

***Between and through* revisited**

Thomas Egan
Hedmark University College

Abstract

This paper examines the concepts of ‘throughness’ and ‘betweenness’ as they are encoded by the English prepositions *through* and *between* and their equivalents in three other languages, Norwegian, German and French. The data consist of translated texts in the *English-Norwegian Parallel Corpus* and the *Oslo Multilingual Corpus*. All tokens of *through* and *between* in English language original texts in the *English-Norwegian Parallel Corpus* are assigned to one of several classes according to the semantic domain of the predication. Examples of such domains are space, perception, time etc. The translations of each token are then categorised as either syntactically congruent or divergent. The congruent tokens are further divided between those employing the Norwegian prepositions *gjennom* and *mellom*, which correspond closely to *through* and *between* in their spatial senses, or alternative prepositions. Statistical tests are employed to show whether there are any significant differences between the various semantic classes in terms of translation equivalents. The results of these tests are used to propose semantic networks for both prepositions. Translations of Norwegian expressions containing the preposition *mellom* into English, French and German are compared to one another, and then contrasted with translations of Norwegian *gjennom*. Finally the results of the present investigation are compared to those of Kennedy (1991).

1. Introduction

The starting point for this paper is onomasiological. The concepts investigated are *throughness* and *betweenness* as they are encoded by the English prepositions *through* and *between* and their equivalents in three other languages, Norwegian, German and French. Both *through* and *between* are of common occurrence in English. According to Kennedy (1991: 95), “*Between* and *through* are among the hundred or so most frequently used words in English. Like most other structural words, they are semantically complex”. Kennedy distinguishes 12 different senses of both prepositions. He asserts that “The analysis of the semantic functions in which *between* and *through* occur in the LOB corpus [...] suggests why these words may be difficult to learn or use. For example, both are associated with movement, time and a variety of other relationships” (Kennedy 1991: 109).

Kennedy’s (1991) study, which constitutes the original visit to the prepositional site revisited in the present paper, was based on data from the LOB corpus. This study is based on data from two corpora, the *English-Norwegian Parallel Corpus* (ENPC) and the *Oslo Multilingual Corpus* (OMC). These are described in section 2, which also contains a justification of the employment of data from translation corpora in the effort to cast light on the structure of polysemous networks. Section 3 examines the semantic network of the preposition/particle *through* as this is reflected in the Norwegian translations of the form in the ENPC. In section 4 I sketch out what I take to be the seven main senses of *between* and compare them to the senses distinguished by Kennedy (1991). Section 5 contains details of the translation equivalents of the various senses of *between* in the ENPC. Section 6 looks at the translations into English, French and German of the Norwegian preposition *mellom*, shown in section 5 to be overwhelmingly favoured by Norwegian translators as the equivalent of English *between*. Finally, section 7 contains a summary of the discussion and a comparison of the results with those of Kennedy (1991).

2. Translation corpora as valuable sources of evidence

Whereas Kennedy (1991) based his analysis of *through* and *between* on the LOB corpus, I base mine on the translation equivalents of the forms found in the ENPC and the OMC (for both of which see Johansson 2007). The former contains a broad selection of both fictional and non-fictional English texts translated into Norwegian and Norwegian texts translated into English. Only the original English texts, some 50 in number, were accessed for this study. For translations from Norwegian into English I consulted the smaller OMC. Unlike the ENPC which contains extracts from a wide variety of texts, the OMC contains long extracts from just five novels. On the other hand all five are translated into three languages, English, French and German, allowing us to compare the interpretations of the most common Norwegian counterparts of both *through* and *between* in these languages.

Various studies have shown that translation corpora can reveal which lexemes or constructions in two or more languages are felt to correspond most closely to one another (see, for example, Dyvik 1998, 2004; Johansson 2007; Noël 2003). Such corpora provide us with access to the intuitive semantic judgments of competent speakers of both languages. Of course translations may display translation effects, the form of the item in translation being influenced by the form of the source item. However, in a study of the various senses of polysemous morphemes, in the present case prepositions, there is no *a priori* reason to expect more translation effects in the case of one sense than the other senses. Moreover, if one sense does show more such effects than the others, this in no way compromises the results of the investigation, based as it is on the enumeration of all sorts of differences between the translated forms of the various senses, irrespective of how these differences are motivated. Translation corpora may also provide evidence of the internal structure of the polysemous network of a single lexeme. In effect, different senses of a lexeme in language A which are usually translated into language B by one and the same lexeme (or construction) may be hypothesised to be more closely related within the semantic network of the lexeme in language A than those translated by different lexemes. Should translations into languages C and D display a similar patterning, this would serve to strengthen the hypothesis. It goes without saying that any such hypothesis grounded on the testimony of translations should be evaluated in the light of other forms of (mono-linguistic) evidence, such as behavioural profiles (see, for example, Gries 2010).

3. Norwegian translations of *through*

There are in all 696 tokens of *through* in the English original texts in the ENPC. [1] All of these tokens were extracted and classified into one of eight main categories. Kennedy (1991) classifies the tokens of *through* which he extracted from the LOB corpus into six main classes, some of which are defined according to the means of progress along a path, such as ‘unimpeded motion’ and ‘penetration of a barrier or obstacle’, while others are defined according to the ontological domain of the state of affairs encoded (‘time’) or the semantics of the predication as a whole (‘causation’). In my analysis I group together predications encoding physical motion in the space domain, irrespective of whether they involve unimpeded motion or penetration and distinguish these from predications involving non-physical domains, which may also encode both these forms of motion. The description of *through* below is briefer than that of *between* in the sections that follow, as I have already dealt with *through* at some length in a previous publication (Egan 2012).

The eight categories employed in the present study are labelled *Motion*, *Perception*, *Time*, *Channel*, *Means*, *Cause*, *Idiom* and *Other*. They are exemplified in turn by in (1)–(8), starting with *Motion*. All tokens are from the *English-Norwegian Parallel Corpus*.

- (1) Motion: In Omaha she found a small apartment and with that as a base she drove **through** the state, city by city. (AH1) [2]
- (2) Perception: Now I could see Harold **through** the kitchen screen, standing in the dark

doorway, grinning. (JSM1)

- (3) Time: Yet **through** the years it had become an intimate part of our relationship. (ABR1)
- (4) Channel: Thus he will say that God speaks to Abraham **through** an angel. (KAR1)
- (5) Means: The Depression, for our family, was a time of careful consolidation of holdings **through** hard work, good luck, smart farming. (JSM1)
- (6) Cause: She later learned that her mother, a young widow, had been forced **through** lack of money to take refuge with her sister, who had married well, and to throw herself on the generosity of her brother-in-law. (AB1)
- (7) Idiom: “Don’t worry, Lavender, you’ll soon catch up,” Miss Honey said, lying **through** her teeth. (RD1)
- (8) ‘Other’: He remembered blundering **through** his life, never knowing or indeed discovering whether his actions were acceptable or whether they were as futile as he believed them to be. (AB1)

(1) encodes actual physical motion, with the trajector traversing the landmark (in the sense of Langacker 1990), although in this case neither entry into the landmark nor exit from it is implied. The motion type accounts for just over 40% of the tokens of *through* in the corpus. In these the landmark traversed by the trajector varies along various dimensions and may or may not be entered and exited. The second most common use of *through* is to encode perception, as in (2). In the world view of a physicist no doubt physical motion is involved in acts of perception, but as it seems unlikely that the passage of light waves is part of the layman’s understanding of the act of viewing, it is preferable to group tokens of perception separately from those encoding motion by the trajector. In tokens like (3) the landmark is temporal, while tokens like (4) contain a landmark which is a channel or medium. The category *Means* (5) includes tokens in which the landmark is an instrument. Similarly, the *Cause* category contains permissives as well as causatives such as (6). Idiomatic expressions containing *through*, like the ‘lie through one’s teeth’ construction in (7), were classified together, irrespective of whether it may have been possible to subsume them semantically under one of the other headings. The reason for classifying them together is the expectation that idioms are more likely to be language specific. The validity of this expectation will, of course, be revealed by the translations. Broad as some of them are, these seven categories cannot accommodate all the tokens in the corpus. It was therefore necessary to establish a category for residual tokens, 52 in number, which I labelled *Other*. Most of these residual tokens involve metaphorical extensions of some sort or another. This category might therefore have been labelled ‘various metaphorical’, instead of ‘other’. However, metaphor and/or metonymy are involved in many of the other senses, so it would be misleading to privilege this category by employing the term ‘metaphorical’ in its label.

Johansson (2007) distinguishes various degrees of convergence between original and translated forms. The main distinction he draws is between forms which are structurally similar, which he labels *congruent*, and forms which exhibit differences in structure, which he labels *divergent*. In the case of prepositions, congruent translations are those which contain a preposition, divergent translations those which employ a different form of construction. In the cases of *through* and *between*, we can further subdivide the congruent translations into those containing *gjennom* and *mellom*, the closest Norwegian correspondents of the two English prepositions, and those containing other prepositions. Figure 1 shows how often each of the eight main senses of *through* is translated by *gjennom*, another preposition or a divergent construction.

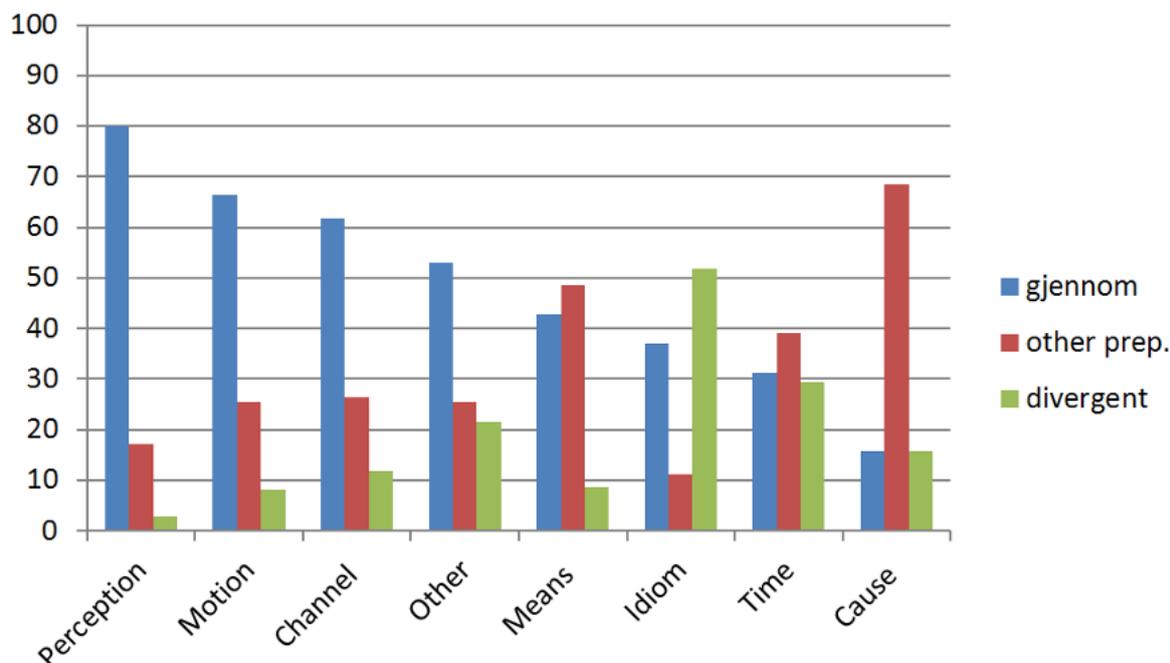


Figure 1. Percentages of the various senses of *through* as translated by *gjennom*, another preposition or a divergent construction

The preposition *gjennom* accounts for more than half of the Norwegian translations of *through*. If one were to ask a Norwegian speaker of English for the Norwegian equivalent of *through*, they would almost certainly reply *gjennom*. The first definition of *gjennom* in *Norsk Ordbok*, the closest Norwegian equivalent to the OED, is: “used about a movement or something perceived as motion which takes place in (within, surrounded by) that which is encoded by the landmark from one end or side all the way to the other, containing the whole landmark from start to finish; (in) from the one side or end and (out) to the other” (Vikør 2002, my translation). This definition is very similar to the standard definitions of *through* in English. For instance, according to Tyler and Evans (2003: 219) “the relation described by *through* describes a spatial relation in which a bounded LM [landmark] is transected by virtue of an entrance point and an exit point.” In the non-technical language employed by Lindstromberg (1998: 31) the central meaning of *through* is said to be “in and out again”. In the same vein the OED’s first definition includes the phrase: “From one end, side, or surface to the other or opposite end, side, or surface of (a body or a space) by passing within it; usually implying into, at one end, side, etc. and out of at the other”. Given the degree of similarity between these definitions of *through* and the cited definition of *gjennom*, it may come as no surprise to find that *gjennom* is used to translate tokens in all eight classes of *through*. (9)–(16) illustrate all eight in descending order of frequency of translation by *gjennom*, as shown in Figure 1. In each case I add the Norwegian translation of the relevant phrase.

(9) Perception: **Through** the steam, they looked at each other. (DL2) ...*gjennom dampen*...

(10) Motion: I fell **through** the gap into the ditch. (RDO1) ...*gjennom hullet*...

(11) Channel: —Irishmen and Irishwomen: In the name of God and of the dead generations from which she receives her old tradition of nationhood, Ireland, **through** us, summons her children to her flag and strikes for her freedom. (RDO1) ...*gjennom oss*...

(12) Other: A great wave of euphoria swept **through** the liberating armies. (MH1) ...*sprede seg gjennom*...

(13) Means: The Depression, for our family, was a time of careful consolidation of holdings **through** hard work, good luck, smart farming. (JSM1) ...*gjennom hardt arbeid*...

(14) Idiom: He trimmed the meat, cubed it, filled a small bag with chopped herbs, told us where to go to buy the best peppers (four green and one red, the contrast in colour being for aesthetic reasons), went **through** the recipe twice to make sure we weren’t going to

commit a *bêtise* and suggested a suitable Côtes du Rhône. (PM1)...*gikk han gjennom*...

(15) Time: Yet **through** the years it had become an intimate part of our relationship. (ABR1)
...*gjennom årenes løp*...

(16) Cause: **Through** Beatrice alone, the race of man excels all that is under the moon, all that is earthly. (HB1) ...*gjennom Beatrice*...

As shown in Figure 1, *gjennom* is used to translate 80% of the perception tokens, as in (9), while the cause sense is the least likely to be translated by *gjennom*, with just 15% of tokens represented by that form. Moreover, not a single token of causation proper is so translated, (16) being an instantiation of the enablement subtype.

There are 187 tokens in which *through* is translated by a preposition other than *gjennom*. By far the most common of these is *i*, the Norwegian equivalent of *in*, which is used for 52 tokens belonging to six of the eight classes, the exceptions being idiom and channel. No other single preposition approaches *i* in frequency as an alternative to *gjennom*. Two prepositions occur 13 times. These are *mellom*, the Norwegian equivalent of *between*, and *over*, the Norwegian equivalent of *across* (we will return to the question of overlap between *between* and *through* in section 7). There is only one other preposition which is represented among the translations by more than 10 tokens. This is *ved*, the Norwegian equivalent of English *by*, which only occurs with the cause and means senses. Other prepositions utilised by translators, with their closest English counterparts, include *til* (to), *fra* (from), *bak* (behind), *forbi* (past), *med* (with), *på* (on), *via* (via) and *under* (under, but also during). Figure 1 shows that it is the cause, means and temporal senses of *through* that are most likely to be translated by a preposition other than *gjennom*.

The third category of translations of *through* distinguished in the present study is by means of a divergent construction. As shown in Figure 1 the ‘idiom’, ‘time’ and ‘other’ senses are the only ones in which more than 20% of the tokens are translated in this fashion. (17)–(19) illustrate divergent translations of these three senses.

(17) Idiom: Oh, I did my bit, suggested she **talk it through** with you, suggested she talk it through with a counsellor, but I might have been pissing in the wind for all the good it did. (MW1) ...*at hun snakket med deg om det*... (= *she talked to you about it*)

(18) Time: I slept **through** the evening, the night, and got up the next afternoon. (BO1) ...*hele kvelden*... (= *all evening*)

(19) Other: In these gloomy surroundings I stumbled **through** my explanation. (CAS1) ...*fikk jegstammende forklart* ... (= *stuttering I managed to explain*)

Although Norwegian does have quite a few multi-word verbs, they are not nearly as common as in English. One option, chosen by the translator of (17), is to employ a verb corresponding to the head of the English multi-word verb. Something inevitably gets lost in the process of translation. In (17) the Norwegian translation does not convey the element of completeness in the English original. If you talk something through you cover the ground in a more comprehensive manner than if you simply talk about it. In the time example, (18), the translator prefers to view the period as a static whole, ‘all evening’. Finally, the translator in (19) has opted to encode the manner of explanation in an adverbial rather than in the verb.

Figure 1 contains percentages for the three translation options of each of the eight senses of *through*, in descending order of preference for the maximally convergent option, *gjennom*. A quick glance at the figure should suffice to conclude that some senses, such as motion and channel, are translated in quite similar fashion, while others, such as perception and cause, differ greatly in this respect. However, before we go on to draw any conclusions on the basis of these differences, we must establish which of them are statistically significant. Table 1 contains details of the chi-square probability values for all 28 combinations of two of the eight senses.

	Motion	Channel	Other	Means	Idiom	Time	Cause
Perception	0.023	0.042	<0.001	<0.001	<0.001	<0.001	<0.001
Motion		0.746	0.011	0.013	<0.001	<0.001	<0.001
Channel			0.497	0.166	<0.001	0.017	<0.001
Other				0.056	<0.001	0.857	<0.001
Means					<0.001	0.643	0.036
Idiom						<0.001	<0.001
Time							0.024

Table 1. Chi-square p-values with 2 degrees of freedom for 3 sorts of translation of 8 subtypes of *through*: values in red are not significant at the level of $p = 0.05$.

Table 1 shows that there are significant differences in mode of translation between the ‘perception’ sense and the other seven senses. The ‘cause’ sense resembles the ‘perception’ sense in having no non-significant counterparts, with ‘means’ and ‘time’ being closest to it. The ‘time’ sense itself is translated in a similar fashion to both ‘other’ and ‘means’, being significantly different to the remaining five others, while the ‘motion’ sense is significantly different to all senses other than channel. Finally, the ‘channel’, ‘other’ and ‘means’ senses all show non-significant differences with three of the other senses. If we were to apply the more stringent criterion for significance of $p=0.01$, however, ‘perception’ would not be significantly different from ‘channel’ and ‘motion’, and ‘cause’ from ‘means’ and ‘time’. ‘Idiom’ would, however, remain significantly different from all other senses.

The statistics in Table 1 represent a network of similarities and differences between the way *throughness* is encoded in English and Norwegian. One may legitimately ask whether the table may be interpreted as telling us something about English in itself (or indeed Norwegian) in addition to informing us about the similarities and differences between the two languages. My hypothesis, and at the present stage of inquiry it remains very much a working hypothesis, is that, when interpreted with care, these sorts of translation data can indeed cast some light on aspects of the polysemy of an item in the source language. As stated in section 2, any conclusions reached on the basis of translation equivalents should be subject to verification using other methods. However, even if the data in Table 1 should prove unsuited to a description of the polysemy of English *through* as such, they may still be of value in a cross-linguistic context, not least when compared with data for other prepositions. In section 5 we will see the extent to which translations of *between* differ from those of *through* sketched in this section. Before doing so, however, we must establish the main senses of *between* in English.

4. The seven main senses of *between*

Kennedy (1991) distinguishes five main senses of *between*. Three of these, *Location*, *Movement* and *Time* are further divided into two main sub-senses and a fourth, termed *Other Relationships*, has five sub-senses. In the present study I distinguish seven main senses, *Location*, *Motion*, *Scale*, *Time*, *Relationship*, *Interaction* and *Comparison*, and one minor sense *Idiom*, which is only instantiated in five tokens. The correspondence between my seven main categories and those of Kennedy (1991) is shown in Table 2.

Present Study	Kennedy (1991)
Location	1. Location (a)
Motion	2. Movement
Scale	1. Location (b)
Time	3. Time
Relationship	4 (a) Bond between entities etc. 5. Dividing or sharing
Interaction	4 (b) Interaction
Comparison	4 (c) Similarity, (d) Difference and (e) Comparison

Table 2. The main senses of *between* as categorised in the present study compare to Kennedy's (1991) classification.

There are 486 tokens of *between* in the English language original texts in the ENPC, as compared to 867 in LOB. The distribution of the tokens across the various semantic types is quite similar, as may be seen in Table 3, in which the totals for Kennedy's categories are converted to those employed in this study.

	ENPC		LOB (Kennedy 1991)	
Location	99	20.4%	216	24.9%
Motion	48	9.9%	38	4.4%
Interaction	96	19.8%	145	16.7%
Relationship	81	16.7%	138	15.9%
Comparison	68	14.0%	189	21.9%
Scale	38	7.8%	57	6.6%
Time	51	10.5%	84	9.6%
Idiom	5	1.0%		
Total	486		867	

Table 3. Number of tokens of various senses of *between* in the ENPC compared to LOB

The (marginally) most common sense of *between* in both LOB and the ENPC is *Location*, illustrated in Figure 2 and exemplified by (20)–(24).

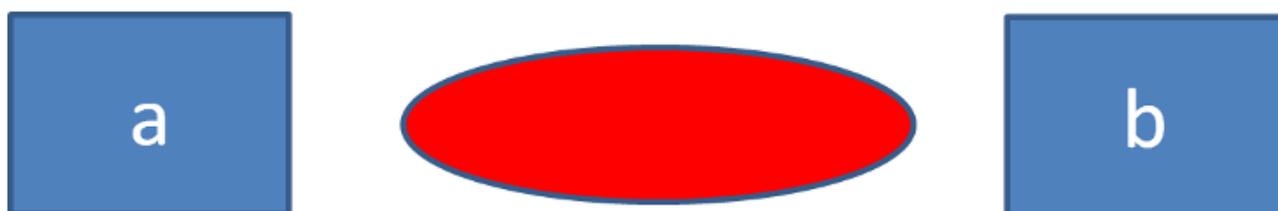


Figure 2. Location: *X* is between *a* and *b* = *x* (the red area in the figure) occupies a point or a circumscribed area along the axis stretching from *a* to *b* (or *b* to *a*).

- (20) Philip sat on the stairs, his head **between** his hands. (ST1)
 (21) **Between** us stood a fat red candle, whose flame was beginning to drown in a pond of wax, and a purple African violet made of plastic. (JB1)
 (22) **Between** him and the graveyard lay a small flat garden. (MM1)
 (23) There were thick bushes and low trees **between** the houses. (BO1)
 (24) They came to him, they expected him to stand **between** them and the principal. (NG1)

The space occupied by the disc in Figure 2 may extend from the circumference of *a* to that of *b*, as is the case in (20), or it may just occupy a small space at some remove from both, as in (21). Sometimes the exact extent of the space is underspecified, as in (22) in which there is no way of telling whether the garden in question occupies the whole area between *a* and *b*. Sometimes the space contains multiple points (or, alternatively, there may be multiple spaces) as is the case in (23). Finally, some few examples resemble (24) in encoding a metaphorical, rather than a physical, space. As there were only a handful of such examples in the corpus it was not felt necessary to establish a separate category for them, as was the case with the ‘other’ category for *through*.

The *Motion* category, which overlaps completely with Kennedy’s *Movement* category, is illustrated in Figure 3 and exemplified by (25)–(27).

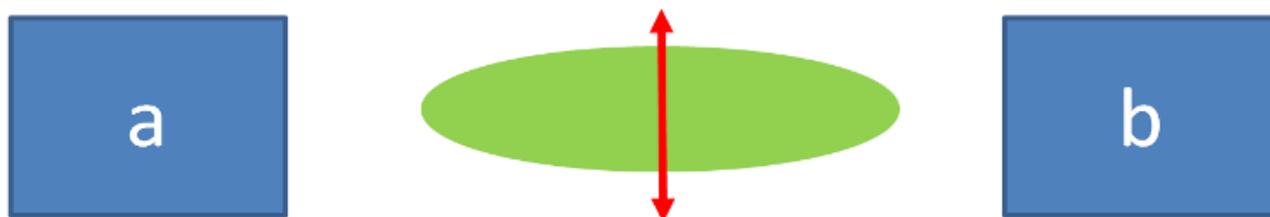


Figure 3. Motion: *X* moves between *a* and *b* = *x* traverses a point or circumscribed area along the axis stretching from *a* to *b*.

- (25) They passed through the gap, **between** stone posts with ogee tops. (RR1)
 (26) Country roads were so bad that a lorry lost at least a tenth of its load travelling from field to farm, and another tenth **between** farm and railhead. (MAW1)
 (27) My mother was talking softly, commenting on something or other Baby must have mentioned, as she went **between** stove and table as a bird flies back and forth with food to drop into the open beaks of her young. (NG1)

Note the direction of the arrow in Figure 3. Although it is possible for the motion along a path encoded by *between* to start at *a* and finish at *b*, as is the case in example (26), most tokens in my material encode movement orthogonal to the *a*–*b* axis. (25) is thus more typical of the construction than (26). Indeed, cases encoding oscillation, i.e. motion from *a* to *b* and back again, as in (27), are actually more common than cases of single direction *a* to *b* motion.

As can be seen in Table 2, Kennedy subsumes tokens encoding a scale or cline under *Location*. I prefer to categorise them separately, and illustrate *Scale* in Figure 4, which differs in one important respect from Figure 2, illustrating *Location*.



Figure 4. Scale: *X* is between *a* and *b* = *x* occupies a point on a scale extending from *a* to *b*.

- (28) Pierrot had told us that the table would weigh **between** six and eight hundred pounds. (PM1)
- (29) Within only a few years **between** one-third and half of the inhabitants of Europe died. (ABR1)
- (30) Michelle Weaver, on her way at the time to work in the travel agency two doors away, described the boy as **between** twenty-two and twenty-five, fair, not very tall, with bad acne. (RR1)

Whereas a location encoded by *between* may be situated along the axis stretching from *a* to *b* or from *b* to *a* – Narbonne may be said to be situated between Montpellier and Perpignan or between Perpignan and Montpellier – scalar *between* always incorporates an element of direction. Thus (28) could not be paraphrased by “between eight and six hundred pounds” nor (29) by “between a half and one-third”. Nor could someone be described as being between twenty-five and twenty-two years of age. Scalar *between* shares this sort of directionality with temporal *between*, which is illustrated in Figure 5 and exemplified by (31)–(34).



Figure 5. Time: *X* is between *a* and *b* = *x* occurs at a point or during a period within the whole period stretching from *a* and *b*.

- (31) The coroner estimates he went into the water sometime **between** midnight and five A.M.. (SG1)
- (32) Jim Rawlings spent the hour **between** nine and ten that night sitting in another, smaller rented car outside Fontenoy House. (FF1)
- (33) All four of his grandparents were immigrants, among the 1.5 million Germans who journeyed to the United States **between** 1840 and 1860 in flight from famine, religious and political persecution, and the draft. (RF1)
- (34) **Between** calls he glanced at the pile of personal stuff he had brought down from his old office two floors above. (FF1)

The time span encoded in (31) cannot be understood as the 19 hours stretching from midnight to the previous 5 a.m. Nor could the periods in (32) and (33) be encoded as ‘between ten and nine that night’ or ‘between 1860 and 1840’. Similarly the period from one call to another in (34) must refer to the time between a particular call and subsequent calls, not between a call and previous ones.

Directionality is also involved in the *Relationship* sense of *between*, more specifically bidirectionality, as illustrated in Figure 6 and exemplified by (35)–(38).



Figure 6. Relationship: X is between a and $b = x$ affects both a and b (equally).

- (35) Thoughts a man should not think about his superior officer, even if there was no personal empathy **between** them. (FF1)
 (36) They joked about the attraction **between** opposites. (DL1)
 (37) “With these words”, he wrote, “it was as if an iron curtain fell **between** us.” (RF1)

In the relationship sense of *between*, the two participants a and b are both (usually) human. Semantically they are normally Experiencers. The arrow in Figure 6 is double-headed as the construction encodes an experience that is mutual. Thus in (35) and (36) empathy and attraction are feelings experienced by both the people in question. The negative state of estrangement, encoded by ‘an iron curtain’ in (37), is similarly mutual to the participants.

Unlike the Experiencers in the relationship sense, the participants in the *Interaction* sense, illustrated in Figure 7 and exemplified by (38)–(41), are Agentive.



Figure 7. Interaction: X is between a and $b = a$ acts with/against b in respect of x and vice versa.

- (38) There were frequent clashes **between** the various ethnic groups, usually over jobs. (RF1)
 (39) With deadly regularity, my July visits would end with a terrible argument **between** my father and my grandmother. (TH1)
 (40) Okay, okay, intercourse took place **between** her and Arthur and very nice too. (FW1)
 (41) In the book of Joshua we find what may be an early text of the celebration of this covenant **between** Israel and its God. (KAR1)

The two arrows in Figure 7 illustrate the reciprocal nature of the actions of a and b in situations encoded by the ‘interaction’ sense of *between*. In (38) the groups clash one with another and in (39) both parties to the argument are active and both direct their arguments towards the other party. In both cases the form of interaction is encoded by the trajector and the participants by the landmark. Similarly in (40) and (41) the participants are reciprocally active in sex and negotiation respectively.

The seventh and last of the major senses of *between* is the *Comparison* sense, which subsumes tokens encoding choice, similarity and difference. It is illustrated in Figure 8 and exemplified by (42)–(45).

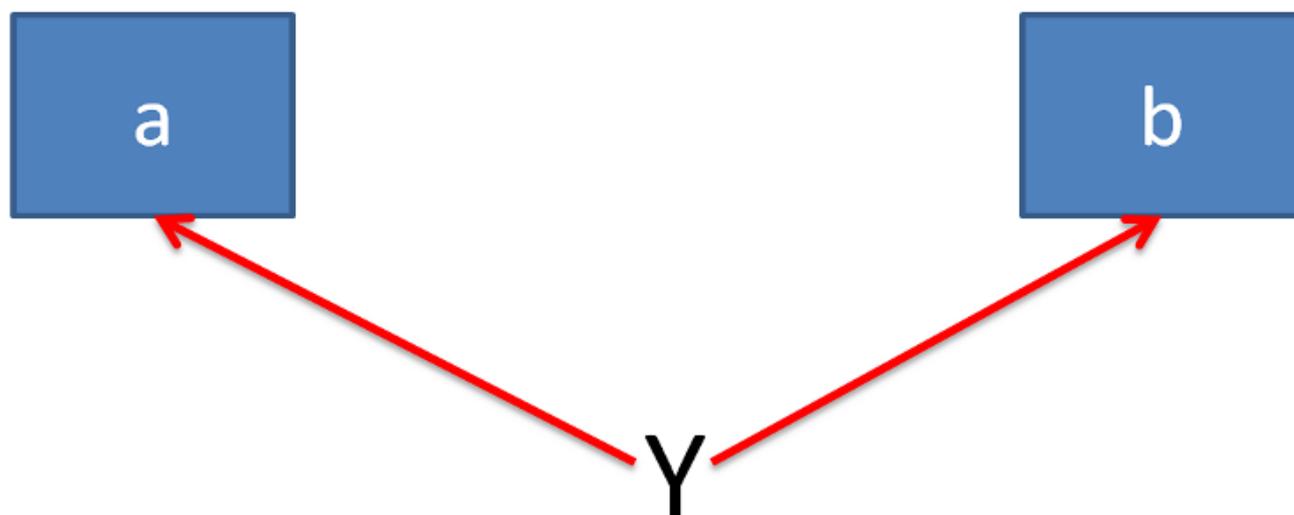


Figure 8: Comparison: X is between a and b = a and b are compared by (an explicit or implicit) y with x, which is not illustrated in the figure, as the result of the comparison.

- (42) Aristotle could see similarities also **between** the Holland of the Dutch Republic in which he discovered himself being resurrected on canvas and the ancient Athens that had existed before his birth and about which he had heard and read and written. (JH1)
- (43) If it was important for an individual animal to be able to distinguish **between** other zebras, evolution would have led the three patterns away from one another to a greater degree. (DM1)
- (44) There isn't any distinction **between** work and play. (JSM1)
- (45) This sort of back-of-envelope calculation leads to a Comparison: choice **between** two conclusions. (LTLT1)

The 'comparison' sense differs from the other senses in that it presupposes the presence of a source of comparison, represented by *y* in Figure 8, who is not actually encoded in the *between* construction, although it may well be present in the co-text, as *Aristotle* is in (42) and the generic animal is in (43). In this construction the trajector is the conclusion reached by *y*, who may be either explicit or implicit, while the landmark encodes the objects of comparison. Thus in (42) Holland and Athens are compared by Aristotle, who reaches the conclusion that they are similar in some ways. And in (43) 'other zebras' are compared by the individual animal who is able, in the hypothetical space of the *if* clause, to detect differences between them. (44) is similar to (43) in that differences may be, or in this case not be, detected, but the distinguisher is not explicitly encoded in the co-text. In (45), too, the comparer is implicit. Moreover in (45) the comparer not only arrives at a conclusion with respect to some qualities of *a* and *b* but is expected to act upon this conclusion.

Figures 3–9 illustrate the seven main senses of *between*. There remain 5 tokens which display a greater or lesser degree of idiomaticity. (46)–(48) are three of them.

- (46) He made a living of sorts by designing book jackets, but the commissions were few and far **between** because he rarely met deadlines. (MW1)
- (47) But where do you draw the line **between** profession and friendship? (MW1)
- (48) **Between** moving so often and no real training, my father had always done whatever he could find, taking dead-end jobs that were easy to get and easy to leave. (TH1)

It might be possible to argue that (46) should be classified with the time tokens as the sense of 'at sporadic intervals' encoded by *few and far between* belongs to the temporal semantic field. On the other hand, there is no connotation in the idiomatic expression of the element of direction (from

earlier to later) which we saw to be typical of time *between*. One could make a better case for subsuming *draw the line between* in (47) under the comparison sense. The decision not to do so is motivated by the desire to be consistent in the treatment of idioms. Unlike the first two examples (48) does not lend itself to inclusion in any of our seven classes. It is completely idiomatic and may be most appositely paraphrased by the equally idiomatic *what with* construction.

5. Translations of *between* into Norwegian

Having described the seven major (and one minor) senses of *between*, we now turn to their translation equivalents in Norwegian. Just as in the case of *through*, there are both congruent and divergent translations in the ENPC, with one preposition, (*i*)*mellom* (cognate with English *middle*) standing out in terms of frequency. It is used to translate all seven main senses of *between*, as may be seen in Figure 9 and examples (49)–(55), listed in the order they appear in the figure.

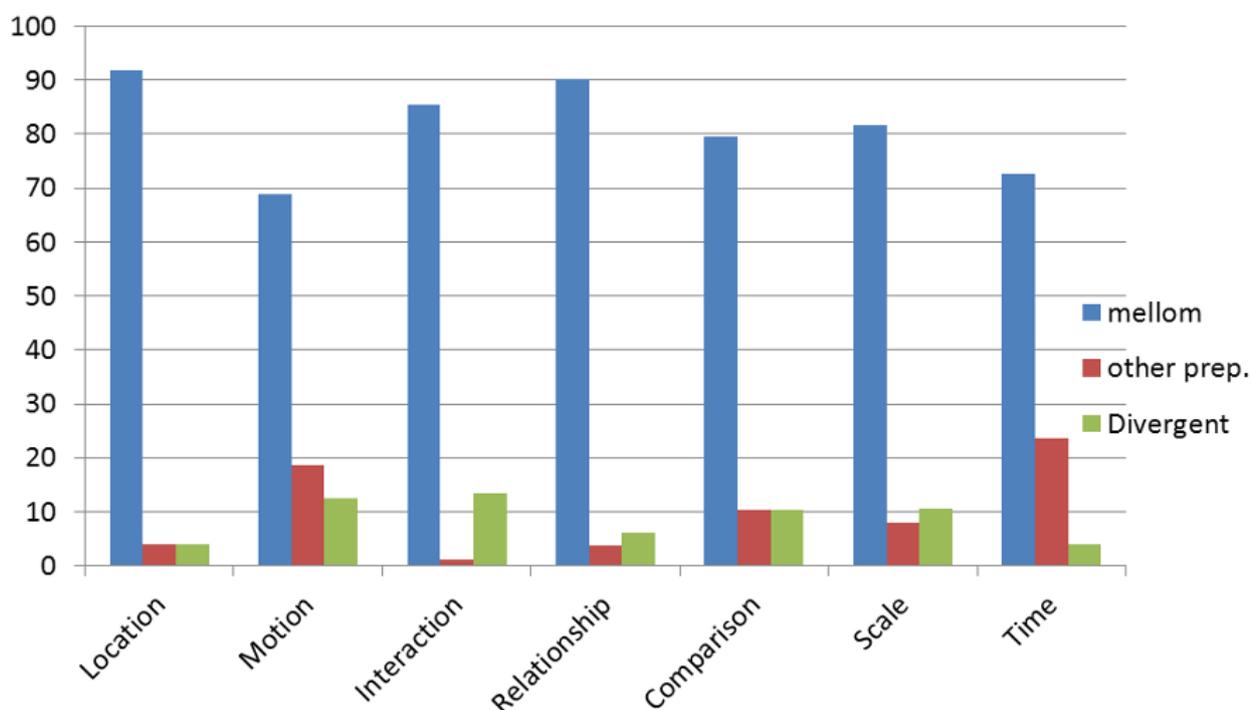


Figure 9. Percentages of tokens of *between* in ENPC translated by *mellom*, another preposition or a divergent construction.

- (49) Location: In the great dark **between** the stars there are clouds of gas and dust and organic matter. (CSA1) ... *mellom stjernene*...
- (50) Motion: Their body limbs are reduced to spines to allow them to slip in **between** the grains of sand. (ML1) ... *mellom sandkornene*...
- (51) Interaction: They exclude Homer's gods, and the Homeric strife **between** gods and men. (HB1) ... *mellom guder og mennesker*...
- (52) Relationship: The affair also opened up a gap **between** Henry and his friends. (RF1) ... *mellom Henry og hans venner*...
- (53) Comparison: What he interprets instead is a new opposition **between** inwardness and outwardness. (HB1) ... *mellom en indre og en ytre sammenheng*...
- (54) Scale: **Between** 70 and 80 per cent of the aid to other nations is tied to the purchase of British products. (LTLT1) ... *Mellom 70 og 80 prosent*...
- (55) Time: Platypuses mate in the water, sometime **between** August and November. (ML1) ... *mellom august og november*...

We saw in section 3 that there are 187 tokens in which *through* is translated by a preposition other than *gjennom*. The corresponding figure for *between* is only 39. Seventeen of the tokens with an alternative preposition take the form *fra ... til* (= from ... to). The *from ... to* equivalent occurs in translations of six of the seven senses of *between*, the exception being the ‘interaction’ sense, perhaps because of the dual directionality connoted by this sense. The second most common form is *i* (=in) with ten occurrences divided between the five senses other than ‘time’ and ‘relationship’. There are four occurrences of *på* (=on), one each encoding ‘comparison’, ‘motion’, ‘scale’ and ‘time’. There are two instances of *av* (=of), in both of which “discrimination between x and y” is rendered “discrimination of x and y”. There are four tokens where the translator focuses on just one of the two poles, *a* or *b*. One of these contains the preposition *fra* (= from) without *til*, and one *til* (=to), without *fra*. The other two contain the prepositions *foran* (=in front of) and *ved siden av* (=beside). Finally there are two instances of *under* (=under), in both of which the landmark is ‘sheets’.

Just as there are fewer alternative prepositions utilised by translators for *between* than *through*, there are also fewer divergent constructions. Moreover, not only are there fewer tokens of *between* translated by prepositions other than the most common equivalent than is the case with *through*, but there are also fewer preposition types utilised by the translators. In addition, all of the prepositions that are used more than twice are used for multiple senses of *between*, reinforcing the impression conveyed by Figure 9, that there is more agreement among translators with respect to the semantic overlap of the various senses of *between* than in the case of *through*. One might therefore expect that there would be fewer non-significant differences between the translation equivalents of the various senses than was the case with *through*, presented in Table 1. This is indeed the case, as may be seen in Table 4.

	Motion	Interaction	Relationship	Comparison	Scale	Time
Location	0.001	0.030	0.805	0.064	0.212	0.001
Motion		<0.001	0.005	0.367	0.312	0.277
Interaction			0.147	0.023	0.104	<0.001
Relationship				0.160	0.414	0.002
Comparison					0.921	0.085
Scale						0.091

Table 4. Chi-square p-values with 2 degrees of freedom for 3 sorts of translation of 7 subtypes of *between*: values in red are not significant at the level of $p = 0.05$.

If we compare Table 4 to Table 1, we may note first of all that there are far fewer significant differences in the translation equivalent patterns of the various senses of *between* than of *through*. *Betweenness* thus seems to be a ‘tighter’ concept cross-linguistically, at least with respect to these two languages, than *throughness*. One may also remark that the central place in the polysemous network, in the sense of the meaning whose translations have most in common with the other meanings, is not the most common sense (location) but rather the scale sense. In the next section we will investigate how encodings of *betweenness* in Norwegian are reflected in translations into English, French and German.

6. *Mellom* in the Oslo Multilingual Corpus

We saw in the previous section that the Norwegian preposition *mellom* is by far the most popular translation equivalent of *between*. We also saw that it could be used to translate all seven main senses of *between*. It also occurs in all these seven senses, as well as in idiomatic expressions, in

Norwegian original texts, as may be seen in Table 5, which contains details of the distribution of *mellom* across all eight senses of betweenness with comparable details for *between*.

	<i>Mellom</i> in OMC		<i>Between</i> in ENPC	
Location	143	33.8%	99	20.4%
Motion	96	22.7%	48	9.9%
Interaction	53	12.5%	96	19.8%
Relationship	53	12.5%	81	16.7%
Comparison	36	8.5%	68	14.0%
Time	22	5.2%	51	10.5%
Idiom	15	3.5%	5	1.0%
Scale	5	1.2%	38	7.8%
Total	423		481	

Table 5. Number of tokens of senses of *mellom* in OMC compared to *between* in ENPC

Mellom is cognate with English *middle*, and is most commonly translated into English by *between* (73.3%), into German by *zwischen* (77.8%) and into French by *entre* (68.6%). Of the eight senses of *mellom* listed in Table 5, no further mention will be made of the scalar sense, as it is only evidenced by five tokens. The other seven senses will be discussed in turn, starting with the 'location' sense, exemplified by (56a-d).

- (56a) Noen sprang til brønnen som lå **mellom** fjøset og husklyngen rundt hovedgården. (HW2)
 (56b) Some men ran to the well **between** the barn and the main courtyard.
 (56c) Certains étaient allés chercher l'eau au puits qui se trouvait **entre** l'étable et la ferme.
 (56d) Einige liefen zum Brunnen, der sich **zwischen** dem Stall und der Häusergruppe beim Hauptgebäude befand.

The translations in (56b-d) are typical of the strategies adopted by translators into all three languages in that they contain in each case the standard translation equivalent of *mellom*. Figure 10 shows that more than 70% of the English and French translations contain *between* and *entre* and over 80% of the German translations *zwischen*.

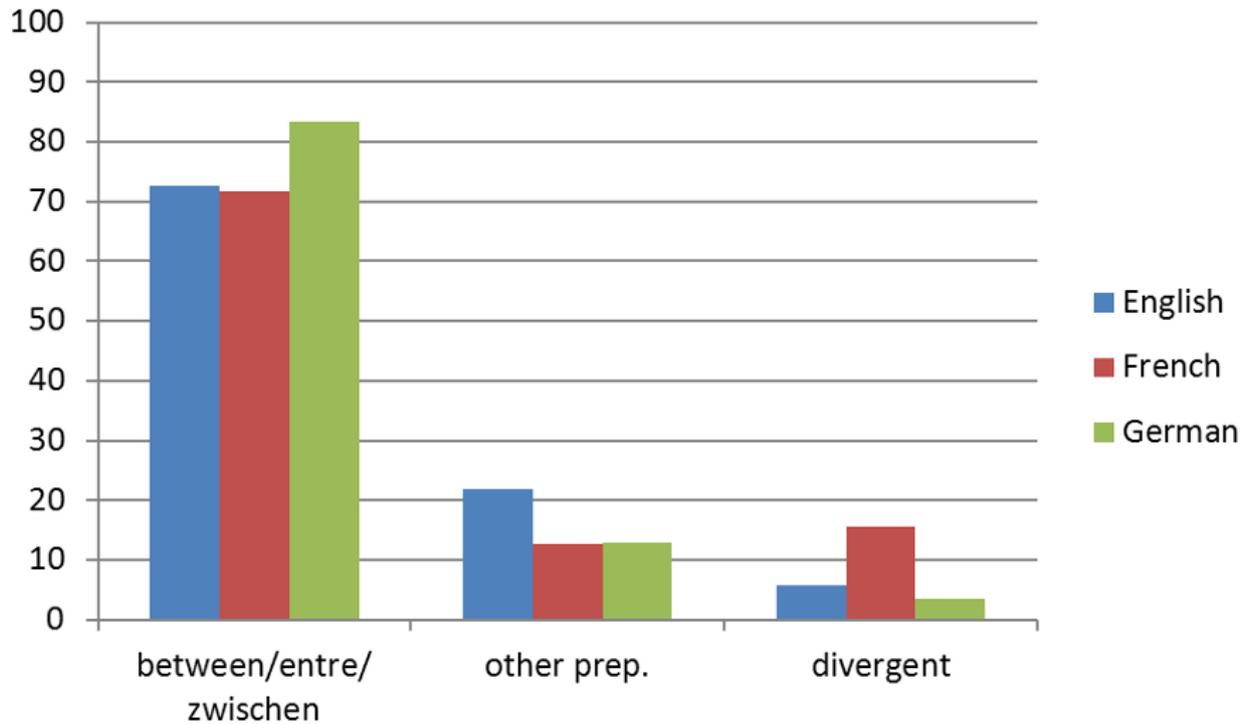


Figure 10. Percentages of the *Location* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

It is only the English translations in which over 20% of the total number of tokens contain another preposition. In 23 of 31 instances the preposition in question is *among(st)*, as in (57), which is typical of these tokens in that the landmark is a plural countable.

- (57) Vi sto en stund **mellom** bøkene i den rare stillheten. (NF1)
 We stood for a while longer **among** the books in that strange stillness.

When the landmark may be more appropriately illustrated as $a + b + c + \dots$ than just $a + b$, as in Figures 3–9, *betweenness* is often expressed in English by *among*. Interestingly the French translator of (57) renders the locational predication as *au milieu des livres*. There are four other tokens of *au milieu de* translating tokens of *mellom* which are translated into English by *among*, but most of the latter are simply translated into French by *entre*.

The ‘motion’ sense of *mellom* may also be translated into all three languages by *between/entre/zwischen*, as illustrated in (58a–d), but there is greater variation both within each of the three languages and between them than is the case with the ‘location’ sense, as may be seen in Figure 11.

- (58a) Så seilte de i langsom kino **mellom** kokospalmene på vei til hytten sin. (JG3)
 (58b) Then, as if in slow motion, they sailed **between** the coconut palms on course for their hut.
 (58c) Puis, comme au ralenti, ils naviguèrent **entre** les cocotiers jusqu’à leur bungalow.
 (58d) Dann gingen sie langsam **zwischen** den Kokospalmen hindurch zu ihrer Hütte.

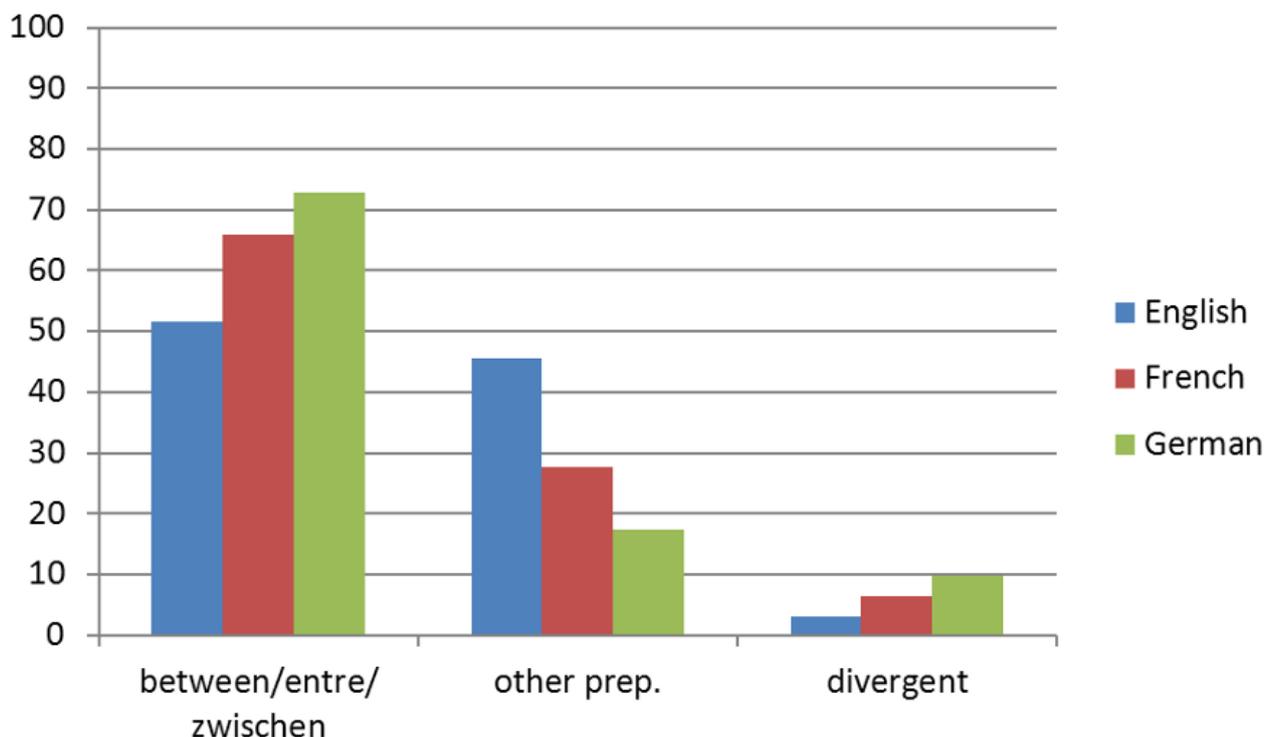


Figure 11. Percentages of the *Motion* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

In all three languages a greater number of tokens are translated using another preposition than is the case with the tokens encoding location. Moreover, in all three languages a variety of alternative prepositions are employed by translators, 11 in French and 10 in both English and German. The most common preposition in English is again *among*, used with plural countable landmarks, and in French it is *au milieu de*, in the same sort of context. In German the most common preposition other than *zwischen* is *durch*, the standard translation of *through*. It is used to translate five tokens of *mellom*. The ‘motion’ sense of *between* is the only one of the eight senses to be so translated. Similarly, in English, *through* is the second most common alternative preposition, represented by nine tokens, and again it only occurs as a translation of the ‘motion’ sense. In French, *à travers* is the third most common alternative preposition, after *au milieu de* and *parmi*. Four of the five tokens of *à travers* occur with the ‘motion’ sense, the fifth occurring with the ‘location’ sense. If we combine the figures for the standard *through* equivalents, we see that 18 of 19 instances are found in translations of tokens encoding motion.

Why should the standard equivalents of *through* be used to translate the ‘motion’ sense, and only the ‘motion’ sense, of *mellom*? The answer lies in the direction of motion typically encoded by the construction, as illustrated in Figure 3, i.e. as perpendicular to the *a-b* axis. The trajector enters the space between *a* and *b*, traverses that space and exits from it, thus realising the prototypical *entry-traversal-exit* trajectory of *throughness*. In cases like this we find the sort of overlap between the notions of *betweenness* and *throughness* that prompts Kennedy’s (1991) assertion that the English prepositions may be difficult for the foreign learner to acquire. An indication of the degree of semantic overlap may be gleaned from the fact that the three *throughness* prepositions are in no case used to translate one and the same instance of *mellom*, although we do find instances of two of them being so used, as in (59 a-d) and (60 a-d).

(59a) Det var alltid Tomas som måtte hente en stige og klatre inn **mellom** de lyse kappegardinene for å få opp døren. (HW2)

(59b) It was always Tomas who had to fetch a ladder and climb **through** the pale, valanced curtains to open the door.

(59c) C’était toujours Tomas qui, ensuite, devait aller chercher une échelle et se faufiler à

travers les légers rideaux à volants pour aller ouvrir la porte.

(59d) Immer mußte Tomas eine Leiter holen und **zwischen** den Rüschengardinen in das Zimmer klettern und die Tür aufschließen.

(60a) Forsiktig åpnet han øynene, og lot dagslyset sive inn **mellom** øyelokkene. (NF1)

(60b) He opened his eyes cautiously, letting the daylight filter **through** his lashes.

(60c) Il osait à peine entrouvrir les yeux, laissant la lumière du jour filtrer **sous** ses paupières.

(60d) Vorsichtig öffnete er die Augen und ließ das Tageslicht **durch** die Augenlider sickern.

In both (59) and (60) the translator is faced with the task of rendering a token in which *betweenness* overlaps with *throughness*. In both cases the trajector, *Tomas* in (59) and the light in (60), traverses a space orthogonal to the landmark(s). To spell out the path traversed by the trajector, in (59) *Tomas* does not climb from one curtain to another, while in (60) the light does not move from one eyelid to the other! Faced with the choice of emphasizing the parallel location of the landmarks, or the path along which the trajector moves, the translators choose different options. Both English translators choose to emphasise the *throughness*, as does one of their French and one of their German counterparts. One German translator opts to emphasise *betweenness* while one French translator opts for *beneathness*.

Whereas translators into all three languages employ a variety of prepositions in their translation of 'motion' *mellom*, only one alternative preposition (*among*) is employed by English translators of the 'interaction' sense, one alternative preposition (*zu*) by German translators and none at all by French translators. In all three languages the standard preposition, as exemplified by (61a-d), is the preferred form, as may be seen in Figure 12.

(61a) Lensmannen ble trett av all kivingen **mellom** datteren og hustruen. (HW2)

(61b) The sheriff grew weary of the quarrels **between** his wife and daughter.

(61c) Le commissaire en avait assez de toutes ces querelles **entre** sa fille et sa femme.

(61d) Der Lehnsmann war müde von all dem Streit **zwischen** der Tochter und der Frau des Hauses.

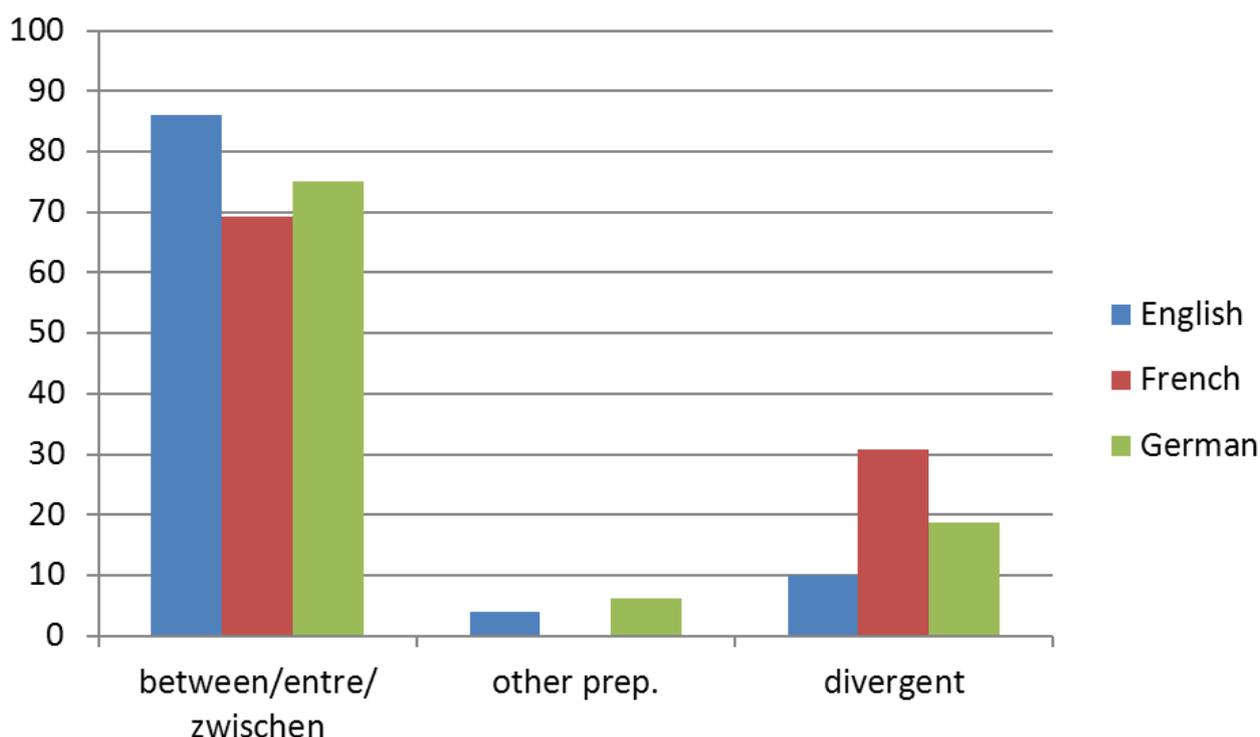


Figure 12. Percentages of the *Interaction* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

As shown by Figure 12, some 30% of the French translations contain divergent constructions. (62c) may serve as an illustration of these. The English translation in (62b) is also divergent in form, while the German employs the standard *zwischen*. Although all three languages contain divergent translations, there is no instance in which one and the same token is realised by divergent constructions in all three languages.

- (62a) I perioder denne første tiden ble de intime avstandsmeddelelsene **mellom** oss så intense at det var som om vi kunne oppnå klimaks hos hverandre telepatisk. (KF1)
- (62b) Our intimate long-distance communications in those early days would become so intense at times that we seemed able to give each other orgasms telepathically.
- (62c) Pendant cette première période, il nous arrivait même d'échanger de loin des messages intimes d'une telle intensité que nous avons l'impression d'atteindre à un orgasme télépathique.
- (62d) In der ersten Zeit waren diese intimen Mitteilungen **zwischen** uns manchmal so intensiv, daß man meinen konnte, wir erreichten auf telepathischem Weg die Klimax.

The tendency to avoid alternative prepositions to encode the 'interaction' sense of *mellom* is shared by translators of the 'relationship' sense, illustrated by (63a-d).

- (63a) Visste hun noe om hvordan forholdet var **mellom** pastor Hov og hans avdøde søster? (BHH1)
- (63b) Did she know anything about the sort of relationship there was **between** Pastor Hov and his departed sister?
- (63c) La bonne pouvait-elle apporter quelques précisions sur les rapports qui existaient **entre** le pasteur Hov et sa défunte soeur?
- (63d) Ob sie etwas über die Beziehung **zwischen** Pastor Hov und dessen verstorbener Schwester wisse?

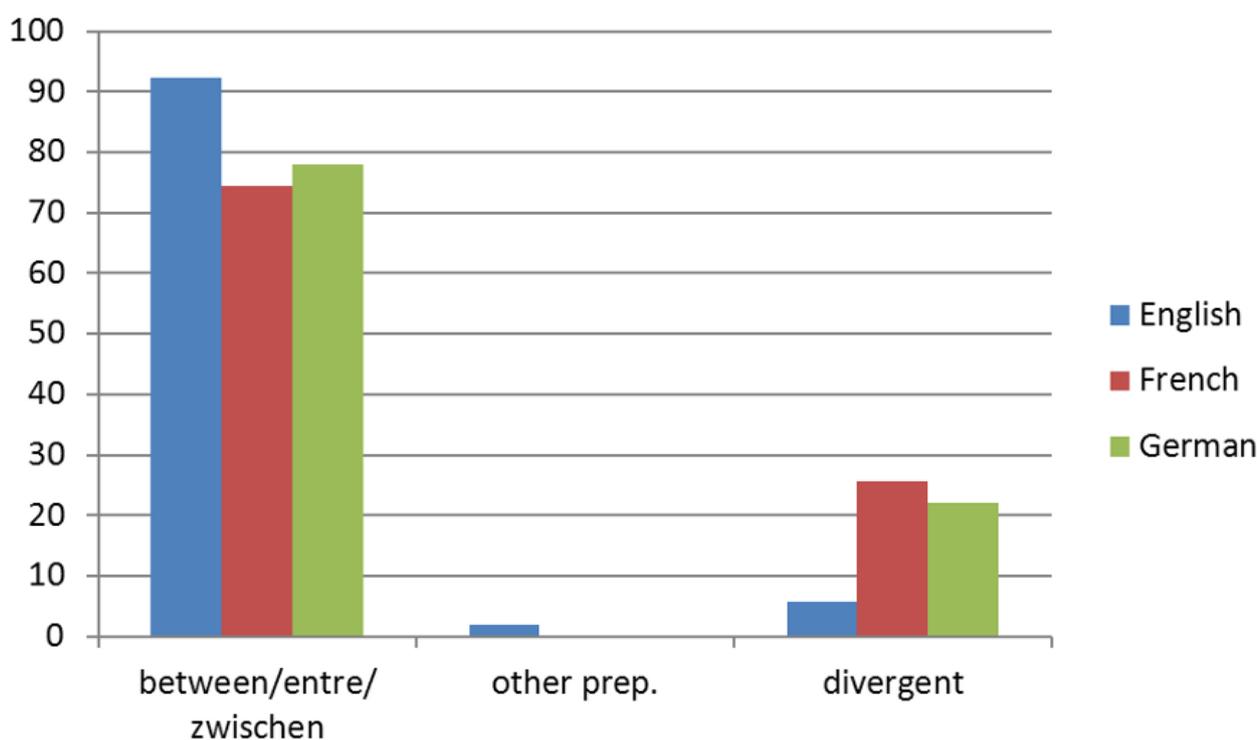


Figure 13. Percentages of the *Relationship* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

Translators into all three languages overwhelmingly prefer the default preposition to translate the ‘relationship’ sense. There is only one token of another preposition in English and none whatsoever in French or German. Again the English preposition is *among*. Both the French and German translators employ more divergent constructions than the English ones. (64a-d) is one of the few instances in which all three translators make use of divergent forms, in this case possessive pronouns, to encode the landmark of *mellom* in the original Norwegian text.

(64a) Hvis noen er å laste i forholdet **mellom** oss, må det altså bli meg selv. (BHH1)

(64b) So if someone is to blame in our relationship, it must be myself.

(64c) Et donc, s’il faut rendre quelqu’un responsable de la dégradation de nos rapports, ce ne peut être que moi.

(64d) Wenn in unserer Beziehung jemandem Vorwürfe gemacht werden können, dann mir.

‘Comparison’, illustrated by (65a-d) is yet another sense in which translators employ very few alternative prepositions, as may be seen in Figure 14.

(65a) Det finnes bare liten motsetning **mellom** en dyktig tyv og hans omgivelser, når bare spillereglene blir fulgt. (KF1)

(65b) There’s not much difference **between** an able thief and his surroundings, as long as the rules of the game are observed.

(65c) **Entre** un habile voleur et ceux qu’il côtoie, la limite est en fait assez floue dès lors que l’on applique les règles du jeu.

(65d) **Zwischen** einem tüchtigen Dieb und seiner Umgebung besteht kaum ein Unterschied — zumindest wenn die Spielregeln eingehalten werden.

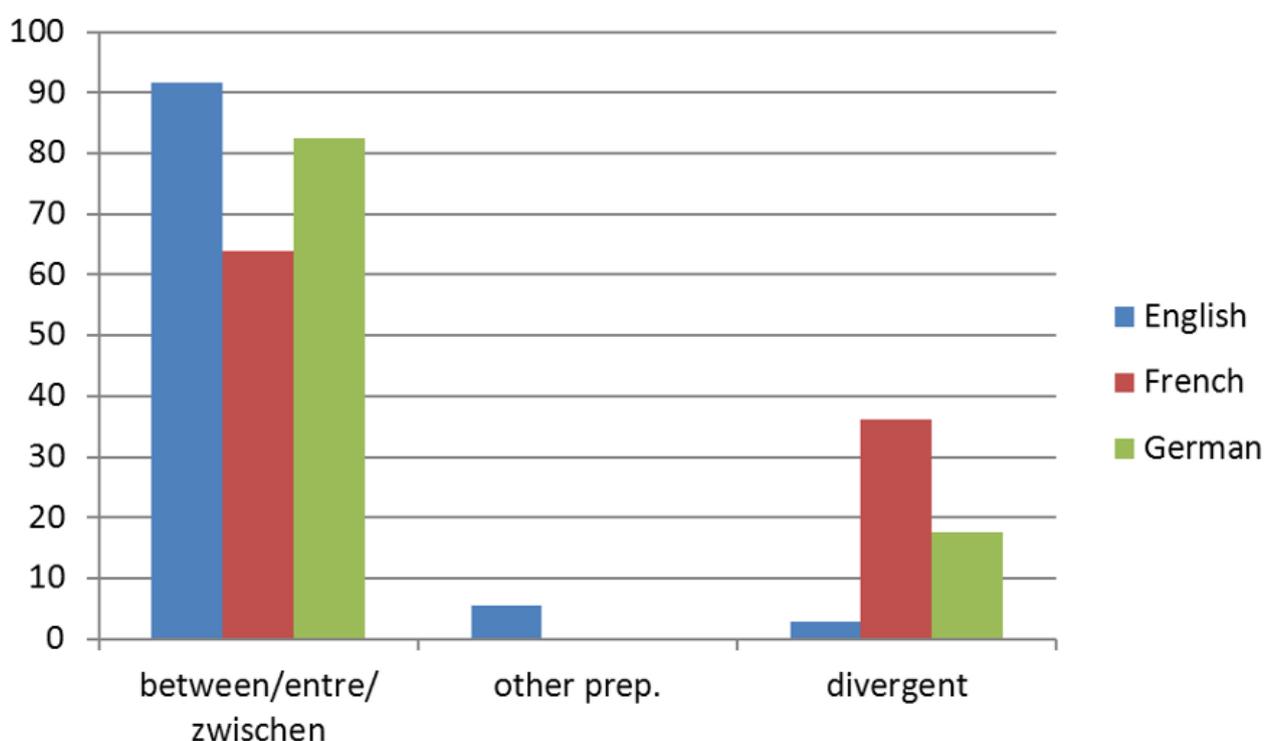


Figure 14. Percentages of the *Comparison* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

Two English tokens are translated using *from*. Both of these encode a choice between plural entities, ‘choose from’ being preferred by the translator to ‘choose between’. Neither the French nor the German texts contain a preposition other than *entre/zwischen*.

When it comes to translating temporal tokens, as in (66a-d), *between*, *entre* and *zwischen* are again the preferred forms, as shown by Figure 15.

- (66a) I kontortiden **mellom** elleve og tolv banket det sakte på døren, ja, så sakte at jeg først trodde det var en kvist som spratt i veggen. (BHH1)
- (66b) During my office hours **between** eleven and twelve there was a gentle knock on the door; so gentle, in fact, that I believed at first that it was a twig hitting the wall.
- (66c) **Entre** onze heures et midi, alors que j’assurais la permanence, on a frappé si doucement à la porte de mon bureau que j’ai d’abord cru entendre un craquement du lambris.
- (66d) In meiner Bürozeit **zwischen** elf und zwölf wurde leise an die Tür geklopft, ja, so leise, daß ich zunächst glaubte, draußen kratze einfach ein Zweig über die Wand.

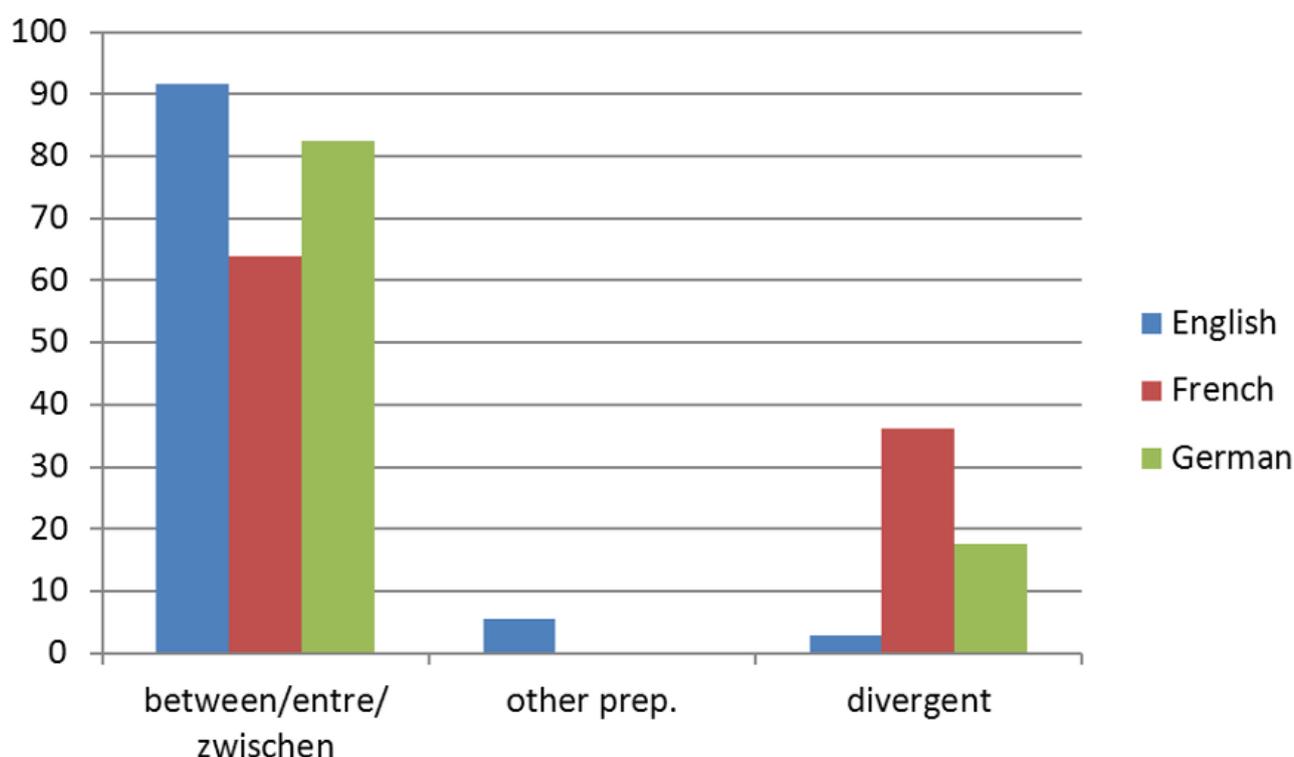


Figure 15. Percentages of the *Time* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

In fact of a total of 16 tokens of ‘time’ *mellom* translated into all three languages, there are nine which are translated by all three default prepositions, as in (66a-d). This is in marked contrast to the 21 translations of time *gjennom*, not a single one of which is translated by *through/à travers/durch*. Indeed, of 630 possible combinations of similar translations of *gjennom* into two of the three languages, the 21 Norwegian originals yield in all 9 pairs, three of *through/durch*, two of *through/in*, two of *during/während* and two of *durant/während*. The point was made above that encodings of *betweenness* in these four languages resemble one another to a greater extent than do encodings of *throughness*. This is nowhere more true than in the case of temporal predications.

The seventh class of *mellom* tokens comprises idiomatic expressions. Between 40% (German) and 60% (English) of these are translated by the default forms, as in (67a-d).

- (67a) Du som alltid har gått dine egne veier og satt deg **mellom** alle mulige stoler. (BHH1)
- (67b) You who have always gone your own way and fallen **between** two stools any number of times.
- (67c) Toi qui as toujours suivi ta route à toi et t' es toujours retrouvé **entre** deux chaises.
- (67d) Der immer seine eigenen Wege gegangen ist und sich **zwischen** sämtliche verfügbaren Stühle gesetzt hat.

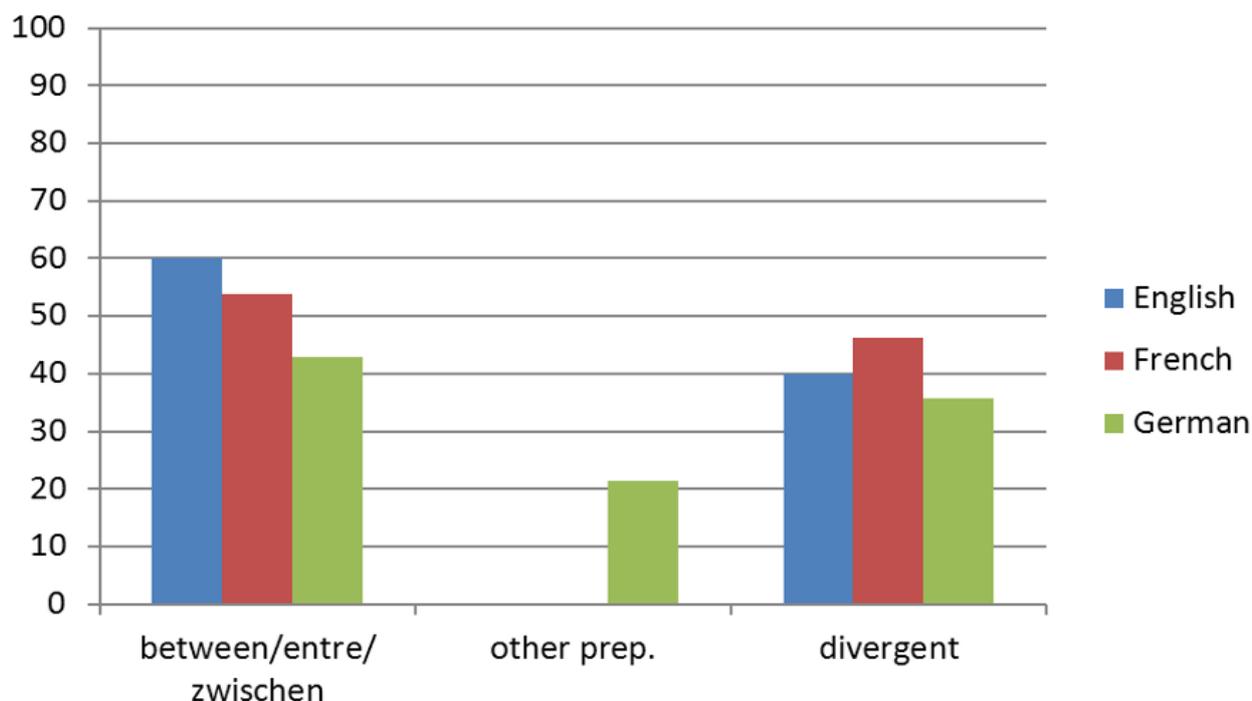


Figure 16. Percentages of the *Idiom* sense of Norwegian *mellom* as translated by *between/entre/zwischen*, another preposition or a divergent construction

It will come as no surprise that the translations of idiomatic tokens feature a greater number of divergent constructions than any of the other senses. On the other hand, one may well be surprised at the extent of overlap between languages. In all four one may fall between several stools, read between lines and experience philosophical shortcomings in relation to things between heaven and earth.

Figures 10–16 show that in all seven of the most common senses of *mellom*, the default translation equivalent is *between/entre/zwischen*. Of 412 tokens of *mellom* in OMC translated into all three languages, there are 186 combinations (45%) of the three standard prepositional translations. This is in marked contrast with *gjennom*, 295 tokens of which are translated into all three languages, yielding just 55 combinations (19%) of *through/à travers/durch*. Again we see that *throughness* is encoded in a much more varied fashion cross-linguistically (at least with respect to the four languages that furnish the data for this paper) than is *betweenness*. The two will be the subject of further comparison in the next and final section.

7. Summary and conclusion

In section 1 I cited Kennedy's assertion that *through* and *between* "may be difficult to learn or use. For example, both are associated with movement, time and a variety of other relationships" (Kennedy 1991: 109). The degree of difficulty they pose to the learner depends on the degree of semantic overlap between them. However, we saw in the previous section that of the 419 tokens of *mellom* in the OMC, only nine are translated by *through*, five by *à travers*, and four by *durch*, these being the standard translation equivalents of Norwegian *gjennom*. Moreover, all of these

tokens are spatial and all but one encode motion. If we turn to the question of how often the standard equivalents of Norwegian *mellom* are used to translate tokens encoded by *gjennom*, we find that of the 321 tokens of *gjennom* in the OMC, none are translated by *between*, none by *zwischen* and just one by *entre*. The data in the ENPC yield similar results. Just 13 of the 690 tokens of *through* are translated by *mellom* (=between). Eight of these encode motion while four are perceptual. In all cases the landmark is a plural countable. (68) is an example of the ‘motion’ sense and (69) of the ‘perception’ sense.

(68) Diana picked her way **through** the women and answered her front door. (ST1) ...*mellom kvinnene*...

(69) The skyline is ever changing, though familiar landmarks like St Paul’s Cathedral, the Bank of England and the Old Bailey are still distinguishable **through** the cranes. (SUG1)*mellom kranene*....

(68) and (69) instantiate the ‘motion’ and ‘perception’ senses of *through* respectively. In each case the landmark is a plural countable. While English can profile each of these landmarks as a mass, Norwegian cannot readily do so. Note that one could employ *between* in English in both (68) and (69) with little change in meaning. Finally we may ask how often *between* in the ENPC is translated by *gjennom*. The answer is that none of the 486 tokens of *between* are so translated.

To sum up, our cross-linguistic data show that there is actually very little semantic overlap between the two concepts of *betweenness* and *throughness*. It therefore seems highly unlikely that they will pose the problems anticipated by Kennedy for the learner, at least for the foreign or second language learner who has already mastered one of the four languages in this paper and is endeavouring to learn another. This is especially true of *between/entre/zwischen/mellom*, given that encodings of *betweenness* are more similar, cross-linguistically, than are encodings of *throughness*. From a pedagogical point of view we may conclude that, of the two English prepositions, *through* is likely to present a greater challenge for ESOL teachers.

The data for this paper have been taken from translation corpora. The analysis of these data has led us to conclusions at variance with those of Kennedy, who was working with a single language corpus. To the extent that the conclusions in the present paper are deemed to be valid, this may be taken as support for the employment of translation corpora in studies of polysemy.

Notes

[1] The total of 696 tokens includes both prepositions and particles. In this paper I use ‘preposition’ as the default term and do not distinguish between the various syntactic realisations of either prepositions or particles. Thus the study includes all cases where the prepositions/particles occur as part of a multi word verb.

[2] ‘AH1’ identifies the text in the ENPC. For details of texts and translators see <http://www.hf.uio.no/ilos/english/services/omc/enpc/>.

Sources

ENPC = *English-Norwegian Parallel Corpus*: <http://www.hf.uio.no/ilos/english/services/omc/enpc/>

OMC = *Oslo Multilingual Corpus*: <http://www.hf.uio.no/ilos/english/services/omc/>

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