## Full table of contents

List of tables and figures
List of abbreviations and acronyms
1 Introduction 23
2 Scientific and technical translation studies33
2.1 Issues of terminology
2.2 Historical and current significance of scientific and technical translation
2.3 The status of scientific and technical translation in translation studies
2.4 Distinctive features of scientific and technical translation44
2.4.1 The role of subject-matter knowledge in scientific and technical translation
2.4.2 Stability of meaning in scientific and technical translation 47
2.4.3 Invariance of meaning in scientific and technical translation 49
2.4.4 Communicative function of scientific and technical translation 50
2.4.5 The relevance of linguistics to scientific and technical translation studies
2.5 Scientific and technical translation studies
between source text and target text orientation
2.6 Scientific and technical translation as a prototype category58
2.7 A three-dimensional classification of scientific and technical texts 65
2.7.1 The three dimensions of the classification

2.7.1.1 Text function	66
2.7.1.2 Subject-matter competence	
of the discourse participants	68
2.7.1.3 Degree of technicality	71
2.7.2 Overview of the classification	75
2.8 Scientific and technical translation studies	
and linguistic underdeterminacy	76
2.9 Chapter summary	80
3 Interlude: An epistemological grounding for	
scientific and technical translation studies and cognitive lingu	
3.1 The fundamental dichotomy: objectivism vs. subjectivism	
3.1.1 The objectivist paradigm	
3.1.2 The subjectivist paradigm	89
3.2 The embodied realist alternative	92
3.2.1 Origins in cognitive science	94
3.2.2 Embodied experience	95
3.2.3 Embodied cognition	97
3.2.4 Embodied realism	102
3.3 Embodied realism and science	107
3.4 Chapter summary	112
4 The framework of cognitive linguistics	115
4.1 Major approaches to meaning	116
4.2 Basic tenets of cognitive linguistics	121
4.2.1 Sign-theoretic foundations	122
4.2.2 Generalisation commitment and cognitive commitmen	ıt125

4.2.3 Dictionary vs. encyclopaedic view of linguistic meaning	127
4.2.4 Schemas and instances	130
4.3 Theory of mind: stability of meaning in cognitive linguistics	133
4.4 Cognitive linguistics and linguistic relativism	138
4.5 Theoretical components of the cognitive linguistic framework with specific relevance to the present study	142
4.5.1 Linguistic construal	
4.5.1.1 Langacker's model of linguistic construal operations	
4.5.1.2 Croft and Cruse's model	
of linguistic construal operations	146
4.5.2 Common ground	148
4.5.3 Cognitive semantics	152
4.5.3.1 Frame semantics	153
4.5.3.2 Theory of domains	157
4.5.3.3 Frames and domains: a combined approach	161
4.6 Cognitive linguistics and linguistic underdeterminacy	164
4.7 Chapter summary	166
5 The interface between scientific and technical translation studies	
and cognitive linguistics	169
5.1 A model of the scientific and technical translation process	170
5.1.1 ST author and source text	175
5.1.2 Translator, source text and target text	177
5.1.3 TT reader and target text	179
5.2 The epistemological dimension	18 <b>0</b>
5.2.1 Conceptualisation of domain-related reality	181
5.2.2 Conceptualisation and language	185

5.3 The contextual dimension	189
5.3.1 Situational context	191
5.3.2 Discourse context	192
5.3.3 Knowledge context	193
5.3.4 Contextual 'shaping' of frames/don	main matrices
in usage events	195
5.3.5 Current discourse space: cognitive of the three context types	•
5.4 The textual dimension	
5.4.1 Texts as carriers of meaning	
in scientific and technical translation	on199
5.4.2 Stability vs. instability of textual m	eaning202
5.5 The cross-linguistic dimension: a cogniti	ve linguistic view
on invariance of meaning in STT	208
5.6 Chapter summary	218
6 Explicitation and implicitation	221
6.1 Explicitation and implicitation as areas of	• •
in translation studies	222
6.1.1 Theoretical and empirical imbalance	
between explicitation and implicit	
6.1.2 Explicitation and translational univ	ersality224
6.1.3 Major strands in research on explic	itation226
6.2 Examining the explicitation concept	231
6.2.1 Conceptual issues	231
6.2.2 S-explicitation vs. T-explicitation .	233

6.2.3.1 Explicitation vs. expansion	237
6.2.3.2 Explicitation vs. addition	239
6.2.3.3 The expansion-explicitation-addition continuum	242
6.3 Examining the implicitation concept	243
6.3.1 The Asymmetry Hypothesis	245
6.3.2 Distinction between implicitation and adjacent concepts	246
6.3.2.1 Implicitation vs. reduction	246
6.3.2.2 Implicitation vs. omission	247
6.3.2.3 The reduction-implicitation-omission continuum	248
6.4 Explicitation and implicitation vs. explicitness and implicitness2	249
6.4.1 Theoretical accounts of explicitness and implicitness	252
6.4.1.1 Explicitness and implicitness in Anglo-American pragmatics	252
6.4.1.2 Explicitness and implicitness in cognitive linguistics2	257
6.5 Explicitation and implicitation	
from a cognitive linguistic perspective	260
6.5.1 Explicitation and implicitation as cross-linguistic construal operations	261
6.5.1.1 Explicitation and implicitation in Langacker's model of linguistic construal operations	261
6.5.1.2 Explicitation and implicitation in Croft and Cruse's model of linguistic construal operations	263
6.5.1.3 Comparing the two models with regard to their applicability to explicitation and implicitation	264
6.5.2 A cognitive linguistic distinction between explicitation/implicitation and their adjacent concepts	266
6.6 Defining explicitation and implicitation	271

6.8 Chapter summary	273
7 Corpus design and methodology	275
7.1 Corpus design	275
7.1.1 Primary design considerations	275
7.1.1.1 Translation corpus	276
7.1.1.2 Domain-controlled corpus	276
7.1.1.3 Bidirectional corpus	277
7.1.1.4 Subcorpora with different degrees of technicality	278
7.1.1.5 Functional invariance	
between source and target texts	279
7.1.1.6 High-quality corpus	280
7.1.2 Corpus data	281
7.1.2.1 Corpus structure:	
superordinate corpus and subcorpora	282
7.1.2.2 Statistical corpus data	283
7.1.3 Text data	284
7.1.3.1 General information, text type and genre	285
7.1.3.2 Degree of technicality	286
7.1.3.3 Translation context	287
7.1.4 Epistemic value of "corpora in context"	289
7.2 Methodology	292
7.2.1 Tertium comparationis of the translation comparison	292
7.2.1.1 Explicitation and implicitation as translation shifts	296
7.2.2 Classification of explicitation and implicitation shifts	296

	7.2.2.1 Linguistic classification proposed by Klaudy and Károly	297
	7.2.2.2 Revised cognitive linguistic classification	300
	7.2.3 Identification and classification procedure	303
	7.3 Chapter summary	305
8	Corpus analysis	307
	8.1 Quantitative dimension of the analysis	308
	8.1.1 Frequency and distribution of shifts	
	in relation to the translation direction	311
	8.1.2 Frequency and distribution of shifts in relation to the	
	degree of technicality	314
	8.2 Lexical insertion and deletion	316
	8.2.1 Qualitative discussion of lexical insertion/deletion shifts	319
	8.2.1.1 Explicitation: lexical insertion	320
	8.2.1.2 Implicitation: lexical deletion	340
	8.2.2 Linguistic distribution of lexical insertion/deletion shifts	352
	8.3 Lexical specification and schematisation	354
	8.3.1 Qualitative discussion of lexical	
	specification/schematisation shifts	357
	8.3.1.1 Explicitation: lexical specification	358
	8.3.1.2 Implicitation: lexical schematisation	380
	8.3.2 Linguistic distribution of lexical	
	specification/schematisation shifts	394
	8.4 Relational specification and schematisation	398
	8.4.1 Qualitative discussion of relational	
	specification/schematisation shifts	402
	8.4.1.1 Explicitation: relational specification	403

8.4.1.2 Implicitation: relational schematisation	414
8.4.2 Linguistic distribution of relational	
specification/schematisation shifts	419
8.5 Borderline cases	422
8.5.1 Expansion vs. explicitation	423
8.5.2 Explicitation vs. addition	424
8.5.3 Reduction vs. implicitation	426
8.5.4 Implicitation vs. omission	427
8.6 Chapter summary	429
9 Conclusion	433
10 References	447