

The Signs of a Savant

Language Against the Odds

Neil Smith, Ianthi Tsimpli, Gary Morgan and
Bencie Woll



CAMBRIDGE
UNIVERSITY PRESS

Contents

<i>Figures</i>	<i>page</i> x
<i>Tables</i>	xii
<i>Preface</i>	xiii
1 Introducing Christopher	1
1.1 Personal background	1
1.2 Psychological profile	2
1.3 Medical background	4
1.3.1 Autism and perspective	5
1.3.2 Apraxia and the visuo-spatial	6
1.4 Theoretical background	8
1.4.1 Memory	8
1.4.2 Modularity and modality	18
1.4.3 The language faculty	21
1.4.3.1 Principles and parameters	22
1.4.3.2 Morphology as an interface	24
1.4.4 Theory of mind	25
1.4.4.1 False belief and the language faculty	25
1.4.4.2 Theory of <i>intelligence and the executive</i>	27
1.4.4.3 Central coherence	29
1.4.5 Relevance, and Christopher's pragmatic ability	32
1.5 Linguistic processing problems	34
1.6 L1A versus L2A	36
1.6.1 Christopher's English	36
1.6.2 Christopher's 'second' languages: lexicon–syntax asymmetry	37
1.6.3 Inhibition and weak central coherence	38
1.7 Summary and predictions	40
2 British Sign Language: An overview	43
2.1 Introduction	43
2.1.1 Sign languages as natural languages	44
2.1.2 Sign space	47
2.2 Phonology: the lexicon	49
2.2.1 Modality effects	53
2.2.2 Iconicity in the sign lexicon	55
2.2.3 A preliminary model	58

2.3	Morpho-syntax	62
2.3.1	Word-order and topicalisation	62
2.3.2	Negation, questions and facial action	65
2.3.2.1	Negation	65
2.3.2.2	Questions	67
2.3.3	Subject–object agreement	68
2.4	Classifiers and topographic space	70
2.4.1	Classifiers in spoken languages	70
2.4.2	Classifiers in signed languages	71
2.4.3	Parallels between classifiers in spoken and signed languages	74
2.5	Cross-modality effects: space, gesture and iconicity	75
2.6	Conclusions	75
3	The programme	77
3.1	Preliminaries	77
3.1.1	Methodology of data presentation and analysis	77
3.1.2	Iconicity	78
3.2	The curriculum and other interactions	79
3.3	Christopher and the comparator group	80
3.4	Rationale for the selection of BSL phenomena	81
3.5	Specific predictions about BSL learning in the two groups	82
4	The results	84
4.1	Introduction	84
4.2	Overview of Christopher's BSL learning	84
4.3	Non-verbal communication, gesture and iconicity	86
4.4	Lexical development	92
4.5	Morpho-syntax	96
4.5.1	Word-order	96
4.5.2	The face: negation and questions	99
4.5.2.1	Negation	99
4.5.2.2	Questions	109
4.5.3	Sign space and verb agreement	115
4.6	Classifiers	122
4.7	Further tests	130
4.8	Summary and conclusions	137
5	Christopher in the wider context	140
5.1	Introduction: dissociations revisited	140
5.2	Aphasic signers	140
5.2.1	Background: unimpaired signers	140
5.2.2	Signers with stroke	141
5.2.3	Sign versus gesture: Charles	142
5.3	Robert	143
5.4	Autistic signers	145
5.5	Heather	146
5.6	Bilingual twins with Down Syndrome	149
5.7	Daniel Tammet	151
5.8	Conclusions	152

6	Modality and the mind	153
6.1	Introduction	153
6.2	Modality effects	153
6.2.1	Articulation	153
6.2.2	Simultaneity (the non-concatenative nature of BSL)	155
6.2.3	Iconicity	156
6.2.4	Orthography	156
6.3	Deixis in English and BSL: apraxia revisited	157
6.4	Space, syntax and pragmatics	159
6.5	Classifiers revisited	160
6.6	Facial action, intonation and morpho-phonology	161
6.7	A model of the mind	162
6.7.1	The framework	163
6.7.2	Exemplification	177
6.8	Conclusions	182
6.8.1	Neuropsychology and linguistic talent	182
6.8.2	Modularity, modality and mind	182

Appendices

<i>Appendix 1</i>	<i>Stroop tests</i>	185
<i>Appendix 2</i>	<i>List of example signs used in vocabulary tests in comprehension and production</i>	190
	<i>Notes</i>	191
	<i>References</i>	197
	<i>Index</i>	214