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Perfect variations in dialogue: a parallel corpus approach*

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Abstract The variation in distribution and meaning of the English *Present Perfect* compared to its counterparts in other European languages raises a puzzle for the cross-linguistic semantics and pragmatics of tense and aspect. We apply *Translation Mining*, a form-based approach, to analyze the meaning of the HAVE-PERFECT across languages in a parallel corpus based on *Harry Potter and the Philosopher's Stone* and its translations in Swedish, Spanish, Dutch, German and French. We use the alternation in the *HP* novel between narrative discourse (storytelling) and dialogue (the characters talking to each other) to establish the PERFECT as an indexical tense-aspect category that appears exclusively in dialogue. We then link the proposed information management roles of the *Present Perfect* (Portner 2003; Nishiyama & Koenig 2010) to moves in the language game. We find different distributions of PERFECT use across the sentence types corresponding to these moves (declarative vs. interrogative). This lends support to a cross-linguistically common rhetorical structure in sequences of PERFECT sentences (de Swart 2007).

Keywords: present perfect, parallel corpora, translation mining, cross-linguistic variation, pragmatics of tense, tense in dialogue

1 Background on the PERFECT in English and other European languages

Much existing theoretical and typological research on the PERFECT is grounded in English. In this paper, we work with the four-way classification in (1), which distinguishes between resultative, experiential, universal and continuative readings:

(1) a. Mary has moved to Paris. (she currently lives in Paris) [resultative perfect]

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b. Mary has visited Paris. (she knows Paris) [experiential perfect]

c. Mary has always loved Paris. (love holds today) [universal perfect]

d. Mary has lived in Paris since 2010. (she currently lives in Paris) [continuative perfect]

The *Present Perfect* conveys a past event with current relevance. The readings in (1) emerge from the combination of that core meaning with aspectual class (telic event in (1a), atelic event in (1b), stative verbs in (1c) and (1d)) and other expressions in the sentence (*always* in (1c), *since* in (1d)).

Reichenbach (1947) introduces the notion of reference time (R) on top of event time (E) and speech time (S) to distinguish between *Simple Past* (E,R-S) and *Present Perfect* (E-R,S). The analysis of the *Present Perfect* as a past event (E precedes S) with current relevance (R coincides with S) does not only explain the readings in (1), it also helps to understand why the *Present Perfect* does not combine with past time adverbials ((2a) vs. (2b)), and does not appear in narrative sequences ((3a) vs. (3b)). Hornstein's (1990) assumption that past time adverbials modify the reference time accounts for the well-formedness of (2a) and the inacceptability of (2b):

(2) a. Mary left at six o'clock.

b. *? Mary has left at six o'clock.

Partee (1984) and Kamp & Reyle (1993) propose that narration implies forward movement of the reference time. The *Simple Past* in (3a) describes a series of events happening one after another, but location of the reference time at the speech time prevents the *Present Perfect* in (3b) from achieving the same effect:

(3) a. Mary woke up, took a shower, had breakfast and left for work.

b. # Mary has woken up, has taken a shower, has had breakfast and has left for work.

Lascarides & Asher (1993) introduce rhetorical relations with temporal ramifications to analyze the temporal structure of discourse. The interpretation of (3a) as a sequence of events is the outcome of a rhetorical relation of Narration established between eventive sentences in the *Simple Past*. Building on the rhetorical line, de Swart (2007) takes the *Present Perfect* to create an Elaboration structure: it introduces an event that elaborates on the utterance situation. A sequence of *Present Perfect* sentences gets a list reading, summing up the actions in the Elaboration in no particular order. The natural temporal order in which human beings carry out their morning routine explains the incoherence of (3b) as pragmatically odd.

We cannot do justice to the extensive literature on the English *Present Perfect* in this short paper. Classical highlights are Comrie (1976), McCawley (1981), Klein (1992), Kamp & Reyle (1993), Michaelis (1994), Alexiadou, Rathert & von Stechow

(2003), Portner (2003, 2011) and Nishiyama & Koenig (2010), but there is much more. All analyses account for the patterns in (1)–(3), whether they analyze the *Present Perfect* as a tense or an aspect (Ritz 2012). We sidestep that debate, and use the neutral term 'tense-aspect form'.

In the broader cross-linguistic perspective, Dahl & Velupillai (2013) call the combination of auxiliary HAVE with a past participle the HAVE-PERFECT. We follow their lead, and adopt a form-based approach in which the morpho-syntactic category of the HAVE-PERFECT serves as the starting point of a compositional interpretation process. Dahl & Velupillai (2013) show that language-specific instantiations such as the Spanish *Pretérito Perfecto Compuesto* or the German *Perfekt* overlap in distribution with the English *Present Perfect*, yet differ in specific features. Portuguese is an extreme case, because its HAVE-PERFECT only allows an iterative version of (1b) (Schmit 2001; Laca 2010). Such exceptions aside, the resultative, experiential and universal readings in (1a-c) are widely shared among European languages, and suggest a common core. We consider the continuative reading in (1d) a separate configuration, because it suits the Swedish *Perfekt*, but other European languages (German, Dutch, Spanish, Italian, French) use a PRESENT tense form to convey the meaning of (1d) (Rothstein 2008; Schaden 2021).

Much of the literature has focused on languages that weaken the constraints on past time reference. The Dutch HAVE-PERFECT appears felicitously in contexts like (2b) (Boogaart 1999). The German, French and Italian versions do not only go along with past time adverbials (in contrast to English (2b)), but also tolerate the narrative sequencing English blocks in (3b) (Löbner 2002 for German, Vet 1992 for French, Bertinetto 1986 for Italian). Squartini & Bertinetto (2000), Condoravdi & Deo (2014), Bertinetto & Squartini (2016), and Schaden (2021) connect the synchronic variation to the diachronic pattern of the Aorist Drift, in which perfect forms are said to become perfective pasts. This can explain the extended meanings of the German *Perfekt* and the French *Passé Composé* in (2) and (3), but it leaves the synchronic semantics of the HAVE-PERFECT as a cross-linguistic category an open question.

The proposals in Rothstein (2008), Schaden (2009), and Kamp, Reyle & Rossdeutscher (2015) deal with subsets of the data, but according to Ritz (2012), we do not fully grasp the variation yet. This paper contributes to a cross-linguistically robust semantics and pragmatics of the PERFECT by grounding the claims in a more systematic and genuinely multilingual dataset. For this, we use a parallel corpus based on J.K. Rowling's (1997) novel *Harry Potter and the Philosopher's Stone* and its Spanish, French, German, Dutch and Swedish translations.

The structure of this paper is as follows. Having outlined the puzzle in Section 1, we introduce the *Translation Mining* methodology in Section 2.1. The distribution of tense-aspect categories in narrative discourse and dialogue in the corpus supports a cross-linguistically robust distinction between indexical and anaphoric tense-aspect

forms (Sections 2.2–2.3). In Section 3, we employ the interactional differences between discourse and dialogue to investigate the pragmatic functions of the PERFECT in dialogue across different speech acts. Section 4 concludes.

2 Translation Mining: the *Harry Potter* corpus of discourse and dialogue

Section 2.1 sets up the *Translation Mining* methodology, reports frequency data, and operationalizes the research questions. Section 2.2 reports the results for English, and Section 2.3 extends the perspective to other European languages. Section 2.4 concludes that a closer look at the pragmatics of the PERFECT is called for.

2.1 Methodological set-up and frequency data

Translation Mining is a method to compare the expression of a particular meaning across multiple translations of the same text. The idea is that a high quality translation creates a grammatically correct mirror image of the original meaning in the target language. The meaning to be conveyed is defined by the sentence and the larger discourse in which it appears. If languages vary in the grammar of the HAVE-PERFECT, these grammatical constraints should be reflected in the choices made by the translator. We provide an introduction to *Translation Mining* and its linguistic applications in van der Klis, Le Bruyn & de Swart (2021). Further methodological reflections (for instance on how we avoid 'translationese') are worked out in Le Bruyn, Fuchs, van der Klis, Liu, Mo, Tellings & de Swart (2022).

This paper focuses on data from J.K. Rowling's (1997) novel *Harry Potter and the Philosopher's Stone* and reports results on Swedish, Spanish, Dutch, German and French in comparison to English. The parallel corpus we created consists of chapters 1 and 17, with language-specific annotations of the finite verb forms extracted from the English source text, aligned with their translations. An example is in (4), where the 6-tuple consisting of <*Present Perfect*, *Perfekt*, *Pretérito Perfecto Compuesto*, *Voltooid Tegenwoordige Tijd*, *Perfekt*, *Passé Composé*> illustrates cross-linguistic stability. The relevant verb forms are in italics; *never* and its counterparts are underlined to mark their contribution to the universal/negative existential reading.

(4) a. 'My dear Professor, I'*ve* never *seen* a cat sit so stiffly.' [English]

b. 'Kära professor, jag *har* aldrig *sett* en katt sitta så stelt.' [Swedish]

c. 'Mi querida profesora, nunca *he visto* a un gato tan tieso.' [Spanish]

d. 'M'n beste professor, ik *heb* nog nooit een kat zo stijfjes *zien* zitten.' [Dutch]

e. 'Mein lieber Professor, ich *habe* noch nie eine Katze so steif da sitzen *sehen*.' [German]

English	Swedish	Spanish	Dutch	German	French
26	26	24	58	78	99

Table 1 Number of occurrences of the HAVE-PERFECT in Chapters 1 and 17 of *Harry Potter*

f. 'Mon cher professeur, je n'*ai* jamais *vu* un chat se tenir d'une manière aussi raide.' [French]

While (4) illustrates the common core underlying the European HAVE-PERFECTs, the continuative reading of the English *Present Perfect* in (5) leads to variation in tense-aspect forms across translations:

(5) a. 'How long *have* I *been* in here?' [English]
b. 'Hur länge *har* jag *varit* här inne?' [Swedish]
c. '¿Cuánto tiempo hace que *estoy* aquí?' [Spanish]
d. 'Hoe lang *lig* ik hier al?' [Dutch]
e. 'Wie lange *bin* ich schon hier?' [German]
f. 'Ça fait combien de temps que je *suis* là?' [French]

The 6-tuple <*Present Perfect*, *Perfekt*, *Presente*, *Onvoltooid Tegenwoordige Tijd*, *Präsens*, *Présent*> contains instances of the HAVE-PERFECT in English and Swedish (5a,b), but PRESENT tense forms in Spanish, Dutch, German and French (5c-f). The pattern in (5) supports the idea that the continuative reading is not part of the common core of the HAVE-PERFECT meaning, and illustrates that translators operate within the boundaries of the target language grammar.

The examples in (4) and (5) illustrate cross-linguistic stability and variation in the contexts where we expect them, based on the literature discussed in Section 1. Clearly, it is useful to rely on attested examples for a qualitative cross-linguistic analysis grounded in a multilingual dataset. *Translation Mining* also allows a more quantitative perspective on the distribution of the HAVE-PERFECT. We collected all the finite verbs from Chapters 1 and 17, and created a dataset of 801 tuples. These are complete tuples in which all languages use a finite, indicative verb form. Table 1 lists the frequency of the HAVE-PERFECT in the dataset.

Table 1 shows that the *Present Perfect* is relatively infrequent in the original. For comparison: the *Simple Past* appears in 528 contexts and the *Simple Present* in 121. We also see that the frequency of PERFECT use in English, Swedish and Spanish in Table 1 is quite similar, but starting with Dutch, the numbers are going up, and the French *Passé Composé* is almost four times as frequent as the *Present Perfect* or the Spanish *Pretérito Perfecto Compuesto*. The numbers are in line with

Simple Past	*Past Progressive*	*Past Perfect*	*Simple Present*	other
414	37	24	4	2

Table 2 English tense-aspect forms in narrative discourse ($n = 481$)

the empirical patterns described in Section 1, but Table 1 does not tell us anything about the contexts in which one or the other verb form appears, and does not warrant the conclusion that the English, Swedish and Spanish PERFECTs have the same distribution. In fact, example (5) already shows that they don't.

The findings so far raise two research questions: (i) what are the contexts in which we find the *Simple Past*, *Simple Present* and *Present Perfect* in the English original? (ii) what is the distribution of labor between PAST, PRESENT and PRESENT PERFECT verb forms in other European languages, and how is this similar to or different from English? The literature from Section 1 suggests certain answers to the research questions raised, which we can turn into predictions for the distribution of verb forms in the *Harry Potter* dataset. We start with English in Section 2.2, and build on the outcome for the cross-linguistic investigation in Section 2.3.

2.2 Tense use in discourse and dialogue: English

Traditionally, stories are told in the PAST tense (Fleischman 1990). In narratological terms, the *Harry Potter* novel has a fairly straightforward structure, so we predict the *Simple Past* to appear in the storytelling parts, where it propels the narrative time forward (recall (3a)). Because of the ban on narrative sequencing (see (3b)), the *Present Perfect* should not appear in discourse. In novels, conversational language is found in parts where the fictional characters talk to each other. We expect the *HP* characters to use the *Simple Present* to talk about what is going on around them, the *Present Perfect* and the *Simple Past* to reflect on earlier adventures, and the *Imperative* and *Future* to make plans and talk about challenges lying ahead.

Punctuation conventions serve to distinguish storytelling from conversational language. As we see in (6), quotation marks indicate direct speech in *Harry Potter*:

(6) '*You can't blame them*,' said Dumbledore gently. '*We've had preciously little to celebrate for eleven years*.'

We label utterances between quotation marks as dialogue (italics in (6) = conversation between characters) and everything else as narrative discourse (underlined in (6) = storytelling). Tables 2 and 3 provide an overview of the tense-aspect forms found in the 481 discourse contexts and 320 dialogue contexts of the English original.

PAST tenses dominate in Table 2, whereas we find a much broader range of PAST, PRESENT and FUTURE tenses in Table 3. As expected, the *Present Perfect* appears

Simple Present	*Simple Past*	*Present Perfect*	*Imperative*	*Simple Future*	*Present Progressive*	*Past Progressive*	other
117	114	26	23	19	13	4	4

Table 3 English tense-aspect forms in dialogue ($n = 320$)

exclusively in dialogue. Its absence from Table 2 provides empirical support for the idea that the *Present Perfect* conveys a past event with current relevance, which resists narrative sequencing. There is an extensive literature on tense use in narrative discourse (see Section 1), but to the best of our knowledge, there is no literature on tense use in dialogue. For a better understanding of the tense distribution in Table 3, we need to dive a bit deeper into the temporal structure of dialogue.

Based on intuitions about spoken language conversation, Partee (1973) takes the indexical nature of the *Simple Present* for granted, and we follow her lead. The assumption that the dialogue parts of *Harry Potter* reflect the spoken language register would immediately explain the high frequency of the *Simple Present* in Table 3. As we see in (6), communication verbs like *say*, *ask*, and *answer* in the discourse indicate who is talking to whom in the fictional dialogue. They anchor first and second person pronouns to the speaker and addressee, and the PRESENT tense to the time of the utterance event these verbs introduce. That said, what we are dealing with in *Harry Potter* is fictional dialogue, reported as direct speech. The language is more polished, and there are fewer fillers, backchannels, false starts and repairs than in spontaneous conversation. Many phonetic features of oral language are lost, although some have written counterparts, such as the dashes indicating pauses in (7a), the letter doubling separated by a dash marking hesitation in (7b), and the phonetic spelling underlining the dialectal features characteristic of Hagrid's speech in (7c).

(7) a. 'Yes – Potter – come here.'

b. 'Well', said Quirrell, 'what do you see?' (...) 'I-I've won the House Cup for Gryffindor.'

c. 'I'd not say no to ter summat stronger if yeh've got it, mind.'

Additional support for the association of fictional dialogue with spoken language comes from discourse markers (*well* in (7b), *mind* in (7c)), interactive features such as *my dear professor* in (4) and the vocative use of *Potter* in (7a), as well as the wide variety of speech acts, including questions (5, 7b), declaratives answering a question (7b) and imperatives issuing orders and directives (7a). Even though we do not find all the features of spoken language in direct speech, there is sufficient evidence to back up the claim that the dialogues in *Harry Potter* reflect the spoken

language grammar. We conclude that the *Simple Present* in dialogue behaves like an indexical tense, which anchors the speech time of the part in italics to the utterance event introduced by a communication verb in the adjacent narrative discourse.

The special features associated with the spoken language register are restricted to the dialogue parts of the novel, and are not found in narrative discourse, where the characters are referred to in the third person, and the events that make up the storyline are reported in the *Simple Past*, the *Past Progressive* or the *Past Perfect*. We take this to mean that the *Simple Past* and the *Past Progressive* play a role similar to the third person pronoun: the 'otherness' of the third person pronoun translates as temporal precedence with respect to the speech time in the temporal domain. The *Simple Present* rarely appears in narrative discourse, and only in specialized contexts like universal truths, reports of inner thought (no quotation marks), and one case in which the story teller directly addresses the reader. None of the examples runs against the main claim that the *Simple Present* is an indexical tense-aspect form.

Clearly, not all the tense-aspect forms in dialogue are indexical on a par with the *Simple Present*. The spoken language is not restricted to first and second pronouns, but relies on the third person to refer to people and objects other than the speaker and hearer. Similarly, the presence of the *Simple Past* and the *Past Progressive* in both registers confirms their anaphoric character. A full-fledged indexical theory of tense is outside the scope of this paper, but see de Swart (2022) for a proposal. What we need here is the asymmetry: indexical tense-aspect forms appear exclusively in dialogue, whereas anaphoric ones occur in both discourse and dialogue.

Other tense-aspect forms that show up in Table 3, but not in Table 2, include the *Present Progressive*, *Imperative*, and the *Simple Future*. We take the anchoring to the utterance time to be an uncontroversial ingredient of these verb forms. Interestingly, the restriction to dialogue extends to the *Present Perfect*. The *Harry Potter* corpus thus provides empirical support for the indexical nature of the *Present Perfect*.

In sum, the distinction between discourse and dialogue enables us to test predictions from the literature concerning the corpus contexts in which we expect tenses to appear. The *Simple Past* is used in discourse as well as dialogue, but the *Simple Present* and the *Present Perfect* are restricted to dialogue. The fact that direct speech reflects a series of features associated with the spoken language grammar enables us to ground the distributional asymmetries in the indexical nature of the *Simple Present* and the *Present Perfect*. We take the deictic nature of the *Present Perfect* to be in line with the state-of-the-art literature on English, independently of the specific framework. The empirical results presented so far have confirmed key insights from the literature, which constitutes a promising start for the cross-linguistic investigation. Section 2.3 reports results on PAST, PRESENT and PERFECT tense-aspect forms in Swedish, Spanish, Dutch, German and French.

	SIMPLE PAST	PAST PERFECT	PRESENT	other
Swedish	*Imperfekt* 449	*Pluskvamperfekt* 27	*Presens* 5	
Dutch	*Onvoltooid Verleden Tijd* 453	*Voltooid Verleden Tijd* 23	*Onvoltooid Tegenw. Tijd* 4	1
German	*Präteritum* 449	*Plusquamperfekt* 26	*Präsens* 6	

Table 4 Germanic tense-aspect forms in narrative discourse ($n = 481$)

	PRESENT	SIMPLE PAST	PERFECT	IMPERATIVE	SIMPLE FUTURE	other
Swedish	*Presens* 141	*Imperfekt* 114	*Perfekt* 26	*Imperativ* 20	*Futurum* 14	5
Dutch	*Onvoltooid Tegen-woordige Tijd* 153	*Onvoltooid Verleden Tijd* 78	*Voltooid Tegen-woordige Tijd* 58	*Imperatief* 22	*Onv. Tegenw. Toekomende Tijd* 8	1
German	*Präsens* 148	*Präteritum* 54	*Perfekt* 78	*Imperativ* 23	*Futur* 14	3

Table 5 Germanic tense-aspect forms in dialogue ($n = 320$)

2.3 Tense use in discourse and dialogue: other European languages

The languages under investigation are not chosen randomly, but carefully selected for the cross-linguistic variation they display according to the literature. On the basis of Section 1, we expect the distribution of the Swedish and Spanish PERFECTs to mirror that of the English *Present Perfect*, except for variation in the continuative reading (see (5)). Modulo the absence of a PROGRESSIVE in Swedish, and the presence of the PERFECTIVE/IMPERFECTIVE PAST distinction in Spanish, the overall distribution of verb forms across discourse and dialogue will probably be very similar to what we saw in Tables 2 and 3. The Dutch *Voltooid Tegenwoordige Tijd* is compatible with past time reference, which might allow it to appear in discourse. However, the Dutch PERFECT blocks narrative sequencing, and this should restrict its use in storytelling. With this combination of features, it is hard to formulate precise empirical predictions for its distribution. The German and French PERFECTs are compatible with past time reference, and allow a narrative use, so in principle nothing should prevent them from appearing in the storytelling as well as the dialogue parts.

	PERFECTIVE PAST	IMPERFECTIVE PAST	PAST PERFECT	PRESENT	other
Spanish	*Pretérito Indefinido*	*Pretérito Imperfecto*	*Pluscuamperfecto*	*Presente*	
	332	124	18	3	4
French	*Passé Simple*	*Imparfait*	*Plus-que-parfait*	*Présent*	
	321	130	24	2	4

Table 6 Romance tense-aspect forms in narrative discourse ($n = 481$)

	PRESENT	PERFECT PAST	IMPERFECTIVE PAST	PERFECT	IMPERATIVE	SIMPLE FUTURE	other
Spanish	*Presente*	*Pretérito Indefinido*	*Pretérito Imperfecto*	*Pretérito Perfecto Compuesto*	*Imperativo*	*Futuro Imperfecto*	
	126	85	39	24	23	13	10
French	*Présent*	*Passé Simple*	*Imparfait*	*Passé Composé*	*Impératif*	*Futur*	
	130	0	48	99	22	19	2

Table 7 Romance tense-aspect forms in dialogue ($n = 320$)

Recall that annotation of the verb forms uses language-specific labels (in italics), which are organized in form-based cross-linguistic categories (in small caps). We present the data in two sets of tables for the Germanic languages (Tables 4 and 5) and the Romance languages (Tables 6 and 7).

The distribution of the Swedish verb forms in Tables 4 and 5 is as expected. The PRESENT is the most frequent verb form in dialogue and appears rarely (and only in specialized contexts) in discourse. The story is told in the SIMPLE PAST, but the same verb form also appears in dialogue. The restriction of the Swedish *Perfekt* to dialogue confirms that it conveys a past event with current relevance.

At the level of the tense-aspect categories, the overall distribution of verb forms across the two registers in Dutch and German is the same as in Swedish: we find the SIMPLE PAST and PAST PERFECT in discourse, but not the PRESENT PERFECT; we find the PRESENT, PAST, IMPERATIVE, FUTURE and PERFECT in dialogue. What changes is the distribution of labor between specific verb forms within dialogue. The increase in PERFECT use in Dutch and German is mirrored in a decrease of the SIMPLE PAST, to the point that the German *Perfekt* (78) has a higher number of occurrences in Table 5 than the *Präteritum* (54). The example in (8) confirms that the Dutch and German PERFECT are compatible with past time reference.

(8) a. Dumbledore *gave* me the day off yesterday ter fix it. [English, PAST]

b. Perkamentus *heb* me gisteren vrijaf *gegeven* om het te regelen. [Dutch, PERFECT]

c. Dumbledore *hat* mir gestern dafür *freigegeben*. [German, PERFECT]

German in addition allows for PERFECT use in narrative sequences, which further increases the numbers.

(9) a. Your friend Miss Granger accidentally *knocked* me over. She *broke* my eye contact with you. [English, PAST]

b. Juffrouw Griffel *liep* me per ongeluk omver en daardoor *verbrak* ze mijn oogcontact met jou. [Dutch, PAST]

c. Ihre Freundin Miss Granger *hat* mich versehentlich *umgerempelt*. Sie *hat* meinen Blickkontakt zu Ihnen *unterbrochen*. [German, PERFECT]

None of the other tense-aspect categories in discourse or dialogue display substantial variation in numbers, so we take this to be indicative of a competition between PERFECT and PAST along the Aorist Drift (see Section 1). The most striking outcome of Table 5 is that past time reference and narrative use have no impact on the restriction of the PERFECT to dialogue. We conclude that not only the Swedish *Perfekt*, but also the Dutch *Voltooid Tegenwoordige Tijd* and the German *Perfekt* are indexical tense-aspect forms, on a par with the English *Present Perfect*.

The Romance languages present a slightly different picture, because of the aspectual distinction between PERFECTIVE and IMPERFECTIVE PAST. In narrative discourse, the Romance PERFECTIVE PAST reports foreground events, while the IMPERFECTIVE PAST refers to background states (Kamp & Rohrer 1983). This is reflected in the verb forms appearing in Table 6, where Spanish and French display a similar pattern. The comparison of Tables 6 and 7 shows that the Spanish translator uses the *Pretérito Indefinido* and the *Pretérito Imperfecto* in the discourse as well as the dialogue parts of *Harry Potter*. The French translator uses the *Imparfait* in both registers, but restricts the *Passé Simple* to discourse. The absence of the *Passé Simple* in dialogue (0 occurrences) is compensated by an increase of the *Passé Composé* (99 occurrences compared to 24 for the Spanish *Pretérito Perfecto Compuesto*). Past time reference and narrativity are key ingredients again, as the Romance counterparts to examples (8) and (9) illustrate.

(10) a. Dumbledore me *dio* libre el día de ayer para hacerlo. [Spanish, PAST]

b. Dumbledore m'*a accordé* un jour de congé hier pour le préparer. [French, PERFECT]

(11) a. Tu amiga, la señorita Granger, accidentalmente me *atropelló*. Y *rompió* el contacto visual que yo tenía contigo. [Spanish, PAST]

b. Votre amie, Miss Granger m'*a bousculé* par accident. A cause d'elle, j'*ai perdu* le contact visuel avec vous. [French, PERFECT]

This said, there are no changes in the distribution of tense-aspect categories over the two registers: the PRESENT is rare, and the PRESENT PERFECT is completely absent in narrative discourse in Spanish as well as French.[1]

Under the assumption (motivated in Section 2.2) that the dialogue in *Harry Potter* reflects the spoken language register, the findings in Tables 6 and 7 are in line with insights from the literature, which says that the *Passé Composé* has taken over the role of the *Passé Simple* in the spoken language. The wider meaning of the *Passé Composé* is insufficient to license its appearance in narrative discourse, because storytelling in *Harry Potter* relies on anaphoric PAST tenses that locate the reference time before the speech time. The distributional patterns indicate that the French *Passé Composé* remains an indexical tense-aspect form, along with the Spanish *Pretérito Perfecto Compuesto*, the English *Present Perfect* and the PERFECTs in Dutch and German. The corpus data imply that the modern French *Passé Composé* has not (yet) reached the final stage of the Aorist Drift, and cannot be claimed to convey perfective past meaning in the same way as the anaphoric *Passé Simple*.

2.4 Intermediate conclusions

With respect to the distribution of tense-aspect categories over discourse and dialogue, Tables 4 and 5 for Germanic languages and Tables 6 and 7 for Romance languages are similar to Tables 2 and 3 in Section 2.2 for English. The indexical nature of the PRESENT and PERFECT is responsible for their restriction to dialogue. Deictic tense-aspect forms in direct speech anchor to the speech time of the utterance event introduced by the communication verb in the discourse. The indexical nature of the PERFECT is cross-linguistically stable, and independent of its competition with the PAST along the Aorist Drift. Tense use in discourse and dialogue is different, because storytelling relies on anaphoric, not indexical tense-aspect forms.

Next to cross-linguistic stability, the data from *Harry Potter* display patterns of cross-linguistic variation familiar from the literature discussed in Section 1. The frequency data indicate that European languages like Dutch, German and French have widened the meaning domain of the HAVE-PERFECT in the spoken language, while others, such as Swedish and Spanish, have not done so.[2]

1 Association tests show that the differences in tense use between narrative discourse and dialogue are statistically significant. For English, we find a significant association between register and tense use: $\chi^2(3) = 295.17$, $p < 0.001$. The effect size is large (Cramér's V = 0.65). For French, the association is also significant: $\chi^2(4) = 589.06$, $p < 0.001$, Cramér's V = 0.88. The differences for the other languages are also significant, with effect sizes between those for English and French.

2 We refer to van der Klis et al. (2021) and de Swart, Grisot, Le Bruyn & Xiqués (2022) for the

Now, there is more to the meaning of tense-aspect forms than their indexical nature. In particular, tense-aspect forms have been assigned a number of pragmatic, rhetorical, and information management roles (e.g. Asher & Lascarides 2003; Portner 2003; Nishiyama & Koenig 2010). However, most of these studies are based on English only. In order to extend this to a cross-linguistic level we again employ the discourse-dialogue alternation in our corpus, but in a different way this time. Above, we characterized the alternation in *temporal* terms: differences in temporal anchoring are reflected in the use of indexical vs. anaphoric tense-aspect forms. In the remainder of the paper, we will consider the *interactional* difference between discourse and dialogue. In dialogue, interlocutors ask each other questions and give answers, whereas in discourse an omniscient narrator tells the story. This is, among other things, reflected in a different distribution of sentence types, such as an increased number of interrogative and imperative sentence types in the dialogue part. We will therefore, in Section 3, look at PERFECT use across sentence types.

3 Pragmatic functions of the PERFECT in dialogue

In a long-standing line of work, the informational and interactional effects of various types of utterances, such as declarative and interrogative sentences, have been studied (van Kuppevelt 1995; Gunlogson 2008; Farkas & Bruce 2010; Roberts 1996/2012, 2018, among others). This has led to a view of linguistic utterances as moves in a language game in which interlocutors try to address shared discourse goals, modeled as the *question under discussion* (QUD).

Notably, two prominent pragmatic accounts of the (English) *Present Perfect* have argued that it plays an information management role in discourse: introducing a new discourse topic (Nishiyama & Koenig 2010), or relating to a previously agreed upon one (Portner 2003). Although this closely relates to the work on utterance types and language moves, the two lines have not been integrated, as most pragmatic work on the PERFECT has focused on declarative sentences only,[3] as well as on English. We show how these two proposals can be mapped onto the interactional effect of different language moves (Section 3.1). This leads to a cross-linguistic investigation of PERFECT usage in various sentence types in our corpus (Section 3.2).

3.1 The PERFECT in the language game

Roberts (2018) posits a language universal that languages share three basic *grammatical moods*: declarative, interrogative, and imperative. There is no simple syntactic,

semantic ingredients of cross-linguistic variation beyond the examples discussed here.

3 But see Tellings (2019) on tense use in temporal questions. It has also been noted that the Present Perfect puzzle (recall (2)) applies to *when*-questions, see Klein (1992: 526) and Declerck (1997).

morphological or prosodic marking that maps these moods to *clause types*, as they can be realized in various ways, both within and across languages (see König & Siemund 2007 for a typological survey). However, Roberts formulates a second universal that there is a default mapping between grammatical moods and *moves* in the language game: declarative, interrogative and imperative moods are typically used to make assertion, question, and direction moves, respectively.

As a reformulation of Grice's principle of Relevance, any move in the language game should address the current QUD, where 'addressing' is technically defined for each move. A question move "establishes a discourse goal to which the interlocutors are cooperatively committed" (Roberts 2018: 323), whereas an assertion "offers a partial answer to the QUD" (ibid.; see Roberts 2018 for formal details).

We will connect this pragmatic literature to work on the *Present Perfect* by focusing on two previous proposals. The first one is Portner (2003), who argues that a sentence in the *Present Perfect* carries a presupposition that relates the expressed proposition to an answer to the question under discussion. This is formalized as follows (with p as the proposition expressed by φ, and **P** an epistemic relation):

(12) A sentence S of the form PERFECT(φ) presupposes $\exists q[\text{ANS}(q) \,\&\, \mathbf{P}(p,q)]$, where ANS is true of any proposition which is a complete or partial answer to the discourse topic at the time S is uttered. (Portner 2003: 501)

This idea can be illustrated with an example from our own corpus:

(13) ['And I don't suppose you're going to tell me why you're here, of all places?']
'I've come to bring Harry to his aunt and uncle.'

Identifying the QUD in natural discourse can be problematic (cf. Westera & Rohde 2019), but in (13) the QUD is provided in the previous dialogue turn: 'Why are you here?'. While a *Simple Past* is perhaps also possible in the answer in (13), by using the *Present Perfect* the speakers emphasizes the shared discourse topic.

By the definition of Roberts (2018) any assertion move (partially) answers the QUD. The difference for the *Present Perfect*, Portner claims, is that S in (12) "doesn't only provide an answer; it even presupposes that it provides an answer" (p. 501). On this view, the presupposition of the *Perfect* amounts to the interlocutors agreeing on a predetermined discourse topic (Nishiyama & Koenig 2010: 634).

It is hard to make the effect of 'presupposing an answer' precise, other than stating it results in some form of emphasis. Furthermore, this is a type of presupposition that does not involve propositional content but instead the concept of answerhood. As a result, standard cross-linguistic methods to identify presuppositions (Tonhauser, Beaver, Roberts & Simons 2013) do not apply, and we do not know how to test if such a presupposition is attached to PERFECTs in other languages.

The second proposal we consider is Nishiyama & Koenig (2010), who propose that the *Present Perfect* introduces a state X which is semantically underspecified,

and gets resolved through pragmatic reasoning. Working with corpus data, they point out that *X* can, for example, be of the form 'I want to talk about ⟨new topic⟩', i.e. the *Present Perfect* can be used for *topic negotiation* (or *topic shift*) (p. 634-5).[4] An example from our corpus illustrates:

(14) 'Er – Petunia, dear – you haven't heard from your sister lately, have you?'
X = 'I want to talk about your sister (and his son)'

Notably, like (14), all examples Nishiyama & Koenig (2010) provide of topic negotiation from their corpus are interrogative sentences. With the pragmatic notion of 'topic' as a QUD, and Roberts's (2018) definition of the question move as establishing a new discourse topic, we conclude that any interrogative sentence that represents a question move results in a topic shift. So, instead of viewing topic negotiation as a distinctive function of the *Present Perfect*, we observe that questions result in topic shift, and that the *Present Perfect* can be used in questions.

We have associated the proposals by Portner and Nishiyama & Koenig to the interactional effect of assertion and question moves, respectively. From this it does not necessarily follow that introducing a discourse topic or agreeing on a predetermined one are distinctive properties of the *Present Perfect*. Consequently, instead of testing how these English-based formal proposals extend to other languages, we will investigate PERFECT use in the sentence types corresponding to the two language moves. Hence, we return to our dataset, split it into declarative and interrogative sentences, and consider the distribution of PERFECTs over these types of sentences.

3.2 Distribution of PERFECTs over sentence types

3.2.1 English data and cross-linguistic predictions

Table 8 shows the number of verb forms for each of the three sentence types, and how the 26 *Present Perfects* are distributed over them. Relatively speaking, *Present Perfects* are more common in interrogative clauses than in declarative ones. Although the numbers are low, the pattern is compatible with results from Tellings, van der Klis, Le Bruyn & de Swart (2019), a study on tense use in the much larger Switchboard corpus of English spoken dialogues (approximately 1.5k questions, and 20k statements). Focusing on the competition between *Present Perfect* and *Simple Past*, the authors found the ratio $\frac{\text{PERFECT}}{\text{PAST}}$ to be 1.5 times higher in utterances

4 The notion of 'topic' is notoriously ambiguous (see e.g. Kruijff-Korbayová & Steedman 2003), and has been used in an *information structural* sense and a *pragmatic* sense. The information structural notion relates to a topic-comment structure of a sentence (cf. *topicalization* and *contrastive topic*, see Krifka 2008). For our purposes we are interested in the pragmatic notion of 'topic', which refers to a discourse goal, and can be modeled as a set of questions (i.e. a QUD). Portner (2003), Nishiyama & Koenig (2010) and Roberts (2018) all make use of the notion of 'topic' in this pragmatic sense.

	# verb forms	# PERFECTs	% PERFECTs
interrogative	54	7	13%
declarative	228	17	7.5%
exclamatory	23	2	8.7%

Table 8 Percentage of PERFECT use by sentence type in English

annotated as question dialogue acts as compared to statement acts, resulting in a significant association between use of the *Present Perfect* and question acts.

With our parallel corpus we can now extend the English-based work of Tellings et al. (2019), and study PERFECT use in different sentence types across languages. In Section 2.3 we identified a number of constraints that explain the general cross-linguistic variation displayed in Tables 4–7. In order to explain more specifically the distribution of PERFECTs in interrogatives and declaratives separately, we will now formulate hypotheses of how these constraints relate to sentence types.

As for past time reference, we expect no difference, since both declaratives and interrogatives are compatible with past time reference, whether it is manifested by a past-time adverbial, or by the lack of current relevance. For the constraint on narrative sequences we do expect a difference. Declarative sentences making assertion moves are naturally capable of appearing in sequences – rhetorical relations such as Narration or Elaboration chain assertions together into larger discourse units. Interrogative sentences, on the other hand, do not naturally form sequences, as the question moves they represent are typically followed by an answer move by some other interlocutor. Hence we expect the constraint against PERFECT use in narrative sequences to affect declaratives, but not interrogatives.

3.2.2 Cross-linguistic data, sequences of PERFECTs, and rhetorical structure

Table 9 gives the number of PERFECTs per sentence type for all languages in our corpus, i.e. it breaks down the data from Table 1 according to sentence type. Both the absolute numbers and the percentages (out of 228 and 54, respectively) are given. For each language we also computed the ratio between the two percentages, so for instance in Swedish the percentage of PERFECTs in interrogatives is 1.74 times higher than the percentage of PERFECTs in declaratives. Given the scarcity of imperatives in our data, we leave these out of consideration.

First we note that the stability in number of PERFECTs in English, Swedish, and Spanish mirrors the numbers in Table 1, with no difference for sentence type. This is also the case for the increased usage of PERFECTs in Dutch across both sentence types (a little more than a doubling in both columns in Table 9, and in Table

PERFECT use	interrogatives		declaratives		ratio $\frac{\%\text{interr.}}{\%\text{decl.}}$
English	7	13%	17	7.5%	1.74
Swedish	7	13%	17	7.5%	1.74
Spanish	6	11.1%	17	7.5%	1.49
Dutch	15	27.8%	38	16.7%	1.67
German	16	29.6%	57	25%	1.19
French	17	31.5%	76	33.3%	0.94

Table 9 PERFECT use by sentence type across languages

1). The most striking part of Table 9 is the use of PERFECTs in interrogatives in German and French, because here we do find a difference between interrogatives and declaratives. Whereas PERFECT use in declaratives follows the by now familiar pattern, in interrogatives the number for German and French stays at the level of Dutch. Another way to look at this is by considering the ratio between both proportions (final column in Table 9), which is on a par for the first four languages, but gets closer to 1 for German and French.

Our findings confirm the hypotheses formulated above. The Dutch PERFECT's compatibility with past time reference in (8) explains its increased usage across the board. This constraint operates at the sentential level, where it does not affect clause type. The number of PERFECTs in German and French goes further up because of their narrative use in sequences of declaratives like (9) and (11). As sequences of interrogatives do not appear in dialogue, the ratio changes. In sum, we find different proportions of PERFECT use across declaratives and interrogatives because the constraints on PERFECT use do not interact with speech acts in the same way.

Whereas most literature on the *Present Perfect* only considers sentences in isolation, the quantitative results indicate that it is crucial to consider sequences of PERFECT sentences to explain cross-linguistic variation. As alluded to in Section 1, sequences of PERFECT sentences are in fact possible in English and other languages, but they then form an unordered list of events (this could be called 'non-narrative sequencing'). Such non-narrative sequences are attested in our corpus, even in languages where the PERFECT resists narrative sequencing:

(15) a. Since then, I *have served* him faithfully, although I *have let* him down many times. He *has had* to be very hard on me. [English, seq. PERFECTs]

b. Sindsdien *heb* ik hem trouw *gediend*, maar ook vaak *teleurgesteld*. Hij *heeft* me soms hard *moeten aanpakken*. [Dutch, seq. PERFECTs]

c. Desde entonces le *he servido* fielmente, aunque muchas veces le *he fallado*. [Spanish, seq. PERFECTs]

De Swart (2007) proposes that PERFECT sentences in a sequence all stand in a rhetorical relation of Elaboration with the topic time (in (15a) represented by *since then*), and are pairwise related by Continuation (in the sense of SDRT; Asher & Lascarides 2003). The Continuation relation does not itself impose temporality, but French and German allow temporal relations between subsequent PERFECT sentences through other devices, thereby making a narrative structure available. This analysis reinterprets the narrative sequencing constraint: all languages in our corpus allow for a sequence of PERFECT sentences with an Elaboration structure as in (15), although not all languages allow a narrative enrichment of this structure with temporal relations, as we saw in (9) and (11). We conclude that the rhetorical Elaboration structure is a cross-linguistically stable pragmatic component of the PERFECT, but a possible temporal dimension of Continuation is not.

In addition, this reformulation of the constraint is useful when assessing the cross-linguistic validity of formal claims based on English. For example, Portner (2003: 502) argues that English narrative sequences do not use the *Present Perfect* because individual sentences in such a sequence do not have current relevance (for him encoded in the presupposition in (12)). We know from our study that current relevance is a core component of the PERFECT, but narrative sequencing is not. Hence Portner's explanation would not hold for a language such as French. The rhetorical structure component of the pragmatics of the PERFECT gives a better explanation for the distribution of PERFECTs in sequences.

4 Conclusion

In this parallel corpus study we employed the methodology of *Translation Mining* for a study of the PERFECT. The discourse-dialogue alternation in the *Harry Potter* novel allowed us to investigate various elements of the meaning of tense-aspect forms from a cross-linguistic perspective. On the basis of differences in temporal anchoring between discourse and dialogue we showed the stability of the indexical nature of various tense-aspect forms, while also confirming parameters of variation described in earlier literature.

By looking at the interactional differences of the discourse-dialogue contrast we were able to zoom in on pragmatic variation across languages. The different patterns of PERFECT use in interrogative and declarative sentences can be traced back to the narrative sequencing constraint. The central role of rhetorical structure in sequences of PERFECTs shows that the tendency of earlier literature to look at isolated sentences does not provide the full view. This leads to a methodological point: a parallel corpus based on a novel offers the contextual perspective, and also contains elements of language interaction, which are needed for a precise investigation of the semantic and pragmatic features of tense-aspect forms across languages.

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