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Processing Lexical Bundles

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Appendix A

trigram	translation	frequency ABC
<i>aan de man</i>	to the man	15373
<i>aan de universiteit</i>	at (the) university	4073
<i>aan de vooravond</i>	on the eve	7798
<i>aan het begin</i>	at the beginning	89579
<i>aan het eind</i>	at the end	150873
<i>aan het werk</i>	working	1285050
<i>aan te pakken</i>	to deal with	39314
<i>aan te passen</i>	to adapt	41295
<i>achter het raam</i>	behind the window	9642
<i>begin dit jaar</i>	at the beginning of the year	13635
<i>bij grote bedrijven</i>	at big companies	969
<i>bij hem thuis</i>	at his house	10643
<i>bij hun moeder</i>	at their mother's	1754
<i>daar gaan we</i>	there we go	241060
<i>dat blijkt uit</i>	that appears from	1461
<i>dat is altijd</i>	that is always	67085
<i>dat is jammer</i>	that is a pity	42773
<i>de aanpak van</i>	the approach of	10757
<i>de aanslagen van</i>	the (terrorist) attacks of	1152
<i>de actie van</i>	the action of	19982
<i>de afgelopen jaren</i>	the past years	41346
<i>de afgelopen maanden</i>	the past months	17046
<i>de Amerikaanse president</i>	the American president	2542
<i>de Amerikaanse regering</i>	the American government	875
<i>de andere kant</i>	the other side	426100
<i>de bacterie is</i>	the bacteria is	45
<i>de besten van</i>	the best of	989
<i>de bouw van</i>	the construction of	37885
<i>de buurt van</i>	the neighborhood of	217614
<i>de dag dat</i>	the day that	194752
<i>de discussie over</i>	the discussion on	13560
<i>de dood van</i>	the death of	42027
<i>de economie van</i>	the economy of	3566
<i>de eerste plaats</i>	the first place	34783
<i>de finale van</i>	the finals of	103195
<i>de foto van</i>	the picture of	68385

<i>de gevonden van</i>	the consequences of	30608
<i>de halve finale</i>	the semi-finals of	81520
<i>de handen vol</i>	hands full	1988
<i>de hele dag</i>	the whole day	1946081
<i>de hele wereld</i>	the whole world	249719
<i>de helft van</i>	half of	417353
<i>de inval in</i>	the invasion of	666
<i>de jaren negentig</i>	the nineties	2893
<i>de jaren twintig</i>	the twenties	387
<i>de kans dat</i>	the chance that	41581
<i>de keuze van</i>	the choice of	12330
<i>de komende jaren</i>	the coming years	48187
<i>de komende vier</i>	the next four	6470
<i>de komst van</i>	the arrival of	48370
<i>de kwaliteit van</i>	the quality of	45240
<i>de laatste twintig</i>	the last twenty	507
<i>de markt is</i>	the market is	6906
<i>de mensen hier</i>	the people here	11779
<i>de mogelijkheid om</i>	the possibility to	31704
<i>de moord op</i>	the murder on	24169
<i>de nabijheid van</i>	the proximity of	2100
<i>de nationale ploeg</i>	the national team	3493
<i>de ontvangst van</i>	the reception of	2864
<i>de oorlog in</i>	into the war	5740
<i>de oorlog tegen</i>	the war against	1573
<i>de organisatie van</i>	the organization of	24050
<i>de ploeg van</i>	the team of	6725
<i>de politie had</i>	the police had	957
<i>de positie van</i>	the position of	11485
<i>de presentatie van</i>	the presentation of	37769
<i>de prijs van</i>	the price of	59208
<i>de rand van</i>	the edge of	66531
<i>de rechtdrank in</i>	the court in	17346
<i>de rest van</i>	the rest of	782197
<i>de resultaten van</i>	the results of	16923
<i>de rol van</i>	the role of	55053
<i>de Russische president</i>	the Russian president	1116
<i>de sociale zekerheid</i>	the social security	2577
<i>de strijd tegen</i>	the battle against	34540
<i>de trainer van</i>	the coach of	10399
<i>de tweede helft</i>	the second half	59770
<i>de tweede plaats</i>	the second place	11487
<i>de tweede ronde</i>	the second round	22796
<i>de universiteit van</i>	the university of	5810
<i>de vader van</i>	the father of	68116
<i>de vleugels van</i>	the wings of	2756
<i>de vraag is</i>	the question is	62321
<i>de website van</i>	the website of	107326
<i>de woorden van</i>	the words of	24221
<i>de zoon van</i>	the son of	28840
<i>door het ministerie</i>	by the ministry	704
<i>door onze correspondent</i>	by our correspondent	105
<i>drie jaar geleden</i>	three years ago	9994
<i>een aantal weken</i>	a couple of weeks	16249
<i>een actie van</i>	an action by	11974
<i>een belangrijke rol</i>	an important role	10667

<i>een bezoek aan</i>	a visit to	47188
<i>een brief aan</i>	a letter to	9675
<i>een deel van</i>	a part of	130958
<i>een film van</i>	a movie of	20778
<i>een gesprek met</i>	a conversation with	97516
<i>een groot aantal</i>	a large number	16102
<i>een groot deel</i>	a big part	49737
<i>een half jaar</i>	half a year	220540
<i>een half uur</i>	half an hour	1031387
<i>een hoger niveau</i>	a higher level	11297
<i>een idee van</i>	an idea of	9561
<i>een jaar eerder</i>	a year earlier	4725
<i>een jaar geleden</i>	a year ago	123936
<i>een kans om</i>	a chance to	17502
<i>een kwart van</i>	a quarter of	17557
<i>een kwestie van</i>	a question of	80116
<i>een moment dat</i>	a moment that	17900
<i>een onderzoek naar</i>	an investigation into	16947
<i>een opkomst van</i>	a rise of	1276
<i>een paar dagen</i>	a couple of days	399097
<i>een paar jaar</i>	a couple of years	155619
<i>een paar weken</i>	a couple of weeks	177710
<i>een tentoonstelling van</i>	an exhibition of	1062
<i>een vorm van</i>	a form of	43031
<i>een winst van</i>	a profit of	3386
<i>een woordvoerder van</i>	a spokesman for	2266
<i>eerder deze week</i>	previously this week	13746
<i>einde van het</i>	end of the	77611
<i>elke keer weer</i>	every time again	92297
<i>en de manier</i>	and the way	6222
<i>en te weinig</i>	and too little	18505
<i>euro per maand</i>	euro per month	47736
<i>genieten van een</i>	enjoying a	132200
<i>ging het mis</i>	it went wrong	64252
<i>het afgelopen jaar</i>	the past year	35986
<i>het begin van</i>	the beginning of	212462
<i>het belang van</i>	the importance of	51523
<i>het bestuur van</i>	the board of	17895
<i>het centrum van</i>	the center of	128503
<i>het centrum voor</i>	the center for	2134
<i>het eerst sinds</i>	for the first time since	91715
<i>het eerste kwartaal</i>	the first quarter	19414
<i>het functioneren van</i>	the functioning of	2732
<i>het gebied van</i>	the area of	128659
<i>het gebruik van</i>	the use of	63198
<i>het gevoel van</i>	the feeling of	29980
<i>het ging om</i>	it was about	15042
<i>het herstel van</i>	the recovery of	5251
<i>het is geen</i>	it is no	155183
<i>het is niet</i>	it is not	512730
<i>het kader van</i>	the framework of	128254
<i>het laatste kwartier</i>	the last quarter	4456
<i>het ministerie van</i>	the ministry of	19317
<i>het moment dat</i>	the moment that	158686
<i>het najaar van</i>	the fall of	2818
<i>het plan van</i>	the plan of	10331

<i>het spel van</i>	the game of	13382
<i>het tweede kwartaal</i>	the second quarter	14558
<i>het vertrek van</i>	the departure of	19881
<i>het werk van</i>	the work of	45904
<i>het zoeken naar</i>	the search for	27018
<i>ik denk dat</i>	I think that	1770156
<i>in de aanloop</i>	in the run-up	9802
<i>in de auto</i>	in the car	1520967
<i>in de buurt</i>	in the neighborhood/close	944910
<i>in de eredivisie</i>	in the premier division	39637
<i>in de hoek</i>	at the corner	53419
<i>in de krant</i>	in the newspaper	224065
<i>in de lucht</i>	in the air	320247
<i>in de ogen</i>	in the eyes	62735
<i>in de omgeving</i>	in the neighborhood	73136
<i>in de partij</i>	in the party	3097
<i>in de politiek</i>	in politics	47360
<i>in de praktijk</i>	in practice	75131
<i>in de regio</i>	in the region	175792
<i>in de rij</i>	in line	202447
<i>in de stad</i>	in the city	1106466
<i>in de strijd</i>	in the battle	52453
<i>in de wereld</i>	in the world	207594
<i>in de zomer</i>	during summer	335094
<i>in de zorg</i>	in health care	125713
<i>in dit gebouw</i>	in this building	2176
<i>in een open</i>	in an open	5010
<i>in eigen land</i>	in your own country	32385
<i>in Europa zijn</i>	being in Europe	2226
<i>in handen van</i>	in the hands of	22157
<i>in het begin</i>	at the beginning	133282
<i>in het boek</i>	in the book	51266
<i>in het centrum</i>	in the center	143835
<i>in het kader</i>	in the framework	78640
<i>in het land</i>	in the country	93987
<i>in het noorden</i>	in the north	58157
<i>in het openbaar</i>	in public	67556
<i>in het verhaal</i>	in the story	12894
<i>in het ziekenhuis</i>	in the hospital	350649
<i>in ons land</i>	in our country	41727
<i>is een beetje</i>	is a little	337220
<i>is er ook</i>	is there too	347370
<i>is niet alleen</i>	is not alone	75895
<i>is niet nodig</i>	is not necessary	68369
<i>is nog steeds</i>	still is	448018
<i>is zo goed</i>	is so good	77105
<i>kans op een</i>	chance of a	358386
<i>kijken naar de</i>	to look at the	105645
<i>maakt niet uit</i>	does not matter	1306258
<i>maar het was</i>	but it was	260391
<i>met de mededeling</i>	with the announcement	9055
<i>met de speler</i>	with the player	466
<i>met een optie</i>	with an option	2562
<i>met een winst</i>	with a profit	1453
<i>moet ook nog</i>	also has to	333650
<i>na de oorlog</i>	after the war	5851

<i>na de pauze</i>	after the break	28459
<i>naar het buitenland</i>	abroad	46869
<i>net als hij</i>	just like him	1766
<i>niet al te</i>	not too	195025
<i>niet de enige</i>	not the only one	432110
<i>niet te veel</i>	not too much	209056
<i>niet te vergeten</i>	not to forgot	116559
<i>niets weten van</i>	knowing nothing of	2986
<i>nog een seizoen</i>	yet another season	7423
<i>nog niet bekend</i>	not yet known	62111
<i>nog ver weg</i>	still far away	14766
<i>nu is dat</i>	now is that	19928
<i>oktober vorig jaar</i>	October last year	1739
<i>om dit jaar</i>	to ... this year	8176
<i>om het leven</i>	to the life	52336
<i>om te buigen</i>	in order to bend	2712
<i>om te overleven</i>	in order to survive	15291
<i>ook wel eens</i>	every now and then	332971
<i>op dat moment</i>	at that moment	103274
<i>op de bank</i>	on the couch	3286884
<i>op de beurs</i>	at the stock market	46130
<i>op de dag</i>	on the day	159050
<i>op de eerste</i>	at the first	126026
<i>op de markt</i>	on the market	176993
<i>op de schouder</i>	on the shoulder	5291
<i>op de website</i>	on the website	229875
<i>op die manier</i>	in this way	92344
<i>op dit moment</i>	at this moment	1037494
<i>op een aanslag</i>	at an attack	503
<i>op het moment</i>	at the moment	222221
<i>op het nieuwe</i>	at/on the new	34288
<i>op het werk</i>	at work	386510
<i>op langere termijn</i>	in the long run	3658
<i>op te lossen</i>	to solve	104502
<i>op zijn bureau</i>	at his desk	1171
<i>op zijn minst</i>	at least	27093
<i>over de geschiedenis</i>	about the history	8633
<i>over de manier</i>	about the way	4767
<i>over de toekomst</i>	about the future	43455
<i>over het land</i>	about the country	9189
<i>paar jaar geleden</i>	couple of years ago	57132
<i>pas sinds kort</i>	only recently	3790
<i>raad van bestuur</i>	board of directors	7008
<i>sinds lange tijd</i>	since a long time	26597
<i>te beseffen dat</i>	to realize that	16136
<i>te staan in</i>	to stand in	7740
<i>te weten dat</i>	to know that	106478
<i>te zien zijn</i>	to be visible	32458
<i>terug te komen</i>	to return	46567
<i>tijdens de dictatuur</i>	during the dictatorship	30
<i>tot nu toe</i>	until now	632637
<i>twee weken op</i>	two weeks on	6750
<i>uit de grond</i>	from the ground	31069
<i>uit de ploeg</i>	from the team	874
<i>uit een boek</i>	from a book	5952
<i>uit eigen ervaring</i>	from my own experience	8863

<i>uit het Engels</i>	from English	1175
<i>uit te leggen</i>	to explain	172789
<i>uit te nodigen</i>	to invite	16723
<i>van de aandelen</i>	of the shares	2190
<i>van de aarde</i>	from the earth	29344
<i>van de beurs</i>	from the stock market	8974
<i>van de bevolking</i>	from the population	18109
<i>van de drie</i>	out of three	33303
<i>van de economie</i>	of the economy	8738
<i>van de families</i>	of the families	263
<i>van de gemeente</i>	of the municipality	102650
<i>van de jaren</i>	of the years	15061
<i>van de mogelijkheden</i>	of the possibilities	4651
<i>van de overheid</i>	from the government	31026
<i>van de tien</i>	from the ten	11905
<i>van de trainer</i>	from the trainer	6949
<i>van de twee</i>	from the two	50064
<i>van de volgende</i>	from the next	17977
<i>van de vorige</i>	from the previous	43525
<i>van de wereld</i>	from/of the world	447158
<i>van dit jaar</i>	of this year	181143
<i>van het aanbod</i>	of the offer	2090
<i>van het Britse</i>	of the British	3003
<i>van het kabinet</i>	from the cabinet	18244
<i>van het land</i>	from/of the country	116573
<i>van het museum</i>	from/of the museum	4352
<i>van het onderzoek</i>	from/of the research	8406
<i>van het publiek</i>	from the public	10216
<i>van het seizoen</i>	from/of the season	202065
<i>van onze redactie</i>	from our editorial staff	848
<i>van zijn proces</i>	of his process	208
<i>verdacht van fraude</i>	suspected of fraud	1469
<i>volgens het boekje</i>	according to the rules	3106
<i>voor de bescherming</i>	for the protection	1022
<i>voor eigen publiek</i>	for your own audience	7444
<i>voor het eerst</i>	for the first time	1025405
<i>voor het leven</i>	for life	106138
<i>voor iemand die</i>	for someone who	89362
<i>wel of niet</i>	yes or no	286718
<i>wordt beschuldigd van</i>	is being accused of	1593
<i>zo lang geleden</i>	so long ago	40677

Table 1: Stimuli used in the eye-tracking experiment of Chapter 2. Translations in English are provided in the second column. Phrasal frequencies (freqABC) are listed in the righter-most column.

Appendix B

trigram	translation	condition	frequency ABC	frequency C
<i>aan de beurt</i>	turn	MWU	1743	7458
<i>aan de prins</i>	to the prince	Control	80	12030
<i>aan het eind</i>	at the end	MWU	6395	33356
<i>aan het bed</i>	at the bed	Control	140	24021
<i>aan te passen</i>	to adapt	MWU	2307	10335
<i>aan te steken</i>	to strike	Control	103	7385
<i>de andere kant</i>	the other side	MWU	8113	30948
<i>de andere groep</i>	the other group	Control	108	38917
<i>de eerste plaats</i>	the first place	MWU	5853	80379
<i>de eerste vraag</i>	the first question	Control	237	63831
<i>de hele dag</i>	the whole day	MWU	5243	112638
<i>de hele weg</i>	the whole way	Control	142	101363
<i>een belangrijke rol</i>	an important role	MWU	2875	33764
<i>een belangrijke vorm</i>	an important shape	Control	21	33661
<i>een groot deel</i>	a big part	MWU	5427	69946
<i>een groot kind</i>	a big child	Control	26	46095
<i>een paar dagen</i>	a couple of days	MWU	4809	56414
<i>een paar miljoen</i>	a couple of million	Control	159	58205
<i>er is geen</i>	there is no	MWU	5264	384494
<i>er is wat</i>	there is something	Control	101	525923
<i>in de praktijk</i>	in practice	MWU	5764	11017
<i>in de uitspraak</i>	in the statement	Control	79	9997
<i>in dit geval</i>	in this case	MWU	4333	55463
<i>in dit verhaal</i>	in this story	Control	240	34648
<i>in het centrum</i>	in the center	MWU	3284	15338
<i>in het vertrek</i>	in the room	Control	73	8615
<i>is de kans</i>	is the chance	MWU	1224	30148
<i>is de druk</i>	is the pressure	Control	78	33051
<i>mee te maken</i>	to experience	MWU	2548	143877
<i>mee te komen</i>	to join	Control	90	130534
<i>met de auto</i>	by car	MWU	1302	28882
<i>met de partij</i>	with the party	Control	117	35702
<i>na te denken</i>	to think about	MWU	2349	42304
<i>na te vragen</i>	to inquire	Control	28	47636
<i>nog een keer</i>	again	MWU	5217	91196
<i>nog een week</i>	another week	Control	324	76650

<i>om te kijken</i>	to watch	MWU	1987	50552
<i>om te nemen</i>	to take	Control	18	58350
<i>op dat moment</i>	at that moment	MWU	6441	48502
<i>op dat idee</i>	on that idea	Control	58	37396
<i>op de markt</i>	on the market	MWU	5900	24936
<i>op de brief</i>	on the letter	Control	159	17057
<i>op korte termijn</i>	at short-notice	MWU	2060	14004
<i>op korte afstand</i>	at short distance	Control	104	13658
<i>op te lossen</i>	to solve	MWU	2974	4409
<i>op te drukken</i>	to push up	Control	23	4308
<i>van de bevolking</i>	from the population	MWU	6022	20512
<i>van de discussie</i>	from the discussion	Control	319	17251
<i>van het jaar</i>	of the year	MWU	6150	294718
<i>van het nu</i>	from nowadays	Control	75	358059
<i>voor de toekomst</i>	for the future	MWU	1926	23744
<i>voor de liefde</i>	for the love	Control	127	19180

Table 1: Stimuli used in the experiment. On the left all frequent multi-word units are listed, directly followed by their matched control. Translations in English are provided in the second column. Phrasal frequencies (freqABC) and frequencies of the third word (freqC) are listed in the two righter-most columns next to the stimuli.

Bibliography

- Arnold, D., Tomaschek, F., Sering, K., Lopez, F., and Baayen, R. H. (2017). Words from spontaneous conversational speech can be recognized with human-like accuracy by an error-driven learning algorithm that discriminates between meanings straight from smart acoustic features, bypassing the phoneme as recognition unit. *PLoS one*, 12(4):e0174623.
- Arnon, I. and Cohen Priva, U. (2013). More than words: The effect of multi-word frequency and constituency on phonetic duration. *Language and Speech*, 56(3):349–371.
- Arnon, I. and Priva, U. C. (2014). Time and again: The changing effect of word and multi-word frequency on phonetic duration for highly frequent sequences. *The Mental Lexicon*, 9(3):377–400.
- Arnon, I. and Ramscar, M. (2012). Granularity and the acquisition of grammatical gender: How order-of-acquisition affects what gets learned. *Cognition*, 122(3):292–305.
- Arnon, I. and Snider, N. (2010). More than words: Frequency effects for multi-word phrases. *Journal of Memory and Language*, 62(1):67–82.
- Baayen, H., Vasishth, S., Kliegl, R., and Bates, D. (2017a). The cave of shadows: Addressing the human factor with generalized additive mixed models. *Journal of Memory and Language*, 94:206–234.
- Baayen, R. and Ramscar, M. (2015). Abstraction, storage and naive discriminative learning. *Handbook of Cognitive Linguistics*, 39:100–120.
- Baayen, R. H. (2008). *Analyzing linguistic data: A practical introduction to statistics using R*. Cambridge University Press.
- Baayen, R. H. (2010). Demythologizing the word frequency effect: A discriminative learning perspective. *The Mental Lexicon*, 5(3):436–461.

- Baayen, R. H., Davidson, D. J., and Bates, D. M. (2008). Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language*, 59(4):390–412.
- Baayen, R. H., Hendrix, P., and Ramscar, M. (2013). Sidestepping the combinatorial explosion: An explanation of n-gram frequency effects based on naive discriminative learning. *Language and Speech*, 56(3):329–347.
- Baayen, R. H., Milin, P., Đurđević, D. F., Hendrix, P., and Marelli, M. (2011). An amorphous model for morphological processing in visual comprehension based on naive discriminative learning. *Psychological Review*, 118(3):438.
- Baayen, R. H., Sering, T., Shaoul, C., and Milin, P. (2017b). Language comprehension as a multiple label classification problem.
- Baayen, R. H., Shaoul, C., Willits, J., and Ramscar, M. (2016a). Comprehension without segmentation: A proof of concept with naive discriminative learning. *Language, Cognition and Neuroscience*, 31(1):106–128.
- Baayen, R. H., van Rij, J., de Cat, C., and Wood, S. N. (2016b). Autocorrelated errors in experimental data in the language sciences: Some solutions offered by generalized additive mixed models. *arXiv preprint arXiv:1601.02043*.
- Baisa, V., Michelfeit, J., Medved, M., and Jakubícek, M. (2016). European union language resources in sketch engine. In *LREC*.
- Bannard, C. and Matthews, D. (2008). Stored word sequences in language learning: The effect of familiarity on children’s repetition of four-word combinations. *Psychological Science*, 19(3):241–248.
- Barr, D. J., Levy, R., Scheepers, C., and Tily, H. J. (2013). Random effects structure for confirmatory hypothesis testing: Keep it maximal. *Journal of memory and language*, 68(3):255–278.
- Bates, D., Kliegl, R., Vasishth, S., and Baayen, H. (2015). Parsimonious mixed models. *arXiv preprint arXiv:1506.04967*.
- Beckner, C., Blythe, R., Bybee, J., Christiansen, M. H., Croft, W., Ellis, N. C., Holland, J., Ke, J., Larsen-Freeman, D., and Schoenemann, T. (2009). Language is a complex adaptive system: Position paper. *Language Learning*, 59(s1):1–26.
- Biber, D., Johansson, S., Leech, G., Conrad, S., and Finegan, E. (1999). *Longman grammar of spoken and written English*. Pearson Education Ltd.,-1999.– 1204 p.
- Boersma, P. and Weenink, D. (2016). Praat: Doing phonetics by computer.[computer program]. version 6.0. 19.

- Box, G. E. and Draper, N. R. (1987). *Empirical model-building and response surfaces*. John Wiley & Sons.
- Brady, T. F., Konkle, T., Alvarez, G. A., and Oliva, A. (2008). Visual long-term memory has a massive storage capacity for object details. *Proceedings of the National Academy of Sciences*, 105(38):14325–14329.
- Breiman, L. (2001). Random forests. *Machine learning*, 45(1):5–32.
- Breiman, L. et al. (2001). Statistical modeling: The two cultures (with comments and a rejoinder by the author). *Statistical science*, 16(3):199–231.
- Brink, D. v. d. and Hagoort, P. (2004). The influence of semantic and syntactic context constraints on lexical selection and integration in spoken-word comprehension as revealed by erps. *Journal of Cognitive Neuroscience*, 16(6):1068–1084.
- Bybee, J. (2010). *Language, usage and cognition*. Cambridge University Press.
- Bybee, J. L. (2006). From usage to grammar: The mind's response to repetition. *Language*, 82(4):711–733.
- Carrol, G. and Conklin, K. (2015). Eye-tracking multi-word units: Some methodological questions. *Journal of Eye Movement Research*, 7(5).
- Conklin, K. and Schmitt, N. (2012). The processing of formulaic language. *Annual Review of Applied Linguistics*, 32:45–61.
- Connolly, J. F. and Phillips, N. A. (1994). Event-related potential components reflect phonological and semantic processing of the terminal word of spoken sentences. *Journal of Cognitive Neuroscience*, 6(3):256–266.
- Coulson, S., King, J. W., and Kutas, M. (1998). Expect the unexpected: Event-related brain response to morphosyntactic violations. *Language and cognitive processes*, 13(1):21–58.
- Croft, W. (2001). *Radical construction grammar: Syntactic theory in typological perspective*. Oxford University Press on Demand.
- Dąbrowska, E. (2014). Recycling utterances: A speaker's guide to sentence processing.
- De Cat, C., Klepousniotou, E., and Baayen, R. H. (2015). Representational deficit or processing effect? An electrophysiological study of noun-noun compound processing by very advanced L2 speakers of English. *Frontiers in psychology*, 6.
- Dehaene, S. (2009). *Reading in the brain: The new science of how we read*. Penguin.

- Dikker, S. and Pykkänen, L. (2013). Predicting language: Meg evidence for lexical preactivation. *Brain and language*, 127(1):55–64.
- Durrant, P. and Doherty, A. (2010). Are high-frequency collocations psychologically real? investigating the thesis of collocational priming. *Corpus Linguistics and Linguistic Theory*, 6(2):125–155.
- Erman, B. and Warren, B. (2000). The idiom principle and the open choice principle. *Text-Interdisciplinary Journal for the Study of Discourse*, 20(1):29–62.
- Federmeier, K. D. (2007). Thinking ahead: The role and roots of prediction in language comprehension. *Psychophysiology*, 44(4):491–505.
- Fisher, K., Bassok, M., and Osterhout, L. (2010). When two plus two does not equal four: Event-related potential responses to semantically incongruous arithmetic word problems. In *Proceedings of the Cognitive Science Society*, volume 32.
- Friederici, A. D. (2002). Towards a neural basis of auditory sentence processing. *Trends in cognitive sciences*, 6(2):78–84.
- Friederici, A. D. (2012). The cortical language circuit: from auditory perception to sentence comprehension. *Trends in cognitive sciences*, 16(5):262–268.
- Geeraert, K., Newman, J., and Baayen, R. H. (2017). Idiom variation: Experimental data and a blueprint of a computational model. *Topics in Cognitive Science*.
- Goldberg, A. E. (2003). Constructions: A new theoretical approach to language. *Trends in Cognitive Sciences*, 7(5):219–224.
- Green, C. (2017). Usage-based linguistics and the magic number four. *Cognitive Linguistics*, 28(2):209–237.
- Hagoort, P. (2003). How the brain solves the binding problem for language: a neurocomputational model of syntactic processing. *Neuroimage*, 20:S18–S29.
- Hagoort, P. and Brown, C. M. (2000). ERP effects of listening to speech: semantic ERP effects. *Neuropsychologia*, 38(11):1518–1530.
- Han, S. (2015). *Processing formulaic sequences by native and nonnative speakers of English: Evidence from reading aloud*. PhD thesis, Northern Arizona University.
- Harley, T. A. (2013). *The psychology of language: From data to theory*. Psychology press.
- Hastie, T. and Tibshirani, R. (1990). *Generalized additive models*. Wiley Online Library.

- Hauk, O., Davis, M. H., Ford, M., Pulvermüller, F., and Marslen-Wilson, W. D. (2006). The time course of visual word recognition as revealed by linear regression analysis of ERP data. *Neuroimage*, 30(4):1383–1400.
- Hauk, O. and Pulvermüller, F. (2004). Effects of word length and frequency on the human event-related potential. *Clinical Neurophysiology*, 115(5):1090–1103.
- Hendrix, P., Bolger, P., and Baayen, H. (2017). Distinct ERP signatures of word frequency, phrase frequency, and prototypicality in speech production. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 43(1):128.
- Holcomb, P. J. and Neville, H. J. (1991). Natural speech processing: An analysis using event-related brain potentials. *Psychobiology*, 19(4):286–300.
- Hothorn, T., Hornik, K., and Zeileis, A. (2006). Unbiased recursive partitioning: A conditional inference framework. *Journal of Computational and Graphical Statistics*, 15(3):651–674.
- Jakubíček, M., Kilgarriff, A., Kovář, V., Rychlý, P., and Suchomel, V. (2013). The tenten corpus family. In *7th International Corpus Linguistics Conference CL*, pages 125–127.
- Janssen, N. and Barber, H. A. (2012). Phrase frequency effects in language production. *PloS one*, 7(3):e33202.
- Jiang, N. A. and Nekrasova, T. M. (2007). The processing of formulaic sequences by second language speakers. *The Modern Language Journal*, 91(3):433–445.
- Just, M. A. and Carpenter, P. A. (1980). A theory of reading: From eye fixations to comprehension. *Psychological Review*, 87(4):329.
- Kaan, E. and Swaab, T. Y. (2003). Repair, revision, and complexity in syntactic analysis: An electrophysiological differentiation. *Journal of cognitive neuroscience*, 15(1):98–110.
- Keuleers, E., Stevens, M., Mandera, P., and Brysbaert, M. (2015). Word knowledge in the crowd: Measuring vocabulary size and word prevalence in a massive online experiment. *The Quarterly Journal of Experimental Psychology*, 68(8):1665–1692.
- King, J. W. and Kutas, M. (1995). Who did what and when? using word-and clause-level erps to monitor working memory usage in reading. *Journal of cognitive neuroscience*, 7(3):376–395.
- Kircher, T. T., Brammer, M., Andreu, N. T., Williams, S. C., and McGuire, P. K. (2001). Engagement of right temporal cortex during processing of linguistic context. *Neuropsychologia*, 39(8):798–809.

- Kluender, R. and Kutas, M. (1993). Bridging the gap: Evidence from ERPs on the processing of unbounded dependencies. *Journal of Cognitive Neuroscience*, 5(2):196–214.
- Koehn, P. (2005). Europarl: A parallel corpus for statistical machine translation. In *MT summit*, volume 5, pages 79–86.
- Kryuchkova, T., Tucker, B. V., Wurm, L. H., and Baayen, R. H. (2012). Danger and usefulness are detected early in auditory lexical processing: Evidence from electroencephalography. *Brain and Language*, 122(2):81–91.
- Kuiper, K. (1996). Smooth talkers. *The linguistic performance of auctioneers and sportscasters*. Mawah, NJ: Lawrence Erlbaum Associates.
- Kuiper, K., Van Egmond, M.-E., Kempen, G., and Sprenger, S. (2007). Slipping on superlemmas: Multi-word lexical items in speech production. *The Mental Lexicon*, 2(3):313–357.
- Kuperberg, G. R. (2007). Neural mechanisms of language comprehension: Challenges to syntax. *Brain research*, 1146:23–49.
- Kuperman, V., Schreuder, R., Bertram, R., and Baayen, R. H. (2009). Reading polymorphemic dutch compounds: Toward a multiple route model of lexical processing. *Journal of Experimental Psychology: Human Perception and Performance*, 35(3):876.
- Kutas, M. and Van Petten, C. (1994). Psycholinguistics electrified. *Handbook of psycholinguistics*, pages 83–143.
- Landauer, T. K. and Dumais, S. T. (1997). A solution to Plato’s problem: The latent semantic analysis theory of acquisition, induction, and representation of knowledge. *Psychological Review*, 104(2):211.
- Lau, E. F., Phillips, C., and Poeppel, D. (2008). A cortical network for semantics:(de) constructing the n400. *Nature Reviews Neuroscience*, 9(12):920.
- Laubrock, J., Kliegl, R., and Engbert, R. (2006). SWIFT explorations of age differences in eye movements during reading. *Neuroscience & Biobehavioral Reviews*, 30(6):872–884.
- Lazaridou, A., Marelli, M., Zamparelli, R., and Baroni, M. (2013). Compositional-ly derived representations of morphologically complex words in distributional semantics. In *ACL (1)*, pages 1517–1526.
- Lensink, S. E., Schiller, N. O., and Verhagen, A. (submitted). Old and young: How language experiences (do not) shape the reading of lexical bundles.
- Lensink, S. E., Verdonschot, R., Schiller, N. O., and Tamaoka, K. (in preparation). Reading Japanese lexical bundles.

- Lensink, S. E., Verhagen, A., Schiller, N. O., and Baayen, R. H. (submitted). Keeping it apart: On using a discriminative approach to study the nature and processing of multi-word units.
- Lin, X. and Zhang, D. (1999). Inference in generalized additive mixed models by using smoothing splines. *Journal of the royal statistical society: Series b (statistical methodology)*, 61(2):381–400.
- Linke, M., Bröker, F., Ramscar, M., and Baayen, H. (2017). Are baboons learning "orthographic" representations? Probably not. *PLoS one*, 12(8):e0183876.
- Lõo, K., Järvikivi, J., and Baayen, R. H. (2017). Whole-word frequency and inflectional paradigm size facilitate estonian case-inflected noun processing. *Cognition*.
- Lõo, K., Järvikivi, J., Tomaschek, F., Tucker, B. V., and Baayen, R. H. (2018). Production of estonian case-inflected nouns shows whole-word frequency and paradigmatic effects. *Morphology*, pages 1–27.
- Luce, P. A. and Pisoni, D. B. (1998). Recognizing spoken words: The neighborhood activation model. *Ear and Hearing*, 19(1):1.
- Lund, K. and Burgess, C. (1996). Producing high-dimensional semantic spaces from lexical co-occurrence. *Behavior Research Methods, Instruments, & Computers*, 28(2):203–208.
- Martín-Lloeches, M., Muñoz, F., Casado, P., Melcon, A., and Fernández-Frías, C. (2005). Are the anterior negativities to grammatical violations indexing working memory? *Psychophysiology*, 42(5):508–519.
- McClelland, J. L. and Elman, J. L. (1986). The TRACE model of speech perception. *Cognitive psychology*, 18(1):1–86.
- McGowan, V. A. and Reichle, E. D. (2018). The “risky” reading strategy revisited: New simulations using ez reader. *Quarterly Journal of Experimental Psychology*, 71(1):179–189.
- McWhinney, S. R., Tremblay, A., Chevalier, T. M., Lim, V. K., and Newman, A. J. (2016). Using cforest to analyze diffusion tensor imaging data: A study of white matter integrity in healthy aging. *Brain connectivity*, 6(10):747–758.
- Mikolov, T., Sutskever, I., Chen, K., Corrado, G. S., and Dean, J. (2013). Distributed representations of words and phrases and their compositionality. In *Advances in neural information processing systems*, pages 3111–3119.
- Milin, P., Feldman, L. B., Ramscar, M., Hendrix, P., and Baayen, R. H. (2017). Discrimination in lexical decision. *PLoS One*, 12(2):e0171935.

- Milin, P., Kuperman, V., Kostic, A., and Baayen, R. H. (2009). Paradigms bit by bit: An information theoretic approach to the processing of paradigmatic structure in inflection and derivation. *Analogy in grammar: Form and acquisition*, pages 214–252.
- Mitchell, J. and Lapata, M. (2008). Vector-based models of semantic composition. In *ACL*, pages 236–244.
- Miwa, K., Libben, G., and Ikemoto, Y. (2017). Visual trimorphemic compound recognition in a morphographic script. *Language, Cognition and Neuroscience*, 32(1):1–20.
- Mueller, J. L., Hahne, A., Fujii, Y., and Friederici, A. D. (2005). Native and nonnative speakers' processing of a miniature version of Japanese as revealed by ERPs. *Journal of Cognitive Neuroscience*, 17(8):1229–1244.
- Müller, H. M., King, J. W., and Kutas, M. (1997). Event-related potentials elicited by spoken relative clauses. *Cognitive Brain Research*, 5(3):193–203.
- Norris, D. and McQueen, J. M. (2008). Shortlist B: a Bayesian model of continuous speech recognition. *Psychological Review*, 115(2):357.
- Oldfield, R. C. (1971). The assessment and analysis of handedness: the Edinburgh inventory. *Neuropsychologia*, 9(1):97–113.
- Oostdijk, N., Reynaert, M., Hoste, V., and Schuurman, I. (2013). The construction of a 500-million-word reference corpus of contemporary written Dutch. In *Essential speech and language technology for Dutch*, pages 219–247. Springer.
- Pawley, A. and Syder, F. H. (1983). Two puzzles for linguistic theory: Nativelike selection and nativelike fluency. *Language and Communication*, 191:225.
- Penolazzi, B., Hauk, O., and Pulvermüller, F. (2007). Early semantic context integration and lexical access as revealed by event-related brain potentials. *Biological Psychology*, 74(3):374–388.
- Pinker, S. and Ullman, M. T. (2002). The past and future of the past tense. *Trends in cognitive sciences*, 6(11):456–463.
- Pollatsek, A., Hyönä, J., and Bertram, R. (2000). The role of morphological constituents in reading finnish compound words. *Journal of Experimental Psychology: Human Perception and Performance*, 26(2):820.
- Pylkkänen, L., Feintuch, S., Hopkins, E., and Marantz, A. (2004). Neural correlates of the effects of morphological family frequency and family size: an meg study. *Cognition*, 91(3):B35–B45.
- R Core Team (2017). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria.

- Ramscar, M. (2013). Suffixing, prefixing, and the functional order of regularities in meaningful strings. *Psihologija*, 46(4):377–396.
- Ramscar, M., Dye, M., and McCauley, S. M. (2013). Error and expectation in language learning: The curious absence of mouses in adult speech. *Language*, 89(4):760–793.
- Ramscar, M., Hendrix, P., Shaoul, C., Milin, P., and Baayen, H. (2014). The myth of cognitive decline: Non-linear dynamics of lifelong learning. *Topics in cognitive science*, 6(1):5–42.
- Ramscar, M. and Port, R. (2015). Categorization (without categories). In Dąbrowska, E. and Divjak, D., editors, *Handbook of Cognitive Linguistics*, pages 75–99. De Gruyter, Berlin.
- Ramscar, M. and Yarlett, D. (2007). Linguistic self-correction in the absence of feedback: A new approach to the logical problem of language acquisition. *Cognitive Science*, 31(6):927–960.
- Ramscar, M., Yarlett, D., Dye, M., Denny, K., and Thorpe, K. (2010). The effects of feature-label-order and their implications for symbolic learning. *Cognitive Science*, 34(6):909–957.
- Rayner, K. (1998). Eye movements in reading and information processing: 20 years of research. *Psychological bulletin*, 124(3):372.
- Rayner, K., Castelhano, M. S., and Yang, J. (2009). Eye movements and the perceptual span in older and younger readers. *Psychology and aging*, 24(3):755.
- Rayner, K., Reichle, E. D., Stroud, M. J., Williams, C. C., and Pollatsek, A. (2006). The effect of word frequency, word predictability, and font difficulty on the eye movements of young and older readers. *Psychology and aging*, 21(3):448.
- Rayner, K., Yang, J., Schuett, S., and Slattery, T. J. (2014). The effect of foveal and parafoveal masks on the eye movements of older and younger readers. *Psychology and aging*, 29(2):205.
- Reichle, E. D., Pollatsek, A., Fisher, D. L., and Rayner, K. (1998). Toward a model of eye movement control in reading. *Psychological review*, 105(1):125.
- Reichle, E. D., Rayner, K., and Pollatsek, A. (1999). Eye movement control in reading: Accounting for initial fixation locations and refixations within the ez reader model. *Vision research*, 39(26):4403–4411.
- Reichle, E. D., Rayner, K., and Pollatsek, A. (2012). Eye movements in reading versus nonreading tasks: Using ez reader to understand the role of word/stimulus familiarity. *Visual cognition*, 20(4–5):360–390.

- Reifegerste, J., Meyer, A. S., and Zwitserlood, P. (2017). Inflectional complexity and experience affect plural processing in younger and older readers of dutch and german. *Language, Cognition and Neuroscience*, 32(4):471–487.
- Rescorla, R. A., Wagner, A. R., et al. (1972). A theory of Pavlovian conditioning: Variations in the effectiveness of reinforcement and nonreinforcement. *Classical conditioning II: Current research and theory*, 2:64–99.
- Roehm, D., Bornkessel-Schlesewsky, I., Rösler, F., and Schlesewsky, M. (2007). To predict or not to predict: Influences of task and strategy on the processing of semantic relations. *Journal of Cognitive Neuroscience*, 19(8):1259–1274.
- Rosenblatt, F. (1958). The perceptron: A probabilistic model for information storage and organization in the brain. *Psychological review*, 65(6):386.
- Samek, W., Wiegand, T., and Müller, K.-R. (2017). Explainable artificial intelligence: Understanding, visualizing and interpreting deep learning models. *arXiv preprint arXiv:1708.08296*.
- Sereno, S. C., Brewer, C. C., and O'Donnell, P. J. (2003). Context effects in word recognition: Evidence for early interactive processing. *Psychological Science*, 14(4):328–333.
- Sereno, S. C., Rayner, K., and Posner, M. I. (1998). Establishing a time-line of word recognition: evidence from eye movements and event-related potentials. *Neuroreport*, 9(10):2195–2200.
- Shafto, M. A. and Tyler, L. K. (2014). Language in the aging brain: the network dynamics of cognitive decline and preservation. *Science*, 346(6209):583–587.
- Shaoul, C., Baayen, R. H., and Westbury, C. F. (2014a). N-gram probability effects in a cloze task. *The Mental Lexicon*, 9(3):437–472.
- Shaoul, C., Schilling, N., Bitschnau, S., Arppe, A., Hendrix, P., and Baayen, R. (2014b). NDL2: Naive discriminative learning. R package version 1.901, development version available upon request.
- Shaoul, C. and Westbury, C. (2010). Exploring lexical co-occurrence space using hidex. *Behavior Research Methods*, 42(2):393–413.
- Shaoul, C. and Westbury, C. (2011). Formulaic sequences: Do they exist and do they matter? *The Mental Lexicon*, 6(1):171–196.
- Shaoul, C., Westbury, C. F., and Baayen, H. R. (2013). The subjective frequency of word n-grams. *Psihologija*, 46(4):497–537.
- Siyanova-Chanturia, A. (2013). Eye-tracking and ERPs in multi-word expression research: A state-of-the-art review of the method and findings. *The Mental Lexicon*, 8(2):245–268.

- Siyanova-Chanturia, A. (2015). On the "holistic" nature of formulaic language. *Corpus Linguistics and Linguistic Theory*, 11(2):285–301.
- Siyanova-Chanturia, A., Conklin, K., and Schmitt, N. (2011a). Adding more fuel to the fire: An eye-tracking study of idiom processing by native and non-native speakers. *Second Language Research*, 27(2):251–272.
- Siyanova-Chanturia, A., Conklin, K., and Van Heuven, W. J. (2011b). Seeing a phrase "time and again" matters: The role of phrasal frequency in the processing of multi-word sequences. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 37(3):776.
- Snider, N. and Arnon, I. (2012). A unified lexicon and grammar? Compositional and non-compositional phrases in the lexicon. *Frequency Effects in Language Representation*, pages 127–163.
- Sosa, A. V. and MacFarlane, J. (2002). Evidence for frequency-based constituents in the mental lexicon: Collocations involving the word of. *Brain and Language*, 83(2):227–236.
- Sprenger, S. A., Levelt, W. J., and Kempen, G. (2006). Lexical access during the production of idiomatic phrases. *Journal of Memory and Language*, 54(2):161–184.
- Steinhauer, K., Connolly, J. F., Stemmer, B., and Whitaker, H. (2008). Event-related potentials in the study of language. *Concise Encyclopedia of Brain and Language*, pages 91–104.
- Steinhauer, K. and Drury, J. E. (2012). On the early left-anterior negativity (ELAN) in syntax studies. *Brain and Language*, 120(2):135–162.
- Steinhauer, K., Drury, J. E., Portner, P., Walenski, M., and Ullman, M. T. (2010). Syntax, concepts, and logic in the temporal dynamics of language comprehension: Evidence from event-related potentials. *Neuropsychologia*, 48(6):1525–1542.
- Strobl, C., Malley, J., and Tutz, G. (2009). An introduction to recursive partitioning: rationale, application, and characteristics of classification and regression trees, bagging, and random forests. *Psychological methods*, 14(4):323.
- Tagliamonte, S. A. and Baayen, R. H. (2012). Models, forests, and trees of york english: Was/were variation as a case study for statistical practice. *Language variation and change*, 24(2):135–178.
- Tomasello, M. (2009). *Constructing a language*. Harvard university press.
- Tremblay, A., Asp, E., Johnson, A., Migdal, M. Z., Bardouille, T., and Newman, A. J. (2016). What the networks tell us about serial and parallel processing. *The Mental Lexicon*, 11(1):115–160.

- Tremblay, A., Baayen, H., Derwing, B., Libben, G., Tucker, B. V., and Westbury, C. (2012). Empirical evidence for an inflationist lexicon. *Yearbook Phraseology*, 3:109–126.
- Tremblay, A. and Baayen, R. H. (2010). Holistic processing of regular four-word sequences: A behavioral and ERP study of the effects of structure, frequency, and probability on immediate free recall. *Perspectives on formulaic language: Acquisition and communication*, pages 151–173.
- Tremblay, A., Derwing, B., and Libben, G. (2009). Are lexical bundles stored and processed as single units? *Working Papers of the Linguistics Circle*, 19(1):258.
- Tremblay, A., Derwing, B., Libben, G., and Westbury, C. (2011). Processing advantages of lexical bundles: evidence from self-paced reading and sentence recall tasks. *Language Learning*, 61(2):569–613.
- Tremblay, A. and Tucker, B. V. (2011). The effects of n-gram probabilistic measures on the recognition and production of four-word sequences. *The Mental Lexicon*, 6(2):302–324.
- Underwood, G., Schmitt, N., and Galpin, A. (2004). The eyes have it. *Formulaic sequences: Acquisition, processing, and use*, 9:153.
- Van Den Brink, D., Brown, C. M., and Hagoort, P. (2001). Electrophysiological evidence for early contextual influences during spoken-word recognition: N200 versus N400 effects. *Journal of Cognitive Neuroscience*, 13(7):967–985.
- Van Den Brink, D. and Hagoort, P. (2004). The influence of semantic and syntactic context constraints on lexical selection and integration in spoken-word comprehension as revealed by ERPs. *Journal of Cognitive Neuroscience*, 16(6):1068–1084.
- Van Rij, J., Hollebrandse, B., and Hendriks, P. (2016). Children’s eye gaze reveals their use of discourse context in object pronoun resolution. *Experimental Perspectives on Anaphora Resolution. Information Structural Evidence in the Race for Salience*. Boston: De Gruyter, pages 267–293.
- Vespignani, F., Canal, P., Molinaro, N., Fonda, S., and Cacciari, C. (2010). Predictive mechanisms in idiom comprehension. *Journal of Cognitive Neuroscience*, 22(8):1682–1700.
- Vigneau, M., Beaucousin, V., Herve, P.-Y., Duffau, H., Crivello, F., Houde, O., Mazoyer, B., and Tzourio-Mazoyer, N. (2006). Meta-analyzing left hemisphere language areas: phonology, semantics, and sentence processing. *Neuroimage*, 30(4):1414–1432.

- Vigneau, M., Beaucousin, V., Hervé, P.-Y., Jobard, G., Petit, L., Crivello, F., Mellet, E., Zago, L., Mazoyer, B., and Tzourio-Mazoyer, N. (2011). What is right-hemisphere contribution to phonological, lexico-semantic, and sentence processing?: Insights from a meta-analysis. *Neuroimage*, 54(1):577–593.
- Vitu, F., McConkie, G. W., Kerr, P., and O'Regan, J. K. (2001). Fixation location effects on fixation durations during reading: An inverted optimal viewing position effect. *Vision Research*, 41(25-26):3513–3533.
- Widrow, B. and Hoff, M. E. (1960). Adaptive switching circuits. Technical report, STANFORD UNIV CA STANFORD ELECTRONICS LABS.
- Wieling, M., Montemagni, S., Nerbonne, J., and Baayen, R. H. (2014). Lexical differences between Tuscan dialects and standard Italian: Accounting for geographic and sociodemographic variation using generalized additive mixed modeling. *Language*, 90(3):669–692.
- Winter, B. and Wieling, M. (2016). How to analyze linguistic change using mixed models, Growth Curve Analysis and Generalized Additive Modeling. *Journal of Language Evolution*, 1(1):7–18.
- Wood, S. (2006). *Generalized additive models: an introduction with R*. CRC press.
- Wood, S. N. (2011). Fast stable restricted maximum likelihood and marginal likelihood estimation of semiparametric generalized linear models. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 73(1):3–36.
- Wood, S. N., Goude, Y., and Shaw, S. (2015). Generalized additive models for large data sets. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 64(1):139–155.
- Wray, A. (2012). What do we (think we) know about formulaic language? An evaluation of the current state of play. *Annual Review of Applied Linguistics*, 32:231–254.
- Wurm, L. H. and Fisicaro, S. A. (2014). What residualizing predictors in regression analyses does (and what it does not do). *Journal of Memory and Language*, 72:37–48.
- Yates, M., Friend, J., and Ploetz, D. M. (2008). The effect of phonological neighborhood density on eye movements during reading. *Cognition*, 107(2):685–692.