

Reader guidance routines in scientific writing

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Introduction

- **Omnipresence of transdisciplinary scientific phraseology** (collocations, routines, etc.) in **scientific writing** (Granger, 1998; Pecman, 2004; Tutin, 2014, Tutin & Kraif, 2017; Ji & Tutin, 2019, 2020).
- **Reader guidance routines : recurrent prefabricated expressions used to facilitate reading by some specific rhetorical functions in scientific writing.** Their presence is not aimed at providing informative content, but at facilitating the understanding of the content transmitted during communication (Hyland, 2005).

e.g. (1)

<i>Il est (it is)</i>	<i>important/fondamental/central/essentiel (important/fundamental/central/essential)</i>	<i>de (to)</i>	<i>souligner/noter/relever/constater... (emphasize/note/point out/notice)</i>
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(2)

<i>L'enjeu/le problème/la question principal(e)/central(e) (The main/central issue)</i>	<i>est de/que ... (is that...)</i>
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- *Extended Phraseology (pragmatems, clichés, routines)*

Organisation of presentation

1

Routines and close concepts

2

Corpus and methods of extraction

3

Linguistic parameters for describing reader guidance routines

PART 1



Routines and close concepts



1: Routines and close concepts

Conversational routines:

« Routines are kinds of interactions where no "negociation" is necessary between individuals...fixed by functional appropriateness and tradition. » (Coulmas, 2011, p. 3)

e.g.

How do you do?
<i>I'm sorry to + verbal phrase</i> <i>keep you waiting</i> <i>have kept you waiting</i>

Lexical bundles (Biber, 2006, 2009)

- 1) Statistically frequent sequences in a given register
- 2) Often syntactically incomplete and open sentences
- 3) Interpersonal, referential, stance and discursive functions (Biber, 2006).
ex: *I want to talk about...; what I want to do is...; in the case of*

P-frame (Römer, 2010) : phrase-frame, lexical bundles with lexical variations

ex: *it is _ that, in the _ chapter, on the _ hand...*

1: Routines and close concepts

- **Motifs** : for a text made up of a set of occurrences of the elements A, B, C, D, E, a motif could be either the recurrent microstructure ACD or AA, etc., without prejudging the nature of the elements A, B, C, D, E in question. (Longrée & Mellet, 2013, p. 66)

Ici j'aimerais toutefois préciser (here, however, I would like to clarify):

ici, j'aimerais préciser (here, i would like to clarify)

je voudrais préciser (i would like to clarify),

ici, je souhaite toutefois préciser (here, however, i want to clarify)

- **definitional parameters of motifs** :
 - recurrence
 - sequentiality
 - multidimensionality
 - discursive or textual functions.

Definition of reader guidance routines

Definition: (Tutin & Kraif, 2016, Kraif & Tutin, 2017, Tutin & Ji, (in press), Ji, (in press))

- ❖ **recurrent expressions ;**
- ❖ construction around a **verbal predicate** with fixed and variable parts on both the syntactic and paradigmatic axes;
- ❖ **actualizations on the enunciative level ;**
- ❖ perform specific **metadiscursive functions** to better organize and explain the text by anticipating the reader's expectations.

e.g. a routine which announce the objective of the research :

<Author aim to analyse + topic >

Nous nous proposons d'explorer dans cet article + topic (in this article we suggest to explore +topic)

Je me propose d'étudier + topic (I suggest to study + topic)

Differences and similarities of routines and close concepts

Notions	Recurrence	Lexical and syntactic flexibility	Syntactic flexibility	Semantic Predictability	Functions
Conversational routines	-	A little	-	Not always	Pragmatic
Lexical bundles	+	A little	-	+	Discursive, referential interpersonal
P-frames	+	Flexible	-	+	Discursive, referential interpersonal
Motifs	+	Flexible	Permutation allowed	+	Discursive, textual
Reader guidance routines	+	Very Flexible	+	+	Metadiscursive

PART 2



Corpus and methods of extraction



2. Corpus and methods for automatic extraction

Corpus-driven study of identification of reader guidance routines :

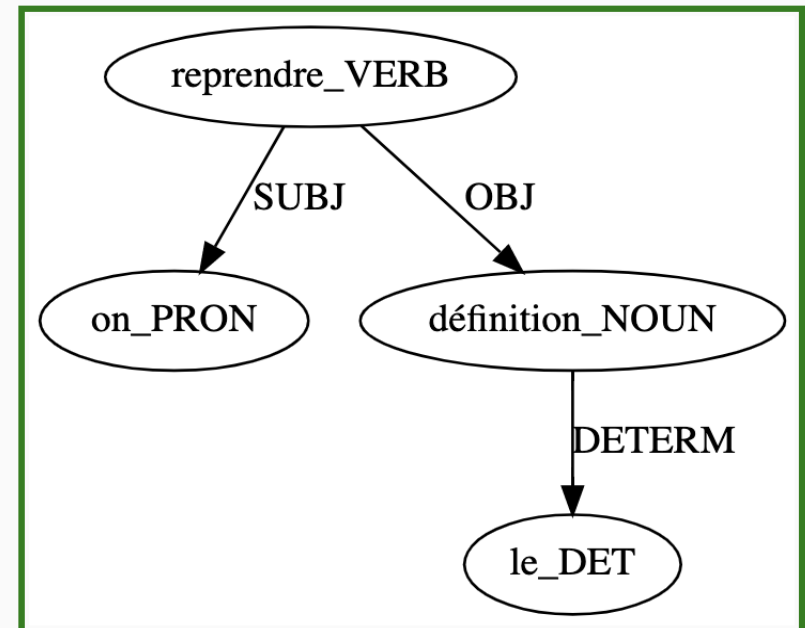
❑ **Corpus Termith** : 500 research articles in humanities and social sciences, 5 million words, 10 disciplines, syntactically analysed by XIP (Hatier, 2016)

❑ **Methodology** : Lexicoscope: online exploration tool to study lexical combinatorics with the method of recurrent lexical-syntactic trees. (Kraif 2016 ; Tutin & Kraif 2016 ; Kraif & Tutin 2017).

[1] *On reprend les définitions de qn (we use the definition of sb)*

[2] *On pourrait reprendre la définition de qn (we could use the definition of sb)*

[3] *On peut ainsi reprendre la définition qu' en donne Alain Lancelot (so we can use the definition given by Alain Lancelot)*



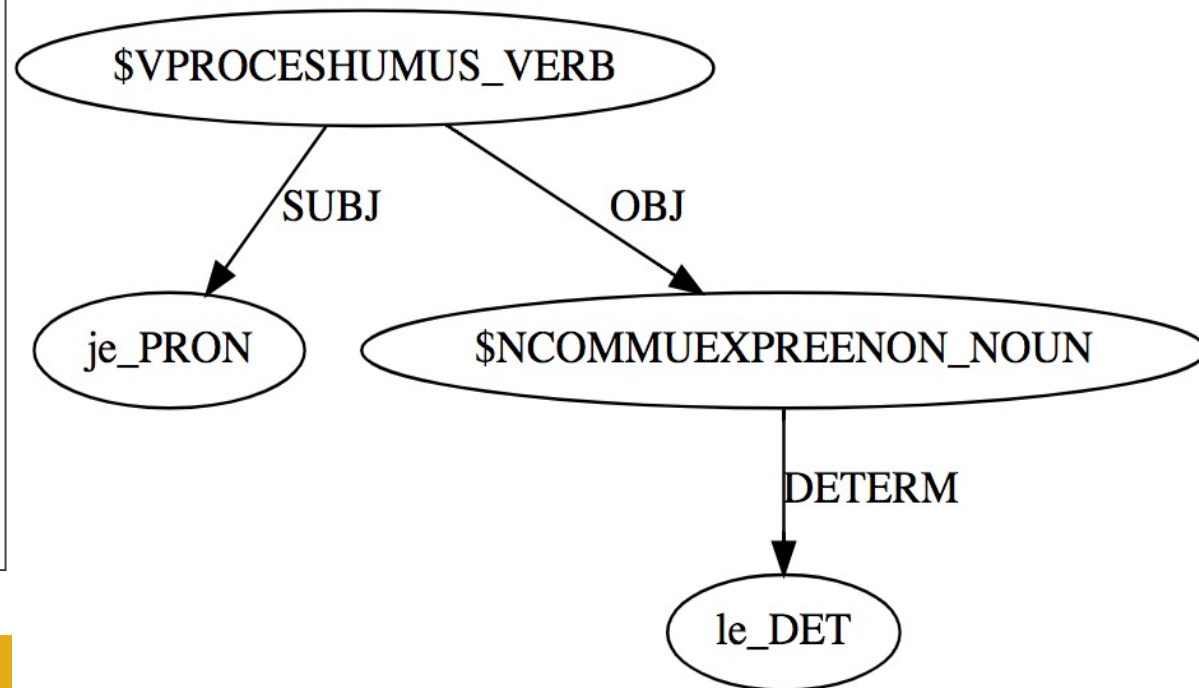
2: Corpus and methods for automatic extraction

- **Semantic classes of scientific transdisciplinary lexicon as keyword for a automatic extraction** : (Hatier et al., 2016), (Ji, in press)

J'emploie le terme de Cyrulnik...(I use the term of Cyrulnik)

Je mobilise ici la définition goffmanienne des cadres... (I use here the definition...)

J'emprunte l'expression à Denis Laborde (I borrow the expression from...)



In this illustration:

VPROCESHUMUS = Verbs of the act of using sth (employer, mobiliser, emprunter, utiliser) (use)

NCOMMUEXPREENON = Nouns of communicational words (expression, définition, terme, mot)
(expression, definition, term, word)

2: Corpus and methods for automatic extraction

Several quantitative criteria:

1. Frequency of a routine in corpus: ≥ 5
2. transdisciplinary threshold: ≥ 3 out of 10 disciplines

Step 2 :

Manual filtering and grouping of routines

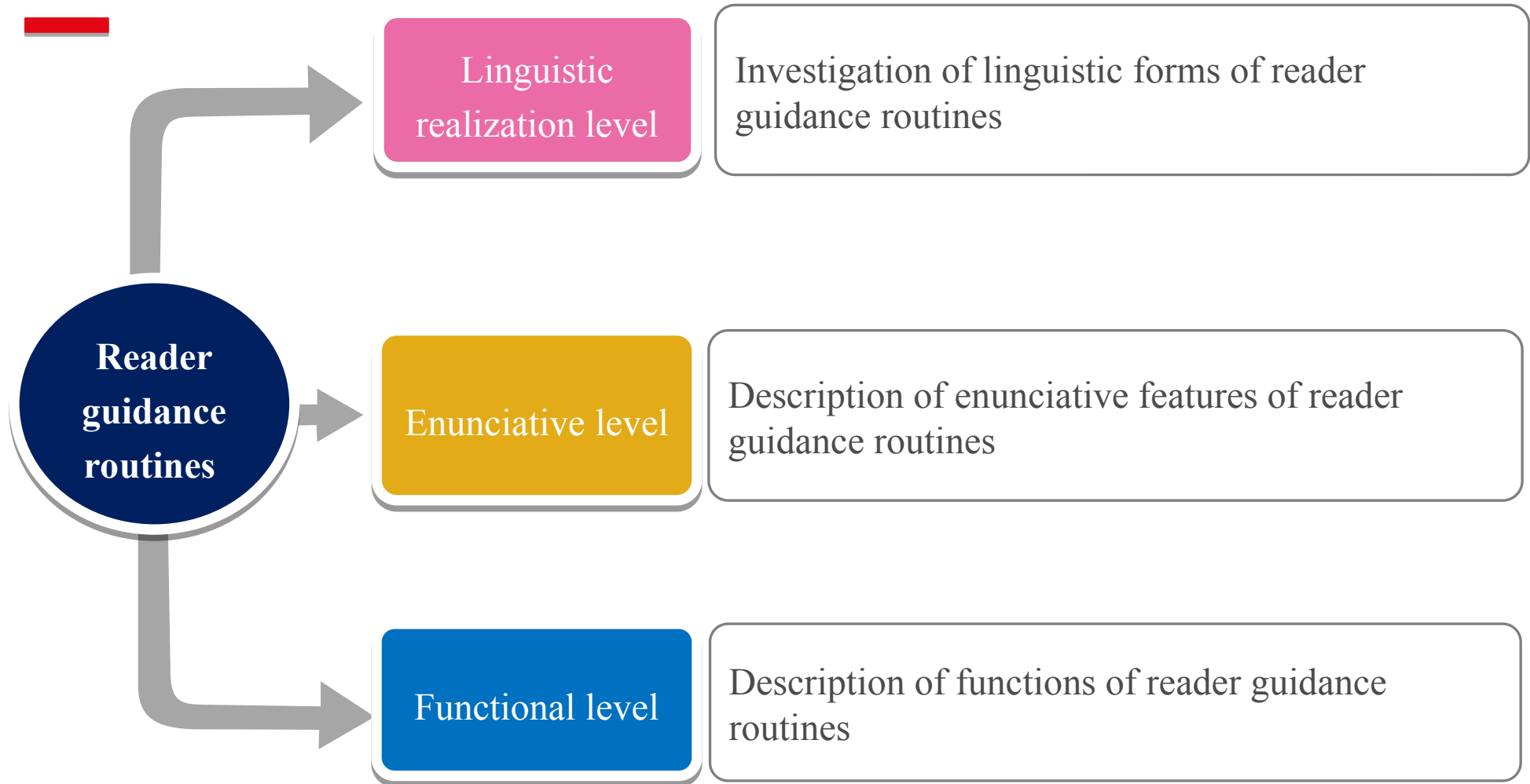
PART 3



Linguistic parameters for describing
reader guidance routines



Three main aspects of reader guidance routines



1. Linguistic forms: syntactic and lexical variations: four types of elements are involved (Tutin&Ji, in press)

- a) Fixed, lexically constrained parts;
- b) Compulsory elements, but not very lexically constrained, partially semantically
- ∅ Optinal elements referring to non-essential grammatical words or phrases;
- d) Peripheral elements that allow the routines to be integrated into the discursive functioning and the argumentation.

	Author	Aim	Analyse		Theme (noun phrase)
	Nous (We)	nous proposons d' (propose to)	explorer (explore)	dans cet article (in this article)	les différentes représentations de l'animal ... (the different representations of the animal)
Dans ce papier, (in this paper)	On (We)	se propose précisément de (propose precisely to)	développer (develop)		un test simple d'endogénéité... (a simple test of endogeneity...)

2. Enunciative features of reader guidance routines :

a) directly reflected by use of deictic markers referring to "scientific scenario":
the author, the reader, the research being conducted, the document in which the research is described, etc,

*e.g. dans **cet** article, **on** se propose de... (in **this** article, **we** propose to)*

2. Enunciative features of reader guidance routines :

b) Reader guidance routines reflect the **dialogism** of scientific writing (Bres, 2005, 2017):

1) **interdiscursive dimension** : interaction between the author's statements and previous research, often on the same object. (Brès, 2005, 2017).

e.g. *Voir l'article de qn (see sb's article)*

Se référer à l'ouvrage de qn (refer to sb's book)

2) **interlocutionary dimension** : relates to "the addressee's response, which is solicited and anticipated" (Brès, 2017, p. 3).

e.g. *L'objectif de cet article est d'analyser (the objective of this article is to analyze)*

Le but de ce papier consiste à étudier (the goal of this paper is to study)

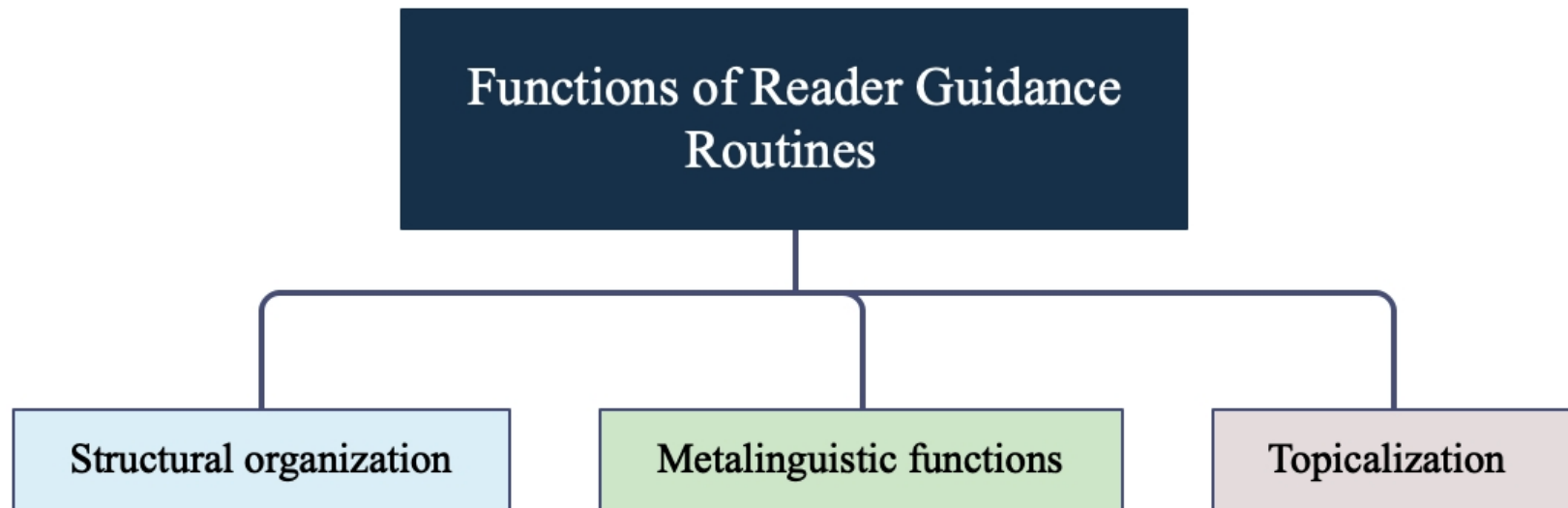
3) **intralocutionary dimension** reflects the interaction between the author's own statements previously said and subsequently produced

e.g. *on pourrait également dire(we could also say); on peut parler aussi de (we could also say)*

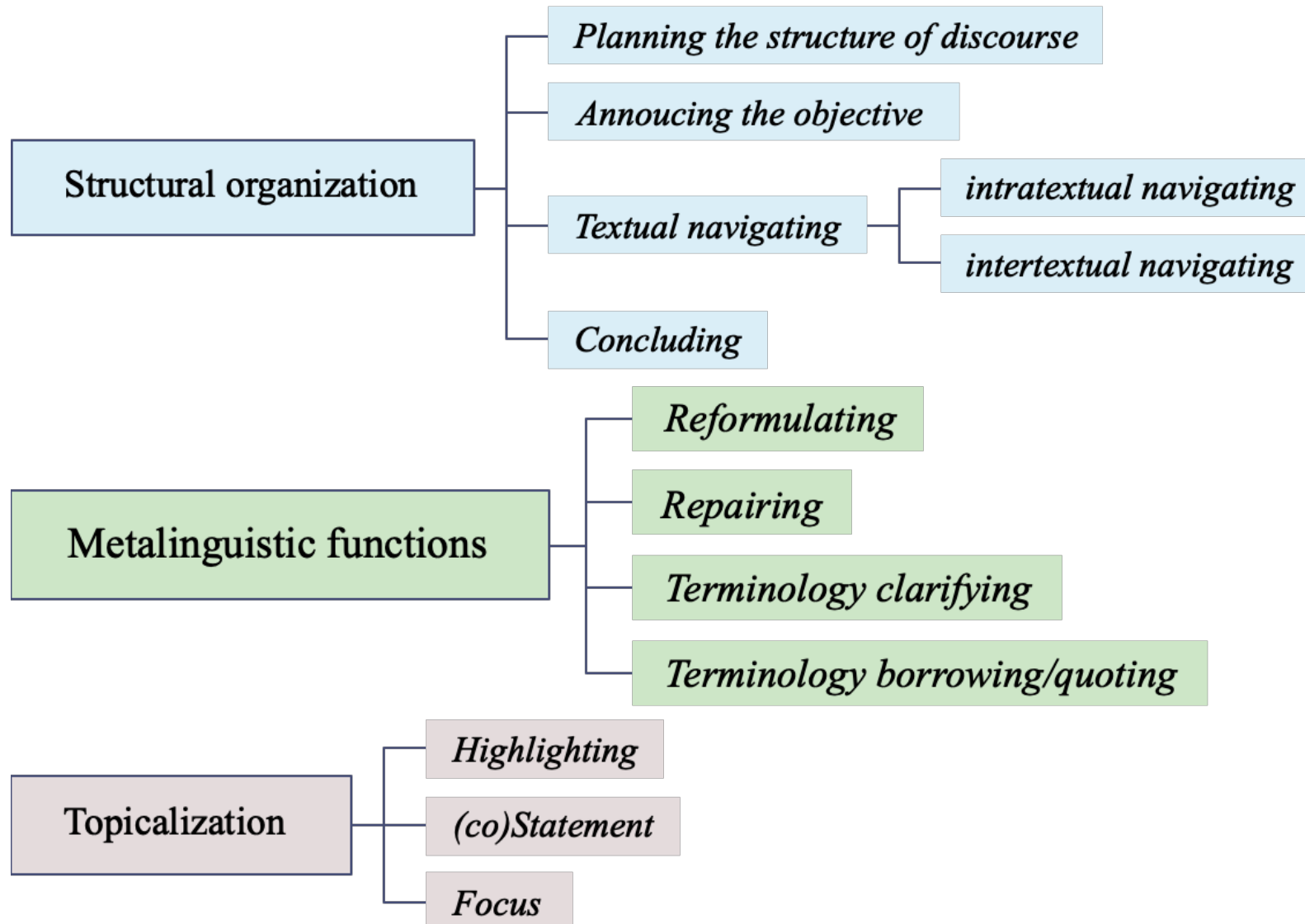
3. Functional parameters:

- **Reader guidance routines can fulfil certain functions typically representing in scientific writing :**
 - 1) To better organize the structure of the text by ordering sequences, explaining the structure of the text and the research purpose, allowing the reader to better navigate in the text;
 - 2) To better guide the reader's interpretation of the propositional material by highlighting central information, or by making the information clearer or by avoiding misunderstandings.
- **These functions have a metadiscursive nature (Hyland, 2005; Ädel;2006, 2010).**

3.1. Three sets of functions of Reader Guidance Routines

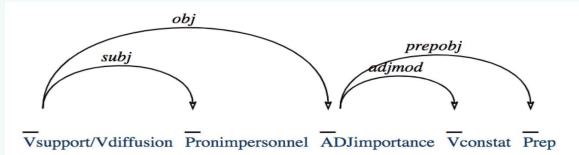


3.2. Sub-functions of three sets of functions



An example of the describing model of a reader guidance routine with three parameters :

A piece of information/a statement is important and should be highlighted

Example	<i>Il est important de souligner... (it is important to highlight...)</i> <i>Il est fondamental de noter... (it is fundamental to notice...)</i>
Sentence type	Impersonal
Semantic description	A piece of information/a statement is important and should be highlighted
Syntactic structure	Il est + Adjectif d'importance + de + Verbe de constat/Verbe de diffusion 
Lexical elements	<i>il est + (important/fondamental/remarquable/intéressant/essentiel) de (noter/constater/remarquer/observer/préciser/dire/mentionner/souligner/signaler)</i>
Peripheral elements	Textual markers and logic connectors: enfin, finalement, néanmoins, cependant, également, aussi
Eunciative parameters	Interlocutionary dialogique dimension
Textual section	No specific section
Function	Main function is to highlight a information or a statement (Topicalization/Highlighting)

Conclusion

- Reader guidance routines :
 - Very close to motifs but with a more flexible lexical and syntactic realizations. They help to make the reading of scientific writing easier.
- Three main parameters to describe reader guidance routines:
 - linguistics forms
 - enunciative features
 - functions
- Three main types of functions :
 - Structural organization
 - Metalinguistic function
 - Topicalization

Conclusion

- 42 routines already identified in our study
- Project to integrate these resources in some writing tools for scientific writing:
 - Scienquest:
<https://corpora.aiakide.net/scientext20/?do=SQ.set&searchTab=semantic>
 - Scientific transdisciplinary lexicon (LST in French): <http://lst.demarre-shs.fr/>

References:

- ÄDEL Annelie, 2006, *Metadiscourse in L1 and L2 English*, John Benjamins Publishing.
- ÄDEL Annelie, 2010, “Just to give you kind of a map of where we are going: A taxonomy of metadiscourse in spoken and written academic English”, *Nordic Journal of English Studies*, 9(2), 69–97.
- BIBER Douglas & BARBIERI Federica (2007). “Lexical bundles in university spoken and written registers”, *English for specific purposes*, 26(3), p. 263-286.
- Biber, D. (2009). A corpus-driven approach to formulaic language in english: Multi-word patterns in speech and writing. *International Journal of Corpus Linguistics*, 14(3), 275–311.
- Coulmas, F. (2011). *Conversational Routine: Explorations in Standardized Communication Situations and Prepatterned Speech*. Walter de Gruyter.
- Bres, J. (2005). 3. Savoir de quoi on parle : Dialogue, dialogal, dialogique ; dialogisme, polyphonie... In *Dialogisme et polyphonie* (p. 47-61). De Boeck Supérieur.
<http://www.cairn.info/dialogisme-et-polyphonie-approches-linguistiques--9782801113646-p-47.htm>
- Bres, J. (2017). Dialogisme, éléments pour l’analyse. *Recherches en didactique des langues et des cultures. Les cahiers de l’Acedle*, 14(14-2). <https://doi.org/10.4000/rdlc.1842>
- Granger, S., & Meunier, F. (2008). *Phraseology: An interdisciplinary perspective*. John Benjamins Publishing.
- HATIER Sylvain, 2016, *Identification et analyse linguistique du lexique scientifique transdisciplinaire. Approche outillée sur un corpus d’articles de recherche en SHS*, thèse de doctorat, Université Grenoble Alpes.
- Hatier, S., Augustyn, M., Yan, R., Tran, T. T. H., Tutin, A., & Jacques, M.-P. (2016). French cross-disciplinary scientific lexicon : Extraction and linguistic analysis. In T. Margalitadze & G. Meladze (Éds.), *Proceedings of the XVII EURALEX International congress Lexicography & Linguistic diversity* (p. 355-365). Ivane Javakhishvili Tbilisi State University.
- Hyland, K. (2005). *Metadiscourse: Exploring Interaction in Writing-correct*. Bloomsbury Publishing
- Jacques, M.-P., & Tutin, A. (2018). *Lexique transversal et formules discursives des sciences humaines*. ISTE Editions.
- Ji, Y., & Tutin, A. (2019). Les routines métalinguistiques dans les écrits scientifiques en français. *Studii de lingvistică*, 9(2), 177-200.
- Ji, Y., & Tutin, A. (2020). Les routines de topicalisation dans les écrits scientifiques en français. In M. Mangeot & A. TUTIN (Éds.), *Lexique(s) et genre(s) textuel(s) : Approches sur corpus-Actes de la conférence LTT 2018—11es journées du réseau Lexicologie, Terminologie, Traduction à Grenoble* (p. 227-242). Grenoble, France.
- Kraif, O. (2016). Le Lexicoscope : Un outil d’extraction des séquences phraséologiques basé sur des corpus arboré. *Cahiers de lexicologie*, 1(108), 91-106.
- Kraif, O., & Tutin, A. (2017). Des motifs séquentiels aux motifs hiérarchiques : L’apport des arbres lexico-syntaxiques récurrents pour le repérage des routines discursives. *Corpus*, 17.
- LONGRÉE Dominique & MELLET Sylvie (2013). « Le motif: une unité phraséologique englobante? Étendre le champ de la phraséologie de la langue au discours », *Langages*, (1), p. 65-79.
- Pecman, M. (2004). *Phraséologie contrastive anglais-français : Analyse et traitement en vue de l’aide à la rédaction scientifique : thèse...* (Thesis, Nice). Nice.
- Römer, U. (2010). Establishing the phraseological profile of a text type: The construction of meaning in academic book reviews. *English Text Construction*, 3(1), 95–119.
- Swales, J. (1990). *Genre Analysis: English in Academic and Research Settings*. Cambridge University Press.
- Tutin, A. (2014). La phraséologie transdisciplinaire des écrits scientifiques : Des collocations aux routines sémantico-rhétoriques. In A. Tutin & F. Grossmann (Éds.), *L’écrit scientifique : Du lexique au discours. Autour de Scientext* (p. 27-44). Rennes: Presses Universitaires de Rennes.
- TUTIN Agnès, KRAIF Olivier, 2016, « Routines sémantico-rhétoriques dans l’écrit scientifique de sciences humaines : l’apport des arbres lexico-syntaxiques récurrents », *Lidil. Revue de linguistique et de didactique des langues*, (53), p. 119-141.

Thank you for your attention!