Procedure for identifying metaphorical scenes (PIMS): The case of spatial and abstract relations. - Study 2: Testing for Mixed Prepositions in a Brexit Text

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1. Description of methods used for collection/generation of data:

We applied PIMS to the identification of metaphorical constructions that include prepositions in two studies. The experimental designs of the two studies are described in:

Johansson Falck, M. and L. Okonski (2022). Procedure for Identifying Metaphorical Scenes (PIMS): The Case of Spatial and Abstract Relations." *Metaphor and Symbol*, *38*(1), 1-22. https://doi.org/10.1080/10926488.2022.2062243

This post is related to the data discussed in Study 2: Testing for Mixed Prepositions in a Brexit Text.

Study 2: Testing for Mixed Prepositions in a Brexit Text

The second study addresses the validity and reliability of the PIMS procedure as compared to MIPVU (Steen et al., 2010).

2. Methods for processing the data:

We applied PIMS to a data set with a mixture of prepositions previously analysed in applications of the MIPVU procedure (Susan Nacey, Aletta G Dorst, Tina Krennmayr, & Gudrun W Reijnierse, 2019c), and then compared our application of PIMS with the application of MIPVU (available from the Open Science Framework of the volume Metaphor Identification in Multiple Languages: MIPVU Around the World (S. Nacey, A. G. Dorst, T. Krennmayr, & W. G. Reijnierse, 2019a) (S. Nacey, Dorst, Krennmayr, Reijniers, & Steen, 2019b) to the same data.

Datafiles, Study 2:

- The file "Study_2_applications_PIMS_MIPVU_Brexit_summary_coding_220927.xlsx" includes a summary of our applications of PIMS to the Brexit texts (Johansson Falck and Okonski, 2022) and, for the sake of comparison, previous application of MIPVU (available from https://osf.io/vw46k/files/osfstorage) to the same text (Nacey et al. 2019c). In turn, the texts available from https://osf.io/vw46k/files/osfstorage had been taken from Dickie (2016) and Elgot (2016).

- The file "Study_2_applications_PIMS_MIPVU_Brexit_preps_whole_text_220927.xlsx" provides the context of the relations coded and summarized in the file above. Columns B and I, rows 4-898) shows the text by Elgot (2016) and rows (899-1568) the text by Dickie (2016). In these texts, punctuation marks such as full stops (.), commas (,), and per cent (%) have the same meaning as they do in an

English sentence[1]. For the sake of comparison previous application of MIPVU (also available from https://osf.io/vw46k/files/osfstorage) to the same text are also included in this file. (Nacey et al., 2019c). Colum C-G shows the coding in our application of PIMS (Johansson Falck and Okonski, 2022) to the texts, and columns J-BE the coding in the application of MIPVU to the texts Nacey et al. 2019c) available from https://osf.io/vw46k/files/osfstorage).

Although PIMS and MIPVU have been applied to the same texts, the values in the columns where the texts are shown (columns B and I) and those with the PIMSID and MIPVUID (columns A and H) are not identical. This is because punctuation marks and their IDs have been kept in the texts in the application of PIMS (columns B and A) but removed from the original texts in the application of MIPVU (columns H and I). Moreover, there is a typo on row 857 (i.e., *the* instead of *The*) in the text to which MIPVU was applied.

3. Instrument- or software-specific information needed to interpret the data:

We tested our interrater reliability to provide information about the reliability of our application of PIMS to the instances of the prepositions in the text.
For this purpose, the Fleiss kappa measure was calculated using the template for the R code available from the Open Science Framework (available from https://osf.io/vw46k/files/osfstorage) of the volume Metaphor Identification in Multiple Languages: MIPVU Around the World (Nacey et al. 2019c) . The code uses the 'boot' function, a bootstrap for the 'irr' package in R and is available at https://osf.io/vw46k/files/osfstorage .

[1] Because punctuation marks and similar (e.g.,: in row 9, and , in row 21) signs have been removed from the text analyzed in the application of MIPVU, column I (which shows their coding) contains fewer independent elements than the text in column B (620 vs. 632) in which punctuation marks were kept for the sake of clarity.

4. People involved with sample collection, processing, analysis and/or submission:

The application of PIMS to the data was done by Marlene Johansson Falck (M) and Lacey Okonski (L).

We compared our ratings of the prepositions with those discussed in Nacey et al., (2019c) and rated by Susan Nacey (S), Linda Greve (LI) and Marlene Johansson Falck (MA). The latter are also available from https://osf.io/vw46k/files/osfstorage.

5. *DATA-SPECIFIC INFORMATION FOR:*

   [Study_2_applications_PIMS_MIPVU_Brexit_preps_summary_coding_220927.xlsx]

1. Number of variables:

- Sheets 1-2: 3 variables coded by two researchers (M and L)
- Sheets 3-4: 2 variables coded by three researchers (S, LI and MA)
- Sheets 5-6: 5 variables coded by three researchers (S, LI and MA)
- Sheet 7: 1 variable coded by five researchers (M, L, S, LI and MA)

2. Number of cases/rows: 149/sheet

3. Variable List:

- Sheets 1-2

  METM = metaphorical into relation, Researcher M
  METL = metaphorical into relation, Researcher L
  NONMM = nonmetaphorical into relation, Researcher M
  NONML= nonmetaphorical into relation, Researcher L
  AMBM = ambiguous into relation, Researcher M
  AMBL = ambiguous into relation, Researcher L

- Sheet 3

  METS1 = metaphorical instance of prep, Researcher S, round 1
  METLI1= metaphorical instance of prep, Researcher LI, round 1
  METMA1 = metaphorical instance of prep, Researcher MA, round 1
  NONMS1 = nonmetaphorical instance of prep, Researcher S, round 1
  NONMLI1= nonmetaphorical instance of prep, Researcher LI, round 1
  NONMMA1 = nonmetaphorical instance of prep, Researcher MA, round 1

- Sheet 4

  NONMS2 = nonmetaphorical instance of prep, Researcher S, round 2
  NONMLI2 = nonmetaphorical instance of prep, Researcher LI, round 2
  NONMMA2 = nonmetaphorical instance of prep, Researcher MA, round 2

  METS2 = metaphorical instance of prep, Researcher S, round 2
  METLI2 = metaphorical instance of prep, Researcher LI, round 2
  METMA2 = metaphorical instance of prep, Researcher MA, round 2

- Sheet 5

  NONMS1 = nonmetaphorical instance of prep, Researcher S, round 1
  NONMLI1= nonmetaphorical instance of prep, Researcher LI, round 1

NONMMA1 = nonmetaphorical instance of prep, Researcher MA, round 1

indMS1 = instance of prep coded as *indirect metaphor*, Researcher S, round 1
dirMS1 = instance of prep coded as *direct metaphor*, Researcher S, round 1
impMS1 = instance of prep coded as *implicit metaphor*, Researcher S, round 1
WIDLIIS1 = instance of prep coded as *when in doubt leave it in*, Researcher S, round 1

indMLI1 = instance of prep coded as *indirect metaphor*, Researcher LI, round 1
dirMLI1 = instance of prep coded as *direct metaphor*, Researcher LI, round 1
impMLI1 = instance of prep coded as *implicit metaphor*, Researcher S, round 1
WIDLIILI1 = instance of prep coded as *when in doubt leave it in*, Researcher LI, round 1

indMMA1 = instance of prep coded as *indirect metaphor*, Researcher MA, round 1
dirMMA1 = instance of prep coded as *direct metaphor*, Researcher MA, round 1
impMMA1 = instance of prep coded as *implicit metaphor*, Researcher MA, round 1
WIDLIIMA1 = instance of prep coded as *when in doubt leave it in*, Researcher MA, round 1

- Sheet 6. MIPVU 2 all mets (i.e., sheet showing all the different kinds of metaphorical meaning identified in applications of MIPVU; indirect metaphor, direct metaphor, and implicit metaphor).

  NONMS2 = nonmetaphorical instance of prep, Researcher S, round 2
  NONMLI2= nonmetaphorical instance of prep, Researcher LI, round 2
  NONMMA2 = nonmetaphorical instance of prep, Researcher MA, round 2

  indMS2 = instance of prep coded as indirect metaphor, Researcher S, round 2
  dirMS2 = instance of prep coded as direct metaphor, Researcher S, round 2
  impMS2 = instance of prep coded as implicit metaphor, Researcher S, round 2
  WIDLIIS2= instance of prep coded as when in doubt leave it in, Researcher S, round 2

  indMLI2 = instance of prep coded as indirect metaphor, Researcher LI, round 2
  dirMLI2 = instance of prep coded as direct metaphor, Researcher LI, round 2
  impMLI2 = instance of prep coded as implicit metaphor, Researcher S, round 2
  WIDLIILI2 = instance of prep coded as when in doubt leave it in, Researcher LI, round 2

  indMMA2 = instance of prep coded as indirect metaphor, Researcher MA, round 2
  dirMMA2 = instance of prep coded as direct metaphor, Researcher MA, round 2
  impMMA2 = instance of prep coded as implicit metaphor, Researcher MA, round 2
  WIDLIIMA2 = instance of prep coded as when in doubt leave it in, Researcher MA, round 2

- Sheet 7. (dis)agreements PIMS 2 MIPVU2

  METM = metaphorical into relation, Researcher M
  METL = metaphorical into relation, Researcher L
  METS = metaphorical instance of prep, Researcher S
  METLI = metaphorical instance of prep, Researcher LI
  METMA = metaphorical instance of prep, Researcher MA

4. Specialized formats or other abbreviations used:

- Sheets 1-4

  PIMSID = ID number of each preposition in the application of PIMS to the Brexit text
  MIPVUID = ID number of each preposition in the application of MIPVU to the Brexit text

  The prepositions have been given different identification numbers in the applications of PIMS and MIPVU (PIMSID 54 = MIPVUID 49, and PIMSID 59 = MIPVUID 53 etc.)

  PREP = preposition

- Sheet 5

  PREP = preposition
  PIMSID = ID number of each preposition in the application of PIMS to the Brexit text
  MIPVUID = ID number of each preposition in the application of MIPVU to the Brexit text

  The prepositions have been given different identification numbers in the applications of PIMS and MIPVU (PIMSID 54 = MIPVUID 49, and PIMSID 59 = MIPVUID 53 etc.)

  DFMAS1 = Discarded for metaphor analysis, Researcher S, round 1
  extraS1 = extra elements of multiword units, Researcher S, round 1
  MflagS1 = Word flagging that a cross-domain mapping may be at play, Researcher S, round 1

  DFMALI1 = Discarded for metaphor analysis, Researcher LI, round 1
  extraLI1 = extra elements of multiword units, Researcher LI, round 1
  MflagLI1 = Word flagging that a cross-domain mapping may be at play, Researcher LI, round 1

  DFMAMA1 = *Discarded for metaphor analysis*, Researcher MA, round 1
  extraMA1 = *extra elements of multiword units*, Researcher MA, round 1

MflagMA1 = Word flagging that a cross-domain mapping may be at play, Researcher MA, round 1

- Sheet 6

  PIMSID = ID number of each preposition in the application of PIMS to the Brexit text
  MIPVUID = ID number of each preposition in the application of MIPVU to the Brexit text

  The prepositions have been given different identification numbers in the applications of PIMS and MIPVU (PIMSID 54 = MIPVUID 49, and PIMSID 59 = MIPVUID 53 etc.)

  PREP = preposition

  DFMAS2 = Discarded for metaphor analysis, Researcher S, round 2
  extraS2 = extra elements of multiword units, Researcher S, round 2
  MflagS2 = Word flagging that a cross-domain mapping may be at play, Researcher MA, Researcher S, round 2

  DFMALI2 = Discarded for metaphor analysis, Researcher LI, round 2
  extraLI2 = extra elements of multiword units, Researcher LI, round 2
  MflagLI2 = Word flagging that a cross-domain mapping may be at play, Researcher LI, round 2

  DFMAMA2 = Discarded for metaphor analysis, Researcher MA, round 2
  extraMA2 = extra elements of multiword units, Researcher MA, round 2
  MflagMA2 = Word flagging that a cross-domain mapping may be at play, Researcher MA, Researcher MA, round 2

- Sheet 7

  PIMSID = ID number of each preposition in the application of PIMS to the Brexit text
  MIPVUID = ID number of each preposition in the application of MIPVU to the Brexit text

  The prepositions have been given different identification numbers in the applications of PIMS and MIPVU (PIMSID 54 = MIPVUID 49, and PIMSID 59 = MIPVUID 53 etc.)

  PREP = preposition

6. *DATA-SPECIFIC INFORMATION FOR:*

[Study_2_applications_PIMS_MIPVU_Brexit_preps_whole_text_220927.xlsx]

1. Number of variables:

For PIMS: 3 variables were coded by two researchers (M and L)
For MIPVU: 5 variables were coded by three researchers (S, LI and MA)

2. Number of cases/rows: 149 cases (prepositions) (distributed over 1567 rows)

3. Variable List:

METM1 (CODING RESEARCHER M, round 1)
METL1 (CODING RESEARCHER L, round 1)

METM2 (CODING RESEARCHER M, round 2)
METL2 (CODING RESEARCHER L, round 2)

met = metaphorical relation
nonmet = nonmetaphorical relation
amb = ambiguous relation

NotMS1 = nonmetaphorical instance of prep, Researcher S, round 1
indMS1 = instance of prep coded as *indirect metaphor*, Researcher S, round 1
dirMS1 = instance of prep coded as *direct metaphor*, Researcher S, round 1
impMS1 = instance of prep coded as *implicit metaphor*, Researcher S, round 1
WIDLIIS1 = instance of prep coded as *when in doubt leave it in*, Researcher S, round 1

NotMLI1= nonmetaphorical instance of prep, Researcher LI, round 1
indMLI1 = instance of prep coded as *indirect metaphor*, Researcher LI, round 1
dirMLI1 = instance of prep coded as *direct metaphor*, Researcher LI, round 1
impMLI1 = instance of prep coded as *implicit metaphor*, Researcher LI, round 1
WIDLIILI1 = instance of prep coded as *when in doubt leave it in*, Researcher LI, round 1

NotMMA1 = nonmetaphorical instance of prep, Researcher MA, round 1
indMMA1 = instance of prep coded as *indirect metaphor*, Researcher MA, round 1
dirMMA1 = instance of prep coded as *direct metaphor*, Researcher MA, round 1
impMMA1 = instance of prep coded as *implicit metaphor*, Researcher MA, round 1
WIDLIIMA1 = instance of prep coded as *when in doubt leave it in*, Researcher MA, round 1

NotMS2 = nonmetaphorical instance of prep, Researcher S, round 2
indMS2 = instance of prep coded as indirect metaphor, Researcher S, round 2

dirMS2 = instance of prep coded as direct metaphor, Researcher S, round 2
impMS2 = instance of prep coded as implicit metaphor, Researcher S, round 2
WIDLIIS2 = instance of prep coded as when in doubt leave it in, Researcher S, round 2

NotMLI2= nonmetaphorical instance of prep, Researcher LI, round 2
indMLI2 = instance of prep coded as indirect metaphor, Researcher LI, round 2
dirMLI2= instance of prep coded as direct metaphor, Researcher LI, round 2
impMLI2 = instance of prep coded as implicit metaphor, Researcher LI, round 2
WIDLIILI2 = instance of prep coded as when in doubt leave it in, Researcher LI, round 2

NotMMA2 = nonmetaphorical instance of prep, Researcher MA, round 2
indMMA2 = instance of prep coded as indirect metaphor, Researcher MA, round 2
dirMMA2 = instance of prep coded as direct metaphor, Researcher MA, round 2
impMMA2 = instance of prep coded as implicit metaphor, Researcher MA, round 2
WIDLIIMA2 = instance of prep coded as when in doubt leave it in, Researcher MA, round 2

5. Specialized formats or other abbreviations used:

PIMSID = ID number of preposition in the application of PIMS to the Brexit text
MIPVUID = ID number of preposition in the application of MIPVU to the Brexit text

The prepositions have been given different identification numbers in the applications of PIMS and MIPVU (PIMSID 54 = MIPVUID 49, and PIMSID 59 = MIPVUID 53 etc.)
element = word or punctuation in Brexit text

MflagS1 = Word flagging that a cross-domain mapping may be at play, Researcher S, round 1
DFMAS1 = Discarded for metaphor analysis, Researcher S, round 1
extraS1 = extra elements of multiword units, Researcher S, round 1

MflagLI1 = Word flagging that a cross-domain mapping may be at play, Researcher LI, round 1
DFMALI1 = Discarded for metaphor analysis, Researcher LI, round 1
extraLI1 = extra elements of multiword units, Researcher LI, round 1

MflagMA1 = Word flagging that a cross-domain mapping may be at play, Researcher MA, round 1
DFMAMA1 = *Discarded for metaphor analysis*, Researcher MA, round 1
extraMA1 = *extra elements of multiword units*, Researcher MA, round 1

MflagS2 = Word flagging that a cross-domain mapping may be at play, Researcher S, round 2
DFMAS2 = Discarded for metaphor analysis, Researcher S, round 2
extraS2 = extra elements of multiword units, Researcher S, round 2

MflagLI2 = Word flagging that a cross-domain mapping may be at play, Researcher LI, round 2
DFMALI2 = Discarded for metaphor analysis, Researcher LI, round 2
extraLI2 = extra elements of multiword units, Researcher LI, round 2

MflagMA2 = Word flagging that a cross-domain mapping may be at play, Researcher MA, round 2
DFMAMA2 = *Discarded for metaphor analysis*, Researcher MA, round 2
extraMA2 = *extra elements of multiword units*, Researcher MA, round 2

References:

Nacey, S., Dorst, A., G., Krennmayr, T., Reijniers, G. W., & Steen, G. J. (2019b). MIPVU in multiple languages. In S. Nacey, A. G. Dorst, T. Krennmayr, & R. G. W. (Eds.), *Metaphor Identification in Multiple Langauges* (Vol. 22, pp. 1-21). Amsterdam/Philadelphia: John Benjamins Publishing Company.

Nacey, S., Dorst, A. G., Krennmayr, T., & Reijnierse, G. W. (2019c). What the MIPVU protocol doesn't tell you (even though it mostly does). In S. Nacey, Aletta G., T. Krennmayr, & G. W. Reijnierse (Eds.), *Metaphor Identification in Multiple Languages: MIPVU Around the World* (pp. 41-67). Amsterdam: John Benjamins Publishing Company.

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Steen, G. J., Dorst, A. G., Herrmann, J. B., Kaal, A., Krennmayr, T., & Pasma, T. (2010). *A method for linguistic metaphor identification: From MIP to MIPVU* (Vol. 14): John Benjamins Publishing.