Colourful causal constructions: a source of intensification?

A cross-linguistic constructional analysis in Dutch, English, and French

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Outline

- Theoretical framework: Construction Grammar
  - Causal colour constructions
- Insights from cognitive linguistics: colour-emotion associations
- Intensification
- Contrastive corpus study
  - Research aims
  - Data and methods
  - Results
- Conclusions

Construction Grammar

THEORETICAL FRAMEWORK

Constructions

Constructions = conventionalized **form-meaning pairings** and **basic units of language** (Goldberg, 1995, 2006)

→ "language is simply made up of constructions existing at all levels of language" (Barðdal, 2008:4)

Non-compositionality: "Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable for its component parts or from other constructions recognized to exist." (Goldberg, 2006:5)

→ **entrenchment** = "patterns are stored as constructions even if they are fully predictable as long as they occur with sufficient frequency" (Goldberg, 2006:5)

Constructions

Stored in the '**Constructicon**' (network)

Constructions are related hierarchically via **inheritance links**: "all nonconflicting information between two related constructions is shared" (Goldberg, 1995)

General pattern > specific patterns

→ "The inheritance network lets us capture **generalizations across constructions** while at the same time **allowing for subregularities and exceptions**" (Goldberg, 1995:67)

Causal colour constructions (CCC)

- NL: *hij wordt groen van nijd*
- EN: *he is green with envy*
- FR: *il est vert de rage*

→ [S + V + $Adj_{colour\ term}$ + [$preposition_{causal}$ + $N_{emotion}$]$_{PP}$]

Features (De Knop, 2013, 2014; De Knop & Mollica, 2014):

- Syntactic: empty 'slots' (subject, verb, colour adjective, preposition, emotion) = **schematicity**
  - **Not entirely schematic**: preposition = NL *van* – EN *with** – FR *de*
- Semantic:
  - Causality: express the links between causes and effects (Ballestracci, 2011, cited in De Knop, 2013)
  - Colour term as the **expression of a change of emotional state**, undergone by the subject

→ Few contrastive studies on CCCs (De Knop 2013, 2014; De Knop & Mollica, 2014), none including Dutch

Colour-emotion associations

INSIGHTS FROM COGNITIVE LINGUISTICS

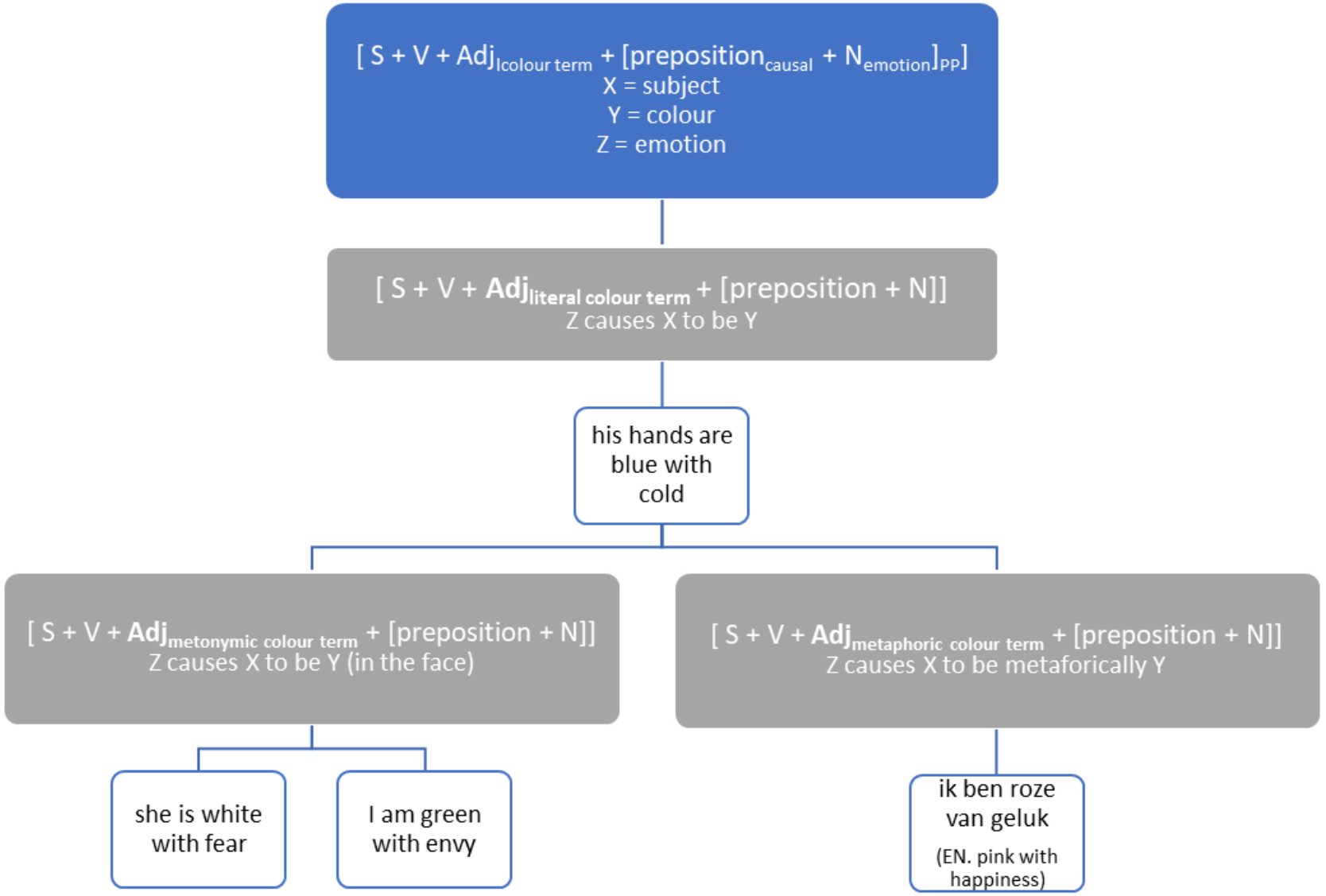
Associations between colours and emotions

3 possible meanings of the colour term in the CCC (De Knop, 2013, 2014; De Knop & Mollica,2014)

- **Literal**: colour term // actual colour
  - E.g. *haar handen zijn rood van de kou* (‘her hands are red with cold’)
- **Metonymic**: conceptual metonymy (Soriano & Valenzuela, 2009) → part/whole relationship, ‘effect for cause’ > ‘colour for emotional state’:
  - Colour of the face (e.g. *rood van woede*)
  - (Rising) bodily fluid (e.g. blood in *red with anger*; bile in *green with envy*)
- **Metaphoric**: metaphoric colour (no actual colour change)
  - E.g. *je suis rose de bonheur*

Constructional network of the CCC

Inheritance links based on De Knop (2013)



Associations between colours and emotions

Soriano & Valenzuela (2009): study of the connotations and implicit associations of Spanish colours terms → **cross-cultural (and cross-linguistic) differences** motivated by:

- **Conceptual metonymy**: physiological role of bodily fluids in the experience and expression of emotions
  - ! Not the same in all cultures and languages: different (colour-related) aspects of one and the same emotion (e.g. anger represented by the colour red OR by a pale face) + different physiological theories (e.g. Western cultures: envy associated with bile > green & yellow)
- **Conceptual metaphor**: e.g. Russian 'black envy' and 'white envy' → BAD IS BLACK and GOOD IS WHITE
- **Emotional reactions to colour**, e.g. red associated with positive (love) and negative (anger) emotions
- **Similar connotations** (connotative structures) rooted in human experience, e.g. red // blood: different affective values (symbol of danger in one culture, and of life in another)

→ Few studies comparing such associations in the CCC in NL/EN/FR

Intensification

Intensification

Intensification = qualitative form of evaluation (Grandi, 2017) → expresses the **(positive or negative) feelings** of a speaker towards an item, based on subjective, individual criteria (Grandi, 2017:8)

> = position of an item on a **scale** which **diverges from the norm**

Different types of intensifiers:

- **Morphological**, e.g. NL *bloedmooi, doodmoe*, EN *ice cold* (Hendrikx, Van Goethem & Wulff, 2019)
- **Syntactical**:
  - Degree adverbs (e.g. NL *heel*, EN *very*, FR *très*), NPs (e.g. *a little bit*) and PPs (e.g. *to some extent*)
  - **Lexicalised collocations** (Grandi, in Napoli & Ravetto, 2017), e.g. IT *fame da lupi,* IT *mangiare come un bue*
    - Low degree of semantic compositionality
    - High degree of internal cohesion
    - Expression of exaggeration or excess

Colours in intensification?

Use of **colours as intensifiers** in other constructions

→ Pseudo reflexive resultative constructions in Dutch (Gyselinck & Colleman, 2016)

e.g. *Ik lach me <u>kapot</u> – Ik erger me <u>groen en geel</u> – Ik betaal me <u>blauw</u>* = high degree of emotion

→ Role of colours in the CCC?

Intensification as **holistic meaning of the causal construction**? → expression of an extreme emotion

Colours in intensification?

- Comparable with **excessive/augmentative compounds**:
  - e.g. FR *Les enfants étaient bleus de froid*

  // GER *Den Kindern war blau vor Kälte*

  // GER *Den Kindern war eiskalt*

  (De Knop, 2014)

- Importance of **semi-schematicity** for the productivity of the CCC (Cappelle, 2014; Gyselinck & Colleman, 2016)
  - Empty slots = room for **partial productivity**

  → **recurring colour/emotion associations** = stored as such => **lexicalized intensifying collocations?**

→ Few studies on the role of colours in intensification

Contrastive corpus study

Research aims

(1) Contrastive study of the semantics, formal variation, and productivity of the CCC in NL-EN-FR

(2) Universal or language-specific nature of colour/emotion associations

(3) Investigation of the potential for intensification of the CCC

Data and methods

Corpora: **TenTen webcorpora,** available on **Sketch Engine** (Kilgarriff et al., 2014)

- >10^10 words per language, material from the Internet
- + Recent – Authentic material – Internet: room for evaluative language – Available in all 3 languages under study (nlTenTen14, enTenTen15, frTenTen17)

Data selection (1):

- **CQL-query** (EN): [lemma="red|blue|green|yellow|black|white"] [word="with"] [tag="N.*"]
  - Based on **Berlin & Kay's (1969) primary Basic Color Terms**
  - 4 empty slots: subject – verb – colour adjective – noun/emotion
- Some **exclusion criteria** were needed, among which:
  - Food names, e.g. EN *sauteed greens with garlic,* NL *rood van pinot noir*
  - Actual colours, e.g. FR *le modèle noir de jais,* EN *it's black with gold accents*

  → Same structure [colour + preposition + N] where N ≠ an emotion

Data and methods

Data selection (2):

- Data coded for **relevance: N = emotion**
  - ! Literal, **material causes** were **excluded**, e.g. EN *I was yellow with hepatitis,* NL *zijn vingers zijn zwart van nicotine*
  - ! **Literal causes** such as the cold or excitement were **included**, e.g. NL *blauw van de kou, rood van opwinding* → still imply some kind of emotion or **feeling** => **'literal/metonymic'**

Sampling after randomization → final samples:

- **NL 150 concordance lines**
- **EN 150 concordance lines**
- **FR 78 concordance lines**

Data and methods

Analysis using Microsoft Excel + comparison of results (NL/EN/FR)

Formal parameters	Lexical-semantic parameters	Productivity → **type-token ratio**: 4 conditions
Use of **one or more colour(s) per concordance line**	**Lexical fillers** (lemma(ta) of the *colour(s)* and the *emotion(s)* + lemma of the *verb*)	Based on the **colours**
Use of **one or more emotion(s) per concordance line**	**Semantic type of the subject** (*human animate – animal animate – non-animate*)	Based on the **emotions**
Presence of **modification/intensification**	**Use of the colour adjective** (*literal – literal/metonymic – metonymic – metaphoric*)	Based on the **combination of colours with specific emotions** (which emotions with one and the same colour?)
Form of the colour adjective (comparative or not)	**Holistic meaning** of the construction (*intensification* or not)	Based on the **combination of emotions with specific colours** (which colours with one and the same emotion?)

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Formal features

Semi-schematic pattern in all 3 languages: [S + V + $Adj_{colour\ term}$ + [preposition$_{causal}$ + $N_{emotion}$]$_{PP}$]

Four parameters:

- *Number of colour(s) per concordance line*: up to two colours in all 3 languages, more often 1 colour
  - Only 1 combination in EN: *My face turned **black and blue** with cold*
  - NL: 9 instances, 2 combinations → *groen en geel* (n=**8**) and *wit en rood* (n=1)
- *Number of emotion(s) per concordance line*: up to two emotions in all 3 languages, more often 1 emotion
  - e.g. Eldarion looked white with **shock and disgust**

→ 2 emotions more often than 2 colours

- e.g. EN: 2 emotions: 6%, n=9 vs. 2 colours: 0.7%, n=1
- Except in NL: *groen en geel* (van jaloezie, van nijd, van angst, van ellende…)

→ If 2 colours, then 1 emotion and vice versa

Formal features

- *Modification/intensification:* possible in all 3 languages
  - NL: e.g. *ik werd **helemaal** wit van schrik; hij werd **een beetje** rood van schaamte*
  - EN: simple intensifying adverbs, e.g. *She was **very** red with embarrassment*
  - EN: intensifiers from the 'colour' register, e.g. *their leader George is […] **pea** green with e*nvy
  - FR: only with the adverb *tout(e)*, e.g. *Charlotte est **toute** rouge de honte, de confusion*
- *Form of the colour adjective:* comparative forms possible in all 3 languages but rarely used
  - e.g. NL: *De ogen van Ton worden steeds **roder** van vermoeidheid*
  - *e.g. EN: His wide, ruddy face had turned even **redder** with anger*
  - e.g. FR: *il aurait été encore **plus vert** de rage quand j'ai demandé le divorce*

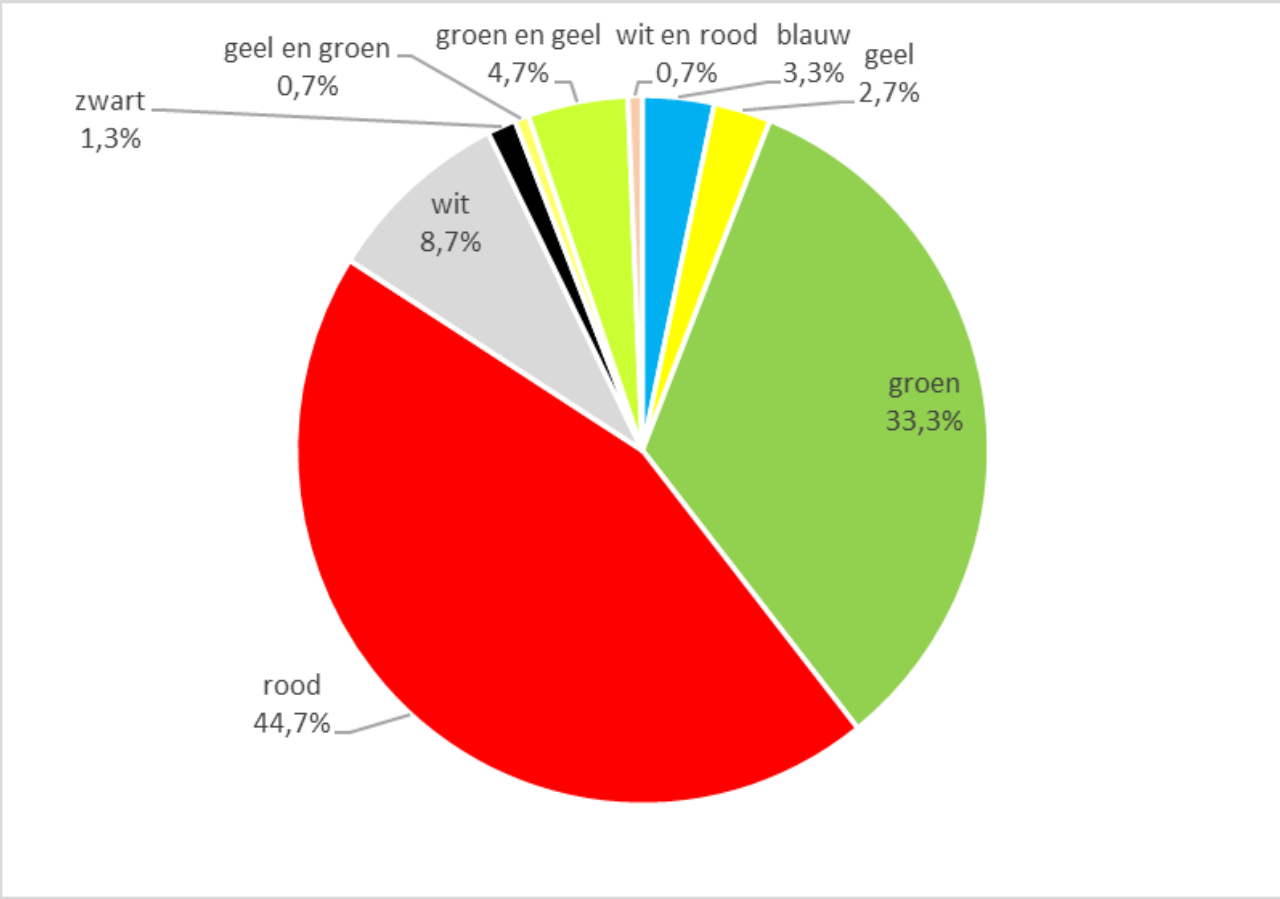
Lexical-semantic features

Number of colour terms and emotions per language

	NL (N=150)	**EN** (N=150)	**FR** (N=78)
Colour terms	9 (3 comb.)	7 (1 comb.)	6 (1 comb.)
Emotions	34 (7 comb.)	33 (9 comb.)	14 (4 comb.)

Lexical-semantic features

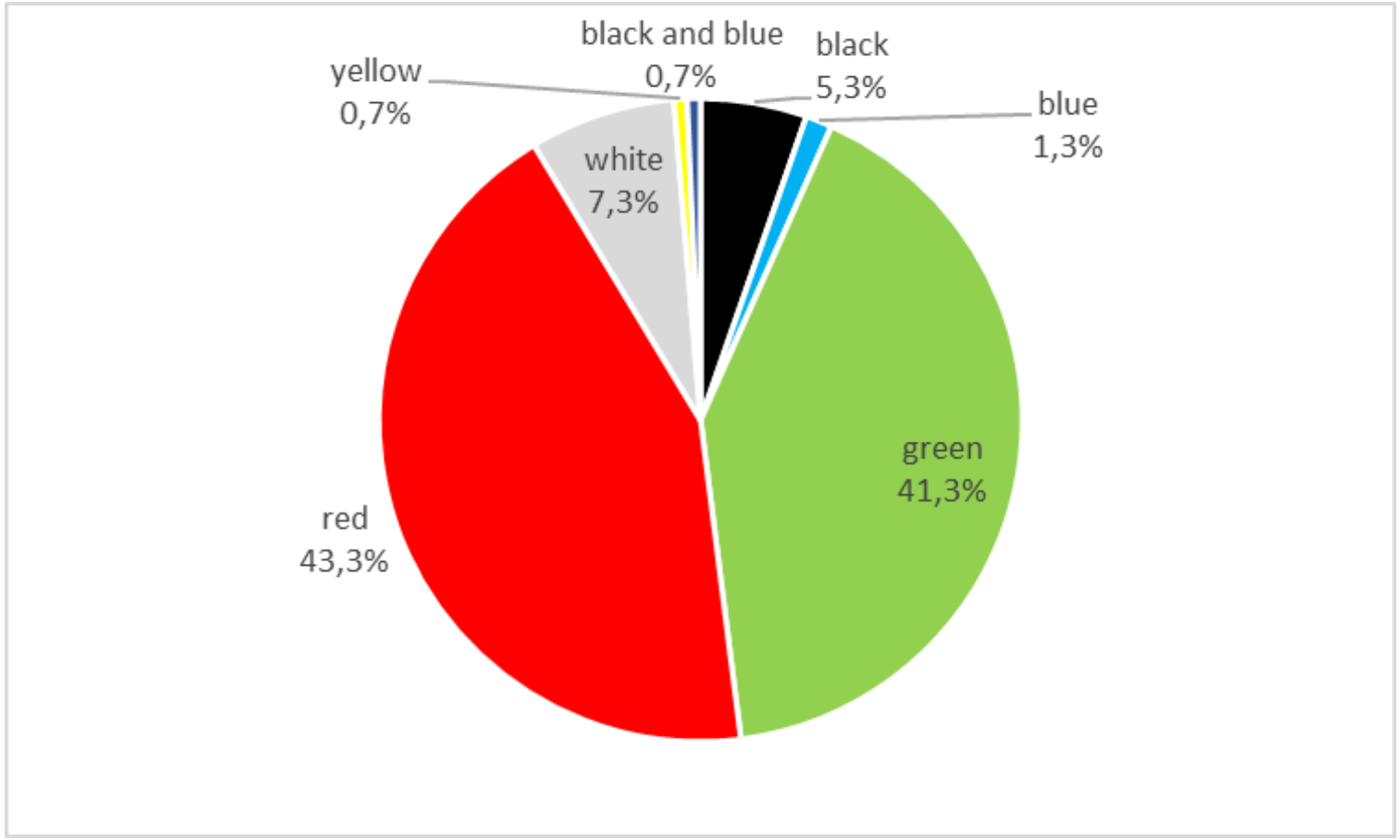
Percentage of each colour term in the Dutch data (nlTenTen14, N=150)



e.g. #1 *rood*: *Hij werd nu al* ***rood van schaamte***.
#2 *groen*: *dus ben ik soms echt* ***groen van jaloezie*** *als ik sommige bakken hier zie!*
#3 *wit*: *Lavinia keek op en Emily's gezicht werd* ***wit van angst***.

Lexical-semantic features

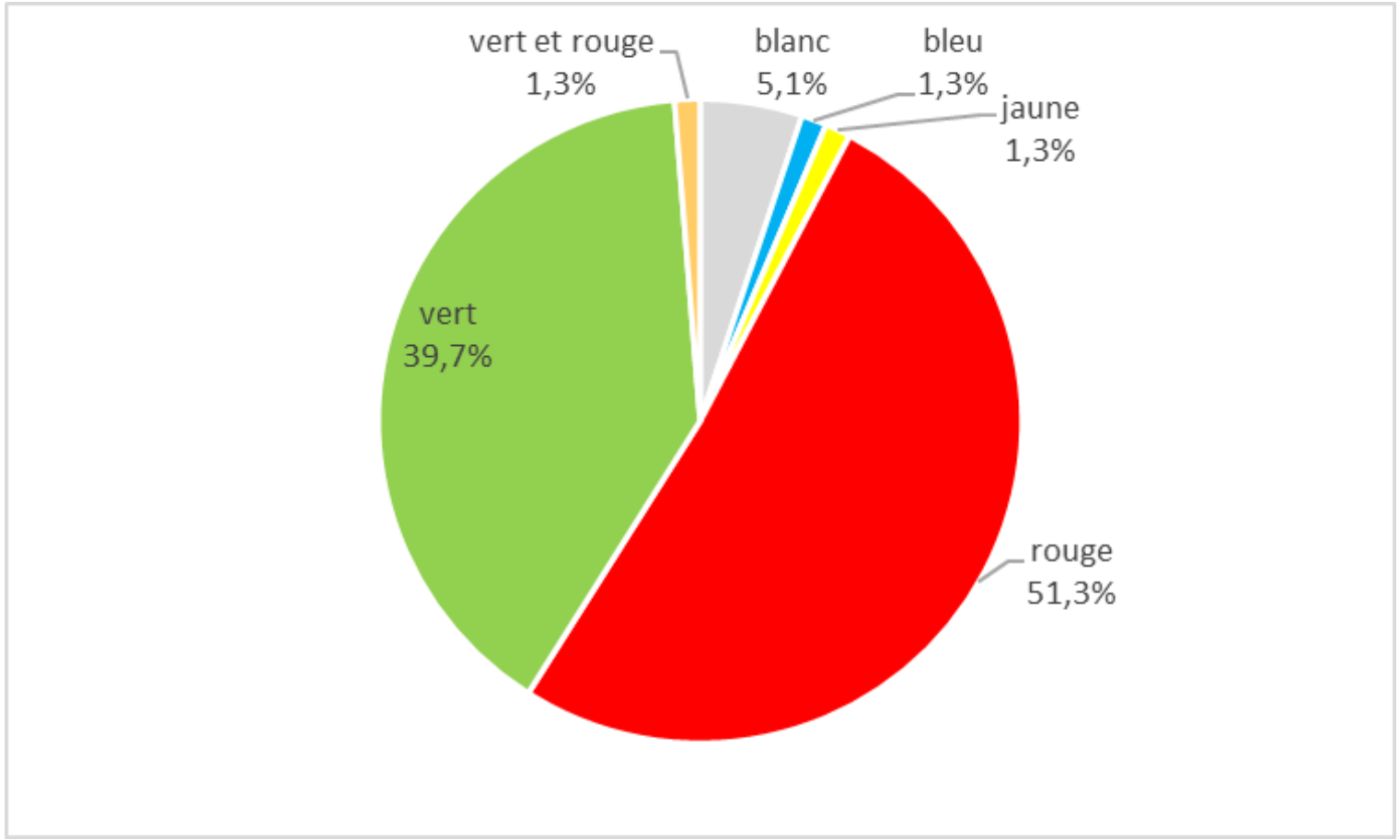
Percentage of each colour term in the English data (enTenTen15, N=150)



e.g. #1 *red*: *My cheeks are* ***red with embarrassment***
#2 *green*: *I am seriously* ***green with envy***
#3 *white*: *I looked up and then my face went* ***white with terror***

Lexical-semantic features

Percentage of each colour term in the French data (frTenTen17, N=78)



e.g. #1 *rouge*: *Je suis terriblement gênée et certainement* ***rouge de confusion***
#2 *vert*: *Il en était* ***vert de rage*** *!*
#3 *blanc*: *[…] il devint* ***blanc de colère***

Lexical-semantic features

Meaning of the colour term(s)

	NL (N=150)	**EN** (N=150)	**FR** (N=78)
Literal	3.3%	2.7%	0%
Literal/ metonymic	**56%**	**50.7%**	**55.1%**
Metonymic	39.3%	41.3%	42.3%
Metaphoric	1.3%	5.3%	2.6%

e.g. **literal**: *Noses, fingers and toes are* ***red with cold***
literal/metonymic: *Reuben's face turns* ***red with anger***
metonymic: *The Bloomberg correspondent was* ***green with envy***
metaphoric: *[…] he turned* ***black with rage*** *by the news of his daughter's birth*

Lexical-semantic features

Lexical fillers: **variation** between languages in the 'subject' slot

Subject:

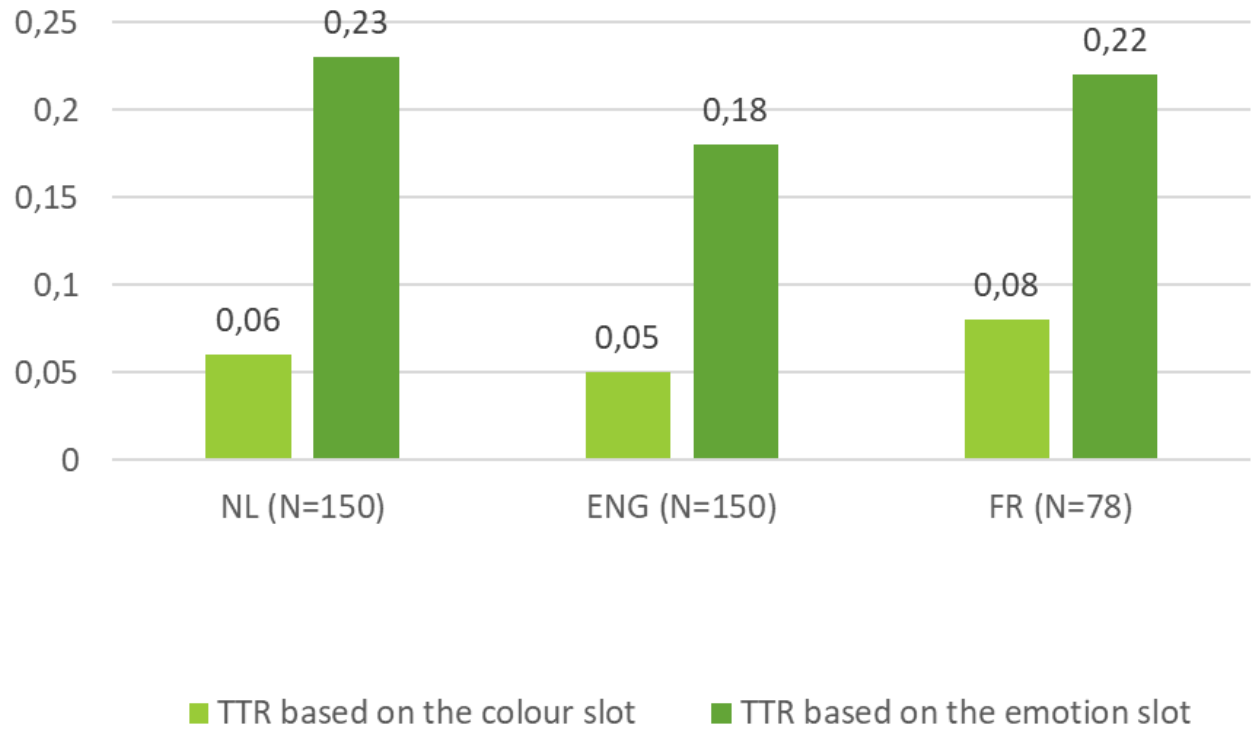
	NL	EN	FR
Human animate	**74.7%** (n=112)	64% (n=96)	**89.7%** (n=70)
Non-animate	25% (n=37)	**35.3%** (n=53)	10,3% (n=8)

→ Non-animate = often a body part (face, cheeks…)

- e.g. NL *De **lippen** waren helemaal blauw van de kou*
- e.g. EN *His **eyes** were red with rage*
- e.g. FR *Son **visage** était rouge de colère*

Productivity

Similar general TTRs in all 3 languages



Productivity

Different picture when looking at the productivity per colour or per emotion

→ e.g. 2 most used colour terms = *red* & *green* → yet opposite results:

- *Red/rood/rouge* is combined with a bigger number of emotions in all 3 languages => more productive than *green/groen/vert*
- **Differences in productivity: not necessarily due to cross-linguistic differences**
  - Differences do exist in terms of the number of emotions (or colour terms) which are associated with a specific colour term (or emotion)
  - BUT bigger differences in terms of **preferences**, i.e. favouring one association over another

- Some associations are **shared** (e.g. *red with shame/rood van schaamte/rouge de rage*; *blue with cold/blauw van de kou*)
- But there are **language-specific preferences**

Productivity: language-specific preferences

e.g. *envy/jealousy – nijd/jaloezie – jalousie*

	NL nijd	EN envy	NL jaloezie	EN jealousy	FR jalousie
Green	1	**56**	**32**	3	7
Red		1			
White	1				
Yellow			1		1
Green and yellow	1		1		
Yellow and green			2		

→ EN: green with **envy**

→ NL: groen with jaloezie

≠ FR

Productivity: language-specific preferences

e.g. *rage/anger – woede/boosheid – rage/colère*

	NL woede	EN rage	FR rage	NL boosheid	EN anger	FR colère
Black	1	3				
Green	2		**19**			2
Red	13	10	1	1	16	11
White	5	1	2		1	1
Yellow	1					
Green and red			1			

→ EN: red with **rage**
+ red with anger

→ NL: rood van **woede**

→ FR: rouge de colère

≠ FR: ✗ vert de jalousie
✓ vert de **rage**

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Productivity

Analysis of productivity based on semantic coherence (Barðdal, 2008)

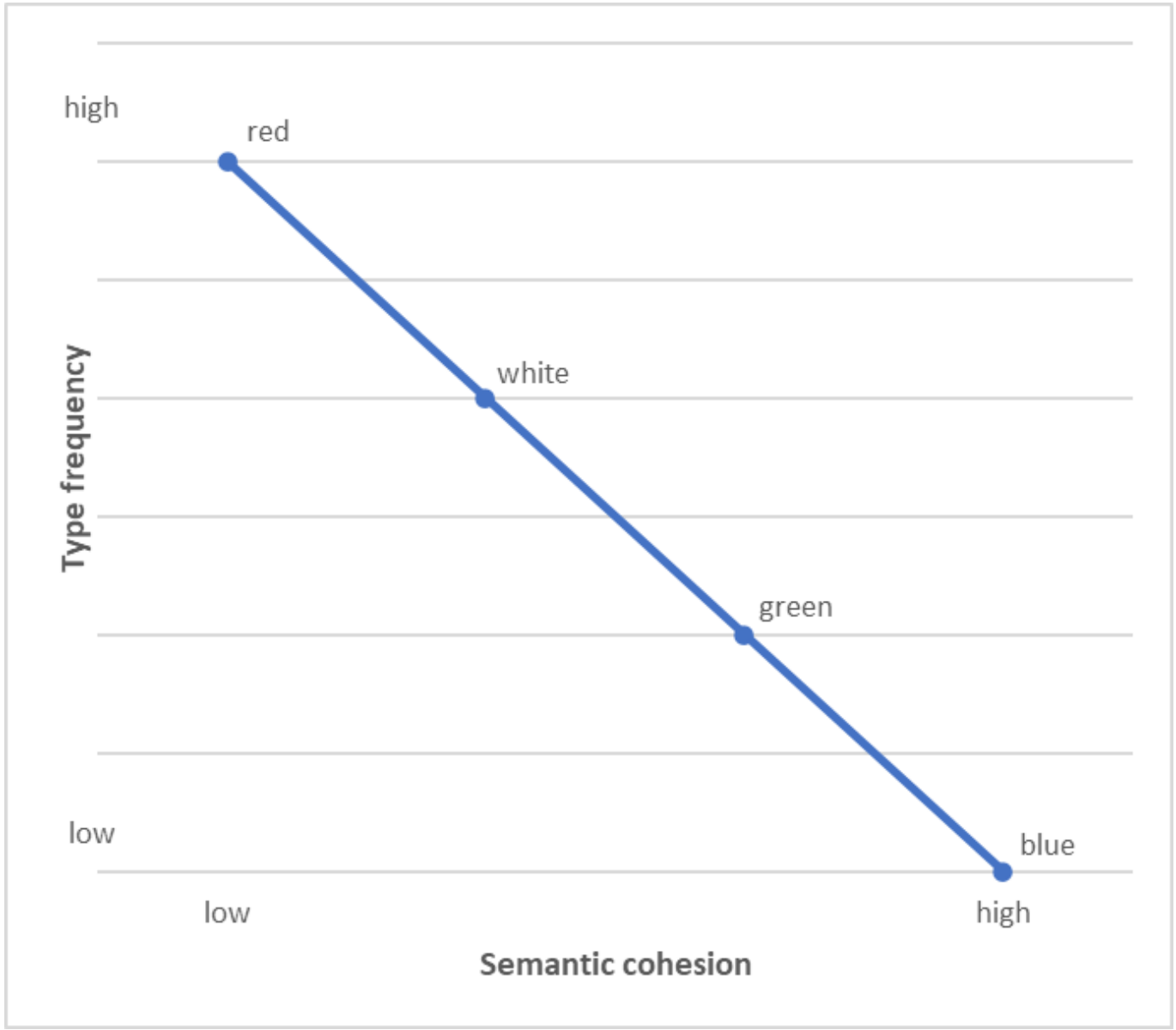
→ "A construction with a **high type frequency** does **not need semantic coherence** to be productive, whereas a construction with a **lower number of types** can only be productive if those types belong to a **well-defined semantic domain**." (Gyselinck & Colleman, 2016:122)

→ Important role played by **schematicity**

- *red*: big number of types (= emotions, n=17), little semantic coherence (negative and positive emotions) => productive
- *green*: small number of types (n=5) but semantic coherence (negative emotions related to jealousy only) => less productive
- *white*: small number of types (n=9) but little semantic coherence (negative emotions which are not necessarily related: *anger, fear, pain, shock, surprise*…) => between red and green on the **lexicality-schematicity continuum**
- *blue*: only with *cold* => not productive at all

Lexicality-schematicity continuum

Schematic representation of English colour terms on Barðdal's (2008) productivity continuum



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Potential for intensification?

- Intensification as **holistic meaning of the causal construction** → expression of an extreme emotion + comparable with **excessive/augmentative compounds** (De Knop, 2014) ✓
- **Recurring colour/emotion associations** (e.g. NL *rood van woede*, EN *red with shame*, FR *vert de rage*) stored as such **= lexicalized intensifying collocations**
  - Grandi (in Napoli & Ravetto, 2017):
    - Low degree of semantic compositionality ✓
      - ! only the recurring subpatterns, not the general pattern where only the causal preposition is fixed
    - High degree of internal cohesion ✓
    - Expression of exaggeration or excess ✓

Conclusion

Conclusions

(1) Contrastive study of the semantics, formal variation, and productivity of the CCC in NL-EN-FR

- Syntactic variation: semi-schematic pattern [S + V + $Adj_{colour\ term}$ + [$preposition_{causal}$ + $N_{emotion}$]$_{PP}$]
  - ✓ 1 or 2 colour term(s), 1 or 2 emotions, modification, comparative form
- Semantics:
  - Top 3 colour terms: *red* – *green* – *white*
  - ~50% literal/metonymic reading
- Productivity:
  - 'Emotion' slot > 'colour' slot
  - *Red* and *green* = 2 most common colours, but differences in productivity
  - Colour/emotion associations can be placed on a continuum → semantic cohesion as a parameter

Conclusions

(2) Universal or language-specific nature of colour/emotion associations

- Some associations are shared (e.g. *red with shame*)
- Language-specific preferences (e.g. *green with envy, groen van jaloezie* vs. *vert de rage*)

(3) Investigation of the potential for intensification of the CCC

- Intensification = holistic meaning → extreme (change in) emotion
- (Partly) lexicalized intensifying constructions

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Баярлалаа
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