

Scales and inferences – Handout

Colloquium talk March 30, Shirly Orr

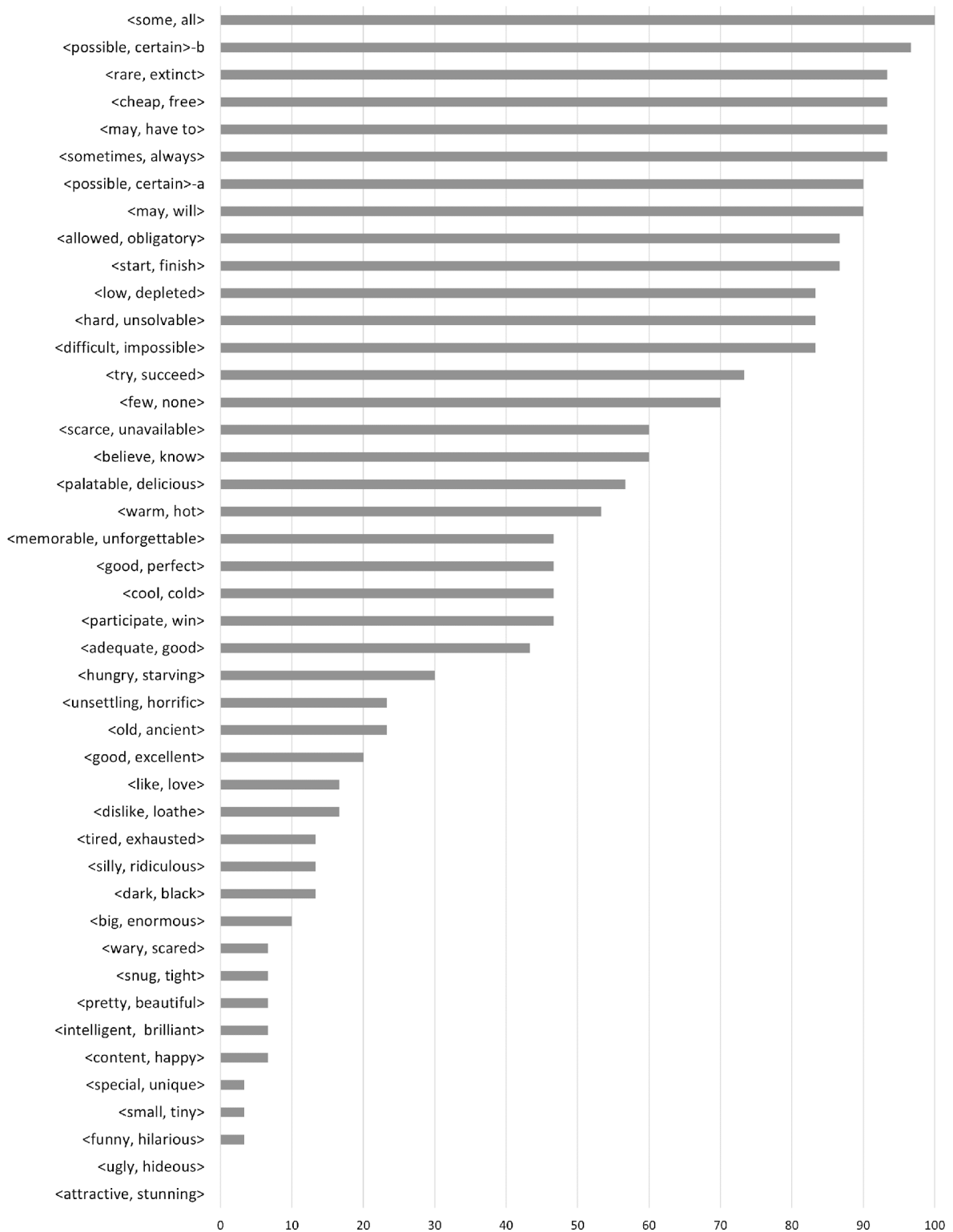
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From van Tiel et al. (2016)

Scale	Sources		
(some, all)	Noveck (2001)	Noveck & Posada (2003)	
	Papafragou & Musolino (2003)	Bott & Noveck (2004)	
	Feeney <i>et al.</i> (2004)	Guasti <i>et al.</i> (2005)	
	Breheny <i>et al.</i> (2006)	De Neys & Schaeken (2007)	
	Pouscoulous <i>et al.</i> (2007)	Banga <i>et al.</i> (2009)	
	Geurts & Pouscoulous (2009)	Huang & Snedeker (2009)	
	Clifton & Dube (2010)	Grodner <i>et al.</i> (2010)	
	Barner <i>et al.</i> (2011)	Chemla & Spector (2011)	
	Bott <i>et al.</i> (2012)	Geurts & van Tiel (2013)	
	van Tiel (2014)	Degen & Tanenhaus (2014)	
	(or, and)	Noveck <i>et al.</i> (2002)	Storto & Tanenhaus (2005)
		Breheny <i>et al.</i> (2006)	Chevallier <i>et al.</i> (2008)
		Pijnacker <i>et al.</i> (2009)	Zondervan (2010)
	(might, must)	Chemla & Spector (2011)	
(start, finish)	Noveck (2001)		
	Papafragou & Musolino (2003)		

Table 2 Scalar expressions used in a representative sample of experiments on the interpretation, development and processing of scalar inferences

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The percentages of “Yes” responses from Experiment 1 (indicating the probability to derive a SI).

Results from Experiment 1, Experiment 2, and Experiment 3, ordered by SI rates

Scale	SI rate	Boundedness score	Distance score	Cluster
<some, all>	100	83.98	74.45	1
<possible, certain>-b	96.67	63.13	73.6	1
<sometimes, always>	93.33	54.42	68.94	1
<may, have to>	93.33	50.4	79.63	1
<cheap, free>	93.33	92.74	67.7	1
<rare, extinct>	93.33	92.6	78.12	1
<may, will>	90	86.74	64.2	1
<possible, certain>-a	90	54.02	68.44	1
<start, finish>	86.67	83.39	95.61	1
<allowed, obligatory>	86.67	66.52	75.86	1
<difficult, impossible>	83.33	70.14	51.06	1
<hard, unsolvable>	83.33	82.22	52.84	1
<low, depleted>	83.33	72.78	35.97	1
<try, succeed>	73.33	44.14	81.7	1
<few, none>	70	92.97	88.97	1
<believe, know>	60	56.51	59.11	1
<scarce, unavailable>	60	79.1	48.36	1
<palatable, delicious>	56.67	14.07	64.3	2
<warm, hot>	53.33	6.42	42.3	2
<participate, win>	46.67	83.27	75.8	1
<good, perfect>	46.67	62.61	27.97	1
<memorable, unforgettable>	46.67	44.47	46.87	2
<cool, cold>	46.6	4.32	28.28	2
<adequate, good>	43.33	9.89	48.17	2
<hungry, starving>	30	34.24	33.3	2
<old, ancient>	23.33	23.22	23.83	2
<unsettling, horrific>	23.33	9.56	33.99	2
<good, excellent>	20	12.45	36.3	2
<dislike, loathe>	16.67	27.72	16.25	2
<like, love>	16.67	21.95	34.33	2
<dark, black>	13.33	46.86	38.18	2
<silly, ridiculous>	13.33	14.51	26.48	2
<tired, exhausted>	13.33	7.09	18.07	2
<big, enormous>	10	21.74	17.77	2
<content, happy>	6.67	8.01	31.4	2
<intelligent, brilliant>	6.67	11.32	21.35	2
<pretty, beautiful>	6.67	12.7	17.54	2
<snug, tight>	6.67	9.98	10.11	2
<wary, scared>	6.67	9.22	25.72	2
<funny, hilarious>	3.33	9.73	13.9	2
<small, tiny>	3.33	14.3	15.34	2
<special, unique>	3.33	38.14	23.91	2
<attractive, stunning>	0	11.28	17.3	2
<ugly, hideous>	0	8.8	13.31	2

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Boundedness (BNDS) scores, ordered by quartiles

1 st Quartile		2 nd Quartile		3 rd Quartile		4 th Quartile	
Scale	BNDS score	Scale	BNDS score	Scale	BNDS score	Scale	BNDS score
<i>none</i>	92.97	<i>obligatory</i>	66.52	<i>starving</i>	34.24	<i>stunning</i>	11.28
<i>free</i>	92.74	<i>certain-b</i>	63.13	<i>loathe</i>	27.72	<i>tight</i>	9.98
<i>extinct</i>	92.6	<i>perfect</i>	62.61	<i>ancient</i>	23.22	<i>good</i>	9.89
<i>will</i>	86.74	<i>know</i>	56.51	<i>love</i>	21.95	<i>hilarious</i>	9.73
<i>all</i>	83.98	<i>always</i>	54.42	<i>enormous</i>	21.75	<i>horrific</i>	9.56
<i>finish</i>	83.39	<i>certain-a</i>	54.02	<i>ridiculous</i>	14.51	<i>scared</i>	9.22
<i>win</i>	83.27	<i>have to</i>	50.4	<i>tiny</i>	14.3	<i>hideous</i>	8.8
<i>unsolvable</i>	82.22	<i>black</i>	46.86	<i>delicious</i>	14.07	<i>happy</i>	8.01
<i>unavailable</i>	79.07	<i>unforgettable</i>	44.47	<i>beautiful</i>	12.7	<i>exhausted</i>	7.09
<i>depleted</i>	72.78	<i>succeed</i>	44.14	<i>excellent</i>	12.45	<i>hot</i>	6.42
<i>impossible</i>	70.14	<i>unique</i>	38.14	<i>brilliant</i>	11.32	<i>cold</i>	4.32

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Distance (DIST) scores (calculated based on interchangeability scores), ordered by quartiles

1 st quartile		2 nd quartile		3 rd quartile		4 th quartile	
Scale	DIST score	Scale	DIST score	Scale	DIST score	Scale	DIST score
< <i>start, finish</i> >	95.61	< <i>cheap, free</i> >	67.7	< <i>good, excellent</i> >	36.3	< <i>old, ancient</i> >	23.83
< <i>few, none</i> >	88.97	< <i>palatable, delicious</i> >	64.3	< <i>low, depleted</i> >	35.97	< <i>intelligent, brilliant</i> >	21.35
< <i>try, succeed</i> >	81.7	< <i>may, will</i> >	64.2	< <i>like, love</i> >	34.33	< <i>tired, exhausted</i> >	18.07
< <i>may, have to</i> >	79.63	< <i>believe, know</i> >	59.11	< <i>unsettling, horrific</i> >	33.99	< <i>big, enormous</i> >	17.77
< <i>rare, extinct</i> >	78.12	< <i>hard, unsolvable</i> >	52.84	< <i>hungry, starving</i> >	33.3	< <i>pretty, beautiful</i> >	17.54
< <i>allowed, obligatory</i> >	75.86	< <i>difficult, impossible</i> >	51.06	< <i>content, happy</i> >	31.4	< <i>attractive, stunning</i> >	17.3
< <i>participate, win</i> >	75.8	< <i>scarce, unavailable</i> >	48.36	< <i>memorable, unforgettable</i> >	28.28	< <i>dislike, loathe</i> >	16.25
< <i>some, all</i> >	74.45	< <i>adequate, good</i> >	48.17	< <i>cool, cold</i> >	27.97	< <i>small, tiny</i> >	15.34
< <i>possible, certain</i> >-b	73.6	< <i>good, perfect</i> >	46.87	< <i>silly, ridiculous</i> >	26.48	< <i>funny, hilarious</i> >	13.9
< <i>sometimes, always</i> >	68.94	< <i>warm, hot</i> >	42.3	< <i>wary, scared</i> >	25.72	< <i>ugly, hideous</i> >	13.31
< <i>possible, certain</i> >-a	68.44	< <i>dark, black</i> >	38.18	< <i>special, unique</i> >	23.91	< <i>snug, tight</i> >	10.11

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Items categorized based on the k-means cluster analysis

Cluster 1 (Cluster's center: Boundedness = 1.01sd; Distance = 0.94sd)	Cluster 2 (Cluster's center: Boundedness = -0.77sd; Distance = -0.71sd)
<some, all>	<dislike, loathe>
<few, none>	<like, love>
<sometimes, always>	<adequate, good>
<may, have to>	<attractive, stunning>
<may, will>	<big, enormous>
<believe, know>	<content, happy>
<participate, win>	<cool, cold>
<start, finish>	<dark, black>
<try, succeed>	<funny, hilarious>
<allowed, obligatory>	<good, excellent>
<cheap, free>	<hungry, starving>
<difficult, impossible>	<intelligent, brilliant>
<good, perfect>	<memorable, unforgettable>
<hard, unsolvable>	<old, ancient>
<low, depleted>	<palatable, delicious>
<possible, certain>-a	<pretty, beautiful>
<rare, extinct>	<silly, ridiculous>
<scarce, unavailable>	<small, tiny>
<possible, certain>-b	<snug, tight>
	<special, unique>
	<tired, exhausted>
	<ugly, hideous>
	<unsettling, horrific>
	<warm, hot>
	<wary, scared>
