

# Contents

<i>List of figures</i>	page	xiii
<i>Preface</i>		xv
<i>List of abbreviations</i>		xvii
<b>1 Introduction</b>		<b>1</b>
1.1 Overview		1
1.2 Theories, frameworks, and safety zones		2
1.3 Terminological and conceptual traps		5
1.4 The pros and cons of compartmentalisation: SLA as a case in point		8
1.5 Cross-fertilisation		12
1.6 Some MOGUL 'prehistory'		12
1.7 MOGUL: the basics		13
1.7.1 The main components		13
1.7.2 Interface systems		19
1.7.3 MOGUL in context		21
1.8 An outline of the chapters to follow		24
1.9 Chapter summary		25
<b>Part I The framework</b>		
<b>2 The language module: architecture and representations</b>		<b>29</b>
2.1 Chapter outline		29
2.2 Modularity		30
2.2.1 Modularity in general		30
2.2.2 Modularity in language		31
2.2.3 Jackendoff's version of modularity		34
2.3 The language module(s) in MOGUL		36
2.3.1 The general architecture		36
2.3.2 Processors		39
2.3.3 Lexical stores		40
2.3.4 MOGUL and the nature of modularity		42
2.3.5 Representations: the locus of language development		43
2.4 Representations at SS		44
2.4.1 Syntactic categories and combinations of syntactic categories		44
2.4.2 Functional categories and their feature values		46
2.4.3 I and its features		46
2.4.4 Case items		48



2.5	Representations at CS	48
2.5.1	Conceptual role items	49
2.5.2	Conceptual grids	50
2.6	Connections among SS, CS, and PS items	50
2.6.1	Words: whole-form vs. decompositional storage/access	50
2.6.2	Beyond subcategorisation frames	52
2.6.3	Functional categories: form and meaning	54
2.6.4	A note on indexes	56
2.7	Representations and the notion of knowledge	57
2.8	Working memory	58
2.8.1	Research and theory on working memory	58
2.8.2	Working memory in MOGUL	60
2.9	Chapter summary	61
<b>3</b>	<b>Processing in the language module</b>	<b>64</b>
3.1	Chapter outline	64
3.2	Theory and research on processing	64
3.2.1	Processing and linguistic theory	64
3.2.2	Modularity and interaction	65
3.2.3	Competition	66
3.2.4	Incremental processing	67
3.2.5	Activation	68
3.2.6	Dual storage and processing as a race	70
3.2.7	Serial vs. parallel processing	71
3.3	Processing in MOGUL	72
3.3.1	Processing and linguistic theory	72
3.3.2	Modularity and interaction	73
3.3.3	Competition	74
3.3.4	Incremental processing	74
3.3.5	Activation	75
3.3.6	Dual storage and processing as a race	78
3.3.7	Serial vs. parallel processing	82
3.4	Putting the elements together: the nature of processing activity	82
3.4.1	The process	82
3.4.2	An example	84
3.4.3	Another example: input including a fixed expression	88
3.4.4	Processing as dynamic equilibrium	89
3.4.5	A note on neurological plausibility	90
3.5	The place of an L2 in the language module	91
3.6	Chapter summary	91
<b>4</b>	<b>Growth of the language module: acquisition by processing</b>	<b>93</b>
4.1	Chapter outline	93
4.2	Acquisition by processing	93
4.2.1	The logic of APT	96
4.2.2	APT and priming	98
4.2.3	APT and dynamic systems	99
4.2.4	APT and connectionism	100
4.2.5	APT and emergentist approaches	100
4.2.6	APT as a strong claim	101
4.2.7	What is acquired?	102



4.2.8	Development within a store: representations and their activation levels	102
4.2.9	Development of connections between stores: indexes and their activation levels	105
4.2.10	Conclusion	107
4.3	The growth of syntactic structures	107
4.3.1	Syntactic categories and combinations of syntactic categories	107
4.3.2	Functional categories	109
4.4	The growth of conceptual structures	112
4.4.1	Conceptual role items	112
4.4.2	Conceptual grids	113
4.4.3	Crosslinguistic variation in conceptual role assignment	114
4.5	The growth of some combinations of SS, CS, and PS items	116
4.5.1	Words: whole-form vs. decompositional storage/access	116
4.5.2	Beyond subcategorisation frames	121
4.5.3	Constructions vs. principles and parameters	123
4.5.4	Functional categories	126
4.5.5	Influences of conceptual processing on the growth of SS	128
4.6	APT in perspective	130
4.6.1	Hypotheses and rules	130
4.6.2	Principles guiding acquisition	130
4.6.3	APT and working memory	132
4.6.4	Language acquisition outside the language module	132
4.6.5	The role of frequency	133
4.7	Chapter summary	134
<b>5</b>	<b>Beyond the language module</b>	<b>137</b>
5.1	Chapter outline	137
5.2	The overall architecture of the mind	138
5.2.1	Processors and information stores	138
5.2.2	Perceptual processing units	143
5.2.3	Visual structures (VS)	143
5.2.4	Auditory structures (AS)	145
5.2.5	Perceptual output structures (POpS)	148
5.2.6	Conceptual structures (CS)	152
5.2.7	Affective structures (AfS)	154
5.2.8	Modularity revisited	159
5.2.9	Conclusion	160
5.3	The nature of knowledge	161
5.3.1	Non-linguistic knowledge	162
5.3.2	Metalinguistic knowledge	165
5.3.3	Word meaning	167
5.3.4	Orthography	168
5.3.5	The place of emotion in knowledge	169
5.4	Growth	169
5.4.1	The growth of non-linguistic knowledge	169
5.4.2	The growth of metalinguistic knowledge	171
5.4.3	The growth of word meaning	173
5.4.4	Orthography	175
5.4.5	The role of emotion	176
5.5	Chapter summary	177



**Part II Applying the framework**

<b>6</b>	<b>The bilingual mind introduced</b>	<b>181</b>
6.1	Chapter outline	181
6.2	Setting the boundaries	181
6.3	Bilingualism: an overview	182
6.3.1	Multiple systems as the norm	184
6.4	Language systems in the mind: the differentiation problem	185
6.4.1	Avoiding Babel	186
6.4.2	The Language Tagging Hypothesis	187
6.4.3	The Conceptual Triggering Hypothesis	188
6.4.4	Different types of conceptual trigger	190
6.4.5	Bilingualism and the concept of native speaker	191
6.4.6	Language dominance	192
6.5	Language systems in the mind: crosslinguistic influence (CLI)	194
6.5.1	Types of CLI	195
6.5.2	Crosslinguistic influence in MOGUL	196
6.5.3	Code-switching	198
6.6	Conscious versus subconscious bilingual processing	205
6.6.1	An overview	205
6.6.2	Metalinguistic abilities in bilinguals	206
6.6.3	Translation	207
6.6.4	Interpreting	209
6.6.5	Language systems in the brain: a neurolinguistic perspective	209
6.7	Chapter summary	211
<b>7</b>	<b>The growth of a second language</b>	<b>212</b>
7.1	Chapter outline	212
7.2	Studying second language acquisition: central issues	212
7.2.1	First steps	212
7.2.2	Creative construction	215
7.2.3	Krashen's contribution to creative construction theory	216
7.2.4	The 'UG' group	217
7.2.5	Bottleneck, Interfaces, and Interpretability	220
7.2.6	Pienemann's Processability Theory	224
7.2.7	VanPatten's input processing account	225
7.2.8	Carroll's Autonomous Induction Theory	226
7.2.9	The generalists in SLA	227
7.2.10	MOGUL in relation to earlier approaches	228
7.3	APT and new languages	229
7.4	The growth of phonological and syntactic structures	230
7.4.1	A sketch of PS growth	230
7.4.2	Syntactic categories	232
7.4.3	Subcategorisation frames	234
7.4.4	Functional categories	234
7.5	The growth of conceptual structures	238
7.5.1	Case-conceptual role connections	238
7.5.2	Conceptual grids	238
7.5.3	Crosslinguistic variation in conceptual role assignment	239



7.6	The growth of some combinations of SS, CS, and PS items	240
7.6.1	Word meaning	240
7.6.2	Words: whole-form vs. decompositional storage/access	243
7.6.3	Beyond subcategorisation frames	243
7.6.4	Functional categories	244
7.7	The growth of metalinguistic knowledge	245
7.8	Language attrition	246
7.9	Chapter summary	250
<b>8</b>	<b>Consciousness and attention</b>	<b>252</b>
8.1	Chapter outline	252
8.2	Consciousness	252
8.2.1	The nature and function of consciousness	252
8.2.2	Awareness of knowledge and its development	255
8.3	The nature of consciousness in MOGUL	255
8.3.1	POpS and consciousness	255
8.3.2	Affective structures and consciousness	257
8.3.3	Explaining some characteristics of consciousness	259
8.3.4	Conclusion	267
8.4	Attention	267
8.4.1	Channels, filters, and limited resources	267
8.4.2	Limited resources and the MOGUL framework	269
8.4.3	Development inside and outside the language module	269
8.4.4	Development and the characteristics of automatic processes	270
8.4.5	The trouble with attention as a theoretical entity	271
8.4.6	Deriving attentional phenomena in the MOGUL framework	272
8.5	Chapter summary	277
<b>9</b>	<b>The role of consciousness in language growth</b>	<b>280</b>
9.1	Chapter outline	280
9.2	Consciousness and growth of a first language	280
9.2.1	Consciousness and growth of the language module	280
9.2.2	Consciousness and growth of metalinguistic knowledge	283
9.2.3	Consciousness and growth of word meaning	284
9.2.4	Consciousness and growth of orthography	285
9.2.5	Conclusion: consciousness in the growth of language	286
9.3	Consciousness and second language acquisition: noticing and understanding	286
9.3.1	The trouble with noticing	287
9.3.2	The MOGUL approach to noticing	288
9.3.3	Noticing vs. global awareness of input	290
9.3.4	Noticing vs. awareness at the level of understanding	290
9.3.5	Noticing and form–meaning connections	292
9.3.6	Noticing/understanding and automatic processes	295
9.3.7	Implicit learning revisited	296
9.3.8	Noticing the gap	298
9.3.9	Conclusion	300
9.4	Implications for second language instruction	300
9.4.1	Teaching for metalinguistic knowledge and its use in performance	301



9.4.2	Adjusting learners' input	303
9.4.3	Teaching metalinguistic knowledge to help learners adjust their own input	304
9.5	Chapter summary	306
<b>10</b>	<b>Issues in SLA revisited</b>	<b>308</b>
10.1	Chapter outline	308
10.2	Stages and continua	308
10.2.1	Stages and what's right about them	309
10.2.2	Continua and what's right about them	309
10.2.3	A MOGUL resolution	313
10.2.4	The evidence revisited	314
10.2.5	Conclusion	315
10.3	The initial state and crosslinguistic influence	316
10.3.1	The initial state	316
10.3.2	Crosslinguistic influence	318
10.4	Optionality	320
10.4.1	The phenomena	320
10.4.2	Optionality in MOGUL	324
10.4.3	Conclusion	326
10.5	Ultimate attainment	327
10.5.1	The MOGUL approach to ultimate attainment	328
10.5.2	The case of English past tense forms	329
10.5.3	Optionality as an interface problem	334
10.5.4	A note on individual differences	335
10.5.5	Conclusion	336
10.6	Anxiety in second language acquisition	337
10.7	Chapter summary	339
<b>11</b>	<b>Conclusion</b>	<b>341</b>
11.1	Chapter outline	341
11.2	The challenge revisited	341
11.3	MOGUL summarised: the big picture	342
11.4	On birds, dogs, apes, and humans	344
11.5	More or fewer modules: the case for parsimony	347
11.6	Some MOGUL reconceptualisations	351
11.6.1	What is a representation?	352
11.6.2	What is 'working memory'?	353
11.6.3	What is 'input' in MOGUL?	353
11.6.4	What is a 'lexical item' in MOGUL?	354
11.6.5	What is 'executive function'?	355
11.6.6	What is a 'parsing strategy'?	356
11.6.7	What is 'input enhancement' in MOGUL?	357
11.7	The MOGUL brain	359
11.8	Closing comments	360
	<i>References</i>	361
	<i>Index</i>	401