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## IM-/PRECISION IN TEMPORAL MAGNITUDE REPRESENTATION: A CORPUS-BASED CONTRASTIVE ACCOUNT

The paper examines the use of precision and approximation devices in a subset of English and Polish temporal expressions. Specifically, the corpus-based study reported here employs the Cognitive Linguistics analytic construct of “construal” to look into the variable degrees of precision and propositionality as it is coded linguistically in naturally-occurring data. We find that approximation marking in the temporal magnitude representations under scrutiny is more pronounced than precision marking, and there are further conspicuous use asymmetries across languages (Polish vs. English), construal types (cumulative vs. fractional) and granularity levels (seconds/minute vs. minutes/hour).

### 1. Introduction

We start from the observation that the semantics of linguistic expressions is subject to regulation on the continuum of precision. Communicators can choose to code information on how (in)accurate particular information they communicate is. One instantiation of this gradability is propositionality, as contrasted with formulaicity. Based on temporal expressions of quantification, it can be seen for instance that “5 minutes” need not statically stand for the numeric equivalent of the designated value (Pęzik and Deckert 2016). In other words, while the adverbial can be used to denote “5 minutes”, it can also be intended as denoting less or more time than that, with the speaker still being seen as communicatively cooperative. Given the modulations on the propositionality-formulaicity cline, “5 minutes” can prompt a near-propositional meaning of an actual time span of “5 minutes” – or its analogues expressed for instance through the aggregation of 300 seconds, or profiling a  $1/12$  fraction within an hour – or the near-formulaic one where it would result in a reading closer to a rough estimation like “a short while”, or “a moment”.

In this paper we demonstrate on Polish and English naturally-occurring data that language users have at their disposal – and actively take advantage of – a set of linguistic devices that help them modulate, or “manage”, the degree of propositionality and precision in temporal meanings.

The paper investigates the use of selected modifiers in a subset of noun phrases expressing temporal magnitudes. It has to be noted that the very notion of “temporal magnitudes”, viz. the idea that time is quantifiable, rests on the premise that our reasoning about time requires its mapping onto the physical domain of space, a proposition into which there is mounting research (cf. Alverson 1994, Boroditsky 2000, Evans 2013, Núñez and Sweetser 2006, Casasanto and Boroditsky 2008, Fedden and Boroditsky 2012, Waliński 2014).

We distinguish two types of expressions that are here termed “devices of approximation” (e.g. ‘about’, ‘around’, ‘approximately’) and “devices of precision” (e.g. ‘exactly’, ‘precisely’). DoAs and DoPs are then analysed against a set of time-discretising construals (cf. Deckert and Pęzik 2014, Pęzik and Deckert 2016) linguistically represented alternately as “30 seconds”/“half a minute”, and the more coarse-grained one “30 minutes”/“half an hour”, and then in Polish as “30 sekund”/“pół minuty” and “30 minut”/“pół godziny”. As a result of corpus-based analyses we report distributional findings that are then related to a qualitative examination of corpus data with a focus on their context of occurrence as well as function.

## 2. Two construal types

The analysis outlined in this paper draws on the principles and postulates of Cognitive Linguistics (CL) as represented by scholars such as Langacker (1987, 2008), Lakoff (1987) or Talmy (2000)<sup>1</sup>. Specifically, we ascribe to the idea that conceptual content can get mentally construed in multiple ways. The preferred construal is then coded in the form of linguistic expressions. Expressions, in turn, serve as triggers of the meaning construction process – or conceptualisation – that critically uses the assumptions available to the conceptualiser. What is equally important, CL sees language as embedded in the overall cognitive capacity of human beings as they function in the environment.

The article’s focus is on “prominence” (also referred to as “salience”), one of the parameters of “construal”, or “construal operations” (cf. Croft and Cruse 2004, Langacker 2008). Prominence configuration determines how portions of conceptual material are presented and how attention gets distributed among composite elements. Prominence is the discerning feature of the two construal types examined here that are termed “cumulative” and “fractional”, as proposed in Deckert and Pęzik (2014). In the cumulative variant units of quantity are ac-

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<sup>1</sup> For an overview of themes and constructs central to CL see, for example, Croft and Cruse (2004), Evans and Green (2006), and Geeraerts & Cuyckens (2007).

crued to be viewed as a collection (e.g. “30 minutes”) while in the fractional variant a quantity is designated within a superordinate unit (e.g. “half an hour”). In that sense the latter closely matches what Langacker (2008: 66) describes as “profiling” – a sub-mechanism of prominence that is in his framework coupled with “trajector/landmark alignment” (Langacker 2008: 70) – where attention is allocated to a “profile” within a larger “conceptual base” or “onstage region”.

### 3. Distributional analysis

Through manual inspection of the two corpora we identified the following subsets of modifiers that serve the functions of signalling approximation and precision in linguistic temporal magnitude representation:

	<b>Devices of Approximation</b>	<b>Devices of Precision</b>
English	about approximately perhaps some around maybe roughly	precisely exactly literally
Polish	około jakieś mniej więcej	dokładnie dosłownie równo

The primary objective of the quantitative examination whose results are presented in the tables below was to identify potential distributional asymmetries in the use of DoAs and DoPs in general, across granularity levels, across languages, and in the alternate construal types.

#### 3.1. Distribution in the BNC

Table 1.

	<b>Approximation in construal types: BNC</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
% supplemented with devices of approximation	13.29%	21.43%	7.32%	12.26%

Table 1.

	<b>Approximation in construal types: BNC</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
supplemented with devices of approximation	38	15	50	201
	30 seconds: 286	half a minute: 70	30 minutes: 683	half an hour: 1640

Table 2.

	<b>'About' in construal types: BNC</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
% supplemented with "about"	11.54%	18.57%	6.13%	11.08%
supplemented with "about"	33	13	40	181
	30 seconds: 286	half a minute: 70	30 minutes: 653	half an hour: 1633

Table 3.

	<b>Precision in construal types: BNC</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
% supplemented with devices of precision	0.7%	0%	0.2%	0.06%
supplemented with devices of precision	2	0	1	1
	30 seconds: 286	half a minute: 70	30 minutes: 683	half an hour: 1640

### 3.2. Distribution in the NCP

In parallel to the expository section above, the NCP results are broken down into tables with data on frequencies for levels of resolution as well as construal types. Table 4. outlines the distribution of DoAs.

Table 4.

	<b>Approximation in construal types: NCP</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
% supplemented with devices of approximation	4.42%	2.66%	7.40%	2.60%
supplemented with devices of approximation	20	10	88	141
	30 sekund*: 452	pół minuty/cie: 376	30 minut*: 1189	pół godziny/ie: 5421

Table 5.

	<b>'Okolo' in construal types: NCP</b>			
<b>temporal granularity</b>	<b>seconds/minute</b>		<b>minutes/hour</b>	
<b>construal type</b>	<b>cumulative</b>	<b>fractional</b>	<b>cumulative</b>	<b>fractional</b>
% supplemented with "okolo"	3.09%	1.60%	8.87%	2.27%
supplemented with "okolo"	13	6	97	123
	30 sekund*: 421	pół minuty/cie: 376	30 minut*: 1093	pół godziny/ie: 5421

Table. 6.

	Precision in construal types: NCP			
temporal granularity	seconds/minute		minutes/hour	
construal type	cumulative	fractional	cumulative	fractional
% supplemented with devices of precision	0.7%	0.8%	0%	0.08%
supplemented with devices of precision	3	3	0	4
	30 sekund*: 453	pół minuty/cie: 376	30 minut*: 1189	pół godziny/ie: 5421

### 3.3. Quantitative findings

The numerical data presented above display a number of interesting patterns. First, devices of approximation are much more frequently used with the magnitudes under scrutiny than devices of precision – consistently in English and Polish and for the two granularity levels. For one thing, there are more corpus-attested variants of devices of approximation than devices of precision available in both the languages, and in addition to this, the available variants are distributionally more salient.

What is more, in terms of cross-linguistic patterns we find that in the BNC DoAs accompany a visibly larger proportion of the analysed temporal expressions than in the NCP, implying that – at least in the case of expressions under scrutiny – English is more approximative in its coding of time quantities. Also, there is a pronounced mismatch in the incidence of DoAs with the two construal types across languages. In the English data DoAs co-occur more frequently with fractional construals, which is the inverse of what we find in the Polish data.

Finally, in terms of granularity levels, the analysis suggests that in the English data DoAs are more typically found at the more fine-grained level of time conceptualisation, viz. the seconds/minute level – co-occurring with 17.36% of expressions – than at the more coarse-grained level (9.79%). The difference is less salient, if again notably inverse, between the strata of time representation in the Polish material (3.54% vs. 5%).

The microscopic analysis that follows will shed light on these quantitative findings.

## 4. Qualitative analysis

### 4.1. Devices of Precision

#### 4.1.1. Evidence from English

As has been pointed out above, we identified a mere total of four occurrences of DoPs – “exactly” and “literally” – in the BNC with the relevant magnitudes. Three occurrences were identified for 30-based discretisations, two for seconds and one for minutes:

- An eye movement period started and after it had persisted for 10 minutes, cold water was sprayed on his back. Exactly 30 seconds later he was awakened. [EVA]
- He decided to treat the movie as a learning experience. There's no substitute for being on a hillside, with the sun going down and literally 30 seconds of usable light left, and Coppola screaming: Cry!,Cry! [BNC FBL]
- Exactly thirty minutes later, Shannon packed the last two brushes into an already crammed hold-all and glanced quickly round the small room, checking for anything she might have missed first time round. [BNC HA9]

The fractional construal combined with DoAs features in just one more occurrence in the BNC:

- Almost exactly half an hour later, Rory was sitting cross-legged on Candy's floor, grimacing as she took a sip of coffee. [BNC JY5]

Here the construction is additionally accompanied by the adverb “almost” which adds precision and moves the interpretation of “exactly half an hour” towards propositionality.

#### 4.1.2. Evidence from Polish

DoPs are found more frequently in the NCP dataset.

#### **dosłownie [literally]**

##### **dosłownie 30 sekund: 3**

- Króciuteńko chciałbym przeczytać, dosłownie 30 sekund, swój życiorys, bo odnoszę wrażenie, że czasami padają tutaj takie sformułowania, że sam siebie nie poznaję.  
[Really briefly I would like to read, literally 30 seconds, my CV, because I get the impression that sometimes such expressions are produced that I do not recognize myself]

- Nabi  
 heh to jak jej pomagałeś w zadaniu to nie mogłeś zagadać??  
 no nieee...taka sytuacja i tak ją zmarnować...  
 Tom100  
 To było dosłownie 30 sekund  
 Szybka pomoc  
 Nabi  
 trzeba było przeciągnąć czas pomagania...  
 powiedzieć że po lekcji możesz jej to wytłumaczyć...  
 [Nabi  
 heh then when you were helping her with the task couldn't you say something??  
 can't believe it...such a situation and you wasted it in such a way...  
 Tom100  
 It was literally 30 seconds  
 Quick help  
 Nabi  
 you should have extended the helping time...  
 should have said that you could explain it to her after the class...]
- Pan poseł Bachalski w trybie sprostosowania.  
 Panie Marszałku! Szanowni Państwo! Dosłownie 30 sekund. (...) Panie pośle, powiedział pan 30 sek. w trybie sprostowania. Wypadł pan już z tej roli dawno.  
 [Mr MP Bachalski with a correction.  
 Mr Speaker! Ladies and Gentlemen! Literally 30 seconds. (...) Mr MP you said 30 sec. to correct the statement. You fell out of that role a long time ago.]

### **dosłownie pół minuty: 1**

- 1 VII 1940. Poniedziałek  
 Rano o wpół do ósmej wychodzę na Daniłowiczowską, zameldować u Niemców mój „Kontrolschein” z Przemyśla. Cała rzecz trwała dosłownie pół minuty .  
 [1 July 1940. Monday  
 In the morning at half past seven I go out to Daniłowiczowska (street) to register with the Germans my „Kontrolschein” from Przemyśl. The whole thing took literally half a minute.]

### **dosłownie 30 minut: none**

### **dosłownie pół godziny: none**

As is evidenced by the above corpus samples, “dosłownie” is used to highlight shortness of duration, i.e. to state emphatically that the time span is not large or even that it is too small for a particular purpose. Interestingly, no cases



of “dosłownie” are attested at the minutes/hour level. Since at that level the time span is naturally larger, lack of “dosłownie” could be seen as supporting the above observation on its function to highlight brevity.

### **dokładnie [exactly]**

#### **dokładnie 30 sekund: 1**

- Oczywiście, gdy ludzie są tak perfekcyjnie przygotowani, autobus na Rondzie Wiatraczna zapełnia się w dokładnie trzydzieści sekund. Sprawdziłam to. Najlepsza zabawa jest w godzinach szczytu. [NCP Lokalna]  
 [Of course, when people are so perfectly prepared, the bus at Wiatraczna roundabout fills up in exactly thirty seconds. I checked this. It is most fun during rush hours.]

In the above sample, the speaker pre-empties a potential critical response to her statement by asserting the accuracy of the estimation with the DoP. The use of “dokładnie” nears the propositional end of the spectrum which is reinforced by the speaker’s explicit remark “Sprawdziłam to” [I checked this].

#### **dokładnie pół minuty: 2**

- W 14. minucie na toruńską bramkę uderzał Marcin Biały, a dobił skutecznie Paweł Połęczarz. Niemal dokładnie pół minuty później trzeciego gola dla gospodarzy strzelił Rafał Cychowski [NCP Gazeta Pomorska]  
 [In the 14th minute Marcin Biały shot at the Toruń goal, and Paweł Połęczarz managed to score. Almost exactly half a minute later the third goal for the home team was scored by Rafał Cychowski]
- Poświęć dokładnie pół minuty i ani sekundy więcej na przemyślenie, czy przypadkiem sam, popełniając jakiś błąd, nie przyczyniłeś się do całej sytuacji. [NCP Dekalog Myślącego Kierowcy]  
 [Devote exactly half a minute and not a second more to thinking if by any chance you yourself, by making some mistake, did not contribute to the whole situation.]

As the above samples suggest, an unaccompanied use of the fractional construal would be approximative (arguably more so in the second case because in the first example the sports context largely guides the interpretation) and therefore DoPs are used. Interestingly, in both cases the precision-oriented function is additionally ensured – by “almost” in the first instance and by an explicit remark that follows the temporal expression in the second instance.

**dokładnie 30 minut: none****dokładnie pół godziny: 1**

- Punktualnie o 14:00 wychodzi na lunch "do Chińczyka", gdzie przedyskutuje kontrowersyjną kwestię ze swoim rywalem zza ściany. Dokładnie pół godziny później wraca do firmy. Z dokładnością co do minuty! Jego punktualność cię przeraża? Zjrzyj do jego notesu, a twoje przerażenie osiągnie apogeum. [NCP Cospomolitan]

[Punctually at 2:00 PM he goes out to have lunch "at the Chinese place" where he is going to discuss the controversial matter with his rival from over the wall. Exactly half an hour later he goes back to the company. The precision is on the minute! Does his punctuality terrify you? Take a look inside his notebook and your terror will reach a climax.]

In the above passage it is temporality per se that features as the key notion. Given that this non-standard use is the only one attested in the Polish data, the construction itself appears to be weakly conventionalised.

**równy [evenly]****równy 30 sekund: 1**

- – Za jasna – ocenił pianę espresso fachowym okiem baristy. Po przyjeździe do Francji dorabiał we włoskim barze kawowym – Za grubo zmielili albo za krótko trzymali w maszynie. Powinno być równy trzydzieści sekund. [IPIPAN\_2001000000005]

[It is too light – he assessed the foam with a professional eye of a barista. After coming to France, he had an extra job at an Italian coffee house – They ground it too coarsely or they kept it in the machine for too long. It should be *evenly* thirty seconds.]

**równy pół minuty: none****równy 30 minut: none****równy pół godziny: 3**

- Było ściśle kwadrans po siódmej. Równy pół godziny przedtem krawiec Abraham Gold zeskoczył z płotu i pobiegł do Widmara.  
[It was *strictly (speaking)* a quarter past seven. *Evenly* half an hour before the tailor Abraham Gold jumped down from the fence and ran to Widmar.]
- Marta Chrzanowska spojrzała na zegarek. Od chwili, gdy Łukasz poszedł do szopy, minęło równy pół godziny. Gdzie on się podziewał?! Nawet gdyby nie znalazł sekatora, powinien już dawno wrócić. [IJPPAN\_k12470]

[Marta Chrzanowska looked at her watch. *Evenly* half an hour passed since the moment Łukasz went to the shed. What was taking him so long?! Even if he didn't find the pruning shears he should have been back long ago.]

- Markowski obudził się po półgodzinie. Mógłby według swojej popołudniowej drzemki odprawić pociągi. Spał zawsze równo pół godziny i ani wiek, ani niezdrowy tryb życia nie powodowały żadnych zmian. [IJPPAN\_k70A0084]

[Markowski woke up after a half-hour. He could dispatch trains according to his afternoon nap. He always slept *evenly* half an hour and neither age, nor an unhealthy lifestyle caused any changes.]

## 4.2. Devices of Approximation

In the next part of the paper I will give a qualitative overview of approximation marking in English and Polish data. Given the large number of DoA variants, for ease of exposition I will focus on the most salient, and at the same time distributionally representative expressions – “about” in English and “około” in Polish.

### 4.2.1. Evidence from English

#### English – “about”

As has been mentioned, in the English data the modifier “about” features as the most frequent one but at the same time its distribution on the two examined levels of granularity and for the two construal types matches the overall distribution of DoAs, thus making it possible to extrapolate on the basis of the qualitative overview of the expression.

#### about 30 seconds

In line with the observation that cumulative construals are more typically conducive to propositional meanings than fractional construals (Deckert and Pezik 2014), we see that “about” is used in situations where an unaccompanied expression of temporal magnitude would be taken to denote a well-defined time interval. Such situational settings are prominently cooking recipes and other instructional texts:

- Blanch the spinach leaves in boiling water for about 30 seconds, then dry with a paper towel. [BNC BPG]
- Heat the dry pan and cook each tortilla for about 30 seconds until the top bubbles up.
- Increase the speed of the machine and gradually pour in the butter. Blend for about 30 seconds, until thick and creamy. [BNC BP3]
- Just put them in boiling water for about thirty seconds. [BNC KD3]

- Finish the sequence by holding – hold the feet for about 30 seconds, then the knees, the hands and finally the head and abdomen: [BNC B06]
- First, look at the mark between the central pair, and note that top and bottom are the same size and are both vertical. [BNC FBD]
- Next, look at the line between the gratings on the left for about thirty seconds, then transfer your gaze to the central pair again. [BNC KS6]

Another attested instance that rather unambiguously points to the propositionality of a linguistically coded magnitude comes from a training session explanation. Clearly, time is discussed here with precision as a priority since the speaker talks about the number of rings being 13, thus excluding the possibility of rounding.

- What we've done, is we've set up an answer phone to pick up these calls after 13 seconds, after 13 rings sorry, about 30 seconds, which is quite a long time.

The propositional character of the cumulative construction can be used to create a humorous effect as is the case in the following fragment from a book about David Bowie where the technicality and precision of the estimation function in a context where they are not typical

- We weren't lovers from the beginning – it took about 30 seconds.

### **about half a minute**

In the fractional constructions that employ “about” there is only one occurrence that functionally matches the ones discussed above as employed in the instructional context:

- Before oiling your hands, very gently place one hand on the crown of the head and the other at the base of the spine. Hold them there for about half a minute; then move to the feet.

Notably, another use of “about + half a minute” in a similar situational setting appears to be evidence against the precision-marking function of this construal type. However, this becomes clear only once a larger textual window is considered:

- After about half a minute, tap the person on your left who has now received the power and he then leads through the same activities you did, plus some new ones such as touching toes, jumping in the air, hopping and so on. After another half a minute, the power is passed to the third person and so on until everyone has had a turn at passing the power. [BNC C8P]

As can be seen in this case, while the first occurrence of the temporal magnitude is supplemented with the DoA, there is another, closely analogous use of time quantification in the sentence that follows, where the DoA is no longer used, thus implying that precision is not the priority, which is the opposite of what was the case with cumulative construals at this level of time granularity.

This observation is also supported by meta-textual data on the excerpt's source which is "Colin the Clown's party book".

### about 30 minutes

At the more coarse-grained level of time quantification the instructional culinary uses of "about" with the cumulative construal are again common:

- N.B. Since this dish is a very rich one, I sometimes add to the chicken livers an equal quantity of blanched, poached pickled pork (not bacon) or failing pickled pork, a piece of fresh belly of pork, salted overnight, then gently poached for about 30 minutes. [BNC EFU]
- Cook in a water bath at 350°F for about 30 minutes. [BNC A7F]
- Meanwhile, cut the steak into slivers, ½ in wide by 1 in, as thinly as possible – this is more easily done if the meat is put into the freezer about 30 minutes before being cut. [BNC BPG]
- Pour over the basic stock, dot with butter, and bake, covered with foil, for about 30 minutes at 200°C/ 400°F/Gas 6.
- Bake for about 30 minutes until the topping is crunchy and golden.

Interestingly, in a subset of such uses, the arguably default propositionality of cumulative construals is diminished not only by the DoA but also by providing additional data, for example where "until browned" is used to prompt the user not to take "about 30 minutes" too literally.

- Bake until browned, about 30 minutes. [BNC CC5]
- Bake for about 30 minutes until the top is crisp and bubbly. [G2D]
- Boil chickpeas for about 30 minutes until they are just tender, then drain. [G2D]
- Cook for about 30 minutes until setting point is reached, then pot and cover while still hot. [G2D]
- Sprinkle over the pine nuts and bake at 375°F (200°C Gas Mark 5) for about 30 minutes until golden brown. [BNC ARJ]

A different technique employed to guard off misinterpretation resulting from a 'propositional' reading is to explicitly state that the linguistically coded duration of an activity is to be understood as interchangeable with the desired outcome of the activity, as in "for about 30 minutes or until the beans are tender":

- Cook for about 30 minutes or until the beans are tender. [CDR]

Another context where the cumulative temporal quantification is coded with the DoA is medical. In the example below from a scientific journal precision will undoubtedly be a critical property of accounts:

- A 'Superlite' Holter monitor (Mortara-Cardiodata, USA) was connected about 30 minutes before gastroscopy and the cardiac recording commenced. During the procedure pulse rate, blood pressure, and oxygen saturation were recorded every minute by the research nurse. [BNC HU3]

Likewise, the DoA is used cumulatively in other specialised contexts such as sedimentology:

- Etching times in HF vapour depend on the nature of the rock: feldspars, for example, require about 30 minutes etch before they are to be stained. [BNC H9S]

#### **about half an hour**

- ‘Dinner in about half an hour,’ William said. [BNC GUU]
- The huge crowd of villagers and visitors sang a selection of hymns with great gusto for about half an hour before the band marched off down the road. [BNC BPK]
- Would you mind having the boys for about half an hour because I would like to get Bryony's hair cut. [BNC KB8]
- Where's the ?  
Well she should be home about six o'clock.  
won't she?  
She should be home in about half an hour  
Er er, half past five.  
Oh I see. [BNC KBC]
- ‘How long will it be?’  
I heard my mother ask.  
‘About half an hour,’ the doctor replied. [BNC B2G]
- The producer did finally arrive about half an hour into the party, and he scurried around meeting everyone, making up for his earlier absence. [BNC H92]

#### **4.2.2. Evidence from Polish**

##### **Polish – “około”**

##### **około 30 sekund**

Similarly to what was the case with “about” in the BNC data, “około” appears conventionally in sports contexts, including instructional texts (this time, however, there are no culinary ones):

- Następnie prawą dłoń opieramy o kolano, a lewą chwytny za lewą stopę i przyciągamy, aż pocujemy rozciąganie mięśni lewego uda. W takiej pozycji wytrzymujemy około 30 sekund . [NCP Dziennik Zachodni]  
[Next we lean our right hand on the knee and we hold our left foot with the left hand until we feel that the muscles of the left thigh stretch. We maintain the position for about 30 seconds.]
- Halowa mistrzyni Polski wygrała na dystansie kilometra z przewagą około 30 sekund . [NCP Dziennik Zachodni]

[The indoor champion of Poland won the 1 kilometre race with an advantage of about 30 seconds.]

- Do końca brakowało około 30 sekund, a rybniczanki dwukrotnie jeszcze traciły piłkę. [NCP Dziennik Polski]  
[With about 30 seconds to go, the Rybnik team lost possession two more times.]

In the two examples below the degree of precision of “około 30 sekund” is indicated by co-text where fine-grained magnitudes are coded:

- Najlepszy wynik 5:28 należał do Juhy Salminena. Startowałem po nim. Po zakończonym przejeździe ze stratą około 30 sekund do lidera, ogłosiłem publicznie, że na motocyklu trialowym pojadę szybciej o 10 sekund niż Salminen. [NCP Gazeta Krakowska]  
[The best result 5:28 was Juha Salminen’s. I was starting after him. After the run with 30 seconds behind the leader, I announced publically that on a trial bike I will be 10 seconds faster than Salminen.]
- Po wznowieniu gry gdynianki ruszyły do decydującego uderzenia. W 33 min wygrywały 57-50. Od tego momentu Wisła nie była już w stanie zmienić losów meczu. Najbliżej tego krakowianki były na około 30 sekund przed końcem. [NCP Dziennik Polski]  
[After the game was resumed the players from Gdynia started their decisive offensive. In the 33<sup>rd</sup> minute they led 57-50. From that moment on Wisła was not able to change the game’s course. They came closest to that about 30 seconds before the end.]

### **około pół minuty**

It should be noted that all the occurrences – a mere 6 cases from a total of 3 sources – of “około pół minuty” come from newspaper pieces on subjects matters ranging from an accident report to an account of a cycling event:

- Pani Teresa przez około pół minuty wołała o ratunek z głową uwięzioną w drzwiach tramwaju [NCP Gazeta Krakowska]  
[(Ms.) Teresa for about half a minute cried for help with her head trapped in the tram door.]
- Na kontratak zdecydował się następnie Visconti. Kilka kilometrów przed metą tracił około pół minuty, jednak w końcówce rywalizacji zwolnił. [NCP Gazeta Krakowska]  
[Then Visconti decided to make a counterattack. A few kilometres from the finish line he was about half a minute behind, however in the final stage of the competition he slowed down.]
- Czas automatycznego rozpostarcia go w pozycję umożliwiającą jazdę, np. w deszczu, trwa około pół minuty. [NCP Express Ilustrowany]  
[The time of its automatic conversion to the position that makes it possible to drive e.g. in the rain takes about half a minute.]

### około 30 minut

The more schematic level of time quantification offers a much wider array of samples and context types. Those contexts tend to be fairly specialised. As presented below, the DoA with the cumulative construal is found in the description of the Papal conclave, a medical context, and an even more specialised scientific context of biochemistry. In all of these, attention to (temporal) detail is clear.

- Wywołany podnosi się, podchodzi do ołtarza i wkłada kartkę do urny, przykrytej pateną. Samo głosowanie przy 111 elektorach trwa około 30 minut. [NCP Watykan bez tajemnic]  
[The one who is called comes up to the altar and puts the sheet into the ballot box with a paten on. The voting itself with 111 electors takes about 30 minutes.]
- Przed przystąpieniem do zabiegu pacjentowi podaje się jeden lub kilka leków uśmierzających i zapewniających dobre samopoczucie przed operacją. Ta tzw. premedykacja stosowana jest najczęściej około 30 minut przed operacją w formie zastrzyków domięśniowych lub doustnych tabletek. [NCP Sztuka czy medycyna: przewodnik po chirurgii estetycznej]  
[Before the procedure starts the patient is given one or more medicines to relieve pain and ensure good mood before the operation. This so called pre-medication is used most frequently about 30 minutes before the operation in the form of intramuscular injections or oral pills]
- Okazało się, że walina, metionina, alanina, glicyna, prolina, seryna, treonina i cysteina zapewniają okresy półtrwania białek dłuższe niż 20 godzin; izoleucyna i kwas glutaminowy – około 30 minut; tyrozyna, glutamina i histydyna – około 10 minut; leucyna, fenyloalanina, tryptofan, kwas asparaginowy i asparagina oraz lizyna – około 3 minut, zaś arginina daje okres półtrwania tylko około 2 minut [4, 5]. [NCP Cytobiochemia: biochemia niektórych struktur komórkowych]  
[It turned out that valine, methionine, alanine, glycine, proline, serine, threonine, and cysteine ensure protein half-life longer than 20 hours; isoleucine and glutamic acid – about 30 minutes; tyrosine, glutamine and histidine – about 10 minutes; leucine, phenylalanine, tryptophan, aspartic acid asparagine and lysine – about 3 minutes, and arginine gives the half-life of only 2 minutes [4, 5]]

At this level of granularity recipes feature as an important source of the DoA. Interestingly, the first example matches the use found in the BNC where “30 minutes” was also accompanied with a disclaimer that the time magnitude is not to be taken at face value.

- Potem przełożyć kuskus do miski, ponownie rozdrobnić grudki, spryskać wodą i jeszcze gotować na parze do miękkości, około 30 minut. [NCP Kuchnia nr 8]



[Then put the couscous into a bowl, spread clods again, spray with water and steam until tender, about 30 minutes.]

- Wstawić do nagrzanego piekarnika i zapiekać około 30 minut. [NCP Książka Kucharska]  
[Place it in a pre-heated oven and bake for about 30 minutes.]
- Powstałe ciasto przykryć i odstawić na około 30 minut do lodówki. [NCP Książka Kucharska]  
[Cover the dough and put it in the fridge for about 30 minutes.]
- Całość posypać po wierzchu startym żółtym serem i piec w piekarniku około 30 minut. [NCP Książka Kucharska]  
[Sprinkle it with grated cheese and bake in the oven for about 30 minutes.]

In turn, in the sample of computer-mediated communication below, the DoA once more serves the goal of reorienting the default propositional reading of the cumulative construal. This is corroborated by co-text, for it is stated that the meeting might actually be longer than 30 minutes.

- Nasze spotkanie z J M Jarre będzie trwało około 30 minut – mam nadzieję, że pytania będą na tyle interesujące, że zostanie z nami dłużej J [NCP Onet.pl – Rozmowy]  
[Out meeting with J M Jarre will take about 30 minutes – I hope the questions will be so interesting that he will stay with us longer ☺]

### **około pół godziny**

In this configuration, the DoA is used across a range of contexts – from a newspaper report, to a literary text, a mountaineering account, an interview and recipes – where it rather uniformly appears to increase the precision of the relevant magnitude representation:

- Strażacy przyjechali po około pół godzinie. [NCP Słowo Polskiej gazeta Wrocławska]  
[The firemen came after about half an hour.]
- Stara hrabina zachwiała się. Tłumacz skinął na żołnierza, kazał podać krzesło. Przeczący ruch głową, nie, hrabina postoi. Mocniej tylko oparła się na ramieniu córki. Minęło około pół godziny. [NCP Świtanie, przemijanie]  
[The old countess lost her balance for a while. The interpreter gestured at the soldier and asked him to pass a chair. A negative head movement, no, the countess will stand. She only leaned on her daughter's shoulder more heavily. About half an hour passed.]
- Na szczycie przebywamy około pół godziny. Czas schodzić. [NCP Na jednej linii]  
[We stay on the summit for about half an hour. It is time to go down.]
- na początku jednej sceny uczyłem się około pół godziny. Teraz ten czas zmalał do jakichś pięciu – siedmiu minut więc jest to niebywała zaleta. [NCP IJPPAN\_i0001520]

[When I first started it took me about half an hour to learn one scene. Now the time has gone down to some five-seven minutes so it is a huge advantage.]

- Dobrze wymieszaj i gotuj pod przykryciem na wolnym ogniu przez około pół godziny. [NCP Głos Ojca Pio]  
[Stir well and boil under a cover on medium heat for about half an hour.]
- Dusić na niewielkim ogniu, pod pokrywą, około pół godziny. [NCP Polityka]  
[Stew (it) over medium heat, under a cover, for about half an hour.]

Interestingly, we find a sample of online discourse very much analogous to the one featuring the alternate construal and coming from the same source (on the Jean Michel Jarre interview):

- Za około pół godziny spotkamy się z naszym gościem, którym dzisiaj jest Norman Davies. [NCP Onet.pl – Rozmowy]  
[In about half an hour we are going to meet our guest who is today Norman Davies.]

Since here the DoA supplements the fractional construal, it stands to reason that – compared to its use with “około 30 minut” [about 30 minutes] – here the magnitude could be even more approximative.

## 5. Concluding remarks

Overall, as we can see in the data samples, “about” and “około” are used with temporal magnitudes as a “safeguarding” device, especially in context where insufficient detailedness of one’s message is particularly significant – in medical and more broadly research settings, but also remarkably in instructional texts dealing with physical exercise but in the most pronounced way with culinary recipes.

With regard to the distributional findings, the strong preference for DoAs over DoPs in temporal expressions appears to be in accord with the principles that generally guide human communication. The frequencies of DoAs in both English and Polish show that communicators monitor the efficiency of exchanges bearing in mind the addressee’s perception of their competence, knowledgeability and cooperativeness. That is to say, with the high incidence and ratio of DoAs in the temporal expressions in general, it could be the case that speakers use DoAs to genuinely express the approximative nature of their message but also likely as a pre-emptive disclaiming measure intended to preclude potentially upcoming accusations of uncooperativeness or incompetence. As far as the approximation tendency is concerned, another parameter that has to be isolated is the range of linguistic variants that are available to express approximation as compared to those that can serve to signal precision. Here the English data point

to an interesting asymmetry. As many as 7 different one-word expressions have been identified in the BNC that represent approximation. The corresponding number of expressions available in the corpus to denote precision is merely 3.

The other quantitative finding, the marked difference in preference for DoAs between cumulative and fraction construals across languages, is at least equally thought-provoking. One way to account for it, is to view it against the variability of conceptualisation effected via the selection of either of the two construal variants. In line with the analyses reported by Deckert and Peżik (2014), it might be argued that DoAs used with fractional construals of time enhance the construal's potential to trigger formulaically-oriented conceptualisations where precision is of secondary importance. In contrast, the couplings of DoAs with cumulative construals, which have been characterised as conducive to propositional meanings, naturally detract from that default property of precision, shifting the conceptualisation towards the formulaic or "imprecise" end of the scale.

What is also notable, there are frequency disproportions in the use of DoAs at the two granularity levels in the English corpus. The BNC data display a more pronounced approximation tendency at the more fine-grained of the two levels of time representation. Further analyses are necessary to come up with more evidence on the interlingual inconsistency of this pattern which has been demonstrated in this paper.

Also, it should be noted that the formal or etymological properties of words can fail to reflect their function in terms of shifting magnitudinal meanings between propositional precision-centred ones and formulaic approximative ones. This is seen in the Polish adverb "dosłownie". While it explicitly refers to the literalness of its qualification, the corpus samples indicate that the temporal expressions in which the adverb features need not actually foreground exactness but might be about foregrounding (excessive) brevity. In that sense "dosłownie" is not a prototypical device of precision.

As a final remark, somewhat paradoxically, these are not only DoPs but also DoAs that make messages more precise. By coding information on their message's approximative character language users in fact boost that message's precision.

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