Regional variation of discourse markers *bon* and *ben*
- Statistical analysis of 14 surveys in the PFC corpus -

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Summary

To date, most studies using the Phonologie du Français Contemporain (PFC) corpus have focused mainly on the analysis of phonetics and phonology, and less on syntax and morphology. In this paper, we analyze how the functions and numbers of the occurrences of *bon* and *ben* as discourse markers (DMs) differ across the 14 PFC surveys. A two-way ANOVA is performed to determine whether there are statistically significant regional differences in their functions and the number of occurrences.

0. Introduction

This article presents a statistical analysis of the usage of discourse markers (DM), *bon* and *ben* in French, using data from different regions of the French-speaking world. Both of these DMs are familiar to French speakers. However, analysis of actual conversations reveals some differences between these two DMs, and regional differences in the usage of these DMs can also be observed. To analyze these DMs more clearly, statistical methods are used in this study.

The rest of this paper is organized as follows: Section 1 presents purpose of the study. Section 2 explains the concept of DMs. Section 3 describes the corpus and data used in the analysis. Section 4 sets out the research topic of this study. Section 5 presents the methods used to analyze the data in this study. Section 6 reveals the results of the statistical analysis. Section 7 restates the answers to the research question and the conclusions of this study.

1. Purpose of the Study

The study aims to statistically analyze whether there is a difference in trends between regions and countries in the usage of *bon* and *ben* as DMs, using 14 PFC surveys. The PFC is explained in Section 3.

2. Discourse Markers

First, we explain the notion of "DM." Crible and Degand (2019: 3-4) [1] define DMs as follows:

> […] markers of structure and interaction that speakers convey not only the coherence of their intended message but also their attitude towards this message and towards the interlocutor.

In other words, the function of DMs is not only to inform about the relationships among speakers' messages but also to express the attitude toward these messages and the interlocutors. In other words, DMs are markers of discourse strategy of interaction.

Then, regarding the characteristics of DM, Dostie (2009: 202) [2] states,

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[1] CRIBLE, Ludivine & Liesbeth DEGAND (2019) Domaines and Functions: A Two-Dimensional Account of Discourse Markers. *Discours*, Varia: 3-35.
[2] DOSTIE, Geâtane (2009) Discourse markers and regional variation in French: A lexico-semantic approach. In Kate Beeching, Nigel Armstrong and Francoise Gadet (eds.), *Sociolinguistic Variation in Contemporary French*. Amsterdam, Philadelphia: Benjamins. 201-14.

> "DMs are generally defined according to a set of formal and semantic properties, such as their invariability, […] the fact that they do not contribute to the propositional content of the statement in which they are used, and their predominantly optional status on a syntactic level […]."

This means that there is no declension. Then, DMs are concerned with utterances. Finally, they are optional in terms of syntax.

These *bon*s are examples of *bon* used as a DM.

(1)
A. eh ben c'est l'attitude de Nadia
   ah well, that's Nadia's attitude
B. ouais mais lui c'est différent puisque lui il était un il parlait en tant que vendeur
   yeah, but he's different because he spoke as a salesman
A. oui mais Nadia, elle, **bon** elle **bon** elle te parle pas en tant que vendeuse mais
   yes but Nadia, she, well she, well she doesn't talk to you as a salesperson but

(Hansen 1995: 20-21)[3]

They have no declension, and they are only concerned with statements; however, they are optional in terms of syntax.

3. Corpus and Data

This section discusses the corpus and data analyzed in this study. We first explain the corpus, and then represent the regions and related data.

This study used the PFC corpus. This corpus involves variations from various French-speaking countries; therefore, data from 49 French-speaking regions can now be found on this project's website[4].

Incidentally, no previous studies have analyzed DMs, using and comparing data from various regions in the PFC corpus. Few studies have used the PFC corpus, focusing on DMs. For example, Bordal & Ledegen (2007), Boutin (2007), Durand (2007), and Kelly (2007) have analyzed DMs; however, no cross-regional studies exist. On the other hand, a few studies have analyzed phonetics and phonology using the PFC corpus, covering several regions. For example, Eychenne (2004), Martin (2005), and Morin (2005) are

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[3] HANSEN, Maj-Britt Mosegaard (1995) Marqueurs métadiscursifs en français parlé : l'example de bon et ben. *Le Français Moderne*, LXIII, N°1: 20-41.
[4] https://www.projet-pfc.net/

relevant studies; however, none of them focuses on DMs. Therefore, this study is the first attempt to analyze cross-regional data from the PFC corpus focusing on DMs.

Additionally, this study aimed to show that it is possible to do research using the PFC corpus in areas other than phonetics. As mentioned above, several cross-regional studies have been conducted using the PFC corpus. This is because, first, surveys have been carried out in several French-speaking regions, and the same protocol has been used in all localities. This aspect makes it easier to compare variations in French. Thanks to the existence of the PFC corpus, studies on phonetics and phonology exist. No studies have been conducted on pragmatics, as in our study, to date. Therefore we used the PFC corpus to analyze DMs from a pragmatic viewpoint.

This study analyzed 14 regions: Saguenay, Québec, Trois-Rivières (3 regions in Canada), Liège, Gembloux (2 regions in Belgium), Neuchâtel, Nyon, Genève (3 regions in Swiss), Roanne, Lyon, Grenoble (3 regions in southeastern France), Lacaune, Toulouse, and Douzens (3 regions in southern France). The data from the surveys of these 14 regions were thus collected for this study from the PFC's website.
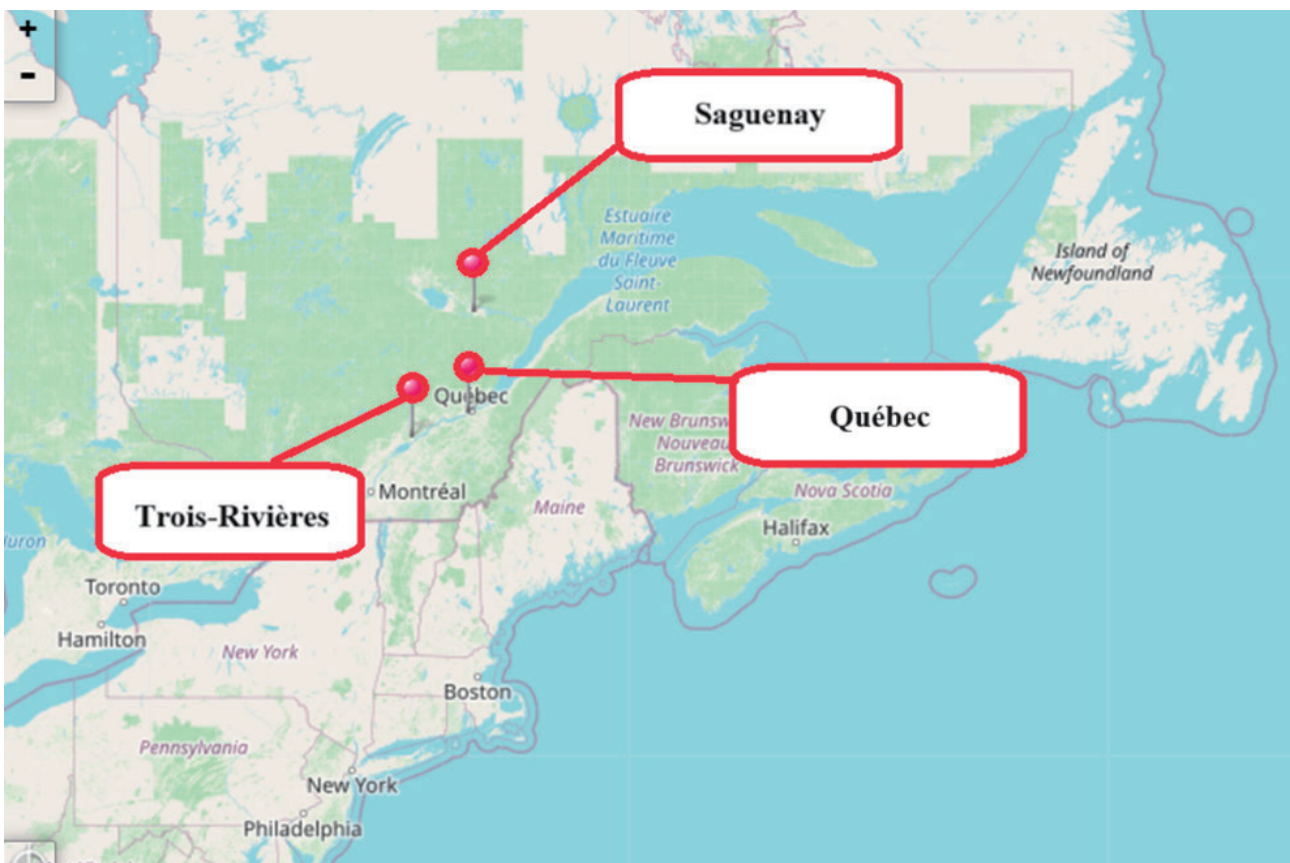

Figure 1. Regions in Canada [5]

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[5] Figure 1 and Figure 2 are from the website of the PFC corpus (https://research.projet-pfc.net/index.php).
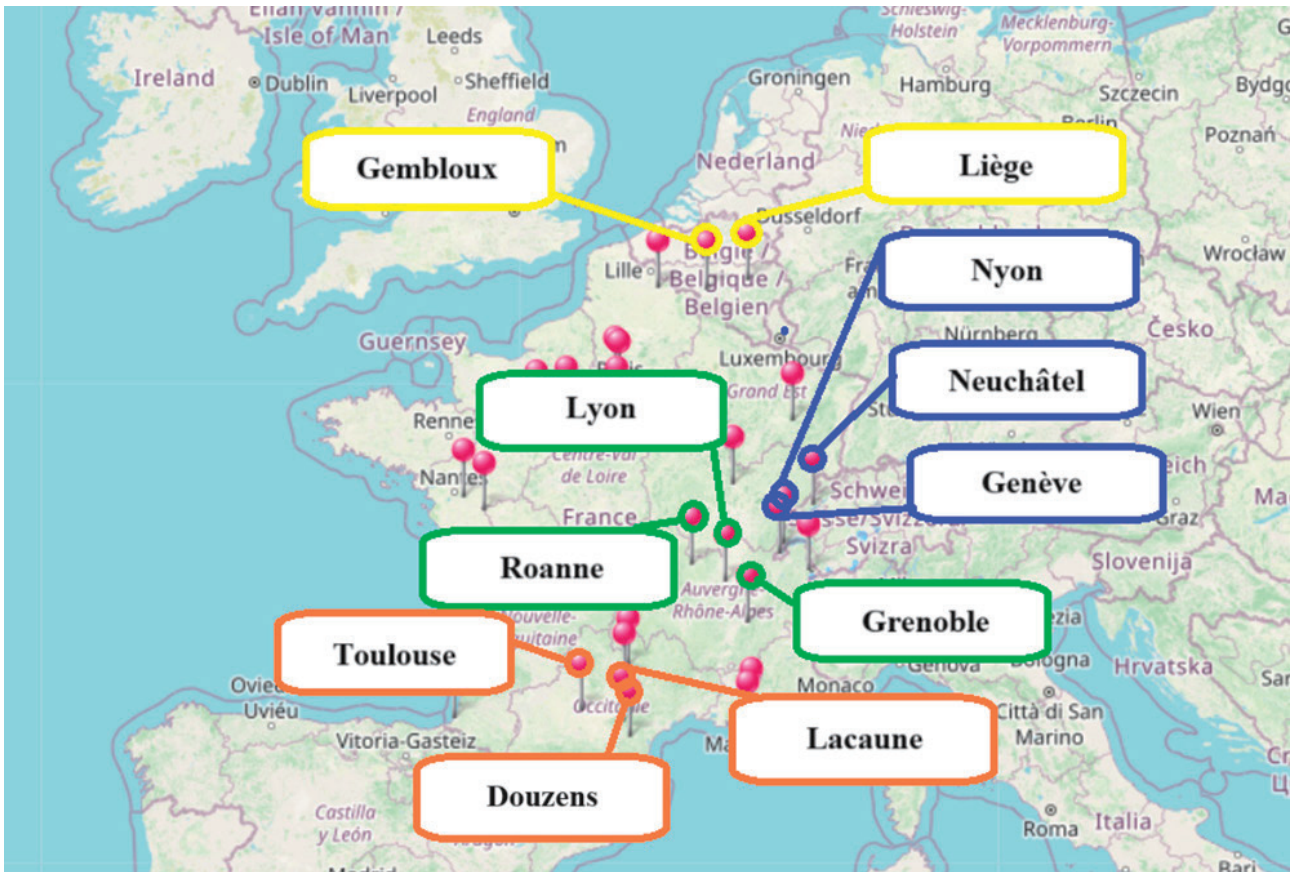
Figure 2. Regions in Europe[5]

More precisely, only data from free conversations in each regional survey were used here. For the analysis, the PFC transcripts were used as they were. However, the following elements were deleted: statements made by the interviewers, letters or numbers corresponding to the speakers' identifiers, words that were not utterances, and other tags in the transcripts. Table 1 presents the data on the number of speakers and tokens.

Regarding these transcripts, the developers of the PFC corpus advise that it can be difficult to distinguish between *bon* and *ben*. Furthermore, they point out that these transcripts were left to transcriptors' arbitrariness[6].

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[6] The developers mentioned this at the international conference of PFC (Programme Journées (I) PFC 2022).

Table 1. Number of speakers and tokens in the data of each region

Country	Survey	Number of speakers	Tokens
Canada	Québec	7	4,292
	Saguenay	10	28,712
	Trois-Rivières	12	53,458
Belgium	Gembloux	12	11,047
	Liège	12	10,534
Switzerland	Genève	8	12,665
	Neuchâtel	11	11,052
	Nyon	12	12,873
France (southeast)	Grenoble	9	5,283
	Lyon	11	10,119
	Roanne	9	12,494
France (south)	Douzens	10	11,808
	Lacaune	14	5,690
	Toulouse	12	10,714
Total		150	202,741

4. Research Question

The research question for this study is, "Is it possible to observe significant differences between the regions and the usages of *bon* and *ben* as DMs using 14 surveys from the PFC corpus?"

5. Method of Analysis

This section explains the data analysis method used in this study. First, the occurrences of *bon* and *ben* as DMs were counted in the utterances of each speaker; therefore, the occurrences of *bon* and *ben* in other roles were not counted[7]. Phonological variations of *bon* and *ben* (such as *bé* in Gembloux etc.) were also not counted. Furthermore, only 1-gram DMs (i.e., DMs alone) were counted; therefore, *bon* and *ben* used in DM collocations such as *mais bon* (in this case, *mais bon* is a 2-gram DM[8]) were excluded. Then, *bon* and *ben* were classified according to the classification in this analysis (explained below). Subsequently, the number of occurrences in relative

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[7] In other words, we did not count *bon* in "C'est bon." because this *bon* is an adjective. Therefore, *bon* and *ben* as adjectives, adverbs and so on were excluded here.

[8] The 2-gram DM *bon ben* was sometimes seen in the data, but *bon ben* is classified as 2-gram DM as well.

frequency per million words was calculated. For the statistical analysis, the study used the two-way ANOVA/Multiple Comparisons (Ryan's Method). Factor A represents the location of the survey, and factor B represents the type of usage[9]. The software used for the analysis was the Web-based Anova4[10].

There are various classifications of *bon* and *ben* as DMs. In particular, Peltier and Ranson (2020: 5) summarize previous studies on the functional classification of *bon* (Table 2). They classify *bon* into two types of functions: "textual functions" and "attitudinal functions." Textual functions can be further divided into three subcategories, namely, "d'ouverture," "de continuation," and "d'autres fonctions textuelles," each of which also consists of multiple usages. Attitudinal functions have no sub-categories and consist of two usages.

Table 2. Classification of *bon* by Peltier and Ranson (2020)

fonctions textuelles		
	d'ouverture	nouveau thème
		prise de thème
		nouvelle voix
	de continuation	sous-thème
		résultat
		supplément
		élément additif
	d'autres fonctions textuelles	reprise de thème
		formulation
fonctions attitudinales		
	contrast	
	résignation	

The present study focuses on the position of *bon* and *ben* in speech and establishes a new classification that can be used for both DMs (Figure 3). Three main categories were established: "head of turn," "middle of turn," and "end of turn." The "middle of turn" category has two sub-categories.

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[9] The type of usage means each classification of *bon* and *ben*'s function in this study.
[10] https://www.hju.ac.jp/~kiriki/anova4/

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┌─────────────────┐      ┌──────────────────────┐
│  head of turn   │──────│  introductory usage  │
└─────────────────┘      └──────────────────────┘

                         ┌─────────────────────────────────────┐
                         │          functional usage           │
                         │ (causality, citation, reformulation) │
┌─────────────────┐      └─────────────────────────────────────┘
│ middle of turn  │──────
└─────────────────┘      ┌─────────────────────────────────────┐
                         │               filler                │
                         │ (repetition,   speech retention)    │
                         └─────────────────────────────────────┘

┌─────────────────┐      ┌──────────────────────┐
│   end of turn   │──────│   affirmative usage  │
└─────────────────┘      └──────────────────────┘
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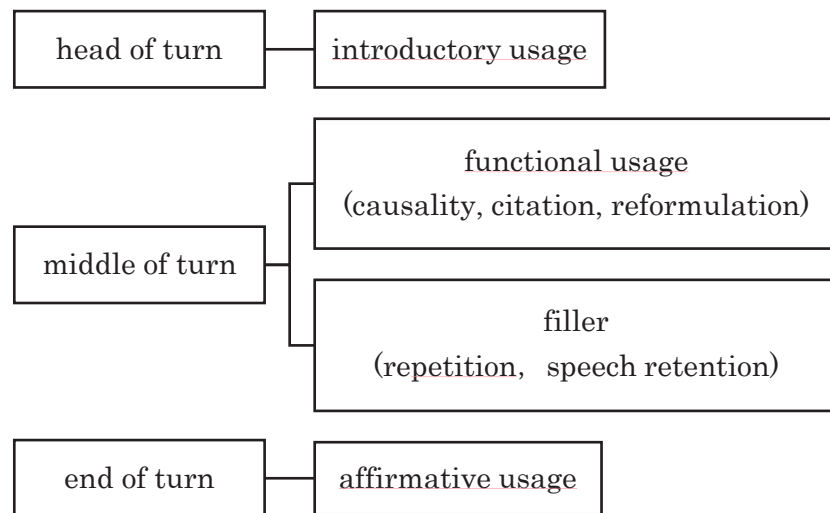
Figure 3. Classification of *bon* and *ben*

bon and *ben* at the beginning of the turn of speech were classified as "head of turn."
Such DMs have the function of introducing new topics and ideas, whether consciously or
unconsciously. For example, *bon* in (2) has the function of starting a conversation.

(2)
MG: **Bon**. De quoi qu'on parle. Je sais pas, je pensais qu'il nous poserait des
   questions, moi
   "Well, what do we talk about? I don't know, I thought he was going to ask us
   questions."

(cgamg1: Québec)

The "middle of turn" has two sub-categories: "functional usage," which fulfils some
function, and a "filler," which only serves to maintain the turn of speech and conversation.
The former includes the three usages, namely "causality," "citation," and "reformulation."
   bon in (3) is an example of the "causality" of *bon* and *ben*. Here, the reason for the
"cause" – that the children liked music – and the "reason" – that the children were
familiar with the piano – are stated guided by the DM.

(3)
ML: euh bon quand les petits sont nés, ils sont nés avec le piano sous la, sous, sous
   la main, et, et voilà alors ils ont euh, **bon** ils ont aimé la musique, ...
   "Well, when the children were born, they were born with the piano in their
   hands, under, under the hand, and, and so they uh, well they loved music,…"

(11aml1: Douzens)

bon and *ben* as "citation" are those in which a third person's utterance is derived
immediately after the DM. By using the *ben* as in (4), the speaker's utterance can be

explicitly distinguished by the third person's utterance.

(4)
BL: Euh il est venu faire le travail, oui et puis il nous a dit **ben** ok euh maintenant vous contacter le carreleur euh on peut carreler la salle de bain, puis tu as le carreleur qui vient voir et [...]
"He came to do the work, yes, and then he told us, well, okay, um, now you contact the tiler, um, we can tile the bathroom, and then you have the tiler come to have a look and...."

(blapjp1_Liege)

The "reformulation" is used when the interlocutor's utterance is reformulated by others in their own utterance. For example, in (5), JE says "dans les vallées," which is a reformulation of AB's "Dans le Haut-Valais."

(5)
AB: Des des anciens, des personnes âgées qui ont leur
    "Some of the elders, the old people who have their"
HE: patois
    "patois"
AB: leur patois. Dans le Haut-Valais aussi et puis à
    "their patois. In le Haut-Valais too and then in"
JE: Oui, **bon** ça dans les vallées ...
    "Yes, well that in the valleys..."

(svaab1_Nyon)

The second sub-classification of "middle of turn" is "filler." This subcategory includes the two usages "repetition" and "speech retention." "Repetition" refers to a DM that is flanked by the same words before and after it. The difference between "reformulation" and "repetition" is as follows: "reformulation" is when the speaker restates another's utterance in his/her own words after the DM, and "repetition" is when the speaker repeats his/her own utterance after the DM. For example, in (6), *ben* is used as such.

(6)
BB: ...euh, contrairement à, probablement, d'autres régions du monde peut-être surtout **ben**, pas surtout mais entre autres en Europe,
    "...ah, unlike, probably, other regions of the world perhaps maybe especially well, not especially but among others in Europe,"

(cgaab1: Québec)

Another usage, "speech retention," is a DM that is not used in any of the above-mentioned usages, but simply maintains speech. For example, *bon* in (7) is used between "Là comme chez nous" and "il y a quatre cents, il y a quatre cents habitants quoi je crois," but it is not causative, quotative, or reformulative.

(7)
R: Là comme chez nous **bon** il y a quatre cents, il y a quatre cents habitants quoi je crois, quatre cents, quatre cent vingt.
"There, as with us, well four hundred inhabitants, I think, four hundred, four hundred and twenty. I think four hundred, four hundred and twenty."

(42arf1_Roanne)

The last category is "end of turn." This includes explicitly informing the other person of the end of an utterance after affirming one's opinion, as in (8).

(8)
FFR: mais on sait pas du tout ce qu'on va faire, ça se décidera ben, dans, dans dix jours **bon**
"but we have no idea what we're going to do, it'll be decided in, in ten days"
EC: J'ai pas envie d'aller dans un bar, ou en boîte ou
"I don't feel like going to a bar, or a club or"

(31arf11g: Toulouse)

6. Results and Analysis

Table 3 shows the number of occurrences per million tokens of *bon*. It occurs a total of 24,917 times, with the most frequent usage being that of a "filler" in "middle of turn," 14,740 times. *bon* as a "filler" was used in all surveys. However, "introductory usage," "functional usage," and "affirmative usage" were not used even once in some surveys. In terms of countries, the number of occurrences of *bon* as "introductory" was zero in the two surveys in Belgium; the lowest number of occurrences in the four categories was "affirmative usage," with a total of 829 occurrences. As many as six surveys did not use this usage even once.

In terms of countries/regions, the usage of *bon* in Canadian surveys is lower than in other countries/regions, with 1,651 occurrences. The country/region with the highest number of occurrences is France (south), with 9,037 occurrences.

Table 3. Number of occurrences per million words of *bon*

Country	Survey	head of turn	middle of turn		end of turn	Total	Total
		introductory	functional	filler	affirmative	(survey)	(country)
Canada	Québec	397	0	326	0	723	
	Saguenay	194	60	46	41	341	1,651
	Trois-Rivières	129	75	361	22	587	
Belgium	Gembloux	0	100	840	100	1,040	
	Liège	0	579	503	0	1,082	2,122
Switzerland	Genève	80	210	825	0	1,115	
	Neuchâtel	596	551	1,029	0	2,176	5,148
	Nyon	584	453	772	48	1,857	
France (southeast)	Grenoble	0	704	647	0	1,351	
	Lyon	0	902	3,112	292	4,306	6,959
	Roanne	58	230	940	74	1,302	
France (south)	Douzens	322	1,133	1,890	77	3,422	
	Lacaune	231	0	246	0	477	9,037
	Toulouse	721	1,039	3,203	175	5,138	
Total		3,312	6,036	14,740	829	24,917	24,917

An analysis of variance (two-way ANOVA) based on this number of occurrences confirmed statistically significant differences ($p < 0.001$) for the following combinations (region*usage).

1. Lyon*filler against:
   Québec*filler, Saguenay*filler, Trois-Rivières*filler, Gembloux*filler, Liège*filler, Genève*filler, Neuchâtel*filler, Nyon*filler, Grenoble*filler, Roanne*filler, and Lacaune*filler

2. Douzens*filler against:
   Saguenay*filler, Trois-Rivières*filler, Liège*filler, and Lacaune*filler

3. Toulouse*filler against:
   Québec*filler, Saguenay*filler, Trois-Rivières*filler, Gembloux*filler, Liège*filler, Genève*filler, Neuchâtel*filler, Nyon*filler, Grenoble*filler, Roanne*filler, and Lacaune*filler

This means that the Lyon survey showed statistically higher usage of *bon* as a "filler" compared to those of Québec, Saguenay, Trois-Rivières, Gembloux, Liège, Genève, Neuchâtel, Nyon, Grenoble, Roanne, and Lacaune. Douzens and Toulouse also showed a

statistically higher number of occurrences compared to the enumerated surveys. Only the French surveys showed statistically higher usage of *bon* as a "filler."

Table 4 shows the number of occurrences per million tokens of *ben*. Overall, it has about 17,000 more occurrences than *bon*. The usage with the highest number of occurrences was that of a "filler," 17,525 times, as in *bon*. The second most frequent usage was "introductory" (16,441 times), which shows a different trend from *bon*. *ben* as "affirmative" was used less frequently than *bon*, with only four surveys.

In terms of country/region, in the Canadian surveys, where the number of occurrences of *bon* was low, the number of occurrences of *ben* was very high (13,379 times). For France (south), which had the highest number of *bon* occurrences, *ben* was used the least, with 3,682 occurrences.

Table 4. Number of occurrences per million words of *ben*

Country	Survey	head of turn	middle of turn		end of turn	Total	Total
		introductory	functional	filler	affirmative	(survey)	(country)
Canada	Québec	1,705	442	576	0	2,723	13,379
	Saguenay	1,868	640	1,013	0	3,521	
	Trois-Rivières	2,860	1,180	3,032	63	7,135	
Belgium	Gembloux	626	551	1,786	218	3,181	8,115
	Liège	1,791	1,816	1,327	0	4,934	
Switzerland	Genève	402	594	1,253	80	2,329	8,662
	Neuchâtel	1,465	340	3,093	0	4,898	
	Nyon	900	213	322	0	1,435	
France (southeast)	Grenoble	808	720	526	0	2,054	8,367
	Lyon	471	182	1,854	0	2,507	
	Roanne	1,127	892	1,562	225	3,806	
France (south)	Douzens	1,522	0	141	0	1,663	3,682
	Lacaune	630	0	702	0	1,332	
	Toulouse	266	83	338	0	687	
Total		16,441	7,653	17,525	586	42,205	42,205

An ANOVA based on the number of occurrences confirmed a statistical advantage (p<0.001) for the following combinations (region*usage).

1. Québec*introductory against:
   Gembloux*introductory, Genève*introductory, Nyon*introductory, Lyon*introductory, Lacaune*introductory, and Toulouse*introductory

2. Saguenay*introductory against Toulouse*introductory

3. Trois-Rivières*introductory against:
   Gembloux*introductory, Genève*introductory, Nyon*introductory, Lyon*introductory, Lacaune*introductory, and Toulouse*introductory

4. Trois-Rivières*filler against:
   Québec*filler, Saguenay*filler, Liège*filler, Nyon*filler, Grenoble*filler, Douzens*filler, and Lacaune*filler

5. Neuchâtel*filler against:
   Québec*filler, Saguenay*filler, Liège*filler, Nyon*filler*filler, Grenoble*filler, Douzens*filler, Lacaune*filler, and Toulouse*filler

6. Roanne*filler against Nyon*filler

Interestingly, significant differences in the usage of *ben* as "introductory" were found only in the three Canadian surveys analyzed. Thus, the usage of *ben* as "introductory" may be considered a feature of Canadian French. The usage of *ben* as a "filler" was more frequent in the surveys of Trois-Rivières, Neuchâtel, and Roanne.

7. Conclusion

In this study, 14 surveys of the PFC corpus were analyzed to determine whether there were regional differences in the usage and number of occurrences of the two DMs, *bon* and *ben*. The results showed statistically significant differences in specific usage and survey combinations for both *bon* and *ben*. As for *bon*, its usage as a "filler" was more common in the Lyon, Douzens, and Toulouse surveys than in the other surveys. The usage of *ben* as "introductory" was more frequent in the three Canadian surveys. In the Trois-Rivières, Neuchâtel, and Roanne surveys, *ben* as a "filler" was used regularly. This corpus-driven study has shown statistically that, as with vocabulary and expressions, the DMs used and their usage pragmatically differ from region to region.

Furthermore, a comparison of the overall usage of *bon* and *ben* reveals that at the head of turns, *bon* is used 3,312/24,917 times (13%), whereas *ben* is used 16,441/42,205 times (39%), indicating that *ben* is used more often at the beginning of turns. However, there is a difference in that at the end of turn, *bon* is observed in eight surveys, whereas *ben* is used only in four surveys.

In the future, we hope to increase the size of the corpus and further clarify regional differences in the usage of *bon* and *ben* as DMs. In addition, we intend to study whether similar regional variations can be observed in other DMs.

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