

**Gradient Metaphoricity of the Preposition *in*:
A Corpus-based Comparison of Chinese and
British Academic Writing**

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The Significance of the Topic

- the importance of **space** and **prepositions**
- the emergence of **metaphoricity**
- the combination of **Corpus-based approach** and **Cognitive Linguistics**

**Q1: What are the primary and metaphorical senses of the preposition *in*?
How do we define their degrees of metaphoricity in an objective way?**

$$\text{Metaphoricity} = [\text{Quality of Image Schema}] * [\text{\#Scale of LM}].$$



$$\text{Metaphoricity} = [[\text{\#Visibility}] + [\text{\#Path}] + [\text{\#Inclusion}] + [\text{\#Boundary}]] * [\text{\#Scale of LM}]$$

primary sense: “TR is static within a three-dimensional bounded LM”

metaphorical senses

Sense	Value	Degree
Person	12	little metaphoric
Event	9	little metaphoric
Situation	6	slightly metaphoric
Number	6	slightly metaphoric
Content	6	slightly metaphoric
Field	6	slightly metaphoric
Segmentation	3	strong metaphoric
Time	3	strong metaphoric
Manner	3	strong metaphoric
Purpose	0	most metaphoric

Table 1 The value and degree of gradient metaphoricity of the Preposition *in*

**Q2: What are the variables influencing spatial metaphorical usage in academic writing?
What are the collocations of the preposition *in* in Chinese and English Academic
Written English?**

(1) level of education

(2) cultural background

Corpora	CLEC	CMAC	CPAC
Sum of value of metaphoricality	16,242	15,309	12,930
No. of citations	2,006	2,181	1,987
Average value of metaphoricality	8.10	7.02	6.51

Corpora	CAWE	BAWE
Sum of value of metaphoricality	16,212	14,017
No. of citations	2161	1950
Average value of metaphoricality	7.45	7.20

Table 2 The average value of metaphoricality in CLEC-CMAC-CPAC

Table 3 The average value of metaphoricality in CAWE-BAWE

CLEC: Chinese Learner English Corpus
 CMAC: Chinese Master Academic Writing Corpus
 CPAC: Chinese Doctorate Academic Writing Corpus

CAWE: Chinese Academic Written English
 BAWE: British Academic Written English

CAWE		BAWE	
Collexeme(n)	Collostruction strength	Collexeme(n)	Collostruction strength
participate (12)	3.50E-15	succeed (31)	9.13E-27
emerge (5)	8.03E-04	engage (16)	1.23E-08
live (23)	1.93E-03	be interested (21)	4.30E-07
root (12)	8.20E-02	live (22)	5.01E-06
lie (8)	1.02E-02	be involved (18)	8.97E-04
hand (12)	8.88E-01	occur (11)	4.01E-04
result (9)	9.99E-01	fill (6)	2.59E-03
force (7)	3.88E-01	estate (5)	1.94E-03
major (6)	5.07E-01	believe (18)	9.56E-02
step (5)	9.13E-01	bring (4)	2.38E-01

Table 4 Collexemes most strongly attracted to the [**verb+in**] construction in CAWE-BAWE

**Q3: What are the types of errors of the preposition *in* made by Chinese learners?
What are the cultural and philosophical implications?**

	Omissi on	Addition	Wrong usage	Others
Ph.D.	0	0	8	1
M.A.	0	1	15	2
B.A.	0	4	30	6
totals	0	5	53	9

Table 5 The types of errors for each group

	on	at	to	as	with	of	for	from	by	under
Ph. D.	3	4	0	1	0	0	0	0	0	0
M.A.	1	5	6	0	0	2	0	1	0	0
B.A.	10	13	2	0	1	0	1	1	1	1
totals	14	22	8	1	1	2	1	2	1	1

Table 6 The wrongly substitutes for *in*

e.g. Wrong: In every level and step, the translator...

(CPhD13_05.txt)

Right: At every level and step

Wrong: It's pointless to compete with men in this aspect.

(CLEC10.txt)

Right: on this aspect

Cultural and Philosophical Implications

metaphorical senses of <i>in</i>	metaphorical senses of <i>Zai...Li</i>
time	time
purpose	content
number	situation
content	manner
field	person
event	
situation	
segmentation	
manner	
person	

Table 7 Metaphorical senses of *in* and *Zai...Li*

Reference

Grice, H. P. (1989). *Studies in the Way of Words*. Harvard: Harvard University Press.

Gries, S. T. & Divjak, D. (2009g). Behavioral profiles: A corpus-based approach towards cognitive semantic analysis. In Evans, V. & Pourcel, S. S. (eds.) *New directions in cognitive linguistics*, Amsterdam & Philadelphia: John Benjamins, 57-75.

Gries, S. T. & Divjak, D. S. (2012). *Frequency Effects in Language Learning and Processing*. Berlin/New York: Mouton de Gruyter .

Gries, S. T. & Hilpert, M. (2010). Modeling diachronic change in the third person singular: a multifactorial, verb- and author-specific exploratory approach. *English Language and Linguistics*, 14 (3), 293-320.

Gries, S. T. & Hilpert, M. (2012). Variability-based Neighbor Clustering: A Bottom-up Approach to Periodization in Historical Linguistics. In Nevalainen, T., Traugott, E. C. (eds.) *The Oxford Handbook of the History of English*. Oxford: Oxford University Press, 134-144.

Gries, S. T. & Mukherjee, J. (2010). Lexical gravity across varieties of English: an ICE-based study of n-grams in Asian Englishes. *International Journal of Corpus Linguistics*, 15 (4), 520-548.

Gries, S. T. & Stefanowitsch, A. (2004). Extending collocation analysis: A corpus-based perspective on ‘alternations’. *International Journal of Corpus Linguistics*, 9 (1), 97-129.

Gries, S. T. & Stefanowitsch, A. (2006). *Corpora in Cognitive Linguistics: Corpus-based Approaches to Syntax and Lexis*. Berlin: Mouton de Gruyter.

Hill, C. A. (1982). ‘Up/down’, ‘front/back’, ‘left/right’: a Contrastive Study of Hausa and English. In Weissenborn, J., Klein, W. (eds.) *Here and There: Cross-linguistic Studies on Debris and Demonstration*, Amsterdam: John Benjamins, 13-42.

Hilpert, M. & Gries, S. T. (2016). Quantitative Approaches to Diachronic Corpus Linguistics. In Kytö, M., Pahta, P. (eds.) *The Cambridge Handbook of English Historical Linguistics*. Cambridge: Cambridge University Press, 36-53.

Hilpert, M. (2011). Dynamic visualizations of language change: Motion charts on the basis of bivariate and multivariate data from diachronic corpora. *International Journal of Corpus Linguistics*, 16 (4), 435-461.

Hilpert, M. (2013). *Constructional Change in English. Developments in Allomorphy, Word Formation and Syntax*. Cambridge: Cambridge University Press.

Holland, D. & Quinn, N. (1987). *Cultural Models in Language and Thought*. New York: Cambridge University Press.

Holme, R. (2004). *Mind, Metaphor and Language Teaching*. New York: Palgrave Macmillan.

Holme, R. (2009). *Cognitive Linguistics and Language Teaching*. Basingstoke: Palgrave Macmillan.

Hottenroth, P. M. (1991). Präpositionen und Objektkonzepte. In Rauh, G. (eds.) *Approaches to Prepositions*. Tübingen: Narr, 77-107.

Hottenroth, P. M. (1993). Prepositions and Object Concepts: A Contribution to Cognitive Semantics. In Zelinsky-Wibbelt, C. (eds.) *The Semantics of Prepositions*, Berlin & New York: Mouton de Gruyter, 179-220.

Humphreys, G. W. (2016). Feature confirmation in object perception: Feature integration theory 26 years on from the Treisman Bartlett lecture. *The Quarterly Journal of Experimental Psychology*, 69 (10), 1910–1940.

Indurkha, B. & Ojha, A. (2013). An empirical study on the role of perceptual similarity in visual metaphors and creativity. *Metaphor and Symbol*, 28 (4), 233–253.

Indurkha, B. & Ojha, A. (2017). Interpreting visual metaphors: Asymmetry and reversibility. *Poetics Today*, 38 (1), 93–121.

Jackendoff, R. (2011). What is the human language faculty? *Language*, 87 (3), 587-624

Jackendoff, R. S. (1985). *Semantic Structures*. Cambridge, MA: MIT Press.

- Lakoff, G. & Johnson, M. (1980). *Metaphors We Live By*. Chicago & London: The University of Chicago Press.
- Lakoff, G. & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.
- Lakoff, G. & Turner, M. (1989). *More than Cool Reason: A Field Guide to Poetic Metaphor*. Chicago & London: The University of Chicago Press.
- Lakoff, G. (1987). *Women, Fire and Dangerous Things: What Categories Reveal about the Mind*. Chicago: The University of Chicago Press.
- Lakoff, G. (1993). The Contemporary Theory of Metaphor. In Ortony, A. (eds.) *Metaphor and Thought*, Cambridge: Cambridge University Press, 202-251.
- Lamb, S. M. (1999). *Pathways of the Brain: The neurocognitive Basis of Language*. Amsterdam: John Benjamins.
- Lan, C. (1999). *A Cognitive Approach to Spatial Metaphor in Chinese*. Beijing: Foreign Language Teaching and Research Press.
- Lan, C. (2005). *Cognitive Linguistics and the Study of Metaphor*. Beijing: Foreign Language Teaching and Research Press.
- Lan, C. (2003). *A Cognitive Approach to Spatial Metaphor in English and Chinese*. Beijing: Foreign Language Teaching and Research Press.
- Talmy, L. (1983). How Language Structures Space. In Pick, H. & Acredolo, L. (eds.) *Spatial Orientation: Theory, Research and Application*. New York: Plenum, 225-282.
- Talmy, L. (1983). How Language Structures Space. In Pink, H. & Acredolo, L. (eds.) *Spatial Orientation: Theory, Research, and Application*. New York: Plenum Press.
- Talmy, L. (2005). The Fundamental System of Spatial Schemas in Language. In Hampe, B. (eds.) *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 199-234.
- Tam, K. P., Lee, S. L. & Chao, M. M. (2013). Saving Mr. Nature: Anthropomorphism enhances connectedness to and protectiveness toward nature. *Journal of Experimental Social Psychology*, 49 (3), 514–521.
- Tao, M. (2015). *The Study of Cultural Cognition in Education Metaphor*. PhD. Dissertation. Southwest University.
- Taylor, J. (1996). *Possessives in English-An Exploration in Cognitive Grammar*. Oxford: Oxford University Press.
- Taylor, J. R. (1989). *Linguistic Categorization: Prototypes in Linguistic Theory*. Oxford: Oxford University Press.
- Taylor, J. R. (2002). *Cognitive Grammar*. New York: Oxford University Press.
- Taylor, J. R. (2003). Near synonyms as co-extensive categories: high and tall revisited. *Language Sciences*, 25 (3), 263-284.
- The Shorter Oxford English Dictionary on Historical Principles. (1933). Oxford: Oxford University Press.
- Thomson, A. J. & Martinet, A. V. (1986). *A Practical English Grammar*. Oxford: Oxford University Press.
- Vandeloise, C. (1985). The preposition in and the relationship container/contained. LAUD: Linguistic Agency of the University of Duisburg.
- Vandeloise, C. (1991). *Spatial Prepositions: A Case Study from French*. Chicago: The University of Chicago Press.
- Vandeloise, C. (1991). *Spatial Prepositions: A Case Study in French*. Chicago: The University of Chicago Press.
- Vandeloise, C. (1994). Methodology and analyses of the preposition in. *Cognitive Linguistics* 5 (2), 157-184.