              Quantity
              Social
              Time
              Usage
```

6. Examples

DanNet was created with so-called coding templates which were available in the coding tool. The templates follow the ontological types and work as guidelines for which relations are relevant to which ontological types. For instance it is relevant for the ontological type Part to state what something is a part of, whilst for an Artifact it is relevant to state what it is used for. To illustrate the principles used in creating DanNet some of the prototypical templates representing different areas of the ontology are presented below.

It must be noted that the templates are for *compound* ontological types consisting of several of the types listed in the ontology above. A foodstuff will always have the Comestible, but depending on its nature it may also be Natural or Artifact, Object, Liquid, Part or Group and so on. It can also be seen that the different relations are grouped after Pustejovsky's so-called qualia roles (Formal, Constitutive, Agentive and Telic), which roughly correspond to hypernym, part-whole, origin and purpose (cf. Pustejovsky 1995). The ontology has generally been clearly applicable for concrete objects, while it has been more difficult to consistently use for abstract concept and for actions, events, and porepties. While coding we have attempted to distinguish clearly between intentional and non-intentional actions (+/- Agentive), where the distinction between Bounded and Unbounded is less clear in Danish at the lexical level. The ontological type Mental is used for concepts referring to mental activity; Social when other people or communities are involved; Physical for physical actions like movement; and Location for actions taking place at a specific place or in a specific direction.

It will be noted that semantic relations are most prevalent for concrete objects, unlike, say, actions and abstract entities. In the current version of DanNet these for most cases have only a hypernym relation specified.

Examples of concrete (1st Order Entities)

Ontological type: NATURAL + SUBSTANCE

Test/explanation	En ikke-tællelig masse af naturlig oprindelse
Examples:	*klor, antistof, fedt*
Comments:	

Template

Top Ontology:	Natural +Substance
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	
Agentive:	
Telic:	*used_for //optional//*
Synonymy:	*near_synonym* //optional//
	xpos_near_synonym //optional//

Example

Top Ontology:	Natural+ Substance
Lemma in synset:	*fedt, fedtstof*
Definition:	*fast, halvfast el. flydende stof som især består af triglycerider, er uopløseligt i vand og findes i planter, dyr og mennesker*
Formal:	*has_ hyperonym* **stof**
Constitutive:	
Agentive:	
Telic:	
Synonymy:	

Ontological type: PLANT + OBJECT

Test/explanation	Planter
Examples:	*træ, busk, urt*
Comments:	

Template

Top Ontology:	Plant+ Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_mero_part* //optional//
Agentive:	
Telic:	*used_for* //optional//
Synonymy:	*near_synonym* //optional//
	xpos_near_synonym //optional//

Example

Top Ontology:	Plant+Object
Lemma in synset:	***Buksbom***
Definition:	***stedsegrøn busk med små læderagtige blade***
Formal:	*has_ hyperonym* ***busk***
Constitutive:	
Agentive:	
Telic:	
Synonymy:	

Ontological type: PLANT + OBJECT+PART+COMESTIBLE

Test/explanation	*hun spiste en X*. Dele af planter som typisk spises af mennesker
Examples:	*frugt, nød, blad*
Comments:	

Template

Top Ontology:	Plant+Object+Part+Comestible
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_holo_part* when not described in definition and holonym not in DDO use holonym *plante* *has_mero_part* //optional//
Agentive:	
Telic:	*used_for*
Synonymy:	*near_synonym //optional//* *xpos_near_synonym //optional//*

Example

Top Ontology:	Plant+Object+Part+Comestble
Lemma in synset:	***appelsin***
Definition:	***rund citrusfrugt fra appelsintræet***
Formal:	*has_ hyperonym* ***citrusfrugt***
Constitutive:	*has_holo_part* ***appelsintræ***
Agentive:	
Telic:	*used_for* ***spise***
Synonymy:	

Ontological type: HUMAN + OBJECT

Test/explanation	*personer*
Examples:	*mand, alkoholiker, passager*
Comments:	

Template

Top Ontology:	Human+Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*sex (male, female)* //optional// *connotation (positive, negative)* //optional//
Agentive:	
Telic:	*role_agent //optional//* *role_patient //optional//*
Synonymy:	*near_synonym* //optional// *xpos_near_synonym* //optional//

Example

Top Ontology:	Human+Object
Lemma in synset:	*mand*
Definition:	*voksen person af hankøn*
Formal:	*has_ hyperonym* **person**
Constitutive:	*sex=***male**
Agentive:	
Telic:	
Synonymy:	

Example

Top Ontology:	Human+Object
Lemma in synset:	*passager*
Definition:	*person der rejser med et privat el. offentligt transportmiddel uden at være fører, besætningsmedlem e.l.*
Formal:	*has_ hyperonym* **person**
Constitutive:	
Agentive:	*role_agent* **rejse**
Telic:	
Synonymy:	

Example

Top Ontology:	Human+Object
Lemma in synset:	*knoldesparker*
Definition:	*person som man synes er dum, underlegen e.l., ofte en person fra landet*
Formal:	*has_ hyperonym* **person**
Constitutive:	*connotation* **negative**
Agentive:	
Telic:	
Synonymy:	

Example

Top Ontology:	Human+Object
Lemma in synset:	*modtager*
Definition:	*person, organisation, stat e.l. som modtager noget, fx en genstand el. en ydelse*
Formal:	*has_ hyperonym* **person**
Constitutive:	
Agentive:	*role_patient* **modtage**
Telic:	
Synonymy:	

Ontological type: HUMAN + OBJECT + OCCUPATION

Test/explanation	*X har jobfunktionen at Y*
Examples:	*en skolelærer har jobfunktionen at undervise i en folkeskole*
Comments:	

Template

Top Ontology:	Human+Object+Occupation
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*sex (male/female) //optional//*
Agentive:	
Telic:	*role_agent*
Synonymy:	*near_synonym //optional//* *xpos_near_synonym //optional//*

Example

Top Ontology:	Human+Object+Occupation
Lemma in synset:	*skolelærer*
Definition:	*(seminarieuddannet) lærer der underviser på grundskoleniveau, typisk i folkeskolen*
Formal:	*has_ hyperonym* **lærer**
Constitutive:	
Agentive:	
Telic:	*role_agent* **undervise**
Synonymy:	*near_synonym //optional//* *xpos_near_synonym //optional//*

Ontological type: HUMAN + OBJECT + GROUP

Test/explanation	X består af en gruppe mennesker
Examples:	*børneflok, hær, befolkningsgruppe, borgerskab*

Comments:	

Template

Top Ontology:	Human+Object+Group
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_meropart*
Agentive:	
Telic:	*role_agent //optional//* *role_patient //optional//*
Synonymy:	*near_synonym* //optional// *xpos_near_synonym //optional//*

Example

Top Ontology:	Human+Object+Group
Lemma in synset:	***børneflok***
Definition:	***række af børn som et forældrepar har***
Formal:	*has_ hyperonym* ***gruppe***
Constitutive:	*has_meropart* ***barn***
Agentive:	
Telic:	
Synonymy:	

Ontological type: ANIMAL + OBJECT

Test/explanation	Levende organisme som kan bevæge sig
Examples:	*hjort, hund, snegl, sommerfugl*
Comments:	

Template

Top Ontology:	Animal+Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	
Agentive:	
Telic:	
Synonymy:	*near_synonym* //optional// *xpos_near_synonym //optional//*

Example

Top Ontology:	Animal+Object
Lemma in synset:	***hjort***
Definition:	***stor drøvtygger der lever i skovområder og der for hannens vedkommende har gevir***
Formal:	*has_ hyperonym* **drøvtygger**
Constitutive:	
Agentive:	
Telic:	
Synonymy:	*near_synonym* //optional// *xpos_near_synonym //optional//*

Ontological type: ARTIFACT + OBJECT

Test/explanation	Kunstigt frembragte genstande
Examples:	*anordning, maskine, konstruktion*
Comments:	

Template

Top Ontology:	Artifact + Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_mero_part* //optional//
Agentive:	*made_by*
Telic:	*used_for* *used_for_object* //optional//
Synonymy:	*near_synonym* //optional// *xpos_near_synonym* //optional//

Example

Top Ontology:	Artifact+Object
Lemma in synset:	***affaldskværn***
Definition:	***maskine til findeling (el. sammenpresning) af affald***
Formal:	*has_ hyperonym* **maskine**
Constitutive:	
Agentive:	*made_by* **fremstille**
Telic:	*used_for* **kværne** *used_for_object* **affald**
Synonymy:	

Ontological type: VEHICLE +ARTIFACT+OBJECT

Test/explanation	*John tog til Roskilde i en* **varevogn**
Examples:	*bil, vogn, fly, slæde, varevogn*
Comments:	

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Template

Top Ontology:	Vehicle+Artifact+Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_holo_part* //optional// *has_mero_madeof* //optional// *has_mero_part* //optional//
Agentive:	*made_by* //optional//
Telic:	*used_for*
Synonymy:	*near_synonym* //optional// *xpos_near_synonym* //optional//

Example

Top Ontology:	Vehicle+Artifact+Object
Lemma in synset:	*trillebør*
Definition:	*lille vogn med et enkelt hjul foran og to støtteben samt to håndtag bagved, brugt til at transportere mindre læs på fx en byggeplads el. ved havearbejde*
Formal:	*has_ hyperonym* **vogn**
Constitutive:	*has_mero_part* **hjul** *has_mero_part* **støtteben**
Agentive:	*made_by* **fremstille**
Telic:	*used_for* **transportere**
Synonymy:	

Ontological type: COMESTIBLE + ARTIFACT + OBJECT

Test/explanation	*jeg har lavet en* **kage** *til dessert*
Examples:	*kage, krebinet, laksemousse*
Comments:	tællelig, frembragt fødevare

Template

Top Ontology:	Comestible + Artifact + Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_holo_part* //optional// (only when described in definition) *has_mero_part* //optional//
Agentive:	*made_by*
Telic:	*used_for* **spise**
Synonymy:	*near_synonym* //optional// *xpos_near_synonym* //optional//

Example

Top Ontology:	Comestible+Artifact-Obejct
Lemma in synset:	
Definition:	*kage*
Formal:	*has_ hyperonym **bagværk***
Constitutive:	*has_mero_part **sukker***
Agentive:	*made_by **bage***
Telic:	*used_for **spise***
Synonymy:	

Ontological type: FURNITURE + ARTIFACT + OBJECT

Test/explanation	*jeg har møbleret min stue med en **lampe***
Examples:	*lampe, stol, reol*
Comments:	*objects which are furniture*

Template

Top Ontology:	Furniture + Artifact + Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*has_mero_part* //optional// *has_mero_madeof* //optional// *concerns* //optional//
Agentive:	*made_by* //optional//
Telic:	*used_for*
Synonymy:	*near_synonym* //optional// *xpos_near_synonym* //optional//

Example

Top Ontology:	Furniture + Artifact +Object
Lemma in synset:	*stol*
Definition:	*siddemøbel med plads til én person, ofte med fire ben, ryglæn og evt. armlæn*
Formal:	*has_ hyperonym **siddemøbel***
Constitutive:	*has_mero_part **ben*** *has_mero_part **ryglæn***
Agentive:	
Telic:	*used_for **sidde***
Synonymy:	

Ontological type: INSTRUMENT + ARTIFACT + OBJECT

Test/explanation	*Han brugte X til at Y med*
	Redskaber og mindre maskiner der typisk betjenes med hånden; inkluderer også musikinstrumenter
Examples:	*guitar, åre, gaffel, pincet, blyant, bor*
Comments:	

Template

Top Ontology:	Instrument+Artifact+Object
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*Concerns* //optional//
	has_mero_part //optional//
	has_holo_part
Agentive:	*used_for*
	fpo_object //optional//
Telic:	*made_by*
Synonymy:	*near_synonym* //optional//
	xpos_near_synonym //optional//

Example

Top Ontology:	Instrument+Artifact+Object
Lemma in synset:	***bor***
Definition:	***redskab til at bore huller med***
Formal:	*has_ hyperonym* **redskab**
Constitutive:	
Agentive:	*used_for* **bore**
	used_for_object **hul**
Telic:	*made_by* **fremstille**
Synonymy:	

Examples of acts (2nd Order Entities)

Ontological type: BOUNDEDEVENT+AGENTIVE+CONDITION+PHYSICAL

Test/explanation	afsluttede handlinger hvor noget bevidst ændres fysisk
Examples:	bøje, brække, bryde, flytte
Comments:	

Template

Top Ontology:	BoundedEvent+Agentive+Condition+Physical
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	

Agentive:	
Telic:	
Synonymy:	*near_synonym* //optional//
	xpos_near_synonym //optional//

Example

Top Ontology:	BoundedEvent+Agentive+Condition+Physical
Lemma in synset:	*ombygge*
Definition:	*ændre på en bygning el. en genstand så den kan bruges til et nyt formål*
Formal:	*has_ hyperonym ændre*
Constitutive:	
Agentive:	
Telic:	
Synonymy:	

Ontological type: BOUNDEDEVENT+AGENTIVE+MENTAL+PURPOSE

Test/explanation	bevidst og afsluttet tankevirksomhed med et bestemt formål
Examples:	afvejning, analyse, censur, beregning, skøn, plan, planlægning…
Comments:	

Template

Top Ontology:	BoundedEvent+Agentive+Mental+Purpose
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	*Concerns*
Agentive:	
Telic:	*for_purpose_of*
Synonymy:	*xpos_near_synonym //optional//*

Example

Top Ontology:	BoundedEvent+Agentive+Mental+Purpose
Lemma in synset:	*Bedømmelse*
Definition:	*det at bedømme noget*
Formal:	*has_ hyperonym* tankevirksomhed
Constitutive:	*Concerns*
Agentive:	
Telic:	*for_purpose_of*
Synonymy:	*xpos_near_synonym //optional//*

Ontological type: UNBOUNDEDEVENT+PHYSICAL+LOCATION

Test/explanation	bevæge sig et sted hen, retningsbevægelsesverber
Examples:	Levin-klasser: 51.1. (Verbs of Inherently directed motion, e.g.: arrive, fall); 51.2. (Leave verbs, e.g.: abandon, leave)
Comments:	Bemærk at unbounded bevægelsesverber bliver bounded når der tiolføjes retningsadverbial

Template

Top Ontology:	UnboundedEvent+Physical+Location
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
ArgStr:	*ARG2ADJNON_NON*
Synonymy:	*near_synonym //optional//* *xpos_near_synonym //optional//*

Example

Top Ontology:	Unbounded+Physical+Location
Lemma in synset:	*falde*
Definition:	*hurtigt bevæge sig uhindret gennem luften modjorden pga. tyngdekraften*
Formal:	*has_ hyperonym* **bevæge_sig**
ArgStr:	
Synonymy:	*near_synonym* **dratte ned** *xpos_near_synonym* **fald**

Examples of properties (2nd Order Entities)

Ontological type: PROPERTY+CONDITION+PHYSICAL

Test/explanation	Fysiske egenskaber der vedrører fysik og helbredstilstand
Examples:	*mavepine, ledsmerter, kræft, diabetes, kondition*
Comments:	

Template

Top Ontology:	Property+Condition+Physical
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
ArgStr:	
Synonymy:	*near_synonym //optional//* *xpos_near_synonym //optional//*

Example

Top Ontology:	Property+Condition+Physical
Lemma in synset:	*kræft, kræftsygdom*

Definition:	*sygdom der skyldes unormal vækst af celler*
Formal:	*has_ hyperonym* **sygdom**
ArgStr:	
Synonymy:	

Examples of abstract entities (3rd Order Entities)

Ontological type: 3RDORDERENTITY+MENTAL+PURPOSE+MANNER

Test/explanation	Abstrakte entititer der har et formål og en mådesangivelse
Examples:	*kur, metode, måde*
Comments:	

Template

Top Ontology:	3rdOrderEntity+Mental+Purpose+Manner
Lemma in synset:	
Definition:	
Formal:	*has_ hyperonym*
Constitutive:	
Agentive:	
Telic:	
Synonymy:	*near_synonym* //optional// *xpos_near_synonym //optional//*

Example

Top Ontology:	3rdOrderEntity+Mental+Purpose+Manner
Lemma in synset:	*kur*
Definition:	*foranstaltning eller metode til behandling af sygdom eller andre problemer der vedrører kroppen*
Formal:	*has_ hyperonym* **metode**
Constitutive:	
Agentive:	
Telic:	
Synonymy:	

7. Validation

2% of the material in DanNet has been validated. The focus of the validation has been the same as the editorial focus. Validation has shown that there are some inconsistencies in the semantic description. Where the hyperonomy relation is mostly consistent throughout the material, the other relations vary as to the amount of detail in which they are specified. This is unsurprising and is

largely due to the fact that some parts of the material have been examined more closely than others. It is our goal to level these differences in later versions of the resource.

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