

UNIVERSITY OF OSLO

Making sense of GenAI for contrastive purposes: Verbs of sensing in English and Norwegian

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Contrastive workshop

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Outline

- Starting point: the cognate verbs *sense* and *sanse*
- Expansion: other verbs of sensing
- Aim: How can we make sense of the verbs' interconnected meanings?
- Material and method
- Chatbot analysis
- Human analysis
- Comparison of the two analyses
- Conclusion

English SENSE and Norwegian SANSE

- Etymologically related cognate verbs with the same core meaning:
 - *to **perceive** (something) by the senses; **become aware of*** (Dictionary.com) / *erfare, oppfatte ved hjelp av sansene (**experience, perceive** with the help of the senses); legge merke til (**notice**); bli var (**become aware of**); kjenne (**feel**)* (Naob.no).

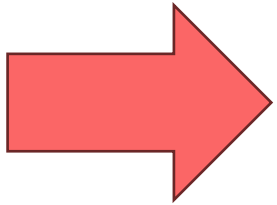
Table 1. Frequency and distribution of *sense* and *sanse* in two monolingual corpora

Corpus	Search string	Frequency	Per mill. words	Distribution
CBF	[hw="sense" pos="V.*"]	622	47.43	110 of 130 texts
LBK	[hw="sanse" pos="V.*"]	101	7.71	38 of 209 texts

Common correspondences of *sense* and *sanse*

- **sense**: FØLE 'feel', MERKE 'notice', ANE 'suspect', FORNEMME 'be aware of'
- **sanse**: SENSE, FEEL, PERCEIVE, BE AWARE OF

Aim: Disentangle the meaning and behaviour (lexico-grammar) of verbs of sensing in English and Norwegian fiction texts



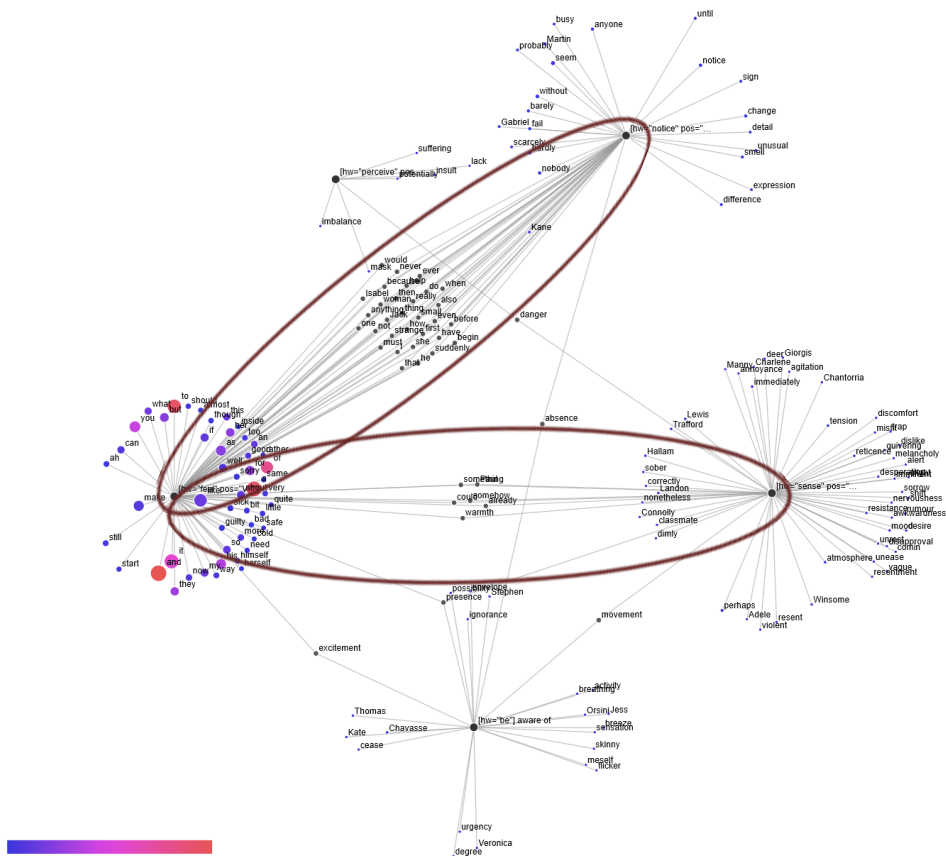
Starting point: SENSE & SANSE

- Expansion Norwegian: FØLE, MERKE, ANE, FORNEMME
- Expansion English: FEEL, NOTICE, PERCEIVE, BE AWARE OF

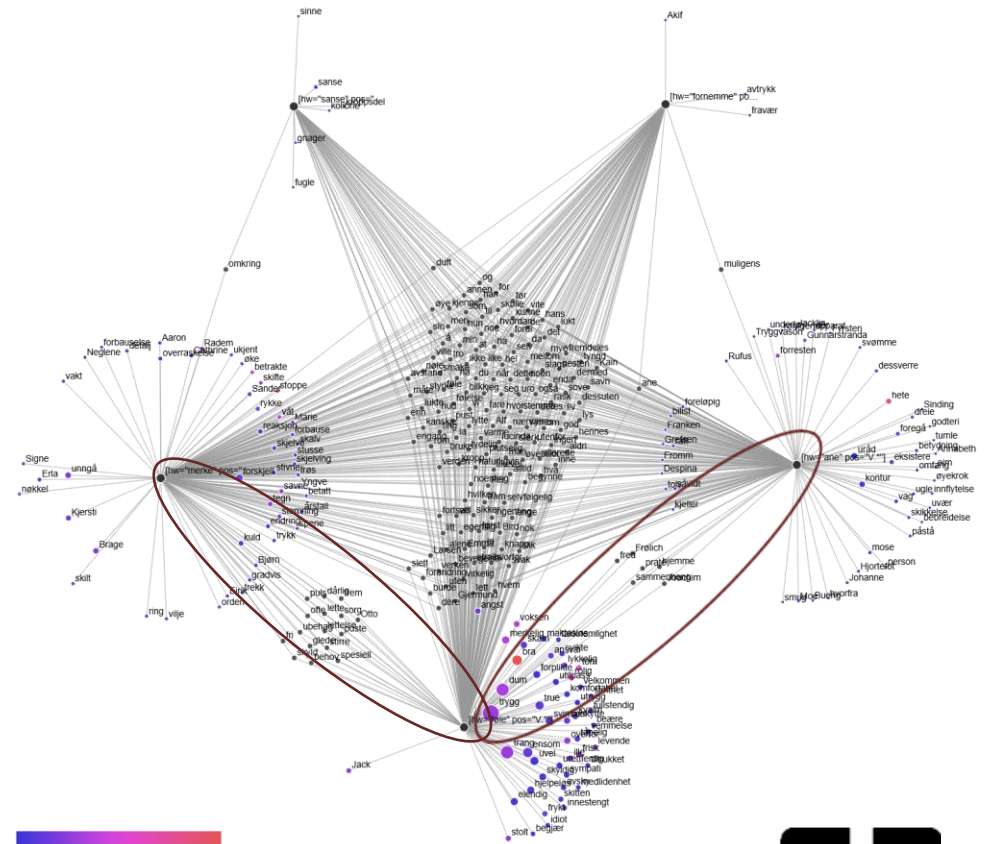
RQ: how are these verbs interconnected within and across the two languages and to what extent GenAI can help us in the process of disentangling their meaning and behaviour?

Needs disentangling

Collocation network of the five English verbs in CBF



Collocation network of the five Norwegian verbs in LBK



The 'sensing verbs' puzzle to disentangle

- | | |
|---|---|
| 1. Perez sensed panic in the man's refusal. [AnCl1E] | Perez ante en viss angst i avslaget. |
| 2. It was unique, that summer; we all sensed it. [JB1] | Den var unik, den sommeren; det følte vi alle... |
| 3. She sensed the movement and turned. [AnCl1E] | Hun merket bevegelsen og snudde seg. |
| 4. Han sanset at konen så på ham. [EFH1] | He senses his wife is looking at him. |
| 5. At hun ... sanser mere enn hun tror ... [CL1] | That she ... feels more, than she believes... |
| 6. ... hva som skjer når vi sanser noe. [JG1] | ... happens when we perceive something. |

Material, method, chatbots

Material

Corpus of British Fiction (**CBF**): **13m words** of British fiction, **2000-2012**

Leksikografisk bokmålskorpus (**LBK**): **13m words** of Norwegian *bokmål* fiction, **2000-2012**

Randomly extracted 100 concordance lines of each of the ten verbs (*be aware of, feel, notice, perceive, sense; ane, fornemme, føle, merke, sanse*)

Method

- Contrastive analysis through a traditional, three-step procedure of **description, juxtaposition** and **comparison** (Lado 1957; Krzeszowski 1990)
 1. Prompting the chatbots to analyse the set of English and Norwegian verbs with access to authentic corpus data (the 100 concordance lines x 10 verbs)
 2. Perform traditional, human contrastive analysis of the same corpus data

Chatbots



Copilot chat and ChatGPT-5

1. Prompts/Instructions for Chatbot analysis

I will give you three prompts and two files (cf. the CA method).

Prompt 1: On the basis of the set of uploaded concordance lines from a monolingual corpus of English fiction, outline the lexico-grammatical characteristics of the lemmas "sense", "feel", "notice", "be aware of" and "perceive".

Prompt 2: On the basis of the set of uploaded concordance lines from a monolingual corpus of Norwegian fiction, outline the lexico-grammatical characteristics of the lemmas "sanse", "føle", "merke", "ane" and "fornemme".

1. Prompts for Chatbot analysis

Prompt 3: Now perform a contrastive analysis of the verbs, where you disentangle their differences and overlaps in meaning and use, based on the results from the previous two prompts. Illustrate uses with examples from the uploaded files.

File A: 100 random concordance lines of each of the five English lemmas in CBF

File B: 100 random concordance lines of each of the five Norwegian lemmas in LBK

2. Steps in the human analysis (cf. CA method)

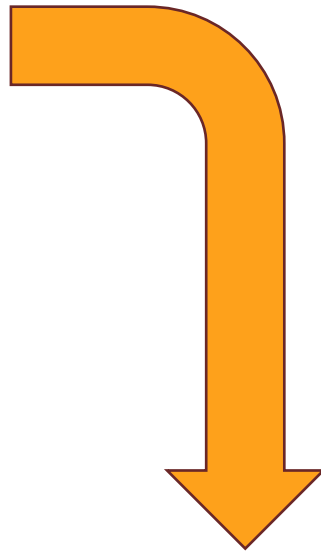
Register the lexico-grammar of the verbs in context in each language:

- Transitivity: transitive, intransitive, copula
- Complementation pattern: phrase, clause, Ø
- Actual head of phrase / type of clause:
 - e.g. *ardour, contempt, existence, sound, worse* (e.g. feel ardour, contempt, worse, etc.)
 - e.g. *that/at, wh/hv* (e.g. ... noticed that they'd left him.)

Additional categories registered: verb form, modal, reflexive, negation

2. Steps in the human analysis

Classify the verbs based on the semantic categories suggested by the Chatbots



Compare and contrast within
and across the languages

Human and Chatbot analysis (within and across languages): Formal (grammatical) aspects

Similar transitivity within and across the languages:

- Mainly monotransitive uses, some intransitive and copula (i.e. FEEL).

Similar complementation patterns within and across the languages:

- Mainly phrasal complements, some clausal (particularly *that/at*-clauses) and Ø.

Chatbot analysis (within and across languages): Semantic aspects

English: These verbs all relate to perception, but they differ in semantic nuance

Norwegian: These verbs reflect different types of perception – ranging from physical sensation to intuitive insight.



Gradient of awareness:

[Physical sensation] → [Intuitive perception] → [Conscious detection] → [Reflective awareness] → [Interpretive insight]

1. I **feel** weird. (= føle)

2. He could **sense** their doubt. (= sanse)

3. She **notices** the legend printed beneath the actress's feet. (= merke)

4. Had Sister Veronica **been aware of** being an object of desire? (= ane)

5. He **perceived** a kind of freshness. (= fornemme)

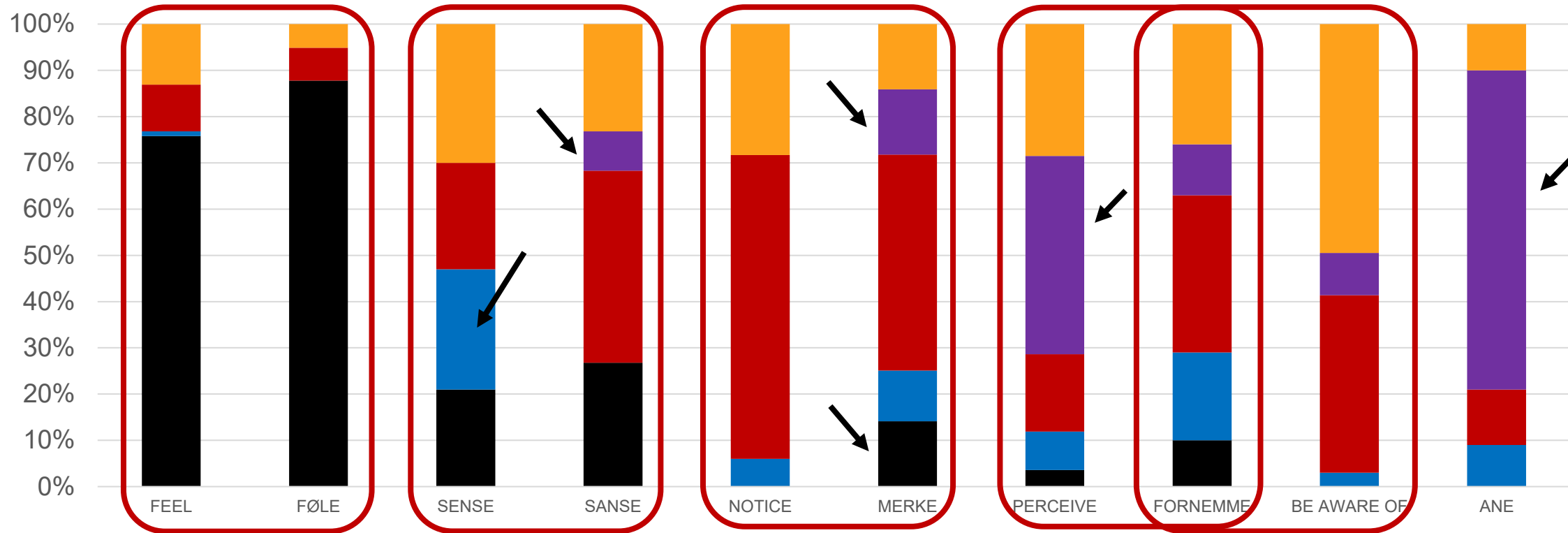
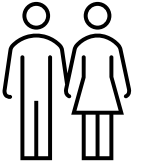


Physical sensation	Intuitive perception	Conscious detection	Reflective awareness	Interpretive insight
feel	sense	notice	be aware of	perceive
føle	sanse	merke	ane	fornemme

Some additional nuances:

- *Sanse* is slightly more physical and immediate, while *sense* leans toward emotional or psychological nuance;
- *Merke* has a broader use (than *notice*), including emotional or social cues;
- *Ane* is more speculative and intuitive (than *be aware of*);
- *Fornemme* is more emotionally charged, while *perceive* can be more analytical and philosophical.

Human analysis using chatbot categories



■ Physical sensation ■ Intuitive perception ■ Conscious detection ■ Reflective awareness ■ Interpretive insight

Human vs. Chatbot analysis



Physical sensation	Intuitive perception	Conscious detection	Reflective awareness	Interpretive insight
feel sense	sense	notice be aware of sense sense perceive	perceive	be aware of sense notice perceive feel forneimme
føle sanse merke forneimme	forneimme merke	merke sanse forneimme	ane merke forneimme	

Physical sensation	Intuitive perception	Conscious detection	Reflective awareness	Interpretive insight
feel	sense	notice	be aware of	perceive
føle	sanse	merke	ane	forneimme

Font size reflects a verb's prominence in a category.

1. Og nå **sanse**r hun stemmer, ... (conscious detection = 'hear')
'and now she **senses** voices'
2. Longinus put a force into the field the moment he **was aware of** the situation. (interpretive insight)
3. Mma Ramotswe **was aware of** the sound of Charlie's breathing ... (conscious detection = 'hear')

Useful extras emerging from human CA



- Overall frequency of verbs in the two languages differs considerably;
- "Exact" proportions and distribution of the different uses can be offered and visualised;
- The complex contrastive network of 'sense' verbs is highlighted;
- Idiomaticity and actual collocates are highlighted as contributing factors to a verb's use.

Reasons for the poor mutual correspondence of SENSE and SANSE in the previous study seem to be related to these issues in particular.

Chatbots for CA: Better, faster or worse, slower?

Better: Related to faster ...

Worse: Worse on accuracy (i.e. invents / misquotes secondary sources);
Worse on input data accuracy (i.e. modifies corpus data (cf. Curry et al. 2024));
Arguably worse at accounting for more or less salient uses;
Worse at following instructions for analysis (i.e. started the empirical analysis before the instructions were specified and the data uploaded).

Faster: Fast access to vast amounts of secondary sources on the fly (probably incl. grammars, dictionaries, research articles);
Faster synthesis of information from secondary sources;
Faster (MUCH faster!) analysis and categorisation of data.

Slower: Quality assurance (a lot of information that needs to be (manually) checked).

Despite Chatbot challenges ...

... has the **joint** Human/Chatbot analysis managed to:

- Disentangle the lexico-grammar of verbs of sensing in English and Norwegian fiction texts and determine how these verbs are interconnected within and across the languages?
 - To some extent, yes!
 - We have gained more insight into subtle nuances in the uses of verbs of sensing both within and across the two languages.



**Thank
you!!!**

sanse

sense

ane

perceive

feel

notice

**be
aware
of**

merke

føle

fornemme



References

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