JAN WOHLGEMUTH

Trends in Linguistics

.

A Typology of Verbal Borrowings

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A Typology of Verbal Borrowings



Trends in Linguistics Studies and Monographs 211

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Mouton de Gruyter Berlin · New York

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by Jan Wohlgemuth

Mouton de Gruyter Berlin · New York Mouton de Gruyter (formerly Mouton, The Hague) is a Division of Walter de Gruyter GmbH & Co. KG, Berlin.

Printed on acid-free paper which falls within the guidelines of the ANSI to ensure permanence and durability.

Library of Congress Cataloging-in-Publication Data

Wohlgemuth, Jan.
A typology of verbal borrowings / by Jan Wohlgemuth.
p. cm (Trends in linguistics. Studies and monographs; 211)
Includes bibliographical references and index.
ISBN 978-3-11-021933-3 (hardcover : alk. paper)
1. Grammar, Comparative and general – Verbals. 2. Language
and languages – Foreign words and phrases. 3. Sociolinguistics.
I. Title.
P281.W65 2009
415-dc22
2009020637

ISBN 978-3-11-021933-3 ISSN 1861-4302

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at http://dnb.d-nb.de.

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Printed in Germany.

Meiner Freundin Eike Meinem Bruder Jörg Meinen lieben Eltern

Preface

The present volume is the revised version of my dissertation which was submitted to the Faculty of Philology of Leipzig University in January 2008 and defended in July 2008. This thesis took shape during the four years of the XXVIIIth Olympiad which I spent at the Department of Linguistics of the MAX PLANCK INSTITUTE FOR EVOLUTIONARY ANTHROPOLOGY (MPI EVA) in Leipzig. Some words of appreciation are due for those people who made these years in Leipzig so inspiring, productive, and happy.

First of all, MARTIN HASPELMATH invited me to spend this inspiring period at the Olympus of linguistic typology and suggested the topic of loan verb accommodation. This dissertation would not be the same without his advice, his constructive and thorough feedback as well as his occasional whipcracking.

Furthermore, a project like this typology of verb borrowings would have been impossible without the input and feedback of the many colleagues and consultants who are listed on the following page and whose contributions cannot be detailed here. I nevertheless want to highlight three of them. SØREN WICHMANN generously left the topic and much of his collected material to me. ANTHONY P. GRANT, who is a living, breathing reference source, provided me with an abundance of information, comments, and enthusiasm on the topic. EDWARD J. VAJDA is not only one of the most pleasant fellows I have ever met, he also contributed an exhaustive list of Ket loan verb examples and many interesting insights in our discussions; he is furthermore the initiator of most inspiring coffee break conversations.

The staff at the MPI EVA institute library, especially STEPHAN KEMP-GEN, always kindly and effectively helped me searching, localizing and ordering literature. During their internships at the institute, ANNE-CAROLINE CORDERO-D'AUBUISSON and JULIA ROMAZANOVA diligently filled the database with examples and references and checked it for consistency.

HANS-JÖRG BIBIKO, MICHAEL CYSOUW, and JAN NIKOLAS DICKE, supported me while I took my first steps with *FileMakerTM* and *the Digital WALS Cartography tool*, *R*, and LATEX respectively. They and especially PE-TER FRÖHLICH were also helpful in many ways during the aftermath of that grim day when the hard drives of both of my computers died.

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The publication version of this work benefited from the comments and criticism by the three reviewers of the original dissertation: BALTHASAR BICKEL, MARTIN HASPELMATH, and THOMAS STOLZ. Furthermore, I appreciate the evaluations and suggestions made by the two evaluators from the Association for Linguistic Typology's "Greenberg Award" committee: EDITH MORAVCSIK and JAE JUNG SONG.

I am also grateful to the kind people who read passages of different evolutionary stages of the dissertation and this book's manuscript, gave valuable stylistic advice and/or helped to reduce the number of typing and formatting errors: BERNARD COMRIE, ORIN D. GENSLER, EDWARD J. VAJDA, and VIOLA VOSS. The final layout was optimized with the patient and thorough guidance of WOLFGANG KONWITSCHNY from Mouton de Gruyter.

My beloved parents, SABINE & WOLFGANG WOHLGEMUTH, always provided me with their limitless love, faith and support. I cannot thank them enough for everything.

Last but not least, EIKE LAUTERBACH not only took the time to proofread the entire manuscript multiple times. She was suddenly there and believed in me when I didn't. I am most grateful for the motivation and companionship, for her dedication — but most of all for her regularly taking my body and mind far away from borrowed verbs and my desk.

Acknowledgments

The following people, to whom I am very thankful, kindly discussed and answered my questions, generously contributed examples, grammaticality judgments, references and/or comments and feedback to me:

Alexandra Y. Aikhenvald, Esben Alfort, Mark J. Alves, Andreas Ammann, Joseph Atoyebi, Peter K. Austin, Dik Bakker, Peter Bakker, Ekaterina A. Baklanova, Sahruddin Barasanji, Laurie Bauer, Hans-Jörg Bibiko, Balthasar Bickel, Roland Bielmeier, Natali Bitko, Juliette Blevins, Melissa Bowerman, Claire L. Bowern, Brigitte Brocks, Sarah Bunin Benor, Thomas Chacko, Maria Mercè Coll-Alfonso, Bernard Comrie, Greville G. Corbett, Anne-Caroline Cordero-d'Aubuisson, Michael Cysouw, J. B. (Hans) den Besten, Jan Nikolas Dicke, Viktor Elšík, Patience L. Epps, Mary Rosa Espinosa, Nicholas D. Evans, Daniel L. Everett, Joseph T. Farquharson, Fredric W. Field, Adrienn Fitos, Diana Forker, Orin D. Gensler, David Gil, Jost Gippert, Lucía A. Golluscio, Jorge A. Gómez Rendón, Jeffrey C. Good, Anthony P. Grant, Tom Güldemann, Ozan Gülle, Martin Haase, Thomas Hanke, Mark Harvey, Martin Haspelmath, Roland Hemmauer, Kristina Henschke, Kristine A. Hildebrandt, Nikolaus P. Himmelmann, Robert D. Hoberman, Shinji Ido, Guillaume Jacques, Gerd Jendraschek, Anthony Jukes, Hennariikka Kairanneva, David Kamholz, Golamhossein Karimi-Doostan, Leena Kelkar-Stephan, Madzhid Š. Khalilov, Zaira Khalilova, Aliona Khanina, Olesva Khanina, Andrej A. Kibrik, Bettina Kluge, Yulia V. Koloskova, Jaklin Kornfilt, Maarten Kossmann, Silvia Kouwenberg, Pramod Kumar, Linda A. Lanz, Eike Lauterbach, Claudia Leto, Betty Litamahuputty, Maike Ludwig, Friederike Lüpke, Andrej L. Malchukov, Elena V. Maslova, Yaron Matras, Veronika Mattes, Susanne Michaelis, Zarina Molochieva, Edith Moravcsik, Ulrike Mosel, Céline Mounole Hiriart-Urruty, Katrin Muhme, André Müller, Andrey V. Nefedov, Philip Newton, Rick Nivens, Sebastian Nordhoff, Masahiko Nose, Bernd Nothofer, Marc Okrand, †Peter Olivier, Brigitte Pakendorf, John D. Phillips, William J. Poser, Christiana Psaropoulou, Judith Psaropoulou, Paolo Ramat, Johannes Reese, Odile Renault-Lescure, Nicole Richter, Julia Romazanova, Françoise Rose, Malcolm D. Ross, Jeanette Sakel, Bonny Sands, Diana Schackow, Thilo Schadenberg, René Schiering, Christopher K. Schmidt, Kim Schulte, Eva Schultze-Berndt, Eckehard Schulz, Ekaterina Selivanova, Masayoshi Shibatani, Poppy Siahaan, Florian Siegl, Michael Silverstein, Keith W. Slater, Dan I. Slobin, Nancy Stenson, Dorothea Steude, Donald Stilo, Christel Stolz, Thomas Stolz, Titima Suthiwan, Uri Tadmor, Bart J. Tkaczyk, Peter Unseth, Matthias Urban, Edward J. Vajda, Pilar M. Valenzuela, Ton van der Wouden, Alejandra Vidal, Carlotta Viti, Viola Voß, Bernhard Wälchli, Søren Wichmann, Thekla Wiebusch, Thomas R. Wier, Natchanan Yaowapat, Tessa Yuditha, Lela Zamušia, Ghil'ad Zuckermann.

Some of the people mentioned above indirectly contributed material to my study by responding to a query posted on *Linguist List* (Wichmann 2004b) by Søren Wichmann, who kindly shared the incoming information with me.

My gratitude also extends to the participants and organizers of the following events:

The Loanword Typology Project workshops and meetings 2004 through 2007 in Leipzig, the 36th Studentische Tagung Sprachwissenschaft (XXXVI. StuTS) 2004 in Mainz, the 3rd Postgraduate Conference in Philology 2005 in

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Athens, the *Romancisation Worldwide Conference* 2005 in Bremen, the 37th Studentische Tagung Sprachwissenschaft (XXXVII. StuTS) 2005 in Saarbrücken, the 2nd Postgraduate Conference in Linguistics 2005 in Wellington, the linguistics colloquium at Rice University in Houston 2005, the MPI-MPI meeting at our fellow institute in Nijmegen 2006, the Conference on Universality and Particularity in Parts-of-Speech Systems 2006 in Amsterdam, the 16th conference of the Southeast Asian Linguistics Society (SEALS XVI) 2006 in Jakarta, the Leipzig Spring School on Linguistic Diversity (LSSLD) 2008 in Leipzig, and the Linguistik-Werkstatt at the University of Bamberg 2008. I presented various aspects and stages of my work at these events and received valuable feedback from people in the audience. Unfortunately, I did not manage to remember all of their names.

Similarly, a few helpful members of the "linguaphiles" community at *livejournal.com*¹ will have to remain anonymous, since I only know their pseudonyms. However, I am not less thankful to them.

While this work and my collection of loan verb data undoubtedly benefited very much from the kind support and helpful feedback of all these people, they must not be blamed for any errors, shortcomings or misinterpretations in this work, for these are surely and entirely my own.

> Leipzig, May 2009 JAN WOHLGEMUTH

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Abbreviations and symbols

On the following pages, all abbreviations, acronyms, and symbols used in the present work are listed. Common abbreviations for administrative units as well as acronyms used in a few series titles or conference names in the references are not listed here.

Text abbreviations

The following abbreviations are used in the text, some of the tables, and the references:

aff.	affix(ation)
borr.	borrowing
categ.	(inflectional) category/-ies
ch.	chapter(s)
dom.	dominant
ex.	example(s)
excl.	exclusive
ed(s).	editor(s)
edn.	edition
fam.	family, families
f.	following page(s)
fn.	footnote(s)
forthc.	forthcoming
gen.	genus, genera
LGR	Leipzig Glossing Rules
lg(s).	language(s)
LV	loan verb(s)
LVDB	Loan Verb Database
LVIH	Loan Verb Integration Hierarchy
LVM	loan verb marker
LWT	Loanword Typology Project
LWTDB	Loanword Typology Database
max.	maximum
mean.	meaning

morph.	(inflectional) morphology
min.	minimum
MPI EVA	Max Planck Institute for Evolutionary Anthropology
n.a.	not applicable
n.d.	not dated
p.	page(s)
qu.	quartile
repr.	reprint
rev.	revised
sb.	somebody
sec.	(sub)section(s)
sth.	something
WALS	World Atlas of Language Structures
unid.	unidentified
vb.	verb
vol(s).	volume(s)

Abbreviations used in language names

In some tables and graphs, parts of language, genus and family names, especially "descriptive" ones like those indicating points of the compass, were abbreviated when necessary.

Ce.	Central
Cl.	Classic(al)
E.	East(ern)
Germ.	German(ic)
IE	Indo-European
Kamch.	Kamchatkan
Mi.	Middle
Mod.	Modern
MP	Malayo-Polynesian
No.	North(ern)
SH-WNG	South Halmahera-West New Guinea
So.	South(ern)
Sp.	Spoken
Std.	Standard
W.	West(ern)

Abbreviations and database codes for the accommodation strategies

In my earlier publications on the subject (cf. sec. 1.4.4.2), only the database codes (beginning with M for *macro-type*) as they are listed in the third column were used for the accommodation strategies.

For the sake of clarity, I applied the following, more distinct, abbreviations for the accommodation strategies in this work.

DI	Direct Insertion	(<i>M1</i>)	(cf. ch. 6)
IndI	Indirect Insertion	(<i>M2</i>)	(cf. ch. 7)
LVS	Light Verb Strategy	(<i>M3</i>)	(cf. ch. 8)
PI	Paradigm Insertion	(<i>M</i> 4)	(cf. ch. 9)
Sem.	Semantic borrowing	(MS)	(cf. ch. 11)
oth.	other	(<i>M5</i>)	(cf. ch. 10)
unid.	unidentified	(<i>M8</i>)	(cf. sec. 10.3)
MX	no loan verbs	(MX)	(cf. sec. 11.3)

The abbreviations of the pattern types are used only in the appendix and are listed there in sec. A.2.1 on page 327.

Abbreviations used in interlinear glossings

In general, I applied the standards set forth in "The Leipzig Glossing Rules: Conventions for interlinear morpheme-by-morpheme glosses" (brief: LGR)² throughout this work. Where necessary, abbreviations used in glosses cited from other sources were added to the list below. It therefore contains some abbreviations that do not occur in the LGR list, while abbreviations from the LGR list which are not used in this work were omitted.

I took the liberty to standardize the abbreviations in examples quoted from other sources by consistently using the LGR abbreviations, thereby maintaining consistent, unambiguous use of the abbreviations in order to facilitate comparison of examples.

1	first person
2	second person
3	third person
А	agent-like argument of canonical transitive verb
ABL	ablative
ABS	absolutive

ABSTR	abstract
ACT	active
AGR	agreement marker
APPL	applicative
ART	article
AUG	augmentative
AUX	auxiliary
BEG	begun (aspect)
CAUS	causative
CLF	classifier
СОН	cohortative
COMP	complementizer
COMPL	completive
CONTR	contrastive focus
COP	copula
CTP	contemporary (tense)
CVB	converb
DU	dual
DUR	durative
ERG	ergative
EVID	evident(ial)
EXCL	exclusive
EXP	experiencer
F	feminine
FACT	factitive
FOC	focus
FTZ	finitizer
FUT	future
GEN	genitive
GIV	given (topic)
HAB	habitual
IMP	imperative
INCH	inchoative
INF	infinitive
INFR	inferred (evidentiality)
INTR	intransitive
IPFV	imperfective
LOC	locative

xxviii Abbreviations and symbols

LVM	loan verb marker
М	masculine
Ν	neuter
N	non- (e.g. NSG nonsingular)
NEG	negation, negative
NMLZ	nominalizer/nominalization
NOM	nominative
OBJ	object
Р	patient-like argument of canonical transitive verb
PASS	passive voice
PFV	perfective
PL	plural
POSS	possessive
PREP	preposition
PRF	perfect
PRS	present
PST	past
PTCP	participle
Q	question particle/marker
REA	realis
RED	reduplication
REFL	reflexive
REP	reportive (evidentiality)
S	single argument of canonical intransitive verb
SX	stem extension
SBJ	subject
SBJV	subjunctive
SG	singular
SPC	specific
ST	state
TC	thematic consonant
TOP	topic
TR	transitive
TV	thematic vowel
VBLZ	verbalizer
VCM	verb class marker
VM	verb marker
UND	undergoer voice

Signs and symbols

Please note: While most of the symbols and markings are used conforming to general practice in linguistics, the 'equivalent' symbol and the square brackets are used somewhat differently here.

Arrows \rightarrow are used in a twofold way:

in the running text they point to maps, tables and figures in the appendix in the indexes they point from alternatives or synonyms to the indexed keywords.

- **Double arrows** \Rightarrow indicate the association of a pattern type to a strategy in tab. A.2.2.
- Asterisks * are used in a twofold way:

if they are part of the italicization of an example (*), they indicate reconstructed forms,

if they are not italicized (*), they mark forms judged ungrammatical.

- **Tildes** \sim are used to indicate allomorphic variation.
- **Curly brackets** {...} are used to mark morphemes outside glossed examples.
- Slashes /.../ are used to mark phonemes or phonemic transcriptions.

Single quotes '... ' are used to mark lexical meanings.

- **Less/greater than** are used in the loan verb examples and whenever language pairs are mentioned. The 'less than' (<) and 'greater than' (>) signs indicate the direction of lexical transfer, the closed side pointing toward the receiving part.³
- **Equivalent** \equiv signs indicate that the loan form is modeled on either the form *or* the meaning of the model, but not both, as would be required for true lexical borrowing
- **Square brackets** [...] are used to mark ISO 639-3 codes only. There are *no* phonetic transcriptions throughout this work.
- A circled x-Symbol \otimes marks elements which are *not* in the (unrestricted) Loan Verb Database sample, i.e. additional languages in the list of languages (sec. A.1.1) and additional examples in tab. 41.

Preliminaries and conventions

Text structure and cross-referencing

This volume is organized in parts, chapters, sections and subsections. The names and numbering styles used to refer to these subdivisions are as follows: *parts* (roman numbering: I), *chapters* (arabic numbering in the main matter: 0; latin letters in the appendix: A), *sections* (arabic numbering throughout: 0.0), *subsections* (0.0.0), and *sub-subsections* (0.0.0). The latter are only numbered when they are autonomous thematic units. Units below subsubsections (i.e. paragraphs or quotations) are neither numbered systematically nor are they listed in the table of contents.

Part numbers are not included in the numbering of the lower units, because chapter numbers only restart in the appendix but not in the other parts. Similarly, figure and table numbers do not restart in new chapters or parts.

For the sake of brevity, subsections and sub-subsections are occasionally grouped together and referred to as *subsections* in the running text. Accordingly, they and the sections are all abbreviated *sec*. in cross-references.

Endnotes from the text are given on page 388. They are numbered contiguously and are not separated for parts or chapters of this book.

Examples

Examples of loan verbs and other transferred forms will generally be presented in the following standardized format:

(0) Recipient language [code] < Immediate donor language [code]

```
(Reference(s))
```

the example itself
the interlinear gloss
'translation of the example'
< [donor lg. code] word form in the donor language 'its meaning'</pre>

Occasionally, an example is given in two lines – once unanalyzed in orthographic, transliterated or transcribed form and once transcribed and with morpheme breaks – to facilitate its interpretation. In examples cited from other sources, the interlinear glossings were adapted to conform to one standard throughout this work, namely that of the Leipzig Glossing Rules. See the remarks on page xxvi on glossings and the abbreviations used therein.

All examples given in this format are numbered continuously throughout the work. Examples from particular languages can be found through the language index (sec. V on page 454) by way of each language name given in the first line of this format. The few examples which are given in the running text and not in this format are nevertheless also retrievable through the language index.

When the model form could not clearly be assigned to one single language (cf. sec. 5.2.2), the possible donor languages and their lexemes are also given in separate lines under the example. Similarly, when it was impossible to determine one particular word form in the donor language, I list either an abstract form or the one I consider the most likely model form.

Examples where *(own data)* is given as reference are from my personal knowledge of that language and – in the case of German – my competence as a native speaker.

Language names and codes

To avoid confusion and facilitate comparison, the names of all languoids (i.e. languages, genera and families)⁴ in this work are "standardized". Thus, every languoid is consistently referred to by only one name throughout this work, even if there were different spelling variants or completely different names used in different sources consulted. If original names or spellings were altered in direct quotations, this has been marked.

As a default, the names of the languages, genera, and families as well as the assignment of languages to genera and families and geographical locations match those used in the *World Atlas of Language Structures* (Haspelmath et al. (eds.) 2005; = WALS) — whenever available and adequate. Where this information was lacking or inadequate, I applied the nomenclature, classification and localization from *Ethnologue* (Gordon 2005). In very few cases other or additional sources had to be consulted.

Throughout this work, whenever a language is introduced or reoccurs at crucial points, I append to its name the ISO 639-3 three-letter code(s) to identify it. This method allows to clearly identify most languages without lengthy explanations of their genealogical affiliation, location, etc. If need be, such information can easily be retrieved e.g. through the Ethnologue website.

The codes are given in square brackets after the names of languages, e.g. *German [deu]*. They are also used in the appendix in some of the maps and in the list of languages (sec. A.1.1), where the languages' genealogical affiliation is given.

I assigned hitherto unused codes to those languoids that do not (yet) have an official ISO 639-3 code, but I did not reassign or redefine any existing codes. In a few cases, however, I refer to varieties of a language with the code of the language only and identify the variety in round brackets e.g. *Greek [ell]* (of migrants in the USA), instead of assigning them a code of their own; see also the remarks in sec. A.1.1.

Disclaimer

For practical reasons, I used the same name as used in WALS (see sec. 2.3.4.2) whenever possible and appropriate. To the extent I was (made) aware of it, I avoided using languoid names, ethnonyms or localizations that are considered inadequate or even offensive, cf. e.g. the remark on page 35.

In identifying the status of languoids as genera, languages, varieties or dialects, in assigning names and codes to languages and dialects, in identifying countries and political boundaries, and in locating languoids in countries or at particular coordinates, I was guided solely by practical considerations, the current state of research, and by current scholarly practice as exemplified in the Ethnologue and WALS.

In some cases, though, I decided to slightly move the symbols for some languages on the maps in ch. B of the appendix if they otherwise would have been hidden by overlapping symbols for neighboring languages. I consider it the lesser of two evils to "move" rather than "hide" a language.

These choices should never be taken as expressing or implying a particular political stance, a statement regarding land title claims, or even as insulting the speakers of a particular speech variety.

Part I

Towards loan verb typology

Chapter 1 Introduction

1.1 Topic and Objective

1.1.1 The present study

The title of this work, "A typology of verbal borrowings", basically already outlines its rationale — the cross-linguistic description and typologization of the techniques and mechanisms involved in accommodating borrowed verbs into their recipient languages. For the purposes of this introduction into the topic, the main mechanisms of loan verb accommodation are briefly sketched in sec. 1.1.5.

As befits a true typology, this study is based on a large sample of borrowed verbs from over 350 languages worldwide.

The research for the present work has been carried out in close association with the Loanword Typology Project (cf. sec. 1.2.3) and shares its goal to add to the understanding of the structure, semantics and general properties of loanwords in the languages of the world, with a particular focus on the class of verbs. In so doing, this dissertation also evaluates previous claims and findings on verb borrowability and loan verb accommodation.

The Loanword Typology Project and the broader research context, as well as the objective of the present study, will be further elaborated in the following sections of the introduction.

1.1.2 Structural outline

In the following sections, I present the guiding questions and primary goals which define the scope and methodology of the present study's approach to the subject and outline this work's situation in the broader context of loanword research. Then I briefly address those aspects of the history of loanword research – especially that on loan verbs – that are most relevant for this study.

In the following chapter (2), I discuss the necessary methodological considerations underlying this study. The discussion and subsequent definition of the basic terminology used here (ch. 3) then conclude the first part.
Most of the successive parts and chapters of this volume will be introduced by sections outlining their structure in more detail, so I will only give a coarse overview here.

The typology of loan verb accommodation strategies, augmented by some remarks on input forms, phonological accommodation, cross-modality borrowing, and a detailed ontology of accommodation techniques, is presented in part II of this book.

In the part following it (part III), I analyze the accommodation strategies' typological, genealogical and areal distributions across languages and the distributional peculiarities of loan verb accommodation patterns within and among languages and take a look at borrowing of borrowing techniques.

Possible factors governing these distributions and verb borrowability in general will then be discussed in the first chapters of part IV, followed by generalizations on verbal borrowing and grammatical compatibility.

A summary of this study's findings and results, some remarks on the importance of sociolinguistic factors in loanword research and linguistic typology, and an outlook on further research in this field conclude this part.

An exhaustive appendix (part V) gives detailed data on the language sample, distributional maps, and background information on the database. The volume is then rounded off by notes, references, and indexes.

1.1.3 Guiding questions

The present work is meant as a contribution to the research on verb borrowability, investigating and discussing the topics raised by the following key questions:

- 1. Why do many languages seem to have more difficulties borrowing verbs than nouns?
- 2. Due to which factors do languages apparently borrow more nouns than verbs?
- 3. Can verbs be borrowed *as verbs* or must they (always) be "re-verbalized" in the borrowing language?
- 4. By which mechanisms and paths are verbs being borrowed and, if necessary, adapted?
- 5. Is the choice of these mechanisms dependent on linguistic and/or extralinguistic factors in the donor and/or the recipient languages?

- 6. Which factors are these and what effects do they have in individual languages as well as cross-linguistically?
- 7. Are there universal constraints on verb borrowability?

These questions are not always taken up explicitly throughout this volume but rather guide the analysis and presentation of the data and findings. They are nevertheless revisited and answered concisely in the concluding summary in sec. 20.1.1.

1.1.4 Scope and goal of the present study

The goal of this work is to address and answer the questions raised in the previous section and thereby to contribute to the study of loanwords in general and that of loan verbs in particular by the following means:

- 1. Collecting a large body of data of loan verb examples and loan verb accommodation techniques from a wide range of human languages.
- 2. Presenting an in-depth cross-linguistic study of the morphological, syntactic and sociolinguistic aspects of loan verb accommodation based on the collected data.
- 3. Yielding a differentiated picture of the techniques and factors involved in accommodating borrowed verbs in the languages of the world.
- 4. The description and analysis of the distribution of such accommodation techniques with respect to areal, genealogical and grammatical-typological parameters.
- 5. Analyzing the factors governing the degree of borrowability and relative ease of accommodation of loan verbs in a cross-linguistic, typological perspective.
- 6. The collection and systematic evaluation, on empirical grounds, of longstanding claims on verb borrowability and its universal constraints as they were put forward e.g. by Moravcsik (1975, 1978), Weinreich (1953), Haugen (1950), or Meillet (1921).
- 7. Formulating statistical and implicational universals of loan verb accommodation and verb borrowability, based on the observations made.
- 8. Addressing general problems of cross-linguistic loanword studies and suggesting further directions of research.

With regard to this study's scope over the languages of the world, the question of adequate sampling from these languages, and the representativeness of the data collected are discussed in sec. 2.4.

1.1.5 Loan verb accommodation

Before discussing the theoretical background, I want to illustrate briefly what is considered as *loan verb accommodation* here, in order to give a first impression of the object of research.

The following examples therefore show the three most important different ways (called *strategies* in this work) of handling borrowed verbs in the languages of the world.

Some languages simply use the borrowed verb stem like a native one without any morphosyntactic adaptation, cf. ex. (1), while others apply a verbalizer of some kind so that the loan verb can then be inflected, cf. ex. (2). Yet another way of handling a borrowed verb is to enter it as an non-inflecting part into a complex predicate, where the borrowed verb is joined by a native verb which takes all the inflection, cf. ex. (3).

```
(1)
       Mapudungun [arn] < Spanish [spa]
                                         (Fernández-Garay 2005: 55 ex. 11)
       opera-nge-ken
       operate-PASS-HAB-REA.1
       'I am being operated.'
       < [spa] operar 'to operate'<sup>5</sup>
(2)
       Udihe [ude] < Russian [rus]
                                  (Nikolaeva and Tolskaya 2001: 22 ex. 19)
       tancewa-la-
       dance-VBLZ-
       'to dance'
       < [rus] tancevat' 'to dance'
       Bardi [bcj] < Kriol [rop]
                                                       (Claire Bowern, p.c.)
(3)
       wofim 'i-nə- me-ne
       wash 3SG-TR.PST-make-PST
       '(s)he washed it'
       < [rop] wajim 'to wash.TR'
```

These three examples are typical representatives of the three major strategies of loan verb accommodation that account for the bulk of loan verb accommodation techniques in the languages of the world.

These techniques as well as a few other marginal ones and their various subtypes will be defined, described, and classified in part II.

Such a typology, based on the collection and interpretation of a large, representative sample of verbal borrowings, is a necessary prerequisite for a cross-linguistic study of verb borrowing phenomena.

1.2 Background: The study of borrowing

1.2.1 Borrowing and comparative linguistics

At least since the 19th century, philologists and linguists systematically studied loanwords and borrowing, mainly in the context of historical-comparative linguistics and the quest to identify language families and to establish their genealogical trees by means of reconstructing ancestral languages by comparing shared vocabularies in their putative descendants. In such an undertaking, loanwords would distort the resulting picture to the extent that actually unrelated languages seem to be related because they appear to share commonly inherited vocabulary.

It is in this context that the notion arose that some parts of the lexicon and grammar appear to be generally more resistant, or even immune, to borrowing than others and thereby more useful for genealogical reconstructions. This idea has since been discussed by many authors such as Whitney (1881), Paul (1920), Meillet (1921), Haugen (1950), Weinreich (1953), and – with a particular focus on verbs – by Moravcsik (1975, 1978, 2003).

In this section, I briefly outline the general research on loanwords and two major leitmotifs of this research regarding borrowability. The works just mentioned will then be presented in sec. 1.3 and 1.4 along with other important studies in the field.

In order to evaluate the relatedness of two languages sharing lexical items, one must distinguish between loanwords, which at some point were borrowed from one language into another, and cognates, which were inherited from a putative common ancestor. Otherwise, one runs the risk of assuming false positives, i.e. interpreting instances of borrowing as evidence for genealogical relatedness.

A systematic explanation of the assumed differences in borrowability and the factors governing them could give important clues for the evaluation of relatedness of languages as well as for past contact situations and the prehistory of speaker communities.

1.2.2 Limits of borrowability

Thus, if there are definite degrees or even limits of borrowability (either globally or for any given pair of languages), this distinction could be made much easier, since shared forms that are considered "unborrowable" would, then, be indicative of genealogical relatedness rather than language contact.

There are two fundamental claims about the limits of borrowing and/or borrowability which can be found throughout the literature on the topic.

The first claim is rooted in the field of semantics and addresses the nonborrowability of basic ("core") vocabulary, or at least its strong resistance to be borrowed. According to this claim, such core vocabulary would be too salient to be easily replaced. This claim is evaluated thoroughly in the Loanword Typology Project (cf. sec. 1.2.3), but it will only play an subordinate role in the present study.

The second claim suggests the relative difficulty to borrow from respectively into lexical classes other than nouns. This difficulty is assumed to be inherent to the categories *verb*, *adjective*, *adposition*, etc. and to manifest itself in an incompatibility between members of these classes in the donor (source) and recipient (borrowing) languages. The present work basically investigates this claim in its various aspects with respect to the class of verbs.

While the first claim is definitely based on semantics, the second one is believed to be caused and governed chiefly by grammatical (i.e. morphological and syntactical) factors, but also by semantic properties which are supposedly particular to the class of verbs.

When dealing with the issue of borrowability, one should not forget that these claims are indeed mere claims and not established facts at all or even "common knowledge" (cf. Vogt 1954: 370), even though it seems as if the presuppositions of these claims are indeed widely accepted.

Many of the suggested reasons for these two postulated constraints on borrowability were so far based on – admittedly useful – intuitions, such as Swadesh's (1955) two lists of basic vocabulary, or some of the works presented in sec. 1.3 and 1.4. Other studies, like Moravcsik (1975), focus on very few, mostly Indo-European languages, and are thus too biased for a general typology and too limited in their scope to yield universally valid results.

This criticism notwithstanding, all these works point out and take up many important research questions that will also be addressed here, and they suggest some potential answers to these problems, which at times will be confronted with the results of the present work.

The following factors have recurrently been put forward in the literature as having an impact on, or being the reason for, the varying degrees of borrowability of the word class *verb*:

- typological compatibility of donor and recipient language
- complexity of the (recipient) languages' verbal morphologies
- sociolinguistic factors, e.g. the intensity of the language contact or the attitude toward (lexical) borrowing.

In chapter 18, these factors and their validity will be assessed in more detail and based upon the analysis of a very broad sample of data. The question of grammatic compatibility is also discussed in sec. 19.2.2.

1.2.3 The Loanword Typology Project

This study of loan verbs, as well as its preceding studies mentioned in sec. 1.4.4 was conducted in conjunction with the *Loanword Typology Project* (henceforth: *LWT*) coordinated by Martin Haspelmath and Uri Tadmor at the Max Planck Institute for Evolutionary Anthropology in Leipzig.⁶ The objective of the project is

"[...] to get a clearer idea of lexical borrowability by examining the loanwords in a reasonably representative and reasonably large set of languages (say, 30–40 languages), and by making inductive generalizations over the data assembled in this way." (Haspelmath 2003: 3)

The contributions to the Loanword Typology Project, which will be published in the near future (Haspelmath and Tadmor (eds.) forthc.), deal with one recipient language each, examining its lexicon on the basis of a fixed list of 1460 lexical meanings.

The loanwords found within this set of lexical items are then characterized with regard to their source form and meaning and their status within the recipient language, i.e. whether they are insertions, filling a lexical gap or referring to a concept previously unknown in the culture of the recipient language, or they are replacements or synonyms of existing words.

The overall aim of the Loanword Typology Project is to make generalizations first over the individual borrowing behavior and circumstances of the particular languages under examination, but then, second, also across the languages of the Loanword Typology Project and beyond. See Haspelmath (2003) and (2008) for more detailed outlines of the project, its goals, and its methodological approach.

In contrast to the particular Loanword Typology Project contributions, the present work on loan verbs adopts an essentially cross-linguistic approach. Among other sources, it nevertheless also draws upon the data collected by Loanword Typology Project participants, especially the *Loanword Typology Database* (henceforth: *LWTDB*).

Thus, this study is also a complement to the Loanword Typology Project, inasmuch as it contributes to the comparative study of loanwords, specifically on the question of word-class-dependent borrowability and the specific problems of accommodating borrowed verbs into different recipient languages' grammatical systems.

1.2.4 Other typological research on borrowing

Led by Yaron Matras and Jeanette Sakel, the Manchester-based project "Language Convergence and Linguistic Areas" has been a complementary "sister" project to the Loanword Typology Project. In contrast to the latter, it focused on (typological) aspects of grammatical rather than lexical borrowing. It resulted – among others – in a recently published compilation of papers by Matras and Sakel (eds. 2008).⁷

These two projects and the present work are the first large-scale typological studies on the issues of borrowability and the cross-linguistic patterns and limits of lexical and grammatical borrowing.

It is self-understood that such projects did not come to exist out of nothing. Rather, they have their roots in a long philological and linguistic tradition which has already been pointed out briefly in the previous section.

In the remaining sections of this chapter, I want to further establish this research context by introducing some of the most influential studies on borrowing in general and on (verb) borrowability in particular.

1.3 Seminal works on borrowing

An in-depth description of the research history and context or an account of all or even the most important previous studies in the field would be way beyond the scope and purpose of this book. In this section I thus present and briefly summarize only some of the seminal studies on language contact – especially those dealing with borrowing and loanwords – as far as they are immediately relevant for the present study.

These works are presented here chronologically not only because this is a traditional and intuitive order but also because a presentation according to core ideas or topics would be less concise. A more detailed account of the general research on borrowing can be found in Hoffer (1996). For an overview and discussion of the research history of contact linguistics in general, see e.g. Oksaar (1996).

Studies that exclusively concentrate on phonetic/phonological accommodation of loanwords were not systematically taken into account other than as data sources (cf. sec. 2.4.1.3) because, for the reasons given in sec. 4.3, phonological accommodation is not in the scope of this work.

1.3.1 Whitney (1881 [1971])

Whitney's (1881) paper – which I consider the departure point for the systematic, scientific discussion of loanwords – is basically a rebuttal of the axiom that languages with mixed grammars did not and could not exist. Nevertheless, it goes way beyond that mere rebuttal, laying out criteria on what language mixing and borrowing are and which limits to lexical and grammatical borrowing seem to hold.

As a bottom line, Whitney states that languages of mixed grammar could generally exist, at least under very special socio-historic circumstances and enduring language contact.

Whitney makes some remarks on the varying degrees of borrowability of different parts of speech ([1971]: 179, 184)⁸, suggesting that the "manage-ability" of borrowed words becomes more difficult along the following cline, given in fig. 1 on the following page. For the sake of comparability, I "translated" the respective paragraph into the formulaic style of a hierarchy as it is nowadays common in typology.

```
NOUNS > ADJECTIVES > VERBS > OTHER
```

Figure 1. Scale of Adoptability after Whitney ([1971]: 184)

Furthermore, Whitney contemplates the possibility of a general grammatical (or: typological) incompatibility of donor and recipient language (Whitney [1971]: 178–185) that could result in no or only very few borrowed items, and the resulting different accommodation techniques for borrowed verbs in English (which uses *Direct Insertion*, cf. ch. 6) and Persian (which uses the *Light Verb Strategy*, cf. ch. 8). In this context, he briefly points out that verbal borrowings into English are

"comparatively easy [...] because of the direct convertibility of our [i.e. English; J.W.] nouns and adjectives into verbs [...]" (Whitney [1971]: 185)

The quote implies that loan verbs arrive in the recipient languages as items other than verbs and would have to be converted to verbs again there. This notion has later been taken up by several authors who occasionally went further and claimed that such conversion must be formal noun-to-verb derivation, among them e.g. Moravcsik (1975, 1978). It also plays a role in the present study and is summarized in sec. 19.2.1.

1.3.2 Paul (1920 [1968])

In chapter 22 of his "Prinzipien der Sprachgeschichte" ('*principles of the his-tory of language*'), Paul takes up the points raised by Whitney (1881) and others on principles and patterns of borrowing, and elaborates on lexical borrowing with a strong focus on phonological adaptation.

Looking beyond phonology, Paul remarks ([1968]: 393 and passim) that different contact situations (and degrees of cultural contact) lead to different degrees of borrowing. This notion has later been elaborated by Thomason and Kaufmann (1988).

In the same chapter, Paul ([1968]: 393) also makes the point that the concrete act of borrowing can only occur in situations of (at least individual) bilingualism (arising from code-switches) and that such loanwords can only establish themselves in a speech community, when several (bilingual) speakers use them. Like Whitney for English, Paul ([1968]: 399) briefly turns his attention to the internal structure of verbal borrowings from Latin and French into German.

1.3.3 Meillet (1921)

The idea of grammatical (or: typological) incompatibility of donor and recipient languages has been prominently brought up by Thomason and Kaufman (1988: 348), who refer to Meillet's (1921) essay in which he claims that verbs cannot or will not be borrowed into French because of the elaborate inflectional structure of French verbs, and that the mixing of grammatical systems is generally impossible:

"[...] car les systèmes grammaticaux de deux langues sont [...] impénétrables l'un à l'autre." (Meillet 1921: 82)

While it has since been falsified by several authors and the findings of the present study (see the summary in sec. 19.2.2), this strong claim sparked a fruitful discussion on the role of structural or grammatical compatibility in borrowing. The notion of structural compatibility being a prerequisite for contact-induced change is still cited prominently, e.g. by Aitchison (1981: 121; 2001: 143) and, albeit interpreted somewhat differently, maintained as an important factor, e.g. by Field (2002), see sec. 1.3.8.

1.3.4 Haugen (1950)

Haugen's (1950) paper is a survey of the phenomena of lexical borrowing and probably still one of the most-cited papers in this field. It continues to be influential until today because of the fundamental issues raised and definitions given in it. The definition of the term '*borrowing*', as it is given in sec. 3.2.3 on page 52, is based upon Haugen's work, too.

Apart from phonological adaptation, Haugen (1950: 217–218) brings up the grammatical accommodation of loan words, explicitly referring to partof-speech allocation and the necessity to inflect borrowed verbs.

1.3.4.1 Excursus: Stene (1945)

It is worth noting that Haugen refers to the work of Stene (1945), who suggests that borrowed nouns and adjectives could be used in sentence constructions where they need not be inflected (thus evading the necessity of morphological adaptation), whereas verbs could not (cf. Haugen 1950: 152–153, 163–164). Here again, grammatical incompatibility is brought into play as an argument explaining different degrees of borrowability.

While Stene's claim and its generalization may be true for (some) inflecting languages and thus appropriate for a study of English loanwords in Norwegian, her statement is phrased in a way that implies a much more universal validity, just as Meillet's claim cited above.

This argument that verbal inflection would prevent the borrowing of verbs has been made in similar phrasings time and again and it is a good example of the kinds of generalizations that appear to be shared by many other studies — not only on loan verbs.

1.3.4.2 Haugen on borrowability

His general skepticism regarding Stene's claims notwithstanding, Haugen (1950: 224) connects these claims to the ideas of Whitney (1881) and Tesnière (1939), who both explicitly mention verbs when they make their point that the more "functional" or "systematic" a class of elements in a language is, the more resistant this class will be toward borrowing. It is with exactly this background that Haugen (1950: 224) suggests the following "scale of adoptability":

 $\label{eq:Nouns} Nouns > Verbs > Adjectives > Adverbs & Prepositions \\ > Interjections$

Figure 2. Scale of Adoptability after Haugen (1950)

This scale has been referred to, or been proposed in similar form, in many publications after Haugen (1950).

It is one of the aims of the present work to determine whether the reasons Haugen, Stene, Meillet, and Tesnière suggested for the lower borrowability of verbs can be confirmed and, if so, to identify which grammatical properties are responsible for this.

1.3.5 Weinreich (1953)

Weinreich's (1953) work, based on his dissertation, is an important and comprehensive account of borrowing and other, related, phenomena of language contact. It addresses most aspects, from phonetic and structural-grammatical, over lexical-semantic to cognitive, psychological and sociolinguistic factors that have an impact on the outcome of language contact — both in individuals and in speaker communities.

For several decades, the ideas about non-structural factors that influence borrowing and borrowability discussed by Weinreich have – for whatever reason – not fallen on equally fertile ground as those on grammatical compatibility. Only recently have these factors been pointed out (again) to be at least equally important for the study of loanwords and borrowability.

1.3.6 Thomason and Kaufman (1988)

One of the most-cited works on language contact is Thomason and Kaufman's (1988) monograph on "Language Contact, Creolization, and Genetic Linguistics" that has already been mentioned above. It is self-understood that a book on that topic discusses borrowing at many levels and rather extensively: from the distinction of borrowing from other contact-induced phenomena (1988: 37–52; 113–115) over claims on (un)borrowability and immunity to influence from borrowing (1988: 37–52), types of borrowing (1988 passim), to probability scales (1988: 72–77). Some of these discussions will be reflected here in chapters 2 and 3.

Perhaps the most influential part of Thomason and Kaufman (1988) in this respect is the chapter on the interdependence of contact type (i.e. degree or intensity of contact) and degree of borrowing, for which Thomason and Kaufman (1988: 74–76) provide a five-point scale that is summarized in fig. 8 on page 257 and discussed there.

As stated above, the issue of contact intensity as a parameter influencing (verb) borrowability goes at least back to Paul (1920). The topic is nevertheless still important and will reoccur at several points in this volume, e.g. in sec. 18.4.2 and especially in sec. 20.2, where it will be evaluated in the light of the present study's findings.

1.3.7 Breu (1991)

Although intended as a classification of phonetic adaptation strategies, Breu's (1991) paper goes beyond phonetics and phonology. The classifications themselves are given in a general terminology and can thus easily be transferred to the domain of morphology.⁹

Several other notions relevant to the present study can also be found there, e.g. that of an abstract input form (cf. sec. 5.2.1) or the borrowing of loan verb accommodation strategies (Breu 1991: 18–19), which will be discussed in ch. 17.

1.3.8 Field (2002)

A more recent major contribution to the study of borrowing is Field (2002), who not only summarizes most of the previous work on lexical borrowing and code-switching, but also compares different clines (or scales) of borrowability like those cited in figures 1 on page 12 and 2 on page 14.

He suggests the following two principles of (in)compatibility that govern borrowability:

"Principle of System Compatibility (PSC): Any form or form-meaning set is borrowable from a donor language if it conforms to the morphological possibilities of the recipient language with regard to morphological structures. [...]

Principle of System Incompatibility (PSI): No form or form-meaning set is borrowable from a donor language if it does not conform to the morphological possibilities of the recipient language with regard to morpheme types." (Field 2002: 41 [amphasis mine_LW1])

(Field 2002: 41 [emphasis mine, J.W.])

The notion of *compatibility* in these two principles is different from that referred to in the previous subsections. In the works cited above, incompatibility was claimed e.g. for verbs borrowed from one inflecting language into another inflecting language or an isolating language, where the donor language inflection would not be compatible, i.e. could not be applied by the recipient language, or where the recipient language inflection could not (directly) be applied to borrowed lexemes. In Field's work, compatibility is understood somewhat differently as the existence of the same form classes, e.g. verbs, fusional inflectional affixes, etc., which facilitates the accommodation of borrowed elements.

Field's principles state that languages cannot borrow lexical or morphological entities which belong to a class in the donor language that does not exist in the recipient language — unless these entities are reanalyzed and assigned to a different, mostly more general class (cf. Field 2002: 42, 44).

This means that nothing is a priori "unborrowable" as long as one accepts that the resulting loan entity in the recipient language may belong to a different form class than it did in the donor language, or to a form class with a different scope and a different definition.

1.4 Previous work on loan verbs

As shown in the preceding sections, the question as to whether and why many, if not most, languages seem to have more difficulties borrowing verbs than nouns, and as to the possible mechanisms and paths by which verbs are being borrowed, had been addressed in passing in several papers and grammars.

Yet, only very few publications – or parts thereof – have been primarily devoted to the issue of loan verbs so far. In the following subsections, I will briefly summarize selected relevant publications that addressed loan verbs in closer detail.

1.4.1 Moravcsik (1975)

The first paper that explicitly focused on the issue at hand is Moravcsik's (1975) seminal article "Verb borrowing". Some of its findings and generalizations were later augmented or (re)stated more precisely in Moravcsik (1978) and (2003).

Until now, no book-size monograph on loan verb typology had been published. Thus, Moravcsik's pioneering (1975) paper continued to be the departure point for virtually all studies touching upon verb borrowing.

In conjunction with Moravcsik (2003), an update of her earlier (1975) statements in the light of the Loanword Typology Project (cf. sec. 1.2.3), Moravcsik's (1975) work also sparked the research on this thesis.

On the basis of a rather small sample of languages, primarily Modern Greek [ell], Hungarian [hun], German [deu], and English [eng], Morvacsik argues that borrowed verbs are never borrowed *as verbs* and that they thus always need to be verbalized again in the recipient languages.

According to Moravcsik, in most cases these loan verbs become integrated by means of a denominal verbalizer or by a so-called light verb construction do + loan verb as in ex. (4) (cf. also ex. (64) on page 105). For a definition of *light verb*, see sec. 8.2, for further examples see ch. 8.

(4) Greek (Modern; of migrants in the USA) [ell] < English (USA) [eng] (Moravcsik 1975: 8, 2003: 1)

kani retire do:3SG retire '(s)he retires' < [eng] retire

The present study evaluates Moravcsik's generalizations on verbal borrowing and adds findings from a substantially broader sample of languages. In so doing, particular attention will be paid to the issue whether verbs can indeed only be borrowed as nouns or non-verbs and whether verbs generally are inherently more resistant to borrowing than other parts of speech.

For an in-depth discussion of Moravcsik's generalizations and their evaluation in the light of the present study's findings, see especially sections 19.2 and 19.3.

1.4.2 Works on single languages

In the decades after the publication of Moravcsik (1975), a large body of literature on language interference, borrowing, and code switching has been published.

While most of these publications do not focus on borrowed verbs, many contain examples of loan verbs, nonce loan verbs, or verbal code-switches or they make statements on verb borrowability. Often such statements are made claiming universal validity. Anyhow, these works are mostly restricted to individual languages, families or regions, rather than comparing cases from various language pairs globally and within a typological frameset.

For the sake of brevity, I will not attempt to enumerate *all* or even most of these publications here. Many of them are cited as data sources in this work, anyway, and are thus accessible. Nevertheless, there are some studies which contribute fundamental insights or crucial concepts to the typological study of loan verbs and merit explicit mentioning.

1.4.2.1 van Hout and Muysken (1994)

While their paper concentrates on Spanish borrowings in Bolivian Quechua as the example, the findings of van Hout and Muysken (1994) had an impact also to the general study of loan words and word-class specific borrowability: It addresses many of the working questions raised in sec. 1.1.3 and suggests answers for some of them.

The authors demonstrate that for the particular language pair Bolivian Quechua < Spanish, the amount of borrowed verbs and borrowed nouns differ beyond a chance distribution, and suggest different methodological tools to test different explanations why verbs did get borrowed less frequently than nouns.

1.4.2.2 Mifsud (1995)

Mifsud's (1995) comprehensive study is focused on the structural properties of loan verbs borrowed into Maltese from several donor languages, mainly Arabic, Italian, Sicilian, and English. It is the first exhaustive study of borrowed verbs in a single recipient language, and remains the most thorough and substantial of such studies until today.

Mifsud's study is of particular interest with respect to the question of grammatical incompatibility as an impediment to verb borrowing, since Maltese and the Indo-Europan languages it borrowed from have very different verbal morphologies. His findings on Maltese will be discussed in the context of a comparison of the loan verb accommodation strategies applied by the Semitic languages in sec. 14.4.2.3.

1.4.2.3 Nau (1995)

Nau's (1995) book is a thorough study of contact-induced language change with a prime focus on Finnish. While the book as a whole is not a study on verbal borrowings, ch. 5.1 of it is nonetheless a valuable account of the borrowing history of Finnish. The author lists all loan verb accommodation patterns found in the language and points out an apparent succession of different accommodation patterns over time from more to less complex ones.

This change and its direction is an important aspect for the explanation of multiple accommodation strategies found in a language or language pair.

The case study of Finnish in sec. 16.3.1 gives the details of this multiple pattern use as well as some additional findings by others and suggests an explanation for the apparent change.

1.4.2.4 Igla (1989, 1996)

In Igla's works on Romani (1989, 1996), one finds examples of heavy borrowing from several donor languages into a variety of Romani, which eventually borrowed verbs together with large portions of their inflectional paradigm.

This highly unusual kind of extensive borrowing, which is occasionally considered impossible, is called *Paradigm Insertion* in my work and warrants an accommodation strategy of its own. See ch. 9 for details.

1.4.2.5 Pugh (1999)

Pugh (1999) focuses on structural patterns involving loan verbs from various donors (especially Russian) in the Baltic Finnic languages. In its chapters 3 and 4, Pugh classifies the borrowed verbs according to their (Russian) model form (see sec. 3.2.6 for a definition of this term) and the patterns used to accommodate them.

He shows, in contrast to Nau's (1995) findings, that several accommodation patterns can also co-occur productively at the same time, sometimes their choice being determined by the model verb's morphophonological makeup.

1.4.2.6 Valenzuela (2005)

Valenzuela's (2005) article on verbal borrowings in Shipibo-Konibo is explicitly intended as an underpinning, with data from non-Indo-European languages, of Moravcsik's (1975) claim that borrowed verbs have to be nativized before they are available as verbs for the recipient language.

What makes Valenzuela's paper particularly interesting beyond that argumentation is the account of a case of borrowing of an accommodation technique, namely a loan verb marker (LVM) that has exactly this function and diffused in a group of related languages. See sec. 7.4 and especially sec. 17.2.2 for details on this issue.

1.4.3 Comparative studies

Apart from language (family)-based approaches, there are also recent crosslinguistic studies on borrowing, borrowability, and borrowing strategies that deal with verbal borrowing. I will briefly summarize the two studies that were most relevant for the present work.

1.4.3.1 Muysken (2000)

Chapter 7 of Muysken (2000) is not only a rich source of data and discussion, but also the cornerstone for all following studies on borrowed verbs. In that chapter, called "bilingual verbs", Muysken identifies and classifies loan verb accommodation strategies into the following two types and their subtypes (cf. Muysken 2000: 184–220):

- **Inserted verbs** are those that *can* function as more or less full verbs in the recipient languages, sometimes after morphological adaptation.
 - **Borrowing of bare verb** is the direct insertion and use of "alien verbs without further adaptation" (Muysken 2000: 185), that occurs with recipient languages that do not have verbal inflection.
 - **Inserted stems with native affixes** are those that are also directly inserted but then receive native affixation, i.e. verbal inflection.
 - Adapted stems on the other hand have to be nativized and/or verbalized by affixation before being available for inflection etc.
- **Bilingual compound verbs** (Muysken 2000: 193), also labeled "bilingual complex verbs" (Muysken 2000: 217), on the other hand, are those that *cannot* function as full verbs in the recipient languages and therefore need to be combined with a native inflecting verb.
 - **Verb** + **adjoined** (**helping**) **verb** is the combination of the borrowed verb and a (nonfinite) "helping verb" (called *light verb* in this work).
 - **Nominalization** is the strategy where the borrowed lexeme is treated like a noun in a construction like *do the x*.

It should be pointed out that Muysken's classification does not distinguish between actual (established) loan verbs on the one hand and nonce forms or

code-switches on the other hand, and that much of the data he cited actually came from studies on code-mixing.

Furthermore, the class of *inserted verbs* is rather heterogeneous since it consists of those loan verbs that are not adapted or (re-)verbalized at all *and* those that are accommodated by (verbalizing) affixation. This difference is by no means smaller than that between "inserted verbs" of either kind and "bilingual compound verbs". As is argued in sec. 12.3.1 and sec. 19.3.2.2, the distinction between directly inserted and indirectly inserted loan verbs is a crucial difference that should not be obliterated.

These are two of the reasons why Wichmann and I in our works (see sec. 1.4.4) built upon this approach made by Muysken, but analyzed the data and classified the strategies somewhat differently: We distinguish four main strategies where Muysken (2000) has two, and we arrange the – albeit similar – subtypes in an alternative way.

I will briefly mention the corresponding types of above taxonomy at relevant points of this work, especially in the classification of accommodation techniques in part II. In Wichmann and Wohlgemuth (2008: 90) we also illustrated the differences between Muysken's and our approaches in more detail.

1.4.3.2 Görlach (ed. 2002)

Looking at the issue of borrowing from the opposite perspective than the works mentioned so far, the papers compiled in Görlach (ed. 2002) all focus on loan words *from* English into sixteen different European languages.

Each of the papers in the volume follows a standardized structure and has a section on word classes. Information on loan verb accommodation is easily accessible this way, since all patterns found with English loan verbs in these languages are listed, sometimes contrasting these patterns with the forms of loan verbs from other donor languages or with nonce strategies (e.g. of codeswitching).

Although not explicitly conceived of as such, this collection can thus be considered a valuable inventory of loan verb accommodation patterns in Europe. However, the volume contains no typological inferences, comparisons or generalizations over these patterns.

1.4.4 Loan verb typology

1.4.4.1 Wichmann

My own research for the present study builds upon the work by Wichmann; and both his and my research are associated with the Loanword Typology Project (see sec. 1.2.3).

In 2004, Wichmann posted a *Linguist List* request (Wichmann 2004b) which took up a thread from 2002, started by George Huttar, who also posted a brief summary (Huttar 2002). Wichmann collected comments, references, and examples and presented his own classification of borrowing patterns (Wichmann 2004a, 2004c and 2005). His work already built upon a much broader data basis than all other comparative studies on loan verbs before.

The four main accommodation strategies (see ch. 4) and the labels for them are based on the classification presented by Wichmann (2004a, 2004c), who introduced and defined the first three of them, calling them *patterns*. This is a term I use somewhat differently in the present work, as explained in sec. 3.3.1. The fourth one, *Paradigm Insertion*, has been introduced by me in Wohlgemuth (2005) and subsequently in Wichmann and Wohlgemuth (2008).

1.4.4.2 Preliminaries to the present study

I took up the topic in mid-2004 and started collecting more data, especially from language families and areas which had previously been underrepresented. At the same time, I developed a database (LVDB; cf. sec. 2.3) which allows for typological analyses. Preliminary results and methodological considerations of the work in progress were presented at various occasions between 2004 and 2006, and were published in Wohlgemuth (2005a, 2005b, 2006), and Wichmann and Wohlgemuth (2008).

For this study, I have collected data from over 350 recipient languages and 553 donor-recipient combinations (which I call *language pairs*). There are data from languages from all over the world and a wide range of different language genera and families are represented. The structure of the data and the database itself will be presented in sec. 2.4.3; the methodology of collecting the data is discussed in sec. 2.4.1, the classification of the examples into strategies and pattern types will be the topic of part II.

We submitted Wichmann and Wohlgemuth (2008), which was based upon a significantly smaller data basis, to press in early 2006. With a collection of loan verb examples that had since grown to almost twice the size and the overall progress made in writing the present work, it became necessary to make a few changes to the taxonomies and the subdivision of the different accommodation strategy types. Furthermore, I revised some interpretations of the data and the conclusions drawn from them in the light of more incoming information. These differences will be explained where relevant.

Chapter 2 Methodology

2.1 About this chapter

The first steps toward a typology involve the collection of a data sample and the analysis and classification of these data. Prior yet to this, methodological and terminological issues must be addressed and settled, as the relevant information to be gathered and the ways of storing and handling the data need to be clearly determined.

For the present study, this means that one needs to decide what kind of data on verbal borrowings to regard and collect as examples of loan verbs and what not, and furthermore to lay out the grammatical and other information that is possibly necessary for interpreting and analyzing the collected data. The most fundamenta considerations will be laid out briefly in sec. 2.2.

In sec. 2.3, I present the Loan Verb Database (LVDB) that was specifically set up for this purpose and discuss its structure and the methodological issues involved with designing and using it.

Furthermore, decisions have to be taken about sample scope and size and balancing the sample genealogically and areally. These considerations, and an analysis of the actual data collected into the data base, are then given in sec 2.4.

2.2 Methodological considerations

The following questions regarding methodology, sampling, and terminology had to be answered before data for the loan verb database could be collected systematically:

- Metadata:

- Which metadata about the individual examples should be collected?
- Which metadata about the language pairs should be collected?
- Which metadata about the languages involved should be collected?
- How to encode and generalize language contact information?

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- Sampling issues:
 - Which and how many languages to include?
 - How to take data availability into account in order to ensure unbiased sampling?
- Basic concepts:
 - What should be counted as a loan verb?
 - What should be counted as an accommodation pattern?
 - How to typologize borrowing patterns?

Most of these methodological considerations will be presented and discussed in this chapter. I will begin with an introduction to the Loan Verb Database (LVDB) and its structure in the following subsections of sec. 2.3, then turn to the issue of sampling and data collection in sec. 2.4. After that, I define and discuss the basic concepts in ch. 3.

2.3 The database

2.3.1 How and why a database?

It has been noted already by Whitney (1881) that languages do not all use one universal way of accommodating loan verbs (cf. sec. 1.3.1). As will be shown in parts II and III, there exist many different loan verb accommodation patterns and strategies cross-linguistically and even within a single recipient language. Accordingly, one cannot just make simple generalizations like "languages of the type P always use borrowing technique X".

One objective of this study is therefore to describe the variety of these mechanisms and techniques, to classify them into types, and to analyze and explain the distribution or their use within and across languages in order to find other, more suitable generalizations on the factors influencing how languages chose and apply accommodation strategies and patterns.

Such an analysis, if it is meant to be useful, must be based on a broad sample of languages and loan verb examples. This involves substantial amounts of linguistic, metalinguistic, and bibliographic data. The best way to store, handle and analyze the data collected for such an endeavor is to enter it into a database that is structurally tailored for the task at hand.

2.3.2 What went into the database?

The data fields associated with a single example are shown in fig. 23 on page 380 in the appendix. In the following subsections I outline the various fields and the methodological considerations regarding them.

2.3.2.1 Language data selection

Since one does not beforehand know exactly what language-internal and language-external factors might determine the choice of any particular accommodation pattern, it seemed advisable to collect not only examples of borrowed verbs, but also metadata on the corresponding language contact situation and the languages involved.

Before deciding which language metadata to collect, an important conceptual distinction is to be made regarding the languages to be considered relevant. In most cases of borrowing, *languages involved* here means exactly two languages, namely the *donor language* (from which the item has been borrowed) and the *recipient language* (into which the item has been borrowed). These two languages constitute the *language pair* associated with each example. See sec. 3.2.2 for definitions of these terms.

In the database, always the *immediate donor language*, i.e. the one from which the word was actually borrowed into the recipient language, is given and linked to typological features, while the *ultimate donor language*, i.e. the one from which the word originated and may have entered the immediate donor language directly or via another language, is noted in a remarks field only. In many cases, the borrowing from the ultimate to the immediate donor is itself treated as a separate example and has been added into the LVDB, too.

Thus, for any given example and language pair, the immediate donor language is the only one relevant to this study, since the borrowing per se involves the taking over of an actual lexical item from that very language, regardless of the word's ultimate origin, of which the speakers of the recipient language may have no inkling.

2.3.2.2 Lexical Information

The lexical information accompanying the examples of verbal borrowing can, of course, vary from lexeme to lexeme, even within a given language pair.

For the purposes of this study, I collected data on the lexical status of the borrowed verb in the recipient language: is it an *insertion* into the lexicon (basically filling a lexical gap), an added *synonym* (or near-synonym) to a pre-existing (native) word, or does it act as an *replacement* of a native word that thereby becomes obsolete? In some cases where I included nonce or ad hoc forms (cf. sec. 3.2.4), their status is also marked in this field.

I also included data on the valency (values: *intransitive*, *transitive*, *ditransitive*, *not applicable*) of the loan verb in both the recipient and the donor languages.

In addition, I included information on the verbhood of the form in both the donor and the recipient language (values: *full verb*, *auxiliary verb*, *modal verb*, *coverb*, *preverb*, *participle*, *not a verb*, *undetermined/abstract*). This information is crucial for the assessment of claims on (obligatory) noun-toverb conversion of borrowed verbs and to answer the question whether the borrowed word actually is a verb in both languages.

2.3.2.3 The setting and background of the languages involved

Language-external factors also play an important role in lexical and grammatical borrowing. It is, for example, frequently postulated that so-called *cultural borrowing*, i.e. the borrowing of terminology for concepts hitherto foreign to a culture, occurs most likely in situations of contact between two different cultures where new artifacts and concepts are introduced, entailing the borrowing of their designations. Another scenario is the invention and (global) spread of new technologies, bringing about new terminology like, for instance, *fax* or *email*.

Apart from information on the actual situation concerning when, where and why a verb was borrowed, it would be useful to have background knowledge about the size of the speaker communities involved, and their attitudes toward language change and borrowing of lexical items in general. The significance of any example will differ greatly depending on whether it is the only (verbal) borrowing in the language or whether the speakers readily and frequently adopt words from other languages.

Other information that might be relevant to understanding the context of the borrowing is the geographical location of the languages involved, since this enables one to identify neighboring languages or to find possible areal distributions of accommodation patterns. While the aforementioned two sets of variables could in principle apply to all examples of verb borrowings in a given pair of languages, one should bear in mind that they may nevertheless be specific to an individual instance of borrowing and/or might change over time or between different lexical domains. These changes can be the case both due to the phonological or morphological structure of the item in question, and to shifts in the social settings over the course of time (cf. sec. 16.3 and 19.5).

Such information, however, is in many instances difficult to retrieve, unless the loan verb example is from a publication dealing with the history of contact and loanwords in a particular language (or group of languages). In some cases, this background information could be found in other publications on the recipient language and was then supplemented.

2.3.2.4 Abstracting language contact information

In collecting background information on contact situations that led to borrowings of verbs, the question arose how to insightfully generalize language contact situations without discarding relevant information.

I provisionally collected information on contact situations in the form of an open list of abstract types. That list has partly been inspired by an enumeration of factors governing language contact given in Boretzky and Igla (1994: 119) and the scale of language contact intensity by Thomason and Kaufman (1988: 74–76), which is given in fig. 8 on page 257.

Although I always tried to assign every new example I got to at least one of the already existing situation types and allowed multiple values to be true for any given example, the list eventually grew over the course of the study. This resulted in the following selection of general language contact scenarios listed in tab. 1 on the following page.

The scenarios always assume the perspective of the recipient language — especially those scenarios with "stratic" relationships, as (1)/(2), (6)/(7), and (12)/(13). This choice of scenarios is neither exhaustive nor mutually exclusive. In the database, multiple factors from this list can be combined so as to more adequately characterize the particular language contact situation or the circumstances of the particular borrowing. See sec. 20.2 for a discussion of these factors.

Detailed historical information on the contact situation of donor and recipient language, such as date of first contact or the duration of the contact

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Table 1. Language contact situations used in the LVDB

- (1) substrate to colonial powers' language
- (2) superstrate language (of a colonial power)
- (3) geographical neighbor
- (4) occasional contact (trade etc.)
- (5) bilingual individual(s)
- (6) substrate to areal lingua franca
- (7) superstrate areal lingua franca
- (8) substrate migrant language
- (9) science and technology, "geek talk"
- (10) secret language, word games, ludling
- (11) substrate to areal official language
- (12) superstrate areal language
- (13) forced bilingualism
- (14) multilingual society
- (15) diglossia
- (16) language attrition
- (17) religion, missions, cult
- (18) cultural prestige
- (19) domain-specific (other)
- (20) media etc.

(21) other/unknown

(or that particular situation), were not systematically incorporated into the database, but – if available – collected separately in annotation fields.

The approximate date of the particular borrowing, however, was included whenever this information was available or could be reconstructed with some degree of certainty.

It is important to stress that the contact information is always related to individual loan verb examples *not* languages or language pairs, since the borrowing situation is not fixed for any pair of languages and may well change over time or between different domains.

2.3.2.5 Typological and structural information

When one thinks of potential obstacles to verb borrowings, morphosyntactic and phonological differences between the two languages immediately come to mind. Such differences include – but are not limited to – phonotactic con-

straints with regard to the number and structure of syllables, the orientation of affixation (e.g.: *prefixing and suffixing, predominantly prefixing, predominantly suffixing, no affixation*), the overall morphosyntactic nature of the language (values: *inflectional, agglutinative, isolating, incorporating*), etc.

Specific inflectional or morphological incompatibilities have been mentioned e.g. by Stene (1945: 152–153), Thomason and Kaufman (1988: 348) who explicitly refer to Meillet (1921: 82), and Moravcsik (1975, 1978: 111– 112, 2003) as factors relevant to the way in which verbs can or cannot be borrowed.

The typological and grammatical features of both the donor language and the recipient language are thus important information that needs to be available. However, one cannot determine in advance which typological features will actually turn out to be relevant, either for any given example involving a particular pair of languages or for the study as a whole.

Therefore, I have incorporated the database underlying the *World Atlas of Language Structures (WALS)* into the LVDB in order to have a wide range of typological and metalinguistic information available. This crucial inclusion is addressed in further detail in sec. 2.3.4.

Where necessary, other grammatical information from other sources could always be entered in additional fields of the database.

2.3.2.6 Other metadata

Apart from the above parameters, some additional information was included in the database. On the one hand this involves *bibliographical details* about the source(s): full reference, including page and example numbers; the publication's library shelf location or URL; the name(s) of the person(s) contributing the example.

Furthermore, the *degree of reliability* of the data, ranking from *very high* to *very low*. This field is compatible with a field of the same name originally used in the Loanword Typology Database, where it has been eliminated, though. *Reliability* here does of course not refer to the cited author(s) reputation but rather to the degree of certainty with which one can assert the loanword status, the accommodation pattern and strategy used, and origin (donor language and word-form therein) of the borrowed verb.

A few scripts running in the background provide *additional information* on the language pair, e.g. whether the two languages involved occur in other

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language pairs, whether there are examples from the same pair, and which accommodation strategies are used by it.

Last but not least, some *administrative information* on the whole data set is recorded. In order to keep track of changes and to facilitate backups or synchronization of different copies of the LVDB, two timestamps indicate creation and last change of every data set.

Two binary checkboxes are used to indicate whether the data set is correct or needs revision, and whether the data set is to be included in the cleared sample (cf. sec. 2.4.3.1) for statistics on pattern distribution etc.

2.3.3 Technical issues

2.3.3.1 Database software

With all these issues mentioned in the previous section in mind, let me now turn to the database itself. It is specially designed for the purpose of collecting the examples and meta-information for this study..

The LVDB is managed using *FileMaker*TM (henceforth: *FM*), version *Pro* 8. To be precise, it was first set up in 2004 with *FM Pro* 7 and upgraded to *FM Pro* 8 in mid-2006. For details on the development of the LVDB and its structure see Wohlgemuth (2006).

This particular software was chosen primarily – but not only – because it is used as the tool of the Loanword Typology Project (see sec. 1.2.3). Moreover, the database underlying the electronic version of WALS (see sec. 2.3.4) also used *FM*. Employing the same software for the present study thus facilitated transfer of data and database structures (e.g. tables and their contents) between these two databases and the LVDB.

A further important advantage of FM is its capability of handling formatted text (e.g. italics) and the Unicode (UTF-8) character set. This capability is crucial for saving, storing and searching linguistic data and accompanying information that often contain special characters.

2.3.3.2 Database structure

In the LVDB, several tables and value lists with metadata, typological data, grammatical and bibliographical information are cross-linked. An overview of the major tables used in the final version of the database is given in ch. C

of the appendix. A detailed graph of the table relationships is shown there in fig. 24 on page 386, too.

The main table of the database is called "*metadata*" because it associates meta-information and loan verb examples. Its records are the individual examples of loan verbs, accompanied by information on the borrowing as outlined in sec. 2.3.2. All fields and links used in the table "metadata" are shown in sec. C.2.2 and fig. 23 on page 380.

The primary key to all the information stored is the ID of the particular example. It would have made no sense to link any meta-information to the language pair, since there are numerous cases where a language uses more than one pattern, or where pattern usage changes through time (see ch. 16 on this). Therefore, every single example is always linked to all ancillary data, thus allowing for a more accurate representation of the circumstances related to the borrowing of that particular verb: From any given example, one can directly access all information regarding that example (pattern, translation, source, bibliography, lexical status, date of borrowing) as well as more general and example-independent typological and genealogical information on the two languages involved.

The LVDB has its unique structure due to the fact that the examples collected for this study are not associated with any particular language, but rather language pairs with flexible donor-recipient relationships. This means that potentially any language can be both donor language and recipient language. And one does indeed find loan relationships in both directions, e.g. German borrowings into English and vice versa. Of course there are also languages that on the one hand borrow words from one donor language and on the other hand are themselves donors to other languages. Hence all language metadata and WALS data are linked twice to each example in the database: once for the donor and once for the recipient language.

2.3.4 Incorporating WALS

2.3.4.1 Why WALS was incorporated

The LVDB uses data and some structural features from the database underlying both the printed *World Atlas of Language Structures* (Haspelmath et al. (eds.) 2005); henceforth: *WALS*) and its accompanying digital version. This allows for database queries like "show me an example of a verb bor-

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rowed from an exclusively prefixing language into an exclusively suffixing language" or "show me borrowings from or into languages spoken in Indonesia", and so forth.

Furthermore, some peculiarities of loanword adaptations may readily be explained by features of the recipient language. Thus, e.g. the loss of consonants in clusters should not be a surprise, if the recipient language does not allow complex clusters (cf. WALS chapter and map 12, "*Syllable Structure*", Maddieson 2005d).

Data fields taken over from the WALS database were identified as such in sec. C.2.2 on page 382. In many cases, data entries had to be added to the original sets, mostly by adding entries to the lists of languages, genera, families, countries, etc.

The typological data from WALS play a pivotal role in the search for, and evaluation of, correlations between grammatical features and loan verb accommodation patterns in ch. 15 and sec. 19.4.2. Likewise, the geographical information of the WALS database, augmented by corresponding data for LVDB languages not in WALS, have been used for the analysis of areal distributions in sec. 13.3.

In addition to this, all maps in the appendix (ch. B) were originally generated with the digital WALS mapping tool (Bibiko 2005).

2.3.4.2 WALS languages vs. LVDB languages

Generally, the names used to refer to languages in this work are those used in WALS (cf. the remarks on page xxxi), except as otherwise provided below. Nevertheless, languages are referred to not by their WALS codes but by their ISO 639-3 codes (cf. page xxxii). See the list of languages in sec. A.1.1 for all codes and languages.

Languages that were not in the original WALS sample but in my LVDB sample were added to the list of languages, using their main entry name and the geographical and genealogical information given in Ethnologue (Gordon 2005). The same applies to genera and families not represented in WALS.

The typological information (WALS *features* and *feature values*) for these approximately 90 "extra" languages has of course not been added to the incorporated copy of the WALS database, for this would have required extensive research that would have been too far outside the scope of this dissertation. However, errata posted on http://www.wals.info/ before closing the sample in

July 2007 (cf. sec. 2.4.1.1) were corrected. New data, features, or languoids added to the online version of WALS after that date could not be included.

For the sake of accuracy, I split up two languoids that were treated as one language instead of several in WALS: Bali-Vitu into Bali [bbn] and Vitu [wiv], and Serbo-Croatian into Bosnian [bos], Croatian [hrv], and Serbian [srp]. Nevertheless, Serbo-Croatian appears under that name as an abstract donor language [scr] (cf. sec. 5.2.2) in a few examples.

There are two other "mismatches" between the classifications of WALS and Ethnologue/ISO 639-3 that had to be taken into account here: Albanian [aln, als] is treated as two languages by Ethnologue and ISO 639-3, but as one in WALS. It is thus considered as one language with two ISO codes here. Conversely, Armenian [hye] is counted as two entities (Western Armenian, Eastern Armenian) in WALS and in this work (where the former occurs only as a donor and the latter only as a recipient language), although being considered one language in Ethnologue and ISO 639-3.

The language referred to as *Hup* [jup] in this work and the *Nadahup* family it belongs to is called *Hupda* of the *Vaupés-Japura* family in WALS, but since this glottonym is considered offensive by its speakers (cf. Epps 2008: 9–10), the name Hup, as suggested by Epps, is used here instead. Similarly, the unbefitting name of its language family (cf. Epps 2008: 10, fn. 7) has been exchanged for the name *Nadahup*.

Furthermore, I abandoned the "residual" family-level class *other* from WALS and "promoted" its only member "genus" *Creoles and Pidgins* to the higher level of "family". For the taxonomic status of the family *Australian* see also the remarks at the beginning of sec. 14.5.

2.4 The sample

2.4.1 Data collection

2.4.1.1 Amount of data gathered

For this study, I collected 794 examples of loan verbs from 553 language pairs (donor language > recipient language), involving 140 different donor languages and 352 different recipient languages. There is an overlap of 63 languages that occur both as donors *and* recipients. In total, 429 individual languages form the sample of the LVDB. A detailed list of these languages is

given in sec. A.1.1 in the appendix. For a detailed analysis of the sample, see sec. 2.4.3.

I closed the LVDB sample on July 26, 2007 when reaching the 550th language pair with loan verbs, that is the 553rd language pair overall. The difference results from three additional pairs where lexical borrowing occurred, but no verbs were borrowed, cf. sec. 11.3. No further data have been collected and added to the sample after that date, and only corrections of obvious errors were made before calculating correlations and counting frequencies. Such a "freeze" is a necessary prerequisite to having a constant, fixed data basis upon which all statistical calculations etc. can then be based. This means that in some instances information that reached me after this point had to be ignored.

A small number of additional examples in this work are from languages or language pairs not in the LVDB sample. Most of these, however, are forms that do not fall under the definition of *loan verb* given in sec. 3.4.1 on page 66, or examples used to illustrate points beside the actual study of loan verb accommodation patterns.

Inevitably, attempts to obtain data from a very large sample of languages distributed across *all* areas and genera is constrained by the availability of published data on (verb) borrowings in less commonly studied or scarcely documented languages and by the amount of grammatical and sociolinguistic information therein.¹⁰ When detailed information was not available, I had to decide whether the data given would be sufficient for my typology or not. Occasionally, I therefore omitted such fragmentary data from the database in order to avoid unsupported generalizations.

2.4.1.2 Selection of data (sampling)

Since it was not a priori clear which factors the choice of borrowing strategies depends upon, it was advisable not to limit the study to any "representative" sample of recipient (or donor) languages or language pairs. This was meant to ensure that as many different combinations of languages and contact situations as possible make it into the database. Furthermore, it might have become difficult or impossible to find examples for verb borrowings in all the languages or language pairs of any predetermined sample. Leaving out languages for which one could not find appropriate data would then inevitably skew the sample and thus compromise its representativeness as well. On the other hand, the explicit information that a language actually had *no* borrowed

verbs would indeed be appropriate information. The lack of such explicit information, however, must not be interpreted to mean that the language in question did not borrow verbs.

With these considerations in mind, and taking into account issues of data availability (see the following subsection), I decided not to limit the number or the genealogical and geographical distribution of the languages taken into consideration by means of a pre-defined sample. Rather, I tried to collect data from the broadest possible range of languages and the largest possible number of language pairs. Details about the genealogical and areal structure of the sample are given in sec. 2.4.1.4.

2.4.1.3 Data availability

Before I comment on the structure and the size of the sample, I want to give details on the methods used to obtain data that went into the LVDB. Examples and metadata have been collected in several ways:

- "classic" literature research in various libraries
- internet research using Google Scholar, Google Books, OVID etc.
- requests sent to the *Linguist List* and the replies thereto (cf. sec. 1.4.4)
- personal discussions following presentations on my research at conferences
- personal communication with colleagues working on particular languages
- data contributed to the Loanword Typology Project by colleagues
- data submitted by colleagues using a dedicated web submission form¹¹
- serendipity; e.g. overhearing speakers using loan verbs or ad hoc/nonce forms, or coming across loan verb examples in scholarly papers on an entirely unrelated topic

As mentioned above, it is not a trivial undertaking to collect information on verbal borrowings together with the desired metadata for all of the languages involved. While most modern grammars no longer simply dismiss loanwords as "improper language", accounts of the language-specific contact situations and the background of borrowings are normally still very brief or not found at all in older grammatical descriptions or papers dealing with the phonological adaptation of loan words.

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For some languages and contact situations, especially those in Europe, abundant data and all relevant information are readily available in the form of extensive grammars, diachronic studies, and etymological dictionaries. To a lesser extent this is also true for more recent borrowings in colonial and modern contexts worldwide.

Information on pre-colonial language contact outside Europe, however, is scarce, to say the least. For languages where only sketch grammars or publications on particular aspects of their grammar and contact history were available, but also in cases of contradicting sources, I chose to rely on personal information from experts on, and/or native speakers of, the languages concerned. See the acknowledgments on page viii for a list of consultants.

These limitations of data availability notwithstanding, the LVDB sample turned out to be much larger than anticipated at first and substantially larger than any previous collection of loan verb data. Initially, I aimed to collect data for at about 200 language pairs (cf. Wohlgemuth 2006: 8) and hoped to perhaps reach 300 to 350 language pairs. Upon closing the LVDB, I had nevertheless been able to collect data from more than 550 language pairs — which is the sum of these two previous goals.

2.4.1.4 Sample size

One major drawback of earlier studies on borrowed verbs was the fact that they were based upon a rather small sample of recipient languages or language pairs. For the present study, I therefore collected data from a wide range of languages: All in all, the LVDB sample comprises of 429 languages. With some overlap and very few instances of bidirectional borrowing, 352 of them occur as recipient languages, and 140 as donor languages.

As mentioned in the previous subsection, data availability would have made it very problematic to work with a predefined, genealogically and/or areally balanced sample of recipient languages. I therefore generally employed the "all you can get" approach which lead to a sample that is much larger than usual convenience samples but that perhaps is yet not as representative of the language families and genera in the world as one would like it to be. In any case, the sample's size and structure are rather indicative of the presently available data on verbal borrowings.

It has been pointed out by Widmann and Bakker (2006: 93–94) that convenience samples often lead to skewed results compared with other (balanced

or stratified) samples, because of the small number or languages represented and – in many cases – their "Eurasian bias" (Widmann and Bakker 2006: 94). On the other hand, Haspelmath and Siegmund (2006) demonstrated that typological correlations can also be established and verified with rather small or convenience samples. They conclude:

"[...] with the world-wide samples of the post-Greenbergian era, there are very few cases where a typological generalization has been found to be wrong because of inadequate sampling [...]." (Haspelmath and Siegmund 2006: 82)

As will be discussed in sec. 19.3, the generalizations by Moravcsik (1975) indeed do not hold when checked against a much larger sample, namely that of the LVDB.

For an in-depth analysis of the data collected, and how the sample is structured with regard to genealogical and areal distributions, see sec. 2.4.3 and the chapters of part III.

2.4.2 Inclusions and exclusions

In this subsection, I explain the considerations underlying the decision as to which languages or kinds of languages would generally and a priori be included into or excluded from data collection and the LVDB sample.

2.4.2.1 Other modalities

Borrowings involving sign languages as well as borrowings from sign languages into spoken languages or vice versa would undoubtedly have contributed interesting aspects to the typology presented here. Alas, I had to exclude them for two reasons.

First, the inclusion of such borrowings would presuppose a general consensus about how to treat borrowings across the two modalities of spoken versus signed languages, which differ exactly in the very nature of the substance that is transferred in the event of borrowing. This problem will be discussed further in sec. 4.2 on cross-modality borrowing.

Second, the question whether the notion of 'word' and the word classes of spoken and signed languages are conceptually and structurally equivalent and comparable has not yet been settled. The same applies to the (structural) comparability of grammatical categories across modalities, as can be seen from
recent approaches to these issues, e.g. Blanche-Benveniste (2007), Janzen (2007), and Zeshan (2002).

In sec. 3.3.2, I show that it is difficult to find a consensus on a crosslinguistically valid definitions of word classes for spoken languages. The same problem seems to exist in the research on sign languages, and it remains doubtful in how far terms such as 'word' or 'verb' refer to identical, comparable, or rather different entities in signed and spoken languages. Combining the terminological uncertainties from both sides would thus amplify the difficulties.

With these two issues unresolved, it would be more than problematic to speak of *verbs* that were *borrowed* across the modalities. Hence it also seems incongruous to include borrowings among sign languages, as the processes involved in these borrowings are not necessarily compatible with those of spoken language.

2.4.2.2 Special registers

In contrast, I decided to include borrowings into or from special speech registers, speech styles, and secret languages. Examples for such special registers are the mother-in-law styles of Australian languages or the politeness registers of e.g. Japanese, Javanese, or Thai.

Although they may have special restrictions regarding their use within a speech community, these special registers are ultimately parts of the language they "belong" to and neither separate languages of their own nor no linguistic entities at all.

Borrowings into or from these special registers are therefore generally treated on a par with borrowings involving the default register unless they actually made their way from the former into the latter.

An example for a loan verb that entered the default register via a special register is the colloquial German verb *stibitzen* in ex. (5).

(5) German (Colloquial) [deu] < Low German [nds] (Kluge 1995: 795) stibitzen sti<bi>tz-en <bi>steal-INF 'to take sth. away, to snaffle sth.' < [nds] stitzen 'to steal'</p> According to Kluge (1995: 795), the original verb *stitzen* existed in Low German but not in High German, when it was borrowed into students' jargon of High German around the 18th century. There, it became subject to the *bi*-ludling which regularly inserts the syllable /bi/ after the first vowel of a word, producing the form *stibitzen*. In this particular form it eventually diffused into other varieties of (colloquial) High German. In the end, it is therefore a Low German loan verb in High German.

2.4.2.3 Relexified languages, artificial lexica

Certain (socio)linguistic processes of language contact and language planning could be considered extreme cases transcending the usual processes of language contact — or being completely detached from them.

These processes may result in the emergence languages that do not have the same kind of genealogy and history as "natural" languages do. One might therefore want to exclude from studies on loanwords in the perspective of genealogical reconstruction. From the viewpoint of a typological study on lexical borrowing, however, they need not be excluded.

One such process is relexification, i.e. the replacement of all or most words of one language with the words from another, with the grammar of the original language remaining intact. This process typically occurs in the genesis of pidgins and creoles, but is not limited to these. For the definition of the term as it is used here cf. Muysken (1996: 120)

Yet, the formation of pidgin and creole languages or the emergence of mixed or relexified languages is a natural process that leads to the "birth" of a new language with its own lexicon and grammar and its own (albeit brief) history.

There is no reason whatsoever why borrowings *from* such languages (e.g. from Tok Pisin into local Papuan languages) should not be treated on a par with borrowings from other (not relexified) languages. In the end, this is the same issue as discussed in sec. 2.3.2.1 and 3.2.2 on immediate and ultimate donor languages: For the speakers of the recipient language it makes absolutely no formal difference at all where the borrowed word ultimately came from or whether the donor language had been relexified.

Looking at the issue from the other perspective, regarding borrowings *into* pidgins and creoles, I decided not to a priori exclude those borrowings provided that a loan verb in such a recipient language could be identified as a

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true borrowing. This means that it must not have been subject to the initial relexification. When such relexified languages stayed in contact with their lexifier, or came into contact with other, third, languages, they could acquire additional lexical material by a process that can rightfully be considered borrowing. An example for such a case is ex. (160) on page 255, involving a Tok Pisin loan verb, which is explicitly classified by Smith (2002: 94) as a recent borrowing from English.

A similar case would be artificial languages (such as Klingon, Esperanto, Sindarin) after their initial lexification by their inventor(s). However, although they were not a priori excluded, no examples for borrowings into artificial languages were collected.

Unfortunately, I eventually had to remove the only example involving the English (ultimately (Ancient) Greek [grc]) verb *baptize* in Klingon [tlh], because it turned out to be a code-switch: Marc Okrand (p.c.) confirmed that Klingons would prefer code-switching over borrowing as a matter of principle and that the only accepted loanword in Klingon would be a nominal — *coffee*.

2.4.3 Structure of the data sample

In the previous sections, I described the methodological considerations and steps undertaken to gather data on borrowed verbs. The purpose of this section is the analysis of the LVDB language sample with regard to its geographical, genealogical, and typological distribution and to give a brief overview of the LVDB's data.

One should bear in mind that the figures and averages given here are by no means intended as generalizations beyond the LVDB sample. They may not necessarily reflect the complexity of donor-recipient relationships and loan verb accommodation strategy usage patterns in the world's languages exhaustively.

2.4.3.1 General statistics

Some properties of the data collected in the LVDB have already been mentioned at several places of this chapter. In order to facilitate access to this information, it is gathered here comprehensively. The data collection of the LVDB sample has the following overall properties:

Data sets (total): 794 examples

This figure is the total number of data sets in the LVDB, including nonce borrowings etc. This collection is referred to as *the full sample*.

Data sets (cleared): 588 examples

This is above total number minus all non-verbs, nonce forms, and all doublets (additional examples from the same language pair, having a pattern, or patterns, of the same type or strategy). This set is referred to as *the cleared sample*.

Patterns: 328 distinct patterns

This is the total of all different patterns attested. Some patterns are shared by several languages. If these actually are the same in form and function, regardless whether by inheritance or borrowing, I counted them only once. See sec. 3.3.1 for definitions of *pattern*, *pattern type*, and *strategy*.

Pattern types: 22 distinct pattern types

These are the different subtypes of the strategies (e.g. *Affixation with a loan verb marker* in the *Indirect Insertion* strategy, cf. sec. 7.4). These types are illustrated in ch. 4, under the headings of their respective strategies.

Language pairs: 553

All language pairs for which there is at least one example were counted. This number includes three language pairs where it has been positively attested that there are loanwords, but no borrowed verbs, or calques only.

Donor languages: 140 languages (of 50 genera; 20 families)

This is the total number of languages that are immediate donor languages in at least one language pair. This number includes a few "abstract" languages when the donor languages could not be identified as one particular language but rather as "unidentified Turkic language" etc.; cf. sec. 5.2.2.

Recipient languages: 352 languages (of 142 genera; 68 families) Correspondingly, this is the number of languages that are recipient languages in at least one language pair.

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Overlap: 63 languages (of 34 genera; 17 families)

Languages that appear as donor language *and* as recipient languages in at least one language pair each were counted in this number.

Bidirectional language pairs: 5 (+ 6) language pairs

This is the number of language pairs which exchanged loan verbs in both directions. In the stricter sense, there are five bidirectional pairs; there are six more cases where different regional varieties of the languages are involved in the "mutual exchange".¹²

Total language sample: 429 languages (of 147 genera, 69 families) This figure is the number of all individual languages represented in the LVDB, corrected for the overlap and bidirectional pairs.

2.4.3.2 Example distributions and ratios

Although for many languages or language pairs only one example was collected, the examples in the LVDB are not evenly distributed over the donor and recipient languages or the language pairs. Similarly, the ratios of donor languages to recipient languages are not constant.

Distributions were analyzed using the R software (R Development Core Team 2007). They were calculated both on the basis of the cleared sample (588 examples) and the full sample (794 examples), cf. above. Distributions over the full sample are basically similar, but further analyzing those distributions would give a false impression since some nonce forms and nonverbs etc. are among that data. The corresponding figures were therefore highlighted by italics in the following two tables.

Table 2 shows the relations of donor and recipient languages. Unavoidably, there is also an imbalance with regard to donor languages vs. recipient languages, the latter ones being the great majority of the overall LVDB sample. Manifestations of this are e.g. the mean ratio of 3.98 recipient languages per donor language and the maximum of 90 different recipients for English. This suggests that generally fewer of the world's languages are in (social, cultural, political) settings that predetermine them to donate loan words, than to receive them.

The values in tab. 3 on the next page show the distributions of patterns, pattern types, and strategies over the LVDB donor and recipient languages. It can already be seen from these relations that most recipient languages seem to apply only one pattern (and thus of course only one strategy). Nevertheless,

Table 2. Donor-recipient ratios

	Min.	1st qu.	Median	Mean	3rd qu.	Max.	Mean	3rd qu.	Max.
	bot	h san	nples	cleare	ed sar	nple	full	samp	ole
Donors per recipient Recipients per donor	1 1	1 1	1 1	1.56 3.98	2 3	8 90	1.57 3.95	2 3	10 90

Table 3. Patterns per languages

	Min.	1st qu.	Median	Mean	3rd qu.	Max.	Mean	3rd qu.	Max.
	bot	th san	ıples	cleare	ed sar	nple	full	samp	ole
per recipient lg.									
Patterns	1	1	1	1.27	1	4	1.49	2	8
Pattern types	1	1	1	1.20	1	3	1.34	1	5
Strategies	1	1	1	1.16	1	3	1.22	1	4
per donor lg.									
Patterns	1	1	1	3.09	2	62	3.59	2	83
Pattern types	1	1	1	1.89	2	13	2.04	2	14
Strategies	1	1	1	1.50	2	5	1.56	2	6
per language pair									
Patterns	1	1	1	1.09	1	3	1.25	1	6
Pattern types	1	1	1	1.08	1	2	1.18	1	5
Strategies	1	1	1	1.08	1	2	1.12	1	4

multiple patterns per recipient language are also accounted for. Even within the same language pair, different patterns and strategies can be observed, although the averages are slightly lower than with the recipient languages overall.

It can already be seen from these relations that most recipient languages seem to apply only one pattern (and thus of course only one strategy). Nevertheless, multiple patterns per recipient language are also accounted for. Even within the same language pair, different patterns and strategies can be observed, although the averages are slightly lower than with the recipient languages overall. Conversely, the averages of patterns, subtypes and strategies per recipient language are slightly lower than the averages of donor languages per recipient language.

Apparently there are two countervailing tendencies within recipient languages: On the one hand they use more than one pattern and accommodation strategy (even within the same language pair), on the other hand they apply the same pattern or strategy for borrowings from different donors, i.e. across language pairs. This means that some of the variability is canceled out in the averages given above. Therefore, the maxima for these distributions may serve to illustrate the possible ranges of variability — though probably not yet their ultimate limits.

The chapters on strategy distributions (ch. 13 through 15) and pattern distributions (ch. 16) describe this variability, and some of the factors governing it are discussed in ch. 18.

2.4.3.3 Genealogical distribution of languages

The lists of languages (sec. A.1 in the appendix) give a detailed overview of all donor and recipient languages that went into the database as well as the 553 different language pairs they formed. In the following subsections, I want to comment on the areal and genealogical distribution of the sample's languages. The distributions of loan verb accommodation strategies will be illustrated and discussed in chapters 13 and 14.

Whenever the genealogical distribution of the sample languages is discussed in this work, figures are given with respect to the donor and recipient languages' *genera* and *families* in the same way as it has been done in WALS.

Therefore, throughout this work *genera* refers to groups of languages of comparable time depth, "whose relatedness is fairly obvious without systematic comparative analysis, and which even the most conservative 'splitter' would accept" (Dryer 2005c: 584). Accordingly, *families* always refers to the highest taxonomic level generally agreed upon. For a discussion of these terms and their use in typology, see also Dryer (1989).

The LVDB comprises of a sample of 352 recipient languages, which belong to 142 genera in 68 families. Of these, 63 languages (of 34 genera; 17 families) also occur as donor languages. For a detailed genealogical overview see sec. A.1.2. The 352 recipient languages belong to the following 68 families or are self-contained isolates, the numbers in brackets are the numbers of languages represented in the LVDB:

Afro-Asiatic (21); Ainu (1); Algic (4); Altaic (21); Araucanian (1); Arawakan (3); Australian (22); Austro-Asiatic (3); Austronesian (42); Aymaran (1); Barbacoan (2); Basque (1); Border (1); Burushaski (1); Camsá (1); Cariban (1); Chibchan (2); Chukotko-Kamchatkan (1); Creoles and Pidgins (7); Damar (1); Dravidian (7); Eastern Bird's Head (2); Eskimo-Aleut (2); Guaicuruan (1); Hokan (5); Huavean (1); Indo-European (57); Japanese (2); Kartvelian (1); Keresan (1); Korean (1); Kwaza (1); Leco (1); Lower Sepik-Ramu (1); Lule-Vilela (1); Mayan (3); Misumalpan (1); Mixe-Zoque (1); Mosetenan (1); Na-Dene (1); Nadahup (1); Nakh-Daghestanian (19); Nambikuaran (1); Niger-Congo (18); Nilo-Saharan (8); Oto-Manguean (5); Panoan (4); Penutian (1); Quechuan (5); Salishan (2); Sepik (3); Sino-Tibetan (11); Siouan (1); Solomons East Papuan (1); Subtiaba-Tlapanec (1); Tacanan (1); Tai-Kadai (1); Tarascan (1); Torricelli (1); Trans-New Guinea (4); Tupian (3); Uralic (14); Uto-Aztecan (7); West Papuan (5); Yámana (1); Yeniseian (2); Yukaghir (1); Yuracare (1)

The sample of donor languages consists of 140 languages from 50 genera in 20 families. Included are four unidentified donor languages. These are abstract donor languages for a few cases of mostly ancient borrowings, where the donor language could not be tracked down to one individual language but rather a group or only a genus or family (cf. sec. 5.2.2). For a detailed genealogical list of donor languages see sec. A.1.3

The donor languages belong to the following families or are self-contained isolates:

Afro-Asiatic (14); Altaic (12); Australian (4); Austro-Asiatic (3); Austronesian (17); Aymaran (1); Cariban (1); Creoles and Pidgins (7); Dravidian (2); Indo-European (51); Japanese (1); Kartvelian (3); Nakh-Daghestanian (1); Niger-Congo (7); Nilo-Saharan (2); Quechuan (3); Sino-Tibetan (3); Tucanoan (1); Tupian (1); Uralic (2); Uto-Aztecan (2); West Papuan (2)

2.4.3.4 Genealogical representativeness

Contrasting with the 2560 languages (in 466 genera, 206 families) represented in WALS, the LVDB sample has 429 languages (in 147 genera, 69 families) of which 339 also can be found in WALS. To be more precise, the LVDB sample has 352 recipient languages (from 142 genera, 68 families) and 140 donor languages (from 50 genera, 20 families).

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With regard to the number of families and languages represented, the LVDB sample has two isolates (Damar [drn] and Leco [lec]) not represented in WALS, and in total has 90 languages which are not in WALS. All in all, however, the LVDB sample is much smaller than the WALS sample: the LVDB sample amounts to 16.76% of WALS's overall number of languages. Furthermore, the LVDB sample is even less ideally distributed over the genera and families of the world's languages than WALS, which itself is not ideally distributed (cf. Cysouw 2008: 184). Nevertheless, the total number of LVDB languages (429) is slightly above the average of languages represented on the single WALS maps, which is 409 (Comrie et al. 2005: 3).

Several families are not represented in the LVDB sample at all. With some of the Native American languages this is due to the fact that they generally did not borrow words, or that these borrowings were often restricted to lexical borrowings of nouns or calques only (cf. Brown 1998a, 1998b). With other languages, the lack of sufficient information – or the lack of my access to it – are the reason. On the other hand, genera and families with many well-documented languages and sound lexical reconstructions that allow the identification of loanwords are slightly overrepresented; this is especially the case for Austronesian and Indo-European, and to a lesser extent with Afro-Asiatic, Altaic, and Uralic. Compared to these, other large families, e.g. Niger-Congo, are underrepresented. I am confident, though, that the findings of this study are well-founded enough to allow some generalizations which should persist even with a much broader sample.

2.4.3.5 Areal distribution of languages

Throughout this work, areal distributions are usually shown and discussed with respect to the six macro regions, that is the major cultural-geographical areas, as they were defined by Dryer (1989) and also used in WALS, namely *Africa*, *Australia and New Guinea*, *Eurasia*, *North America*, *Southeast Asia and Oceania*, and *South America*; cf. sec. 13.3.2.

For the distribution of recipient languages and donor languages over these areas see tab. 4 and tab. 5 on the facing page respectively. The areal distributions of loan verb accommodation strategies will be illustrated and discussed in sec. 13.3.

Macro region	Languages	Genera	Families
Africa	46	20	4
Australia and New Guinea	41	29	10
Eurasia	130	33	16
North America	40	24	18
Southeast Asia and Oceania	60	19	6
South America	35	23	23

Table 4. Recipient languages - areally

Table 5. Donor languages – areally

Macro region	Languages	Genera	Families
Africa	22	9	3
Australia and New Guinea	9	6	4
Eurasia	70	21	8
North America	4	3	3
Southeast Asia and Oceania	25	12	4
South America	10	7	7

Chapter 3 Basic concepts

3.1 About this chapter

This dissertation is about loan verbs and – more precisely – the typology of their *accommodation techniques* and the factors governing their use and distribution. As a prerequisite for description and analysis, this chapter introduces the definition of the subject matter itself as well as other concepts and terms that are essential for the present study.

The two most important cornerstone terms - *loan verb* and *accommodation pattern* will be defined in sec. 3.4. The definitions given there evolved out of preliminary working definitions in the course of collecting and analyzing the data. During that process it turned out that their definitions require the use of other terms and concepts which themselves need some clarification.

In the following two sections, I therefore lay out the terminology of lexical transfer, especially *borrowing*, *loanword*, and *accommodation*, followed the grammatical terminology centering around the terms *verb* and *pattern*.

3.2 Terminology of lexical transfer

3.2.1 Transfer

Before addressing the issue of word-class-specific borrowing, the question has to be answered as to what exactly a *loanword* is. In an introductory paper of the Loanword Typology Project, Haspelmath (2003: 13) tentatively defines the term as:

"[...] a word that at some point came into a language by transfer from another language."

This brief definition, however, leaves open the question what exactly 'transfer' means. Speakers incorporate foreign lexical material in different ways and with varying degrees of awareness. Does 'transfer' thus apply to an established lexical item only or also to an ad hoc instance of so-called 'nonce borrowing' or even to code-switching on the word level? And how are these terms themselves defined? Let me first outline how I use the term *transfer* itself. The other relevant terms of lexical transfer will be discussed in the following subsections.

It seems most sensible to use *transfer* as the cover term for all instances where material from one language is – consciously or unknowingly – being introduced by speakers of another language into the latter language and is subsequently being used there. This definition deliberately ignores the question whether the speakers must be fluent (or even native) speakers of the "one" or the "another" language or both.

Generally, this introduced material is lexical or morphological in nature and has a semantic meaning that is at least similar to at least some aspects of the meaning of the corresponding item in the first language. In some cases, though, only this semantic meaning is the subject of transfer, while in other cases syntactic constructions or other structures are transferred.

3.2.2 Donor and recipient languages

Language here means that variety or lect which is generally used among the community of speakers who use the transferred form. This includes transfer between different dialects of what can also be considered one language as well as the transfer between registers or speech styles of the same language (cf. ex. (5) on page 40), but explicitly excludes regular transmission between generations (i.e. language acquisition) and the inheritance of material from earlier stages of the language.

The language *from* which a transferred lexeme originates from is called *donor language*. Correspondingly, the language *into* which that lexeme is transferred is the *recipient language*.

Sometimes, however, there are more than two languages involved, e.g. in transfers that basically are from the *ultimate donor language* Latin, but have been taken over into German or English by way of the *immediate donor language* French into which it had before been transferred from Latin. Unless explicitly stated otherwise, *donor language* is meant to imply *immediate donor language* throughout this study.

I use the words *donor* and *recipient* due to the following considerations: I do not want to broaden the odd metaphor of *borrowing* criticized in the following section, therefore I avoid the term *lending language*. An alternative term like *source language* has the disadvantage of transmitting the connotation of that language being the ultimate donor language.

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3.2.3 Borrowing

Despite long-standing criticism of its odd metaphorical implications, the term *borrowing* is the one most widely used. Haugen (1950: 211–212) for example remarks:

"The metaphor implied is certainly absurd, since the borrowing takes place without the lender's consent or even awareness, and the borrower is under no obligation to repay the loan. One might as well call it stealing were it not that the owner is deprived of nothing and feels no urge to recover his goods. [...] The real advantage of the term 'borrowing' is the fact that it is not applied to language by laymen. It has therefore remained comparatively unambiguous in linguistic discussion, and no apter term has yet been invented."

Of course, the same can be said about the term *loanword* which originates in the same metaphor. Apart from the fact that the terms have been popularized and are now also used by laypeople, Haugen's assertion is still valid: Attempts to use alternative terms like 'copying', which has been suggested by Johanson (2002), were not successful on a large scale. Hence I continue to use the term 'borrowing' in this study. Accordingly, *borrowing* will be understood here in the sense implied by Haugen (1950: 212) in his seminal paper, where he defined it as

"the attempted reproduction in one language of patterns previously found in another."

Haugen's use of the term *pattern* refers to something completely different from the *pattern* defined in sec. 3.3.1. The word *patterns* here is basically just a cover term for lexemes, morphemes, phonemes and syntactic constructions, all of which (theoretically) could get borrowed. Arguably it can also be understood as including semantic and pragmatic structures although this was not intended by Haugen.

Haugen's definition does not exclude cases where speakers of the "other language" introduce material from their language into the "one language" which is not their native language. This process is normally called *imposition* or *retention*, as opposed to the more usual case which is then called *adoption*¹³ to distinguish it from the former. Thus, *borrowing* is actually a cover term for both of these transfer types, even though it is often understood as implying *adoption* only. Since in many cases it is indiscernible whether a loanword actually is an imposition or an adoption, this distinction was not made in this study.

3.2.4 Nonce borrowings and code-switches

Furthermore, Haugen's definition does not distinguish between *code-switching*, so-called *nonce borrowings* and conventionalized *borrowings*. Nonce borrowings are defined by Poplack, Sankoff, and Miller as borrowed forms that are attested only once (in a corpus) or whose "frequency and acceptability criteria are unclear or nonexistent" (Poplack, Sankoff, and Miller 1988: 52). Muysken (1995: 190) uses the term *nonce borrowings* somewhat differently for

"elements [which] are borrowed on the spur of the moment, without yet having any status in the receiving speech community".

The boundaries between these different language contact phenomena are at best fuzzy, and one should understand them as points on a scale rather than two separate entities. This scale indicates the degree of conventionalization a transferred entity has acquired in the recipient language. Well-established, "old" loan words, for example, may not even be perceived by speakers of the recipient language as something that originated in another language. At the other end of the scale are transfers that occurred only once or rarely, under specific circumstances, and are not commonly understood and used in the speech community of the recipient language. As Sankoff, Poplack, and Vannirajan (1990: 71) point out:

"Nonce borrowings in the speech of bilinguals differ from established loanwords in that they are not necessarily recurrent, widespread, or recognized by host language monolinguals. "

The same is – of course – true for code-switches into another language. These are instantiations of transfer, but are neither understood nor shared by other speakers of the host language who do not happen to be bilinguals, too. Yet, nonce borrowings as well as borrowings differ from code-switches inasmuch as they both share the "characteristics of morphological and syntactic integration" (Sankoff, Poplack, and Vannirajan 1990: 71, 94) into the recipient language (cf. also Heath 1989: 41). Therefore, I did not include code-switches that were either marked or clearly recognizable as such, but I did take into account some nonce borrowings, e.g. when they illustrate the productivity of an accommodation pattern. For a critical discussion of these terms cf. also Myers-Scotton (1993: 181–182) or ch. 3 of Clyne (2003).

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3.2.5 Borrowability

Borrowability expresses the notion that parts of the lexicon and grammar appear to be generally more resistant to borrowing than others. In other words, they vary with respect to the frequency they are being borrowed and the ease with which they are accommodated. This notion has already been mentioned in sec. 1.2.1.

The term *borrowability* is here to be understood as being neutral whether it applies to an item from either the donor or the recipient language. This means it does not distinguish between *adoptability* and *receptability* (cf. Haugen 1950: 224–225; Harris and Campbell 1995: 132) here. In such a distinction, the *adoptability* of an item is governed by properties of the language *from* which it is borrowed, while *receptability* is governed by features of the language *into* which it is borrowed. Such a distinction is only superficially useful, because it distracts from the interplay between both languages. Consequently, – unless explicitly stated otherwise – this distinction is not made in this work.

3.2.6 Model and replica

Using the term 'borrowing' for loanwords has the drawback of ambiguity: On the one hand, it can refer to both the *process* of transferring the source word from the donor language *into* the recipient language; on the other hand it can refer to the *result* of that process, namely transferred form *in* the recipient language. To avoid confusion, I use 'borrowing' for the transfer process only. Furthermore, I take up the differentiation used by Heine and Kuteva (2005: 40–41) for donor and recipient languages and extend it to the items involved in the borrowing process so that they can be clearly distinguished:

- **Model (form)** refers to the original entity in the donor language the "*model language*" after Heine and Kuteva (2005) upon which the borrowed item is based.
- **Replica (form)** refers to the corresponding borrowed entity in the recipient language the "*replica language*" after Heine and Kuteva (2005).

3.2.7 Loanword

Narrowing the issue of borrowing down to the lexical level, one can speak of a *loanword* when it has been transferred into a language by means of borrowing. In accordance with Haspelmath's definition cited on page 50 and the distinction made in the previous paragraph, a loanword is by definition the result of a transfer in the recipient language, i.e. the replica.

I do not want to engage in the discussion of what exactly counts as a 'word' or whether this term can be defined cross-linguistically at all. A reflection of this discussion – although undoubtedly interesting – would lead too far away from the topic of this study. For an overview, see the papers in Dixon and Aikhenvald (eds.) 2002.

According to Dixon and Aikhenvald (2002: 10) it is likely that all languages have phonological and grammatical words, even though their nature and salience may differ widely and the two notions of 'word' need not necessarily coincide for any given language. Thus, I will count as a loanword every item that is a word – phonological, grammatical, or both – by either the native speakers' intuition or by the fact that it is identified as such in a dictionary or a grammar or other scholarly contexts.

While the question whether a loanword is actually a loanword or a codeswitch probably cannot be determined for *every* given example, there is at least a rule of thumb which can be applied: If the word appears in a dictionary of the recipient language or is frequently used in non-metalinguistic contexts, then it is most likely to be an established loanword rather than a code-switch or nonce borrowing. Ideally, the word is also used by speakers who have no or only little competence in the (immediate) donor language, as that is the surest sign that the borrowed word has become an established lexical item in the recipient language.

On the other hand, in some of the works that were utilized to collect data, authors clearly mark particular loanwords as not widely used or restricted to colloquial varieties, slang, or certain speech styles. Such examples may nevertheless often provide insights into the processes of adapting foreign verbs into the recipient language; hence they were included in the database, but are marked as possibly not fully established loanwords. The same holds true for another type of transfer: loan translations (or: *calques*) which were only added to the collection if they contribute, or supplement, relevant information on borrowing patterns and their productivity or on overall attitudes towards borrowing in the given language.

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3.2.8 Accommodation and adaptation

With the term *accommodation*, needed in the definition of 'pattern' (sec. 3.4.2), I refer to all processes required in the recipient language to make a loan verb fully functional with regard to its morphological and syntactic properties. Such processes may include, but are not limited to, the following:

- assigning a loan verb to the word class 'verb'.
- assigning it to an inflectional class.
- assigning to it a classifying verb or an inflecting verb (in complex predicates)
- assigning valency to it
- attaching inflectional morphology to it

All of these can be either obligatory or optional, and all but the last can be overt or implicit. Especially with the *Direct Insertion* strategy (cf. ch. 6) in isolating languages, these processes are rather implicit.

In earlier publications I used the term *integration*, which is synonymous to *accommodation*. While I chose to ignore any conceivable differences between the meanings of "*accommodation*" and "*integration*" and treat them as synonyms, I use "*adaptation*" only for a subset of the accommodation processes, namely those where the borrowed element is actually formally adapted by morphosyntactic means. The same applies to the respective verbs *integrate* and *accommodate* vs. *adapt*. This use of the term is fundamentally different from, and must not be confused with, the way Hock and Joseph (1996: 275) use it to refer to loan translations and loan shifts which basically do not involve material borrowing at all.

The typology of accommodation strategies set forth in this work encompasses four main strategies, two of which – Indirect Insertion (cf. ch. 7) and the Light Verb Strategy (cf. ch. 8) – involve morphological changes applied to the borrowed verbs before they are put to use. These changes can rightfully be called morphological *adaptations*. Such adaptation, however, cannot be found in the two other main strategies, namely Direct Insertion (cf. ch. 6) and Paradigm Insertion (cf. ch. 9). For this reason, the overall typology is one of loan verb *accommodation* strategies and patterns, not adaptation strategies.

If citation forms (infinitives or other) in recipient languages are overtly marked (cf. e.g. the German infinitive suffix {-*en*}, or the English infinitive marker *to*), this bit of morphology does not count as an instance of loan verb

adaptation, since it is obligatorily applied to *all* (verbal) stems, native or borrowed alike, and is therefore not specific to loan verb accommodation. Similarly, all other inflection that must be applied to *any* verb in the recipient language in order to fit it into a syntactic structure is considered neither adaptation nor accommodation.

The last paragraphs of this section already contained several more terms of grammatical description that need to be clarified. In the next section, the terms *pattern*, *strategy*, *technique*, used here in conjunction with *accommodation*, will be defined before I turn to the term *verb*.

3.3 Terminology of grammar

Language typology involves the comparison and classification of languages into types according to their properties. The general problem of typology is to define the parameters, the categories and their expressions in a way that allows for cross-linguistic comparison. Nevertheless, grammatical relations and categories are basically language-specific rather than universal. This has been pointed out and discussed e.g. by Dryer (1997) or Haspelmath (2007), and will be most palpable with the category *verb*, discussed in sec. 3.3.2.

3.3.1 Accommodation techniques: patterns, types and strategies

Throughout this work, I employ terms to refer to and typologize the grammatical and/or lexical mechanisms used to accommodate borrowed verbs. The list below explains the different terms used in characterizing a verb accommodation using example (6) as a reference:

 (6) Russian [rus] < English [eng] (Maximova 2002: 205) park-ova-t' park-VBLZ-INF
 'to park (a car)'
 < [eng] park

Pattern is the recurring language-specific mechanism employed to accommodate a loan verb so that it can function as a *verb* (this term needs to be defined itself, cf. sec. 3.3.2) in the recipient language. With respect to ex. (6), this accommodation mechanism would be the affixation with the verbalizer {-*ova*-}, which Russian applies to numerous

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borrowed verbs from various languages. *Recurring* here means that it is, or has been, used productively.

- **Subtype** is the first level of generalization, grouping together patterns which have a similar structure, but use different morphological material. For our Russian example, that subtype would e.g. comprise of the patterns with the verbalizers {-ova-} (as in (6)), {-irova-} (as in *fiksirovat*' 'to fix'), and {-izirova-} (as in *mekhanizirovat*' 'to mechanize').
- **Pattern Type** is then generalized cross-linguistically, ignoring the actual morphological material in order to form a class of patterns or subtypes that have a common mode of operation. For the affix {-ova-} of our example (6), that pattern type would be *affixation with a verbalizer* as described in sec. 7.2. In the LVDB and in previous publications, I inconsistently used the term '*macro type*' for 'pattern type' as well as for 'strategy'.
- **Strategy** is the highest level of abstraction. Here, the different pattern types are assigned to four main types according to the overall manner of accommodating loan verbs. For the 'affixation with a verbalizer' type of the example, this would be the strategy of *Indirect Insertion*, as it is described in ch. 7.
- **Accommodation mechanism** is the cover term for all of the above, used whenever visible adaptation (cf. sec. 3.2.8) takes place.
- **Accommodation technique** is the cover term for all of the above, used when a differentiation seemed inexpedient.

It will be shown in chapters 13 through 16 that it is not uncommon for languages to employ more than one pattern, often of different pattern types and strategies, either (ex)changing them in the course of time or productively using them in parallel at the same time. Some languages also have patterns belonging to different strategies, either to accommodate loan verbs from different donor languages or at different stages of their contact history. The factors influencing pattern and strategy choice are the topic of ch. 18. Furthermore, such patterns can get borrowed themselves. This phenomenon will be discussed in ch. 17.

3.3.2 Verb

The term *verb* is, of course, one of the cornerstone terms of this dissertation and is one of the very basic terms of grammatical description. Nevertheless, it is one of the categories which are difficult to define cross-linguistically, cf. e.g. Croft (2003: 183–184) for a discussion of these difficulties with the example of the *adjective* class. A universal definition of *verb* would need to be very broad and inclusive, as the cross-linguistic variability of lexical items classified as 'verbs' is rather broad.

3.3.2.1 Verb as a cross-linguistic category

Defining the term *verb* or assigning a word to that lexical category, however, is problematic. Verb cannot be universally defined by syntactic, morphological, or phonological properties, as word class membership often depends on the context and not so much on the nature of what is being represented by the given word (cf. Hopper and Thompson 1985 for a discussion). This is due to the fact that in many languages, among them the most prominent contemporary donor language - English - there is no unambiguous formal part-of-speech distinction: In isolation, one cannot say whether words like love, cook or hammer are verbs or nouns. Only in contexts like e.g. "John s", the word that can fill the gap creating a grammatical sentence can be identified by its verbal function. It has been argued e.g. by Farrell (2001) that as lexical roots, these words are underspecified for their class, and only their use and the context of inflection or the ____ or a ____ vs. to ____ indicate word class membership. Alas, if there is a "flexible" part-of-speech membership, attempts to make or evaluate predictions about word-class-dependent borrowability hierarchies have to account for such problematic cases.

There are various grammatical parameters which can be used to confirm the existence of a *verb* class in most languages and then to assign particular words to that class. One such approach is the functional (syntactic) definition of *verb* after Hengeveld (1992) illustrated in tab. 6 on the following page.

There, four main word classes are differentiated according to their roles as either heads or modifiers in phrases of either predication or reference. According to this fourfold distinction, verbs are the class of words that can function as heads of predicational phrases. Yet, as indicated above, several questions remain even after defining that category this way, since these functional

	Predication	Reference	
Head	Verb	Noun	
Modifier	Manner adverb	Adjective	
	(after Hengeveld 1992)		

Table 6. Definition of word classes after Hengeveld

distinctions are not universal and thus elude cross-linguistic comparison and – much more so – definition.

What exactly, then, should be considered a verb and thus taken into account in the LVDB collection? When one admits only examples where the word in question is positively a verb in both the donor and the recipient languages, what about verbalized borrowings where the donor-language root is not a verb but a member of a much broader word class? What if the recipient language, too, has a fuzzy noun-verb distinction so that almost any root can function – and accordingly be classified – both as a verb and as a noun?

In Indonesian [ind] (cf. ex. (7) and (8)) or Bikol [bcl] (cf. ex. (42) on page 90) – and many other languages – lexical roots are often underspecified with respect to their class membership. Without context, Indonesian *tidur*, *takut* or *cinta* are just as verby or nouny as their English equivalents *sleep*, *fear* and *love*. A phrase or sentence like (7) has thus several interpretations, and the class membership of *takut* would have to be reassigned depending on the actual meaning in a given situation:

(7) Indonesian [ind] takut dia fear 3SG
a) 'his/her fear'
b) '(s)he is afraid'

Indonesian nevertheless has derivational morphology and very creatively employs it e.g. to verbalize almost anything, even proper names as in (8):

 (8) Indonesian [ind] me-rambo-kan TR-Rambo-CAUS
 'to exterminate, destroy'
 < Rambo (Name of a movie figure) (own data)

(own data)

However, these mechanisms need not be applied in all instances. Especially in more colloquial, every-day styles, words can be used in different functions without any derivation. See sec. 19.2.1 for a discussion why it is not sensible to assume zero derivation here. In such cases it is difficult, if not impossible, to assign lexical roots to one lexical class. This assignment becomes even more difficult if languages with such flexible word classes borrow from one another. This is illustrated in ex. (9) with the underdetermined English root word *check* that could function as a verb or as a noun in English. Similarly, the class membership of the corresponding Jakarta Indonesian loan form *cek* is underdetermined unless prefixed with the {*nge-*} marker that indicates transitive use:

(9) Indonesian (Jakarta) [ind] < English [eng] (Chaer 1976: 95) nge-cek TR-check 'to check sth./so.' < [eng] check

Word class membership is apparently less rigid and definite in many languages than one might wish for. As a consequence, the functional-formal category *verb* remains intangible, and one has to resort to other criteria. It has been pointed out by Haspelmath (2007: 119) that

"[a] consequence of the non-existence of pre-established categories for typology is that comparison cannot be category-based, but must be substancebased, because substance (unlike categories) is universal."

This means that only categories defined on the basis of semantic criteria are suitable for cross-linguistic (typological) comparison. Categories so defined are e.g. employed in WALS by Dryer for *subject/object* (Dryer 2005b: 330) and *adjective* (Dryer 2005c: 354). One might object that semantic criteria yield classes that are not congruent with the classical (i.e. traditional) word classes based upon the conglomerate of morphological, syntactic and/or phonological criteria (cf. Herbermann 1981: 253). Nevertheless, it has become clear that the only criterion that can reasonably be drawn upon to define the class *verb* is a semantic one, namely that of a verb being an action word, i.e. a word designating an activity. This is incorporated in Croft's part-of-speech distinctions (given in tab. 7 on the following page), which combines semantic and functional criteria.

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	Reference	Modification	Predication
Objects	unmarked nouns	genitive, adjectivalizations, PPs on nouns	predicate nominals, copulas
Properties	deadjectivized nouns	unmarked adjectives	predicate adjectives, copulas
Actions	action nominals, complements, infinitives, gerunds	participles, relative clauses	unmarked verbs

Table 7. Definition of word classes after Croft

(after Croft 1991: 67, 2003: 185)

The category of *unmarked verbs*, designating the predication of an action, probably misses some borderline cases (e.g. formal verbs denoting properties rather than activities) and forms considered at least "verby" by other criteria. Nevertheless, I basically adopt this as the core category to which the examples of the LVDB should belong, but also include infinitives, gerunds and participles which classically are verb(al) forms and are generally classified as such.

3.3.2.2 A practical problem

In practice, however, these considerations find a limitation in the fact that strictly adhering to any chosen criterion and verifying all loan verb data against that chosen verbhood criterion would drastically limit the amount of available data. This is due to the fact that in many – mostly older – sources as well as most dictionaries and many grammars with a more prescriptive undertone, words are simply assigned to the class "verb" without any explicit justification or any language-specific definition of the class, let alone a definition that is applicable cross-linguistically. In such cases it is therefore not always feasible to verify whether a given verb can be regarded as a verb according to the standards suggested here.

One has, then, a threefold choice. First, one can try to verify the partof-speech assignment through other sources (if such are available) and then decide whether the given loanword is a verb or not. Second, one could also radically omit all dubious cases and thereby reduce the sample even further. Or, third, one could take the pragmatic approach and accept the expertise of the authors of the sources cited: If a word has been classified as a *verb* in a source, this classification should also be assumed for one's own work.

In the present study, I chose to include and exclude data by a sound mixture of these three approaches, depending on data availability and my confidence in my interpretation of the data. Whenever possible, I assessed the verbhood of the example words along the lines laid out in the following subsection.

3.3.3 What has (not) been included?

After discussing the basic terminology, I want to outline the principles of data selection as they were applied here with regard to the collection and classification of *loan verbs* and their *accommodation patterns*.

Examples of loan verbs were included in the database, or – more precisely – in the cleared sample if the particular word is an action word and functions as a verb (or behaves in a predominantly "verby" way) in the *recipient* language, according to the above criteria. As a consequence, one might have to exclude verbs denoting less typical actions (e.g. stative verbs like *sit*, perception verbs like *be afraid*) from the database and the study, as they are not "verby" enough. This also has the advantage of excluding most problematic forms where e.g. a nominal or an adjective serves as head of the borrowed predicate.

There are inevitably some borderline cases where the degree of verbiness either in the recipient or the donor language is questionable. This can be due to an unclear parts-of-speech distinction or due to an accommodation pattern that is not restricted to the class of verbs.

In cases where it is clear that the corresponding noun has been borrowed first (and as a noun) and has only later been verbalized, the resulting denominal verb must not be counted as being borrowed itself because it is rather a result of language-internal derivation which happened to be applied to a borrowed root.

Occasionally, it is impossible to determine beyond doubt whether the borrowed form is to be regarded as a verb or a noun in either the source or the recipient language (or both) for reasons of homophony or ambiguity of part-of-speech membership, cf. English (to) email, (to) job or (to) kiss. These forms are included, since their verbhood cannot be ruled out and there is usually no way to determine whether it was the noun or the verb which has actually been borrowed.

Hawaiian [haw], for instance, has no formal distinction between nouns and verbs. Thus, with borrowings as (10), seen outside a syntactic context, one can neither decide for the donor language nor for the recipient language whether the loanword and its model form were 'to cook' or 'the cook'.

(10) Hawaiian [haw] < English [eng] (Parker Jones 2006: 3 ex. 5.21) kuke cook
'(to) cook'
< [eng] cook

Another example for this problem comes from Swahili: The affixation of a borrowed verb with the infinitive prefix $\{ku-\}$ in (11) constitutes an example of a productively used pattern in that recipient language; many other verbs borrowed from English and Arabic have the same prefix. In the concrete case, however, it cannot be determined clearly whether the English model form *kiss* that got borrowed by Swahili is *to kiss* or *the kiss*.

 (11) Swahili [swh] < English [eng] (Schadenberg n.d.: LWTDB 16.29) ku-kisi INF-kiss 'to kiss'
 < [eng] kiss

Such cases notwithstanding, the definitions given so far effectively rule out cases where non-verbal elements get inserted into a clearly verbal environment, as in the following examples:

(12) Central Alaskan Yup'ik [esu] < English [eng] (Linda Lanz, p.c.; Jacobson and Jacobson 1995: 421) wataim-arta what_time-Q 'What time is it?' < [eng] what time</p>

As Linda Lanz (p.c.) points out, the interrogative suffix {-arta} in (12) can only attach to verb roots, not nouns. Evidently, thus, *wataim*, borrowed from the English noun phrase *what time*, is used as a verbal root in Central Alaskan

Yup'ik. This is an interesting phenomenon, but the form does not qualify as a loan verb.

Likewise, Japanese allows for complex predicates like (13), with little regard to the word class of the first element. The form in (13) has been excluded, too, as there is no corresponding English verb *to sex:

(13) Japanese [jpn] < English [eng] (Schmidt 2005) sekkusu suru sex do 'to have sex' < [eng] sex</p>

Another difficulty occurs with borrowings involving gerunds, participles, verbal nouns, modal or auxiliary verbs and other "in-between" forms that have at least some "verby" characteristics. The case of participles is illustrated in ex. (14) from Carib; see also sec. 6.3 for more examples and a discussion of borrowed verbal participles.

(14) Carib [car] < Spanish [spa] (Renault-Lescure 2005: 112 ex. 23) woto si-salalu-to-i fish 1SG.A-salt-VBLZ-PFV
'I salted the fish'
< [spa] salado PTCP of salar 'to salt'

Similarly, the Russian modal verb *nado* in (15) is accommodated by a verbalizer just like regular loan verbs in Udihe, cf. ex. (2) on page 6. However, it lacks most verbal properties in Russian and is thus not considered an acceptable input form for this study.

(15) Udihe [ude] < Russian [rus]

(Nikolaeva and Tolskaya 2001: 22 ex. 19)

nade-le must-VBLZ 'to must, to need to' < [rus] nado 'must'

Loans involving the same Russian model form can also be found in several other languages in contact with Russian, e.g. Ket (Vajda 2005b: 4), Yakut (Brigitte Pakendorf, p.c.) or Yukaghir (Maslova 1999: 34). These forms, however, as well as those in ex. (12) through (15) were not included in the cleared sample, where more clear-cut, unquestionable examples represent the respective language pairs.

Such examples may nevertheless be useful to illustrate the productivity and functional scope of the accommodation techniques in question, but beyond that point they are not relevant to the typology presented in this study.

This leads us to the second criterion for exclusion, namely accommodation pattern productivity. The term 'pattern' implies some degree of reoccurrence or regularity. Thus, exceptional, nonce, or idiosyncratic constructions cannot be considered instantiations of a pattern. For example, the form of the loan verb in (16) is the *only* instance of a light verb construction (cf. ch. 8) accommodating a borrowed verb in Albanian:

(16) Albanian [aln,als] < English [eng] (Ködderitzsch and Görlach 2002: 298)

```
bej-boks
do-box
'to box'
< [eng] box 'to box'
```

Such a single occurrence of a construction like that of the $\{bej-\}$ -form would not qualify it as a pattern of its own (cf. sec. 3.3.1). It is therefore not listed as one of the accommodation techniques attested for Albanian.

3.4 Definitions of the core terms

3.4.1 Loan verb

The prime definition that needs to be given in this chapter is the definition of *loan verb* — the object of this work. It turned out that both parts of this compound are terminologically blurry.

As has been illustrated in sec. 3.3.2, the assignment of words to the class of verbs is sometimes problematic. There are borderline cases where the verb status either in the recipient or the donor language is questionable. This can be due to an unclear parts-of-speech distinction within particular languages as well as to a difficulty in the cross-linguistic definition of that category.

The other crucial term of this definition, *borrow* and/or *loan*, has proved similarly problematic. It has been discussed and defined in sec. 3.2.3 above.

Building upon the discussions and definitions of the previous sections, I can now define *loan verb* as given in fig. 3.

A *loan verb* is an established borrowed lexical item (i.e. not one inserted ad-hoc) which can count as a verb (or is predominantly "verby", i.e. an action word that prototypically serves as the head of a predicate phrase), both in the recipient (borrowing) and in the donor (source) language.

Figure 3. Definition: Loan Verb

3.4.2 Accommodation pattern

The purpose of this dissertation is not merely presenting a collection of individual loan verbs. It is rather a typological description of the general ways in which verbs are accommodated into recipient languages. These ways or mechanisms are called *accommodation techniques* in the present work, and their basic, language-specific, manifestations are *accommodation patterns*. Referring to them as *routines*, Heath (1984b: 372) defines them as

"[...] productive processes by which speakers with at least some bilingual competence introduce new borrowings from L2 into L1."

Since any act of borrowing requires "at least some competence" in L2 (cf. sec. 3.2.3), that sociolinguistic qualification is negligible in the definition. What is more important for the present typology are the *grammatical* mechanisms necessary for borrowing and accommodating verbs.

The technical term 'accommodation' as used here is synonymous to the term 'integration' used e.g. in Wichmann and Wohlgemuth (2008) or 'introduction' in the sense of above quote from Heath. This term is discussed and defined in sec. 3.2.8.

If citation forms (infinitives or other) in recipient languages are overtly marked (cf. e.g. the German infinitive suffix {-*en*}, or the English infinitive marker *to*), this bit of morphology does not count as an instance of a loan verb accommodation technique, since it is obligatorily applied to *all* (verbal) stems, native or borrowed alike, and therefore no aspect of its function is specific to loan verb accommodation.

Likewise, all processes of purely phonological adaptation are excluded. As will be further discussed in sec. 4.3, phonological accommodation is in most cases not word-class sensitive.

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As has been pointed out above, the term 'pattern' is not applied to exceptional or idiosyncratic constructions but only to those that are or were used productively. Hence I define *accommodation patterns* as given in fig. 4.

An *accommodation pattern* is a construction to accommodate a loan verb that is or was applied by the recipient language productively (i.e. in more than one occasional case). Such a pattern characterizes at least the morphosyntactic form and properties of the resulting (recipient language) loan verb and in some cases also the required morphological form of the input (donor language) verb.

Figure 4. Definition: Accommodation Pattern

With these two definitions given, the actual typology of loan verb accommodation techniques can be presented in the following part.

Part II

Loan verb accommodation

Chapter 4 Introduction

4.1 About this part

This part of the volume presents the different loan verb accommodation strategies used in the world's languages, along with their different subtypes that occur in the LVDB sample.

Before turning to this typology of accommodation strategies in the following chapters, the difficulties of cross-modality borrowing, i.e. borrowing from spoken languages into sign languages or vice versa are discussed in sec. 4.2. Furthermore, a few remarks on phonological accommodation (sec. 4.3) seem in place.

The following chapters of this part will not be summarized in separate introductory sections. I will therefore briefly outline them here.

Although not *accommodation* patterns in the stricter sense, a typology of the different types of model verb forms that get borrowed are outlined in chapter 5, because they add to the overall understanding of verb borrowing.

Generally, the strategies and the subtypes presented in chapters 6 through 9 are the same as they were classified in previous work by Wichmann and myself (cf. sec. 1.4.4). Deviations from these publications are the result of further insights and methodological decisions due to a broader data sample and the work done in the meantime.

The strategies and their pattern types and/or subtypes are presented here with the overall goals of this study in mind, discussing their classification and scope alongside taking recourse to many examples from the LVDB.

The four strategies presented in chapters 6 through 9 are called *main strat-egies* in this work because they are true loan verb accommodation strategies. The three most widely used and thus most relevant ones for the typology are referred to as *major strategies* (cf. sec. 12.2). In addition to these, some other *minor strategies* as well as "non-patterns" and "almost-patterns", which for various reasons are not counted as examples of genuine loan verb accommodation patterns and strategies, will be discussed in chapters 10 and 11.

Chapter 12 then gives a brief comparative overview of the strategy types according to their structure and to the integrational effort (see sec. 12.3) they imply.

4.2 On cross-modality borrowing

The accommodation patterns and strategies illustrated in the following chapters of this part occurred in borrowings between two spoken languages.¹⁴

Of course, there are also other conceivable scenarios where borrowing occurs among languages of other modalities or between languages of different modalities. The most prominent of these other modalities are signed languages, e.g. American Sign Language (short: *ASL*) [ase] or British Sign Language (short: *BSL*) [bfi]. It seems appropriate to briefly discuss the issue of cross-modality borrowings and justify my decision not to take them into account in the LVDB sample (cf. sec. 2.4.2.1).

One of the few studies explicitly concerned with inter-modality borrowings of *verbs* is Sutton-Spence (1988) on borrowed English verbs in BSL. Since there is no way of directly accommodating words borrowed from English into BSL so that they become full gestured signs, they are rather spelled out according to the orthography of English using the BSL finger spelling (cf. Sutton-Spence 1988: 43–44). A similar case are "character signs" in Taiwanese Sign Language [tss] that are iconic reproductions of written Chinese characters (cf. Ann 2001: 52–54).

Disagreeing with Sutton-Spence's view, I classify the cases of concepts that get borrowed and are assigned a gestured sign as instantiations of *semantic* borrowings rather than lexical borrowings, since they are "uncoupled" from their original "substance". Furthermore, it becomes clear that many of the fingerspelled forms can be considered tangible foreign (English) elements (cf. Sutton-Spence 1988: 43–44). Not surprisingly, thus, the largest class of BSL fingerspelled verbs are classified as code-switches and nonce forms by Sutton-Spence (1988: 46). As such, they are not true lexical borrowings, then.

All in all, fingerspelling is more of a necessary adjustment to the different modality than full integration into the system of a sign language. There are a few examples of more deeply integrated fingerspelled loanwords – among them also verbs – that turned into conventionalized signs of American Sign Language (cf. Battison 1978; Padden 1991: 195–198). However, this adjustment seems more comparable to phonological accommodation (cf. sec. 4.3) rather than to morphological accommodation: Most of the fingerspelled loans mentioned by Battison have in common that their model forms are spelled with two letters in English and that the fingerspelling handshapes of these letters are part of the gesture's configuration. Among them are the verbs do and no (borrowed as a verb meaning 'negate, say no'), cf. Battison (1978: 119,

133). Apart from these short forms, fingerspelled verbs, which again mostly are regarded as code-switches rather than borrowings, seem to be particularly rare compared to other word classes (cf. Padden 1991: 198). Unfortunately, these interesting examples are too few and too restricted with regard to their structure and/or their currency as established loanwords to make any generalizations based on them. In addition to this lack of adequate data, there is still a more fundamental problem which is yet unsolved.

There is no doubt that the semantics of a word (i.e. its lexical meaning, the *concept*) can be and actually are transferred across modalities. In contrast to this, it still remains an open question whether one could claim that also the "substance" (i.e. its phonological representation) could be transferred as well (cf. Machabée 1995: 55-59 for a discussion). This "substance" is the morpheme, encoded in a *chaîne acoustique* in spoken language. Its visual counterpart in sign languages is the combination of hand movements, configurations, and facial expressions, that together form a gestural sign. To my knowledge, there is no established regular direct correspondence between these two kinds of "substance" whatsoever. It would require a thorough revision of the traditional concepts used to describe these "substances" in both modalities, before they can be considered fully equivalent (cf. Zeshan 2002: 176). Furthermore, even if one leaves aside the question as to whether 'verb' means the same in both modalities (cf. also sec. 2.4.2.1), it is still to be expected that the realizations of their grammatical categories will be affected by the differences between the two modalities (cf. Janzen 2007: 193-194).

Consequently, it would be premature to assert that these two instantiations of "substance" can or cannot be transferred in any way comparable to the transfer of a word's pronunciation in spoken-language borrowing. At the current status of this unresolved conceptual problem, I cannot imagine immediate transfer of both meaning *and* "substance" between the two modalities. This "coupled transfer", however, is part of the definition of *borrowing* as I adopted it for this study (cf. sec. 3.2.3 on page 52).

However, *semantic* borrowing across modalities and material-based codeswitches are possible and do occur, and one can safely assume that the two modalities have the capability of influencing each other.

"Some similarities that link gestural to spoken 'language' may, of course, be due to influence from it. [...] It is possible, however, that human sign languages might not have some properties that it does have if spoken language had not evolved [...]" (Matthews 2002: 280)

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Based on the premises laid out in this section, *material* borrowing across modalities has nevertheless to be ruled out either as impossible or as not describable with the current theoretical and terminological means. It is therefore – regrettably – not part of the present study.

4.3 On phonological accommodation

Modifications of the phonetic shape applied to borrowed verbs in order to make them meet the phonological structure of the recipient language are, of course, also instantiations of accommodation. Nevertheless, this accommodation only takes place on the level of phonology rather than that of morphology or morphosyntax, and it is, if necessary, in principle applied to all borrowed words — not verbs only. This is illustrated in (17) from Hawaiian:

(17)	Hawaiian [haw] < English [eng]	(Parker Jones 2006: 3 ex. 5.23)
	palai	
	fry	
	'to fry'	
	< [eng] to fry	

Here, the input form *fry* has been adjusted to suit Hawaiian phonology by exchanging the consonants /f/ and /r/ which are not part of the Hawaiian phoneme inventory and by inserting a vowel to break up the consonant cluster which as such is not allowed by Hawaiian phonotactic rules. Any loanword entering Hawaiian which does not conform with the phonological system is subject to such a procedure. This process of adaptation is completely blind to grammatical or lexical classes and a purely phonological one.

Adaptations like the one just shown were therefore not taken into account for the classification of loan verb accommodation patterns, whenever such modifications were not limited to the lexical class of verbs.

However, when general (morpho-)phonological restrictions particularly apply to the phonological structure of verbs in the recipient languages, these restrictions in most cases also apply to borrowed verbs, as can be seen e.g. in the cases of Meyah illustrated in sec. 17.5, requiring consonant-initial verb stems, or the Semitic languages discussed in sec. 14.4.1, requiring a distinct (templatic) shape of verb roots. Such restrictions may at times have an impact on the nature of the accommodation pattern, to which the function of phonological accommodation is then added.

Chapter 5 Types of input forms

5.1 General remarks

When borrowing a verb from a language with verbal morphology, there is a selection of potential models available from which one (or, occasionally, more) can be chosen. I use the term *input form* for the borrowed lexeme that serves as the model in cases of verbal borrowing.

These input forms that need to be accommodated may already have quite different morphological shapes: they can be stem-like, infinitive-like, imperative-like, inflected for (third) person and tense. They can also be verbal nouns, participles, gerunds, and probably also other (salient) verb forms. A classification of these input forms is given in this chapter.

In earlier publications by Wichmann and me, we used some of the types of input forms discussed in this chapter to establish subtypes of the Direct Insertion strategy (cf. ch. 6). However, these input types can just as well be found with most of the other accommodation strategies — except Paradigm Insertion, of course, since in Paradigm Insertion not *one* particular form but rather the entire inflectional paradigm – or a substantial subset thereof – is borrowed along with the verb (cf. ch. 9). It therefore seemed more appropriate to split this classification off from that of the Direct Insertion strategy and to establish a self-contained typology of input forms.

Furthermore, such a detached classification of input forms also allows for a more consistent typology of accommodation strategies and patterns in the following chapters, based only on the actual accommodation in the recipient language. Input forms were therefore only taken into account for that classification where they actually are a relevant factor in the characterization of an accommodation technique, as is e.g. the case with the *Light verb* + *participle* construction described in sec. 8.6).

For the sake of clarity and comparability, most examples in this chapter are nonetheless of the same accommodation strategy, namely Direct Insertion, where the borrowed verb is not formally adapted. This way, no accommodating morphology obscures the input form's morphological structure, thus better allowing inferences as to which model has been copied and making the examples more comprehensible.
5.2 Insertion of an abstract form

The most frequent case of a model verb form is a basic verb stem -i.e. the verb without its inflectional morphology - which then is replicated in the recipient language.

In my own previous work (e.g. Wohlgemuth 2006), I took over Wichmann's (2004a, 2004c) term "root-like stem" instead of "abstract form" for this input type. Yet, some of the verb forms subsumed under this type are neither bare stems nor roots and may carry (traces of) affixation. To account for this fact, I decided to relabel this type in the present study. Accordingly, *abstract form* here means a verb form that either bears no donor language inflection at all (like bare stems) or otherwise is not a regular form of the verb in question.

5.2.1 Model: abstract stem

A stem is called 'abstract', if it does not occur in that morphological shape as a grammatical form of the model verb in the donor language. English, for example, inserts the German verb *abseilen* in (18) without its German infinitive suffix $\{-en\}$:

(18) English (USA) [eng] < German [deu] (Webster's 2001: 5)
 abseil
 abseil
 'to abseil' (to lower oneself down [by means of] a rope)
 < [deu] abseil-en 'abseil-INF'</pre>

The input form of this loan verb is thus an abstract stem {*abseil*-}, i.e. the (nominal) root *seil* 'rope' plus the German derivational prefix {*ab*-}, but without an infinitive suffix. A corresponding free form **abseil* does not exist as such in German, however. To be grammatical, the form would require either the infinitive suffix or person and tense inflection in its position.

The same is – analogously – true for the stem $\{maxim-\}\$ in any of the probable donor languages of the loan verb in (19), which are likely Swedish [swe] and/or English [eng], and ultimately, via one or both of them, French [fra]. In none of these probable donor languages the form **maxim* would be grammatical.

(19) Finnish [fin] < unid. Indo-European lg. [0ie] (Nau 1995: 65) maxim-oida maximize-VBLZ 'to maximize' < [swe] maxim-era 'to maximize' or < [eng] maxim-ize < [fra] maxim-is-er

The model forms here are thus abstractions which do not occur in the *parole* of the donor languages. The existence of such forms as objects of transfer suggests that they must have been borrowed by speakers of the recipient language who have sufficient knowledge of the donor language's morphological structure to identify the infinitive markers etc. and remove them.

5.2.2 Abstract donor language

As could be seen with ex. (19), sometimes one cannot easily identify one particular donor language. This difficulty can be caused by several different reasons.

One possible scenario is the following: The loanword has the same form in several potential donor languages and there is no clear evidence in favor of any one of them, as e.g. Marck (2000: 113–114) reports for Tongan borrowings from Nuclear Polynesian.

Similarly, the model could have been borrowed either from an ultimate donor language *A* through an intermediate donor language *B* or from *A* directly. An example for this are frequently (re)borrowed internationalisms and wanderwörter, e.g. words of modern technology like *to scan*, *to fax*, *to click* or other terms accompanying the diffusion of an innovation or cultural technique. Such loanwords could have reached any given recipient language in a complex contact scenario through several potential immediate donor languages.

Another possible scenario is that some unrelated languages share lexical doublets or innovations that cannot clearly be identified with cognates in their ancestral or closely related "sister" languages. Such a situation is reported e.g. by Foley (1986: 212) for Yimas and neighboring Sepik languages. In such cases it may not be entirely clear, then, whether the word is a loanword at all, and, if so, in which direction the borrowing took place.

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In cases where the donor language could not be identified with sufficient certainty, I used an abstract donor languoid as member of the language pair, since no single language could be identified as the donor. The abstract languages that most probably were the source of the borrowing were then added to the list of languages in sec. A.1.3 as members of the taxon the different potential donors belong to, e.g. "unidentified Malayo-Polynesian" or "unidentified Turkic" etc.:

(20) Chechen [che] < unid. Turkic lg. [0tu] (Nichols 1994a: 48)
 ja:z-dan
 write-do.INF
 'to write'
 < [0tu] jaz- 'write'</pre>

5.3 Insertion of a general form

Apart from these abstract forms, other verb forms are also eligible to be the model for loan verb input forms. In most cases, these are forms of the verb such as infinitives or other citation forms, or comparable forms that are structurally simple. In some cases, the models are completely uninflected forms.

The examples in this section display some of the varieties that can be found among model forms which are borrowed with different amounts of donor language morphology attached to them. These traces of copied morphology are not regarded as such by the speakers of the recipient languages, and these forms are usually treated as unanalyzable in the borrowing languages, just like the bare stems above. However, this need not always be the case, and occasionally the morphology that got borrowed along with the loan verb even becomes productive in the recipient language (cf. ch. 17).

5.3.1 Model: uninflected form

The model form can be an existing verb form that for whatever reason lacks (inflectional) affixation and therefore is similar to, or identical with, the stem. In isolating languages and languages with no or little verbal morphology, of course, almost all verb forms are uninflected. In cases of borrowing from such languages, as illustrated in (21), the verb can of course only be inserted as-is (albeit slightly adapted phonologically, if necessary):

(21) Garig [ilg] < Makassar [mak] (Evans 1997: 254)
 iyamaŋ
 work: 3SG
 '(s)he works'
 < [mak] jaman 'to do, work, handle, touch'</pre>

Nevertheless, this subtype is not restricted to contact with isolating languages. Example (22) illustrates a similar case from a language pair where both languages involved actually have rich verbal morphology:

(22)	Enets [[ene] < Russian	[rus]	(Florian Siegl, p.c.)
	nexu	diri	otdyxaj-ŋa-ba-č´	
	three	month.NOM.SG	rest-FTZ-1PL-PST	
	'We rested (from school) for three months.'			
	< [rus] otdyxaj, stem and IMP.SG of otdyxat' 'to rest'		o rest'	

As can be seen, Enets borrows verbs from Russian in their present tense base form (stem + /j/), which - at least for verbs of this particular inflectional class - could also be the Russian imperative singular *otdyxaj*. In contrast to (23), however, one cannot clearly identify the model form here. Therefore, I count it as an uninflected stem rather than an imperative form.

5.3.2 Model: imperative

In some cases, it is indeed the imperative that is taken over — being one of the shortest, most "naked" verb forms other than the stem in many languages. The following examples, (23) from Nenets and (24) from Coptic, show that these two recipient languages copy the model verbs in their (donor-language) imperative singular form. The /e/ in (23) is an epenthetic vowel without morphological function in Nenets; it is therefore neither a bit of transferred donor-language morphology nor part of an accommodation technique in the recipient language.

(23) Nenets [yrk] < Russian [rus] (Malchukov 2003: 239)
 dojenggos
 doj-/e/-nggo-s
 milk-/e/-DUR-INF
 'to milk'
 < [rus] doj, IMP.SG of doit' 'to milk'</pre>

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(24) Coptic [cop] < Ancient Greek [grc] (after Wichmann 2004a ex. 4) *pn-ti-pisteue* ero-k an
NEG-1SG-believe to-2SG NEG
'I don't believe in you.'
< [grc] *pisteue* IMP.SG of *pisteuo* 'to believe'

At any rate, the two model forms in (23) and (24) are clearly identifiable as imperatives. Taking imperatives as model forms is not unusual, as has been pointed out e.g. by Veselinova (2006: 141–147) in the context of suppletion by borrowed forms (cf. sec. 10.2).

5.3.3 Model: citation form

Other languages borrow the verbs in the general form that is used in metacommunication, the so-called citation form. Such citation forms are either infinitives or other designated forms that are used in metalinguistic communication and e.g. as the head word of a dictionary entry.

5.3.3.1 Infinitive

When languages copy overtly marked infinitive forms, they usually treat the donor language's infinitive affix as an integral part of the borrowed stem, rather than a bit of (disposable) morphology that can be chopped off as already illustrated in ex. (18) on page 76 for English, but can also be found outside Europe. Ket [ket], for example, takes over some Russian verbs in their infinitive, ending in $\{-t'\}$, as shown in ex. (25):

(25)	Ket [ket] < Russian [rus]	(Werner 2002; Edward Vajda, p.c.)		
	dasimatboyavɛt			
	da-sɨmat-bɔ-k-a-bet			
	3SG.F.S-photograph-1SG.OBJ-TC-PRS-ACT			
	'she photographs me'			
	< [rus] snimat' 'to take (a pic	cture)'		

Guaraní [gug], and several other languages of the Americas in contact with Spanish or Portuguese, have taken over verbs in their infinitive form minus the final /r/ as illustrated in ex. (26). This /r/-deletion as in (26) seems to

be rather common among the recipient languages of Latin America. It is discussed further in sec. 14.3.3.

(26) Guaraní [gug] < Spanish [spa] (Gregores and Suárez 1967: 133)
o-valé
3SG.A-be_worth
'it is worth, is of use for'
< [spa] valer 'to be worth, to cost'

One might argue that such a "reduced" infinitive actually is another of the verb's basic forms, namely 3SG, but that cannot generally be argued for. The form *valé* in (26) itself can only come from the Spanish infinitive *valér*, and not from the 3SG form *vále*, as can be concluded from its phonological shape, namely stress placement.

There are examples like those in sec. 5.4.1, where indeed the 3SG form is the model. However, in the languages mentioned here it is rather the infinitive which is also *not always* "reduced".

5.3.3.2 Other citation forms

Also included in this type of input forms are other possible citation forms as they occur in many of the world's languages which do not have an infinitive and/or where usually one definite form serves as the citation form.

Most of these other citation forms are regular verb forms inflected for person, number and tense/aspect like e.g. the 1SG.PRS form (as in Latin or Modern Greek) or the 3SG.M.PFV form (as in Arabic or Hebrew). Example (27) illustrates this with a loan verb from Arabic:

(27) Kunama [kun] < Arabic (Spoken/Other) [arb]

(Güldemann 2005: 137 ex. 12c)

katábō-da
write-say:INF
'to write'
< [arb] kataba 3SG.M.PFV of the root {ktb} '(to) write'</pre>

Such input forms are treated on a par with infinitives in this typology because they have the same function, namely being the citation form in the donor language. Due to this extra function they are not considered equivalent to other inflected model forms which are shown in sec. 5.4. Another citation form used as model for verbal borrowings is the Georgian [kat] masdar form. Since this particular form also has some nominal properties, it is classified among the other semi-verbal forms and discussed with them in sec. 5.5.2.

5.4 Insertion of an inflected form

The borrowed verb forms which get inserted need not always be uninflected or general citation forms. In some language pairs, other – inflected – forms are taken over as unanalyzable stems onto which the recipient-language inflection is attached. When such inflected forms are transferred, the copied inflection is usually not taken into account as such in the recipient language, so that the replica is usually treated as a monomorphemic entity and has a more general meaning than the model.

5.4.1 Model: verb in 3rd person

Apart from the citation form(s) discussed above, other verb forms bearing inflection can become model forms. These can be forms inflected for person, as in (28), or forms inflected for person and tense, as in (29).

(28) Otomí (San Idelfonso) [ote] < Spanish [spa]

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(Lastra 2005: 227 ex. 8)
```

tyene ke gi-khvádi
wish PREP 2FUT-finish
'you want to finish'
< [spa] tiene (que) 3SG of tener (que) 'to hope/wish (that)'</pre>

- (29) Turkish (Anatolian) [tur] < Armenian [hye] (Dankoff 1995: 33)
 - a. egav-la-mak get-VBLZ-INF 'to get, to take hold of'
 - b. egav-la et-mek
 get-VBLZ do-INF
 'to get, to take hold of'
 < [hye] egav 3SG.PST of gal 'to come'</pre>

Ex. (29) also illustrates that these input forms can be accommodated by different techniques: Most modern borrowings into Turkish are accommodated by the Light Verb Strategy with *etmek*, 'do' as in (29b) instead of the Indirect Insertion by a verbalizing construction as in (29a), cf. Dankoff (1995: 33) and the discussion of this parallel use in sec. 16.4.4.3.¹⁵

The model forms actually inflected for person found in the LVDB were all instances of a 3SG, which – by overall token frequency in natural discourse – is generally one of most frequent of all forms inflected for person (or person and number) in all languages. It is nevertheless not completely inconceivable that other inflected forms might also occasionally serve as models.

5.4.2 Different aspect/tense forms

Copying inflected forms is not restricted to person inflection, as could already be seen in (29). Bulgarian [bul] or Romanian [ron] occasionally borrowed verbs from Modern Greek with the model being in the aorist rather then in the present tense, cf. ex. (30).

(30)	Romanian [ron] < Greek (Modern) [ell]	(Igla 1996: 209)
	a lips-i	
	INF lack-INF	
	'to lack, be missing'	
	< [ell] na lípsi 'SUBJ lack.AOR'	

Generally, the resulting loan verbs are then fully inflectable in the recipient languages and not limited to any particular tense or aspect at all.

5.5 Insertion of a semi-verbal from

As already discussed in sec. 3.3.2, words can have varying degrees of verbhood. This also applies to particular forms of a verbal lexeme that share some features with other parts of speech. Two examples for such forms are participles and masdar forms.

Semi-verbal forms are admittedly borderline cases, because they can be considered "less verby" than fully inflected, regular verb forms. Nevertheless, these forms can – and regularly do – become models for verbal borrowings. This issue is also addressed in sec. 6.3 and 8.6 with two pattern types which actually require these particular input form types.

5.5.1 Model: participle

By definition, participles have meanings and distributions that go beyond those of other verb forms and partly match those of nouns. Yet they are salient verbal forms and available for borrowing.

In (31), the model is an English verb in its present participle form that is directly inserted into a unmistakably verbal environment, characterized by the transitive marker $\{meN-\}$:

(31)	Indonesian [ind] < English [eng]	(Anthony Jukes, p.c.)
	menyuting	
	məN-syuting	
	TR-shooting	
	'to shoot (a picture)'	
	< [eng] shooting PTCP.PRS of to shoot	

Turkish also regularly uses participles as input forms. Just like forms shown in ex. (29) on page 82, these loan verbs can either be accommodated with a verbalizer, as in (32), or by a light verb, as in (33):

(32) Turkish (Anatolian) [tur] < Arabic (Syrian) [apc] (Tietze 1958: 286–287 ex. 110) şular-la-mak sew-VBLZ-INF 'to sew using large stitches' < [asy] šalāl PTCP of šalla 'to sew'
(33) Turkish [tur] < French [fra] izole etmek isolate do 'to isolate, insulate' < [fra] isolé PTCP of isoler 'to isolate, insulate'

5.5.2 Model: masdar form

In a similar fashion, the *masdar* forms of languages like e.g. Arabic (cf. ex. (166) on page 267) and Georgian share verbal and nominal properties. These forms are usually considered verbal nouns and are – in Georgian at least – also the citation forms (and therefore sometimes called "infinitives")

of the verbs. As such, the masdars are available for becoming the model forms in borrowings as (34) from Bezhta.

(34) Bezhta [kap] < Georgian [kat] (Khalilov 2004: 101)
gacarsa b-ow-al
defeudalize AGR-do-INF
'to defeudalize'
< [kat] gadzarcva 'robbing, to rob'</pre>

Even though they are the verbs' citation forms, these forms also have clearly nominal properties and can occur in morphological and syntactic contexts where (other) verb forms may not. One could take these nominal properties as an argument in favor of the claim that languages prefer to borrow less verby lexemes which then need to be verbalized. For a detailed discussion of this, see sec. 6.3 and 19.3.2.2.

5.6 Summary: input forms

5.6.1 Problematic forms

Sometimes it cannot clearly be established which of the various donor language forms of the model verb is the one that has been taken over. This can be seen e.g. in ex. (22) on page 79. However, this problem is not relevant for the classification of accommodation patterns in the sections below, for in most of the cases the models seem to be either a highly frequent form or a default form. This default can be an abstract stem or the citation form — either way, it must be a prominent form, salient enough to be identified and chosen by those borrowing it.

A similar problem arises when languages have a less strict separation of their parts of speech. Similarly, it must occasionally remain unclear whether the model form is actually the verb or a homophonous noun or semi-verbal form, as can be seen e.g. in ex. (47) on page 95 and ex. (31) on the preceding page. Such cases are discussed in sec. 3.3.3, drawing upon ambiguous forms such as English *cook* and *kiss*, cf. ex. (10) and (11) on page 64.

All in all, it is not always possible to pinpoint *the* or *one* exact model form or to clearly identify a model form's part-of-speech membership. As already mentioned in sec. 3.3.2, I included such borrowings because their verbhood cannot be ruled out conclusively and because it would be futile to discuss

whether a given word is a verb or a noun in a language where this distinction is not relevant or where the verb and the noun are indistinguishable without context.

5.6.2 Correlations with accommodation strategies

It can be seen from the examples in this section as well as those in the following sections that the different input forms occur with most of the strategies presented here. But we find the following exceptions: The non-strategies *Semantic borrowing* (cf. sec. 11.2) and *no verb borrowing* (cf. sec. 11.3) logically exclude input forms at all; and with *Paradigm Insertion* (cf. ch. 9) it is a set of forms – the paradigm, which is taken over – rather than one specific input form.

No significant correlations between types of input forms and preferred accommodation strategies could be detected in the LVDB. Apparently, the different input types are *not* interdependent with the strategies. Abstract stems, for example, occur as regularly in the three major strategies (*Direct Insertion*, *Indirect Insertion*, *Light Verb Strategy*) as participles.

Furthermore, the Turkish examples mentioned in the context of ex. (29), (32), and (33) illustrate that the same input form can also be accommodated by two different strategies in the same recipient language. It therefore seems that the choice of input forms is determined by other, still unknown factors.

Chapter 6 Direct Insertion

6.1 Characteristics

The first accommodation strategy to be presented here is the simplest one. With this strategy, the borrowed verb (i.e. the replica in the recipient language) is immediately available for the grammar of the recipient language without any morphological or syntactic adaptation whatsoever being necessary to render the replica equivalent to a native verb (or verb stem).

Where recipient languages overtly mark infinitives (or comparable other citation forms), this bit of morphology does not count as a process of loan verb accommodation, since it is obligatorily applied to *all* (verbal) roots — native or borrowed alike. Similarly, all other inflection or derivation that must be applied to *any* verb in the recipient language in order to fit it into a syntactic structure is not considered morphological adaptation (cf. sec. 3.2.8).

This strategy is basically a fusion of Muysken's (2000) "borrowing of bare verb" and "inserted stems with native affixes" subtypes (cf. sec. 1.4.3.1).

Moravcsik (1975, 1978, 2003) claimed that languages never would directly accommodate borrowed verbs but rather use techniques of Indirect Insertion (cf. ch. 7) or the Light Verb Strategy (cf. ch. 8).

Abbreviation	DI	
LVDB code	M1	
Distribution map	fig. 16 on page 372	
frequency in the cleared L	VDB sample:	
examples	309	
% of expl.	52.5%	
languages	207	
genera	91	
families	49	
rank (by frequency)	1	

Table 8. Direct Insertion

88 Direct Insertion

As illustrated in tab. 8, however, very many languages – actually the majority of languages in the LVDB – use this strategy. It is found in all regions of the world and in the majority of language families that are represented in the LVDB sample, with only one regional/genealogical exception among some language families of New Guinea (see sec. 14.2.2.1 on page 163).

In the following subsections I provide examples of the subtypes of Direct Insertion. This differentiation deviates substantially from the subtypes suggested by Wichmann (2004a, 2004c) and Wichmann and Wohlgemuth (2008), where subtypes were chiefly based on different input forms. For the sake of a more consistent typology of *accommodation techniques*, that classification has been treated as a separate typology, namely that of input forms, in ch. 5. Therefore, only those subtypes that actually are different instantiations of Direct Insertion are discussed here.

6.2 Direct Insertion of a borrowed verb

As the name suggests, this pattern type involves the Direct Insertion of the input form, without any morphological adaptation, into the recipient language. By definition, there is no discernible morphosyntactic adaptation — and no zero conversion either. This issue is discussed further on a more general level in sec. 19.2.1.

This pattern type prominently occurs in borrowings by various Germanic (e.g., German, English and Danish) or Romance languages (e.g. Spanish, Catalan and French) from each other, cf. e.g. ex. (35) and (36).

(35)	French [fra] < Dutch [ndl]	(Walter 1999: 206)
	hiss-er	
	hoist-INF	
	'to hoist'	
	< [nld] <i>hissen</i> 'to hoist'	
(36)	German [deu] < English [eng]	(own data)
	download INE	
	'to download'	
	< [eng] download	

Yet, it is also found frequently among languages that belong to many other families outside Indo-European: In (37), the loan verb is only slightly mod-

ified phonologically to satisfy Aymara phonotactic requirements. The infinitive suffix is then attached directly to the loan verb, just as it would be to a native stem. This is essentially the same as with the form in (36), where German also just adds the infinitive suffix to the borrowed verb.

 (37) Aymara [ayc] < Spanish [spa] (Hardman, Vásquez, and Yapita 1988: 55) wiyaja-ña travel-INF
 'to travel'
 < [spa] viajar 'to travel'

Moreover, the same pattern can also be seen in recipient languages for which one might assume difficulties associated with grammatical incompatibility of the inflectional systems because they either have a richer verbal morphology than their donor languages, and/or have inflectional morphologies of different degrees of fusion (inflectional vs. agglutinative vs. polysynthetic) as it is the case e.g. with Ket in (38) or West Greenlandic in (39). They may also differ in the main orientation of inflectional affixation as e.g. Tariana (prefixing and suffixing) and Tucano (strongly suffixing) in (40):

(38)	Ket [ket] < Russian [rus] da-krasit-u-k-a-bet 3SG.F.S-paint-3.N.OBJ-TC-PH 'she paints it' < [rus] krasit' 'to paint'	(Edward Vajda, p.c.; Werner 2002) RS-ACT	
(39)	Greenlandic (West) [kal] < Port	uguese [por]	
		(van der Voort 1995: 139)	
	paliaar-poq		
	dance-3SG		
	'(s)he takes part in singing and dancing'		
	< [por] <i>bailar</i> 'to dance'		
(40)	Tariana [tae] < Tucano [tuo]	(Aikhenvald 2002: 225 ex. 10.1)	
	di-ña-bule-pidana		
	3SG.NF-hit-spread.open.space-REM.P.REP		
	'he hit the open space of a field'		
	< [tuo] -bure- 'to spread on open	n space'	

6.3 Direct Insertion across word class

In some languages, verbs can assume nominal functions without further formal, overt derivation, and vice-versa. This is, for example, the situation in Tasawaq [twq]. Its neighbor and regular donor language Tuareg [thv] on the other hand, like most languages, has action-word nouns with more "verby" semantics like *tusrak* 'sneezing' or *tusut* 'coughing'. Borrowings from the latter language into the former can be considered as directly inserted verbal stems, because they are treated as such, even though they are formally identical to nominal forms:

 (41) Tasawaq [twq] < Tuareg (Air) [thv] (Wichmann 2004a; Maarten Kossmann, p.c.) ghá b-tásrìg
 1S IPFV-sneeze
 'I am sneezing'

< [tai] *tusrak* 'sneezing'

Similarly, loan words in Bikol [bcl] get borrowed into an open class of "functionally elastic" (Mattes 2006) words which are basically non-adjectives in their nature. Only affixation in a given context assigns them their distinct syntactic properties (cf. Mattes 2006).

(42)	Bikol [bcl] < English [eng]	(Mattes 2006: 2 ex. 4)
	na-sabat-an sinda kan pratrolya kan	hapon,
	ST-meet-UND 3PL.AF ARG patrol ARG	Japan
	m <in>achine-gun sinda</in>	
	<beg.und>machine-gun 3PL.AF</beg.und>	
	'They met a Japanese patrol and were fired	l upon by machine-gun(s)
	,	
	< [eng] machine-gun	

One should bear in mind that the model form in (42) is, in isolation, also potentially ambiguous between *to machine-gun* vs. *the machine-gun*.

These cases were counted as loan verbs accommodated by Direct Insertion, because the borrowed roots were not treated differently from native roots of a similar degree of "verbiness". It is also for this reason that for this pattern type the limitation given in sec. 3.4.1, that loan verbs will only be counted as such if the model form is a verb, too, cannot be applied sensibly. One could assume zero noun-to-verb derivation for such cases of Direct Insertion across word class, thus making this accommodation technique a subtype of Indirect Insertion. This argument will be taken up in sec. 19.2.1, where I explain why making this assumption is neither necessary nor useful for a typology of loan verb accommodation strategies.

If, however, the recipient language normally makes a clear distinction between verbs and non-verbs and indeed requires verbalization which is not applied to some loanwords, those borrowings were not classified as instances of Direct Insertion across word class. Conversely, derived forms are valid loan verbs only if they were overtly verbalized, thus actually using the Indirect Insertion strategy (cf. sec. 7.2).

6.4 Two particular pattern types

While collecting loan verb data, the allocation of some of the examples to particular types and strategies has been changed, some of which finally ended up being classified as instantiations of Direct Insertion. In the following two sections, I will comment on these cases and explain why I classified these pattern types as belonging to the Direct Insertion strategy.

6.4.1 Verbal inflection class markers

One particular type of loan verb accommodation that is found in the languages of Australia is the overt assignment of borrowed verbs to certain morpho-semantic classes.

This is described e.g. by McGregor (2000: 91–95) for verbal borrowings from English, Kriol and Western Desert into Gooniyandi, like the one in (43). A similar construction type is also found in other Australian languages, e.g. Ngandi, cf. ex. (44), or Nunggubuyu [nuy], cf. ex. (111) on page 185. In all these languages, *all* verbal bases are assigned to (morpho-semantic) verb classes and affixed with a class membership marker.

```
(43) Gooniyandi [gni] < Western Desert [wdo] (McGregor 2000: 91)
bij-arni
arrive-VCM
'to arrive'
< [wdo] pij 'to go'</pre>
```

(44) Ngandi [nid] < Ritharngu [rit] (Heath 1978b: 136) bordop-dhugo_across-VCM "to go across' < [rit] burdap-u- "to go across'</p>

This process is analogous to the assignment of inflectional classes in various Indo-European languages by means of different verb class markers, as exemplified by the marker $\{-a-\}$ in ex. (45).

(45)	Italian [ita] < English [eng]	(Pulcini 2002: 160)
	film-a-re	
	film-VCM-INF	
	'to film'	
	< [eng] <i>film</i>	

While loan verbs in Italian *always* enter the *-are-*class (cf. Pulcini 2002: 160), class assignment in the Australian languages can be more flexible, but that difference is superficial and the underlying principle is the same.

With regard to its scope, function and effect, this affixation with an inflection class marker is comparable with the obligatory affixation of an infinitive suffix to borrowed and non-borrowed roots in German (cf. ex. (36) on page 88). Thus, this accommodation pattern is an instantiation of Direct Insertion and not a coverb construction or affixation with a verbalizer — types that are also frequently found in the languages of Australia (cf. sec. 14.5.1).

6.4.2 Reduction to root

A more ambivalent case are verbal borrowings into the Semitic languages. As will be discussed in more detail in sec. 14.4.2, most loan verbs in these languages could either be considered Indirect Insertions or Direct Insertions. The argument for the former would be that borrowed verbs have to be reshaped into roots in order to conform to Semitic morphophonological requirements of templatic verb inflection (cf. sec. 14.4.2). This process is illustrated in ex. (46) on the next page. In (46), the (borrowed) root would be $\{f-r-n-r\}$, while $\{i-a\}$ is templatic inflection. This reshaping of *frenar* to *f-r-n-r* could constitute a verbalizing derivation, inasmuch as its input cannot function as a verb whereas its output can.

(46) Moroccan Arabic [ary] < Spanish [spa] (after Heath 1989: 105) frinar brake: 3SG.M.PFV
'he braked' or 'to brake'
< [spa] frenar 'to brake'

The argument for nevertheless considering this accommodation as Direct Insertion – which I take as decisive – is that this process is overwhelmingly a phonological one, comparable to other phonotactic adaptation processes. This interpretation follows the argumentation put forward e.g. by Hafez (1996: 398) or al-Qinai (2000: 20–21).

Admittedly, the integrational effort (cf. sec. 12.3) is higher than with other patterns of this strategy. Its output, though, are roots which generally already have verbal meanings and are available to inflection just like native roots. Thus, a formal noun-to-verb or undefined-to-verb derivation does not take place, and these loan verbs are accommodated by means of the Direct Insertion strategy.

Chapter 7 Indirect Insertion

7.1 Characteristics

While Direct Insertion is widespread, in many languages morphosyntactic adaptation is nonetheless required to accommodate loan verbs. They are inserted *in*directly, because this loan verb accommodation technique involves adaptation by overt (verbalizing) affixation of some kind. Once that affix is added, however, the borrowed word is a fully functional verb in the recipient language and normal inflectional patterns may be applied to it.

The affixes used for this strategy often are plain (denominal) verbalizers as they are discussed in sec. 7.2 or they can be factitives/causatives as they are presented in sec. 7.3.

Occasionally, the affix has no other function than exactly that of morphosyntactically accommodating loan verbs. These distinct loan verb markers (LVM) are illustrated in sec. 7.4. The possible origins of such special loan verb markers are explored in sec. 7.4.2.

In a few remaining cases, other, less straightforward, means of verbalization are applied to loan verbs. Examples for these are given in sec. 7.5.

Abbreviation	IndI	
I VDB code	M2	
	1012	
Distribution map	fig. 17 on page 373	
2 iourouron mup	6, 20 m 276	
	ng. 20 on page 376	
frequency in the cleared LVDB sample:		
examples	121	
examples	121	
% of expl.	20.6%	
languages	86	
genera	42	
fomilias	22	
Tammes	22	
rank (by frequency)	3	
runn (og nequeneg)	5	

Table 9. Indirect Insertion

It has been argued e.g. by Moravcsik (1975) that this accommodation technique should rather be considered derivation of a borrowed noun. A brief discussion on the status of this strategy *as* a loan verb accommodation strategy (sec. 7.6) therefore concludes this chapter. This argument will be also be addressed in sec. 19.3.2.2 in a more general perspective.

With regard to its scope and function, the Indirect Insertion strategy is identical to Muysken's (2000) "adapted stems" subtype (cf. sec. 1.4.3.1).

Furthermore, this strategy is essentially one of the two accommodation techniques suggested by Moravcsik (1975, 1978, 2003) — the other one being the Light Verb Strategy presented in ch. 8. It is, however, only the least frequent of the three major accommodation strategies in the LVDB sample, cf. tab. 9 on the facing page.

7.2 Affixation with a verbalizer

Many languages have affixes whose sole or main purpose is verbalizing derivation. If a borrowed verb needs to be accommodated by overtly converting it into a verb in the recipient language, using this available verbalizing morphology for this accommodation is an obvious choice.

Pitjantjatjara [pjt], for example, first derives a borrowed lexeme into a verb by means of one of its verbalizers, among them {-*pu*-} and {-*kara*-} shown in (47), so that the resulting lexemes can then be inflected just like native Pitjantjatjara verbs:

(47) Pitjantjatjara [pjt] < English (Australia) [eng]

(Glass and Hackett 1970: 4)

- a. payi-pu-wa pay-VBLZ-IMP 'pay it!' < [eng] to pay
- b. shower-kara-la shower-VBLZ-IMP
 'have a shower!'
 < [eng] shower

This pattern type also occurs in Hungarian [hun], one of the languages prominently mentioned by Moravcsik (1975, 1978, 2003). In Hungarian, loan verb accommodation is usually achieved by one of its verbalizers, $\{-ál \ -ol\}$, ¹⁶

which is used not only for loan verbs from English, cf. ex. (48), but also those from e.g. German, cf. ex. (49), and Slovene — and for the verbalization of native and borrowed nouns, e.g. *szolga* 'servant' > *szolg-ál* 'to serve', *kasza* 'scythe' > *kasz-ál* 'to reap, mow' (cf. Szent-Iványi 1995: 79).

(48)	Hungarian [hun] < English [eng] (realiz-ál	Farkas and Kniezsa 2002: 285)
	realize-VBLZ	
	'to realize'	
	< [eng] to realize	
(49)	Hungarian [hun] < German [deu] leiszt-ol	(Moravcsik 1975: 5–7)
	accomplish-VBLZ	
	'to accomplish'	
	< [deu] <i>leisten</i> 'to work hard, accom	iplish'

After the process of verbalizing derivation, the loan verb is fully accommodated and functional in the recipient language and can be inflected, as is illustrated in ex. (50) and (51).

(50)	Greek (Modern) [ell] < English [eng] tsek-ar-i check-VBLZ-3SG '(it) checks' < [eng] check	(own data)
(51)	Karelian [krl] < Russian [rus] duwmai-č-en think-VBLZ-1SG.NPST 'I think' < [rus] dumaj- IMP.SG and PRS stem of dua	(Pugh 1999: 121) mat' 'to think'

The affix $\{-\check{c}-\}$ in (51) is generally required in Karelian loan verb accommodation, but it is also used to derive native nouns to verbs, e.g. *naj-* 'woman' > *nai-č-en* 'I marry' (cf. Pugh 1999: 122, 95). It may regularly be omitted under certain morphophonological conditions which are not important here but will be discussed in sec. 16.4.3.

A comparable accommodation pattern is found in many Turkic languages which use the verbalizer $\{-LA-\}$ or cognates thereof, cf. ex. (29) on page 82 or ex. (52):

(52) Yakut [sah] < Russian [rus] (Malchukov 2003: 239) mehaj-daainterfere-VBLZ-'to interfere' < [rus] mešaj- IMP.SG and PRS stem of mešat' 'to disturb'

7.3 Affixation with a factitive/causative

A special(ized) verbalizer is, of course, not the only way to create a verb out of a (borrowed) stem. Another usual way of adding transitivity/valency to a word and thereby often assigning verbhood to it is to employ a factitive or causative. This technique is used as a regular verbalizing strategy in many languages. It is likewise productively applied by several languages to reinstate loanwords as full verbs. Examples for this use of a causative as loan verb accommodator are (53) from Iraqw and (54) from Ma'di:

(53)	Iraqw [irk] < Swahili [swa] shitak-uus accuse-CAUS 'to accuse' < [swa] ku-shtaki 'to accuse'	(Mous and Qorro 2006: 9)
(54)	Ma'di [mhi] < English [eng] <i>ī-mīsì</i> CAUS-miss 'to miss (someone)' < [eng] <i>miss</i>	(Blackings and Fabb 2003: 69)

Indonesian [ind], too, makes frequent use of its factitives/causatives. This construction is very productive and can be applied to almost any lexical item — borrowed or not. Although Direct Insertion is also frequently used, forms as illustrated in (55) from (colloquial) Jakarta Indonesian are not at all uncommon:

(55) Jakarta Indonesian [ind] < English [eng] (Tessa Yuditha, p.c.) download-in download-FACT 'to download' < [eng] to download</pre> In Tapieté [tpj], according to Gonzáles (2005b: 288), this pattern type is the default, applied to all borrowed verbs:

(56) Tapieté [tpj] < Spanish [spa] (Gonzáles 2005b: 288) mbi-seka CAUS-dry
'(s)he dries'/'to dry'
< [spa] secar 'to dry'

Normally, this causative prefix {*mbi*-} combines with native Tapieté intransitive verbs and nominal predicates only. With Spanish borrowings, however, it merely "serves to identify the borrowing as a verbal root without altering the valence of the verb" (Gonzáles 2005b: 288) and does *not* convey a causative meaning.

This additional function of marking a loan verb as such can, occasionally, give rise to specialized loan verb accommodation affixes, especially if the causative meaning is blanked out. Examples of these will be seen in the following section.

7.4 Affixation with a distinct loan verb marker

7.4.1 Loan verb markers

Some languages employ a distinct affix whose sole function is to accommodate borrowed verbs. Such a special borrowing affix will henceforth be glossed *LVM* for "loan verb marker". An example for such a construction is Romani, where "[b]orrowed verbs will consist of the stem to which the element *-in-* is suffixed, and to which Romani inflection is added" (Bakker 1997a: 6), as illustrated in (57):

```
(57) Romani (Sinte/Burgenland) [rmo] < German (Bavarian) [bar]</li>(Bakker 1997a: 6)
```

```
roas-in-av
travel-LVM-INF
'to travel'
< [bar] roasn 'to travel'<sup>17</sup>
```

Another language using a distinct loan verb marker affix is Manange [nmm]. Manange applies the suffix $\{-ti\}$, shown in (58), to accommodate some of its

loan verbs. In other cases, even involving the same donor language, the Light Verb Strategy is used.

(58) Manange [nmm] < Nepali [nep] (Wichmann 2004a; Kristine Hildebrandt, p.c.) bolai-ti 1mi ro call-LVM EVID REP 'He called.'
< [nep] bolai 'to call'

It is not entirely clear where or how this loan verb marker affix emerged and under which circumstances Manange uses which pattern; cf. sec. 16.4.4.

Similarly, Belhare [byw] employs an affixal loan verb marker {-*ap*} of likewise unknown origin. (Wichmann 2004a; Balthasar Bickel, p.c.).

7.4.2 A note on the origins of loan verb marker affixes

For other languages, however, the origin of their loan verb marker can be identified. Meyah [mea] is among these languages, and its loan verb marker is the prefix {*ebe-*}:

```
(59) Meyah [mea] < Indonesian [ind] (Gravelle 2002: 149 ex. 61)
di-ebe-belajar
1SG-LVM-learn
'I am learning.'
< [ind] belajar 'to learn'</p>
```

This prefix is apparently necessary to accommodate Indonesian loan verbs, especially those not beginning with a vowel, since all Meyah verbs must be vowel-initial (cf. Gravelle 2002: 149). Notably, several of Meyah's neighboring languages have (borrowed) similar affixes with the same function. See sec. 17.5 for details of this particular affix.

In many cases where the origins and etymologies of such loan verb markers are known, they have been found by Wichmann and Wohlgemuth (2008: 97) to originate in affixes from other languages where their functions relate to the flagging of part-of-speech membership or the formation of denominal and/or causative verbs.

The borrowing of accommodation patterns or the reanalysis of morphemes borrowed along with loan verbs seems not to be unusual. Examples for the borrowing of accommodation patterns and the emergence of loan verb marker affixes will be discussed in ch. 17. A general account of the grammaticalization of loan verb markers is given in sec. 17.6.2.

7.5 Other means of verbalization

In very few examples, the borrowed verb is verbalized by other means. One such case is found in Hausa, where – according to Newman (2000: 313) – the verb *canzà*, illustrated in (60), corresponds to a loan noun *canji*:

(60) Hausa [hau] < English [eng] (Newman 2000: 313) canzà change.∨ 'to change' < [eng] change</p>

The /a/ is not a verbalizer or loan verb marker, and (underived) native verb stems may as well end in that vowel. It is thus not entirely clear whether the verb has been derived from the borrowed noun. If that were the case it would not be a loan verb but an instance of derivation involving a borrowed element.

When such adaptations were classified as verbalizing derivations in the sources consulted, I assigned them to the Indirect Insertion strategy. Those cases without a discernible derivational mechanism, then, form this residual pattern type.

7.6 Accommodation or derivation?

It appears that, whenever the affix used for accommodating loan verbs has a function in addition to that, this function involves the assignment of part-of-speech membership and/or the increase of valency. Sometimes the affix is a verbalizer (in the broadest sense, including causatives and factitives), sometimes a nominalizer, and sometimes it assigns the borrowed forms to a particular (open) class of verbs. If, however, this class assignment is obligatory and therefore also occurs with native roots, we are rather dealing with Direct Insertion as it has been discussed in sec. 6.4.1.

In this chapter, I presented examples of loan verbs accommodated by affixes that generally serve the purpose of (re)assigning a lexeme to the class *verb*. At first glance, such affixation could be considered as verbalizing derivation of loan nouns. For loan verb accommodation in Hungarian, Farkas and Kniezsa (2002: 285–286) consequently point out that

"[t]here are very few borrowed verbs; most verbs are derived in Hungarian from a previously borrowed noun or adjective [...] All the English loan verbs in Hungarian belong to this class [i.e. denominal verbs; J.W.]."

In the light of this quote as well as the examples given in this chapter, a few words of justification may be necessary.

The Yakut verb in ex. (52) on page 97, for example, is admittedly a borderline case. The $\{-daa-\}$ suffix is also generally used in Yakut to derive denominal verbs, and there also exists the corresponding noun *mehaaj* meaning 'obstacle' (Brigitte Pakendorf, p.c.). One might thus argue that such forms are not actual loan verbs since they were derived from borrowed nouns. Nevertheless, the input form is unmistakably verbal. In the donor languages of (48), (51), and (52) for instance, there are no free word forms **realiz*, **dumaj*, **mehaaj*, regardless whether they are nouns or members of any other class, that could have been the respective model forms. The input forms rather match the verbal forms indicated in the examples and are most likely abstractions of these.

Furthermore, it is worth noting that a search on hu.wiktionary.org for Hungarian loan verbs ending in the $\{-l\}$ -verbalizer¹⁸ yields several cases where only the verb is attested, but not a noun it could have been derived from. In the same way, there is no corresponding underived lexeme to the form in ex. (54) on page 97 in Ma'di (cf. Blackings and Fabb 2003: 69).

Therefore, the examples discussed here should indeed be regarded as true loan verbs rather than verbalized loan nouns. This argument will be be addressed again in sec. 19.3.2.2 in a more general perspective.

Chapter 8 The Light Verb Strategy and other complex predicates

8.1 Characteristics

In the previous two chapters I have illustrated accommodation strategies that import borrowed verbs into the position of fully functional verbs, either with or without morphological adaptation in the form of derivation or affixation as in the patterns shown above.

Many languages, however, rather accommodate borrowed verbs by means of complex constructions, where the borrowed elements remain mostly uninflected and more or less neutral with regard to their part-of-speech membership. The other part of the complex predicate is often a "light verb" which has an auxiliary-like function and bears the inflection or – more generally – all grammatical information of the resulting compound predicate, while the semantic information is by and large associated with the loanword part of the complex verb.

The Light Verb Strategy is the second most frequently used strategy, cf. tab. 10. It can be found in all regions of the world and in most language fami-

Abbreviation	LVS	
LVDB code	M3	
Distribution map	fig. 18 on page 374 fig. 21 on page 377	
frequency in the cleared LVDB sample:		
examples	140	
% of expl.	23.8%	
languages	104	
genera	60	
families	35	
rank (by frequency)	2	

Table 10. Light Verb Strategy

lies represented in the LVDB — though it is comparatively rare in Central and Northern Europe, where Indirect Insertion prevails instead; see sec. 13.3.3.1 about this distributional peculiarity.

This strategy is more or less equivalent to Muysken's (2000) "Bilingual compound verbs" type and its subtypes (cf. sec. 1.4.3.1). Together with Indirect Insertion, it is also one of the two accommodation techniques suggested by Moravcsik (1975, 1978, 2003).

Before presenting the different pattern types of this strategy in sections 8.3 through 8.7, the term *light verb* and some general properties of this strategy will be discussed in sec. 8.2

The chapter is concluded by sec. 8.8 with some remarks on the status and classification of this strategy in contrast to Direct Insertion on the one hand and code-switching on the other.

8.2 General aspects of light verb constructions

8.2.1 Light Verb Strategy vs. Do-Construction

The term *light verb* itself is deliberately vague and is used here in accordance with its usage in Wichmann and Wohlgemuth (2008) and other works mentioned in sec. 1.4.4. There, we employed it to refer to verbs with meanings like 'do' or 'make' or verbs of a similarly broad referential scope, which are used in complex constructions where they have an auxiliary-like function. Such constructions, then, are called *light verb constructions*. This use of the term *light verb* corresponds to the intention of Jespersen (1954: VI, 117–118), the original coiner of the term, rather than more recent usages of the term going back to Grimshaw and Mester (1988).

Examples for such constructions, involving an uninflected loan verb and an inflecting native light verb, are found e.g. in the Turkic languages where borrowed verbs can easily be plugged into a construction as (61). For many Turkic languages, this is the default way to accommodate loan verbs.¹⁹

(61) Turkish [tur] < English [eng] park yap-mak park be-INF
'to park' (itr.)
< [eng] to park (Lewis 1985: 155)

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The most common and most frequent semantic type of a light verb is 'to do'; this explains why this strategy is also called *the 'do'-strategy*. It has been observed e.g. by Jäger (2004: 5, 2006: 160) that one of the foremost functions of 'do'-periphrasis cross-linguistically is precisely to accommodate loan verbs. For additional background on the typology of 'do'-periphrasis cf. also van der Auwera (1999).

This widespread use of 'do' notwithstanding, one also finds other light verbs which have the same function, often within the same language(s) that use 'do', but also independent of its occurrence. As is shown in the sections below, many other verbs than 'to do' are applied with exactly the same function in loan verb accommodation as well.

It is therefore preferable to use the broader term *Light Verb Strategy* as the cover term for all of these constructions, since it is neutral with regard to which verb is actually employed, and use the term '*do'-strategy* – if at all – only for that subtype actually employing the verb 'to do'.

8.2.2 Scope of light verb constructions

A prime example for the use of light verb constructions are the Indoiranian languages and some of their neighbors (cf. sec. 17.4 for details), where these constructions regularly occur as the usual method to form complex predicates and to derive verbs from native as well as borrowed stems.

To construct a well-formed complex predicate, these languages regularly employ one of the members of a small, closed class of inflectable light verbs in conjunction with uninflectable members of an open class of stems that are mostly neutral with regard to their part-of-speech membership. Borrowed lexical items enter that open class without further morphological adaptation and are then available to be used in complex predicates of the light verb type:

(62) Persian [pes] < Arabic (Iraqi) [acm] (Karimi-Doostan 2006: 1)
mahsub kard
take_into_account:PTCP do
'to take into account'
< [acm] hsb 'to reckon'</pre>

Occasionally, it is only in the context of verb borrowing that light verbs like 'do' are used as auxiliaries in complex predicates. One example for this is (63) from Chichewa [nya], where the verbs *chita* 'do' and *panga* 'make' usu-

ally are full verbs that typically (and with *panga* exclusively) take noun complements (cf. Ron Simango 2000: 497–498), but came to function as loanverb-accommodating light verbs with uninflected loan verbs:

(63)	Chi	chewa [nya] < English [eng] (Ron Simango 2000: 487, 497)
	a.	kukhala ine, ma-watchmen onse ndi-nga-wa-chite fire
		Stay me PL-watchmen all I-can-them-do fire
		'If I were in charge, I would fire all the watchmen'
		< [eng] <i>fire</i>
	b.	wandiuza kuti ndi-mu-pang-ire decide
		he.has.told.me that I-him-make-APPL decide
		'He has told me to decide for him (i.e. make a decision for him)'
		< [eng] decide

In contrast to cases like the Indoiranian languages mentioned above, it is fairly evident that for Chichewa the Light Verb Strategy is a distinct loan verb accommodation strategy that works differently from the language's usual predicate formation.

For a discussion and a justification why all these cases and those presented in the remainder of this chapter are not classified as instantiations of Direct Insertion see sec. 8.8.

8.2.3 Inflection of the complex predicate

Light verb constructions involving borrowed verbs are of course not limited to the expression of infinitives, as they were used to illustrate the construction in ex. (61) and (62). Once the uninflecting borrowed verb is joined with and accommodated by the native light verb, the resulting complex predicate can be inflected – on the light verb – as needed, since the light verb is capable of bearing all necessary grammatical information. This could already be seen in (63) and is illustrated further in (64) with the Greek light verb *káno* 'do', which is inflected for the polite form of address, the second person plural:²⁰

(64) Greek (Modern) [ell] < English [eng] (LVDB, ex. 14) bor-íte na kán-ete download to próghramma apó edhó. can-2PL to do-2PL download ART program from here
 'You can download the program from here.'
 < [eng] download

8.2.4 Cliticized light verbs

As could already be seen from (63), the light verb can also be a bound or clitic form that attaches to the uninflecting (loan) verb,. This is further illustrated in (65) from Bezhta:

(65) Bezhta [kap] < Georgian [kat] (after Comrie 2005) dayup'a=ow-al spoil=do-INF 'to spoil' < [kat] da-yup'v-a PFV-spoil-INF of yup'va 'to spoil'</pre>

I regard these examples as instances of light verb constructions and not as instances of Indirect Insertion when the cliticized light verb also occurs a free form in the recipient language or when other elements could intervene between the borrowed verb and the light verb clitic. In the case of (65), e.g. agreement markers regularly precede the inflecting light verb, as already seen in ex. (34), repeated here as (66):

(66) Bezhta [kap] < Georgian [kat] (Khalilov 2004: 101)
 gacarsa b-ow-al
 defeudalize AGR-do-INF
 'to defeudalize'
 < [kat] gadzarcva 'robbing, to rob'</pre>

8.2.5 Other typological aspects

Examples (64) on the one hand and (65)/(66) on the other hand also illustrate the fact that light verb constructions can be left-headed as well as rightheaded, depending on the recipient language's general profile in that regard.

While this difference in basic order is not relevant for the assignment of these constructions to the Light Verb Strategy as such, it seems that there actually is a preference of right-headed (OV) languages toward *using* this strategy rather than Direct Insertion. This preference is documented and discussed further in sec. 15.4.2.

Some languages have other types of complex predicates where uninflecting words or roots are coupled with inflecting verbs that are auxiliary-like in their function but not necessarily "light" with regard to their semantics as 'do' verbs (cf. sec. 8.7 and 8.8). Nevertheless, these will be regarded as light verb constructions for the purposes of this typology, since they share the same function and are basically of the same syntactic construction type.

Similar to the loan verbs accommodated by Indirect Insertion, only the resulting complex structure as a whole has all grammatical properties verbs regularly have in the recipient language. Therefore, the term *loan verb* here refers to the complex form as the result of accommodation. If a distinction is necessary, *borrowed verb* is used here to refer only to the loanword part without the native light verb.

In the following sections, I show examples of the different types of light verbs and other types of complex predicates that are used to accommodate loan verbs. Even as they may vary substantially with regard to their morphology and their referential scope, *functionally* they all are light verbs, conforming with the definition and specifications given here.

8.3 Light verbs 'do', 'make'

The most common type of light verb is a verb meaning 'do' and/or 'make': Roughly two-thirds of the Light Verb Strategy examples in the LVDB are of this subtype. It has already been mentioned above that this particular light verb is actually so common that the whole construction type is also called *the* 'do'-strategy.

Examples (67) to (71) illustrate how borrowed verbs usually just enter the 'do'-construction as they are, occasionally with slightly altered input forms, as in ex. (69), which also demonstrates how the light verb bears the grammatical functions while the borrowed verb stays uninflected.

(67)	Bengali [ben] < English [eng]	(Bhattacharya 2001: 70)
	mægnifai kɔra	
	magnify do	
	'to magnify'	
	< [eng] to magnify	
(68)	Uzbek [uzn,uzs] < Russian [rus] perevesti qilmoq	(Schlyter 2003: 162)
	translate do	
	'to translate'	
	< [rus] <i>perevesti</i> 'to translate'	

(69) Pipil [ppl] < Spanish [spa] (Campbell 1985: 144 ex. 10) yah mu-chiw-ki arrepentir 3SG REFL-do-PST regret
'He regretted (it)'
< [spa] arrepentir-se 'to regret'

The use of a light verb construction involving a light verb 'make' is reported by Güldemann (2005: 137) as an areal feature of Northeast African languages like Runga [rou] or Nara [nrb], as illustrated in (70) with a form from Nara:

(70) Nara (in Ethiopia) [nrb] < Arabic (Standard) [arb]

(Güldemann 2005: 137 ex. 14c)

katab-/n/-ay-t-o
write-/n/-do/make-PST-3SG
'he wrote'
< [arb] kataba 'he wrote'</pre>

With regard to this construction in Nara, Güldemann explains that the light verb forms

"[...] comprise at least loan words as well as normal verb lexemes and the bipartite structure has coalesced to one word. [...] The consonants *s* or *n* can intervene between the two constituents apparently depending on the type of content sign." (Güldemann 2005: 137)

The interfixed consonants thus do not constitute verbalizers or any similar affixes that might raise suspicion that this construction would rather be an instance of Indirect Insertion.

Another example for the use of a light verb construction involving 'make' comes from Tamil. There, verbs are a closed class which is not generally accessible by derivation. Thus, non-verbs (native and borrowed alike) normally enter a light verb construction with *ațikka* 'make a stroke' (for intransitives) or *paṇṇa* 'make' (for transitives):

(71) Tamil [tam] < English [eng] (Annamalai and Steever 1998: 124; Zvelebil 1975: 437)
a. bor ațikka bore make_a_stroke 'to be bored' < [eng] bore b. accuse pannu accuse make 'to accuse (sb.)' < [eng] accuse

According to Leena Kelkar-Stephan (p.c.), these constructions are actually open for loanwords of all classes, including nouns: *idea paṇṇu* 'give sb. an idea', adjectives: *nice paṇṇu* 'to do sth. to please', or prepositions: *off paṇṇu* 'to switch sth. off'.

This openness for input from all word classes makes this pattern somewhat analogous to those of the *Direct Insertion across word class* pattern type (cf. sec. 6.3), and it suggests the interpretation that for this pattern the input form's word class membership is either irrelevant or underdetermined.

At any rate, only forms like those in ex. (71a) and (71b) are considered actual loan verbs in the sense of the definition given in fig. 3 on page 67. Forms like those mentioned two paragraphs above are generally not loan verbs in this sense because their model forms are clearly not verbs in the donor language.

8.4 Light verbs 'be', 'become'

Still referentially rather broad and general are the verbs 'be' and 'become' which are also used frequently in light verb constructions.

Some languages use the light verbs 'be' and/or 'become' as accommodators for intransitive loan verbs while their counterparts 'do' and/or 'make' are used for transitive verbs. Such a distribution of patterns conditioned by valency will be discussed more generally in sec. 18.3.2, also taking into account other pattern types.

In the following examples, however, both transitive (72) and intransitive (73) loan verbs alike are shown with accommodating light verbs meaning 'be' or 'become':

(72) Puma [pum] < Nepali [nep] sudhr-a li improve-V be(3SG)
'to improve'/'(s)he improves'
< [nep] sudhranu 'to improve' (Diana Schackow, p.c.)

(73) Gadaba [gbj] < Telugu [tel] (Bhaskararao 1998: 352–353)
pel er-explode become
'to explode'
< [tel] pelu 'to explode'

Despite the impression one might get from the last two examples, the use of this pattern type is not at all limited to languages outside the Indian subcontinent, but also attested from languages elsewhere:

(74)	Miskito [miq] < English [eng]	(Hale 1994: 270 ex. 18)
	yang dusa pihni di-aia	want sna
	1SG stick white smoke-INF	want be.PRES
	'I want to smoke a cigarette.' < [eng] <i>want</i>	
(75)	Itelmen [itl] < Russian [rus] werit eles believe be 'to believe' < [rus] verit' 'to believe'	(Georg and Volodin 1999: 57)

According to Georg and Volodin (1999: 57), the light verb construction with eles 'to be' as in (75) is the default in Itelmen and can be applied productively to all borrowed verbs.

8.5 Other light verbs

Some languages use a wider set of light verbs or select verbs which would generally not be regarded as semantically "light" to take the role as the inflecting parts of a complex predicate involving a borrowed verb.

Though this need not always be the case, such a "special light verb" is often selected according to the meaning of the borrowed verb or the desired semantics of the resulting complex predicate: While the light verbs 'give' and 'seize' in (76) and (77), one the one hand, are among the standard light verbs used to accommodate borrowed verbs in the respective languages and are not semantically conditioned, the light verb 'busy with' in (78), on the other hand, is employed with the purpose to convey the progressive aktionsart of that particular predicate.

- (76) Takia [tbc] < Tok Pisin [tpi] (Ross n.d.: LWTDB 11.77) haia pan hire give 'to hire'
 <[tpi] haia 'to hire'
- (77) Brahui [brh] < Baluchi [bgp] or Sindhi [snd](Bray [1934] 1986: 97) dikka halling push seize
 'to stagger'
 < [bgp] dhikav 'to push' or
 < [snd] dhika 'to push'
- (78) Carib [car] < Guianese French Creole [gcr] (Renault-Lescure 2004: ex. 19) pentiré poko man paint busy.with 3SG.COP
 'he is painting'
 < [gcr] pentiré 'to paint'

Another unusual default light verb is 'prepare', which is reported by Schaengold (2004: 44, 51–53) for Navajo and illustrated in (79):

(79) Navajo [nav] < English (USA) [eng] (Schaengold 2004: 53 ex. 34) bookshelf ła' shá save ání-lééh bookshelf one for_me save 2SG-prepare
'Save me (one) bookshelf'
< [eng] save

Yet, this case could also be subsumed under 'do, make', which seem to be other translational equivalents for the Navajo light verb in question. This particular example is repeated as ex. (174) on page 276, where it is discussed in the context of grammatical compatibility.

Constructions with these rather uncommon light verbs, which occasionally are not semantically "light" at all, could also be regarded as serial verb constructions or coverbs as they are described in sec. 8.7. However, I counted them as such only if the recipient languages regularly have serial verb constructions of that kind outside of the context of loanword accommodation. The reasoning behind this classification is analogous with that discussed in sec. 8.8.1 for the Light Verb Strategy in general.
8.6 Participle + light verb

A particular variety of the light verb construction is reported by Haig (2001: 212–214) and Ido (2006) for several Iranian languages of Iran and neighboring countries. In these languages, verbal borrowings from adjacent Turkic languages are taken over in their participle form (marked by $\{-miš\}$ or its cognates) and accommodated by varieties of the light verb 'to do', as illustrated in (80) and (81):

(80)	Tajik [tgk] < Uzbek [uzb]	(Ido 2006)
	<i>tušun.miš kardan</i> understand.PTCP do 'to understand' < [uzb] <i>tušun</i> 'to understand'	
(81)	Sarikoli [srh] < Uyghur [uig] bošla-miš tšeig start-PTCP do 'to start' < [uig] bošla 'starting'	(Ido 2006)

This pattern type is remarkable because it requires a specific input form, namely the participle. According to Ido (2006), the $\{-mi\check{s}\}$ form is not productive any more at least in some of the modern varieties of the donor languages, e.g. Uzbek and Uyghur, so verbs from these languages must either have been borrowed centuries ago, or the suffix itself got borrowed and became an integrated (and productive) part of a separate loan verb accommodation pattern in some of the recipient languages. Since some of these languages also combine the light verb with borrowed verb stems directly, it seems likely that those with the $\{-mi\check{s}\}$ form were borrowed at an earlier stage of language contact. These different scenarios will be discussed further in sec. 17.4.

Geographically, the main distribution of this pattern type appears to be the Circum-Caspian area (cf. sec. 13.3.3.1). However, it is not restricted to that region. The completely unrelated language Basque [eus] seems to have (or: have had) a similar pattern to accommodate Latin (cf. ex. (82)) and – later in its history – Spanish (cf. ex. (89a) on page 116), Occitan, and French loan verbs in their participle form (cf. Haase 1992: 92)

Interestingly, in Basque this pattern eventually also became productive also for verbs borrowed from the non-Romance donor language English –

which does not have the corresponding participle forms – (Martin Haase, p.c.), thereby changing the pattern's affiliation from Light Verb Strategy to Indirect Insertion.

(82) Basque [eus] < Latin [lat] (Céline Mounole Hiriart-Urruty, p.c.) adi-tu (egin) listen-PTCP (do.PFV) 'to listen' < [lat] audi-tum PTCP of audire 'to hear, listen'</p>

This pattern type, accommodating a particular, less "verby" input form, is interesting from the viewpoint of loanword typology and the study of verb borrowability. Ido (2006), for example, suggests that borrowing participles rather than verb stems could be symptomatic of word-class-dependent borrowability (cf. sec. 18.2.1) as it might

"[...] hint at a cognitive and/or syntactic reason for participle-borrowing (e.g. 'verb stems are less readily identifiable than participles')." (Ido 2006)

While this may or may not actually be the case for the languages examined by Ido, one should not overlook two facts before drawing cross-linguistic conclusions from the existence of this pattern type.

First, some of the recipient languages mentioned above also borrow verbs from the same source languages in other (uninflected) input forms, that are "more verby" than participles.

Second, several of these recipient languages also apply other pattern types of the Light Verb Strategy or even Direct Insertion at the same time. It therefore seems not to be the case that any language or group of languages *exclusively* uses this particular pattern type or only allows participles as input forms.

8.7 Coverb, converb, serial verb

A pattern type similar in nature to light verb constructions is found prominently – but not exclusively – in the languages of Australia, especially the non-Pama-Nyungan languages (cf. sec.14.5.1). These languages possess a type of complex predicate construction where an open class of uninflecting 'coverbs' (sometimes called 'preverbs') combines with an element of a small(er), closed class of inflecting verbs.

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Where such a construction is a regular method to form predicates, loan verbs are typically borrowed as coverbs. It is rather unlikely – though not completely inconceivable – that loan verbs in such languages are accommodated to become inflecting verbs. Usually, though, in these languages borrowed verbs are simply entered into the coverb slot and thereby become part of a well-formed predicate, as illustrated in the following examples:

(83)	Gurindji [gue] < Jaminjung [djd]	(McConvell 2005: 3)
	tibart wani-nya	
	jump fall-PST	
	'(S)he jumped.'	
	< [djd] dibart 'jump'	
(84)	Jaminjung [djd] < Kriol [rop] (Schul mugmug-ni=gun braitenim gan-angu	tze-Berndt 2003: 151 ex. 10)
	owl-ERG=CONTR frighten 3SG>3SG-G	get/handle.PST
	the owl frightened him	
	< [rop] <i>braitenim</i> 'to frighten (tr.)'	
(85)	Ndjébbana [djj] < English [eng]	(McKay 2000: 322)
	brayday sdád nja-rra-nó-ra	brayday djíbba.
	Friday start 1.AUG.S-REA-sit-CTE	• Friday here
	'We started on Friday, here.'	
	< [eng] start	

The coverb and the inflecting verb need not be prosodically independent. As with other light verbs mentioned in sec. 8.2.4 (cf. ex. (65) on page 106), cliticized elements with a similar meaning are still regarded as different patterns but instances of the same subtype and strategy.

The constructions in (86) are examples where the complex predicate is more tightly fused: In Warlpiri [wbp], the constituents in the coverb construction apparently have lost their syntactic and prosodic independence (cf. Nash 1982).

(86) Warlpiri [wbp] < English [eng] (Bavin and Shopen 1985: 82)
a. sliipi=jarrimi
 sleep=INCH
 'to sleep'
 < [eng] to sleep</pre>

b. jasi=mani chase=affect 'to chase' < [eng] to chase</pre>

One further interesting aspect of this example is that the choice of the native inflecting verb here depends on the complex predicate's valency which is determined by the (borrowed) coverb's valency: $\{=jarrimi\}$ 'INCH' occurs with intransitives, as in (86a), and $\{=mani\}$ 'get/take/affect' with transitives, as in (86b).

Generally speaking, the inflecting verbs used in the Light Verb Strategy are auxiliary-like in their function. This, however, does not necessarily imply that they always are "light" (i.e. referentially broad) with regard to their semantics. As shown in (87), sometimes the meaning of the complex predicate is determined not only by the (borrowed) coverb, but is augmented or reflected also by its (native) inflecting verb:

(87) Yolngu-Matha [dhg] < English (Australia) [eng]

(Claire Bowern, p.c.)

minda-puma mend-spear 'to mend, sew' < [eng] mend

This semantic reflection can occasionally even go a step further: a "synonymconstruction" is also possible. Such a case is reported by Diana Schackow (p.c.) for Puma [pum], where the borrowed verb and its native (inflecting) counterpart are not only coupled with no preferred order of native and borrowed verb but are also each other's translational equivalents. The resulting complex predicate thus is a kind of a hendiadys:

(88) Puma [pma] < Nepali [nep] (Diana Schackow, p.c.) hʌni waraidoŋkoŋ jarmʌnyaŋkʌŋ DEM foreign_country:GEN.LOC.ABL germany:CLF.LOC.ABL aunu ta-a-ku... come come-PST-NMLZ 'The one who came from abroad, from Germany ...' < [nep] aunu 'to come'</p>

8.8 Two remarks on the classification

8.8.1 Light Verb Strategy or Direct Insertion?

One might argue that inserting a borrowed verb into the coverb/preverb position or into a light verb construction is a case of Direct Insertion, because there is no further verbalizing derivation and the replica itself is treated like a native stem.

First of all, this would only be true for languages which use this construction type exclusively and do not have other (non-complex) verbs that do not participate in the formation of complex predicates. Otherwise, inserting a (full) verb into the coverb position does not constitute Direct Insertion as defined above (ch. 6) inasmuch as the borrowed verb itself does not function like the full (inflecting) verbs in the recipient language.

However, there are cases like Chichewa [nya], illustrated in ex. (63) on page 105, where the light verb construction or the use of e.g. 'make' as a loan verb accommodator emerged in the context of verb borrowing in the first place. Similarly, Modern Greek uses the construction with *káno* (cf. ex. (64) on page 105) *only* with borrowed verbs but not with native ones.

Second, one must take into account cases where an inflecting verb gets borrowed and inserted as such in languages that otherwise also apply the Light Verb Strategy (with native and borrowed roots alike). This is demonstrated with forms from Basque in ex. (89). The loan verb in (89a) is a true case of Direct Insertion, as opposed to the Light Verb Strategy applied when inserting the verb into the coverb position, as in (89b).

- (89) Basque [eus] < Spanish [spa] (Khanina 2006: 2; Céline Mounole Hiriart-Urruty, p.c.)
 a. Koldo-k dantza-tu d-Øu-Ø.
 - Koldo-ERG dance-PTCP 3A-S.ABS-have-3S.ERG 'Koldo (has) danced.'
 - b. Koldo-k dantza egin d-Øu-Ø.
 Koldo-ERG dance do.PFV 3A-S.ABS-have-3S.ERG
 'Koldo danced.'
 < [spa] danzar 'to dance'

Several of the LVDB recipient languages, e.g. (Central) Nahuatl [nhn], Puma [pum], Swahili [swh], Thulung [tdh], Thai [tha] or Yolngu-Matha [dhg] use

the serial verb construction for some borrowed verbs, and Indirect or Direct Insertion for others, sometimes even with the same verb or with verbs from the same donor language(s), cf. sec. 16.4.4 and A.2.3.

If languages like the ones just mentioned allow for Direct Insertion but also show (other) verbs being borrowed as uninflecting coverbs, these two different loan verb accommodation techniques are obvious manifestations of different strategies and should be treated as such.

8.8.2 Accommodation technique or code-switching mechanism?

The insertion of unadapted loan verbs (or loan verb stems) into complex predicates could also be considered as a more or less conventionalized pattern of code-switching. Code-switches involving light verb constructions are discussed e.g. by Ritchie and Bhatia (1999) or Bandi-Rao and den Dikken (2004), who show that code-switches within a complex predicate can and do occur, even if the light verb is a clitic or bound morpheme that attaches to the foreign verb, thus effectively violating the (indefensible) "Free Morpheme Constraint" (Poplack 1980: 585) which basically states that code-switches could only occur at positions where the split leaves free morphemes.

Leaving the issue of this constraint aside, the question remains whether the examples presented in this section should be classified as (regularized) codeswitches or verbal borrowings. It has already been mentioned in sec. 3.2.4 that it is at times indeed difficult to draw a border between using a light verb construction to host foreign verbs in instances of code-switching on the one hand and accommodating verbs which thereby become established loanwords on the other hand. As a matter of fact, the mechanism used for code-switching is predestined to be used productively and thus lead to the conventionalization of forms thus accommodated. Once established, however, such "switch verbs" should be considered true loan verbs. For the classification of examples in the LVDB, I followed the principles laid out in sec. 3.2.4 on page 53.

Chapter 9 Paradigm Insertion

9.1 Characteristics

In a few very rare cases (cf. tab. 11) the loan verb is *not* adapted to the recipient language's morphology at all but is borrowed along with significant parts of the donor language's verbal inflectional morphology. This morphology maintains its function in the recipient language, thus creating a new and – usually – closed inflectional class.

This strategy has been called *Paradigm Transfer* in Wohlgemuth (2005a, 2005b) and Wichmann and Wohlgemuth (2008) and has no equivalent in Muysken's (2000) typology (cf. sec. 1.4.3.1). Its principle has been mentioned, though, as conceivable but unattested e.g. by Curnow (2001: 429 fn. 2), Aikhenvald (2007: 19), and Gardani (2008: 84).

Paradigm Insertion, as it is illustrated in this section, apparently only occurs in intensive contact situations, involving widespread bilingualism or the extended contact of a mixed language with (one of) its lexifiers. However, it must not be confused with the emergence of a mixed language, cf. sec. 9.4.3.

The LVDB sample thus has only three instances of recipient languages using this strategy. All three languages are from the Eastern Mediterranean area, see sec. 13.3.3.2 for a discussion.

Abbreviation	PI
LVDB code	M4
Distribution map	fig. 19 on page 375
frequency in the cleared L	VDB sample:
examples	3
% of expl.	0.5%
languages	3
genera	2
families	2
rank (by frequency)	6

Table 11. Paradigm Insertion

9.2 Borrowing of verb plus inflection

In cases of what I count as Paradigm Insertion, the donor language's inflectional morphology maintains its function within the recipient language and is used to inflect the borrowed verbs without replacing the recipient language's own inflectional morphology. For instance, the person agreement affixes on borrowed verbs may be those of the donor language, as in the following example (90) from Ajia Varvara Romani, where the Turkish 2SG marker {-*sun*} occurs with the two borrowed verbs *okumak* and *yazmak*, while the native Romani verb bears the corresponding Romani marker {-*os*}:

(90) Romani (Ajia Varvara) [rmn] < Turkish [tur] (Bakker 2005: 9) and o sxoljo ka siklos te okursun ta te in ART school FUT learn.2 COMP read.2SG and COMP jazarsun write.2SG 'at school you will learn how to read and write' < [tur] okumak 'to read', yazmak 'to write'</p>

Generally, Turkish loan verbs in Ajia Varvara Romani are inflected with their original Turkish suffixes in present and past tense; only the first person plural past-tense suffix deviates from the Turkish paradigm due to analogical leveling (Igla 1996: 214–216). This means that Ajia Varvara Romani did not only acquire lexical material but also a new inflectional class in this process of borrowing. A case similar in nature is reported by Newton (1964) for Kormatiki²¹ [acy], an Arabic dialect of Cyprus, which is heavily influenced by Cypriot Greek:

"C[ypriot Greek] verbs in K[ormatiki] are conjugated exactly as they are when they occur in C[ypriot Greek]." (Newton 1964: 47)

It may at times prove difficult to distinguish such forms of loan verb accommodation from occasional word-level code-switching unless one has independent examples of different inflected forms. In the case of Ajia Varvara Romani, however, code-switching can indeed be ruled out since these inflected non-native words would then be limited to verbs only, and – oddly – there would be no similar switches involving other word classes. Such an unlikely scenario of "selective code-switching" would need a thorough explanation in itself.

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Furthermore, these unadapted borrowings occur freely in Ajia Varvara Romani sentences, not just in fossilized idiomatic expressions where they might be considered phrase-level switches (cf. Igla 1989, 1996). The interpretation of these forms as loan verbs rather than code-switches is strongly supported by the fact that the accommodated paradigm has been slightly modified (cf. above) and that these changes are conventionalized in the recipient language. This could not happen if the forms were code-switches.

The most substantial argument against code-switching is that present-day speakers of this variety are no longer bilingual in Romani and Turkish. This is due to the fact that their ancestors (were) moved from Turkey to Greece in the 1920s. Consequently, for present-day speakers, these verbs simply *cannot* be switches into the other language – which they usually do not speak – but are rather instantiations of another inflectional class of their mother tongue.

9.3 Paradigm Insertion plus further grammatical borrowing

In situations when Paradigm Insertion is possible, the recipient language may also borrow an entirely new grammatical distinction or a whole system of grammatical forms which do not have pre-existing native counterparts.

The only example of extensive pattern borrowing in the LVDB has been reported by Matras (2005: 249) for Domari [dom], which not only borrowed (modal) verbs from Arabic,²² but also their inflection, and along with that introduced the grammatical distinction of gender in modals, cf. ex. (91).

(91) Domari [rmt] < Arabic (South Levantine Spoken) [ajp]

(Matras 2005: 249 ex. 8)

xallīhum skunnhōšad barariyamma let.3PL live.SBJV.3PL outside.LOC 'Let them live outdoors.' < [ajp] xallī-hum 3PL.M of xallī 'to let'

With respect to this example, Matras (2005: 249) explains that: "[...] the domain of modal auxiliaries is replicated wholesale in Domari based on its Arabic source." This process thus constitutes a violation of Field's (2002) "Principle of System Compatibility" (cf. sec. 1.3.8).

The Paradigm Insertion strategy is an extension of the Direct Insertion strategy (cf. ch. 6), inasmuch as it involves not only the unadapted insertion of a lexically borrowed verb but also grammatical borrowing of its inflectional paradigm and – at times – the introduction of new grammatical categories or distinctions expressed by the forms of that paradigm.

With examples like (91), where lexical borrowing entails grammatical borrowing, an extremely high degree of transfer is reached. At the same time, the effort spent to accommodate borrowed elements into the native system is reduced to almost zero, as far as native accommodation mechanisms are concerned. The recipient language has thus gone a substantial way toward becoming a mixed language; cf. sec. 9.4.3.

9.4 What Paradigm Insertion is not

The notion of borrowing verbs and (parts of) their inflection allows for some variation of phenomena. Not all of which, however, are instances of Paradigm Insertion in the sense of the definition given above. In the following three subsections, I briefly illustrate three phenomena that are somewhat close to Paradigm Insertion but should not be confused with it.

9.4.1 Non-case 1: fossilized morphology

A restricted case of (derivational) morphology borrowed along with the verb is shown in (92), where part of the verb's morphology is identical to the one of the donor language model:

(92) Mingrelian [xmf] < Georgian [kat] (Lela Zamušia, p.c.)
 a-mšvid-en-s
 TV-soothe-PRS-3SG
 '(s)he soothes'
 < [kat] a-mšvid-eb-s '(s)he soothes'</pre>

In a handful of its verbal borrowings from Georgian, Mingrelian retains the thematic vowel (TV) $\{a-\}$ of Georgian, as opposed to $\{o-\}$ which would be normal in Mingrelian. Yet, no further morphology was borrowed along with these verbs, and the borrowed TV occurs only with some, not all, loan verbs from Georgian (Lela Zamušia, p.c.).

Cases like these are *not* considered to be instantiations of Paradigm Insertion, since all productive inflection applied to the borrowed verbs uses morphology native to the recipient language whereas the donor language in-

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flection is disregarded. This is different from borrowed verbs with 'active' donor language morphology like those in ex. (90) on page 119 and (91) on page 120.

9.4.2 Non-case 2: borrowed inflectional morphemes

A mirror-image of the phenomenon described above can also be found in the world's languages. Here, only the inflectional morphology is borrowed, but not necessarily the verb. See Gardani (2008) for a discussion and casestudies. In these cases the inflectional morphemes have been borrowed as such and are used – on native verbs – in the recipient language with "(at least partially) identical meaning (and function) they carried out in the source language" (Gardani 2008: 38). An example for this is the use of Bulgarian 1.SG and 2.SG markers on native Meglenite Romanian verbs, as in (93), where the original (Romance) person suffixes are still visible and the borrowed morphemes are suffixed to them, creating what appears like a morphological hendiadys. The corresponding Romanian [ron] forms are: afl-u 'find-1SG' and afl-i 'find-2SG'.

(93) Meglenite Romanian [ruq] < Bulgarian [bul] (Gardani 2008: 67) aflu-m, afli-ş find-1SG, find-2SG
'I find, you find'
< [bul] -m, -š '1SG, 2SG'

Two main differences distinguish this phenomenon from Paradigm Insertion: First, only some affixes out of a larger paradigm are borrowed and, second, they are used more or less productively on native verbs. This is clearly distinct from borrowing an entire inflectional paradigm and using it (chiefly or exclusively) to inflect loan verbs from the same donor language. Similarly, suppletion of single verb forms (cf. sec. 10.2) is considered a different issue.

9.4.3 Non-case 3: replacement, mixture

A completely different scenario would be the wholesale introduction of inflectional morphology into a language thereby more or less completely replacing its own pre-existing morphology. This kind of replacement can occur in situations of extreme language contact. One such situation would be grammatical replacement in a situation of language death (cf. Thomason 2001: 232–235), where lexical and structural resources of an obsolescent language are replaced by those of its community's new target language. For a transitional phase, a mixed language emerges, sharing features from the dying language and the dominant language, and is thus an entity of its own. It would be false, then, to claim that the dying language *borrowed* the inflectional paradigm.

Generally it seems inappropriate to refer to the emergence of mixed languages (or Pidgins and Creoles, for that matter), regardless of their origin, as *borrowing* (cf. also the discussion in Thomason and Kaufman 1988: 193). Borrowing from language A into a language B presupposes that this language B already exists as such and does not come into existence by, during or after the transfer. The latter would be the case in mixing, where a new language AB emerges. While it may at times be difficult to distinguish extreme borrowing from the incipient formation of a mixed language (cf. Thomason 1997a: 4), there are some fundamental differences which are visible in the scope of the borrowed or admixed features in the language under observation.

Kormatiki, for example, is considered a "hybrid language" by some authors, e.g. Gordon (2005),²³ who claim that it emerged as a result of intensive language contact. Their argument is that Kormatiki is not any longer an Arabic variety which borrowed heavily but that it rather became a new – mixed – language. This argumentation would in principle follow the lines of Curnow's (2001: 429) characterization of Ma'a (cf. Thomason 1997c; but also Mous 2003) and Mednyi Aleut (cf. Thomason 1997b), which indeed are mixed languages and acquired the "foreign" inflectional paradigms in the process of mixing, that is, while they emerged. The crucial difference between these languages and Kormatiki is, however, that the borrowed Greek inflection in Kormatiki is *not* the default inflection for all Kormatiki verbs but rather applies *only* to those verbs which were borrowed from Greek. This contrasts with the situation in mixed languages where the "imported" morphology is applied to all verbs indiscriminately or where indeed all verbs are from the other language.

Chapter 10 Other patterns

10.1 Characteristics

A handful of verb borrowings or verbal forms involving borrowed verbs cannot be assigned to one of the four main accommodation strategies described so far. They were included in a residual category "other" and not further differentiated in the statistical analyses. Nevertheless, there is at least one salient subtype that reoccurs: Suppletion.

The verbal loan forms in this category have in common that with regard to their functional and semantic scope they are not fully equivalent to native verbs.

10.2 Suppletion

Suppletion is basically the replacement of forms in a word's inflectional paradigm by forms from "outside" of that paradigm. Often, those replacements are (corresponding) forms from another word of the same language.

If a language generally borrows lexical material, there is not much of an impediment to borrow single word forms as well that also can become replacement forms used in suppletion. Sometimes languages do not borrow a

Description LVDB code	other M5	unidentified M8
frequency in the cleared L	VDB samp	ole:
examples	3	6
% of expl.	0.5%	1.0%
languages	3	6
genera	3	6
families	2	6
rank (by frequency)	6	5

Table 12. Other patterns

verb as a full verb, but rather one or more specific (inflected) form(s) to be inserted into the corresponding position(s) in the paradigm of the recipient language's counterpart verb.

A good example for this are the imperatives singular and plural of the verb $d\dot{o}jda$ 'to come' in Bulgarian [bul] which have been borrowed from (Modern) Greek [ell] and replaced²⁴ the native forms dojdi and dojdie:

(94) Bulgarian [bul] < Greek (Modern) [ell] (Feuillet 1996: 77)
éla, elá-te
come.IMP, come.IMP-PL
'come!'
< [ell] éla, eláte IMP, IMP.PL of érxome 'to come'

Veselinova (2006: 141–147) describes several cases of imperative suppletion by borrowing and observes that [many]

"[...] suppletive imperatives originate from borrowing in a situation of intensive language contact. It is not surprising that exactly commands [...] are passed on from a language with greater prestige and whose speakers have more power to the speakers who have less." (Veselinova 2006: 147)

As mentioned in the quote above, it seems that the nature of the contact situation is the key factor for such cases of suppletion by borrowing and structural factors apparently play but a subordinate role.

Suppletion of verb paradigms with borrowed forms from other languages undoubtedly involves both: borrowing and verbs. The result of this process, though, is not a loan verb in the way it was defined in sec. 3.4.1, because only selected, particular forms out of a word's inflectional paradigm are transferred and not the (abstract) lexical item.

Nevertheless, loan suppletion can become a gateway through which a loan verb may enter a recipient language, because imperatives are rather salient verb forms, normally lacking abundant inflection apart from an IMP or IMP.PL marker. Furthermore, such imperatives occur – and are understood – also in contexts where the speakers of the borrowing language do not (need to) have much competence in the donor language.

10.3 Other and Unidentified

Under such circumstances where commands are the object of lexical transfer, occasionally, forms like the imperatives in ex. (94) become borrowed as frozen expressions which are not accommodated to become functional verbs in the recipient languages. This is e.g. the case with nautical commands (cf. Kahane, Kahane, and Tietze 1958), cohortatives or similar expressions that occur in comparable communicative situations.

Such loanwords like (95) are unique in the sense that they neither have any other inflected forms nor are suppleted into other verbs' paradigms. They are nonetheless borrowed lexical items based on verbal models and have a verbal meaning in the recipient language.

(95) Arabic (Libyan) [ayl] < Italian [ita] (Abdu 1988: 44) ?indyaamu let's_go 'Let's go!' < [ita] andiamo! 1PL(.COH) of andiare 'to go'</p>

In other cases, the borrowed verbs become accommodated into a special class of defective verbs which do not – or not entirely – follow the normal inflection of the recipient language. One such example is (96) from Keresan [kee], for which Spencer (1947: 144) notes:

"Verbal forms may appear in loan translations of various kinds but there has been on the whole an avoidance of borrowed verbs. In general, Keresan makes no use of nominal inflections but possesses a rather elaborate verbal system. In the verbal forms, distinctions are made between singularity and plurality of object, classification of objects, and the temporal aspects of the action involved. It is apparent that new verbal roots could be introduced into such a system only with difficulty. The writer has recorded paradigms of two such borrowed verbs, both of which have been adapted to Keresan only incompletely. In neither one, quite contrary to the normal Keresan morphology, is provision made for the designation of objects. The two verbs in question are Spanish *amar*, to love, and *pedir*, to ask. The latter has taken on the meaning to pray, i.e. to the Christian deities."

(96) Keresan (Santa Ana) [kee] < Spanish [spa] (Spencer 1947: 144) ?amú's love.lSG.EXP 'I love' < [spa] amar 'to love' or amor 'the love'

The remaining unidentified cases are such where some differences between model and replica are discernible but cannot be attributed to functions laid out for any of the accommodation strategies or to (regular) phonological accommodation.

To be on the safe side, such cases were not counted as instantiations of the major accommodation strategies in the statistics and generalizations made in the following parts of the present work.

Chapter 11 Non-patterns

11.1 Characteristics

Collecting loan verb examples for this dissertation, I found, or was made aware of, a few "loan verbs" which on closer scrutiny turned out not to be true verbs in the involved languages or not to be actual borrowings, because for one reason or another they do not fall under the definition of *loan verb* given in sec. 3.4.1).

In the following subsections, I present selected cases that are of some relevance to this study because they are either examples of alternatives to lexical (i.e. material) borrowing (of verbs) or borderline cases. In any event they may serve to illustrate the limits of (verb) borrowing as understood in this work.

11.2 Semantic borrowing

In some languages, (lexical) loanwords are rare and the default strategy is to use native vocabulary to denote concepts that were introduced from outside the community. This is achieved either by semantic extension of native words' meanings on the model of donor language words' meanings or by

Description LVDB code	Semantic borrowing MS/M7	no loan verbs MX
frequency in the cleared L	VDB sample:	
examples	18	3
% of expl.	3.1%	0.5%
languages	18	3
genera	15	3
families	12	3
rank (by frequency)	4	-

Table 13. Non-patterns

more or less literal translations of donor language expressions. The result of the latter process is also called *calque* instead of 'loan translation'. Since both procedures cannot always be distinguished clearly, they will be treated together in this section.

One of the languages famous for this way of eluding lexical influence is Icelandic [isl], where this preference of semantic borrowing is the result of deliberate language planning which itself originates in a conservative attitude toward material borrowing (cf. sec. 18.4.3):

"The influence of English on the lexical level extends beyond direct loans and hybrids. Loan translations, in which both parts of a compound are formally Icelandic though directly modeled on an English word, are even more common. This is especially true for the more formal registers of the language, where words of this type are easily accepted though direct borrowings are not." (Kvaran and Svavarsdóttir 2002: 99)

There are several indigenous languages of North America, where verbs (or more general words of all classes) tend to be calqued rather than borrowed materially, e.g. in Dakota [dak] (cf. ex. (97)), Klamath [kla], Southern Paiute [ute], or Shawnee [sjw] (cf. Voegelin and Hymes 1953: 637–640). This tendency seems to affect words of all classes and not particularly verbs, and it is more likely a result of conscious general avoidance of lexical borrowing than an instance of word-class-dependent borrowability or specific grammatical incompatibility of verbs.

In the following examples, I used the 'equivalent' sign (\equiv) instead of the 'less than' sign (<) here, to indicate that there was no actual transfer of *lexical* material, as would be the case with loanwords:

(97) Dakota $[dak] \equiv$ unid. Indo-European lg. [0ie]

(Voegelin and Hymes 1953: 639)

ožu? plant 'to load a gun' ≡ [0ie] (unknown model)

The form in (97) is a semantic extension of the pre-existing verb $o\check{z}u$? 'to plant, to put in (the ground), to sow'. The authors did not specify whether this extension was motivated by a foreign model form or not. At any rate, the verb is a clear alternative to a lexical loan in a situation where one would expect instances of cultural borrowing.

Further examples for languages using semantic borrowing as a *regular* accommodation strategy are Hup [jup] from South America, and – from Eurasia – Evenki [evn] and Ket [ket], the former one illustrated in (98), the latter one in (99).

(98)	Evenki [evn] \equiv Russian [rus]	(Malchukov 2003: 238)
	anga-	
	open-	
	'to switch on'	
	\equiv [rus] <i>otkryt</i> ' 'to open, switch	n on'
(99)	Ket [ket] \equiv Russian [rus] <i>d-iriŋ-u-k-a-bet</i>	(Werner 2002; Edward Vajda, p.c.)
	3SG.M.S-sign-3.N.O-ABL-DU	R-ACT
	'he signs it'	
	\equiv [rus] <i>podpisat'sja</i> 'to sign st	h.'

The Ket root *iriŋ* 'writing, design' in (99) is underdetermined and can be an adjective, noun, or verb; the inflectional pattern it is used with here, however, usually calls for adjectival roots (Edward Vajda, p.c.). Interestingly, the agreement of the form also follows the Russian model which is formally a reflexive.

Most of the languages in my sample, though, did not *exclusively* rely on this strategy, and the other accommodation strategies employed by these languages range from light verb constructions (e.g. in Yakut [sah]) to Direct Insertion (e.g. in Icelandic, Ket, and Hup).

The fact that these languages are definitely using other strategies as well means that they generally *can* accommodate loan verbs. This, then, rules out general incompatibility as an argument and calls for extra-linguistics factors as an explanation.

All in all, loan translations are not – or not primarily – the only available alternative strategy to make up for the unavailability of other loan verb accommodation strategies. They are also the result of conscious avoidance of borrowed lexemes regardless of their part-of-speech membership or compatibility issues. See sec. 18.4.3 for details.

11.3 No verb borrowing

For the mere typology of accommodation strategies employed to borrow verbs, languages which do not borrow verbs at all would at best be of minor relevance.

For the general study of loan verbs and loan verb accommodation, on the other hand, such languages are of much greater interest: If one could identify the reasons for specifically not borrowing verbs as opposed to members of other word classes, one would hold a key to also understanding the reasons why other languages (purportedly) have particular difficulties in accommodating loan verbs.

Yet, languages that do not borrow verbs at all appear to be considerably rarer than one might initially assume. Several times during the research and data collection for this study, I encountered assertions that a language would generally allow lexical borrowing but would not, and/or could not, borrow verbs. Such assertions go back to Meillet (1921: 84; prominently cited by Thomason and Kaufman 1988: 348) for French, but reoccur also in more recent publications.

However, the statement that a language does not borrow verbs is mostly immediately relativized in one way or the other.

Sometimes it is phrased in such a way that generally no verbs were borrowed *but*... then followed by a more or less exceptional handful of more or less regularly accommodated loan verbs (cf. e.g. Spencer 1947: 144, as quoted on page 126).

In some other instances, the restriction is made that the language does not borrow verbs *as verbs*. This is especially the case for the description of languages using the Light Verb Strategy, where the non-inflecting (borrowed) part of a complex predicate is almost automatically considered a noun (cf. Comrie 2004: 5; LaPolla and Huang 2003: 47), but it can also be found with other strategies.

Anyhow, both of these restrictions mean that in the end, the language under description actually *does* borrow verbs: Whenever a recipient language has established borrowed lexical items which can count as verbs and which were modeled on lexical items that count as verbs in the donor language, these forms were regarded loan verbs according to the definition given in sec. 3.4.1, even if the borrowed item was subject to (denominal) verbalizing derivation in the recipient language. The temporary status of an input form as non-verb or word-class-neutral loanword does not necessarily make the final

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result of the accommodation process a non-verb, since accommodation often includes the overt or covert (re)assignment to that lexical class.

Only three languages in the LVDB sample have been shown conclusively to possess absolutely no loan verbs whatsoever, while having borrowed other parts of speech: Tzotzil (Zinacantán) [tzz], Yahgan [yag], and Yukaghir [yux], cf. tab. A.2.3 on page 348. Alas, no plausible, satisfying explanation for their exclusive borrowing behavior can be given.

For languages that are reported as not borrowing lexically at all, it is trivial to claim that they do not borrow verbs, and such a "finding" would not contribute any useful insight to the study of verb borrowability. Such languages were therefore not considered in the LVDB at all.

Chapter 12 Summary: The strategies compared

12.1 About this chapter

In the previous chapters of this part, the different loan verb accommodation strategies and their subtypes as well as a handful of marginal (non-)strategies were introduced. Not all of these strategies are equally relevant for the typological study of accommodation techniques: For most of the analyses of the areal, typological and genealogical distributions presented in the following part, only the so-called main strategies will be taken into account.

In this section, I summarize the main points made about the strategies and explain their distinction into *main*, *major* and *minor strategies* with respect to the integrational effort they involve. This chapter then concludes with an ontology of the strategies and pattern types used in this study, giving an overview of their fundamental differences and the criteria used to establish their categorization.

12.2 Main vs. major vs. minor strategies

Here and in the following chapters, I will use the term *main strategies* to refer to the following four strategies:

- M1: Direct Insertion (DI) (cf. ch. 6)
- M2: Indirect Insertion (IndI) (cf. ch. 7)
- M3: Light Verb Strategy (LVS) (cf. ch. 8)
- M4: Paradigm Insertion (PI) (cf. ch. 9)

These four strategies have in common that they are classes of productive techniques – borrowing routines – to accommodate lexically borrowed verbs and therefore are accommodation strategies in the stricter sense (cf. sec. 3.4.2).

The four main strategies are also the only ones that are considered in the generalization of the Loan Verb Integration Hierarchy (LVIH) (cf. sec. 19.4.1), where they are arranged in a slightly different order, though.

Apart from Paradigm Insertion (PI), the main strategies are attested worldwide and across many languages, genera, and families. Because of its rarity, Paradigm Insertion is occasionally excluded from statistical analyses of, or generalizations about, the set of main strategies. I then refer to the reduced set as *the three major strategies*. Nevertheless, Paradigm Insertion is in principle a true loan verb accommodation strategy.

The patterns classified as *other*, or *unidentified* do not actually warrant coherent strategies of their own. They are (residual) *minor strategies* with respect to their overall distribution as well as the number of languages applying them. Furthermore, some of these pattern types are not loan verb accommodation strategies in the stricter sense, because their output is not a fully functional verb based on a borrowed lexical item which itself is a verb. For these reasons, the minor strategies play a very subordinate role in the remainder of this volume.

Not borrowing verbs at all or resorting to semantic borrowing, on the other hand, are arguably alternative strategies used in language contact. At any rate, they are *not* mechanisms of lexical transfer and thus only of marginal relevance to a typology of loan verb accommodation patterns, because there simply is no lexical "substance" to be accommodated. Accordingly, the data for this study were not collected with the intention to be representative, let alone exhaustive, but on the main strategies. As a consequence, all other (non-)strategies were excluded from most of the distributional analyses in the following part and most of the analysis and discussion in the following chapters will therefore concentrate on the four main strategies, their subtypes and patterns.

12.3 Integrational effort

While the four main strategies have in common that they all productively "import" borrowed verbs in both form and meaning, they are fundamentally different from each other and from the minor strategies with regard to the morphosyntactic means necessary to accommodate the borrowed verb so that it functions as a verb in the recipient language. These morphosyntactic means essentially differ in two aspects. The first one is the degree of "verbiness" of their output. The second characteristic by which they differ is what I suggest to call *integrational effort*.

With *integrational effort* I refer to the expenditure of any morphological, morphophonological, or morphosyntactic operation that is necessary to *adapt* a borrowed lexical item into the system of the recipient language.

As has been discussed in sec. 3.2.8, I use *adaptation* only for a subset of accommodation processes namely those where the borrowed element is actually formally adapted by morphosyntactic means and where these operations are necessary before the loanword can be put to use in the recipient language.

Integrational effort cannot be expressed or measured in absolute figures but is rather an impressionistic unit of comparison. Its application and scope will be demonstrated in the following subsections.

12.3.1 Direct accommodation

Directly inserting a borrowed verb involves the lowest degree of integrational effort. The borrowed verbs are directly accommodated as fully functional verbs. This means that no verbalizing derivation whatsoever is necessary to adapt these borrowed verbs before they can be used *as verbs* in their recipient languages.

The morphosyntactic effort spent to accommodate loan verbs by the Direct Insertion strategy is therefore extremely low if not nil. In this respect, the Paradigm Insertion strategy (PI) is an extension of the Direct Insertion strategy, inasmuch as it involves the unadapted insertion of the borrowed verb along with its inflectional paradigm. Since this involves the creation of a new inflectional class, however, the integrational effort is a tad higher, and its effect on the recipient languages' grammar is considerably greater. Nevertheless, the involvement of recipient language morphology in order to accommodate such verbs is very low, and loan verbs accommodated by this strategy are fully functioning as verbs in the recipient language nonetheless.

Similarly low is the integrational effort spent on the integration of suppletive forms, or the integration of verb forms as frozen or defective verbs. Here, however, the result of the transfer is not a fully functional verb but rather a particular verb form or a restricted set thereof.

12.3.2 Non-direct accommodation

With the other two main strategies, the picture is fundamentally different, since for these the borrowed verbs are *not* directly available as fully functional verbs.

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The Indirect Insertion strategy (IndI) applies verbalizing (derivational) processes to the borrowed verb and thus involves more integrational effort, visible e.g. by added affixes or other means of derivation.

The Light Verb Strategy (LVS), on the other hand, couples the borrowed verb into a complex predicate with a full native verb which bears all grammatical functions. The integrational effort is not considerably higher than with Indirect Insertion, if it is higher at all.

The patterns classified as *other*, or *unidentified* in the LVDB are not Direct Insertion sensu stricto, since there is some kind of adaptation discernible which means that at least a certain degree of integrational effort has been spent. Consequently, the effort spent is higher than with Direct Insertion and these strategies should likewise be considered as non-direct accommodation.

12.3.3 Relevance for a theory of loan verb accommodation

This study set out to evaluate claims that verbs cannot be borrowed as verbs or that (all) borrowed verbs require morphosyntactic adaptation.

Whenever such claims are made, these claims imply – or are supported by – some kind of argument that significant integrational effort has to be expended before a borrowed lexical item can function as a verb in a recipient language, or that the integrational effort for loan verb accommodation is always higher than that for other parts of speech.

Such claims would consider Direct Insertion (and, consequently, also Paradigm Insertion) as either impossible altogether or as exceptions to a general rule, requiring justification.

From the examples presented and discussed in ch. 6, however, it becomes evident beyond doubt that this strategy actually does exist, and that verbs can be borrowed and directly used *as verbs*.

Furthermore, the following chapters show that this strategy is all but exceptional in a global perspective. It will be discussed in sec. 19.2.1 that Direct Insertion cannot – or, rather, should not – be "explained away" by claiming zero derivation.

The required integrational effort is not directly correlated with the word class membership of the input form or that of the resulting loan verb. As a matter of fact, Direct Insertion can accommodate borrowed lexical items even across word classes (cf. sec. 6.3).

With strategies of non-direct accommodation, on the other hand, the input forms are treated as non-verbs or at least as forms underspecified for their word-class membership, regardless of their status in the donor language.

The results of the different loan verb accommodation techniques similarly differ in the degree the borrowed replica forms become fully functional verbs in the recipient language, as will be laid out in sec. 12.4.3.

12.4 An ontology of loan verb accommodation strategies

In this part, I presented a typology of loan verb accommodation patterns and classified these patterns into types and strategies. Such a taxonomy, while interesting in itself, is not sufficient for a full-fledged typology. I therefore want to outline the criteria used to classify the pattern types and strategies before turning to the analysis and explanation of the ranges and distributions of these strategies in the chapters of the following part.

It is a prerequisite for any sound analysis and generalization over the findings on strategy and pattern distributions to understand the nature of these entities and the differences between them.

Tables 14 and 15 summarize the varieties of items in the taxonomy outlined throughout this chapter, using the criteria discussed in this section. In tab. 14 on the next page, I present the parameters used to distinguish the different accommodation strategies and some of their pattern types.

Although they were mentioned in the descriptions of the strategies presented in this chapter, most of these parameters have not been discussed in much detail so far, since they basically apply to all strategies. They will therefore be presented in the following subsections. For a more concise overview, the distinctive features from tab. 14 are summarized in a feature matrix in tab. 15 on page 141.

12.4.1 Transfer type

The most fundamental distinction is that of *transfer type*, indicating whether material borrowing (i.e. transfer of meaning and form) occurs or semantic borrowing (meaning only) or other, extended or limited, varieties of transfer.

All true loan verb accommodation strategies are by definition steps in the transfer of form and meaning, since they involve the formal accommodation

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Mono Mono no Mono Mono Mono Mono Mono M				ż	ć	Cross-modality borrowing (4.2)	none
	None	None	n.a.	None	None	No borrowing (of verbs) (11.3)	

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of a verb lexeme which by definition has both. This means that they are all involved in instantiations of material transfer.

The main strategies are then further distinguished from one another by different degrees of *integrational effort* and the *loan verb status*. It has already been mentioned in sec. 12.3 how the main strategies differ according to the degrees of integrational effort they involve. The second parameter "status" is discussed in sec. 12.4.3.

The three major strategies involve lexical borrowing only. This is transcended by Paradigm Insertion and by Suppletion, where lexical borrowing is coupled with grammatical borrowing in various degrees.

Semantic borrowing, on the other hand, is characterized by the lacking transfer of forms and a transfer of meanings only. This also implies that no accommodation is required and, consequently, no integrational effort is spent.

Basically the same is most likely also true for cross-modality borrowing. However, more theoretical spadework and more data are necessary to decide the values for some of the other parameters or to find other, more accurate parameters to assess this particular phenomenon of borrowing, cf. the discussion in sec. 4.2.

Neither forms nor meanings of verbs are transferred, of course, if a language does not borrow verbs at all. This also means that no integrational effort whatsoever is spent.

12.4.2 Transferred elements

The strategies are also differentiated by the nature of the *transferred elements* they accommodate. This input can be lexemes (i.e. abstract lexical items, stems, citation forms etc.) or single, concrete inflected verb forms (as they might occur in syntactic contexts), or – with Paradigm Insertion – the lexeme and a (sub)set of its inflected forms and occasionally also their categorial distinctions.

In contrast, semantic borrowing involves transfer of more or less abstract verbal meanings, i.e. the lexical meaning of an action word, but not its substance (i.e. its phonological representation).

Furthermore, the accommodation strategies also vary with respect to the *word class membership* they assign the input forms to. Direct Insertion and Paradigm Insertion do not derive loanwords into verbs but borrow them as such, sometimes even if they are not (full) verbs in the donor language.

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Indirect Insertion and Light Verb Strategy on the other hand accommodate input forms that are underspecified for their part-of-speech membership and either verbalize them (Indirect Insertion) or assign them to a class of uninflecting coverbs (Light Verb Strategy).

12.4.3 Loan verb status

With *status* I refer to the result of the transfer, that is the resulting loan verb's part-of-speech membership and its degree of functionality.

Loan verbs accommodated by Direct Insertion and Paradigm Insertion are immediately available as fully functional, simple (i.e. underived) verbs. In principle they appear just like native ones and cannot be distinguished from those by formal criteria other than perhaps their phonological shape.

In contrast, Indirect Insertion produces complex verbs as a result of the verbalizing (derivational) process applied to them. Once that process has been applied, however, the borrowed word is accommodated and a fully functional verb in the recipient language. Depending on pattern type and the frequency with which the involved accommodating morphology also occurs with native words, the resulting loan verb is more or less clearly marked as a borrowed lexeme.

With the Light Verb Strategy, the loan verb enters its recipient languages as a non-full verb, too, and at least partly remains as such. It becomes the invariable part of a complex predicate, but cannot function as sole head of one itself. In this sense it is, so to speak, not fully accommodated. At least for languages where the use of such complex predicates is not common, such a construction also quite visibly identifies the loan verb as a foreign element. That is, of course, much less the case in languages with a large (default) class of uninflecting verbs.

Paradigm Insertion stands out by the characteristic that not only the verb is transferred but also additional donor-language morphemes and – occasionally – categorial distinctions which maintain their functions in the recipient language.

In principle, this statement applies to suppletion, too, with the restriction that only single verb forms are borrowed, not resulting in a fully functional loan verb. Similarly, the strategies labeled *other/unidentified* occasionally involve transfer of concrete verb forms rather than (abstract) verb lexemes.

Sometimes these strategies produce single forms that are suppleted, sometimes frozen expressions that resemble code-switches.

Semantic borrowing and cross-modality borrowing do not produce loan verbs according to the definition in sec. 3.4.1, but rather extend the referential scope of already existing (native) elements of the recipient languages. This may, but need not necessarily, have an impact on the part-of-speech membership of that element.

Strategy and Pattern type		Transfer of			Integ.	sta	status	
Strategy and Pattern type		form	mean.	morph.	categ.	effort	full	simple
	DI of a borrowed vb.	+	+	_	_	lowest	+	+
DI	DI across word class	+	+	—	—	lowest	+	+
DI	Verb inflection class marker	+	+	—	—	lowest	+	+
	Reduction to root	+	+	—	—	low	+	+
	Aff. with a VBLZ	+	+	_	_	high	+	_
IndI	Aff. with a FACT/CAUS	+	+	—	—	high	+	—
mai	Aff. with a LVM	+	+	—	—	high	+	—
	Other verbalizations	+	+	_	_	high (?)	+	_
	Light vb. 'do', 'make'	+	+	_	_	medium	_	_
	Light verb 'be', 'become'	+	+	—	—	medium	_	—
LVS	Other light verb	+	+	—	—	medium	_	_
	Coverb, converb, serial verb	+	+	—	—	medium	_	_
	Participle + Light verb	+	+	—	—	medium	—	—
ы	Borr. of verb + inflection	+	+	+	_	low	+	+
F1	PI + grammatical borr.	+	+	+	+	low	+	+
othon	Suppletion	+	+	±	_	low	_	±
other	Other/unid.	+	+	—	—	low	\pm	\pm
Sam	Loan translation	_	+	_	_	none	_	_
Sem.	Semantic extension	-	+	—	-	none	-	-
Cross-	modality borrowing	_	+	_	?	?	?	?
No borrowing (of verbs)		_	_	_	_	none	_	_
Signs: + yes; - no; \pm situation-dependent; ? unclear								

Table 15. Distinctive features of the accommodation pattern types

Part III Distributional analysis

Chapter 13 Strategy distributions

13.1 About this part

Generalizations about (verb) borrowability, grammatical compatibility, and preferences of languages for the one or the other accommodation strategy must be based on empirical data on loan verb accommodation and distributions of accommodation techniques, lest such generalizations remain speculations with an aura of intuitiveness and little or no explanatory power.

The following chapters and sections present and analyze five different aspects of strategy distributions, according to different linguistic and nonlinguistic parameters. The first section illustrates the overall distributions of strategies over languages on a general level (sec. 13.2). The next section, then, goes into deeper detail about distributions and frequencies of strategies with respect to geographical areas (sec. 13.3).

The subsequent chapters then analyze accommodation strategy distributions with respect to language families and genera of donor and recipient languages (ch. 14) and an evaluation of correlations between typological features and accommodation strategies (ch. 15).

The distribution of patterns, subtypes, and pattern types across and within languages is then addressed in ch. 16. This part is concluded by a chapter on borrowing and diffusion of accommodation mechanisms (ch. 17).

As will be shown throughout this part, the strategies and their constituent elements, the patterns used to accommodate loan verbs, are basically phenomena of the (borrowing) recipient languages. Conversely, the dependence of pattern and strategy choice from the donor languages appears to be a negligible factor. Unless stated otherwise, I will therefore focus on discussing the distribution over the LVDB sample's recipient languages.

Furthermore, discussions will mostly concentrate on the four main strategies, because they manifest actual lexical borrowings of verbs. These strategies are: *Direct Insertion (DI), Indirect Insertion (IndI)*, the *Light Verb Strategy (LVS)* and *Paradigm Insertion (PI)*. Since the other strategies and instances of semantic borrowing were not in the direct scope of this study, these strategies are only marginally represented in the LVDB, and consequently data on their distributions are far from representative. Accordingly, their distributions will be discussed only incidentally.

One should bear in mind that – unless stated otherwise – the figures and averages given throughout this part are not intended as generalizations beyond the LVDB sample. Though based on a rather broad sample, they may not necessarily reflect the full complexity of donor-recipient relationships and loan verb accommodation strategy usage patterns in the world's languages exhaustively.

13.2 Distribution of strategies over languages

The first distributional analysis looks at the ways accommodation patterns are distributed over the 352 recipient languages of the full LVDB sample. The main focus points of this analysis are on the overall frequencies of strategies and on the use of multiple strategies within the same language and, connected with that, strategy cooccurrence patterns as opposed to exclusive use of one strategy.

13.2.1 Overview: distributions

The general distribution of accommodation patterns and strategies over the LVDB recipient languages is illustrated in tab. 16 on the next page for a first overview.

The totals of languages, genera, and families in tab. 16 on the facing page would add up to more than the totals of recipient languages and their taxa (352 lgs., 142 gen. 68 fam.). This is due to the fact that some languages use more than one strategy and are thus counted several times — once for each strategy. In many, if not most, cases it is impossible to determine "primary" and "secondary" strategies for a given recipient language so that one would then be able to count the primary ones only. In answering the question "how many languages apply strategy X?" this distinction would be moot, anyway.

Table 17 on the next page recapitulates the maxima and averages for multiple pattern use per recipient language and per language pair, as they were listed in tab. 3 on page 45.

Exact figures of how many languages apply which strategy exclusively or non-exclusively are then given in tab. 18 on page 148. The percentages of

Languages	Genera	Families	rank
207	91	49	1
86	42	22	3
104	60	35	2
3	2	2	6
3	3	2	6
18	15	12	4
6	6	6	5
3	3	3	-
	Languages 207 86 104 3 3 18 6 3	LanguagesGenera20791864210460323318156633	LanguagesGeneraFamilies20791498642221046035322332181512666333

Table 16. Accommodation strategies by languages

Table 17. Overview: pattern usage (data from the cleared sample)

	patterns	subtypes	strategies
per recipient lg.			
Maximum	4	3	3
Mean	1.27	1.20	1.16
Median	1	1	1
per language pair			
Maximum	3	2	2
Mean	1.09	1.08	1.08
Median	1	1	1

exclusive use are calculated from the respective totals of languages using the particular strategy.

13.2.2 Single vs. multiple strategy use

13.2.2.1 Evaluation

At least 94 (i.e. 26.7%) of the 352 recipient languages employ more than one accommodation pattern, and 66 (i.e. 18.75%) apply multiple patterns from two or more different strategies. Only ten languages of the LVDB sample (i.e. 2.84%) are recorded with three, and only three languages (i.e. 0.85%) with four different strategies.

The cases in the latter two groups – languages using three or more strategies – always include semantic borrowing (MS) which is not counted as an
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Strategy	Total lgs.	excl.	% excl.	non-excl.
Direct Insertion	207	47	23%	160
Indirect Insertion	86	41	48%	45
Light Verb Strategy	104	36	35%	68
Paradigm Insertion	3	2	67%	1
other	3	2	67%	1
Semantic borrowing	18	13	72%	5
unidentified	6	4	33%	2
no lexical borrowing	3	3	100%	n.a.

Table 18. Exclusive vs. non-exclusive use of accommodation strategies

Table 19. Strategy cooccurrences (dyads)

	DI	IndI	LVS	PI	oth.	Sem.	unid.
DI	(47)						
IndI	25	(41)					
LVS	20	17	(36)				
PI	0	1	0	(2)			
other	1	2	0	0	(2)		
Sem.	11	5	4	0	1	(13)	
unid.	2	2	2	0	0	0	(4)

Table 20. Multiple strategy cooccurrences

Combination	lgs.
DI + IndI + LVS	4
DI + IndI + LVS + Sem.	1*
DI + IndI + LVS + unid.	1*
DI + IndI + Sem.	6*
DI + IndI + Sem. + other	1*
DI + LVS + Sem.	1

*) not all in the cleared sample

accommodation strategy but nevertheless an alternative borrowing strategy. All instances of languages using four strategies involve examples from beyond the cleared sample which were removed because they were doubtful cases or involved items that do not match the definition of *loan verb*. They will therefore not be discussed here in further detail. Conversely, for 230 of the 352 recipient languages only one pattern – and thus one strategy – is found. In addition, there are 28 languages which apply different patterns that, however, all belong to one and the same strategy.

All in all, this means that for 258 (i.e. 73.3%) of the recipient languages only one strategy is attested. This figure includes the three instances of not borrowing verbs at all (MX), since this non-strategy logically excludes combination with other strategies.

Tables 19 and 20 on the facing page show the cooccurrences of the different strategies by giving the numbers of languages showing the respective combinations. In tab. 19, *all* combinations are given in dyads. The values in brackets listed in the fields for "same type combinations" are the numbers of languages exclusively using that particular strategy.

Finally, tab. 20 on the preceding page shows the few cases of languages using more than two different strategies. The combinations listed in that table were converted to dyads and are therefore included in the values given in tab. 19. In the same way, the three instances of four strategies are included in the totals of the three-strategy combinations they are listed under.

The picture painted here is probably fairly biased toward the "one pattern only" side due to two factors. The first factor is the lack of more detailed data, e.g. on the borrowing history of some languages (and thus on older borrowings therein) or on borrowings from different donor languages into the same recipient language. The second factor are the side-effects of a limited sample and the necessity to halt data collection at one (arbitrary) point (see sec. 2.4.1.1 and also the remark regarding Welsh on page 222).

At any rate, one would wish to have more – and also more detailed – information on pattern variability within recipient languages, especially on less widely used or less productive accommodation techniques that are in parallel use with, or were superseded by, more prominent ones.

In summary, I am convinced that the actual numbers of languages and language pairs using more than one accommodation technique would prove to be much higher, and that in a global perspective the figures and averages given here are more likely too low than too high.

13.2.2.2 Two countervailing tendencies

Two countervailing tendencies can be detected in the data. On the one hand many recipient languages use more than one pattern and accommodation strategy (even within the same language pair); on the other hand they apply the same pattern or strategy for borrowings from different donors, i.e. across language pairs.

Interpreting these two tendencies, one has to bear in mind that for many languages pairs where there is only one example in the LVDB sample, it may misleadingly appear as if there were no variability. Extrapolating from languages and language pairs where more exhaustive information was available and where multiple pattern usage occurs, one must, however, be careful not to make such an assumption.

These limitations notwithstanding, the above figures clearly show that in many cases a statement like "language X always uses pattern P to accommodate borrowed verbs" is not possible. From this it follows that general predictions about pattern distributions – or pattern and strategy choice – are not feasible if they are solely based on the identification of the donor or recipient language or their combination as a language pair.

13.2.3 General tendencies of strategy distribution

These limitations aside, the following general tendencies or preferences with regard to the accommodation strategies and patterns applied can be identified rather safely.

- **Direct Insertion** (DI) is by far the most frequently used strategy when one counts the absolute number of languages applying it. It is also the strategy that is most frequently used in combinations and has accordingly the lowest percentage of languages exclusively using it.
- **Indirect Insertion** (IndI), ranking third by the number of languages using it, is clearly less frequently found combined with other strategies: close to half of the languages applying it use it as their sole strategy.
- **The Light Verb Strategy** (LVS) is somewhere in between the two other major strategies. It ranks second in absolute frequency and appears to cooccur with other strategies more frequently than Indirect Insertion.
- **Paradigm Insertion** (PI) is an extremely rare accommodation technique. Generalizations about the combined use of Paradigm Insertion and other strategies were avoided, because they would be based on too few data. Nevertheless, one can assume that this strategy should rather cancel out other strategies for other, subsequent, borrowings from the

same donor language: Once borrowed verbs retain their native inflection, other adaptive mechanisms are not required any more. Therefore, other strategies can then only be found in older borrowings or in earlier stages of the recipient language. One might thus expect that Paradigm Insertion does not regularly co-occur with other strategies in parallel (synchronic) use.

Interestingly, *all* combinations of more than two strategies (cf. tab. 20 on page 148) involve Direct Insertion. Furthermore, of the ten languages using more than two strategies, nine actually use Direct Insertion and Indirect Insertion plus one (or two) other. The dyad *Direct Insertion* + *Indirect Insertion* is thus also the most frequent one, albeit not with a statistically significant margin.

It must remain an open question whether these patterns of multiple strategy use are a finding that can be generalized along the lines of an implication such as: "If a language uses more than two accommodation strategies, one of these is Direct Insertion." (cf. fig. 11 on page 288)

If the attested use of multiple strategies is indicative of diachronic development, one might expect that Direct Insertion, as a less complex strategy, would have occurred later in the borrowing history of a recipient language than other strategies.

Examples for the parallel use of patterns and strategies in selected single languages and a possible explanation of the factors influencing the phenomenon in general are provided and discussed in ch. 16. Furthermore, sec. 19.4.1 through 19.5 elaborate on the diachronic perspective of multiple pattern use and its relevance to loanword studies.

13.3 Areal strategy distribution

13.3.1 General remarks

Studying and comparing typological features of the world's languages, one must not neglect areal phenomena. This is especially true for a study like the present one, focusing on typological features that are associated with language contact. Most – if not all – languages are in contact with other languages and exchange lexical items as well as grammatical properties by means of borrowing (in the wider sense).

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In this section I will discuss areal distributions of the accommodation strategies, that is: the presence, absence or frequency of occurrence of accommodation strategies and pattern types in six major regions of the world as well as some selected smaller-scale areas that became manifest in the data. Occasionally, particular areal distributions are the result of language family distributions and/or coinciding topographic boundaries (see e.g. Australia's isolation). In some cases, patterns got borrowed, and thus spread over an area. The latter scenario will be illustrated and discussed in ch. 17.

13.3.2 Global distributions

For a general overview of global strategy distributions, I investigated their distributions over six major cultural-geographical areas, also called *macroareas*. These areas were defined by Dryer (1989), and are also the ones used in WALS:

- 1. Africa (AF)
- 2. Australia and New Guinea (AN)
- 3. Eurasia (EA)
- 4. North America (NA)
- 5. Southeast Asia and Oceania (SO)
- 6. South America (SA)

The distributions of the LVDB's 352 recipient languages and 140 donor languages over these six areas were already discussed in sec. 2.4.3.5 (cf. tab. 4 on page 49 and tab. 5 on page 49). Table 21 on the facing page now summarizes the areal distributions of *accommodation strategies* over these six macro areas. The figures and percentages given in tab. 21 are the numbers of *recipient languages* that use the respective accommodation strategies, differentiated by the six macro areas. These amounts must not be confused with the amounts of *language pairs* using the respective accommodation strategies, and those figures are given elsewhere, primarily in tab. 34 on page 187.

The numbers in tab. 21 add up to more than the numbers of recipient languages given in the first row of each column because some languages apply several competing strategies (cf. sec. 13.2 and ch. 16). Analogously, the percentages given add up to more than 100% in each column. The totals given

Macro area	AF	AN	EA	NA	SO	SA	Total
Total lgs.	46	41	130	40	60	35	352
DI	34	12	68	23	47	23	207
%	73.9%	29.3%	52.3%	57.5%	78.3%	65.7%	58.8%
IndI	6	11	51	2	9	7	86
%	13%	26.8%	39.2%	5%	15%	20%	24.4%
LVS	9	20	48	10	10	7	104
%	19.6%	48.8%	36.9%	25%	16.7%	20%	29.5%
PI	-	-	3	-	-	-	3
%	-	-	2.3%	-	-	-	0.8%
other	1	-	2	-	-	-	3
%	2.2%	-	1.5%	-	-	-	0.8%
Sem.	1	1	8	6	-	2	18
%	2.2%	2.4%	6.2%	15%	-	5.7%	5.1%
Unid.	-	-	1	3	1	1	6
%	-	-	0.8%	7.5%	1.7%	2.8%	1.7%
MX	-	-	1	1	-	1	3
%	-	-	0.8%	2.5%	-	2.8%	0.8%

Table 21. Accommodation strategies by macro-areas

in the rightmost column are the numbers of languages using the particular strategies world-wide. The corresponding map in the appendix is fig. 14 on page 370.

The three major strategies (*Direct Insertion, Indirect Insertion, Light Verb Strategy*) are found in all six macro areas, although their frequencies of occurrence in these areas rarely match or come close to the global averages. The fourth main strategy (*Paradigm Insertion*) is only found in one macro area. This means that these strategies are not equally distributed over the globe. In brief, their distributions are as follows.

Direct Insertion (\rightarrow map 16 on page 372) is most widely used in Southeast Asia and Oceania, in Africa, and, slightly less so, in South America. Between 65.7% and 78.3% of the languages in these areas apply this strategy. The last value is the highest percentage any strategy reached in any macro-area. In Australia and New Guinea, on the other hand, this

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strategy is noticeably less common, so that this is the only macro-area where Direct Insertion is not the dominant strategy.

- **Indirect Insertion** (\rightarrow map 17 on page 373) is a very frequent strategy in Eurasia (\rightarrow map 20 on page 376), the only area where it is far more widely used than in the global average. Conversely, it is particularly rare in North America and Africa. It is perhaps because of this predominance in Eurasia(n languages) that Moravcsik (1975, 1978) claimed that this strategy were a default strategy also in the global perspective which it is apparently not. In none of the macro areas this strategy is the most frequent one.
- **Light Verb Strategy** (\rightarrow map 18 on page 374) is very frequent in Australia and New Guinea, where it is the most widely used strategy, and in parts of Eurasia, too, (\rightarrow map 21 on page 377). In both of these regions, the strategy fits existing patterns of complex predicate formation which also apply to native verbs. Its frequency is lowest in Southeast Asia and Oceania, where many isolating languages using Direct Insertion are found.
- **Paradigm Insertion** is the rarest and most unusual of the four main strategies, with less than one percent of the LVDB recipient languages applying it. What is remarkable about its global distribution is that it so far is only found in the Eastern Mediterranean, cf. sec. 13.3.3.2.

13.3.3 Regional distributions

After discussing the global strategy distribution with regard to some predefined macro-areas, let us now take a closer look at a few noteworthy strategy distributions within one of these areas, namely Eurasia.

13.3.3.1 Northern vs. Southern Eurasia

Comparing the distributions of Indirect Insertion (\rightarrow map 20 on page 376) and Light Verb Strategy (\rightarrow map 21 on page 377) in Eurasia, a clear tendency can be noticed. Southern Eurasia, especially the Southeast, appears to be a hotbed of the Light Verb Strategy — even in global comparison. In contrast, this strategy is almost completely absent in Northwestern and Central Europe. Even though these distributions are not mutually exclusive and there

are languages using both strategies, it is striking that there are two distinct zones in Eurasia which clearly differ with respect to their preference of either Indirect Insertion or Light Verb Strategy.

This distribution is indeed areal rather than genealogical. Evidence for this can be seen from the following two facts. On the one hand, the Indo-European languages of the Northwestern part are distinct from those in the Southeastern half with regard to the strategies chosen. While the former ones largely prefer Indirect Insertion, the latter ones preferably choose the same accommodation strategy as their Caucasian and Altaic neighbors, namely the Light Verb Strategy. On the other hand, this is shown by the fact that languages of different families and genera in Southeast Eurasia share the preference for the Light Verb Strategy.

An explanation for this distributed preference can be found by looking at the actual accommodation patterns used, which underlie the abstracted strategies. As it turns out, each of the groups of languages experienced the diffusion of an accommodation pattern which was borrowed into many, if not most, of the languages in the region.

Among the languages of the Northwestern Eurasian group, this borrowed accommodation technique is Indirect Insertion by a loan verb marker based on what I call the $\{-Vr\}$ -suffix which is found all over this part of Europe. Section 17.3 elaborates on the borrowing history of this affix.

For the languages of the Southeastern Eurasian group, on the other hand, one particular subtype of the Light Verb Strategy has apparently spread in at least parts of the area. This is the construction of "participle + light verb" (cf. sec. 8.6) that is shared among languages of Iran and around the Caspian Sea. The spread of this pattern is discussed in sec. 17.4.

Two generalizing conclusions can be drawn from this distribution and its likely causes. First, areal patterns of accommodation strategy choice can be due to complex contact situations where several languages borrow an accommodation pattern from a common source or from each other. Second, strategy choice can be influenced by the borrowing process itself, which means that aside from structural factors, sociolinguistic factors play a role.

13.3.3.2 Paradigm Insertion in the Mediterranean

Paradigm Insertion is the rarest of the four main strategies (cf. ch. 9 and tab. 21). Of the languages in the LVDB sample, only three languages are reported

to use it: Kormatiki [acy], Domari [rmt], and Ajia Varvara Romani [rmn]. Remarkably, these three languages have one thing in common: all are spoken in the Eastern Mediterranean area (\rightarrow map 19 on page 375).

The circumstances which led to Paradigm Insertion in the three documented cases are - as far as they have already been identified - not completely identical.

Kormatiki could arguably be considered a mixed language (of Arabic and Greek) that has been and continues to be in contact with its lexifier, namely Greek, while contact with other varieties of Arabic ceased. It has been argued in sec. 9.4.3 that this analysis is inappropriate inasmuch as Kormatiki is not a mixed language.

Domari is still in contact with the language it imported loan verbs from by Paradigm Insertion, albeit Domari is not considered a mixed language either.

The Ajia Varvara variety of Romani that took over Turkish verbs by this strategy, however, had been in contact with Turkish over an extended period of time but has lost this contact some generations ago.

It is not entirely clear which factors favor Paradigm Insertion in general. Hence, for an explanation of this strategy's limited distribution one could only speculate whether some of these factors – if they can be identified – would only be found in this particular region but not elsewhere in the world.

The restricted regional distribution may therefore very well rather be an artifact of sampling, and I would not exclude the possibility that languages from other parts of the world and from genera and families other than the two involved here, namely Semitic (Afro-Asiatic) and Indic (Indo-European) might also have applied this strategy. It would indeed not be too surprising if further examples from other parts of the world turned up, e.g. in the languages of the Caucasus or the Australian languages.

Admittedly, this assumption is based on my intuitions and to the best of my knowledge such examples have not been attested elsewhere. With respect to Australia, my assumption is clearly contradicted by Heath (1978a: 104-112) who explicitly rules out the borrowability of verbal inflectional affixes at least for a group of languages in Arnhem Land — a region of multilateral language contact which certainly is not less intensive or intricate than that in the Levant.

So far, it thus appears that the Paradigm Insertion strategy has actually only been attested in the Eastern Mediterranean even though there are no striking reasons which could explain this distributional limitation.

Chapter 14 Genealogical strategy distribution

14.1 About this chapter

Similar to areality, genealogy plays a role in the distribution of typological features across the world's languages. In the first subsection of this section, I give a brief overview of the overall distribution of accommodation strategies across the genera and families of the world's languages.

In the following subsections, I illustrate by three examples of how "family resemblance" manifests itself in the accommodation of borrowed verbs. For this, I chose two genera (Romance and Semitic) and one (putative) family (Australian) and checked the distributions of accommodation patterns and strategies across languages borrowing from and into members of each of these groups. In order to do so, I focused on two sets of language pairs each, one where the members of the selected groups are donor languages and one where they are recipients. I did not exclude family- or genus-internal pairs from these samples, if there were any, but counted these in both groups.

Table 22 serves as a general reference for the comparisons made throughout this chapter. It shows the distributions already mentioned in tab. 16 on page 147 as well as the frequencies for the different strategies across the cleared LVDB sample. Since many languages employ more than one strategy, the values in the second and fourth column add up to more than the totals given in the bottom line.

Accommodation Strategy	lgs.	% of lgs.	ex.	% of ex.
Direct Insertion	207	58.8%	309	52.5%
Indirect Insertion	86	24.4%	121	20.6%
Light Verb Strategy	104	29.5%	140	23.8%
Paradigm Insertion	3	0.8%	3	0.5%
all other	30	8.5%	15	2.6%
Total	352	_	588	100%

Table 22. Frequencies of accommodation strategies

14.2 Genealogical distribution of accommodation strategies

Before turning to the three case studies, I want to discuss the overall distribution of the main accommodation strategies across and within language families. The following tab. 23 is an abridged version of the list in sec. A.2.4 of the appendix. The distribution of strategies over the different genera within the families is given there as well. Genera are omitted here for the sake of brevity. A fruitful discussion of the distribution on genus level would also require much more data from an even broader LVDB sample.

The 28 families which are represented by only one language and the seven language isolates were excluded from the analysis in this chapter. This exclusion of 35 "one-language-families" is necessary because otherwise there would be a quite skewed picture of whole families with many languages which appear to be consistently applying only one strategy, while it is actually rather a preference of the one language representing that family and thus an artifact of sampling. The excluded language families are marked by *italics* in tab. 23.

The remaining 33 families (with 317 languages in 107 genera) show some interesting distributions of accommodation strategies. None of the families has a distribution of strategies that comes close to the relative frequencies of the overall sample as given in tab. 22. Only Indo-European, by being the most strongly represented family (cf. sec. 2.4.3.4), comes close to this distribution. The other, more noteworthy distributions are discussed in the following two subsections.

Family	DI	IndI	LVS	PI	oth.	MX	Sem.	unid.
Afro-Asiatic	13	5	4	1	1			
Ainu	1							
Algic	1		1				2	
Altaic	5	13	11				1	1
Araucanian	1							
Arawakan	3							
Australian	8	5	10				1	
Austro-Asiatic	2	2	2					
Austronesian	38	4	2					
Aymaran	1							
Barbacoan			2					

Table 23. Genealogical distribution of accommodation strategies

• • •

Family	DI	IndI	LVS	PI	oth.	MX	Sem.	unid.
Basque	1		1					
Border			1					
Burushaski			1					
Camsá	1							
Cariban	1	1	1					
Chibchan			2					
Chukotko-Kamchatkan			1					
Creoles and Pidgins	6						1	
Damar	1							
Dravidian	3	3	5				1	
Eastern Bird's Head		2	1					
Eskimo-Aleut	2							
Guaicuruan	1							
Hokan	5							1
Huavean	1							
Indo-European	35	23	18	2	2		6	
Japanese	1	1	1					
Kartvelian	1							
Keresan								1
Korean			1					
Kwazá	1							
Leco	1						1	
Lower Sepik-Ramu	1							
Lule-Vilela	1							
Mayan	1		1			1		
Misumalpan			1					
Mixe-Zoque	1							
Mosetenan	1							
Na-Dene			1					
Nadahup	1							
Nakh-Daghestanian	6	6	9					
Nambikuaran	1							
Niger-Congo	16	1	3					
Nilo-Saharan	4	1	3					
Oto-Manguean	3	1	1					
Panoan	1	3						
Penutian	1							
Quechuan	4							
Salishan	2							
Sepik	1		2					

Family	DI	IndI	LVS	PI	oth.	MX	Sem.	unid.
Sino-Tibetan	2	5	7					1
Siouan							1	
Solomons East Papuan			1					
Subtiaba-Tlapanec			1					
Tacanan			1					
Tai-Kadai	2		1					
Tarascan	1							1
Torricelli			1					
Trans-New Guinea		1	3					
Tupian	1	3					1	1
Uralic	13	3						
Uto-Aztecan	5	1	3				1	
West Papuan	1	3	1					
Yámana						1		
Yeniseian	2	1					1	
Yukaghir						1		
Yuracare	1							
total families	49	22	35	2	2	3	12	6

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The figures in the tables are not cleared for overlaps, so figures may add up to more than the numbers of languages from that taxon represented in the LVDB. This means that the same language could theoretically be counted for all four main strategies. In practice, however, no single language has all of the main strategies (Direct Insertion, Indirect Insertion, Light Verb Strategy, and Paradigm Insertion), and only four languages have all three of the major strategies (Direct Insertion, Indirect Insertion and Light Verb Strategy), cf. tab. 20 on page 148.

14.2.1 Families and genera with clear preferences

In the following subsections, only the main strategies will be discussed, all remaining strategies (*other*, *semantic borrowing*, *unidentified*) will mostly be lumped together into *other*, and those languages not borrowing verbs at all (*MX*) will not be discussed here. For detailed data on genus-level distributions see the unabridged list in sec. 42 of the appendix.

Frequency relations given as four figures in brackets always indicate the number of LVDB sample languages from that genus or family using the respective main strategies. The sequence of the strategies is:

DI : IndI : LVS : PI

14.2.1.1 Altaic vs. Uralic

The Altaic family (5:13:11:0) clearly prefers Indirect Insertion and Light Verb Strategy over Direct Insertion, although some of its languages also use the latter. See the lists in sec. A.1.2 for the individual languages from this family and sec. A.2.2 for the patterns and strategies used by them.

Especially the Turkic (2:7:10:0) and Mongolic (1:4:1:0) branches show a significant affinity to the Light Verb Strategy and to Indirect Insertion by means of a verbalizer. It is tempting to explain such preferences with typological properties of these languages — particularly their verbal morphology. Alas, the neighboring Uralic languages (13:3:0:0) behave quite differently, as can be seen from tab. 24.

Though being the family typologically most similar to the Altaic family – so similar indeed that some linguists consider the two as sister families within one macro family *Ural-Altaic* –, the majority of the Uralic languages applies Direct Insertion, much fewer use Indirect Insertion, and *none* of them makes use of the Light Verb Strategy at all.

This finding should serve as a caveat that distributions within one family need not match those of typologically – and perhaps genealogically – related

Taxon	DI	IndI	LVS	PI	oth.	MX	Sem.	unid.
Altaic (total)	5	13	11				1	1
Mongolic	1	4	1					
Tungusic	2	2					1	
Turkic	2	7	10					1
Uralic (Total)	13	3						
Finnic	9	2						
Samoyedic	2							
Ugric	2	1						

Table 24. Strategy distribution: Altaic and Uralic languages

families. Inferences made from the distributions among the Altaic languages, for example, would not at all be applicable to Uralic.

14.2.1.2 Strong preference of Direct Insertion

If one wants to make predictions about strategy choice based on genealogical affiliation, the Austronesian languages (38:4:2:0) are probably the prime example for families where this seems possible: They overwhelmingly employ Direct Insertion. This significant preference is particularly strong with the Oceanic (18:1:2:0) and the Sundic (7:1:0:0) languages, cf. tab. 25.

It must be noted, however, that generally such predictions are less wellfounded. Furthermore, the picture might as well be different if there were more Formosan languages in the LVDB sample, since there is a bias toward the Malayo-Polynesian languages which generally are of a more isolating nature that favors Direct Insertion.

With the Creole and Pidgin languages (6:0:0:0), although they are not a coherent family of historically related languages, the picture is similarly conspicuous. All six Creole languages represented in the LVDB exclusively apply the Direct Insertion strategy. This could be interpreted as being a typological property of Pidgin and Creole languages to the extent that (later) borrowings from their former lexifier language(s) are perceived "less foreign" and therefore less integrational effort is required. However, this would not explain

Taxon	DI	IndI	LVS	PI	oth.	MX	Sem.	unid.
Austronesian (total)	38	4	2					
Borneo	1							
Bunun		1						
Central MP	4							
Chamorro	1							
Meso-Philippine	2							
Oceanic	18	1	2					
Palauan	1							
SH-WNG	1	1						
Sulawesi	2							
Sundic	7	1						
Yapese	1							

Table 25. Strategy distribution: Austronesian languages

the same preference for borrowings from languages other than the (original) lexifier(s). Furthermore, one should not conclude that this preference of the least complex accommodation strategy is indicative of "simple" grammars which Pidgin and Creole languages allegedly have.

A conclusion to the contrary, namely that languages with a more complex morphology would show a tendency toward more complex accommodation strategies, would definitely be falsified by data from genera such as e.g. Bantoid (10:1:3:0) of the Niger-Congo family (16:1:3:0) or Otomian (3:0:0:0) of the Oto-Manguean family (3:1:1:0) which both have a strong or almost exclusive preference for the Direct Insertion strategy, too, while being far from what one might call "simple" in their verbal morphology.

14.2.2 Noteworthy distributions

14.2.2.1 Dispreference of Direct Insertion

In general, Direct Insertion is the most commonly used strategy across the LVDB sample. Some language families of New Guinea stand out from this by the fact that they do not apply Direct Insertion at all. This strategy is generally not very frequent in the macro area *Australia-New Guinea* (*AN* (12:11:20:0); cf. sec. 13.3.2), but some families, namely the Eastern Bird's Head languages (0:2:1:0) and the Trans-New Guinea languages (0:1:3:0), are remarkable for their complete lack of it.

Other families of the region where I did not find evidence for Direct Insertion are represented in the LVDB with one language only and will therefore not be counted here. These are: Border, Solomons-East Papuan, Torricelli.

In a similar vein, the West Papuan languages (1:3:1:0), too, show a clear preference of Indirect Insertion. The Sepik languages (1:0:2:0), on the other hand, use Direct Insertion and Light Verb Strategy, but no Indirect Insertion at all.

The Pama-Nyungan languages (2:4:4:0) virtually display the opposite to the global preferences: They use Direct Insertion only half as frequently as the Indirect Insertion or Light Verb Strategy each, and thus account for almost all instances of Indirect Insertion in the Australian (8:5:10:0) language family which is discussed in sec. 14.5.

Since all families and genera mentioned here are geographically restricted to (portions of) the macro area AN, it does not make sense to consider this

a phenomenon constitutive of the area. There are no members of these families *outside* Australia and New Guinea which could or could not show the same preference. On the other hand, not all languages and families inside the area show the same strategy distribution. I therefore consider this a bundle of genealogical phenomena rather than an areal one.

14.2.2.2 Family-internal differentiation

Although its overall figures are generally close to the overall distributions, the Indo-European family (35:32:18:2) is a prime example of internal differentiation, since its genera are showing rather different preferences. Germanic (5:13:11:0) and Romance (8:2:2:0) (cf. sec. 14.3) show all three major strategies (DI, IndI, LVS) with a very clear preference for Indirect Insertion and Direct Insertion respectively. Slavic (6:6:0:0), on the other hand stands out as one of the few genera where the Light Verb Strategy is not found at all and where Direct Insertion and Indirect Insertion are on a par.

The Indic (4:6:6:2) genus of Indo-European and the Semitic (10:2:4:1) genus (cf. sec. 14.4) of Afro-Asiatic (13:5:4:1) are the only genera where all four main strategies are found. Note, however, that Paradigm Insertion only co-occurs with Indirect Insertion in Ajia Varvara Romani [rmn], and that no single language of the LVDB uses all four major strategies.

The Avar-Andic-Tsezic (6:6:6:0) genus of Nakh-Daghestanian (6:6:9:0) appears to be the one with the most balanced distribution — or the one with the generally most flexible languages which all employ all three major strategies. The remaining Nakh (0:0:2:0) and Lezgic (0:0:1:0) languages of Nakh-Daghestanian, however, appear to be rather unanimously using the Light Verb Strategy only.

For the other families, the LVDB unfortunately does not have sufficient data to allow for sound distributional analyses.

In the following sections I will therefore elaborate in more detail on strategy and pattern distributions within two genera, Romance and Semitic, and one (suggested) family, Australian, always looking at the members of these families as donors and as recipients.

14.3 Romance languages

The Romance genus of Indo-European was chosen to serve as an example because several Romance languages played an important role during the era of conquest and colonialization. Especially Spanish, Portuguese, French, Latin and – to a lesser extent – Italian have been in intensive contact with hundreds of languages worldwide, all of which borrowed from them in varying degrees. A concise overview over the types, phenomena and degrees of Romance influences worldwide is given in Stolz, Th. (2008).

With the many well-documented cases of Romance influence on the languages of the world, we get data from a great number of typologically diverse recipient languages borrowing from either the same or very similar donor languages. If the structure of the donor languages were a crucial factor in accommodation pattern choice, this should be visible from according pattern distributions in this sub-sample.

On the other hand, all of the Romance languages have always been in contact with other members of their genus as well as with other European languages, mainly from the Germanic, Celtic and Slavic genera, but also Albanian, Greek, Hungarian and Basque.

Thus, Romance languages also assumed the role of recipient languages on a large, well documented, scale. If grammatical similarity caused by inheritance from a common ancestor language was a strong factor influencing accommodation pattern choice, it should likely show in this large sub-sample and in its strategy distributions in contrast with those of the entire sample.

14.3.1 Romance recipient languages

There are are 30 different examples from 25 language pairs involving a Romance recipient language in the LVDB. The difference between these two figures already indicates that a few of these recipient languages use more than one strategy, as can be seen in tab. 26 on the next page. The abbreviations used for the pattern types are explained in sec. A.2.2 on page 328.

The distribution of strategies across Romance recipient languages deviates from the global distribution inasmuch as in the overwhelming majority of the Romance cases (23 out of 30 instantiations or 76.6%) the Direct Insertion strategy is used. This should be compared to the global sample, where this strategy is found for about 52% of the examples. Indirect Insertion and the

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Recipient < Donor	Pattern Type - Strategy
Catalan < English	S11 - Direct Insertion
Catalan < English	S21 - Aff. with a verbalizer
Catalan < English	S31 - Light verb 'do', 'make'
Catalan < English	S62 - Semantic extension
French < Dutch	S11 - Direct Insertion
French < English	S11 - Direct Insertion
French < Greek (Modern)	S11 - Direct Insertion
French < Italian	S11 - Direct Insertion
French < Provençal	S11 - Direct Insertion
Italian < English	S11 - Direct Insertion
Italian < Greek (Modern)	S11 - Direct Insertion
Old French < Old High German	S11 - Direct Insertion
Portuguese (USA) < English (USA)	S31 - Light verb 'do', 'make'
Portuguese (USA) < English (USA)	S61 - Loan translation
Portuguese < French	S11 - Direct Insertion
Provençal < Greek (Modern)	S11 - Direct Insertion
Romanian < Albanian	S11 - Direct Insertion
Romanian < Bulgarian	S11 - Direct Insertion
Romanian < English	S11 - Direct Insertion
Romanian < French	S11 - Direct Insertion
Romanian < German	S61 - Loan translation
Romanian < Greek (Modern)	S11 - Direct Insertion
Romanian < Hungarian	S11 - Direct Insertion
Romanian < Italian	S11 - Direct Insertion
Romanian < Serbian	S11 - Direct Insertion
Romanian < Turkish	S11 - Direct Insertion
Spanish (local) < Guaraní	S11 - Direct Insertion
Spanish < English	S11 - Direct Insertion
Spanish < English	S23 - Aff. with a LVM
Spanish < Greek (Modern)	S11 - Direct Insertion

Table 26. Language pairs with Romance recipient languages

Light Verb Strategy are much less frequent. They are each found twice (6.6% each), which is less than the global distribution of roughly 20% and 23%. No cases of Paradigm Insertion are found. The three remaining cases (i.e. 10%) are instantiations of semantic borrowing that occurs parallel to lexical borrowing.

14.3.2 Romance donor languages

Looking at the other direction, there are 111 instantiations of different accommodation patterns in 103 language pairs involving one of nine Romance donor languages, listed in tab. 27.

Donor > Recipient	Pattern Type - Strategy
French > Amharic	S11 - Direct Insertion
French > Arabic (Algerian Spoken)	S15 - Reduction to root
French > Arabic (Judeo-Moroccan)	S15 - Reduction to root
French > Arabic (Lebanese)	S31 - Light verb 'do', 'make'
French > Arabic (Moroccan)	S15 - Reduction to root
French > Berber (Figuig)	S11 - Direct Insertion
French > Bislama	S11 - Direct Insertion
French > Danish	S23 - Aff. with a LVM
French > Dutch	S23 - Aff. with a LVM
French > Garífuna	S11 - Direct Insertion
French > German	S23 - Aff. with a LVM
French > Greek (Modern)	S11 - Direct Insertion
French > Greek (Modern)	S21 - Aff. with a verbalizer
French > Korean	S31 - Light verb 'do', 'make'
French > Lama	S11 - Direct Insertion
French > Lingala	S32 - Light verb 'be', 'become'
French > Mandarin	S11 - Direct Insertion
French > Michif	S11 - Direct Insertion
French > Montagnais	S31 - Light verb 'do', 'make'
French > Portuguese	S11 - Direct Insertion
French > Romanian	S11 - Direct Insertion
French > Seychelles Creole	S11 - Direct Insertion
French > Tamil	S31 - Light verb 'do', 'make'
French > Turkish	S31 - Light verb 'do', 'make'
French > Wolof	S11 - Direct Insertion
Italian > Amharic	S11 - Direct Insertion
Italian > Arabic (Eastern Libyan)	S51 - Suppletion
Italian > Arabic (North Levantine)	S11 - Direct Insertion
Italian > French	S11 - Direct Insertion
Italian > Greek (Modern)	S21 - Aff. with a verbalizer
Italian > Maltese	S11 - Direct Insertion
Italian > Maltese	S23 - Aff. with a LVM

Table 27. Language pairs with Romance donor languages

Donor > Recipient	Pattern Type - Strategy
Italian > Romanian	S11 Direct Insertion
Italian $>$ Turkish	S11 - Light verb 'do' 'make'
Latin > Albanian	S11 - Direct Insertion
Latin $>$ Basque	S11 - Direct Insertion
Latin > Greek (Modern)	S11 - Direct Insertion
Latin > Hungarian	S21 - Aff. with a verbalizer
Latin $>$ Old English	S11 - Direct Insertion
Latin > Welsh	S11 - Direct Insertion
Middle French > Middle English	S11 - Direct Insertion
Portuguese (Brazilian) > Hup	S11 - Direct Insertion
Portuguese (Brazilian) > Kwazá	S11 - Direct Insertion
Portuguese (Brazilian) > Sabanê	S11 - Direct Insertion
Portuguese (Brazilian) > Tariana	S11 - Direct Insertion
Portuguese > Greenlandic (West)	S11 - Direct Insertion
Portuguese > Konkani	S31 - Light verb 'do', 'make'
Portuguese > Malay (Ambonese)	S11 - Direct Insertion
Portuguese > Saramaccan	S11 - Direct Insertion
Portuguese > Tetun	S11 - Direct Insertion
Provençal > French	S11 - Direct Insertion
Romanian > Romani (Balkan/Bugurdzi)	S23 - Aff. with a LVM
Romanian > Romani (Vlax/Ajia Varvara)	S23 - Aff. with a LVM
Spanish > Arabic (Judeo-Moroccan)	S15 - Reduction to root
Spanish > Arabic (Moroccan)	S15 - Reduction to root
Spanish > Awa Pit	S31 - Light verb 'do', 'make'
Spanish > Aymara	S11 - Direct Insertion
Spanish > Basque	S11 - Direct Insertion
Spanish > Basque	S31 - Light verb 'do', 'make'
Spanish > Bikol	S11 - Direct Insertion
Spanish > Cakchiquel	S31 - Light verb 'do', 'make'
Spanish > Camsá	S11 - Direct Insertion
Spanish > Capanahua	S23 - Aff. with a LVM
Spanish > Carib	S21 - Aff. with a verbalizer
Spanish > Cavineña	S32 - Light verb 'be', 'become'
Spanish > Chácobo	S11 - Direct Insertion
Spanish > Chamorro	S11 - Direct Insertion
Spanish > Cocama	S23 - Aff. with a LVM
Spanish > Cocopa	S11 - Direct Insertion
Spanish > Diegueño (Mesa Grande)	S11 - Direct Insertion
Spanish > Garífuna	S11 - Direct Insertion
Spanish > Guaraní (Paraguayan)	S11 - Direct Insertion

Donor > Recipient	Pattern Type - Strategy
Spanish > Guaraní (Paraguayan)	S22 - Aff. with a FACT/CAUS
Spanish > Guaraní (Paraguayan)	S61 - Loan translation
Spanish > Keresan (Santa Ana)	SX - Other/unidentified
Spanish > Kiliwa	SX - Other/unidentified
Spanish > Leco	S11 - Direct Insertion
Spanish > Leco	S61 - Loan translation
Spanish > Mapudungun	S11 - Direct Insertion
Spanish > Mojave	S11 - Direct Insertion
Spanish > Mono (in United States)	S31 - Light verb 'do', 'make'
Spanish > Mosetén	S11 - Direct Insertion
Spanish > Nahuatl (Central)	S11 - Direct Insertion
Spanish > Nahuatl (Central)	S32 - Light verb 'be', 'become'
Spanish > Nahuatl (Sierra de Zacapoaxtla)	S11 - Direct Insertion
Spanish > Otomí (Mezquital)	S12 - DI of inflected form
Spanish > Otomí (Santiago Mexquititlan)	S11 - Direct Insertion
Spanish > Paipai	S11 - Direct Insertion
Spanish > Pech	S31 - Light verb 'do', 'make'
Spanish > Pipil	S31 - Light verb 'do', 'make'
Spanish > Popoloca (Metzontla)	S22 - Aff. with a FACT/CAUS
Spanish > Popoloca (Texistepec)	S31 - Light verb 'do', 'make'
Spanish > Purépecha	S11 - Direct Insertion
Spanish > Quechua (Bolivian)	S11 - Direct Insertion
Spanish > Quechua (Imbabura)	S11 - Direct Insertion
Spanish > Quechua (San Martín)	S12 - DI of inflected form
Spanish > Quechua (unid.)	S11 - Direct Insertion
Spanish > Rama	S31 - Light verb 'do', 'make'
Spanish > Rapanui	S11 - Direct Insertion
Spanish > Sayultec	S11 - Direct Insertion
Spanish > Shipibo-Konibo	S23 - Aff. with a LVM
Spanish > Tagalog	S12 - DI of inflected form
Spanish > Tapieté	S22 - Aff. with a FACT/CAUS
Spanish > Tlapanec	S31 - Light verb 'do', 'make'
Spanish > Tsafiki	S32 - Light verb 'be', 'become'
Spanish > Tzotzil (Zinacantán)	SN - No borrowing (of verbs)
Spanish > Wariapano	S23 - Aff. with a LVM
Spanish > Yahgan	SN - No borrowing (of verbs)
Spanish > Yaqui	S11 - Direct Insertion
Spanish > Yaqui	S23 - Aff. with a LVM
Spanish > Yuracare	S11 - Direct Insertion

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Languages borrowing from Romance show a more representative distribution of strategies than the Romance recipient languages. Nevertheless, Direct Insertion accounts for the bulk of cases (66 out of 111, or 59.5%), but Indirect Insertion (16.2%) and Light Verb Strategy (18.0%) are much closer to the values from the global sample. Almost all Romance donor languages of the sample have recipient languages which do not all apply the same accommodation strategy. From this fact one can conclude that the typological makeup of donor languages like Spanish, French, or Italian does *not generally* determine the recipient languages' choice of accommodation pattern. As shown in sec. 18, this is generally true also for the overall sample.

The remaining cases are: two languages (Zinacantán Tzotzil and Yahgan) that did borrow words (from Spanish), but evidently no verbs (MX), two cases of semantic borrowing only (MS), and three examples which are borderline cases of verbal borrowings and not included in the cleared sample (cf. sec. 2.4.3). The first of these three is a frozen imperative or cohortative form used as such in the recipient language (cf. sec. 10.2), the latter two are forms with an undetermined degree of verbhood as illustrated in ex. (96) on page 126, cf. sec. 10.3.

14.3.3 A characteristic input type

One interesting fact about verb borrowings from Romance donor languages has already been mentioned in sec. 5.3.3. Many American languages borrowing from French, Portuguese and, above all, Spanish share a particular type of input form which is found with all three major accommodation strategies.

In these recipient languages, input forms are often infinitive forms minus the /r/, as illustrated in ex. (26) on page 81 and (100):

(100)	Awa Pit [kwi] < Spanish [spa]	(Curnow 1997: 156)
	trabaja ki-	
	work do	
	'to work (for money)'	
	< [spa] <i>trabajar</i> 'to work'	

Among the 111 examples listed in tab. 27, 33 (or 29.7%) use input forms of this "reduced infinitive" type. These 33 examples are from the 32 language pairs listed in tab. 28 on the facing page.

Awa Pit < Spanish	(Curnow 1997: 156)
Aymara < Spanish	(Hardman, Vásquez, and Yapita 1988: 55)
Camsá < Spanish	(Adelaar and Muysken 2004: 152)
Capanahua < Spanish	(Valenzuela 2005: 3 ex. 126)
Cavineña < Spanish	(Guillaume 2004: 150 ex. 5.38)
Garífuna < French	(Taylor 1977: 77)
Garífuna < Spanish	(Taylor 1977: 77)
Guaraní < Spanish	(Gregores and Suárez 1967: 133)
Hup < Portuguese (Brazilian)	(Epps 2005a: 5 ex. 9)
Keresan (Santa Ana) < Spanish	(Spencer 1947: 144)
Kwazá < Portuguese (Brazilian)	(van der Voort 2004: 76)
Leco < Spanish	(van de Kerke 2006: 178 ex. 9)
Mapudungun < Spanish	(Fernández-Garay 2005: 55 ex. 11)
Michif < French	(Bakker 2005: 14 ex. 16)
Mono (in United States) < Spanish	(Kroskrity and Reinhardt 1998: 232)
Otomí (Sant. Mexq.) < Spanish	(Gómez Rendón p.c.: 1a)
Pech < Spanish	(Wichmann 2004c: 12 ex. 36)
Popoloca (Metzontla) < Spanish	(Veerman-Leichsenring 2006)
Quechua (Bolivian) < Spanish	(Wichmann 2004a: 7 ex. 63)
Quechua (Imbabura) < Spanish	(Gómez Rendón (forthc. b): 14 ex. 11)
Quechua (unidetified) < Spanish	(Lockhart 1998: 43)
Rama < Spanish	(Grinevald n.d.: 82 (Ch5, 23) ex. 65a)
Sabanê < Portuguese (Brazilian)	(Antunes 2004: 248)
Saramaccan < Portuguese	(Good 2006a: 2 ex. 8)
Sayultec < Spanish	(Clark 1983: 27)
Shipibo-Konibo < Spanish	(Valenzuela 2005: 125)
Tapieté < Spanish	(Gonzáles 2005a: 176 ex. 11)
Tlapanec < Spanish	(Wichmann 2004a: 26a)
Tsafiki < Spanish	(Dickinson 2002: 199 ex. 84)
Wariapano < Spanish	(Parker 1992: 23)
Yaqui < Spanish	(Estrada Fernández 2006: 10 ex. 35a)
Yuracare < Spanish	(van Gijn 2006: 299 ex. 59)

Table 28. Language pairs using the "reduced" Romance infinitive

The "reduced" infinitive actually resembles one of the verb's basic and most frequent forms, namely 3SG. But, as discussed in sec. 5.3.3, this cannot be proved to be the model form for all borrowed verbs of this type.

The phonological shapes of several loan verb stems reveal that they were modeled on the basis of the infinitive (minus the /r/) rather than the 3SG

form. In some cases stress placement indicates that indeed the "reduced infinitive" must be the model form, cf. the Guaraní verb in ex. (26) on page 81.

In other cases vowel quality rules out the 3SG form as the model, e.g. with the Otomí verb in ex. (28) on page 82 or ex. (101). The borrowed stem of (101) in Quechua [xqu] can only be modeled on the Spanish model verb's infinitive *perder*, but not the corresponding 3SG form *pierde* whose diphthong /ie/would not undergo the merger of /e/ and /i/ in the recipient language (cf. Lockhart 1998: 43).

(101) Quechua (unidentified) [xqu] < Spanish [spa]

(Lockhart 1998: 43 fn. 4)

pirdilose-'to lose' < [spa] perder 'to lose, miss'</pre>

Many of the languages listed in tab. 28 show considerable variation of input forms and the "reduced" infinitive is neither a mandatory nor an exclusive input form for them.

At any rate, this particular input form type is an instantiation of phonological rather than morphological accommodation, and thus not a particular loan verb accommodation technique by itself. Accordingly, the loan verbs made out of these input forms are found to be accommodated by different strategies in different languages, and there is no noticeable correlation of this input type with any particular strategy.

14.3.4 Romance-to-Romance borrowings

Romance-to-Romance borrowings are represented in the database by five examples only (French > Romanian, French > Portuguese, Italian > French, Italian > Romanian, and Provençal > French). In all of these pairs, the Direct Insertion strategy is applied.

On the background of the accommodations of non-Romance loan verbs into Romance as they were discussed above, it seems safe to assume that Romance recipient languages will generally choose the Direct Insertion strategy in the overwhelming majority of intra-Romance borrowings as well.

All in all, this is a picture of homogeneity as one would expect it for such a group of closely related languages sharing most of their typological features.

14.3.5 Summary: Romance languages

Compared with the global sample, Direct Insertion is substantially more frequent in Romance recipient languages, while the other strategies are much less frequent than in the global average. Apparently, there is some significance to this finding. While one perhaps cannot make strong predictions, though, there is a high likelihood of a Romance language applying Direct Insertion rather than one of the other strategies.

Among the languages borrowing *from* Romance, Direct Insertion is only slightly higher than average, and also the values for Indirect Insertion and Light Verb Strategy are close to the global distribution. The deviations are not significant, and there is no apparent evidence which might suggest that borrowing from Romance as opposed to other languages has any noticeable effect on the choice of accommodation strategies.

14.4 Semitic languages

For the second genealogical group to be described in closer detail, I chose the Semitic genus of Afro-Asiatic. These languages, especially those of the South Central Semitic branch, have a typologically unusual verbal inflectional morphology sometimes called *templatic morphology*, which is illustrated in sec. 14.4.2.1.

Taking up the notion of typological compatibility of donor and recipient language (cf. sec. 1.3.1 to 1.3.3), one could assume that the "exotic" verbal morphology of Semitic makes accommodating loan verbs from non-related, typologically different, languages a much more difficult endeavor than it would be in other languages. It is therefore worthwhile to take a closer look at the techniques these languages employ when borrowing verbs and how other languages treat verbs with templatic morphology when borrowing from Semitic languages.

But the choice of this group of languages is also motivated by considerations from a sociolinguistic viewpoint. The Semitic languages offer an interesting variety of contact situations, ranging from languages with rather limited local significance over official national languages to globally influential languages of major religions' holy scriptures.

Recipient < Donor	Pattern Type - Strategy
Amharic < English	S11 - Direct Insertion
Amharic < English	S31 - Light verb 'do', 'make'
Amharic < French	S11 - Direct Insertion
Amharic < Italian	S11 - Direct Insertion
Arabic (Algerian Spoken) < French	S15 - Reduction to root
Arabic (Anatolian) < Kurdish (Central)	S31 - Light verb 'do', 'make'
Arabic (Anatolian) < Turkish	S31 - Light verb 'do', 'make'
Arabic (Bukhara) < Uzbek	S15 - Reduction to root
Arabic (Eastern Libyan) < Italian	S51 - Suppletion
Arabic (Egyptian) < Greek (Modern)	S15 - Reduction to root
Arabic (Iraqi) < Greek (Modern)	S15 - Reduction to root
Arabic (Iraqi) < Turkish	S15 - Reduction to root
Arabic (Judeo-Moroccan) < French	S15 - Reduction to root
Arabic (Judeo-Moroccan) < Spanish	S15 - Reduction to root
Arabic (Lebanese) < French	S31 - Light verb 'do', 'make'
Arabic (Moroccan) < English	S15 - Reduction to root
Arabic (Moroccan) < French	S15 - Reduction to root
Arabic (Moroccan) < Greek (Modern)	S15 - Reduction to root
Arabic (Moroccan) < Spanish	S15 - Reduction to root
Arabic (North Levantine) < Italian	S11 - Direct Insertion
Hebrew (Modern) < English	S15 - Reduction to root
Hebrew (Modern) < German	S15 - Reduction to root
Hebrew (Modern) < unid. Indo-European	S15 - Reduction to root
Hebrew (Modern) < Yiddish	S15 - Reduction to root
Kormatiki < Greek (Cypriot)	S41 - Borr. of verb + inflection
Maltese < English	S23 - Aff. with a LVM
Maltese < Italian	S11 - Direct Insertion
Maltese < Italian	S15 - Reduction to root
Silt'e < Arabic (Spoken/Other)	S11 - Direct Insertion
Silt'e < Arabic (Spoken/Other)	S31 - Light verb 'do', 'make'

Table 29. Language pairs with Semitic recipient languages

14.4.1 Semitic recipient languages

With the Semitic recipient languages, distributions of accommodation strategies appear rather similar to what I described for the Romance recipient languages: The distribution of accommodation strategies is almost equally homogeneous. This can be seen from tab. 29. There are 30 instances of different strategies used by the 27 pairs involving 16 different Semitic recipient languages. Of these, 21 (70.0%) are from the Direct Insertion type, 2 (6.6%) from the Indirect Insertion type, and 5 (16.7%) from the Light Verb Strategy. In addition, there is one case of Paradigm Insertion, and one "other" of suppletion (see sec. 10.2).

Following the WALS classification, I treat the varieties of Arabic as individual languages. Yet, even if one lumped all varieties of Arabic together, the picture would still be clear: Direct Insertion is the most widespread strategy, and it is chiefly represented by the pattern type of *Reduction to root* (S15). This special variety of Direct Insertion is trademark for the Semitic languages and (at least with respect to the LVDB sample) not attested outside this genus. As mentioned in sec. 6.4.2, the assignment of this pattern type to the Direct Insertion strategy might need some justification by explaining its functionality. The following section serves exactly this purpose.

14.4.2 Templatic morphology and loan verb accommodation

In assessing the strategies for accommodating loan verbs into Semitic languages such as Arabic or Hebrew with their so-called templatic morphology, one has to decide how to classify the accommodation technique(s) involved. To take this decision, one first has to understand the nature of templatic morphology, which I will briefly outline using Standard Arabic [arb] verb inflection as an example.

14.4.2.1 Excursus: Templatic Morphology

In order to be inflected, verbal roots in many Semitic languages have to fulfill certain prosodic requirements regarding the number of their syllables and the number of consonants being the framework or 'template' of these syllables. Inflection and derivation, then, assign different alignments, called 'patterns', to these verbal roots e.g. by determining the position and number of vowels entering the consonant framework or adding affixes to the template.

Table 30 on the following page illustrates how the inflection works with selected forms of the Arabic verb root *b-l-ģ* 'reach' (citation form: *balaġa* 3SG.M.PRF.ACT), using affixes for person and number and template vowels entering the consonant frame for tense, aspect, and voice.

	IPF.ACT	IPF.PASS	PRF.ACT	IMP
stem	-a-bluġ	-u-blaġ-	balaġ-	_
1SG	'a-bluġ-u	'u-blaġ-u	balaġ-tu	_
2SG.M	ta-bluġ-u	tu-blaġ-u	balaġ-ta	u-bluģ
2SG.F	ta-bluġ-īna	tu-blaġ-īna	balaġ-ti	u-bluġ-ī
3SG.M	ya-bluġ-u	yu-blaġ-u	balaġ-a	_
3SG.F	ta-bluġ-u	tu-blaġ-u	balaġ-at	_
2DU	ta-bluġ-ā-ni	tu-blaġ-ā-ni	balaģ-tum-ā	u-bluġ-ā
3DU.M	ya-bluġ-ā-ni	yu-blaġ-ā-ni	balaģ-ā	_
3DU.F	ta-bluġ-ā-ni	tu-blaġ-ā-ni	balaģ-at-ā	_
1PL	na-bluġ-u	nu-blaġ-u	balaģ-nā	_
2PL.M	ta-bluġ-ū-na	tu-blaġ-ū-na	balaġ-tum	u-bluġ-ū
2PL.F	ta-bluġ-na	tu-blaġ-na	balaġ-tunna	u-bluģ-na
3PL.M	ya-bluģ-ū-na	yu-blaģ-ū-na	balaġ-ū	
3PL.F	ya-bluġ-na	yu-blaġ-na	balaġ-na	_

Table 30. Example for Arabic templatic morphology

(after Badawi, Carter, and Gully 2004: 65; Orin Gensler, p.c.)

14.4.2.2 Loan verb accommodation into templates

For languages with such a type of morphology, there is an important requirement that borrowed verbs must meet. If they are to be properly inflected like native verbs, they must assume a template form of three to five consonants (depending on restrictions in the recipient language) which can then be combined with inflectional patterns. This means that all vowels and "excess" consonants must be erased from the input verb to form a nativized root template and – out of which – an inflectable (verb) stem. This is illustrated in (102) from Egyptian Arabic (the same loan verb exists in many other varieties of Arabic as well, cf. Kahane, Kahane, and Tietze 1958: 514–517), where the input *kalafat(izo)* is reduced to a quadriconsonantal root *q-l-f-t*.

(102) Arabic (Egyptian) [arz] < Greek (Mod.) [ell] (Kahane, Kahane, and Tietze 1958: 514) qalfat caulk.3SG.M.PFV 'he caulked/to caulk' < [ell] kalafatízo 'I caulk/to caulk'</p> On the one hand, one could argue that deletion of model form's vowels and reassignment of pattern vowels is a morphological (noun-to-verb or abstract root-to-verb) derivation which is applied after the lexeme has been borrowed. Then, this accommodation strategy would definitely be counted as Indirect Insertion.

On the other hand, one could consider dropping or exchanging vowels from the model verb in order to fit it into such a template as a merely phonological but not morphological adaptation which is similar to breaking up consonant clusters in languages which do not allow for such (e.g. Japanese or Hawaiian, cf. ex. (17) on page 74). In this case all loan verbs would be either directly inserted or derived in the recipient language from a borrowed noun.

At any rate, this distinction cannot be a wholesale decision for any given language (or language pair), since various factors of the particular borrowings in question need to be considered. If, for example, the borrowed verb has no corresponding borrowed noun in the recipient language, or if that loan noun has obviously been derived from the borrowed verb (and not vice versa), one cannot claim that the loan verb itself has been derived from the borrowed noun within the recipient language. One example for this – admittedly rare – scenario is (103) from Modern Hebrew:

(103) Hebrew (Modern) [heb] < German [deu]

(Ussishkin and Graf 2002: 6)

diklém recite:3SG.M.PST 'he recites' < [deu] *deklamieren* 'to recite'

Hebrew has a range of different verbal templates available. Loan verbs of different phonological shapes, e.g. with consonant clusters and/or with up to five "frame" consonants as e.g. / \int -p-r-t-s/ in (104), can be entered into the best fitting template (cf. Zuckermann 2003: 67–69) and can then be inflected and derived accordingly.

(104) Hebrew (Modern) [heb] < Yiddish [ydd] (Zuckermann 2003: 68) hishpríts squirt.3SG.M 'to squirt / he squirted' < [ydd] shpritsn 'to squirt'</p> Arabic, on the other hand, is more rigid in this respect and the borrowed verbs must normally be transformed to a root of three (occasionally four, rarely two or five) consonants (cf. Badawi, Carter, and Gully 2004: 28, 740–741). These roots can be combined with different inflectional and derivational templates to produce verbs, nouns, adjectives and their inflected forms. Many of these roots and their basic citation forms already have "verby" semantics. Further (formal) verbalizing derivation is thus not necessary.

For the reasons given in this subsection and in sec. 6.4.2, this accommodation technique is subsumed under *Direct Insertion*. The following subsection illustrates Direct Insertion into templatic morphology with further examples from Maltese.

14.4.2.3 Maltese

Maltese [mlt], with its history of intensive contact with different languages of the Indo-European family, is a special case. Since most of the donor languages Maltese borrowed from do not share its templatic verb morphology, Maltese is an ideal showcase for the mechanisms at work when languages with such a morphology borrow extensively from languages without it. The accommodation of loanwords into Maltese has thus been thoroughly documented and discussed by several authors, among them Tosco (1993), Mifsud (1995), Haase (2002), and Hoberman and Aronoff (2003).

Mifsud's (1995) work, which specifically focuses on loan verbs, is the most comprehensive study of these. The author gives a very detailed classification of the different techniques employed by Maltese to accommodate borrowed verbs. He basically categorizes them in two major groups which are then subcategorized further according to morphophonological criteria. The two major groups of this classification are distinguished by the accommodation technique they involve. The strategy and pattern type chosen depend on the age of the borrowed elements, i.e. the time when the verb was borrowed.

Older borrowings (mostly from Romance) were accommodated inasmuch as that they have been reshaped to triconsonantal or quadriconsonantal roots, losing their original vowels. Mifsud (1995: 47) uses the term "digest(ed)" to characterize this process. These "digested" stems are then inflected just like native Semitic stems. Examples (105) and (106) illustrate this with Sicilian *gaudiri*²⁵ 'to enjoy' and Italian *dirigere* 'to direct' which are "digested" to become the roots *gwd* and *ddrğ* in Maltese. These roots are then available for inflection with the same templatic morphology as comparable native roots:

(105)	Maltese [mlt] < Italian [ita] or Sicilian [scn]		
			(after Mifsud 1995: 118)
	'gawd-a, 'y-g enjoy:3SG.PRF.M, enj 'he enjoyed, he enjoys' < [scn] gaudiri 'to enjo	gawd-i joy:3sg.1PFV.M py' or < [ita] godd	ere 'to enjoy'
(106)	Maltese [mlt] < Italian dde'rīğ-a, yr direct:3SG.PRF.M, d: 'to direct' < [ita] dirigere 'to direct	[ita] i-dde'rīğ-i irect:3SG.IPFV ct'	(after Mifsud 1995: 118) .M

The suffix $\{-a\}$ itself is also borrowed from Sicilian and it can attach to borrowed Italian, Sicilian and English stems alike, but not to Semitic ones (cf. Gardani 2008: 39–40).

More recent loan verbs mostly come from English, while Romance influence is nevertheless still clearly visible (cf. Haase 2002: 102). Verbs borrowed in this recent phase directly enter the Maltese language as verbs in the shape of what Mifsud (1995: 118) calls "undigested stems", e.g. {*park-*} 'to park' in (107) or { $'dd\hat{u}bit$ -} 'to doubt' in (108):

(107)	Maltese [mlt] < English [eng] ppark-y-'ayt park-SX-1SG 'I parked' < [eng] park	(Mifsud 1995: 47)
(108)	Maltese [mlt] < Italian [ita] 'ddûbit-a doubt-3SG.M 'he doubted' < [ita] dubitare 'to doubt'	(Mifsud 1995: 47)

These stems usually display gemination of their initial consonants, but are not otherwise structurally adapted to the verb templates of Maltese and keep their original vowels even in forms where these should be replaced by those of an inflectional template.

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All these different techniques are nonetheless pattern types of Direct Insertion: for the older borrowings it is *Reduction to root* (cf. sec. 6.4.2), for the more recent ones it is *Direct Insertion of a borrowed verb* (cf. sec. 6.2).

This means that during the long contact history of Maltese the accommodation strategy did not change significantly: Only the integrational effort has been slightly reduced.

Since the strategy with the lowest effort has been used throughout the borrowing history, there is no way to assess whether the duration of contact had much of an impact on verb borrowability for Maltese. On the other hand, the consistent use of Direct Insertion could be taken as evidence for the conclusion that "grammatical incompatibility" never significantly impeded Maltese loan verb accommodation of borrowings from various Indo-European donor languages.

14.4.3 Semitic donor languages

With regard to languages borrowing from Semitic languages, the LVDB sample comprises 26 instantiations of different strategies used in 22 language pairs, involving 9 different donor languages.

The distribution of accommodation pattern types and strategies – as illustrated in tab. 31 on the facing page – significantly deviates in two positions from both the global sample and from the languages borrowing from Romance. Direct Insertion is used in 9 (i.e. 34.6%) of these examples, Indirect Insertion in 4 (i.e. 15.4%). In nearly half of the cases (12 of 26 ex., i.e. 46.2%), the recipient languages employ the Light Verb Strategy. Again, there is one case of Paradigm Insertion.

In summary, this means that Direct Insertion is used much less frequently among languages borrowing from the Semitic languages than in the global sample, and that in turn the Light Verb Strategy is more dominant in this group than in others.

This distribution is, however, probably not due to the structure of these donor languages but rather a reflex of the fact that a substantial number of recipient languages borrowing from Arabic languages are from two genera where the Light Verb Strategy is particularly frequent: the Turkic and the Indoiranian languages.

There are only two examples of Semitic-to-Semitic borrowing in the database — both from the same language pair: Arabic (Spoken/Other) > Silt'e.

Donor > Recipient	Pattern Type - Strategy
Amharic > Gawwada	S11 - Direct Insertion
Arabic (Abbéché Chad) > Hausa	S24 - Other Verbalization
Arabic (South Levantine Sp.) > Domari	S42 - PI + gramm. borrowing
Arabic (Iraqi) > Persian	S31 - Light verb 'do', 'make'
Arabic (Modern Std.) > Avar	S21 - Aff. with a verbalizer
Arabic (Modern Std.) > Brahui	S31 - Light verb 'do', 'make'
Arabic (Modern Std.) > Nara (in Ethiopia)	S31 - Light verb 'do', 'make'
Arabic (Moroccan) > Berber (Figuig)	S11 - Direct Insertion
Arabic (Spoken/Other) > Aynu	S21 - Aff. with a verbalizer
Arabic (Spoken/Other) > Fulani (Adamawa)	S11 - Direct Insertion
Arabic (Spoken/Other) > Jalonke	S11 - Direct Insertion
Arabic (Spoken/Other) > Kunama	S34 - Other light verb
Arabic (Spoken/Other) > Malagasy	S11 - Direct Insertion
Arabic (Spoken/Other) > Runga	S34 - Other light verb
Arabic (Spoken/Other) > Silt'e	S11 - Direct Insertion
Arabic (Spoken/Other) > Silt'e	S31 - Light verb 'do', 'make'
Arabic (Spoken/Other) > Swahili	S11 - Direct Insertion
Arabic (Spoken/Other) > Swahili	S31 - Light verb 'do', 'make'
Arabic (Spoken/Other) > Turkish	S31 - Light verb 'do', 'make'
Arabic (Spoken/Other) > Urdu	S11 - Direct Insertion
Arabic (Spoken/Other) > Urdu	S32 - Light verb 'be', 'become'
Arabic (Spoken/Other) > Uzbek	S31 - Light verb 'do', 'make'
Arabic (Syrian) > Kurmanji	S31 - Light verb 'do', 'make'
Arabic (Syrian) > Turkish (Anatolian)	S21 - Aff. with a verbalizer
Hebrew (Modern) > Yiddish	S11 - Direct Insertion
Hebrew (Modern) > Yiddish	S32 - Light verb 'be', 'become'

Table 31. Language pairs with Semitic donor languages

Since that is not sufficient for a sensible statistical analysis and since that language pair has already been covered by the overall statistics for Semitic donors or recipients, I will not discuss these cases separately.

14.4.4 Summary: Semitic languages

All in all it appears that borrowing verbs from or into Semitic languages is not significantly impeded by their templatic morphology or structural incompatibility in general. Contrary to what would be expected if templatic morphology would disallow or at least considerably impede loan verb integration, Direct insertion is applied in the overwhelming majority of borrowings into Semitic languages.

In the other direction, templatic verbs borrowed from Semitic languages are accommodated by a variety of strategies — mostly those used as a default by the respective recipient languages, so that an effect of templatic morphology is not discernible.

14.5 Australian languages

The third group of languages to be discussed here are the Australian languages. Actually, this is not one genus but many. This group consists of all languages in the LVDB sample that are from the higher taxonomic level of "language family".

As I outlined on page xxxii, I follow the genealogical classification of WALS here, although the assumption of *one* coherent family "Australian" is probably unfit and should either be abandoned (cf. Dixon 2002: xvi–xxi) or rather be changed to denominate the superordinate taxonomic level of "phylic family" as Evans (2007: 342) called it, given its extraordinary time depth of probably more than 50,000 years.

At any rate, a sample from only one genus of the Australian languages would have been much too small for a reasonable comparison. I nevertheless chose this group because it can serve as the link between the three analyses of areal, genealogical, and typological distribution.

Linguistically, Australia is a region that stands out because of its unique sociolinguistic and historic circumstances. There is, with the limitations mentioned above, only one putative language family native to the continent, and for several centuries, if not millennia, contacts with languages from other families and from outside the continent had been restricted to only a few exposed regions in the North (cf. Dixon 2002: 11).

Most Australian languages were nevertheless traditionally spoken in contexts of extensive multilingualism, so that borrowings are not at all uncommon. The direction of such borrowings, however, is often hard to determine.

From the typological viewpoint, the languages of Australia possess interesting structural peculiarities and display a great amount of linguistic diffusion (cf. Dixon 2002: 24–30), so that a closer look at loan verb accommodation in these languages seems worthwhile.

Recipient < Donor	Pattern Type - Strategy
Alyawarra < Kriol (Ngukurr)	S21 - Aff. with a verbalizer
Bardi < Kriol (Ngukurr)	S31 - Light verb 'do', 'make'
Gaagudju < Kriol (Ngukurr)	S31 - Light verb 'do', 'make'
Garig < Makassar	S11 - Direct Insertion
Gooniyandi < English (Australia)	S14 - Verbal classifier
Gooniyandi < Kriol (Ngukurr)	S14 - Verbal classifier
Gooniyandi < Western Desert (Ooldea)	S14 - Verbal classifier
Gurindji < Jaminjung	S35 - co(n)verb, serial verb
Iwaidja < Makassar	S11 - Direct Insertion
Jaminjung < Kriol (Ngukurr)	S34 - Other light verb
Kaytetye < Warlpiri	S11 - Direct Insertion
Kugu Nganhcara < English (Australia)	S23 - Aff. with a LVM
Ndjébbana < English (Australia)	S35 - co(n)verb, serial verb
Ngalakan < Kriol (Ngukurr)	S21 - Aff. with a verbalizer
Ngandi < Ritharngu	S14 - Verbal classifier
Ngarinyman $<$ Jaminjung	S35 - co(n)verb, serial verb
Ngarinyman < Kriol (Ngukurr)	S35 - co(n)verb, serial verb
Ngiyambaa < English (Australia)	S22 - Aff. with a FACT/CAUS
Nunggubuyu < Kriol (Ngukurr)	S14 - Verbal classifier
Nyigina < Kriol (Ngukurr)	S35 - co(n)verb, serial verb
Pitjantjatjara < English (Australia)	S21 - Aff. with a verbalizer
Tiwi < Kriol (Ngukurr)	S31 - Light verb 'do', 'make'
Waray (in Australia) < English (Australia)	S11 - Direct Insertion
Warlpiri < English (Australia)	S35 - co(n)verb, serial verb
Warlpiri < English (Australia)	S61 - Loan translation
Yolngu-Matha < English (Australia)	S35 - co(n)verb, serial verb
Yolngu-Matha < Makassar	S11 - Direct Insertion

Table 32. Language pairs with Australian recipient languages

14.5.1 Australian recipient languages

The LVDB has 27 examples from 26 language pairs, involving 22 different recipient languages of the Australian family. The two strategies used most are the Light Verb Strategy (11 cases, i.e. 40.7%) and the Direct Insertion strategy (11 cases, i.e. 37.0%). Indirect Insertion is reported in 5 cases (i.e. 18.5%), and semantic borrowing parallel to lexical borrowing in one case.

The map of the Australian languages (\rightarrow map 22 on page 378) shows no clear-cut regional differentiation. In the global context, however, Australia
and New Guinea (AN) is the only one of the six macro regions where Direct Insertion is *not* the most frequent strategy, see sec. 13.3.2. Together with the Indo-Iranian languages (and some of their neighbors), the languages of Australia (especially the so-called non-Pama-Nyungan languages) are focal points of the Light Verb Strategy. This comparatively lower frequency of Direct Insertion in favor of the Light Verb Strategy in the Australian languages is probably not an areal feature but rather a property shared by many of these languages on the grounds of their genealogical relatedness.

As it seems, many Australian languages share one typological property that is responsible for the prevalence of this strategy: Native verbal roots in these languages regularly enter light verb or coverb constructions to make well-formed predicates, as in ex. (109).

(109) Bardi [bcj] < Kriol [rop] (Bowern 2004: 29 ex. 3.4)
warrkam-joo
work-CVB
'to work'
< [rop] workem 'work.TR'</pre>

This is the productive pattern of borrowing for Bardi, and all borrowed verbs enter the open class of preverbs. The inflecting coverb used here is *-joo-* 'do/say', but others can occur, too. Note that the Kriol verb *workem* is borrowed unanalyzed with its transitivity marker $\{-em\}$.

Such a construction type makes it very easy to accommodate new (borrowed) lexical material, since no further formal adaptation is necessary. Yet, this is by no means the sole accommodation technique found in the Australian languages.

One of the relatively few examples of Indirect Insertion comes from Alyawarra which uses its regular verbalizers to accommodate loan verbs from Kriol or English, as in (110).

(110) Alyawarra [aly] < Kriol [rop] (Yallop 1977: 67)
work-ir-iyla ra
work-VBLZ-PRS.CONT he.NOM
'he works'
< [rop] work</pre>

A slightly different case are verb classifiers, as they occur e.g. in Nunggubuyu, cf. ex. (111). In Nunggubuyu, most borrowed verbs from Kriol are assigned to the *-dha-* inflectional class (cf. Heath 1984a: 417–418, 625) which also hosts some native verbal roots, e.g. *dirwu-dha* 'to jump into water' from the root *dirwu* with the same meaning (cf. Heath 1984a: 418).

(111) Nunggubuyu [nuy] < Kriol [rop] (Heath 1984a: 625)
wirin-dha
wear-VCM
'to wear'
< [rop] wirin/wearim 'to wear.TR'</pre>

As discussed in sec. 6.4.1, such affixation is obligatory morphology for all verbs in Nunggubuyu and other languages using verbal classification. These borrowings are thus instantiations of Direct Insertion, where borrowed roots are not treated any differently from native ones.

14.5.2 Australian donor languages

Borrowings *from* Australian languages into languages of other families are rare — or rarely documented. There are, of course, also borrowings from Aboriginal languages into English and from there to numerous other languages (e.g. *boomerang*, *kangaroo*), but to the best of my knowledge no verbs are among these loanwords.

All loan verb examples with Australian donor languages I found are internal to the Australian family. Therefore, this subsection eventually deals with Australian-to-Australian borrowings only, examples for these are ex. (43) and (44) on page 92 and (112):

(112) Ngarinyman [nbj] < Jaminjung [djd] (McConvell 2003: 3 ex. 3) bugu bag maniny=bawula just break get/handle:PST=3DU 'the two [got a branch for firewood and] just broke it off' < [djd] bag 'to break'</p>

Due to highly complex contact situations and multilingualism patterns among these languages, it is at times difficult to identify the directionality of borrowing, cf. Dixon (2002: 24–26) or McConvell (2005, 2006). Nevertheless, some examples were clear enough to be taken into consideration here, these are listed in tab. 33 on the following page.

Donor > Recipient	Pattern Type - Strategy
Jaminjung > Gurindji	S35 - co(n)verb, serial verb
Jaminjung > Ngarinyman	S35 - co(n)verb, serial verb
Ritharngu > Ngandi	S14 - Verbal classifier
Warlpiri > Kaytetye	S11 - Direct Insertion
Western Desert (Ooldea) > Gooniyandi	S14 - Verbal classifier

Table 33. Language pairs with Australian donor languages

I do not want to make too general claims based on these five examples, involving four different donors and five different recipient languages. Moreover, as mentioned above, all recorded borrowings *from* Australian languages are also *into* Australian languages, so the remarks on strategy distributions made in sec. 14.5.1 should in principle also apply here. Direct Insertion and Light Verb Strategy seem to prevail for the intra-Australian borrowings as well.

Our general understanding of verb borrowability and loan verb accommodation across languages would nevertheless benefit from further data on intra-Australian borrowings. *If* there actually are identifiable limits of verb borrowability and general principles of strategy choice in these languages, these limits might be a diagnostic for answering the question whether instances of verbs found in different languages could be the result of (familyinternal) borrowing or of common inheritance only. Moreover, such limits could then also allow for generalizations beyond the family in question.

14.6 Synopsis

To facilitate comparison, the distributions of strategies over the three families discussed in the previous subsections are summarized in tab. 34 on the next page which is supplemented by the global distributions from the cleared LVDB sample.

The figures given in the row labeled *Distinct examples* are the numbers of examples of the cleared sample (cf. sec. 2.4.3.1) that was screened for all doublets (i.e. additional examples from the same language pair, having a pattern, or patterns, of the same pattern type or strategy). The values in that row serve as the point of reference for the distributional calculations, and all percentages given in the columns add up to 100% with respect to them.

		Global	Rom	ance	Sen	nitic	Aust	ralian
		sample	don.	rec.	don.	rec.	don.	rec.
Language pairs		553	103	25	22	27	5	26
Donor lgs.		140	9	15	9	13	4	7
Recipient lgs.		352	94	9	20	16	5	22
Distinct examp	les	588	111	30	26	30	5	27
Direct Insertion		309	66	23	9	21	3	10
(DI)	%	52.5	59.5	76.6	34.6	70.0	60.0	37.0
Indirect Insertio	n	121	18	2	4	2	0	5
(IndI)	%	20.6	16.2	6.6	15.4	6.6	0	18.5
Light Verb Strat	egy	140	20	2	12	5	2	11
(LVS)	%	23.8	18.0	6.6	46.2	16.7	40.0	40.7
Paradigm Insert	ion	3	0	0	1	1	0	0
(PI)	%	0.5	0	0	3.8	3.3	0	0
all other		15	7	3	0	1	0	1
	%	2.6	6.3	10.0	0	3.3	0	3.7

Table 34. Genealogical vs. global distributions

The global picture given in sec. 14.2 is basically repeated on the lower level: There are some recipient language genera with clear preferences (cf. sec. 14.2.1), but mostly these are tendencies rather than strong correlations or clear cases of exclusive use of one strategy only.

Checking the three groups' strategy distributions for correlations with donor languages or genera yielded no significant results. Sample size might play a role here inasmuch as bigger donor language groups (here e.g. Romance) apparently have strategy distributions closer to the global sample than substantially smaller groups. With the latter, few exceptions could already noticeably bias the picture, so that e.g. the distribution in the column *Australian lgs. – donor* appears much more significant than it actually is.

Chapter 15 Typological strategy distribution

15.1 About this chapter

The idea that the borrowability of verbs depends on grammatical (or: typological) compatibility of the languages involved goes at least back to Meillet (cf. sec.1.3.3) and has been repeated ever since as one, or even *the*, explanation for the difficulty to accommodate borrowed verbs — or loanwords in general.

In order to assess the claim that structural properties of the languages involved have an impact on the accommodation technique, I will check the distribution of the three major accommodation strategies across the typological features of the languages applying them. These features are basically those from WALS (cf. sec. 2.3.4).

If grammatical properties of the donor and/or recipient languages influence the choice of accommodation strategies, this should be reflected in preferences of strategies correlating with those properties with more than chance frequency.

After outlining the methodology to test for significant correlations in the following section, the relevant findings will be presented and discussed in the subsequent sections.

15.2 Method

The search for correlations was done on subsets of the LVDB and the WALS, because the structures of the two databases and the circumstance of combining them narrowed the data down in triple ways.

First, of course, only those recipient languages of the LVDB sample that are also represented in WALS could be used in the tests. Altogether, the intersection of both language samples comprises of ca. 280 of the 352 LVDB recipient languages.

Moreover, the number of actually available languages for correlation testing varies per *each* WALS feature. It is a trait of WALS that sample size and composition vary considerably between feature maps (cf. Comrie et al. 2005: 3). Hence naturally not all WALS features also have data coded for the same subset of the 280 languages that would generally be eligible.

Second, only the three major strategies – Direct Insertion, Indirect Insertion, Light Verb Strategy – were taken into account, since these are the three main strategies that occur frequently enough. Paradigm Insertion is far too rare for sound statistical results or generalizations. Strictly speaking, the other (minor) strategies are not grammatical accommodation techniques and therefore not relevant for an evaluation of the impact of grammatical features on strategy choice.

Third, a selection of the 142 WALS features was used. The WALS features given in the respective chapters and maps number 3, 25, 95–97 were excluded since they merely repeat or combine features of previous features/chapters, and including them would skew the results. Furthermore, WALS chapters 129–142 on sign languages, lexicon, and "other" features were omitted since they are not relevant and/or are not coded for individual languages but for geographical areas (feature 141: "Writing Systems").

In the end, the restrictions outlined above leave 123 features to be tested for correlations. These features are listed in sec. A.3.

The analysis was then done in two series. In the first series, the correlations of recipient languages' features and their choice of accommodation strategies were tested. For each recipient language, every strategy it used has only been counted once, regardless of how many instantiations of that strategy in different language pairs or with different subtypes a language shows. This ensures that the result is not skewed by multiple identical examples from the same language. Nevertheless, a language can occur several times per feature when it uses more than one accommodation strategy.

In a second series, the same tests were run to check for correlations of donor languages' features with the accommodation strategies their associated recipient languages use.

Originally, I intended to run a third series, testing data from language pairs for correlations of accommodation strategies and WALS features in both the donor and the recipient languages. For reasons not entirely clear, however, no interpretable results could be computed.

Using the *R* software (R Development Core Team 2007), the distributions of accommodation strategies over the feature values of the selected WALS features were tested for deviations from the expected distributions.²⁶

These expected values were calculated as follows: For each of the selected WALS features, a contingency table was generated, in its rows the different

feature values, in its columns the three major strategies. Each table cell then contains the number of languages with the respective combination of feature value and accommodation strategy. For each cell, the expected value was then calculated using the formula:

 $\frac{row total \times column total}{table total}$

that is, with respect to the tables used here:

 $\frac{number \ of \ lgs. \ with \ that \ WALS \ feature \ value \ \times \ number \ of \ lgs. \ with \ that \ strategy}{total \ number \ of \ lgs. \ in \ the \ table}$

After this calculation, a chi-square (χ^2) test was done to check for the significance of each of the correlations. In the tables of the following sections, the results of this test will be listed under the label "residual". They are calculated as follows:

 $residual = \frac{(observed - expected)}{\sqrt{expected}}$

The *R* software also delivered the *p*-values for each of the contingency tables, indicating the degree of how likely the differences between observed and expected figures occurred by chance: The greater this value (maximum: 1), the more likely is a pure chance distribution, the smaller the value (minimum: 0), the more likely the difference observed has significance beyond chance. For this study, combinations with $p \ge 0.01$ are considered as showing no significant correlation in the distribution of strategies over the feature values, but rather chance deviations.

The results of these analyses are partly surprising. On the one hand, some correlations one would have expected to exist turned out to be nonexistent or not significant, while on the other hand rather unexpected correlations clearly emerged.

In the following subsections, the results will be presented first in a more detailed overview. Since many of the relevant features actually covary, their relation to accommodation strategy distributions will be evaluated jointly in the subsections following data presentation.

ID	Feature description	chi-square p =
83	Order of Object and Verb	6.918×10^{-10}
81	Order of Subject, Object and Verb	6.206×10^{-9}
86	Order of Genitive and Noun	$5.684 imes10^{-7}$
26	Prefixing vs. Suffixing in Inflectional Morphology	3.771×10^{-6}
90	Order of Relative Clause and Noun	$4.807 imes10^{-6}$
85	Order of Adposition and Noun Phrase	3.262×10^{-5}
82	Order of Subject and Verb	$7.894 imes 10^{-5}$
94	Order of Adverbial Subordinator and Clause	0.001
93	Position of Interrogative Phrases in Content Questions	0.002
54	Distributive Numerals	0.002
116	Polar Questions	0.003
92	Position of Polar Question Particles	0.004
69	Position of Tense-Aspect Affixes	0.005
7	Glottalized Consonants	0.006
112	Negative Morphemes	0.007
:	÷	:

Table 35. Chi-square results: strategies and recipient language features

15.3 Data and findings

15.3.1 First test series: recipient languages

The first series of tests was run to check for correlations between the 123 selected WALS features of the recipient languages and the accommodation strategies they use.

In tab. 35, only those 15 features (i.e. 12% of the features tested) below the relevance threshold of $p \ge 0.01$ are listed, with the *p*-values rounded to three digits after the decimal point. The complete, unabridged results can be seen from tab. 43 in the appendix (A.3).

Obviously the bulk of features (106 of 123, i.e. 88%) shows no significant correlations with accommodation strategies. On the other hand, there are some WALS features that show very strong correlations. For some of the features, their significance or the lack thereof would be an expected result, while for others their (in)significance calls for an explanation. Both kinds of results will be discussed in the following subsections.

15.3.2 Second test series: donor languages

To check for the correlation of donor language features with strategies used, the same test as for the recipient languages was run twice, with different parameters regarding data selection.

In the first run of this series, the data was standardized to be "unique", i.e. for every donor language, each strategy was counted only once, regardless of the number of language pairs or examples that strategy actually occurred in for that language. In the second run, every item of the cleared sample was counted individually.

With the first run, no significant correlations whatsoever could be detected that had *p*-values below the relevance threshold of $p \ge 0.01$. In the second run, only very few WALS features showed a correlation — albeit a rather weak one.

The results for the donor languages show no straightforward evidence for any significant correlation whatsoever between structural features of donor languages and accommodation pattern choice of recipient languages. Only one feature, (26) Prefixing vs. Suffixing in Inflectional Morphology, occurs rather high in the results of the second test series and those of the first series. This feature will be discussed together with the results of the first series in sec. 15.4.1.

Table 36 on the facing page lists the top six results for both test runs, to give an impression of the different outcome. For the sake of space, and because the results will not be discussed in detail, the remainder of the results is not listed here or in the appendix.

Not detecting any significant correlation is, of course, also a result which needs an interpretation — especially if that is not the expected result. Nevertheless, there is only one conclusion that can be drawn from the findings of the second test series: Structural features of the donor language do not generally influence strategy choice of the recipient languages in such a way that cross-linguistic principles are identifiable. For specific language pairs, such an influence may be possible, but no general tendency whatsoever could be identified.

This is a noteworthy finding inasmuch as it does not support any hypothesis on the (direct) influence of donor language features on the integrational effort which recipient languages have to spend to accommodate verbs. From the typological viewpoint, system (in)compatibility thus seems not to be as relevant a factor in verb borrowing as one might have assumed beforehand.

ID	Feature description	chi-square p =				
First run: "unique" strategies						
26	Prefixing vs. Suffixing in Inflectional Morphology	0.048				
69	Position of Tense-Aspect Affixes	0.061				
89	Order of Numeral and Noun	0.063				
65	Perfective/Imperfective Aspect	0.111				
63	Noun Phrase Conjunction	0.167				
118	Predicative Adjectives	0.249				
÷	Ē	÷				
Seco	nd run: "non-unique" strategies					
34	Occurrence of Nominal Plurality	0.003				
26	Prefixing vs. Suffixing in Inflectional Morphology	0.003				
56	Conjunctions and Universal Quantifiers	0.004				
36	The Associative Plural	0.006				
93	Position of Interrogative Phrases in Content Questions	0.006				
68	The Perfect	0.006				
÷	÷	:				

Table 36. Chi-square results: strategies and donor language features

Note: In the following subsections (15.3.3 through 15.4.2), correlations between accommodation strategies and WALS features will always and exclusively be discussed with reference to the first test series, regarding typological properties of the recipient languages.

15.3.3 Verbal properties with no correlations detected

A recurrent theme of this chapter is the dependency of accommodation strategy choice on grammatical compatibility. Such a dependency should manifest itself in form of correlations of accommodation strategies with grammatical properties.

Particularly those WALS features dealing with verb-related syntax and inflectional morphology would be suspected to show such correlations. However, no significant correlations could be detected for many of these features, most importantly the following:

- Fusion of Selected Inflectional Formatives (20; Bickel and Nichols 2005a)
- Exponence of Selected Inflectional Formatives (21; Bickel and Nichols 2005b)

- Inflectional Synthesis of the Verb (22; Bickel and Nichols 2005c)
- Syncretism in Verbal Person/Number Marking (29; Baerman and Brown 2005)
- Action Nominal Constructions (62; Koptjevskaja-Tamm 2005)
- Perfective/Imperfective Aspect (65; Dahl and Velupillai 2005)
- Verbal Number and Suppletion (80; Veselinova 2005)
- Coding of Evidentiality (78; de Haan 2005)
- Alignment of Verbal Person Marking (100; Siewierska 2005a)
- Verbal Person Marking (102; Siewierska 2005b)
- Order of Person Markers on the Verb (104; Siewierska 2005c)
- Periphrastic Causative Constructions (110; Song 2005a)
- Nonperiphrastic Causative Constructions (111; Song 2005b)

The absence of a clear correlation does not rule out the possibility that in particular language combinations the compatibility or incompatibility of these parameters might indeed play a role.

Especially with Paradigm Insertion, one would (intuitively) expect that this strategy required some degree of homology in the verbal categories of donor and recipient languages in the sense of Field's (2002) "Principle of System Compatibility" (cf. sec. 1.3.8).

Unfortunately, there are no WALS data on exactly these features for the three recipient languages that use Paradigm Insertion. Judging from their closest genealogical relatives for which such data are available in WALS, such homology does not exist — at least not to a degree that would be remarkable enough to explain either the global rarity of Paradigm Insertion or its existence in these three languages.

Yet, such negative evidence as the one from the features listed above is also a noteworthy finding. It shows that several parameters of verbal morphology do not generally have a visible, let alone statistically significant, impact on the nature of a recipient language's preferred accommodation strategy. This point will be taken up again in sec. 15.4.1.

15.3.4 Verbal properties showing correlations

Although most features concerning verbal properties showed no correlations, there are also three features that – in contrast – actually concern (verbal) inflectional morphology and are among the top ranking correlations. The first two of them are within the range of the relevance threshold:

- Prefixing vs. Suffixing in Inflectional Morphology (26; Dryer 2005n)
- Position of Tense-Aspect Affixes (69; Dryer 2005p)
- Predicative Adjectives (118; Stassen 2005a)

Table 37. Correlation chart for WALS features of (verbal) morphology

	0	bserve	ed		expected			residual	
\downarrow Feature values \rightarrow Strategies	DI	IndI	LVS	DI	IndI	LVS	DI	IndI	LVS
Feature 26: Prefixing	vs. Sı	uffixin	g in In	flectiona	l Morpho	ology			
1: Little affixation	23	3	0	12.73	5.55	7.72	2.88	-1.08	-2.78
2: Strongly	40	32	31	50.43	21.99	30.58	-1.47	2.13	0.08
3. Weakly suffixing	7	2	12	10.28	1 18	6.23	-1.02	-1.17	2 31
4. Fougl prefixing	7	1	9	8 32	3.63	5.05	-0.46	-1.17	1.76
and suffixing	,	1		0.52	5.05	5.05	0.40	1.50	1.70
5: Weakly prefixing	11	1	1	6.36	2.78	3.86	1.84	-1.07	-1.46
6: Strong prefixing	6	2	4	5.88	2.56	3.56	0.05	-0.35	0.23
Feature 69: Position of	Feature 69: Position of Tense-Aspect Affixes								
1: Tense-aspect	16	1	5	10.56	4.90	6.53	1.67	-1.76	-0.60
prefixes	-	~ .			• •• • •				1.00
2: Tense-aspect	50	34	45	61.95	28.74	38.32	-1.52	0.98	1.08
3: Tense-aspect	0	1	0	0.48	0.22	0.30	-0.69	1.65	-0.55
tone									
4: Mixed type	14	3	8	12.00	5.57	7.43	0.58	-1.09	0.21
5: No tense-aspect	17	6	2	12.00	5.57	7.43	1.44	0.18	-1.99
inflection									
Feature 118: Predicat	tive A	djectiv	ves						
1: Verbal encoding	23	3	2	15.08	6.25	6.68	2.04	-1.30	-1.81
2: Nonverbal	35	22	24	43.62	18.07	19.32	-1.30	0.92	1.07
encoding									
3: Mixed	12	4	5	11.31	4.68	5.01	0.21	-0.32	0.00

The observed and expected numbers of languages are listed along with the chi-square test results in tab. 37. The list is ordered by WALS feature numbers (and thereby thematically), not *p*-values. As can be seen from the table, the preferred orientation of affixation (prefixing vs. suffixing) and the degree of affixation (strongly vs. weakly) apparently do have an impact on strategy selection. See sec. 15.4.1 for a discussion and a suggested explanation of this preference.

15.3.5 Phonological vs. morphological features

Some WALS features ranked higher than expected in the list in tab. 43 on page 363. Among those "unexpected" features that ended up in the top 40 (of 123) – yet mostly not within the range of relevance – are e.g.:

- Glottalized Consonants (7; Maddieson 2005a)
- Front Rounded Vowels (11; Maddieson 2005b)
- Weight-Sensitive Stress (15; Goedemans and van der Hulst 2005)
- Presence of Uncommon Consonants (19; Maddieson 2005d)
- Asymmetrical Case-Marking (50; Iggesen 2005)
- Ordinal Numerals (53; Stolz and Veselinova 2005)
- Nominal and Locational Predication (119; Stassen 2005b)

It is particularly striking that four phonetic and phonological WALS features made it into the top 40 of this list, while several features of verbal morphology ranked considerably lower, one of them even lowest of all feature correlations. One of these unexpected features even has a *p*-value in the critical range defined above: *Glottalized Consonants* (7; Maddieson 2005a). I will use this feature to illustrate a problematic point in these statistics regarding the features listed above.

Table 38 on the next page gives the observed and expected numbers of languages along with the chi-square test results for this feature. It can be seen that the two noteworthy deviations are for the combinations "Ejectives only + Light Verb Strategy" and "Ejectives and implosives + Indirect Insertion". The seven languages for the former combination are: Amharic [amh], Eastern Armenian [hye], Hunzib [huz], Ingush [inh], Itelmen [itl], Korean [kor], and Navajo [nav]. The three languages for the latter combination are: Hausa [hau], Iraqw [irk], and Zulu [zul]. Removing one of the two closely related languages in each of the groups would still yield a skewed distribution.

One could, of course, imagine the *absence* of uncommon consonants in the recipient languages being a general obstacle to borrowing from donor languages possessing such consonants. However, it seems very implausible that the *presence* of such consonants in the recipient languages could prevent these languages from borrowing in general — or particularly from directly inserting borrowed verbs. Moreover, one would have to explain why the presence of ejectives alone should favor the use of the Light Verb Strategy, whereas the presence of ejectives *and* implosives should favor Indirect

	0	bserve	ed		expected			residual	
$\downarrow Feature values \rightarrow \\ Strategies$	DI	IbuI	LVS	DI	IndI	LVS	DI	IndI	LVS
1: No glottalized consonants	60	23	28	55.94	24.47	30.59	0.54	-0.30	-0.47
2: Ejectives only	3	2	7	6.05	2.65	3.31	-1.24	-0.40	2.03
5: Ejectives and implosives	0	3	0	1.51	0.66	0.83	-1.23	2.88	-0.91
6: Ejectives and glottalized resonants	1	0	0	0.50	0.22	0.28	0.70	-0.47	-0.52

Table 38. Correlation chart for WALS feature 7

Insertion. There is no reason to assume that – by some extraordinary coincidence – in all of these languages some constraints would require verb stems or input forms to contain exactly such consonants.

Alternatively, one might take up the point put forward by Trudgill (2004a: 318) referring to Nettle (1999: 147) that small speaker community size favors the development of unusual phonological systems, and then argue that small communities also might be more apt to consciously resisting borrowing in general. This would explain a co-dependency of both, consonant inventories and high-effort verb accommodation, on a third factor, namely community size. The downside of this argumentation is, then, that only Hunzib and Itelmen actually *are* small speaker communities with approx. 2000 respectively 60 speakers (cf. Gordon 2005), while the remaining eight languages mentioned above are not: all of them have more than 100.000 speakers, five of them even more than 1 million.²⁷

In addition to this, one has to bear in mind that the two relevant feature combinations are found only in very few languages (7 respectively 3 out of 352 LVDB recipient languages), so that any deviation in strategy distributions will necessarily appear more significant than it actually is. Yet, the chi-square test result of p = 0.0062 (cf. tab. 43 on page 363) is also within the range of the relevance threshold.

A *p*-value generally indicates the *likelihood* of an observed distribution to diverge from expected distributions by chance. Therefore, even though the likelihood is above the threshold that has been assumed to indicate significant results, one cannot determine with absolute certainty whether the found dis-

tributions actually *are* a product of chance or not. Indeed, the relatively high rankings of the four phonetic/phonological features' correlations are probably rather artifacts both of sampling and of combining the two databases than symptoms of a causal (i.e. non-chance) relation.

The same seems to hold for the remaining features listed above that would still warrant a meaningful explanation of the way their correlations actually work, that is how the nature of the correlating WALS feature value could have a direct or indirect impact on pattern choice. Hence these apparent "pseudocorrelations" will not be discussed further in this work.

15.3.6 Features regarding basic order

Another group of unexpected, yet all the more interesting correlations concerns features of Dryerian basic word order typology and some grammatical features known to covary with them:

- Distributive Numerals (54; Gil 2005)
- Order of Subject, Object and Verb (81; Dryer 2005c)
- Order of Subject and Verb (82; Dryer 2005d)
- Order of Object and Verb (83; Dryer 2005e)
- Order of Adposition and Noun Phrase (85; Dryer 2005f)
- Order of Genitive and Noun (86; Dryer 2005g)
- Order of Relative Clause and Noun (90; Dryer 2005j)
- Position of Polar Question Particles (92; Dryer 2005k)
- Position of Interrogative Phrases in Content Questions (93; Dryer 20051)
- Order of Adverbial Subordinator and Clause (94; Dryer 2005m)
- Negative Morphemes (112; Dryer 2005n)
- Polar Questions (116; Dryer 2005o)

These correlations are among those with the highest-ranking p-values of the whole sample comparison (cf. tab. 43 on page 363). Table 39 on the facing page lists the observed and expected numbers of languages along with the chi-square test results for these features. Again, the list is ordered by WALS feature numbers, not p-values.

All features mentioned in tab. 39, as well as the two first in tab. 37 on page 195 have been shown to be interdependent (cf. e.g. Croft 2003: 79–80; Bybee, Pagliuca, and Perkins 1990). They also show correlations with each other in WALS and are therefore not treated as distinct phenomena in

this study either. See sec. 15.4.2 on page 203 for a detailed discussion and a suggested explanation of the correlations found here.

	0	bserve	ed		expected			residual	
\downarrow Feature values \rightarrow Strategies	IQ	IbuI	LVS	IQ	IndI	LVS	IQ	IndI	LVS
Feature 54: Distribut	ive Nu	mera	ls						
1: No distributive	14	4	2	9.69	4.33	5.98	1.38	-0.16	-1.63
numerals									
2: Marked by	9	5	15	14.05	6.28	8.67	-1.35	-0.51	2.15
reduplication		_	_						
3: Marked by	6	0	0	2.91	1.30	1.79	1.81	-1.14	-1.34
prefix	~	4	10	0.01	4 1 1	5 (0	1 20	0.06	1.01
4: Marked by sullix	כ ד	4	10	9.21	4.11	5.08 4.10	-1.39	-0.06	1.81
5. Marked by	/	0	1	0.78	5.05	4.19	0.08	1./1	-1.30
6. Marked by	2	0	0	0.97	0.43	0.60	1.05	-0.66	-0.77
following word	2	0	0	0.77	0.45	0.00	1.05	0.00	0.77
7: Mixed or other	4	2	1	3.39	1.52	2.09	0.33	0.39	-0.76
strategies									
Feature 81: Order of	Subie	ct Ob	iect a	nd Verh					
1: SOV	23	17	48	42.71	17.69	27.61	-3.02	-0.16	3.88
2: SVO	49	16	7	34.94	14.47	22.59	2.38	0.40	-3.28
3: VSO	13	0	1	6.79	2.81	4.39	2.38	-1.68	-1.62
4: VOS	2	0	1	1.46	0.60	0.94	0.45	-0.78	0.06
7: No dominant	12	8	7	13.10	5.43	8.47	-0.30	1.10	-0.51
order									
Feature 82: Order of	Subje	ct and	Verb						
1: SV	72	42	60	83.46	37.79	52.75	-1.25	0.68	1.00
2: VS	25	0	3	13.43	6.08	8.49	3.16	-2.47	-1.88
3: No dominant	9	6	4	9.11	4.13	5.76	-0.04	0.92	-0.73
order									
Feature 83: Order of	Objec	t and	Verb						
1: OV	28	22	53	49.61	21.73	31.66	-3.07	0.06	3.79
2: VO	71	19	12	49.13	21.52	31.35	3.12	-0.54	-3.46
3: No dominant	6	5	2	6.26	2.74	4.00	-0.10	1.36	-1.00
order									

Table 39. Correlation chart for features of basic order

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200 Typological strategy distribution

	0	bserve	ed		expected			residual	
Eastura values	IC	Ipu	SV	Ι	, Ipu	SV	Ι	Ipu	SV
\downarrow reature values \rightarrow Strategies	П	-	Π	н	I	Π	Ц	I	П
Feature 85: Order of	Adnos	rition	and N	oun Phro	150				
1: Postpositions	35	27	47	53.47	24.68	30.85	-2.53	0.47	2.91
2: Prepositions	63	19	12	46.11	21.28	26.60	2.49	-0.49	-2.83
3: Inpositions	1	0	0	0.49	0.23	0.28	0.73	-0.48	-0.53
4: No dominant	3	0	0	1.47	0.68	0.85	1.26	-0.82	-0.92
order									
5: No adpositions	2	2	1	2.45	1.13	1.42	-0.29	0.82	-0.35
Feature 86: Order of	Genit	ive an	d Nou	n					
1: Genitive-Noun	34	30	49	53.76	25.23	34.01	-2.69	0.95	2.57
2: Noun-Genitive	54	11	11	36.16	16.97	22.87	2.97	-1.45	-2.48
3: No dominant	10	5	2	8.09	3.80	5.12	0.67	0.62	-1.38
order									
Feature 90: Order of	Relati	ve Cle	ause a	nd Noun					
1: Noun-Relative	71	23	19	53.33	24.76	34.92	2.42	-0.35	-2.69
clause									
2: Relative	10	10	25	21.24	9.86	13.90	-2.44	0.04	2.98
clause-Noun	1	0	2	1.40	0.66	0.02	0.25	0.01	1 1 1
3: Internally	1	0	2	1.42	0.66	0.93	-0.35	-0.81	1.11
A: Correlativo	1	0	2	1.42	0.66	0.02	0.25	0.91	1 1 1
4. Collelative	1	0	1	1.42 0.47	0.00	0.95	-0.33	-0.81	1.11
7. Mixed	1	6	6	6.13	2.85	4.02	-2.07	-0.47	0.99
	(D 1			D (1	2.05	1.02	2:07	1.07	0.77
Feature 92: Position of	of Pole	ar Qu	estion o	Particles	0 26	12.10	2.05	151	1.20
1: IIIIIIai 2: Final	20	4	0	17.45	8.30 7.70	12.19	2.05	-1.31	-1.20
2. Fillal 3: Second position	10	7	2	5.07	2.86	11.25 4.17	-1.51	0.65	1.15
4: Other position	2	0	1	1 38	2.80	4.17	0.53	-0.81	-1.00
5: In either of two	5	0	1	2 75	1.32	1.92	1 35	-0.01	-0.67
positions	5	0	1	2.75	1.52	1.92	1.55	1.15	0.07
6: No question	26	14	24	29.38	14.09	20.53	-0.62	-0.02	0.77
particle	20			27.00	1	20.000	0.02	0.02	0177
Easture 02: Desition of Internogative Dhugses in Content Questions									
1. Initial	32	10	4	23 0	9 56	13 44	1 88	0.14	-2.58
2: Not initial	40	21	40	50.5	20.99	29.51	-1.48	0.00	1.93
3: Mixed	5	1	1	3.5	1.45	2.05	0.80	-0.38	-0.73
Feature 94: Order of	Adver	hial	uhord	linator av	d Clause	,			
1: Initial	60	15	17	47.97	18.4	25.63	1.74	-0.79	-1.70
subordinator word	20		- /					2.1.2	
Feature 94: <i>Order of</i> 1: Initial subordinator word	Adver 60	bial S 15	ubord 17	linator ar 47.97	nd Clause 18.4	25.63	1.74	-0.79	-1.70

• • •

	0	bserve	ed		expected			residual	
\downarrow Feature values \rightarrow Strategies	DI	IndI	LVS	DI	Indl	LVS	DI	IndI	LVS
2: Final	5	6	8	9.91	3.8	5.29	-1.56	1.13	1.18
subordinator word									
3: Internal	1	1	0	1.04	0.4	0.56	-0.04	0.95	-0.75
subordinator word	4	0	4	4 17	16	2.22	0.09	1.26	1 10
4. Suborumating	4	U	4	4.17	1.0	2.23	-0.08	-1.20	1.19
5: Mixed	3	6	10	9.91	3.8	5.29	-2.19	1.13	2.05
Feature 112: Negative	e Mor	pheme	es						
1: Negative affix	20	16	29	30.69	13.86	20.46	-1.93	0.58	1.89
2: Negative particle	51	22	29	48.15	21.75	32.10	0.41	0.05	-0.55
3: Negative	8	2	0	4.72	2.13	3.15	1.51	-0.09	-1.77
auxiliary verb									
4: Negative word	9	2	0	5.19	2.35	3.46	1.67	-0.23	-1.86
(vb./particle)	0	0		0.45	0.01		0.66	0.45	1.00
5: Variation:	0	0	1	0.47	0.21	0.31	-0.69	-0.46	1.22
negative word/affix	5	0	2	2 70	1 71	2.52	0.62	1 21	0.20
o: Double negation	5	0	3	3.78	1./1	2.52	0.63	-1.31	0.30
Feature 116: Polar Q	uestio	ns							
1: Question particle	55	27	33	51.46	26.69	36.85	0.49	0.06	-0.63
2: Interrogative	7	8	19	15.22	7.89	10.90	-2.11	0.04	2.46
verb morphology									
3: Mixture of	0	1	1	0.90	0.46	0.64	-0.95	0.79	0.45
previous two types	0	-	0	5 0 7	2.02		0.00		• • • •
4: Interrogative word order	8	5	0	5.82	3.02	4.17	0.90	1.14	-2.04
6: Interrogative	11	1	5	7.61	3.94	5.45	1.23	-1.48	-0.19
intonation only									

15.4 Evaluation of the correlations found

15.4.1 Morphological conditioning

There is only scarce evidence for the covariation or correlation of morphological properties regarding verb inflection with accommodation techniques, as the data presented in sec. 15.3.3 and 15.3.4 suggest. Only two rather general properties of verbal morphology (*prefixing vs. suffixing*; *position of tenseaspect affixes*) have *p*-values within the range of $p \le 0.01$, a third feature (*predicative adjectives*) is the first one with a *p*-value slightly beyond the relevance threshold.

The two first features actually show two different aspects of affixation. On the one hand, the *degree* of affixation (*little* vs. *weak* vs. *strong affixation*) is a parameter that is basically translatable into the terms of the traditional distinction between isolating, inflectional, and agglutinative languages. On the other hand, there is the parameter of the *order* of affixation, which is an instance of basic-order typology.

The first conclusion that can be drawn from the distributions illustrated in tab. 37 on page 195 relates to the *degree of affixation*. The distributions found are proof that languages which generally use little affixation – or none at all – or do not have tense-aspect inflection, need not accommodate and adapt borrowed verbs morphologically.

The disproportionately high use of Direct Insertion among such languages thus does not come as a surprise but is rather implied by their typological makeup. Conversely, suffixing languages and languages with "strong" affixation actually show a statistically significant preference to avoid Direct Insertion in favor of Light Verb Strategy and Indirect Insertion. Thus, the notion of (verbal) morphology having an impact on the way loan verbs are accommodated is not entirely unfounded, although Meillet (1920), Stene (1945) and others obviously formulated it too restrictively in terms of complete incompatibility or unborrowability.

It has been demonstrated by Bybee, Pagliuca, and Perkins (1990) that the *orientation of affixation (prefixing* vs. *suffixing)* is not independent of the remaining word-order orientation, since both are indicators of the same overall basic-order orientation of a language. The correlation of affix orientation with strategy choice will therefore be discussed in connection with other basic-order features in sec. 15.4.2.

The distribution of accommodation strategies correlating with WALS feature 118 on *predicative adjectives* shows that the different accommodation strategies differ with respect to the openness and flexibility of the lexical class "verb" in the recipient languages using them. Languages that encode predicative adjectives like verbs can apparently also directly insert loan verbs and treat them like verbs even if they are "less verby" or neutral with regard to their part-of-speech membership. On the other hand, languages that encode predicative adjective non-verbally, seem to prefer either the Light Verb Strategy or Indirect Insertion over Direct Insertion. These three correlations are about very fundamental properties of the recipient languages. These features, like the degree and orientation of affixation, have direct impact on the possibilities and properties of accommodation techniques available to these languages.

The lack of other correlations should be seen as an argument against structural incompatibility. Until clear cases of grammatical incompatibility have been proved conclusively, we should assume it is marginal rather than universal.

15.4.2 Correlations with basic order

It is a universal tendency already shown by Greenberg (1963) that various parameters of basic – or 'dominant' – constituent order covary to the extent that in most languages the orientations of the different elements taken as parameters always follow one direction. These covariations have been exhaustively explored in the typological literature (for summaries cf. e.g. Comrie 1989: 92–100; Croft 2003: 69–80) and in several WALS chapters.

In general, three types of languages emerge from basic-order typology: Languages that have a basic order of "head before dependent", languages that have the inverse order of "dependent before head", and languages of a mixed type that do not have a clear preference for either. The latter ones are a diffuse group, and their feature values for the different parameters of word order may vary.

For the first two types, tab. 40 on the following page summarizes the general orientation of basic order for those WALS basic-order features that showed strong correlations with accommodation patterns. These features are also listed with references in sec. 15.3.6. For details on these parameters and their classification, see the relevant WALS chapters. The list itself is ordered in descending order of the *p*-values of the parameters' correlations with accommodation strategies.

It has already been shown in sec. 15.3.6 that the two major accommodation strategies Direct Insertion and Light Verb Strategy show clear correlations with features of basic order typology. As a matter of fact, the two strategies each *consistently* correlate with feature values of one of the orientation types: Languages of the *head – dependent* (VO) type, overwhelmingly use *Direct Insertion*, whereas languages with the *dependent – head* (OV) orientation strongly prefer the *Light Verb Strategy*. Languages without clear prefer-

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Table 40. Basic order orientation

Parameter	head – dependent	dependent – head
Order of Object and Verb	VO	OV
Order of Subject, Object and Verb	SVO, VSO, VOS	SOV
Order of Genitive and Noun	N-Gen	Gen-N
Prefixing vs. Suffixing in Inflectional Morphology	prefix, none	suffix
Order of Relative Clause and Noun	N-Rel	Rel-N
Order of Adposition and Noun Phrase	prepositions, inpositions	postpositions
Order of Subject and Verb	VS	SV
Order of Adverbial Subordinator and Clause	Adv-C	C-Adv
Position of Interrogative Phrases in Content Questions	initial, mixed	final
Distributive Numerals, Polar Questions	prefix, following, none	suffix, reduplication
Position of Polar Question Particles	initial, both	final
Position of Tense-Aspect Affixes	prefix, none	suffix
Negative Morphemes	word, AUX, particle	other
Accommodation strategy correlation	Direct Insertion	Light Verb Strategy

ences, as well as languages of a mixed type, seem to use different strategies, probably according to other parameters outside basic order. Nevertheless, a noticeable portion of these "intermediate" languages also use Indirect Insertion, which by that virtue is confirmed as an "intermediate" strategy between Direct Insertion and Light Verb Strategy.

As mentioned above, prefixing order, too, covarys with basic word order to the extent that languages which prefer OV order also prefer suffixation whereas languages with VO order do not have such a clear preference (cf. Bybee, Pagliuca, and Perkins 1990: 5–9). The structural implications for strategy choice given in sec. 15.4.1 above thus also carry over to this field of typological features: Accommodation strategies pattern with a distribution corresponding to those of basic constituent making strategy choice appear like another parameter of basic order typology.

What exactly causes these correlations to be stronger with basic order of subject, verb and object than with the order of affixation is not entirely clear. Similarly, it must remain an unanswered question why basic word order and accommodation strategy choice correlate at all. Prefix orientation and its impact on the morphological conditioning of strategy choice might be one possible explanation, but other particular features of basic order typology have higher *p*-values, which could mean that these feature correlations indicate the effect of other, different factors.

Even though a conclusive explanation for these correlations is still pending, they are nevertheless statistically significant and suggest the generalization in the form of two statistical universals given in fig. 5.

- 1. Languages with a basic order orientation of "dependent before head" will, with overwhelmingly more than chance frequency, use the Light Verb Strategy to accommodate borrowed verbs.
- 2. Languages with a basic order orientation of "head before dependent" will, with significantly greater than chance frequency, use the Direct Insertion strategy to accommodate borrowed verbs.

Figure 5. Two statistical universals of loan verb accommodation

These statistical universals are not to be misunderstood as either absolute universals or as exclusive statements. It has been mentioned in sec. 13.2.1 and will be further elaborated in sec. 16.2 that languages can employ more than one accommodation strategy. Thus, the generalizations above are to be interpreted to be indications of likelihood that with a given orientation of basic order for a language, the implied strategy is to be found *among* the strategies which that language generally employs.

Chapter 16 Pattern distributions

16.1 About this chapter

According to the definition given in sec. 3.3.1, *accommodations strategies* are abstract, cross-linguistically comparable type classes of loan verb accommodation patterns, which themselves are for the most language-specific. Strategy distributions as they are discussed in the previous chapters are ultimately reflections of the distributions of the patterns these strategies are abstracted from. Identifying specific factors that govern pattern distributions is thus a prerequisite for explaining strategy distributions which could not be explained on the more abstract level.

This chapter therefore illustrates the more fine-grained distributions of accommodation patterns and their usage within particular languages. The major focus will be on distributions which are governed by other factors than those discussed above, e.g. the typological properties in sec. 15, because the generalizations of the previous chapter can easily be applied to particular languages having the respective properties.

16.2 Competing patterns

16.2.1 On multiple pattern use

In this chapter, the use of more than one accommodation pattern in a language will be discussed. Such multiple pattern use can occur either successively in the course of a language's history or concurrently at the same time. Both scenarios are discussed in view of their relevance to the global distributions of accommodation techniques.

At least 94 of the 352 recipient languages in the LVDB sample (i.e. 26.7%) employ more than one accommodation pattern. These languages are listed in tab. 41 in the appendix. In many instances, the different patterns these languages use belong to different types and accommodation strategies. Furthermore, the list in sec. A.2.2 shows that for 78 of the 553 language pairs more than one pattern type is attested. The data from these two tables and the sum-

mary in tab. 17 on page 147 show that it is not uncommon at all for a language to use more than one pattern — even within the same language pair. An absolute statement like "language X always uses pattern P to accommodate borrowed verbs" is therefore not possible for all languages.

For many languages lacking sufficient data on earlier stages of their history, one can thus only assume that they probably borrowed words – and among them verbs – at those stages, too, unless there is clear evidence for extended periods of isolation. Consequently, it is also likely that these languages may have used several accommodation patterns during their history, too.

If they are possible, generalizations on patterns of pattern use (or pattern use change) might therefore be useful to identify older loan verbs or shed light on the contact history of such languages. This diachronic dimension is also one of the reasons why examples and data from ancestral language pairs (e.g. Middle English < Middle French) were admitted into the LVDB.

16.2.2 The two kinds of competing pattern scenarios

The presence of seemingly competing accommodation patterns within a language generally occurs in two kinds of scenarios which differ in their temporal dimension.

The first kind manifests itself in languages that (ex)changed these patterns in the course of their borrowing history but did generally not have more than one default pattern in productive use at any time, or only for transitional phases. In this scenario, the two or more patterns "compete" only in the transitional phases but are not all productive simultaneously. Nevertheless, from a present-day point of view it appears as if the languages in question apply more than one pattern to their borrowed verbs. This kind of diachronic multiplicity of patterns will be discussed in sec. 16.3 by means of a case study on Finnish.

The second kind, illustrated in sec. 16.4 with examples from several languages, displays actual synchronic multiplicity of patterns. This means that languages employ different productive accommodation patterns at the same time and in basically identical borrowing situations, with the choice of pattern being dependent on various other (linguistic and extra-linguistic) factors.

Identifying and explaining the factors responsible for multiple pattern usage, both diachronically and synchronically, is crucial for the overall understanding of the distribution of loanword accommodation techniques. In the following subsections I therefore exemplify the two kinds of multiple pattern usage introduced here and discuss them against the background of the typology of loan verb accommodation patterns, suggesting an explanation of the phenomenon in both its temporal manifestations.

16.3 Usage changes during borrowing history

There are several well-documented cases where languages exchanged one productive accommodation pattern in favor of another one without removing or altering the morphology of the old pattern on those verbs that were borrowed by that time. This has the effect that these different patterns virtually coexist in such languages.

In such cases, the particular pattern applied to accommodate a given loan verb could – ideally – be used as an indicator for the date when a given loanword entered a recipient language, thereby allowing for conclusions about past contact scenarios.

One example of a language changing its accommodation techniques over time will be presented and discussed in this section.

16.3.1 Case study: Finnish

Finnish [fin] – including its predecessors and different varieties that evolved out of them – has been in contact with Germanic and Balto-Slavic languages for more than two millennia, that is for its entire documented history and beyond. While the degree of influence from neighboring languages has repeatedly shifted over time, the general situation and directionality of language contact has not changed substantially. This is due to the fact that there was no large-scale migration or colonization that replaced or introduced entire speech communities or removed languages that used to be in contact with Finnish, even though various languages took turns as the most dominant, or most prominent, idioms in contact with Finnish. A comprehensive account of the history of language contact in Finland would be beyond the scope of this work but can be found e.g. in ch. 1 of McRae (1997).

At any rate, Finnish has employed different loan verb accommodation patterns at different periods, even for borrowed verbs of the same origin. Along with many verbs from Swedish (and thereby ultimately from English, French or Latin), the Nordic {-*era*} suffix (also discussed in sec. 17.3.1) was borrowed from Swedish into Finnish. There, it became – together with the infinitive suffix {-*ta*} – the complex loan verb accommodation (LVM) suffix {-*eerata*}, as illustrated in (113).

(113) Finnish [fin] < Swedish [swe] (cf. Nau 1995: 65)
frank-eera-ta
stamp-LVM-INF
'to stamp, affix postage'
< [swe] frankera 'to stamp, affix postage'</pre>

Nau (1995: 65) points out that this suffix is only marginally productive nowadays and has mostly been replaced by $\{-oida\}$ as the accommodator of borrowed verbs, cf. (114). This example is a repetition of ex. (19) on page 76; see there for a brief discussion.

(114)	Finnish [fin] < unid. Indo-European lg. [0ie]	(Nau 1995: 65)
	maxim-oi-da	
	maximize-VBLZ-INF	
	'to maximize'	
	< [swe] maxim-era 'to maximize'	
	or < [eng] <i>maxim-ize</i>	
	< [fra] maxim-is-er	

While these two patterns differ in their morphological complexity, both basically belong to the same accommodation strategy: Indirect Insertion.

The most recent borrowings into Finnish, however, appear to be accommodated by yet another technique, namely Direct Insertion of a stem, yielding forms like e.g. the following:

(115) Finnish [fin] < English [eng] (Hennariikka Kairanneva, p.c.; Florian Siegl, p.c.) chätä-tä chat-INF 'to chat (on the internet)' < [eng] chat</p>

In Wichmann and Wohlgemuth (2008: 106–107), we assumed that the last pattern, which involves the least integrational effort, only emerged very re-

cently, since it is considered colloquial and informal style in most cases and mainly found with recent borrowings (Hennariikka Kairanneva, p.c.).

A possible explanation for this process of simplification would then be that the speakers of Finnish became increasingly familiar with the donor languages' structures and that with the growing degree of bilingualism less integrational effort was necessary. See sec. 19.2.2 and 19.4.1 for discussions of such a scenario.

On closer scrutiny, however, one finds a substantial amount of verbs that were borrowed already from Germanic or Balto-Slavic into Early Finnic and were accommodated in a similar fashion. These verbs that are nowadays attested in Finnish and some of its regional varieties were accommodated by a "verb suffix" (Koivulehto 1999: 190) as in (116) and (117).

The nature of this suffix is somewhat ambivalent: One could classify its role in loan verb accommodation as a causative, verbalizer and/or infinitive suffix (cf. Koivulehto 1999: 190, fn.28). Thus, the verbs would either be accommodated by Indirect Insertion or Direct Insertion.

(116) Early Old Finnish [0of] < Germanic [ger] (Koivulehto 1999: 191) *pej-ttäcover-CAUS.INF-'to cover' < [ger] *bēja-/bēje- 'to keep warm'²⁸
(117) Early Old Finnish [0of] < Germanic [ger] (Koivulehto 2006: 185) *nit-täcut-INF-'to cut, mow' < [ger] snīðan 'cut'

In the same vein, Nikkilä (1994) and Koivulehto (2006) mention examples for the old and continuous use of both, causatives and Direct Insertions, where borrowed verbs have become verb stems immediately followed by the infinitive suffixes $\{-da\} \sim \{-ta\}$ since Proto-Finnic times.

It thus becomes apparent that the different accommodation techniques applied by Finnish were not strictly exclusive even at the times of their maximal productivity. The following subsection suggests an alternative explanation for this phenomenon.

16.3.2 Explaining the change in Finnish pattern usage

From the findings reported in this section, two conclusions can be drawn with direct regard to the borrowing history of Finnish.

First, these findings effectively falsify the assumption that during the contact history of Finnish there was a straight, unidirectional development from more complex to less complex accommodation techniques, thereby continuously reducing the integrational effort.

Second, these findings suggest that throughout the contact history of Finnish, several different accommodation patterns were available at the same time, but speakers chose particular patterns as the default ones at different points of time. The motives for these shifting preferences are unfortunately not addressed in the sources consulted.

A possible explanatory scenario for this shift – which I would suggest here – chiefly involves extralinguistic (i.e. nonstructural) factors rather than structural ones, as will be discussed in the following subsection.

16.3.2.1 The changing situation

In the early 19th century, the speakers of Finnish experienced fundamental changes in their economic as well as their political situation. These coinciding changes both had an impact on the sociolinguistic settings of Finnish and the Finnish language itself.

With the advent of the industrial revolution, new words were borrowed for the new concepts and artifacts it brought about. Among these words were, of course, also verbs like those in ex. (113) on page 209, referring to new activities.

At the same time, Finnish nationalism arose and the struggle for Finland's independence began. Among other things, this led to an increased awareness of one of the national identity's hallmarks — the Finnish language. This awareness was inspired tremendously by the first publication of the national epic *Kalevala* in 1835, which has to be seen in this historical context:

"Almost overnight the despised language of the common people, a language without a written literature, had yielded up from its almost extinct oral tradition an epic that invited comparison with Homer." (McRae 1997: 33)

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16.3.2.2 The reaction

It is normal for speakers with an increased awareness of their linguistic identity that they attempt to protect, "purify" and perfect their language and keep influence from other languages low (cf. sec. 18.4.3 on attitudes toward borrowing). New loan words that entered Finnish during this phase of its history were inevitable signs of their times, but they would be perceived by many speakers as foreign, "disturbing factors". Consequently, strong efforts were made to coin Finnish terms instead of borrowing foreign words (cf. McRae 1997: 116–117).

Loan verb accommodations with a higher degree of integrational effort, e.g. with the more complex affixes mentioned above, may then serve to mark foreign elements as such. This can, but need not, be the result of conscious decisions or language planning. Anyhow it adds to the perception of linguistic difference and incompatibility.

This scenario also explains why using Direct Insertion was until recently – and in formal speech still is – considered bad style, especially by conservative speakers, even though it existed and has in principle been available throughout most of the history of the Finnish language.

16.3.3 Generalizing conclusion

Abstracting away from the example language Finnish, the following insights must be taken into consideration when general tendencies or principles of diachronic changes in loan verb accommodation pattern use are suggested or discussed or when such changes are to be taken as a diagnostic in language (contact) history.

Exchanging accommodation techniques is apparently not – or at least not necessarily – due to the tendency to reduce the integrational effort. While it is conceivable and not at all unlikely that such a simplification occurs in the course of enduring contact between two languages, these changes can just as well be due to nonstructural, sociolinguistic, factors. Interestingly enough, both factors could conceivably occur controlled (i.e. by the speakers' deliberate decision) as well as uncontrolled (i.e. without the speakers being aware of it; cf. sec. 18.4.4), and it might not be possible to identify the degree of "control" the speakers actually exerted.

Furthermore, it seems not feasible to simply evaluate the date of a verbal borrowing by the accommodation technique that has been applied to it or by the degree of integrational effort spent on accommodating it.

Therefore, at least on the general level, the question must remain open as to which historical, socio-cultural, etc. factors can generally have how much of an impact on pattern usage preferences. The answer to that question would require much more detailed data on the contact histories of *all* the language pairs in the sample. Unfortunately, though, this information is in many cases not available.

16.4 Parallel use of patterns

16.4.1 Hypotheses on parallel use

In the previous section it was exemplified how languages use more than one accommodation pattern, in many cases even patterns from different types and strategies, and how these patterns – or their usage frequencies – can be exchanged in the course of borrowing history.

Moreover, languages also employ different patterns (of different accommodation pattern types) at the same time, and not necessarily with noticeable difference in usage frequencies. This parallel use of accommodation patterns must also be accounted for in a typology of verbal borrowings.

The first explanation that comes to one's mind is the assumption that the choice of pattern may depend on structural properties of the recipient language, perhaps in combination with properties of the donor language.

Looking at it from the other side, one might also suggest that the choice of pattern is determined by the structure of the donor language – chiefly its morphosyntactic features – or the structure of its model verb forms.

Although generally significant correlations with structural features of the donor and/or recipient languages could not be detected in this study, (cf. ch. 15), there are examples of languages where pattern choice nevertheless appears to be (mainly) dependent on the donor language (cf. sec. 16.4.2), or on the phonological shape of the input form (cf. sec. 16.4.3). Yet – again – any cross-linguistic generalization turns out to be problematical, as will be illustrated by the examples in sec. 16.4.4.

16.4.2 Different patterns with different donor languages

Using different accommodation techniques for verbs borrowed from different donor languages is exemplified by loan verbs which were borrowed from English into other Germanic languages such as German, Dutch or Danish, as opposed to loan verbs which were borrowed from Romance languages into the same recipient languages. While the loan verbs from English are overwhelmingly directly inserted, those from Romance are mostly – but not exclusively – accommodated by means of the Indirect Insertion strategy, requiring cognates of the Middle Low German suffix $\{-\hat{e}ren\}$ which will be described more closely in sec. 17.3.

Languages of the LVDB sample displaying such donor-language-dependent preferences can be found in sec. A.2.2 in the appendix where all language pairs and the attested strategies used in them are listed.

The phenomenon is illustrated by the following examples of loan verbs in Dutch which were borrowed from English and French. Normally, loan verbs from English are accommodated by Direct Insertion, cf. (118), whereas Indirect Insertion is used for those from French, cf. (119):

(118)	Dutch [nld] < English [eng]	(Berteloot and van der Sijs 2002: 48)
	fiks-en	
	fix-INF	
	'to fix'	
	< [eng] fix	
(119)	Dutch [nld] < French [fra]	(Malchukov 2003: 246)
	bless-er-en	
	bless-LVM-INF	
	'to bless'	
	< [fra] <i>blesser</i> 'to bless'	

The $\{-er\}$ in (119) must be regarded as a loan verb marker and not part of the copied loan verb, because it can also occur on borrowings from other languages, among them also English:

(120) Dutch [nld] < English [eng] (Berteloot and van der Sijs 2002: 48)
formatt-er-en
format-LVM-INF
'to format'
< [eng] format</pre>

While Dutch loan verbs borrowed from English obviously show some variation with regard to the strategy applied, those borrowed from French are apparently always accommodated by Indirect Insertion (cf. Malchukov 2003: 246; Wichmann 2004c: 7).

One possible explanation for this can perhaps be found in the way German, a close relative of Dutch, selects the accommodation strategy according to the phonological structure of the (Romance) input forms. This phenomenon will be illustrated in the following subsection.

16.4.3 Phonological conditioning

In German, like in Dutch, Direct Insertion is nowadays the dominant accommodation strategy for borrowed verbs. Occasionally, though, Indirect Insertion with {*-ieren*} (cf. sec. 17.3.2), which once was much more productive, is chosen.

At first glance, the choice of pattern and strategy appears to depend simply on the time of borrowing and the donor language (both factors, naturally, are interdependent): verbs from English are directly inserted, whereas verbs from Romance or (Ancient) Greek take the {-*ieren*}-suffix.

Neef (2005: 115–116) points out that this is a vague tendency rather than a rule. Using data from noun-to-verb and name-to-verb conversion in presentday German, Neef shows that the choice of derivation (or: accommodation) technique in these cases *also* depends on the phonological shape of the input forms.

Those (usually Romance) input forms ending in vowels – infinitives or theme vowels of the stems – are likely to be accommodated by Indirect Insertion, as illustrated in ex. (121):

(121)	German [deu] < Latin [lat]	(own data)
	repar-ier-en	
	repair-LVM-INF	
	'to repair'	
	< [lat] reparare 'to repair'	

Conversely, those (usually English) forms ending in consonants, especially liquids, can receive the German infinitive directly (cf. Neef 2005: 116), as shown in ex. (122):

(122)German [deu] < English [eng] cancel-n cancel-INF 'to cancel' < [eng] cancel

At this point, however, I disagree with Neef's argumentation that such verbal borrowings like (122) are accommodated by zero-derivation. As I argue in sec. 19.2.1, these forms should rather be considered instantiations of Direct Insertion instead, because there is no compelling reason to assume that these forms were derived at all.

In summary, however, German uses different patterns from different strategies with a choice of pattern that at least in some instances depends on phonological parameters of the input form.

A much clearer picture of phonological conditioning can be found in Qiang [cng, qxs]. Verbs borrowed into this language are accommodated by two different strategies according to the input forms' number of syllables: the loan verb marker suffix {-tha} is added to monosyllabic borrowed verbs, while the clitic light verb $\{=pe\}$ 'to do' attaches to polysyllabic borrowed verbs (cf. LaPolla and Huang 2003: 47):

(123)Qiang [cng, qxs] < Mandarin [cmn]

(LaPolla and Huang 2003: 36, 47)

tuen-tha a. squat-LVM 'to squat' < [cmn] $d\bar{u}n$ 'to squat'

b. tsauku=pu take_care_of=do 'to take care of' < [cmn] zhàoqù 'to take care of'

Similarly, different affix shapes and accommodation patterns are used in Karelian [krl] and other Finnic languages, as is outlined in much detail in ch. 3 of Pugh (1999). An interesting case is the affix $\{-\check{c}-\}$ which generally occurs in Karelian as a loan verb accommodator, cf. ex. (51) on page 96, reproduced here in (124a). According to Pugh, the suffix is in principle obligatory for loan verb accommodation. In inflection, however, it is omitted before consonantinitial suffixes, as illustrated in (124b):

(own data)

(124) Karelian [krl] < Russian [rus] (Pugh 1999: 121)
a. duwmai-č-en
think-VBLZ-1SG.NPST
'I think'
b. duwmai-Ø-tta
think-Ø-2PL.NPST
'You think'
< [rus] dumaj- IMP.SG and PRS stem of dumat' 'to think'</pre>

The omission of the verbalizer suffix is clearly conditioned by phonological factors within the recipient language, and one could assume a change from $\{-\check{c}-\}$ to its zero allomorph $\{-\check{O}-\}$ here, so that the accommodation strategy may still be considered Indirect Insertion even if the derivational affix is invisible. In some dialects of Karelian, however, the $\{-\check{c}-\}$ is generally omitted with this verb (cf. Pugh 1999: 122), so that for these dialects one should rather assume Direct Insertion as the applied strategy.

Another example for phonologically conditioned pattern choice comes from Meyah [mea] which has already been mentioned in sec. 7.4.2 and will be discussed in further detail in another context in sec. 17.5. In Meyah, loan verbs from Indonesian [ind] are accommodated by a specific loan verb marker prefix {*ebe-*}. Without closer scrutiny, the use of this loan verb marker in Meyah could be interpreted as pattern choice dependent on the donor language. However, the loan verb marker prefix is also found on loan verbs from other donor languages, e.g. Hatam [had].

As it turns out, the crucial factor in Meyah's pattern choice is actually not the donor language but the phonological structure of the borrowed verbs. The $\{ebe-\}$ -prefix ensures that loan verbs in Meyah begin with a vowel just like native verb stems do and which is a requirement of Meyah's verbal inflection (cf. Gravelle 2002: 130). This prefix is thus necessary because the input forms forms from Indonesian – which nowadays is the most relevant immediate donor language – or Hatam more often than not simply do not meet the requirement of being vowel-initial.²⁹

From the cases illustrated in this and the previous subsection it thus becomes clear that grammatical properties of the recipient language alone are not sufficient to make predictions on the choice of accommodation patterns and strategies, but that the (nature of the) donor language and characteristics of the actual input forms nevertheless may play a visible role in pattern choice. Such cases can certainly explain at least some instances of multiple pattern use, but that explanation is by no means exhaustive nor does it allow for much cross-linguistic generalization, as will be discussed in the following subsection.

16.4.4 Different patterns within the same language pair

The option of two different accommodation techniques for English loanwords into Dutch as illustrated in examples (118) on page 214 and (120) on page 214 is not a rare exception. There are several cases where one and the same recipient language borrows verbs from one and the same donor language using different strategies for different individual verbs which may even have the same phonological structure.

Nepali loan verbs in Manange, for example, sometimes involve a light verb construction, cf. (125), whereas others take a loan verb marker suffix $\{-ti\}$ which was already shown in ex. (58) on page 99 and is repeated below as (126). Thus, Manange applies two different strategies for verbs borrowed from Nepali, and the factors governing their choice remain obscure.

(125)	Manange [nmm] < Nepali [nep] (Hildebrandt 2005a: 3; Hildebrandt 2005b)	
	<pre>Ihai Ila-pa yawn do-NMLZ 'to yawn' < [nep] haii 'yawn'</pre>	
(126)	Manange [nmm] < Nepali [nep] (Wichmann 2004a; Kristine Hildebrandt, p.c.)	
	<i>bolai-ti 1mi ro</i> call-LVM EVID REP 'He called.' < [nep] <i>bolai</i> 'to call'	

Similar scenarios are attested in several other languages: In verb borrowings from Persian to Urdu and from Hebrew to Yiddish the Light Verb Strategy is common, but Direct Insertion exists as well (Anthony Grant, p.c.).

Such multiplicity can furthermore be found with English loan verbs in Spanish, Greek, Turkish and other languages. Here, even one and the same model verb may be treated in two or three different ways, as will be illustrated by the following case-study. 16.4.4.1 A case-study: 'to click'

A good example for the competing use of accommodation patterns is the English verb *to click (with a computer mouse)*, which can be borrowed into Spanish and Modern Greek either by means of the Light Verb Strategy, shown in (127a) and (128a), or by Direct Insertion in Spanish (127b) and by Indirect Insertion in Greek (128b).

In these cases, the variability of pattern usage cannot be explained by structural factors or by other factors of the donor language at all, since the input forms are downright identical:

(127) Spanish [spa] < English [eng]

(Wichmann and Wohlgemuth 2008: 107)

- a. *hacer clic* do click 'to click'
- b. clic-ar
 click-INF
 'to click'
 < [eng] click</pre>

(128) Greek (Modern) [ell] < English [eng]

(Wichmann and Wohlgemuth 2008: 107)

- a. *káno klik* do click 'to click'
- b. *klik-ár-o* click-LVM-1SG 'to click' < [eng] *click*

Furthermore, for apparent reasons these borrowings in (127) and (128) must be rather recent and could not have occurred in fundamentally different periods of the recipient languages' borrowing histories, so any explanation invoking diachronic changes in pattern choice becomes impossible unless it accounts for extremely rapid changes in pattern usage.

By belonging to the field of relatively new terminology³⁰ that is likely to be borrowed, as well as being the tool to search for such borrowings, the internet provides many examples of both forms each. With various search
engines, a similar variability of the corresponding forms based on the same English model verb can easily be demonstrated also for other Romance languages, e.g. Catalan, Italian or Portuguese.

16.4.4.2 Remarks on the Greek example...

With regard to the differences between the two forms cited in ex. (128), I consulted several native speakers of Greek. They all understood both forms and to a wide extent also accepted both of them as grammatical. Most of my consultants generally agreed that there is no semantic difference between both forms, but many stated that they would prefer one of them over the other, because it "sounded better" or because it was "correct language".

It seems that if one of the two forms was judged ungrammatical or questionable, it was the one involving Indirect Insertion with the (borrowed) verbalizer $\{ar-\}$. Remarkably, at least some of the consultants mentioned that their preference could or would change depending on the situational context or the text genre, and that the shorter form (128b) would be used in informal speech.

In addition to the variation in accommodation patterns illustrated in (128), there is also further, orthographic variation within the pattern in (128a): the form can be found either in hybrid Greek and Latin writing $\kappa \dot{\alpha} v \omega$ click or completely in Greek $\kappa \dot{\alpha} v \omega \ \kappa \lambda \iota \kappa$. This difference could be interpreted as two distinct integration patterns which of course still belong to the same sub-type. At any rate, the variation in spelling is indicative of how much the borrowed verb is perceived by the writers using it as being integrated into Greek or not.

16.4.4.3 ... and a parallel case in Turkish

As already seen from ex. (125) and (126) on page 218, multiple pattern use is not restricted to Indo-European. The contrast in both the strategies and the factors determining strategy choice illustrated in (128) above for borrowings into Greek apparently also exists in its Altaic neighbor language Turkish. This phenomenon was already mentioned in the context of ex. (29) on page 82, but it can also be demonstrated in the following example, which conveniently involves the same English model verb as above:

(129)	Tur	kish [tur] < English [eng]	(LVDB ex. 598)
	a.	<i>klik et-mek</i> click do-INF 'to click'	
	b.	<i>klik-le-mek</i> click-VBLZ-INF 'to click'	
	c.	* ^{/?} klik-mek click-INF 'to click' < [eng] click	

Turkish web pages on proper language use³¹ usually discourage from the use of such "colloquial" forms with Indirect Insertion as in (129b) or Direct Insertion as in (129c), which seems to be quite unacceptable and not widely used. Their suggestion is to rather use the "proper" Light Verb Strategy constructions as in (129a), which are traditionally applied to accommodate loan verbs. The fact that such web pages cover this issue at all – sometimes even at great length – can be taken as an indirect evidence for the fact that speakers actually *do* use the alternative forms more than just occasionally or jokingly.

These examples of competing pattern use, especially those even involving the same model verb, clearly show that it is difficult or even downright impossible to make predictions on pattern use for many languages or language pairs, unless one also takes into account factors which lie outside the realm of grammar.

16.5 Summary: Multiple pattern use

16.5.1 A possible explanation

It has been repeatedly illustrated in the preceding sections that nonstructural factors like personal preferences and stylistic considerations play an undeniable role in the selection of accommodation patterns, when more than one pattern is available. Either way, such examples of competing pattern usage show that structural properties of the languages involved are not – or not always – sufficient to make predictions, not even when both the source and the target languages are taken into account.

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One might attempt to rescue the hypothesis that pattern choice depends on structural properties by arguing that among the different patterns that are available within a given recipient language there is a dominant one and a subordinate one: the dominant one might then be the default and explained by certain structure-dependent factors whereas the other one(s) would be due to other, obscure factors which may also be "soft" factors such as speech style, text genre etc. These factors are discussed in further detail in sec. 18.4.

However, this generalizing assumption is again belied by cases where a language has only one strategy for verb borrowing and where this strategy is different from the one that could be expected from the morphosyntactic resources of the language.

For instance, in the variety of Moroccan Arabic spoken by expatriates in in the Netherlands, Dutch verbs are accommodated by the Light Verb Strategy using a 'do'-construction which corresponds neither to Moroccan Arabic nor to Standard Dutch usual structures of verbal inflection (Boumans 1998: 224, 267–268):

(130) Arabic (Moroccan; in the Netherlands) [ary] < Dutch [nld]

(Boumans 1998: 232)

ma ka-n-dir-u-š uitlach-en
NEG ASP-1-do-PL-NEG laugh_at-INF
'We're not laughing at [you]!'
< [nld] uitlachen 'to laugh at'</pre>

A mirror-image of this occurs in Welsh, which freely allows finite native verbs to be paraphrased with a light verb construction involving the corresponding verbal noun followed by the light verb 'do'. Nevertheless, Indirect Insertion appears to be the default loan verb accommodation strategy (King 1993: 132; Thorne 1993: 319) and Direct Insertion is also in wide use (Gensler 2004b: 16; Rogers 2006). Alas, this multiplicity in Welsh is not accurately reflected in some of the distributional analyses of the present study because the lack of corresponding examples has escaped me when the LVDB sample was closed (cf. sec. 2.4.1.1).

16.5.2 Concluding note

The findings of sec. 16.3 suggest that the change in productive use from more to less complex accommodation strategies is not an inevitable development

but rather a process that *can* occur over longer times of contact, if other factors favor that development.

In the light of the data presented in the previous two sections, one must therefore bear in mind that observed pattern usage changes are *not* a reliable indicator for assessing the age of a loanword at all for two reasons.

First, patterns can be reactivated or stay productive regardless of general tendencies of shifting pattern use or presumed tendencies of reducing integrational effort over the time.

Second, changing speaker preferences may at all times override or reverse the effects of such tendencies and thus preclude reconstruction. The diachronic perspective of multiple pattern use is discussed on a more general level in sec. 19.4.1 and 19.5.

Furthermore, changes in the speakers' preferences of accommodation patterns appear to be determined by extralinguistic (social) factors like contact history, attitude toward borrowing or changes in the degree of bilingualism rather than grammatical factors. This has been shown in sec. 16.3 for the diachronic development and has been confirmed by the findings on the parallel use of synchronically available patterns as outlined in sec. 16.4.

The importance of these "soft" factors which are not based on grammatical properties should not be underestimated. Nonstructural factors must also to be taken into account when making generalizations about pattern and strategy distributions, about verb borrowability and about the presumed dependence of accommodation techniques on structural compatibility.

Chapter 17 Borrowing of accommodation patterns

17.1 General remarks

Borrowing does not stop at the lexical level. While it is perhaps not as frequent and probably not as easily visible as lexical transfer, grammatical borrowing, i.e. the transfer of morphemes and constructions is also widely attested.

By *grammatical borrowing* I do *not* mean cases of "frozen" morphology that were copied along with a lexeme (cf. sec. 9.4.1), but rather those cases where the transferred grammatical morpheme retains its function – or one of its functions – in the recipient language.

Sometimes these borrowed morphemes eventually become productive in the recipient language so that they are not restricted to loanwords any longer.

On this background, it does not come as a complete surprise that a language may also borrow an accommodation pattern from another language. Mostly, such accommodation patterns find their way into other languages alongside so-called *wanderwörter* (German: 'wandering words') — internationalisms that are borrowed by many languages or throughout an entire linguistic area.

This chapter illustrates different examples of loan verb accommodation patterns that were borrowed themselves.

Borrowing of accommodation patterns – and thereby eventually also strategies – can be used to explain the occurrence of multiple patterns within a language, the presence of typologically unexpected accommodation techniques in a language, and conspicuous areal distributions of particular patterns and strategies.

Such a scenario of accommodation pattern borrowing can be observed, for instance, in Romani, whose numerous varieties in fact each employ various inflectional suffixes from Greek to accommodate loan verbs from other languages. These suffixes do not have any other function in Romani but to signal that the lexeme they attach to has been borrowed — a function that has already been illustrated in sec. 7.4. One such example in Romani is (131) with the loan verb marker $\{-as\}$ which originates from Greek verbs in $\{-az-o\}$ (Bakker 1997a: 13).

Bakker (1997b: 12–13) gives the following summary for the history and origins of these loan verb accommodation patterns in Romani:

"Borrowed verbs are only integrated with a loan marker between the borrowed verb and the inflection. These markers find their source in aorist markers. Anatolian Greek dialects use the Turkish aorist/preterit marker -*d*- as does the Sepecides Romani dialect. Other Anatolian Greek dialects use the -*iz*- element which is derived from the Greek signatic aorist (Boretzky and Igla 1991: 35). This element is also used in several Romani dialects, sometimes followed by the Romani element -*ar*-, notably in Vlax dialects."

In his evaluation of these examples, Bakker considers such borrowing of an accommodation pattern "highly unusual if not unique" (1997b: 18) and thus indicative of a specific situation of intensive language contact.

Four example cases from a number of geographically and genealogically distinct languages will be used in the following sections to demonstrate that the transfer of accommodation techniques and the morphemes used for loan verb accommodation is actually not such a unique or areally restricted case after all.

17.2 Two cases from South America

17.2.1 The $\{-oa\}$ suffix in Yaqui

In another region of the world, but still involving an Indo-European donor language, namely Spanish, another example for the diffusion of an accommodation pattern can be found.

Nahuatl [nhn] accommodates most verbs from Spanish [esp] by means of the Direct Insertion strategy. All loan verbs borrowed this way are assigned to the open class of verbs with the infinitive suffix and verb class marker $\{-oa\}$, cf. (132), effectively making the suffix a loan verb marker.

(132) Nahuatl (Pastores) [nhn] < Spanish [esp] (after Wichmann 2004a: ex. 8c) puntar-oa point-INF

point-INF
'to point'
< [esp] apuntar 'to point'</pre>

The neighboring language Yaqui [yaq] borrows verbs from Nahuatl and Spanish alike. Eventually, the Nahuatl {-*oa*} verb class marker became part of the input form and thus borrowed along with some directly inserted verbs from Nahuatl, cf. (133):

 (133) Yaqui [yaq] < Nahuatl (Central) [nhn] (Estrada Fernández 2005: 3 ex. 1) tekipanoa work 'to work' < [nhn] tequipanoa 'to work'

Yet, the affix was not interpreted by speakers of Yaqui as part of the borrowed verb stem, but (re-)analyzed and seen as a distinct affix which was eventually put to productive use in the recipient language. According to Estrada Fernández (2005: 7), Yaqui also borrows verbs from Spanish directly and not through Nahuatl. These verbs, however, *also* bear the $\{-oa\}$ marker which previously was not a suffix of Yaqui. This is illustrated in ex. (134):

(134) Yaqui [yaq] < Spanish [esp] (Estrada Fernández 2005: 7 ex. 11)
mediar-oa
mediate-LVM
'to mediate'
< [esp] mediar 'to mediate'³²

Apparently the affix that occurred on Nahuatl loan verbs – and those Nahuatl verbs borrowed from Spanish – became reanalyzed in Yaqui as a loan verb marker used to accommodate loan verbs from both languages into Yaqui. This affix seems to be quite productive: It is applied both to older and modern borrowings as well, and also to nonce forms.

Two points about this borrowing of an accommodation technique are remarkable, also cross-linguistically and with regard to Bakker's generalization mentioned on the preceding page. First, it must be pointed out that this is a clear case where a recipient language uses a morpheme borrowed from one immediate donor language to accommodate loan verbs from *another* immediate donor language.

Second, the function of the affix changed from an inflection class marker in Nahuatl to loan verb marker in Yaqui. Accordingly the borrowed accommodation pattern eventually belongs to two different strategies in the donor and the recipient languages; namely Direct Insertion in Nahuatl vs. Indirect Insertion in Yaqui.

17.2.2 The {-*n*-} marker in some Panoan languages

In the following example, the affix in question has a different grammatical function in the model languages which is closer to the function of a loan verb marker. Shipibo-Konibo [shp] is in intensive contact with Quechua and Spanish and uses the same verbalizer suffix $\{-n\}$ to accommodate verbs from both of these languages:

(135) Shipibo-Konibo [shp] < Quechua (Huallaga) [qvh], Spanish [spa] (Valenzuela 2003)

> justamente la educación r-iki no-n precisely ART.F education EVID-COP 1PL-ERG voi-ti único atipa-n-ke la ... el say-INF.ABS can.SBJV-VBLZ-COMPL ART.F ... ART.M only camino que cambia-n-ti no-a that 1PL-ABS change: 3-VBLZ-INF road 'Precisely education is, we could say, the... the only road that can change us.' < [qvh] *atipa* 'to be able to' < [spa] *cambiar* 'to change'

Valenzuela (2004: 3; 2005: 126–128) notes that other Panoan languages such as Wariapano [pno] and Capanahua [kaq] follow the Shipibo-Konibo pattern by using their own $\{-n\}$ suffix for the accommodation of Spanish loan verbs, too, cf. ex. (136). In this case, the affix itself was not borrowed, but the extension of its function from verbalizer to a loan verb accommodation device spread among the different Panoan languages, modeled on the precedent created by Shipibo-Konibo.

(136) Capanahua [kaq] < Spanish [spa] (Valenzuela 2005: 126 ex. 3) noke-n 'aibo-bo koira-n-we lPL-GEN woman-PL:ABS take_care_of-LVM-IMP 'take care of our women!' < [spa] cuidar 'to take care of'</p>

While this extension of a morpheme's use is metatypy rather than material borrowing as defined in sec. 3.2.3, it is nevertheless further evidence that accommodation techniques can be transferred.

17.3 The European {-Vr-} suffix

Another prominent example of a loan verb accommodation pattern being borrowed once again involves Romance languages. This case, however, is a pan-European story, involving languages from almost all language families present in Western Europe, except Basque and the Celtic branch of Indo-European.

Even though its precise function as well as its phonological shape vary considerably across the languages involved, its different manifestations can nevertheless clearly be identified by common structural features: a (long) vowel and an /r/ sound, followed by the recipient language's infinitive. Hence I label it *{-Vr-} suffix*. In the following subsections I want to trace back the history of this affix and illustrate its distribution.

17.3.1 {-era} in Northern Europe

One instance of the *{-Vr-}* suffix has already been mentioned in sec. 16.3.1: Finnish used, among others, a complex loan verb marker {*-eerata*}, shown in ex. (113) on page 209, which consists of the native Finnish infinitive suffix {*-ta*} following a borrowed suffix {*-eera*}:

(137) Finnish [fin] < Swedish [swe] (Hennariikka Kairanneva, p.c.)
sit-eera-ta
quote-LVM-INF
'to quote'
< [swe] citera 'to quote'</pre>

The latter suffix $\{-eera\}$, which is also present in the model form of (137), can be identified as a copy of Old Nordic $\{-era\}$. Until today, loan verbs in most Nordic languages, especially borrowings from Latin and French, take loan verb marker suffixes that descend from this form.

The Old Nordic {-*era*} suffix itself appears to be based on the Middle Low German suffix {- $\hat{e}ren$ } (cf. Simensen 2002: 955), which must have arrived along with some verbs borrowed from their (ultimate) Romance sources via Middle Low German. Examples for such loan verbs are (138), or *fallera* 'deceive, mislead' and – with unmistakably Romance origins – *formera* 'to form, shape':

(138) Old Nordic [non] < Middle Low German [gml]

(Simensen 2002: 955)

spaz-era
take_a_walk-LVM:INF
'to (take a) walk'
< [gml] spazêren 'to (take a) walk'</pre>

This {-*era*} pattern was successively extended to other loan verbs, even those taken over directly from Latin, such as the one in (139a). Other examples are *komponera* 'to compose', and *traktera* 'to treat, entertain'. Note that the input form here is an abstract stem without the Latin inflection class markers.

Furthermore, it should be mentioned that according to Simensen (2002: 955) an alternative – shorter – pattern existed, namely $\{-a\}$, yielding corresponding forms as e.g. *kompona* or, correspondingly, (139b):

(139)	Swedish [swe] < Latin [lat]		(after Simensen 2002: 955)
	a.	<i>disput-era</i> dispute-LVM:INF 'to dispute'	
	b.	disput-a dispute-INF 'to dispute' < [lat] disputāre 'to dispu	te, debate'

Nevertheless, it is the {-*era*} pattern which was generally applied to the full range of Latin and Old French loan verbs and which eventually found its way

into Finnish. At later stages, it is exactly this pattern which was also applied to loan verbs form non-Romance languages (cf. Simensen 2002: 955).

17.3.2 {-*ier*} in German(ic)

As mentioned above, the Old Nordic suffix $\{-era\}$ is based on the Middle Low German suffix $\{-\hat{e}ren\}$, which itself corresponds to Middle High German and present-day High German $\{-ieren\}$.

According to Müller (1986: 75), this suffix is one of the oldest loan elements found in German, being documented already in texts of the 12th and 13th century where it occurred with loan verbs from Old French and Latin, as in (140):

(140)	Middle High German [gmh] < Latin [lat]	(Kluge 1995: 185)	
	disput-ier-en		
	dispute-LVM-INF		
	'to dispute'		
	< [lat] disputāre 'to dispute, debate'		

The loan verb in (140) is apparently at least four centuries older than the corresponding German noun *der Disput*, which is not documented before the 16th century and thus seems to be a back-formation based on the loan verb (cf. Kluge 1995: 185).

Already at the time of these borrowings, though, {-*ier*} was also used as a verbalizing suffix, deriving verbs out of borrowed and native nouns alike, as in Middle High German *zimieren* 'decorate a helmet with a crest', derived from the loan noun *zimier* 'crest (of a helmet)'. That noun is based on the Old French noun *cimier* with the same meaning which did not have a corresponding verb (cf. Öhmann 1959: 277). The derived verb must therefore be a German innovation.

This additional functionality can best be explained by the function(s) that two (homophonous) {-*ier*} suffixes have in French. In Old French, {-*ier*} was the infinitive suffix of one inflectional class going back to a subset of Latin verbs in {- $\bar{a}re$ } whose stem ended in a palatal, like French *traitier* 'to treat' < Latin *tractāre*. By the end of the 13th century, this inflectional class had already merged again with the class ending in {-*er*} in Old French (cf. Müller 1986: 75). Thus, verbs ending in $\{-ier\}$ were not particularly frequent so that the borrowing of this suffix and its prodictivity in German cannot be sufficiently explained by their frequency in French alone. The shape of the German affix must have been reinforced by other forms. The candidates for these forms are the French infinitives in $\{-ir\}$ (according to Müller 1986: 75), and/or by the French nominalizing suffix $\{-ier\}$, which originated in Latin $\{-\bar{a}rium\}$ (Öhmann 1959: 277; cf. also Kluge 1995: 394).

At any rate, the {-*ier*} suffix was reanalyzed in German and other Germanic languages as a loan verb marker and verbalizer and stayed in productive use, which eventually was even extended: It was applied to borrowings not only from Romance but also from other languages:

(141) Swiss German [gsw] < English [eng]

(Busse and Görlach 2002: 25)

park-ier-en
park-LVM-INF
'to park'
< [eng] park</pre>

Beginning in the 16th century, this usage of the accommodating and derivational affix was also reinforced by loanwords from Italian, especially legal and scientific terms, with Italian verbs ending in {-*ire*}, {-*are*} and {-*ere*} (cf. Rosenfeld 1959: 351).

In the end, the $\{-ier\}$ suffix became one of the most productive affixes of German verbal derivation. There, its function besides being the loan verb marker is to derive verbs from nouns or adjectives or add iterative meaning to basic verbs, so that over 1700 verbs with this ending are found in modern German (cf. Müller 1986: 75).³³

The affix was – and marginally probably still is – also used to derive verbs from native nouns like e.g. *hofieren* 'to court' from *Hof* 'the court', *buchstabieren* 'to spell' from *Buchstabe* 'the letter (of the alphabet)', or *halbieren* 'to divide in half' from *halb* 'half'.

In the course of time, its use as a loan verb marker, though, apparently decreased. Present-day German mainly uses Direct Insertion, but in Swiss German Indirect Insertion using {*-ieren*} appears to be preferred, which explains German doublets like *parken* vs. *parkieren* 'to park (a car)', cf. ex. (141). The suffix also occurs under certain phonological conditions, as has been illustrated in sec. 16.4.3.

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A secondary form of this suffix involves the (Romance) derivational morpheme $\{-is\}$ as it occurs in French *organiser* 'to organize'. Adding this to the $\{-Vr-\}$ suffix in German yields the complex suffix $\{-isieren\}$, which is also used as a causative/factitive suffix. A corresponding verbalizer $\{-ize\}$ also exists in English, cf. the verb's borrowed counterparts *organisieren* in German and *to organize* English.

Although it has been used with native words as well almost since it had been borrowed, the affix has long been considered a foreign element (cf. Müller 1986: 75 quoting Schottel 1663 [1967]: 1015; Rosenfeld 1959: 353).

In a similar fashion, the suffix is also used as an accommodation pattern in Low German and Dutch, cf. ex. (119) and (120) on page 214.

17.3.3 A collateral line in Slavic

German(ic) loan verbs not only spread northwards, but also entered many Slavic languages. Some of these languages eventually borrowed the $\{-Vr-\}$ suffix along with such verbs.

In those Slavic languages that borrowed it, the $\{-Vr-\}$ suffix generally assumed the shapes $\{-ira-T\}$, $\{-irova-T\}$ or – augmentend by $\{-is\}$, like above – $\{-izirova-T\}$. The /T/ here is the abstraction of an infinitive marker that can be /t^j/, /t^j/, /t^j/, /ti/, etc., if the recipient language has an infinitive, such as Croatian in ex. (142), or Russian in ex. (6) on page 57. It is otherwise not realized in languages lacking an infinitive such as Macedonian in ex. (143), or Bulgarian in ex. (144) on the facing page.

(142)	Croatian [hrv] < English [eng]	(Filipović 2002: 232)	
	kidnep-ir-ati	_	
	kidnap-LVM-INF		
	'to kidnap'		
	< [eng] kidnap		
(143)	Macedonian [mkd] < German [deu]	(Neikirk Schuler 1996: 143)	

(143) Macedonian [mkd] < German [deu] (Neikirk Schuler 1996: 143) toj recit-ira stixotvorba 3SG recite-VBLZ poem '(s)he is reciting a poem' < [deu] rezitieren 'to recite'</p>

Further examples are the Russian loan verbs mentioned in sec. 3.3.1. The descendants of the $\{-Vr-\}$ suffix became part of the productive verbalizer and

loan verb marker affixes in many Slavic languages, and they are nowadays available also for borrowings from languages that are neither Romance nor Germanic, as can be seen from (144), with a loanword from Turkish.

(144) Bulgarian [bul] < Turkish [tur] (Neikirk Schuler 1996: 40)
bas-ír-am
bet-VBLZ-1SG
'I bet/to bet'
< [tur] bahis 'bet'</pre>

17.3.4 The second lineage: $\{-ar(e)\}$

In sec. 17.3.2, the {-*ieren*} suffix of German was traced back via Old French {-*ier*} to the Latin infinitive plus inflection class marker {- $\bar{a}re$ }. By way of Latin's daughter language Italian, this ending also gave rise to another loan verb accommodation affix.

Modern Greek normally uses the Light Verb Strategy, involving *káno* 'to do' to accommodate loan verbs, but Indirect Insertion is also an option, as illustrated in ex. (128) on page 219 and in ex. (145).³⁴ At any rate, the loan verb marker $\{-ar\}$, used in Greek for Indirect Insertion like in ex. (145), is derived from the Italian infinitive $\{-are\}$, which itself again goes back to the Latin ending mentioned above.

(145) Greek (Modern) [ell] < Italian [ita] (Kahane, Kahane, and Tietze 1958: 68)

mour-ar-o
haul-LVM-1SG
'I/to set the lower sails of a ship'
< [ita] amurare 'to set the lower sails of a ship'</pre>

This affix is used productively in Modern Greek to accommodate French, Italian and English loans (cf. Mackridge 1987: 315).

In a further step, the affix was then borrowed from Greek into Romanian. There, it became – fused with the Greek aorist suffix $\{-isi\}$ – a new productive loan verb marker $\{-arisi\}$, used not only for loan verbs from Greek, but also from Italian and French (cf. Heath 1984b: 373–374), cf. ex. (146) on the following page.

(146) Romanian [ron] < French [fra] (Heath 1984b: 373–374) amuz-arisi amuse-LVM 'to amuse' < [fra] amuser 'to amuse'</p>

It is worth noting that Romanian also took over another verbalizer suffix that serves as a loan verb marker, namely {*-iza*}, which is modeled on the French {*-iser*} suffix that has already been mentioned on page 232 (cf. Heath 1984b: 374; Constantinescu, Popovici, and Ştefănescu 2002: 183), as is illustrated in ex. (147).

(147) Romanian [ron] < English [eng] (own data)
 a organ-iza
 INF organize-VBLZ
 'to organize'
 < [eng] organize</pre>

As could be seen from the previous two examples, Romanian actually received two distinct varieties of the $\{-Vr-\}$ suffix through both major lineages.

All in all, the various presented loan verb accommodation patterns involving the $\{-Vr-\}$ suffix, going back to the Latin infinitive $\{-\bar{a}re\}$, have spread over most of Europe, thereby leading to the noteworthy regional distribution of the Indirect Insertion strategy mentioned in sec. 13.3.3.1.

17.4 Participle borrowing in some Indoiranian languages

Similar to the pattern discussed in the previous section, the following case also contributed to the noteworthy regional distribution or Light Verb Strategy vs. Indirect Insertion in Eurasia.

The *participle + light verb* construction mentioned in sec. 8.6 appears to occur predominantly in some of the languages of Iran and its Circum-Caspian neighbors, namely Talysh [tly], Zazaki [diq], Tat [ttt], Tajik [tgk], Sarikoli [srh], and Kurdish [kmr] borrowing from their Turkic neighbors Turkish [tur], Azerbaijani [aze], Uzbek [uzb], and Uyghur [uig] (cf. Ido 2006). Examples for this pattern are ex. (80) and (81) on page 112 and ex. (148) and (149) on the facing page.

(148) Kurmanji (Central) [kmr] < Turkish [tur] (Ido 2006) bašla-miš kïrïn start-PTCPL do 'to start' < [tur] bašla-miš 'start-PTCPL'

(149) Persian [pes] < West Middle Mongolic [xng] (Doerfer 1963: 130–131 ex. 20) asarā-mīš-ī kard care for-PTCP-ABSTR do

care_for-PTCP-ABSTR do 'to care for, to look after, to raise' < [xng] *asara-* 'to care for, look after'

It is not entirely clear where, when, and under which circumstances this pattern originated and which language(s) subsequently copied it from which. However, the distribution of this pattern is best explained by borrowing of the pattern since it seems very unlikely that such a pattern should emerge independently in several languages of a relatively confined area.

As already mentioned in sec. 8.6, the $\{-mis\}$ -form is not productive anymore at least in some of the modern varieties of the donor languages, e.g. Uzbek and Uyghur. With regard to the borrowing history of the suffixed forms, one can then assume two different scenarios that are based on Ido's (2006) interpretation of the data.

In the first scenario, all verbs bearing the $\{-mis\}$ suffix must have been borrowed from these languages centuries ago, and the suffix was only a specific input form required by an accommodation pattern that gained wider currency at the time the suffix was still productive. In this case, more recent borrowings from the same donor languages would not need to show the suffix and it need not be a productive element in the recipient languages at all.

In the second scenario, the suffix itself must have been borrowed along with verbs from Turkic languages as a suffix. Once it lost its function in the donor languages, it was not part of available input forms any more. It must then have been reanalyzed in some of the recipient languages and thereby became an integrated part of a new, productive loan verb accommodation pattern.

According to the data and analysis presented in Ido (2006) and Haig (2001), neither scenario can be ruled out conclusively. Nevertheless, the second one seems more plausible to me. This view is supported by forms like the one in ex. (149), because they involve a loan verb from a non-Turkic language which does not, and probably never did, have any morpheme resembling Turkic {-*miš*}. Therefore, the suffix could not have been borrowed along with such verbs from Mongolic but must rather be part of a productive (and apparently donor-independent) accommodation technique at least in Persian.

Rather than only one of the two scenarios accounting for all of the recipient languages mentioned above, it also may well be the case that the different scenarios are true for different recipient languages.

Whichever the case may finally be, this spread constitutes transfer of a loan verb accommodation technique: Either the accommodation pattern requiring the specific input form was borrowed among the Iranian languages, or the borrowed $\{-mis\}$ element from Turkic became part of an accommodation pattern.

17.5 The {(*e*)*be*-} Prefix of some Bird's Head languages

In sections 7.4.2 and 16.4.3, the example of the specific loan verb marker $\{ebe-\}$ in Meyah was mentioned. It is illustrated in example (59) on page 99 and here in (150) with a different model verb:

(150) Meyah [mea] < Indonesian [ind] (Gravelle 2002: 149)
 ebe-pikir
 LVM-learn
 '(s)he thinks.'
 < [ind] pikir 'to think'</pre>

Since Meyah verb and adjective stems must always begin with a vowel (cf. Gravelle 2002: 130), this adaptation is necessary so that the replica verb can function as the host for native inflection (person-number, modality, aspect) which mainly consists of prefixes (cf. Gravelle 2002: 149).

According to Gravelle, the use of {*ebe-*} in Meyah is "restricted to the use on Indonesian loan words only" (Gravelle 2002: 149), that is the morphophonological accommodation of verbs borrowed from Indonesian. To be more precise, these borrowings could be either from the national language Indonesian (Bahasa Indonesia) or the local variety of Papuan Malay — both sources are basically varieties of Malay. This particular accommodation ensures that loan verbs in Meyah begin with a vowel, a requirement of Meyah's prefixing verbal inflection, since the Malay input forms usually do not.

However, Reesink (2002a: 16) also mentions loan verbs from Hatam [had] in Meyah, bearing the same prefix. Due to its limited use on borrowed verbs only, the prefix is nevertheless a pure loan verb marker in Meyah. This raises the question how and why such a prefix with that exclusive function could have come into being.

In his overview of Eastern Bird's Head languages, Reesink (2002a: 16) reports that some of these languages feature a similar prefix. Some of these languages and their prefixes will be shown in the following examples in order to show their different shapes and scopes.

In Sougb [mnx] the loan verb marker prefix is {*ebe-*}, too. However, it can be related to the full verb *eba* 'to do' which also exists in that language (cf. Reesink 2002b: 212), but when used as a prefix, it is analyzed as a loan verb marker in Reesink (2002a), cf. ex. (151). Similarly, a loan verb marker and verbalizer {*bi-*} is found in Abun [kgr], as shown in (152), and Mpur [akc], as shown in ex. (153), where its use is optional with native roots (cf. Odé 2002: 56):

(151)	Sougb [mnx] < Hatam [had]	(Reesink 2002a: 16)	
	ebe-rwei		
	LVM-change		
	'to change, translate'		
	< [had] <i>ruei</i> 'to change'		
(152)	Abun [kgr] < Biak [bhw] men bi-win mu mo ef. 1PL LVM-sail go LOC island 'Let's sail to the island.' < [bhw] win 'to sail'	(Berry and Berry 1999: 5)	
(153)	$\langle [onw] with to sum$ Mpur [akc] $\langle Indonesian [ind]$	(Odé 2002: 56 ex. 30)	
()	bi-undang	(0.00.000.000.000)	
	LVM-invite		
	'to invite'		
	< [ind] undang 'to invite'		

Yet, in Abun, as seen in (152) the scope of this loan verb marker prefix is again not restricted to loan verbs from Indonesian (cf. Berry and Berry 1995: 5; Reesink 2002a: 16–17). Its origin and scope are summarized as follows:

"A *bi*- prefix, probably borrowed from the Biak language, is attached to verbs that are introduced from other languages. All borrowed verbs are verbalized

with what could be named, the foreign verb verbalizer (FVV) prefix." (Berry and Berry 1995: 5)

As Berry and Berry indicate, this loan verb marker could have been borrowed as such from Biak, where indeed an analogous form is found. Actually, Biak has several homophonous forms {ve(-)}, one of which is the verbalizer and loan verb marker illustrated in (154). Other functions – which are, however, less likely to be relevant for the emergence of the loan verb marker – are: relativizer, auxiliary 'to be about to', full verb 'give' (also used as a causative marker), possessive marker, and preposition 'to'. With regard to this broad functional range in Biak, van den Heuvel (2006: 183) explains:

"In combination with (verbal) loan words, the verbalizer *ve*- again has a purely grammatical function; it makes it possible for the loan word to function as a verb."

(154) Biak [bhw] < Indonesian [ind] (van den Heuvel 2006: 183 ex. 64) Indya yavemulai farfyár anya. indya ya-ve-mulai <RED>fár an-ya so 1SG-VBLZ-begin <RED>tell GIV-3SG.SPC 'So I begin the story.' < [ind] mulai 'to begin'</p>

The – extinct – neighboring language Mansim $[xhm]^{35}$ had a similar verbalizing prefix {*we*-}~{*wo*-}~{*wa*-} that was also used to incorporate loan words (cf. Reesink 2002a: 16; Reesink 2002c: 285):

(155) Mansim [xhm] < Indonesian [ind] (Reesink 2002c: 285 ex. 24) uno-tutup war de VBLZ-close water 3SG.POSS '(s)he covers the glass of water' < [ind] tutup 'to close, to cover'</p>

Reesink (2002a: 16) suggests that Sougb and Meyah borrowed the $\{ebe-\}$ verbalizer prefix from Hatam [had]. On the other hand, in his concluding paragraph on the issue, he draws a somewhat contradicting picture:

"My tentative scenario is that Sougb, Meyah, Hatam (and Mansim) and Mpur share the form on genetic grounds, and that Biak-Numfor has adopted it through contact with Mansim. Later it may have found its way into Abun either from Biak or more directly from its NAN [non-Austronesian; J.W.] neighbour Mpur." (Reesink 2002a: 17) Two facts suggest that his first proposal is more appropriate and that the affix has indeed been borrowed specifically as loan verb marker or verbalizer. First, the Meyah prefix has only one particular function of the many functions it has in the neighboring languages. Second, the prefix shows no allomorphy in Meyah and Sougb.

Apparently, the specialized loan verb marker prefix $\{ebe-\}$ of Meyah thus has its origins in a borrowed verbalizing prefix that was assigned a new, more restricted, function due to morphophonological requirements involved in the accommodation of loan verbs in Meyah.

It can clearly be seen that the prefix lost many of its original functions during the process of subsequent borrowings among neighboring, mostly related languages, and that only that function remained that was necessary for the accommodation of loan verbs — which originally were the host of that prefix.

17.6 Summary: Pattern borrowing

17.6.1 General findings on pattern borrowing

It has been demonstrated by the four case studies in this section that the borrowing of an accommodation pattern is not as unique a case as Bakker (1997b) claimed (cf. the quote on page 225). Quite to the contrary, the borrowing of accommodation techniques seems to be attested world-wide and furthermore it apparently has some general properties that reoccur more or less prominently in all of the cases presented here. Further examples of "integration elements" used for loan verb accommodation that were successfully transferred between languages can be found in Breu (1991).

Loan verb accommodation techniques that get borrowed usually are affixes or constructions that in the donor languages have multiple functions, one of which can, but need not, be loan verb accommodation. Other functions these constructions have are: infinitive and/or inflection class marker, verbalizer, causative, auxiliary, or full verb.

These constructions or affixes may eventually get borrowed along with loan verbs. Such morphology that becomes part of the input form is normally not analyzed but treated as an integral part of the loan word's input form (cf. ch. 5) which is thus usually considered monomorphemic. Occasionally, however, the input form becomes analyzed in the recipient language. Then, its affixation either maintains (parts of) the function(s) it had in the donor language also in the recipient language, or it is assigned a new function in the recipient language.

If the construction is already a loan verb accommodation technique in the donor language and maintains that function in the recipient language, the strategy it belongs to can stay the same. More frequently, though, there is a change of strategy involved. This is essentially the case when a construction from a donor language using Direct Insertion becomes an affix for Indirect Insertion in the language borrowing it.

17.6.2 A borrowing path of loan verb markers

The data on the $\{-oa\}$ suffix in Yaqui, the $\{-n\}$ marker in Panoan, the $\{ebe-\}$ prefix in the Bird's Head languages, and the $\{-Vr-\}$ suffix in the European languages show that borrowed accommodation patterns tend to have a more limited functional range the more often they are "re-borrowed", and that their function and scope eventually narrow down to be a specific loan verb marker.

I therefore suggest the following borrowing and grammaticalization path of loan verb markers:

$\label{eq:Infinitive} Inflection \ CLass \ Marker > Verbalizer > \\ Loan \ Verb \ Marker$

Figure 6. Borrowing path of loan verb markers

If an affix is an infinitive marker, it is generally applicable to all verbs of a language if one leaves aside allomorphy. If there are different infinitive markers in a language, these can be used to establish subclasses of verbs, similarly to inflection class markers which in some languages are fused with infinitive markers. As such, their scope is not over all verbs but over one class of verbs only.

Especially in cases of zero conversion, the attachment of an infinitive or inflection class marker is the only visible indicator of verbalizing derivation. The verbs such derived then are a (sub)class of that inflectional class or the general class of verbs. Similarly, causative or factitive markers (that, too, may be fused with infinitive markers) assign the verbs they derive to a special class.

It is exactly this function of verbalization or part-of-speech assignment that may eventually give raise to a specialized affix which is exclusively used for accommodating the small class of borrowed verbs.

The path in fig. 6 thus gives a possible explanation of how loan verb markers in general can emerge through the interaction of grammaticalization and borrowing. Any element on this path is more specific in its function to loan verb accommodation than its neighbor to the left. The further left on the path an element is, the less integrational effort it incurs. Borrowing of an element from one language into another can occur at any place along the path. The borrowing event and the narrowing down of the marker's function can – but need not – coincide. If they do not coincide, the borrowing precedes the change in function. These generalizations boil down to the following prediction:

If an element of the borrowing path of loan verb markers is borrowed, its model form is found either on the same position or further to the left of this path, but never further to the right.

Figure 7. Prediction on the borrowing of loan verb markers

Part IV

Interpretation and conclusion

Chapter 18 Determining factors

18.1 About this chapter

It became evident throughout the previous part that loan verbs can be accommodated by various techniques whose distribution across languages, language types, and geographic areas is not entirely random but rather depends on a wide variety of factors.

Some of these factors are grammatical in their nature, that is, they are structural features of the languages involved – or correlate with these – and are mostly those of the recipient languages. Other factors are external to the languages, such as the social and cultural circumstances of the languages and their speakers.

Identifying and explaining relevant factors allows for predictions about the use and distribution of accommodation techniques in other languages. Furthermore, it adds to our understanding of loan verb accommodation processes — and of loanword accommodation in general.

This chapter therefore summarizes the various putative and confirmed factors which were either mentioned in previous publications on verb borrowings or became evident in the present study. They will be evaluated with respect to their impact on the way languages accommodate – or do not accommodate – loan verbs.

The first section (18.2) focuses on word-class specific borrowability and on the structural factors governing pattern and strategy choice that have been touched upon in this work. Verb-specific grammatical factors beyond class membership will then be evaluated in sec. 18.3.

Other, extra-linguistic, factors are then discussed in sec. 18.4. Section 18.5 summarizes all the factors and evaluates their relevance for the study of loan verb and loanword accommodation.

18.2 Word-class-related factors

18.2.1 Grammatically conditioned borrowability of word classes

It is a commonplace statement that verbs are borrowed with greater integrational effort than other parts of speech or that such borrowing does not result in verbs. This idea can be traced back to Whitney (1881), Meillet (1921) and Haugen (1950), and has subsequently been reconfirmed e.g. by Moravcsik (1975), van Hout and Muysken (1994) or, most recently, Haspelmath (2008). The following textbook quote is typical of this notion:

"Although verbs are borrowed more easily than basic vocabulary, they nevertheless are not as readily borrowed as nouns. And if the need for borrowing a verb does arise, many languages instead borrow a nominal form of the verb and employ a native all-purpose verb such as *do* or *make* as a means of turning that form into the equivalent of a verb." (Hock and Joseph 1996: 257)

It has been demonstrated in this work that many languages – the majority of the LVDB sample languages – actually are capable of directly inserting borrowed verbs without the necessity to make a detour via denominal verbalization. Furthermore, the resulting forms are in many instances not just "equivalent[s] of a verb", but full-fledged members of the class they were borrowed into.

In many languages with grammatical gender, nouns are in fact *not* easier to accommodate than verbs. German, for instance, can borrow and accommodate verbs by Direct or Indirect Insertion and assigns them to the open class of weak verbs which then are inflectable like native verbs:

(156) German [deu] < English [eng] (own data) ich chatte, du chattest, wir chatteten, gechattet I chat:1SG, you chat:2SG, we chat:1PL.PST, chat:PTCP 'I chat, you chat, we chatted, chatted' < [eng] chat</pre>

While verbs thus are easily accommodated in German, nouns like e.g. (157) have to be assigned a gender and – occasionally – a suitable plural form, and this assignment seems to be less agreed upon by speakers of German than the integration of loan verbs. I will briefly illustrate this by means of two examples.

First, loan nouns must be assigned a grammatical gender in German. For many loanwords, this assignment is unclear and doublets or even triplets like the one in (157) are found:

(157) German [deu] < English [eng] (own data)
 der / die / das Email
 ART.M / ART.F / ART.N e-mail
 'the e-mail'
 < [eng] e-mail ''</pre>

Second, these loan nouns must also have a plural form. On several occasions I overheard people – laypeople as well as linguists – discussing whether their meals, a plurality of Italian *pizza*, should in German appropriately be referred to as *Pizzen*, *Pizzas*, *Pizze* or even *Pizzae* — a discussion picked up already in the title of Wegener's (2004) paper which suggests several (phonotactic) parameters according to which plural forms are assigned and considered appropriate.

Nevertheless, similar to multiple gender forms, in many cases several more or less acceptable plural forms of the same loan noun exist in parallel and there is considerable disagreement among the speakers of German regarding the various forms' appropriateness.

The sheer amount of literature on the assignment of gender to loanwords in German speaks for itself. See e.g. Fischer (2005) for a detailed account and Stolz, Ch. (2008) for a recent case study on loan noun gender and Wegener (2004) for loan noun plural assignment in German.

These various problems of loan noun accommodation in German may serve to illustrate that not only *verbal* categories can cause integrational difficulties in the process of loanword accommodation.

It becomes clear that the mere membership of a (donor language) lexical item in the class of verbs is often not sufficient for safe, cross-linguistically valid, assumptions on the borrowability of such item.

Other structural and non-linguistic factors, which mostly are particular to the recipient language, cannot be neglected. This has already been pointed out by Campbell (1993: 100) and, in the same words, again by Harris and Campbell (1995: 132):

"In brief, while some grammatical categories may typically be more resistant to borrowing than others, an absolute ranking will provide little real satisfaction. The circumstances of each borrowing situation may lead to violations in individual languages of any proposed borrowability scale."

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The following subsections take up some of these factors again, in order to evaluate their cross-linguistic validity and usability for claims on (verb) borrowability in general.

18.2.2 Semantic differences

Some further factors that are related to part-of-speech membership but do not deal with the grammatical structure of the words in question reoccur in the discussion of verb borrowability. Such factors mostly involve semantic and cognitive differences between word classes as well as differences in their discourse frequencies. If such factors are considered, in many cases reference is made to Weinreich's (1953) seminal study:

"Why is it, then, that in the usual lists of loanwords, nouns figure so predominantly? The reason is probably of a lexical-semantic, rather than a grammatical and structural nature. In the languages in which borrowing has been studied, and under the type of language and culture contact that has existed, the items for which new designations were needed [...] have been, to an overwhelming degree, such as are indicated by nouns." (Weinreich 1953: 37)

Weinreich clearly suggests that semantics of word classes may play a pivotal role. In typical situations of cultural and linguistic contact, words referring to concrete objects (usually nouns) are pragmatically more important and more salient than words referring to actions (usually verbs) or qualities (usually adjectives). This line of thinking has been taken up by van Hout and Muysken (1994: 42), who explain:

"A very important factor involves one of the primary motivations for lexical borrowing, that is, to extend the referential potential of a language. Since reference is primarily established through nouns, these are the elements borrowed most easily."

Harris and Campbell (1995: 135) explain word-class-specific differences in the availability for borrowing in a similar vein:

"Since nouns name things, prototypically refer to visible, concrete objects, and are first to be acquired in language acquisition [...], it is unsurprising that nouns would typically be the first acquired also in language contact. Nouns also tend to have fewer morphosyntactic markings than verbs, making loans easier to assimilate in this category."

It should be noted, that the latter two quotes involve two rather different readings of the word "easy" or "easily". For van Hout and Muysken (1994),

the adverb rather qualifies the different amounts (i.e. type frequencies) of loan nouns as opposed to loan verbs (or other parts of speech), whereas Harris and Campbell (1995) use it in a sense comparable to what has been described as *integrational effort* above, alluding to the claim that particular word classes are more difficult to accommodate than others.

18.2.3 Cognitive differences

Word-class-dependent difficulties in Harris and Campbell's sense of "easy" are often attributed to cognitive factors regarding differences in processing effort and resulting interferences depending on word classes.

In general, differences between verbs and nouns also exist on a cognitive level, regardless of language contact. It has been shown, e.g. by Gentner (1981), that these two classes are psychologically distinct and are differentiated by various cognitive factors: verbs are more slowly acquired by children in L1 acquisition, they are harder to remember, and they are less stable in (re)translation (cf. Gentner 1981: 161 and passim).

'Stability in retranslation' here is the expression of the likelihood that the same word is found in the original as well as in the final result of a double translation task where a text is being translated from language A to language B by native speakers of language B and then back to A by (other) native speakers of language A (cf. Gentner 1981).

However, a more recent study by Lauterbach (2009) on performance errors in paraphrasing (language A to language A) and interpreting (L1 to L2 and vice versa) showed that verbs are actually quite susceptible to substitutions and other errors, but remarkably less so than would be expectable from their token frequency relative to that of nouns in natural discourse (cf. Lauterbach 2009: 67–77).

Furthermore, such speech errors may indeed occur with different frequencies, depending not only on part-of-speech membership but also noticeably on the combination of languages involved (German to English, English to German, German to Russian, Russian to German) and the direction of interpretation (L1 to L2 or vice versa) (cf. Lauterbach 2009: 90–98).

According to Gentner (1981), these cognitive differences between verbs and nouns are rooted in the semantics of verbs which are inherently more complex than those of nouns: While nouns are basically (and prototypically) "pointers" to real-world objects, verbs refer to actions involving agents, objects, change of state etc., that is, they express relational concepts (cf. Gentner 1981: 176).

It thus becomes clear that semantic and cognitive factors are mutually dependent, having an intricate bidirectional causal relationship which is not yet fully explored.

18.2.4 Frequency differences

Another point to be made in this context is type frequency: The average language's lexicon consists of substantially more nouns than verbs. Thus, there are simply many more nominal than verbal "candidates" for borrowing. This applies even though in many languages there are more verbs than nouns among the words with the highest-ranking token frequencies (cf. e.g. Gentner 1982: 316–317).

Anyway, the verbs or verb forms ranking highest in token frequency are, mostly, representatives of very few type items, especially in languages which do not allow zero copulas. Under average conversational circumstances it is therefore usually more likely to encounter a "new" noun than a "new" verb which thereby becomes available for borrowing.

Taking this into account, it is a rather trivial – but nonetheless frequently overlooked – insight that the likelihood of a verb versus a noun being borrowed is, as a matter of principle, clearly biased in favor of nouns. This bias is not at all founded on linguistic (in)compatibility but lies in the very nature of the different word classes' functions and the resulting differences in both their absolute (type) frequency and their discourse frequency which results from the former.

As a matter of fact, these differences in type/token frequency and absolute number are quite likely a, if not *the* prime reason for apparent differences in the overall ratios of borrowed of verbs versus nouns.

18.2.5 Intermediate summary

With these lines of argumentation one must bear in mind that the properties mentioned above have no connection whatsoever to the grammatical (i.e. morphological) structure of verbs and nouns in general or in any single language — even though they are related to the (semantic) word classes. All in all, these factors are very fundamental and universal in their nature. Hence they belong rather to the sphere of language in general than to that of any individual language(s) or language pair(s).

As such, these basic factors together can already go a long way to account for the general proportion of borrowed verbs as compared to other parts of speech, but they need not be equally relevant for the alleged word-class specific grammatical incompatibilities that need to be bridged by loan verb accommodation between two particular languages.

From this it follows furthermore that the word-class-related factors discussed so far – contrary to those to be presented in the remainder of this chapter – cannot be used to a priori explain language(-pair)-specific differences in the integrational effort spent or the choice of different accommodation strategies.

18.3 Grammatical factors

18.3.1 Morphology and typological factors

One of the prominent factors that have been put forward as governing verb borrowability is compatibility. The claim is that different systems of verbal inflection would clash in an event of verb borrowing when the inflectional systems of the donor language and the recipient language apply different categories and different morphological means to express these. This claim is also reflected in Field's (2002) "Principle of System Incompatibility" as it is quoted in sec. 1.3.8.

It has been argued throughout this work that this phenomenon of grammatical incompatibility is likely an overestimated factor — if it is relevant at all (see sec. 19.2.2 for a summary of this topic). However, this finding should not be interpreted to mean that morphological parameters of the languages involved in an act of verbal borrowing may not have any impact at all on the integrational effort and the choice of the accommodation technique applied.

We have seen in sec. 15.4.1 that some features of verbal morphology indeed correlate with accommodation strategies, and that this correlation is probably caused by the morphological properties of the recipient language: Languages that encode predicative adjectives verbally and/or have no affixal tense-aspect inflection also very likely use Direct Insertion and not the Light Verb Strategy (cf. sec. 15.3.4).

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Nevertheless, these findings go beyond the – obvious – fact that isolating or weakly affixing languages are more likely to employ Direct Insertion than Indirect Insertion. In the analysis of WALS feature correlations with accommodation strategies it became apparent that besides *degree* of affixation, *order* of affixation plays a significant role in loan verb accommodation strategy choice.

While most other typological parameters found in WALS showed no significant correlation with accommodation strategies, it has been illustrated in sec. 15.4.2 that there actually *is* a correlation of accommodation strategy choice with features of basic constituent order. That correlation consistently patterns with most parameters of basic order typology, and it is very likely that these correlations are not independent of each other. Just as one has reason to expect a language with "head before dependent" order will not only have VO order, but also genitives following the noun (N-Gen), prefixes and prepositions, there is a great likelihood that such languages employ Direct Insertion. Conversely, "dependent before head"-type languages, characterized by OV and Gen-N order are likely to have suffixation and postpositions and use the Light Verb Strategy. Building upon these findings, two statistical universals have been suggested in fig. 5 on page 205.

Equally noteworthy as the detected correlations are also the many instances where *no* significant correlations could be found. These show that many typological features of morphology and beyond cannot generally be claimed to cause impediments to verb borrowing or have an immediate effect on the types and frequencies of accommodation techniques used. Moreover, it became evident that these preferences are mostly independent of input forms and morphological properties of the donor languages.

All these correlations, non-correlations, and the conclusions drawn from their existence are, however, generalizations over statistical analyses, limited in their validity by effects of sampling or lack of data.

Furthermore, many languages use more than one accommodation strategy. Thus, the correlations mentioned above can only indicate general tendencies or preferences of recipient languages, and although they indicate relatively high degrees of probability, they are not universally valid rules or implications without exceptions.

18.3.2 Valency

In contrast to the features mentioned so far, which apply to the recipient languages wholesale, the choice of the actual accommodation pattern can indeed also depend on factors that are inherent to particular loan verbs.

The valency of a borrowed verb is one example for such grammatical properties that may arrive in the recipient language with the borrowed verb or have to be reassigned to it otherwise and which therefore potentially require differentiated accommodation mechanisms.

As a matter of fact, valency has already been mentioned as a relevant factor for pattern choice in connection with ex. (86) on page 114 from Warlpiri [wbp]. In that language, the choice of the native inflecting verb which is used to accommodate borrowed verbs depends on the transitivity of the latter.

In a similar fashion, Tamil [tam] uses two different light verbs, namely *ațikka* 'make a stroke' for intransitives and *paṇṇa* 'make' for transitives, as illustrated in ex. (71) on page 108.

Another language showing such a differentiation is Konkani [knn], where the light verb *karunk* 'make' accommodates transitive verbs, and *zavunk* 'be' is used for intransitives:

(158)	Konkani [knn] < Portuguese [por]		(Wherritt 1989: 874)
	a.	<i>kazar-karunk</i> marry-make	
		'to marry s.o.'	
		< [por] <i>casar</i> 'to marry s.o.'	
	b.	kazar-zavunk marry-be	
		'to get married'	
		< [por] <i>casar-se</i> 'to marry/get married'	

Even though it is perhaps more obvious there, pattern differentiation according to valency is not limited to the Light Verb Strategy. It can occur involving a change of strategy as well as exclusively involving patterns of other strategies, as will be illustrated by the following examples.

Thulung [tdh] shows a difference in the possible, or available, accommodation techniques depending on transitivity. While loan verbs from Nepali [nep] generally are accommodated by the Light Verb Strategy, cf. (159a), for transitive verbs, the stem of the actual light verb *bo-mu* can be omitted so that only its infinitive suffix $\{-mu\}$ remains. This suffix is then directly attached to the borrowed verb, cf. (159b), — effectively making it an instance of Direct Insertion.

(159)	Th	ulung [tdh] < Nepali [nep]	(Lahaussois 2002: 15–16)
	a.	<i>pare-bo-mu</i> study-do-INF 'to study'	
	b.	<pre>pare-mu study-INF 'to study sth.' < [nep] parau-nu 'to study'</pre>	

According to Lahaussois (2002: 15), the construction in (159b) is only possible for transitive verbs but not for intransitives. Furthermore it is worth noting that in this particular case not only the accommodation pattern changes, but also the strategy.

An ambiguous but comparable case is transitivity marking on loan verbs in Fijian [fij]. While intransitive verbs are accommodated by Direct Insertion and are then immediately fully nativized, verbs used transitively receive the marker $\{-taki\}\sim\{-taka\}$ which is one of several available transitive markers for native verbs but the only one that attaches to loan verbs (cf. Tamata 2003: 227; Schütz 1978: 38, 135). The suffix can thus be interpreted as having been extended to function also as a loan verb marker.

If one counted the Fijian case as well, which I do not, it could serve as the mirror-image to Thulung in that respect that in Fijian transitive verbs are accommodated with the more complex pattern whereas in Thulung it is the intransitives which involve the greater integrational effort. There is thus apparently no fixed relationship between valency and accommodation pattern complexity.

At any rate, valency-dependent pattern choice must not be confused with obligatory transitivity marking. Such "default marking" does not constitute an accommodation pattern (cf. sec. 3.2.8), because it is applied to all verbs in the recipient language, not only borrowed ones.

Apart from Fijian, this is for example the case with the Indonesian prefix $\{meN-\}$, shown in ex. (166) on page 267, or with the transitive markers $\{-em\}$ and $\{-im\}$ in Kriol, cf. e.g. ex. (109) and (111) on page 185, and their cognate $\{-im\}$ in Tok Pisin, cf. ex. (160) below, respectively.

(160) Tok Pisin [tpi] < English [eng] (Smith 2002: 94) eim-im aim-TR 'to aim at sth.' < [eng] aim</p>

In summary, however, the valency of a loan verb appears to be a minor factor which has no cross-linguistically significant impact in accommodation strategy choice. Valency rather governs *some* instances of pattern choice (and thereby, indirectly, strategy choice) in a handful of languages, and not even in all of these as an overarching principle.

18.4 Extralinguistic factors

18.4.1 General remarks

Having evaluated linguistic factors in the previous section, I will now turn to factors which lie outside the realms of grammar and lexicon but nevertheless appear to have an impact on loan verb accommodation.

I already mentioned Weinreich's (1953) remarks on word frequency and necessity to borrow terms for new (introduced) concepts in sec. 18.2.2. It has been pointed out by him as well as other authors more recently, e.g. Boretzky and Igla (1994), Thomason (2001), Milroy (2003), and Sanchez (2005), that extralinguistic, social factors are important parameters governing not only the extent of language contact but also the degree and nature of its linguistic outcome.

It is a truism that speakers' decisions can and do override other factors of borrowability. No matter how "compatible" two languages theoretically are, if the speakers of the potential recipient language prefer not to admit lexical borrowings from another language, their language will most likely not have many loanwords. Furthermore, there are also language contact situations or circumstances which more or less effectively prevent that lexical borrowing occurs.

Conversely, there basically must be some kind of motivation for a speaker community to alter or expand the lexicon of its language by means of borrowing and this motivation. Newly established contact between two cultures, with the introduction of new artifacts and activities that need to be referred
to, is one of these reasons. Other changes in the political, cultural, economic or social situation of a speaker community may lead to borrowing, too.

In the following subsections, I will discuss some of the different extralinguistic factors that might account for the presence or lack of loanwords in general and verbal borrowings in particular.

18.4.2 Language contact situation

Borrowing can, of course, only take place when two or more languages are in contact, that is, when their speakers can interact. For the vast majority of known languages, this is in one way or the other the case.

While monolingual (individual) speakers in absolutely monolingual surroundings are nothing extraordinary, only very few languages are actually isolated to that extreme degree that virtually no member of their speech community has any competence in another language and no contact to speakers of another language whatsoever.

Actually, there are a few speaker communities which do not have (linguistic) contact to the "outside world" for extended periods of their histories (i.e. several generations), for instance the so-called "isolated tribes" in Amazonia and some of the indigenous tribes of the Andaman and Nicobar Islands. In a global perspective, though, these cases are by far a minority and rather exceptions that prove the rule.

All in all, this means not only that borrowing can, in principle, occur in every human language but also that it is to be expected that it will.

The very nature of the contact with other languages (hostility, conquest, trade, neighborship, shared places of settlement, etc.), its intensity, duration, and situational circumstances does have a direct and indirect impact on what items can and do get borrowed, how the borrowed items are accommodated, which amounts and kinds of lexical material are borrowed, and whether these transferred lexical items are accepted or rejected by the speakers of the recipient language.

A tentative list of such factors has been suggested and discussed e.g. by Boretzky and Igla (1994: 118–119). It seems very plausible and has been argued in many places elsewhere that the intensity of contact between two languages has a measurable impact on what gets borrowed and how.

Indeed, several case-studies on contact-induced language change and on borrowing histories of single languages or groups of languages showed that

- (1) casual contact
- (2) slightly more intense contact
- (3) more intense contact
- (4) strong cultural pressure
- (5) very strong cultural pressure

Figure 8. Scale of Language Contact Intensity after Thomason and Kaufman (1988)

contact intensity and contact duration influence borrowing — occasionally even to the points of language mixing or language attrition.

With respect to the intensity of contact, Thomason and Kaufman (1988: 74–76) provide a five-point scale, summarized in fig. 8.

This scale's implication is that the higher the degree of contact, the more extensive borrowing can occur, i.e. the more "resistant" items (e.g. core vocabulary, bound morphemes) are borrowed or become borrowable.

However, these are rather abstract and coarse degrees of contact intensity and of course not types of contact situations. Since this information alone is not sufficient for answering the question as to what contact situation(s) may lead to what kind of borrowing behavior, I used a slightly more differentiated system which has been illustrated in tab. 1 on page 30.

It would yield interesting insights on the cross-linguistic nature of borrowing, if one could directly correlate contact phenomena with grammatical phenomena in a similar fashion as it has been done e.g. in ch. 15 with typological factors.

Regrettably, though, detailed cross-linguistic information on contact situations, or, for that matter, degrees of contact intensity, is not readily available for all languages. As a matter of fact, for many of the LVDB recipient languages or language pairs contact-related information was scarce in the sources consulted and – if available – incomplete, incoherent, or incompatible with information from other sources on them and on the other languages involved.

Furthermore, there is no language-independent taxonomy of relevant situational parameters which could be used to quantify and compare contact situations satisfactorily.

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As a consequence, a statistical analysis testing for correlations between contact situations or contact intensity and pattern choice was unfortunately not feasible and had to be abandoned.

For the present study I therefore resorted to a few, well-documented cases like that of Finnish (cf. sec. 16.3.1) or that of Maltese (cf. sec. 14.4.2.3) to make tentative generalizations. On the basis of these generalizations, I will in the following subsections take up some of the factors that were identified as relevant earlier in this work.

18.4.3 Attitude toward borrowing

One of the findings of the case study on Finnish in sec. 16.3.1 was the insight that there the preferred accommodation pattern seemed to depend on the speakers' attitude toward borrowing. This is most likely not a solitary case particular to the history of Finnish.

Language is an important factor of personal and group identity. Speakers are aware of the emblematic function of their language use and the language(s) used by their interlocutors. In many speech communities, the "proper" use of the "right" language is important, and so is the "appropriateness" of the language used (cf. Madera (1996)).

Similarly, speakers are aware of the fact that language is an important basis of identification. This awareness often leads to a conservative and puristic attitude where changes and external influences are considered "bad". This has been elaborated, for instance, in Weinreich (1953: 99 and passim), Heath (1984: 380 and passim), Vandermeeren (1996), Brown (1999), and Aikhenvald (2007: 36–42).

The conscious use of language is most evident and most effective in the choice of words, much more than in the choice of grammatical constructions (cf. Thomason 2001: 149). At the same time, language contact usually first involves lexical borrowing rather than grammatical borrowing. Thus, whenever speakers want to keep their language "clean" of external influence, they will first and foremost target foreign elements of the lexicon. A general account of this can be found in Hock and Joseph (1996: 274–285).

Icelandic [isl] and, to a lesser extent, French [fra] are well-known examples of linguistic purism aiming at loanwords. Brief accounts of the histories and effects of this explicit purism can be found in Kvaran and Svavarsdóttir (2002: 85–86) for Icelandic, and Humbley (2002: 123–124) for French re-

spectively. A further account of purism with respect to borrowings from and into French in a general perspective is given in Schmitt (1996).

Similar tendencies in various degrees of intensity and with various main agents (government bodies, private organizations, particular groups within the speaker community) also exist(ed) in many other languages which are found in a broad variety of contact situations.

Nevertheless, in probably all of these "purist" languages loanwords are found, among them also loan verbs, even from "basic vocabulary", as is illustrated by ex. (161), a relatively modern (20th century) lexical borrowing in Icelandic:

(161) Icelandic [isl] < English [eng]

(Kvaran and Svavarsdóttir 2002: 98)

fil-a feel-INF 'to feel' < [eng] feel

Apparently, the need to borrow lexical material occasionally also arises for such languages where the speakers more or less rigorously avoid borrowing. One way of resolving this conflict of interest is semantic borrowing as it has been outlined in sec. 11.2).

If, on the other hand, speakers consider any particular foreign element useful, handy, or prestigious they are more likely to borrow and consciously accept it into their language (cf. Boretzky and Igla 1994: 15–16).

None of the studies mentioned in this section reports a particular (dis)preference of verbs or other parts of speech. In general and by its very nature, linguistic purism and the avoidance of lexical borrowing apparently affect *all* loanwords regardless of their part-of-speech membership.

18.4.4 Limits of speakers' control

Two interesting cases which are exceptions to the rule mentioned in the previous paragraph involve loan verbs and their accommodation in "purist" recipient languages and may serve to indicate the limits of speakers' control over borrowing.

The first case to be discussed comes from the Vaupés region of Amazonia. Here, several languages are reported by Aikhenvald (2001, 2002) and Epps (2005, 2008, and p.c.) that are characterized by the principle of linguistic exogamy (i.e. the obligation to marry someone from another speaker community) and consequently assign a strong emblematic function to a speaker's native language. This leads to conscious linguistic purism and, consequently, avoidance of lexical borrowing:

"The distinctive feature of the Vaupés linguistic area is the absence of lexical borrowing due to a strong cultural inhibition: 'language mixing' viewed in terms of lexical borrowing is condemned as culturally inappropriate [...]" (Aikhenvald 2001: 177)

Aikhenvald's statement on the East Tucanoan languages of the region is in principle also true for neighboring Hup [jup] (cf. ch. 1.5 of Epps 2008). Nevertheless, Epps (2005a, 2005b, and p.c.) reports a handful of lexemes in Hup that are undoubtedly established loanwords from Tucano or Portuguese. Many of them are verb stems, like the one in (162):

(162) Hup [jup] < Portuguese (Brasilian) [por] (Wichmann 2004a; Patience Epps, p.c.) ?an tth ahuma-?e?=sud=yãeh-ãeh 1SG.OBJ 3SG arrange-PERF=INFR=VCM
'She apparently arranged (it) for me, in vain.'
< [por] arrumar 'to arrange'

Examples like this seemingly contradict the general strict avoidance of lexical borrowing that otherwise exists in Hup. While in the end one can only speculate as to how and why such "exceptional" loan forms come about, the interpretation suggested by Epps (p.c.; but cf. similar remarks on borrowing and noun classification in Epps 2005b: 237; 2008: 281–282) seems plausible: If the borrowed item is sufficiently "covered" by native morphology, its foreignness becomes less apparent to the speakers, making the word less unacceptable and allowing it to bypass the ban on lexical borrowing.

Interestingly, a similar scenario can be found in Ket, where speakers usually resist lexical borrowing, denounce the use of loanwords as improper Ket, and generally prefer metaphorical extension of native morphemes (Vajda 2007: 7, and p.c.). But nevertheless verb infinitives are borrowed from Russian and accommodated using Direct Insertion into precisely the same morphological templates where Ket action nominals (which are also called 'infinitives') are normally inserted (Vajda 2005b, and p.c.). This is illustrated in examples (25) on page 80, (38) on page 89, and (163). (163) Ket [ket] < Russian [rus] (Minaeva 2003; Edward Vajda, p.c.) bu at da-lúbit-bo-k-a-bɛt she I 3SG.F.S-love-1SG.OBJ-ABL-DUR-ACT 'she loves me' < [rus] lubit' 'to love'</p>

At least some of these forms come from naturalistic data, not elicitation, so one has reason to assume that the speakers also unconsciously used the loan verbs whose existence in Ket they would perhaps, consciously, deny.

It seems that the "covering morphology" mentioned in the two examples above allows foreign material to "sneak into" the vocabulary regardless of speakers' deliberate avoidance of lexical borrowing.

This interpretation is supported by a finding on borrowability mentioned by Aikhenvald (2007: 33):

"Easily separable forms with clear boundaries are more prone to borrowing than forms involving complex morphophonological alternations."

Turning this argument on its head, one can say that those salient elements which are most prone to borrowing are also those most easily to avoid, while those that are less easily recognizable are consequently also less easily avoid-able (cf. Aikhenvald 2007: 39–40). In a similar vein, it has been remarked by Thomason (2001: 151) that

"only aspects of language structure that speakers aren't (and can't become) aware of [are] invulnerable to deliberate change."

Further investigation of this frequently neglected, elusive phenomenon (cf. Milroy 2002: 143, 156) seems promising, not only for a general account of the extent of, and limits to, speakers' control over their language, but also with particular regard to the study of borrowability. For the purposes of this work, however, it would have been infeasible to do own active research on the issue.

Although there are studies that point out the relevance of social factors for constraints on borrowing, e.g. Sanchez (2005: 18–20, 237–240), generally little is known in sociolinguistics, typology, and cognitive linguistics about the role of (puristic) attitudes and their impact on borrowing, or on the impact of speakers' attitudes towards language contact on the outcomes of the contact. The same is true for our knowledge about, and the study of, the factors governing the emergence, stabilization, or change of such attitudes (cf. Hartig 1996: 29). All in all, the summary given by Thomason (2001: 82) still holds:

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"The most important question that arises here, and the one we have the least hope of answering adequately, is this: why do some communities borrow foreign words along with foreign cultural items while others create native words for cultural borrowings? Of course in a general sense the difference between the two types of speaker communities must derive from differences in speakers' attitudes, but 'attitudes' cover a lot of ground. Characterizing the notion more precisely, for instance by identifying attitudinal factors that could permit predictions about speakers' behavior in contact situations, is not feasible, at least not with our current state of knowledge (or, rather, ignorance)."

18.4.5 A lesson from a case-study

As mentioned above, I had to resort to case-studies to make generalizations about the extra-linguistic factors that have an impact on loan verb accommodation. What can be learned about extra-linguistic factors observed in, e.g., the case study of Finnish, then?

First, we see that verb borrowings occurred throughout the contact history of Finnish, as far as it has been reconstructed; this either contradicts assumptions about the time when contacts between Finnic and Germanic began, or it contradicts the thesis that verbs do not get borrowed until rather late in the borrowing history of two languages.

Second, even at the earliest times of contact, Direct Insertion was available, so that the suffix {-*era*} could get borrowed along and later reanalyzed to become the loan verb marker {-*eerata*}. The other documented changes of the preferred accommodation pattern also did not coincide with noticeable changes in the contact situation per se. This means that neither the intensity nor the duration of contact alone can be taken to imply a decrease in the integrational effort a language spends, or has to spend, in order to accommodate verbs from another language.

Third, it became clear that apart from grammatical factors or changing degrees of bilingualism, the attitude of speakers toward borrowing seemed to have played a considerable role in the choice of the preferred accommodation strategy.

Fourth, this case study also demonstrates that structural properties of the recipient language which would determine pattern choice could be overridden by more or less conscious decisions to accommodate borrowed verbs differently from what would be expected. The overall lesson is therefore that the study of borrowability must always take extra-linguistic factors into account properly to avoid jumping to premature or false conclusions.

Whenever grammatic incompatibility seems to be insufficient for the explanation of borrowings or the lack thereof, a closer investigation of extralinguistic factors (especially speaker attitudes) might turn out to be a promising alternative.

18.5 Summary: determining factors

This study set out to explore the factors governing verb borrowability. Linguistic and extra-linguistic factors have been shown to be relevant for the way languages accommodate borrowed verbs. The importance of the latter group of factors became obvious during the analysis of data.

Fundamental semantic and cognitive factors like those discussed above with respect to part-of-speech membership, but also grammatical features like basic constituent order affect the overall factors of accommodation technique choice. These fundamental factors can, however, be overridden or further differentiated by other linguistic factors, such as semantics (e.g. determining coverb choice, see sec. 8.7) or valency.

Non-structural, extra-linguistic factors play a role which should not be underestimated. Such factors are e.g. speech level or style, the speakers' attitude toward language change and loanwords, prestige of bilingual competence, or the concrete conversational situation, as could e.g. be seen from the comments on the examples from Modern Greek in sec. 16.4.4.2.

According to Boretzky and Igla (1994: 118), extra-linguistic factors may even turn out to be the predominant factors in the diffusion of linguistic features. Empirical proof of this is, however, still pending and perhaps difficult to achieve, cf. Milroy (2002: 156) and the quote by Thomason (2001: 82) on page 262.

All of the above factors potentially influence loanword accommodation and use in general, and verb borrowing mostly by implication, i.e. indirectly, since verbs are a subset of the (potential) loanwords. Moreover, only a handful of the semantic and morphological factors mentioned here are actually specific to the class of verbs.

The effect other, non-structural, factors have on (verb) borrowing may rather be particular to single recipient languages, language pairs, borrowing events, or even (individual) speakers' preferences. Especially the latter can also determine which factors may override or reinforce one another.

A general cline along which these factors can be ordered with respect to their scope and robustness regarding other factors probably starts with partof-speech membership and basic order and ends at the concrete speech act situation where a speaker may decide whether using a loanword is pragmatically appropriate or not.

Yet, Curnow (2001: 424, 434) warns that general claims on borrowability and borrowability constraints must be made with caution, because such constraints rarely depend on one single factor — here e.g. word-class membership or the language pair involved. This is confirmed by the findings of the present work.

A generalization in such a way that verbs are difficult to borrow just *because they are verbs* is much too simplistic and – in view of the many cases of Direct Insertion – also downright incorrect. More appropriate generalizations going beyond this statement, however, would require much more data especially from outside the realm of grammar, and considerably much more precise diagnostic tools of comparative sociolinguistics.

Chapter 19 Generalizations and implications

19.1 About this chapter

Throughout this work, different topics regarding loan verb typology were discussed. Several threads were taken up at different occasions and need to be taken up at this point for a concluding discussion.

Among these threads was the question whether verbs can be borrowed as fully functional verbs or whether they by default require verbalization or some other kind of adaptation before they are fully accommodated. Summarizing the findings of this study, these issues will be resolved in sec. 19.2.

The different universals of verbal borrowing as they were suggested by Moravcsik (1975, 1978, 2003) are evaluated sec. 19.3 in the light of the present work's results and the conclusions drawn from these.

Generalizations on the different aspects of loan verb accommodation that were made in the different chapters of this work will be gathered and summarized in sec. 19.4.

19.2 Deconstructing two myths about verbal borrowing

19.2.1 Compulsory (zero-)derivation

It is a characteristic of the Direct Insertion strategy as it is outlined in ch. 6 that the replica forms do not need any loanword-specific or verb-specific morphological adaptation before they can function like native verbs. The examples shown in that chapter and throughout this work illustrate that directly inserted loan verbs are being treated on a par with native verb stems in all respects and that they do not need to be verbalized before being available in the recipient language.

These findings clearly contradict the restrictions on verbal borrowings proposed by Moravcsik (1975, 1978, 2003), who basically claims that Direct Insertion would not be possible for borrowed *verbs* and that borrowed lexical items must compulsorily be derived to be verbs in the recipient languages.

19.2.1.1 Is it really always derivation?

To save her key point, Moravcsik (2003) claims zero noun-verb derivation for this strategy and for pattern types where no overt denominal verbalization is necessary to accommodate the borrowed verb.

In the case of German, this would mean an analysis like in (164a) instead of the one given in ex. (36) on page 88, reproduced here in (164b):

An analysis like that in (164a) does not and cannot apply to all instances of the Direct Insertion strategy in German as well as on a general level. This has already been argued by Muysken (2000: 195–197), and Wichmann and Wohlgemuth (2008: 111). The purpose of this section is to further support and elaborate these arguments.

The term *derivation* implies that the recipient languages form verbs out of borrowed nominals (or non-verbs) and that these verbs are also semantically secondary to the (nominal) forms they were derived from. This seems implausible not only for many of the rather verby meanings, especially of motion verbs like e.g. 'to go across' from ex. (44) on page 92, which is repeated here in (165):

(165)	Ngandi [nid] < Ritharngu [rit]	(Heath 1978b: 136)	
	bordop-dhu-		
	go_across-VCM		
	"to go across'		
	< [rit] <i>burdap-u-</i> 'to go across'		

It is more than counterintuitive to assume derivation *from* a conceptually more complex designation ('the act of going across') *to* a semantically less complex, primary designation ('go across' or 'cross'), even less so, if such derivation would involve no morphology other than a null morpheme. Zero

derivation would make the putative derived form, which is semantically simpler, formally more complex, but not factually. Such an analysis of (165) would therefore rather look like a sleight of hand performed in order to save an unsustainable argument but not like a sound, convincing explanation of linguistic facts.

There are further examples which provide evidence that the verbs in question must have been borrowed as verbs and that these verbs are primary in the recipient languages, contrasting with (derived) nouns. Consider for example Malay [mly] and Indonesian [ind] *terjemah* in ex. (166), which means 'to translate'. This loan verb entered these and neighboring languages either directly from Arabic [arb] or via Persian [pes].

(166) Indonesian [ind] < (Persian [pes]) < Arabic [arb]

(own data; Don Stilo, p.c.)

terjemah / menerjemah
translate / TR.ACT:translate
'to translate'
< [pes] tærjome kardan 'translation do' = 'to translate'
< [arb] tarjama 'translate:3SG.M.PFV'</pre>

While the model could also be interpreted as a nominal in Persian, where it is part of a light verb construction, the ultimate source word in Arabic is undoubtedly a verb, even though Persian borrowed the masdar form (cf. sec. 5.5.2) *tarjuma* which has verbal and nominal properties. In any case, the resulting loanword is clearly an (intransitive) verb in the recipient language Indonesian.

In formal Indonesian, the transitive form would require the TR.ACT marker {meN-}, yielding *menerjemah*, but in colloquial Indonesian, the verb can also be used transitively without that prefix. The corresponding Indonesian noun, though, cannot be primary since it has to be suffixed with an abstract nominalizer {*-an*} to give *terjemahan* 'translation'.

Furthermore, several languages employing the Direct Insertion strategy do not have a rigid noun-verb distinction — or even none at all. In these languages (e.g. Bikol, cf. ex. (42) on page 90), many to almost all lexemes are precategorial in isolation, and only their use in a given semanto-syntactic context assigns them to functions and form classes.

If one wanted to claim that this context-dependent assignment actually was derivation, then one must bear in mind that this process is indiscrimi-

nately applied to native and borrowed words alike, and that it works in several directions, not only with assignment to the status "verb".

In any event, it is inconclusive to consider such "adhoc derivation" a specific loan verb accommodation strategy at all, since it is neither specific to loan words nor to (native) verbs.

In summary, one cannot rightfully call the examples of loan verbs accommodated by Direct Insertion that have been shown here as instances of (zero) derivation. Therefore, it wold be false to generalize that Direct Insertion in principle involved zero-derivation.

19.2.1.2 Zeroing in on zeroes

On a more general level, the assumption that Direct Insertion manifests zero noun-to-verb conversion presupposes the existence and productivity of such a derivational mechanism in all the recipient languages using this strategy. If not, the strategy would not be a coherent one but rather two superficially similar strategies, namely that of Direct Insertion of underived verbs for languages without such a mechanism on the one hand, and that of Indirect Insertion by a verbalizing affix which just happens to be zero on the other.

This presumption, however, is belied by the fact that there are actually languages that use Direct Insertion but do not generally have zero verbalization otherwise. The following two examples may serve as cases in point.

Modern Greek, for example, does not permit zero-derivation at all (cf. Panagiotidis 2005: 1186). Nevertheless, parallel to using other strategies to accommodate loan verbs, Greek has a handful of directly inserted verbs like the one in (167):

(167) Greek (Modern) [ell] < French [fra] (own data) servír-o serve-1SG 'I serve/to serve (a dish)' < [fra] servir 'to serve (a dish)'</p>

Arguably, such forms are exceptions, since Greek usually applies other strategies (see e.g. ex. (64) on page 105 and (128) on page 219). At any rate, if one wanted to classify loan verbs like the one in (167) as zero verbalizations, these exceptions would furthermore contradict the already mentioned rule that Modern Greek generally does not have zero derivation, and thus be so exceptional that they should only be attested as nonce borrowings but not as grammatically acceptable forms of established loan verbs — which they are nonetheless. Therefore it seems more appropriate to consider loan verbs like (167) as true instances of Direct Insertion and not results of zero verbalization.

Another very strong argument against automatically assuming (zero) derivation behind all instances of Direct Insertion can be found in Chumburung [ncu], where verbs cannot be created by derivation at all:

"The verb, as a class of word, is one of the basic words in Chumburung, since it cannot be formed from any other word by any derivational word formation rule. Even verbs that are borrowed from other languages e.g. from Asante, English or Hausa, are borrowed from what are classed verbs in those languages." (Hansford 1990: 211)

This fact is illustrated by examples like (168) which result from the Direct Insertion of a (phonologically adapted) loan verb from English:

 $\begin{array}{ll} \mbox{(168)} & \mbox{Chumburung [ncu]} < \mbox{English [eng]} & \mbox{(Hansford 1990: 216)} \\ & \mbox{post} & \\ & \mbox{`to post'} & \\ & \mbox{$<$ [eng] post `to post'$} \end{array}$

According to Hansford, the recipient language does not have means to derive verbs from native roots (cf. the quote above). The borrowed form, though, doubtlessly belongs to the lexical class *verb*. There is no sensible reason to assume that Chumburung could only verbalize non-native roots but not native ones, and this by zero derivation alone, or that some hidden derivational process escaped the grammarian's attention.

With respect to the Chumburung example in (168) and the Greek example in (167), as well as on a general level, it is more than doubtful that any language should apply zero-derivation *only* in the case of borrowed verbs, if it generally has *no* regular means to derive (denominal) verbs whatsoever, or if it does not have zero-derivation as a productive process also beyond loan verb accommodation.

Although it is not completely inconceivable, such a scenario involving loanword-restricted (zero-)derivation would require elaborate justification to sound plausible for any single language — and even more so for (all) languages in general.

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19.2.1.3 Summary

Pending further evidence or stronger arguments in favor of zero derivation as the loan verb accommodation principle underlying Direct Insertion, examples like the ones mentioned in this section are to be taken as proof that verbs can and do get borrowed *as verbs* and are obviously not (re)verbalized in these recipient languages.

The apparent lack of such evidence, however, suggests but one conclusion, namely that direct, underived, insertion of fully functional loan verbs is obviously *not* impossible. As a consequence, there is no need to assume zero noun-to-verb conversion wholesale for *all* instances of Direct Insertion.

One should not "define away" this strategy by regarding it as a special instantiation of Indirect Insertion, in order to have less top-level strategies. While a simple, binary distinction between "inserted verbs" and "bilingual compound verbs" – as made by Muysken (2000: 184–220) (cf. sec. 1.4.3.1) or assumed by Moravcsik (1975, 1978) – might look appealing, it does not do justice to the facts found in more than half of the LVDB sample languages. Such a classification ignores the fundamental difference in integrational effort between accommodation by verbalizing derivation and direct accommodation.

These conclusions – just like the data they are based upon – clearly contradict Moravcsik's generalizations (mentioned above) that verbs could not be borrowed as verbs. For further discussion of Moravcsik's claims in the light of this study see also sec. 19.3.

19.2.2 Grammatical incompatibility of verbs

From its inception on, the present study was aimed at detecting indications for grammatical incompatibility and explaining them or correlating them with accommodation strategy choices.

Throughout this work, references were made to the notion of grammatical (in)compatibility having an impact on the integrational effort that has to be spent especially when accommodating borrowed verbs.

It turned out in the previous chapters, however, that grammatical incompatibility is not such a strong factor in verb borrowing as it had been assumed. I will therefore summarize and assess several aspects of grammatical incompatibility in this section.

19.2.2.1 General aspects of incompatibility

The widespread presence of loan verbs – often even accommodated by Direct Insertion – across typologically very diverse languages itself is already a good argument against general incompatibility of verbs. Further evidence comes from the findings presented in sec. 15.3 on the correlation of typological parameters with the use of accommodation strategies.

Most of the parameters directly related to verbal morphosyntax show no correlation whatsoever with accommodation strategy choice, particularly not with any dispreference of Direct Insertion. This has already been discussed in sec. 15.3.3.

The only grammatical properties that accommodation strategies strongly correlate with are those of basic constituent order (cf. sec. 15.4.2). Those features, however, are much more general and are not at all restricted to verbs; they can therefore not be taken to explain verb-specific phenomena of borrowing without elaborate justification.

After realizing that probing for symptoms of grammatical incompatibility with special regard to verbs would not yield any substantial proof, the question arose what exactly was expected to be found and exactly which grammatical features could – theoretically – constitute barriers to verb borrowing and how they may do so. Some of these features were already mentioned in sec. 18.2 and 18.3 as factors determining strategy choice. They and other factors will be revisited and evaluated here, on a general level, with regard to their potential as causes for grammatical incompatibility of verbs.

19.2.2.2 The (in)significance of L2 competence

There is no doubt that, generally, differences in the grammatical structures of two languages may indeed complicate bilingual interaction. Different semantic and grammatical categories and distinctions adversely affect the easiness of finding an exact translation.

As a consequence of these differences, category expressions and inflections which are not found in their native language may indeed make it hard for the L2 speakers to identify one distinct form which then can serve as the model. This is perhaps reflected in the use of citation forms and "prominent" verb forms on the one hand and abstract models on the other hand as typical input forms for loan verbs (cf. ch. 5).

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Nevertheless, the donor language's grammar is fairly irrelevant to the further accommodation process, although those speakers who actually borrow a word and introduce it into their language must of course have at least some competence in the language they borrow the word from.

Yet, for *lexical* borrowing, this competence needs not exceed the (sometimes rather fuzzy and fragmentary) knowledge of some vocabulary items and at least one of their lexical meanings. It is only for grammatical borrowing that the speakers borrowing a form need to have an understanding of the borrowed form's grammatical function in the donor language.

A prominent example of the "Denglish" loans in German may serve as a point in case here. An English adjective serves as the model for a German loan noun:

(169) German [deu] < English [eng] (own data)
 (das) Handy
 (ART.N) mobile_phone
 '(the) mobile phone'
 < [eng] handy 'useful'; probably contaminated with [eng] hand held (phone) etc.</pre>

In German, the word *Handy* is an underived, monomorphemic noun and there is no corresponding or basic adjective. While I am not aware of the actual history of how exactly the form in (169) came about, I am convinced that it was introduced and used mainly by people who were either unaware of the model form's word class membership or simply ignored this information.

A complementary example comes from Tok Pisin [tpi], where a numeral becomes the model for an adverb and verb:

(170) Tok Pisin [tpi] < English [eng] (Smith 2002: 97) em siksti nau mi wel antap lo hos ... 3SG go_fast and 1SG slide on.top DEM horse ... 'It went fast and I was sliding around on top of the horse ...' < [eng] sixty</p>

Either way, donor-language categories clearly did not play any role in the transfer of this word: While the nominal use of *handy* would be ungrammatical in English, the loanword in (169) accords with all rules of German grammar. Likewise, the word *siksti* in (170) is used as an adverb meaning 'fast, quickly' (namely originally *60 mph*, from which the new adverbial meaning

was derived) or even as a verb meaning 'to go very fast' in Tok Pisin, (cf. Smith 2002: 97), this use, too, would be ungrammatical in English, where the word *sixty* is a numeral or noun only.

19.2.2.3 The (in)significance of L2 categories

It is safe to assume that these examples are not nonce phenomena, but rather evidence for the fact that speakers can regularly transfer lexical units into their L1 without knowing much about these units' grammatical properties or worrying about categorial equivalence between donor and recipient language. Moreover, regardless whether verbs actually do occur with more categories than nouns or adjectives, the grammatical difficulties are not specific to verbs. The assignment to an inflection class and a part of speech has always to happen. German, for example, borrows verbs without much integrational effort, but has slightly more difficulties with nouns and loan noun gender assignment, as has been remarked in 18.2.1.

In all cases of lexical borrowing, the accommodation process by definition ensures that the borrowed lexeme ends up being homologous to native lexemes of its class.

Thus, once a verb (stem) is borrowed and accommodated, it can take the categorial distinctions usually made on verbs in the recipient language and is subject to the recipient language's grammatical rules. At the very moment the borrowed word is accommodated into the recipient language, the word's properties, categories and inflectional morphemes from the donor language simply become irrelevant for the loanword. If they remained crucial, other speakers of the recipient language who do not have any competence in the donor language would be incapable of using or understanding the borrowed words in their own language. However, this is obviously not generally the case with loanwords.

Summarizing the points made in this subsection so far, there appears to be absolutely no requirement whatsoever that speakers borrowing from any L2 must understand, apply, or even adhere to its grammatical rules when they use borrowed words in their own L1.

The only exception that has to be made to this statement are instances of Paradigm Insertion. With this strategy, donor language morphology is borrowed along with the verb and then applied in the recipient language. Such a process, of course, presupposes sufficient competence in the donor (L2) language by those borrowing the verb forms. Once these forms are borrowed however, the (transferred) rules of their use become rules of the recipient language and the (original) rules and distinctions of the donor language again become irrelevant to the recipient language.

This line of argumentation is supported best by the case of Paradigm Insertion in Ajia Varvara Romani [rmn], where present-day speakers generally are not fluent in the donor language Turkish [tur] any more and where the accommodated paradigm has been slightly modified in the recipient language and became conventionalized in that form, cf. ex. (90) on page 119 and the discussion there.

Given the fact that – aside from Paradigm Insertion – such a requirement of sufficient L2 competence and adherence to L2 grammatical rules does apparently not exist as a general principle, similarities or differences in verb inflection or verbal categories between donor and recipient language cannot strongly influence a loan verb's borrowability and its usability in the recipient language. This means that the notion of grammatical (in)compatibility thus proves to be basically insubstantial.

Once one accepts that compatibility is not a dominant factor in loan verb accommodation, it is not too much of a surprise that verbs can be borrowed and even directly inserted in language pairs where the languages involved possess fundamentally different verbal categories and are as typologically different as e.g. Portuguese [por] and Hup [jup], cf. ex. (162) on page 260, Russian [rus] and Ket [ket], cf. ex. (38) on page 89 and (163) on page 261, reproduced here as ex. (171), or Chichewa and English, cf. ex.(171).

- (171) Ket [ket] < Russian [rus] (Minaeva 2003; Edward Vajda, p.c.) bu at da-lúbit-bo-k-a-bɛt she I 3SG.F.S-love-1SG.OBJ-ABL-DUR-ACT 'she loves me' < [rus] lubit' 'to love'</p>
- (172) Chichewa [nya] < English [eng] (Ron Simango 2000: 500 ex. 22) ndi-na-ka-order bredi ku fachers 1SG-PST-go-order bread at Sachers 'I went to order bread at Sachers' < [eng] fire

Further examples of this kind are e.g. ex. (22) on page 79 from Enets and of course ex. (39) and (40) on page 89 from West Greenlandic and Tariana,

which were already commented in sec. 6.2 with respect to the substantially different systems of verbal inflection in the languages involved.

19.2.2.4 A look at Native American languages

These facts and considerations notwithstanding, grammatical incompatibility is often mentioned or implied as the reason for the absence of verbal borrowings, also for the few languages of the LVDB which were recorded as not having loan verbs, e.g. Yahgan [yag], (cf. Adelaar and Muysken 2004: 570, 582) or Zinacantán Tzotzil [tzz].

A problematic point of such explanations is, however, that closely related, typologically similar languages of the same region definitely possess loan verbs (cf. Adelaar and Muysken 2004 passim).

This raises the question how incompatibility can become an effective impediment to (verb) borrowing in *some* languages but not in their next of kin, too, with which they share not only most of their grammatical features but also in many cases the same contact situations and donor languages.

As a matter of fact, grammatical or typological incompatibility has been drawn upon frequently to explain the lack of (verb) borrowings in the native languages of North America. Undoubtedly, despite a general avoidance of lexical borrowing, English and Spanish nouns entered several of these languages by lexical borrowing, but loan verbs from these two donor languages seem to be very rare or even nonexistent, as laid out in several studies on loanwords in North American languages e.g. by Voegelin and Hymes (1953) and Brown (1998a, 1998b).

In general, attempts to explain the paucity or complete lack of loan verbs in the languages of North America argue along the lines that the complex verbal morphologies of these languages – which often match that of Ket^{36} – could not be applied to borrowed (verb) stems.

However, if that incompatibility were a universal principle, languages such as Ket should not have loan verbs like those in (171). Furthermore, there also *are* attested examples of loan verbs in Native American languages.

As already seen in ex. (79) on page 111 from Navajo, some of these loan verbs are accommodated by a light verb construction which avoids native inflection of borrowed lexemes. The example from Navajo is repeated here in (174). Another Native American language using a (clitic) light verb is Mono, shown in ex. (173):

(173) Mono (in United States) [mnr] < Spanish [spa] (Kroskrity and Reinhardt 1998: 232) tawahani'-i-ti work-do-TAM 'to work'
(spa] trabajar 'to work'
(174) Navajo [nav] < English (USA) [eng] (Schaengold 2004: 53 ex. 34) bookshelf ła' shá save ání-lééh bookshelf one for_me save 2SG-prepare 'Save me (one) bookshelf'
< [eng] save

Regarding the construction in (174), Schaengold (2004) reports:

"English nouns can be inserted into Navajo sentences as borrowed elements with only the phonology nativized to Navajo phonotactic rules, but verbs are generally borrowed into a frame of a conjugated Navajo auxiliary verb *ashłééh* 'to prepare'." (Schaengold 2004: 44)

Such forms are regarded by some authors as code-switches or as nominal rather than a verbal borrowings. In the actual case of the light verb construction in (174) with *ashłééh*, a pre-existing mechanism to create verbs out of adverbs (cf. Schaengold 2004: 51–52) has been extended to become a loan verb accommodation mechanism which is used productively by bilingual speakers to integrate borrowed verbs.

The existence of such light verb constructions that bear all necessary inflection – regardless of how "complicated" it may be – and accommodate borrowed verbs is proof that in principle verbs can indeed be borrowed into languages like Navajo.

One might also argue whether such inserted verbs from English actually are loanwords or should rather be considered code-switches applying a (more or less conventionalized) switching pattern.

On a general level, this argument has already been discussed in sec. 8.8.2 for the Light Verb Strategy.

For the present example (174), however, Schaengold explicitly states in the quote above that the verbs *are* borrowed, and there is no sensible reason to assume that Schaengold inadvertently misused the term *borrowed* here and intended to use *code-switch* instead. This view is strongly supported by the fact that, according to Schaengold's quote above, the verbs in question un-

dergo phonological nativization (*phonological accommodation* in the terms used in this work). Such a process is symptomatic for borrowing but it would be rather atypical for code-switching.

While in general such borrowings are thus obviously possible and attested, it is nevertheless a completely different issue whether purists among native speakers and linguists alike would consider such forms as in (174) "good", "proper" or "true" Navajo or not. This is reminiscent of the findings on verb accommodation, attitude toward borrowing, and perceived incompatibility as they were mentioned for Hup in the context of ex. (162) on page 260 or for Finnish in the discussion in sec. 16.3.2. Probably the question of verb borrowability in Navajo and the other Native American languages just as well boils down to exactly this consideration.

This interpretation is supported by other examples of borrowed verbs in Native American languages which sometimes are also accommodated by Direct Insertion, as the verb in (175). The applicative suffix {-*me*?} is "used to form the benefactive applicative based on intransitive verbs" (Gerdts 2000: 340). As a matter of fact, the loan verb in (175) is used by Gerdts in an example for exactly this use of that applicative affix. The applicative affix itself can therefore not be part of an accommodation pattern, and the (intransitive) loan verb stem $k^w u k^w$ should be regarded an established loanword rather than a code-switch or a nonce borrowing.

(175) Halkomelem [hur] < English [eng] (Gerdts 2000: 340 ex. 14) $k^{w}uk^{w}$ -me?-t cook-APPL-TR'Cook for him/her.' < [eng] cook

A similar point in case is made by Adelaar (2007: 297) who completely dismisses any notion of incompatibility which could be an obstacle to verb borrowings from Quechua [quz] into Amuesha [ame]. Although both languages possess a rich verbal morphology, Amuesha easily accommodates borrowed verb roots from Quechua by Direct Insertion.

19.2.3 A brief conclusion

The idea that the presence or absence of certain verbal categories in either the donor or the recipient language effectively prevents the latter from borrowing

verbs from the former seems rather plausible at first glance, given the broad variability of verbal inflectional systems in the world's languages.

However, there is absolutely no evidence for a universal tendency to that extent: Using examples from several different languages it has been demonstrated that, on a general level, the notion of compatibility (of verbal categories) as a relevant factor in loan verb accommodation is basically insubstantial.

If languages do not borrow verbs or require substantial integrational effort to do so, this is rather due to more fundamental grammatical properties, e.g. the general tendency of a language to use light verb constructions or a certain basic word order orientation — if it is not rather due to the speakers' perception of incompatibility and their attitude toward borrowed elements.

The "deconstructions" in this section showed that some of the commonplace assumptions about verb borrowing and grammatical incompatibility are virtually unfounded and inapplicable.

All in all, grammatical incompatibility is thus by far not as strong a factor as has been suggested by many authors after Whitney (1881), Meillet (1921), or Haugen (1950).

As a consequence, one should be much more hesitant in making claims that languages in general or any two given languages are structurally too different to exchange vocabulary in general or verbs in particular, or that – due to such incompatibilities – borrowed verbs must (always) be re-verbalized because languages could not borrow verbs as verbs.

In the following section, I will therefore revisit the most prominent universal claims on loan verb accommodation which were made by (Moravcsik 1975, 1978) and discuss them in the light of the results of this study and the conclusions drawn in this section.

19.3 Moravcsik's universals revisited

19.3.1 Overview

The seminal study by Moravcsik (1975) has already been presented in the introduction (sec. 1.1.4 and 1.4.1) as a very influential paper on verb borrowing. In this section, the claims put forward by Moravcsik, which have been referred to throughout this work, are discussed on the background of the findings of this study.

In her (1975) paper and elsewhere (Moravcsik 1978, 2003), Moravcsik makes a universal claim along the lines that

"[a] lexical item whose meaning is verbal can never be included in the set of borrowed properties." (Moravcsik 1978: 111)

Seen in isolation, this assertion can be interpreted to say that verbs – or "verby" lexemes, if one does not accept the semantic definition – cannot be borrowed at all, as e.g. Campbell (1993: 102, 104 fn. 2) or Harris and Campbell (1995: 135) interpreted it to mean.

Furthermore, the phrase "item whose meaning is verbal" could be understood as implying that the non-borrowability is semantic in its nature rather than referring to a lexical class defined by morphological or syntactic criteria.

Seeing it in the appropriate context, however, one should rather conclude that Moravcsik actually intended it to mean that verbs can never be borrowed *as verbs* but are borrowed as nouns instead which then require some sort of (re-)verbalization in order to function as regular verbs in their recipient languages:

"The restriction is that the class of borrowed constituents in a language does not include lexically homolingual constituents that are verbs in both languages [...]. The more specific claim to be advanced is that borrowed verbs, by internal syntactic composition, are (*at least*) *bimorphemic* and that they are *bilingual*, consisting of a generic verb constituent whose form is indigenous, and of a more specific nominal constituent whose phonetic form corresponds, by identity or similarity, to the phonetic form of the source verb."

(Moravcsik 1975: 4 [emphasis mine, J.W.])

Moravcsik's quote contains several statements and presuppositions which I would like to comment on one by one.

First, "lexically homolingual constituents" are constituents (words) that are at least bimorphemic, the morphemes being from the same language; a statement about homolinguality would not make sense for an item that consists of only one morpheme. The lexicological and terminological problem of this is that that many model forms and input forms *are* monomorphemic, though, and that many loan verbs are unanalyzed and thus monomorphemic in the recipient language.

Second, claiming that loan verbs (in the recipient language) are "bilingual" implies that one part is and – more importantly – also *stays* a noticeably foreign element that does not become an element of the recipient language's lexicon. This unnecessarily blurs, if not erases, the border between borrowing and code-switching which is already vague anyway. By definition, however, a loan word becomes a "naturalized" member of the recipient language's lexicon (cf. sec. 3.2.7). Eventually, such an established borrowed element can become so "naturalized" that its "foreign" origin becomes opaque but to the expert's eye. They are not "bilingual" any longer for the speakers of the recipient language, then.

Third, there is not always a "nominal constituent" involved. It has been illustrated throughout this work that loan verbs can get borrowed as verbs, even without the existence of a corresponding or underlying noun that is borrowed as well. Furthermore, it makes a huge difference to claim that verbs are borrowed as nouns as opposed to claiming they are essentially borrowed as non-verbs.

Fourth, the "generic verb constituent" can, apparently, be a verbalizer, a light verb, or even zero. Regardless of its shape, it is claimed to be an indispensable part of a loan verb. This claim reinforces the position that loan verbs are at least bimorphemic and need a verbalization which is native to the recipient language. An argumentation along such lines thus entails great danger of leading to circular reasoning and becoming unprovable.

This criticism notwithstanding, Moravcsik's universals of verb borrowing can be summarized as these two points:

- 1. Verbs cannot be borrowed as verbs but are borrowed as nouns.
- 2. Loan verbs must therefore be adapted (re-verbalized) in the recipient language.

In the following subsections, these two claimed universals will be evaluated more closely in the light of this study's findings.

19.3.2 The claims in particular

19.3.2.1 Verbs are borrowed as nouns

The frequent cases of Direct Insertion worldwide (see ch. 6) run counter to Moravcsik's first universal according to which it is only possible to borrow a verb as a noun. She argues that languages which use Direct Insertion nevertheless comply with the generalization since they have morphologies that allow a noun root to be treated as a verb. However, since there is no positive evidence that the borrowed roots in question are in fact always considered as nouns in the recipient languages, the argument is not strong.

In general, there must be a clear, distinct denominalization procedure involved before one can truly argue that verbs are borrowed as nouns. Admittedly such procedures are attested in a number of cases, even more so if one also takes into account other verbalizing procedures that are not denominal. Thus, Moravcsik's generalization often applies, even though it cannot count as a universal. Still, the fact that verbs are treated as nouns, or non-verbs, when transferred to another language, requires an explanation.

One explanation that has been proposed is that in the transfer process verbs may become alienated from the morphosyntactic contexts that define their part-of-speech membership and that they thus "arrive" in the target language underspecified for this feature, cf. Wichmann and Wohlgemuth (2008: 111). This means that in such cases they are borrowed as neutral lexemes — not necessarily as nouns. This is in line with what has already been discussed in sec. 19.2.2 for grammatical compatibility. The grammatical makeup of the donor language is not such an important issue at all. A word can be borrowed without the speakers borrowing it knowing much more than its phonological shape and at least one aspect of its lexical meaning.

If the treatment of borrowed verbs as non-verbs (i.e. accommodating them by Indirect Insertion or Light Verb Strategy) shows that these verbs are borrowed underspecified for part-of-speech membership, then the treatment of verbs as verbs (i.e. accommodating them by Direct Insertion or even Paradigm Insertion), would conversely show those verbs to have retained their specification for part-of-speech membership throughout the entire borrowing process.

The latter would usually be taken to presuppose a good command of the donor language(s) on the part of at least some of the borrowers, since they must be aware of the part-of-speech membership of the words they borrow. However, as has been discussed in sec. 19.2.2.2, this extended knowledge is not principally necessary and cannot be claimed in general. One should therefore not draw conclusions on sociolinguistic settings, borrowing scenarios, or degrees of bilingual competence based on the accommodation strategy chosen or the integrational effort usually spent by a given language in loan verb accommodation.

In the end, the claim that verbs are (usually) borrowed as nouns leaves two unanswered questions.

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First, there is no justification why the treatment of borrowed verbs as nouns should be universal. Carrying this thought to its logical conclusion, this claim presupposes the distinction between nouns and verbs to be universal – and cross-linguistically the same – and denies the possibility that word-class neutral lexical items exist.

Second, even if one accepts that there is a universal distinction between nouns and verbs, the fact that only verbs receive this special treatment, but not e.g. adjectives, would require a plausible explanation. Such an explanation, then, must be based on universal properties of the class of verbs in contrast to all other parts of speech.

It has been argued in sec. 3.3.2 that a universally valid definition of the lexical class *verb* can only be based on semantic criteria, since formal properties need not be, and often are not, the same both already within any given language and much more so cross-linguistically.

Unfortunately, Moravcsik does not elaborate which semantic properties of verbs supposably make them stand out from the rest of the lexicon, or in what way exactly such properties should be responsible for the assumed cross-linguistic preference of borrowing verbs as nouns or as non-verbs.

19.3.2.2 The necessity of adaptation

The question whether verbs are borrowed as non-verbs comes along with the discussion whether these non-verbs need to be derived (i.e. re-verbalized) and assigned a native verbal component in the recipient language.

The function of this obligatory verbalizing element is to enable the borrowed lexeme to function as a verb which it could not by itself. This raises the question why particularly verbs – in contrast with other parts of speech – need to be adapted when they are borrowed:

"A second problem is that nominal or adjectival agreement can be put on foreign adjectives and nouns. Moravcsik claims we never have a 'helping noun', and it is not clear what is so special about *verbal* inflection that would require a special carrier." (Muysken 2000: 196 [emphasis mine, J.W.])

If one accepts that verbs are generally borrowed as non-verbs, such obligatory verbalization is a plausible consequence. And, as a matter of fact, in several cases where verbs and/or other parts of speech are not directly inserted, they all are treated in the same fashion, quite frequently indeed like nouns. Muysken (2000: 206–212) discusses examples of light verb constructions in Panjabi [pan], Modern Greek [grk], Turkish [tur] and other languages where these constructions do not only accommodate (borrowed) nominals, but also host native and/or borrowed adjectives, verbs, verb phrases (verb + particle), gerunds, etc.

Undoubtedly it is the case with the Light Verb Strategy and the Indirect Insertion strategy that loan verbs are overtly accommodated by equipping them with a native element that is either verbalizing (or has verbalization among its primary functions) or a native (auxiliary) verb.

Nevertheless, these two strategies together account for about 44.4% of the examples in the cleared LVDB sample, whereas Direct Insertion alone accounts for 52.5% (cf. tab. 34 on page 187).

These figures are clearly not endorsing the generalization that *all* loan verbs must obligatorily be adapted by a native verbal component, unless one assumes zero conversion and subsumes these cases under Indirect Insertion. Furthermore, it seems that – in some languages at least – denominalization is as well applied to borrowed and native words which belong to parts of speech other than verbs in order to produce well-formed verbs.

19.3.2.3 Zero derivation

As illustrated in the previous subsection, Moravcsik is required to posit zero derivational morphemes in order to save her generalization of verbs being borrowed as non-verbs and being subject to obligatory verbalization. This assumption is necessary in cases where there is no overt denominal verbalization mechanism discernible, e.g. whenever Direct Insertion or Paradigm Insertion are used.

Especially in the case of Paradigm Insertion, however, one can hardly claim that a borrowed verb which is used with its original inflectional paradigm were not a verb but a noun in the recipient language or that it only became a verb again after verbalizing derivation has been applied to it.

It has already been discussed in sec. 3.3.2 that word class membership is not as exclusive in many languages of the world as it is e.g. in Standard Average European. Neither do all languages have nouns and verbs as distinct classes, nor do all languages need formal derivation to use a lexical item as the one or the other.

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Furthermore, it is good practice in morphological description that zero morphemes should only be claimed for a language when they serve a function which is – in the same language – also served by other, overt morphemes, that is, when is only one allomorph among others.

If one does not adhere to this practice, one inevitably ends up with a circular conclusion that cannot be verified. In the present case this means: If one argues that a language uses zero derivation to (re)verbalize loan verbs, and the only accommodation mechanism found in the language *is* zero derivation, one has no tangible evidence whatsoever to underpin the argument that this derivation takes place at all.

In the LVDB, 47 languages exclusively use the Direct Insertion strategy, that are 22.7% of the total number of languages using Direct Insertion, or 13.35% of all recipient languages. Even if it might occasionally have escaped me that a language uses other strategies as well, there would still be a sufficient number of languages left that exclusively use Direct Insertion.

It has been demonstrated in sec. 19.2.1 that zero derivation cannot be postulated for all instances of Direct Insertion. Hence it is not a universal that loan verbs must undergo such verbalizing derivation by zero conversion.

19.3.3 Summary: on Moravcsik's universals

All in all, the generalization that verbs cannot be borrowed as verbs has therefore to be restated to a generalization that verbs often are borrowed as nonverbs, that is: they are not necessarily borrowed as nouns, but rather unspecified for their part-of-speech membership. This is an undeniable tendency but certainly neither the majority of cases not an absolute universal.

Furthermore it has been shown that structural and semantic properties and typological compatibility cannot be claimed to be the sole factors governing the choice of accommodation techniques. Stylistic and sociolinguistic factors appear to be at least equally important — if not at times even more so.

These points of criticism notwithstanding, Moravcsik's observation is fundamental and correct — albeit not as a general rule for *all* languages but rather as a tendency. As demonstrated throughout part II and discussed in sec. 18.2.1 of this work, as well as in Wichmann and Wohlgemuth (2008:112), the treatment of loan verbs as non-verbs is, indeed, not uncommon, but it is undoubtedly far from being universal or even the majority case.

19.4 Predictions and tendencies

19.4.1 Loan verb integration hierarchy (LVIH)

When recipient languages use multiple patterns, the question arises as to which principles govern strategy choice in languages that use(d) more than one accommodation pattern (cf. ch. 16.4). With regard to that question, we concluded in Wichmann and Wohlgemuth (2008: 108) that

"[...] the choice in a given language of one of the four [main] loan-verbaccommodation [strategies] cannot be predicted absolutely from structural properties of the languages involved.

 $[\dots]$ we would like to venture the hypothesis that if a language has different [accommodation techniques], these could correlate with the degrees to which speakers of the target language are exposed to the source language(s)."

Assuming that with an increasing degree of bilingualism, less integrational effort (cf. sec. 12.3) would be required to accommodate borrowed verbs, we suggested the hierarchy given in fig. 9.

> Light Verb Strategy < Indirect Insertion < Direct Insertion (< Paradigm Insertion)

Figure 9. Loan Verb Integration Hierarchy

Basically, the four main strategies are ordered here according to the integrational effort they involve in order to accommodate a borrowed verb. At the leftmost end we positioned the Light Verb Strategy, which involves a whole extra constituent for accommodation and renders the borrowed item in a special lexical class whose members do not have the full set of verbal properties in the recipient language. Next to it, Indirect Insertion also involves an extra constituent, but this is usually an affix, and the result of the accommodation is a fully functional, regular member of the class of verbs. With Direct Insertion, the loan verb is immediately treated as if it were a native one, and no formal accommodation is necessary.

A more intricate issue is the position of Paradigm Insertion in this hierarchy. This peculiar strategy has originally placed at the rightmost end of the scale. We justified this as follows:

"It is less straightforward to place [Paradigm Insertion] in the hierarchy since, [on] the one hand, no formal accommodation effort has been expended while, on the other hand, the loan verb is in a sense unintegrated inasmuch as it retains the inflectional morphology of the source language and resembles a code-switch [...]" (Wichmann and Wohlgemuth 2008: 109)

Paradigm Insertion undoubtedly belongs into the hierarchy, but it probably stands in a different relationship to the three major strategies than these among each other. Furthermore, it is debatable whether borrowing the inflectional paradigm along with the verb(s) actually involves more or less integrational effort. Hence I decided to place it in a second row, parallel to the other main strategies.

Aside from being a descriptive device for the degree of integrational effort as such, we also suggested in Wichmann and Wohlgemuth (2008: 109–110) that this hierarchy could be used to make predictions regarding borrowing behavior. Such predictions could be to the effect that, with increasing degree of bilingualism, i.e. with a more intensive contact situation of a given language pair, a strategy further to the right in the hierarchy would become available and consequently be more likely chosen as the default. This reflects the diachronic dimension of pattern usage change and adds to it the prediction that such a change should occur according to the degree of integrational effort. This notion will be taken up again in sec. 19.5.

The hierarchy can furthermore be interpreted as an implication for instances when a language employs more than one accommodation strategy at the same time. The implication is right-to-left: If a recipient language uses a strategy of this hierarchy, it should generally be possible for that language to use any strategy to the left of it in the hierarchy — provided that the overall typological profile of the language permits. In an isolating language, for example, one should not expect Indirect Insertion by affixation; a serial predicate or light verb construction is nevertheless conceivable.

Yet, it has become clear throughout this work that single factors like contact duration, degree of bilingualism, or contact intensity alone – although they all are undoubtedly important factors – cannot be drawn upon to explain pattern and strategy choice in general.

This Loan Verb Integration Hierarchy is therefore, like the other generalizations made, to be understood in terms of probabilities based upon observed distributions, rather than in terms of absolute predictions.

On all accounts, these predictions cannot be verified using the LVDB data alone. For most language pairs in the sample, diachronic information on duration and intensity of the contact is too insufficient for generally applicable statements.

Prediction 1:	Languages with a basic order of "dependent before head" will, with overwhelmingly more than chance frequency, use the Light Verb Strategy to accommodate borrowed verbs.
Prediction 2:	Languages with a basic order of "head before dependent" will, with significantly greater than chance frequency, use the Direct Insertion strategy to accommodate borrowed verbs.

Figure 10. Two statistical universals of loan verb accommodation

19.4.2 Universal tendencies regarding strategy distribution

This study has shown that there is no one single factor which determines the choice of accommodation techniques. Nevertheless there are some universal tendencies of pattern and strategy choice and distribution which are worth recapitulating in this subsection.

19.4.2.1 Correlation with basic constituent order

The analysis of the relationship between typological features and strategy choice in ch. 15 showed that some structural features of recipient languages – namely those of basic constituent order – correlate with at least two of the major strategies, namely Direct Insertion and the Light Verb Strategy.

These tendencies reflect the statistically significant distribution of accommodation strategies according to basic constituent order: languages of the "head – dependent" (VO) type overwhelmingly use Direct Insertion, whereas languages with the "dependent – head" (OV) order strongly prefer the Light Verb Strategy.

On the basis of these observations, two universal tendencies regarding loan verb accommodation strategy choice have been proposed in sec. 15.4.2, fig. 5 on page 205. They are repeated here as fig. 10.

This correlation could very well constitute a bidirectional implication. However, its predictive power – which makes it interesting for loanword typology – is that knowing the typological properties of basic constituent order

Prediction 3:	If a language uses two accommodation strategies, it is very likely that one of these is Direct Insertion.
Prediction 4:	If a language uses more than two accommodation strate- gies, one of these is Direct Insertion.

Figure	11.	Implicatio	ns on i	multiple	strategy	use

in a recipient language, one can state the likelihood that with a given basic order type for a language, the implied strategy is to be found *among* the strategies that the language generally employs or has available.

19.4.2.2 Implications of Direct Insertion in multiple strategy use

The last sentence of the previous paragraph already alludes to another, unrelated, observation that led to an interesting generalization. In the discussion of strategy distributions in sec. 13.2.3, it has been suggested that one can perhaps generalize the findings about strategy cooccurrences beyond the distribution found in the LVDB sample.

It seems that languages using more than one strategy tend to have Direct Insertion as one of them. This can be generalized in the form of the two implications given in fig. 11.

It must remain an open question whether this is a noteworthy finding and whether these two generalizations can be utilized for the study of verb borrowing, especially because they do not imply any diachronic development.

From what the data in the LVDB and their interpretation in the previous chapters of this work suggest, there is no way to judge by these predictions which strategy would be specified "primary" and which would be "secondary", both in the diachronic perspective or in the status of being the default strategy vs. the alternative strategy synchronically.

These specifications as well as the fact of multiple strategy use itself are too likely to depend on other, more case-specific factors that (still) escape generalization and which probably lie outside the realm of grammar. Prediction 5: If a language, or a group of adjacent languages, has a loan verb marker which has exclusively the function of accommodating borrowed verbs, it is very likely that this loan verb marker itself is the product of borrowing and reanalysis according to the generalizations expressed by the *borrowing path of loan verb markers*.

Figure 12. Implications on loan verb marker borrowing

Prediction 6: If an element of the *borrowing path of loan verb markers* is borrowed, its model form is found either on the same position or further to the left of this path, but never further to the right.

Figure 13. Prediction on the borrowing of loan verb markers

19.4.3 Predictions on loan verb markers

In sec. 13.3 it became clear that areal distributions of patterns can probably not be predicted from the findings of this study. Nevertheless, they can at least in some instances be explained by the diffusion of accommodation strategies over large regions and across genealogical boundaries, as has been demonstrated in sec. 13.3.3 and ch. 17.

The analysis of accommodation strategy borrowing nevertheless gave rise to the suggested borrowing and grammaticalization path of loan verb markers (LVM), discussed in sec. 17.6.2 and illustrated in fig. 6 on page 240. From this path, and the cases of borrowed loan verb markers discussed in ch. 17, one can derive another generalization about the probable origins of specialized loan verb markers in a language. That generalization is shown in fig. 12.

The implication on the subsequent borrowing and reanalysis of borrowed elements along the *borrowing path of loan verb markers* mentioned in fig. 12 has been proposed in fig. 7 on page 241 and is repeated here in fig. 13.

19.5 Consequences for diachronic studies

The Loan Verb Integration Hierarchy presented in sec. 19.4.1 and fig. 9 on page 285 was originally intended as a means to make predictions based on an assumed general directionality of change, namely that the development in a given language (pair) would be of such nature that with enduring – and continued – contact, the accommodation of borrowed verbs requires less and less effort, and that hence languages shift their preference from strategies on the left to strategies on the right of the hierarchy.

But, as has been seen from the case of Finnish (sec. 16.3.1) and has been elaborated in a more general perspective in sec. 16.5.2, changes in pattern and strategy use are not always in accordance with the directionality assumed in the Loan Verb Integration Hierarchy and other generalizations on diachronic changes in borrowing techniques. It seems not feasible to simply evaluate the date of a borrowing merely from the accommodation technique that has been applied or from its complexity or the integrational effort it involves.

If feasible at all, one could attempt to infer changes in speakers' attitudes from accommodation pattern selection when multiple pattern use is observed which does not conform with the principles stated in the Loan Verb Integration Hierarchy.

However, it seems virtually impossible to make sound conclusions in the other direction and infer (past) contact scenarios, (past) degrees of bilingualism, or contact duration from observed multiplicity of patterns or the presence of particular patterns and strategies in a given language.

As a consequence, the study of loan verb typology will probably not turn out to produce a useful diagnostic which enables linguists to make assumptions on past contact situations of a language by looking at the history and/or the synchronic usage of loan verb accommodation patterns or similar features.

Similarly, even though patterns of loan verb accommodation may in some instances help distinguishing loan verbs from native ones, the typology of patterns and the study of their distributions presented here can not (yet) generally be put to fruitful use as a simple diagnostic in the assessment of genealogical affiliations of languages.

Chapter 20 Conclusion

20.1 Results of this study

20.1.1 The guiding questions (un)answered

The purpose of this work is a contribution to the research on verb borrowability, investigating and discussing the topics raised by the key questions listed in sec. 1.1.3 on page 4. The present subsection returns to these questions and answers them by summarizing the relevant findings of this study and pointing to the according passages in this work.

1 Why do many languages seem to have more difficulties borrowing verbs than nouns?

It turned out that the crucial word in this question is *seem*. At least in a general, cross-linguistic perspective, languages do not have more difficulties accommodating verbs than nouns.

This is supported by the fact that 58.8% of the LVDB recipient languages use the Direct Insertion strategy, cf. sec. 13.2.1 and tables 16 on page 147 and 21 on page 153. In terms of integrational effort, this is the least "difficult" way of accommodating loan verbs, cf. sec. 12.3.1.

Nevertheless, there are languages which use strategies with higher integrational effort (e.g. the Light Verb Strategy), languages with no verbal borrowings, or those with semantic rather than lexical borrowing (of verbs). These appear to have more difficulties handling a borrowed verb. This impression is reflected in claims about grammatical incompatibility which are discussed in sec. 19.2.2.

Apart from such "phantom incompatibility" it is often the case that languages simply apply the same verbalizing or predicate-forming techniques to borrowed and native words or lexical roots alike.

In general, apparent difficulties with loan verb accommodation are probably rather due to other, extralinguistic factors which will be discussed in the next paragraph.
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2 Due to which factors do languages apparently borrow more nouns than verbs?

As discussed in sec. 18.2.4, it is a rather trivial – but nonetheless frequently overlooked – insight that the likelihood of a verb versus a noun being borrowed is clearly biased in favor of nouns due to corresponding differences in their absolute numbers as well as their frequencies.

This bias is not at all founded on linguistic (in)compatibility but lies in the very nature of the different word classes' functions and the resulting differences in their discourse frequencies.

Furthermore, in typical situations of cultural and linguistic contact, words referring to concrete objects (usually nouns) are pragmatically more important and more salient than words referring to actions (usually verbs) or qualities (usually adjectives), cf. sec. 18.2.2.

In general, word-class-related factors as they are discussed in sec.18.2 cannot be used to explain general or language(-pair)-specific differences in the integrational effort spent or the choice of different accommodation strategies.

Particular or extremely skewed ratios of borrowed verbs versus nouns in single languages rather appear to be effects of extralinguistic factors which are only indirectly connected with differences in the grammatical and semantic properties of word classes, cf. sec. 18.4.

3 Can verbs be borrowed as verbs or must they (always) be "re-verbalized" in the borrowing language?

A simplistic answer would be "Yes, they *can*." That, however, would only be half the truth, as is summarized in sec. 19.3.2. In general, those LVDB recipient languages that borrow verbs at all can be categorized into two clearly distinct groups and a third, intermediary group.

In the slightly larger group, borrowed verbs arrive as verbs and need no verbalization whatsoever. They are accommodated by Direct Insertion or - in a few very rare cases - by Paradigm Insertion.

On the other hand there are many languages where borrowed verbs arrive as non-verbs or underspecified for their part-of-speech membership and need formal accommodation, either by verbalization (Indirect Insertion) or by integration into a complex predicate (Light Verb Strategy). While many languages can clearly be assigned to one of these two groups and apply only one of the strategies mentioned, a significant number of recipient languages applies more than one strategy, cf. ch. 16. This effectively makes them members of both groups at the same time.

For such "ambivalent" languages, the question above can therefore not be answered in a simple, universal way unless one can identify determining factors or a historical development.

Due to this plurality, there is also no unequivocal answer to this question for the languages of the world in general.

4 By which mechanisms and paths are verbs being borrowed and, if necessary, adapted?

As has already been indicated in the previous answer, the present study identifies the following four main type classes of of loan verb accommodation mechanisms, called *strategies*, as well as a few other, minor ones, cf. sec. 12.2. These are:

- **Direct Insertion** (DI) (cf. ch. 6), where the borrowed verb stem is simply used like a native one without any morphosyntactic adaptation.
- **Indirect Insertion** (IndI) (cf. ch. 7), where a verbalizer of some kind is applied so that the loan verb can then be inflected.
- **Light Verb Strategy** (LVS) (cf. ch. 8), where a borrowed verb is to enter it as an non-inflecting part into a complex predicate, joining a native verb which takes all the inflection.
- **Paradigm Insertion** (PI) (cf. ch. 9), where the borrowed verb's inflectional morphology of the donor language is borrowed along with it, introducing a new inflectional paradigm into the recipient language.

These and the other mechanisms are distinguished by various parameters which are outlined in sec. 12.4, among them the integrational effort that has to be spent to accommodate a borrowed verb and the functionality of the loan verb in the recipient language.

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5 Is the choice of these mechanisms dependent on linguistic and/or extralinguistic factors in the donor and/or the recipient languages?

Throughout the distributional analyses in part III it became clear that there is no simple answer to this question, either, since no universal, cross-linguistic dependency of accommodation techniques and linguistic factors has been found.

As far as it could be detected with the methodology applied in this study, pattern and strategy choice is – if at all – influenced or at least partly affected only by linguistic factors in the recipient languages or by extralinguistic factors associated with them. These factors are addressed in the following answer.

Conversely, this study did not yield any clear examples for a choice of accommodation techniques which is exclusively or predominantly governed by (factors of) the donor language. Only (extralinguistic) factors pertaining to the contact situation between donor and recipient language which may have an impact on the overall degree of borrowing are – of course – also associated with the donor languages.

6 Which factors are these and what effects do they have in individual languages as well as cross-linguistically?

With regard to the linguistic (grammatical) factors, there is only scarce evidence for the covariation or correlation of donor languages' grammatical properties with the accommodation techniques they apply, as is discussed in sec. 15.4.1.

Languages which generally use little affixation – or none at all – or do not have tense-aspect inflection, simply need not accommodate and adapt borrowed verbs morphologically. This already explains the frequent use of Direct Insertion among such languages. Conversely, suffixing languages and languages with "strong" affixation actually show a statistically significant preference to avoid Direct Insertion in favor of Light Verb Strategy and Indirect Insertion.

The peculiar and yet unexplained correlation of basic constituent order parameters with strategy choice is discussed in sec. 15.4.2 and taken up in sec. 20.1.3.

Furthermore, morphophonological requirements of some donor languages may have an impact on pattern choice, as illustrated in sec. 16.4.3.

Extralinguistic factors that have, or may have, an impact on accommodation strategy choice were discussed in sec. 18.4. Perhaps the most important of these factors is the (unconscious) attitude of speakers toward lexical borrowing. It seems that under certain circumstances loan verb accommodation involving higher integrational effort is consciously preferred by "purist" speaker communities.

These extralinguistic factors may occasionally override grammatical ones, as has been shown in sec. 16.3.2. Unfortunately, these factors are generally still underdescribed and require further systematic research in terms of sociolinguistic typology, cf. sec. 20.2.

When languages borrow accommodation patterns and strategies, this may have an impact on areal, genealogical, and typological strategy distributions to the extent that languages use "unexpected" strategies; this is summarized in sec. 17.6 and 19.5.

In a number of cases, however, pattern and strategy choice of languages, especially of those using more than one accommodation pattern, could not be associated with particular (sets of) factors governing that choice, cf. sec. 16.5.2 and 18.5.

7 Are there universal constraints on verb borrowability?

This question can briefly be answered with "no". In a global, cross-linguistic perspective, everything regarding borrowing verbs is, in principle, possible — even the transfer of verbs plus their inflectional paradigms and categorial distinctions, cf. sec. 9.3; this explains the great variability of accommodation techniques shown throughout part II.

If there actually are constraints on verb borrowability or on degrees and mechanisms of verbal borrowing, these constraints are rather specific to particular recipient languages and by no means unmodifiable. As could be seen from the case study in sec. 16.3.1, speakers' deliberate decisions, mostly based on their attitude toward borrowing, can override "default" strategies of borrowing at least to some extent (cf. sec. 18.4.4)

Apart from the three cases of languages borrowing other parts of speech but not verbs mentioned in sec.11.3, such constraints could, however, not be identified.

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Similarly, although they are not entirely inconceivable, no donor-language related constraints on verb borrowability were found.

20.1.2 New findings on old predictions

The present work aimed to add to the understanding of the techniques involved in loan verb accommodation and the factors influencing the application of such techniques. The departure point were several predictions and generalizations regarding verbal borrowability that required to be examined using a substantially broader sample of data.

The findings that resulted from this investigation led to the deconstruction of two widespread beliefs about principles governing verbal borrowing. The first claim basically stated that borrowed verbs were always derived (reverbalized), either overt or by zero derivation. The second claim addressed the notion of grammatical incompatibility as an impediment to (verb) borrowing. Upon closer scrutiny and on the background of this typological study with a broad data basis, these claims turned out to be myths or only half the truth.

Throughout this work it has been demonstrated that the generalization that verbs cannot be borrowed as (underived) verbs is far from being a universal. The claim may be true for some single languages, however, quite the opposite is true in a global perspective. In the majority of LVDB languages, Direct Insertion is either among the available accommodation strategies or even the only one attested.

In a similar fashion, it turned out that the relevance of grammatical or typological incompatibility has been grossly overrated as a factor in loan verb accommodation. Typological and grammatical dissimilarity between two languages does not specifically prevent verbs from being borrowed, and it is probably similarly irrelevant as a factor generally affecting borrowing or borrowability in a given language pair.

Discussing these more or less falsified generalizations, it became very clear that word class membership or some rather vague notion of grammatical incompatibility are not sufficient to explain the various techniques of loan verb accommodation and their distributions world-wide.

However, the findings of this study do not constitute a terminal point in the research on loan verbs, but rather lay a foundation for further studies which must set out to ask different questions.

Some of the most important questions that will warrant an answer are those regarding the non-structural factors affecting (verb) borrowability.

Unless we know more about the interaction of all the different factors identified in ch. 18, the predictions summarized in sec. 19.4 will have to remain tentative and could not be put to much fruitful use in loanword typology or in comparative linguistics.

20.1.3 Aspects regarding linguistic typology

The findings mentioned in the previous subsection are concordant with the results of the analysis of typological strategy distributions as they were analyzed in ch. 15.

Typological features of donor languages apparently have no significant influence whatsoever on the accommodation strategies recipient languages use. Regarding their own grammatical features, recipient languages showed significant correlations only in the domain of basic constituent order, and – slightly less so – with some features of verbal morphology.

Accommodation strategy choice patterns with features of basic order to the extent that languages of the "head – dependent" (VO) type overwhelmingly use Direct Insertion, whereas languages with the "dependent – head" (OV) order strongly prefer the Light Verb Strategy. This is discussed in sec. 15.4.2 and 19.4.2.1 and an according typological implication has been formulated in fig. 5 on page 205.

This study also evaluated other typological factors and features which were used in WALS. Apart from those just mentioned, these factors turned out to be demonstrably irrelevant for accommodation strategy choice in a general perspective. Conversely, parameters of loan verb accommodation other than the correlation just mentioned seem not to be of particular interest for general linguistic typology.

At any rate, the results of this study basically add another feature to those usually applied in basic order typology. Moreover, this newly discovered correlation can serve as an underpinning for the view that basic constituent orientation is a very fundamental typological characteristic which goes way beyond morphosyntactic parameters in the narrow sense.

The fact that such factors can, however, be reinforced or overridden by extralinguistic factors and speakers' deliberate decision also add an important aspect to the question why languages might at times show typologically "unexpected" features.

It may very well be the case that other factors – related to grammar in general or particularly to loanword accommodation – turn out to show similar correlations and behavior once one starts looking for them.

20.2 A desideratum: social contact typology

Working on this study, it became – once again – clear that any generalization about loan verb accommodation in particular and borrowability hierarchies in general, as well as other language-contact-related predictions cannot be made without a more thorough understanding of the manifold sociolinguistic factors involved in language contact. Grammatical factors alone were often insufficient for the explanation of the status quo of verb borrowing in the languages examined. The analysis of some example cases yielded the insight that the factors which have an effect on accommodation pattern choice in many cases are of an extra-linguistic nature, that is: they are social, political, and cultural factors.

If one extrapolates from these findings on loan verbs, this means that it is an essential prerequisite for the fruitful study of language-contact phenomena to have detailed descriptions of these factors at one's fingertips. In her study on structural borrowing, Sanchez (2005: 242) comes to a similar conclusion:

"[...] this quantitative study alone cannot settle with certainty all of the qualitative controversies that persist in the field of language contact, but several studies of different contact situations will allow us to generalize about how various linguistic and social factors condition or inhibit the borrowing of linguistic structure."

A sociolinguistic approach to loanword studies, emphasizing the importance of social factors on the techniques and degrees of borrowing, has been suggested already three decades ago e.g. by Higa (1979).³⁷ More recently, language contact typology was the topic of one issue of the journal *Linguistic Typology*, cf. Trudgill (2004a, 2004b). Yet, so far there is no such linguistic discipline as sociolinguistic typology which would be established similar to e.g. (Greenbergian) morphosyntactic typology.

One cannot deny that morphosyntactic typology had, and still has, difficulties with definitions of terms and categories. That is, its standards and methodology are constantly being discussed critically and thereby refined. But nonetheless this demonstrates that there is at least such a tradition of addressing these methodological problems. A comparable methodology and research tradition is still lacking for cross-linguistic sociolinguistics and the comparative study of language contact phenomena.

This means that there is no solid basis for the cross-linguistic evaluation and comparative classification of sociolinguistic settings and contact scenarios and the different parameters defining their nature. These, however, are indispensable prerequisites to test for correlations of these extra-linguistic parameters with linguistic facts and factors of the languages involved.

Intuition-based, impressionistic scales of abstract degrees of contact intensity, such as e.g. Thomason and Kaufman (1988: 74–76), cited in fig. 8 on page 257, ignore or lump together too many independent variables that have been shown to govern language contact and its effects on the languages involved. Some of these factors can even be counteracting rather than reinforcing, depending on yet other factors.

Strong cultural pressure, for example, is one of the degrees given by Thomason and Kaufman (1988). Such strong pressure could either lead to heavy borrowing, as is the case e.g. in Ajia Varvara Romani (cf. sec 9.2) or, quite contrary, just as well to purism and consequently the avoidance of (lexical) borrowing, as is the case e.g. in Ket or Hup (cf. sec. 18.4.3). These antipodal reactions should not both be attributed to the same cause, namely strong cultural pressure, because this would not explain anything, then. A satisfying explanation of these diametrically opposed outcomes must therefore take into account other factors that actually account for the different borrowing behaviors. Only then such explanations and compilations of factors also have more accurate predictive power.

These "soft factors" are thus interdependent and have very variable impact on the nature of contact-induced language change. Among these factors are e.g.: the very nature of the contact situation, the numbers of languages and speakers involved, puristic attitudes vs. (foreign) language prestige, exogamous vs. endogamous marriage patterns, political opinions etc.

Cross-linguistic generalizations regarding contact-induced linguistic phenomena are therefore necessarily bound to be rather vague or downright erroneous, since they (are forced to) neglect sufficiently accurate and detailed sociolinguistic information for the lack of its case-independent comparability. This methodological dilemma still warrants a functioning solution.

Until such a discipline and tradition of sociolinguistic typology is established and its tools have reached a certain degree of refinement, Curnow's (2001: 432) recapitulation describes how the current situation of the field is perceived:

"What conclusion can we draw about the development of universal constraints on borrowability [...]? Unfortunately, the probable conclusion is that we never may be able to develop such constraints. We would need to take into account far more information than is usually available and factor out all possible influences, whether of a sociopolitical or historical nature, or to do with a pre-existing structure of the languages before contact.[...]. It is possible that a variety of constraints on borrowing in particular contexts can be developed. But the attempt to develop any universal hierarchy of borrowing should perhaps be abandoned."

Curnow's view is – perhaps – too pessimistic and discouraging. Anyhow, his quote reminds me of what a professor once explained to us in an "Introduction to Climatology" class:³⁸

Of course we can make weather forecasts, and of course sometimes very few parameters might at times suffice to predict that it will rain within the next couple of hours. But if one wants to prognosticate unerringly when or where exactly how much precipitation in which state of aggregation is to be expected within the course of one week, or how the weather will be somewhere on the globe next month, you cannot take a quick glimpse at the sky and say 'Hum ..., looks like it's going to rain.' — You need a cluster of super-computers to handle all the information that is required by our very differentiated models which have hundreds of factors and parameters and require data from thousands of data points.

The amounts of both data and effort that are required for precise(r) predictions in language contact typology may turn out to be equally enormous and the models used for such a typology might need to become equally sophisticated and rich in parameters as those of modern climatology. A similar point about the necessity of different, more dynamic, models of description has recently been made by Wildgen (2008: 135):

"In general, the splendid simplifications which made life easier for computational linguists in the 70s and 80s are not helpful in the realm of sociolinguistics and language contact studies."

This means that the discipline of sociolinguistic typology – or sociolinguistics as a whole – will probably have to dare taking a big step away from its roots in the humanities and use comparable methodologies and approaches as the sciences do. Linguistics as a whole and the study of language contact phenomena in particular still have to travel a long way along the road toward having such useful models of description and forecasting. Nevertheless I am confident that the present work pointed out some of the questions and parameters along that way that are worth further investigation.

20.3 Outlook

This study was based on a much larger and much more representative sample of language pairs and loan verb examples than any other cross-linguistic study of loan verbs before it. As a consequence, assumptions and conclusions based on information from rather few languages – or merely intuitions alone – could be falsified by findings made using statistical methods.

Yet, more data and research on verb borrowings are needed for a thorough understanding of all processes relevant to loan verb accommodation.

Especially the sociolinguistic and extra-linguistic factors discussed in the previous section need to be taken into account with basically the same approach that has been taken in this work: Detailed data on such factors need to be collected for as many language pairs and for as many different points of their contact histories as possible. This includes, among others, information on the diachronic dimension of verb borrowings, pattern usage changes, multiple pattern use and the interaction of puristic attitudes or borrowing taboos with strategies of maintaining and extending a language's lexicon according to changing situations.

Also, more work on cross-modality borrowing and borrowing within sign languages would be needed. Comparative studies of intra- and cross-modality borrowing, however, presuppose different, refined conceptual premises about borrowing and about the items being borrowed. Findings from such studies would help to identify and define more abstract, general accommodation techniques and they would enhance our understanding about verbs, borrowability, and the phenomenon of (lexical) borrowing in general.

Despite the grim perspective outlined by Curnow in the quote on the facing page, some new predictions and generalizations have been brought forward in the present work and await critical evaluation by further research in this field. Perhaps, then, forecasting effects of language contact or inferring contact scenarios from features found in a language will eventually go beyond typologizing cloudy phenomena.

Part V Appendix

About the appendix

Data Appendix

Chapter A compiles all tables and figures that would have taken up too much space in the running text. The tables of languages in sec. A.1 list the Loan Verb Database (LVDB) languages sorted by various criteria. Only in tab. A.1.1, a few additional languages which were mentioned in this work but are not part of the LVDB sample are listed with their genealogical affiliation.

The lists in sections A.1.2 and A.1.3 show all recipient and donor languages of the LVDB sample sorted by their genealogical affiliation. The list in sec. A.2.2 as well as tables 41 and 42 illustrate pattern usage and pattern distributions in the LVDB sample.

Maps

The maps in ch. B serve to illustrate geographical distributions of the LVDB sample languages and the different accommodation strategies over those languages, as they were discussed in sec. 13.3. See sec. B.1.1 and B.1.2 for background information and a legend to the maps.

Database

Chapter C about the LVDB structure concludes the appendix. This chapter is associated with the discussion in sec. 2.3 and serves as background information for that section.

Appendix A Data appendix

A.1 Lists of languages

A.1.1 List of languages (by ISO code)

This list is sorted alphabetically by the three-letter codes (cf. sec. (0) on page xxxii), then by language names, when several lects share the same ISO code. Codes in *italics* are not defined in the ISO 639-3 standard and were assigned by me for this study.

The figures in the column *R*. indicate in how many language pairs that language is a recipient language; similarly, the figures in the column *D*. indicate the number of language pairs where that language occurs as a donor language. Languages marked with the \otimes symbol in these columns are *not* part of the LVDB sample. They are yet listed here because they were mentioned in the text.

R.: the number of examples with this languages as recipient

D.: the number of examples with this languages as donor language

Code	Language name	Genus	Family	R.	D.
aau	Abau	Upper Sepik	Sepik	1	
abs	Malay (Ambonese)		Creoles and Pidgins	1	
abt	Ambulas	Middle Sepik	Sepik	1	
ace	Acehnese	Sundic	Austronesian	2	
acm	Arabic (Iraqi)	Semitic	Afro-Asiatic	2	1
acy	Arabic (Kormakiti)	Semitic	Afro-Asiatic	1	
agq	Aghem	Bantoid	Niger-Congo	1	
aib	Aynu	Turkic	Altaic	3	
ain	Ainu	Ainu	Ainu	1	
ajp	Arabic (So. Levantine Sp.)	Semitic	Afro-Asiatic		1
aju	Arabic (Judeo-Moroccan)	Semitic	Afro-Asiatic	2	
akc	Mpur	Kebar	W. Papuan	3	
akv	Akhvakh	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
ale	Aleut (E.)	Eskimo-Aleut	Eskimo-Aleut	1	
aln als	Albanian	Albanian	Indo-European	3	1
aly	Alyawarra	Pama-Nyungan	Australian	1	
alz	Alur	Nilotic	Nilo-Saharan	1	
ame	Amuesha	Arawakan	Arawakan	1	
amh	Amharic	Semitic	Afro-Asiatic	3	1

ang	Old English	Germanic	Indo-European	1	
ani	Andi	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
apc	Arabic (Lebanese)	Semitic	Afro-Asiatic	1	
apc	Arabic (North Levantine Sp.)	Semitic	Afro-Asiatic	1	
apc	Arabic (Syrian)	Semitic	Afro-Asiatic		2
ara	Arabic (Bukhara)	Semitic	Afro-Asiatic	1	
arb	Arabic (Anatolian)	Semitic	Afro-Asiatic	2	
arb	Arabic (Sp./other)	Semitic	Afro-Asiatic	1	3
arb	Arabic (Std./Cl.)	Semitic	Afro-Asiatic		11
arn	Mapudungun	Araucanian	Araucanian	1	
arq	Arabic (Algerian Sp.)	Semitic	Afro-Asiatic	1	
ary	Arabic (Moroccan)	Semitic	Afro-Asiatic	4	1
arz	Arabic (Egyptian)	Semitic	Afro-Asiatic	1	
ase	American Sign Language		Sign languages	\otimes	\otimes
ava	Avar	Avar-Andic-Tsezic	Nakh-Daghestanian	1	13
ava	Avar (Antsukh)	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
ayc ayr	Aymara	Aymaran	Aymaran	1	1
avl	Arabic (Eastern Libyan)	Semitic	Afro-Asiatic	1	
azb	Azari (Iranian)	Turkic	Altaic	1	
azb azi	Azerbaijani	Turkic	Altaic		1
azz	Nahuatl (Sierra de Zacapoaxtla)	Aztecan	Uto-Aztecan	1	
bar	German (Bavarian)	Germanic	Indo-European		1
bci	Bardi	Nvulnvulan	Australian	1	
bcl	Bikol	Meso-Philippine	Austronesian	2	
ben	Bengali	Indic	Indo-European	1	
bfi	British Sign Language		Sign languages	\otimes	\otimes
bgp	Baluchi	Iranian	Indo-European	-	1
bhr	Malagasy	Borneo	Austronesian	2	1
bhw	Biak	SH-WNG	Austronesian	1	2
bis	Bislama		Creoles and Pidgins	5	3
bjz	Tafota Baruga	Binanderean	Trans-New Guinea	2	
bnn	Bunun	Bunun	Austronesian	1	
bod	Tibetan (Std. Sp.)	Bodic	Sino-Tibetan		1
bph	Botlikh	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
brh	Brahui	Northern Dravidian	Dravidian	4	
bsk	Burushaski	Burushaski	Burushaski	3	
bul	Bulgarian	Slavic	Indo-European	4	3
bxm	Buriat	Mongolic	Altaic		1
byw	Belhare	Bodic	Sino-Tibetan	1	
cab	Garífuna	Arawakan	Arawakan	4	
cao	Chácobo	Panoan	Panoan	1	
car	Carib	Cariban	Cariban	4	
cas	Mosetén	Mosetenan	Mosetenan	1	
cat	Catalan	Romance	Indo-European	1	
cav	Cavineña	Tacanan	Tacanan	1	
ces	Czech	Slavic	Indo-European	2	
			1		

cha	Chamorro	Chamorro	Austronesian	2	
che	Chechen	Nakh	Nakh-Daghestanian	2	
chn	Chinook Jargon		Creoles and Pidgins		1
chv	Chuvash	Turkic	Altaic	1	1
chx	Chantyal	Bodic	Sino-Tibetan	1	
cji	Chamalal	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
ckf	Cakchiquel	Mayan	Mayan	1	
cmn	Mandarin	Chinese	Sino-Tibetan	2	10
cng qxs	Qiang	Qiangic	Sino-Tibetan	1	
coc	Сосора	Yuman	Hokan	1	
cod	Cocama	Tupi-Guaraní	Tupian	1	
cof	Tsafiki	Barbacoan	Barbacoan	1	
cop	Coptic	Egyptian-Coptic	Afro-Asiatic	1	
cow	Cowlitz	Tsamosan	Salishan	2	
crg	Michif	Algonquian	Algic	2	
crs	Seychelles Creole		Creoles and Pidgins	4	
cym	Welsh	Celtic	Indo-European	2	1
dak	Dakota	Siouan	Siouan	1	
dan	Danish	Germanic	Indo-European	2	
ddo	Tsez	Avar-Andic-Tsezic	Nakh-Daghestanian	3	
deu	German	Germanic	Indo-European	4	14
dhg	Yolngu-Matha	Pama-Nyungan	Australian	2	
dhv	Dehu	Oceanic	Austronesian	2	
dih	Diegueño (Mesa Grande)	Yuman	Hokan	1	
diq	Zazaki	Iranian	Indo-European	\otimes	\otimes
djd	Jaminjung	Jaminjungan	Australian	1	2
djj	Ndjébbana	Ndjébbana	Australian	1	
dlm	Dalmatian	Slavic	Indo-European	1	
drn	Damar (West)	Damar	Damar	1	
dsb	Sorbian (Lower)	Slavic	Indo-European	1	
dta	Dagur	Mongolic	Altaic	1	
ell	Greek (Anatolian)	Greek	Indo-European	1	
ell	Greek (Cypriot)	Greek	Indo-European		1
ell	Greek (Modern)	Greek	Indo-European	5	15
enf enh	Enets	Samoyedic	Uralic	1	
eng	English	Germanic	Indo-European	1	90
eng	English (American)	Germanic	Indo-European	1	8
eng	English (Australia)	Germanic	Indo-European		9
enm	Middle English	Germanic	Indo-European	2	
erg	Erromangan	Oceanic	Austronesian	1	
erk	South Efate	Oceanic	Austronesian	2	
est	Estonian	Finnic	Uralic	3	
esu	Central Alaskan Yup'ik	Eskimo-Aleut	Eskimo-Aleut	\otimes	\otimes
etu	Ejagham	Bantoid	Niger-Congo	1	
eus	Basque	Basque	Basque	2	
eve	Even	Tungusic	Altaic	1	

evn	Evenki	Tungusic	Altaic	2	
ewe	Ewe	Kwa	Niger-Congo		1
fij	Fijian	Oceanic	Austronesian	1	
fin	Finnish	Finnic	Uralic	5	1
fon	Fongbe	Kwa	Niger-Congo		1
fra	French	Romance	Indo-European	5	24
frm	Middle French	Romance	Indo-European		1
fro	Old French	Romance	Indo-European	1	
fub	Fulani (Adamawa)	Northern Atlantic	Niger-Congo	1	
fuf	Fula (Guinean)	Northern Atlantic	Niger-Congo		1
gbb	Kaytetye	Pama-Nyungan	Australian	1	
gbj	Gadaba (Gutob)	Munda	Austro-Asiatic	1	
gbu	Gaagudju	Gaagudju	Australian	1	
gcr	Guianese French Creole		Creoles and Pidgins		1
gdd	Gedaged	Oceanic	Austronesian		1
gdo	Godoberi	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
ger	Germanic	Germanic	Indo-European	\otimes	\otimes
ggn gvr	Gurung	Bodic	Sino-Tibetan	1	
gin	Hinukh	Avar-Andic-Tsezic	Nakh-Daghestanian	2	
gld	Nanai	Tungusic	Altaic	1	
gle	Irish	Celtic	Indo-European	1	1
glv	Manx	Celtic	Indo-European	1	
gml	Middle Low German	Germanic	Indo-European		1
gni	Gooniyandi	Bunuban	Australian	3	
goh	Old High German	Germanic	Indo-European		1
grc	Ancient Greek	Greek	Indo-European		1
gsw	German (Zurich)	Germanic	Indo-European	1	
gue	Gurindji	Pama-Nyungan	Australian	1	
gug	Guaraní (Paraguayan)	Tupi-Guaraní	Tupian	1	1
gwd	Gawwada	E. Cushitic	Afro-Asiatic	2	
had	Hatam	Hatam	W. Papuan	1	2
hau	Hausa	West Chadic	Afro-Asiatic	3	1
haw	Hawaiian	Oceanic	Austronesian	2	
heb	Hebrew (Modern)	Semitic	Afro-Asiatic	1	1
hin	Hindi	Indic	Indo-European	1	1
hlb	Halbi	Indic	Indo-European		1
hns	Sarnami	Indic	Indo-European	3	
hrv	Croatian	Slavic	Indo-European	2	
hsf	Huastec	Mayan	Mayan	1	
hun	Hungarian	Ugric	Uralic	7	1
hur	Halkomelem	Central Salish	Salishan	1	
huv	Huave (San Mateo del Mar)	Huavean	Huavean	1	
huz	Hunzib	Avar-Andic-Tsezic	Nakh-Daghestanian	2	
huz	Hunzib (Sarusian)	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
hvn	Sawu	Central MP	Austronesian	1	
hye	Armenian (Eastern)	Armenian	Indo-European	1	

hye	Armenian (Western)	Armenian	Indo-European		1
ibd	Iwaidja	Iwaidjan	Australian	1	
ilg	Garig	Iwaidjan	Australian	1	
imn	Imonda	Border	Border	2	
inc	Indic	Indic	Indo-European		1
ind	Indonesian	Sundic	Austronesian	5	11
ind	Indonesian (Irianese)	Sundic	Austronesian		4
ind	Indonesian (Jakarta)	Sundic	Austronesian	2	
ind	Indonesian (Riau)	Sundic	Austronesian	1	
inh	Ingush	Nakh	Nakh-Daghestanian	2	
irk	Iraqw	S. Cushitic	Afro-Asiatic	1	
isl	Icelandic	Germanic	Indo-European	1	
ita	Italian	Romance	Indo-European	2	8
itl	Itelmen	S. Chukotko-Kamch.	Chukotko-Kamch.	1	
jav	Javanese	Sundic	Austronesian		2
ipn	Japanese	Japanese	Japanese	2	4
iup	Hup	Nadahup	Nadahup	2	
kaa	Karakalpak	Turkic	Altaic	1	
kal	Greenlandic (West)	Eskimo-Aleut	Eskimo-Aleut	1	
kan	Kannada	South Dravidian	Dravidian	3	1
kap	Bezhta	Avar-Andic-Tsezic	Nakh-Daghestanian	3	
kaq	Capanahua	Panoan	Panoan	2	
kat	Georgian	Kartvelian	Kartvelian		7
kat	Georgian (Kakhetian)	Kartvelian	Kartvelian		1
kaz	Kazakh	Turkic	Altaic	1	-
kbh	Camsá	Camsá	Camsá	1	
kca	Khanty	Ugric	Uralic	1	
kdr	Karaim	Turkic	Altaic	1	
kee	Keresan (Santa Ana)	Keresan	Keresan	1	
ket	Ket	Yeniseian	Yeniseian	1	
kør	Abun	N -Ce. Bird's Head	West Papuan	2	
khk	Mongol (Khalkha)	Mongolic	Altaic	-	1
khm	Khmer	Khmer	Austro-Asiatic		1
khy	Khyarshi	Avar-Andic-Tsezic	Nakh-Daghestanian	1	-
khw	Khowar	Indic	Indo-European	-	1
kim	Tofa	Turkic	Altaic	1	•
kie	Kisar	Central MP	Austronesian	1	
kkk	Kokota	Oceanic	Austronesian	1	
kla	Klamath	Klamath-Modoc	Penutian	1	
klb	Kiliwa	Vuman	Hokan	1	
kmi	Malto	Northern Dravidian	Dravidian	1	
kmr	Kurdish (Central)	Iranian	Indo-Furonean	1	1
kmr	Kurmanii	Iranian	Indo-European	2	1
kme	Kamasau	Marienberg	Torricelli	1	
km7	Turkic (West Xorasan)	Turkic	Altaic	1	1
kne	Kanuri	Saharan	Nilo-Saharan	1	1
NIIC	manull	Sallalall	rano-panaran	1	1

kng	Kongo	Bantoid	Niger-Congo		1
knn	Konkani	Indic	Indo-European	2	
kor	Korean	Korean	Korean	3	
kpt	Karata	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
krl	Karelian	Finnic	Uralic	1	
kua	Kwanyama	Bantoid	Niger-Congo	1	
kun	Kunama	Kunama	Nilo-Saharan	1	
kva	Bagvalal	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
kwi	Awa Pit	Barbacoan	Barbacoan	1	
kwz	Kwazá	Kwaza	Kwaza	1	
kxc	Konso	Eastern Cushitic	Afro-Asiatic		1
kxm	Khmer (Northern)	Khmer	Austro-Asiatic		1
lao	Lao	Kam-Tai	Tai-Kadai	2	
las	Lama	Gur	Niger-Congo	1	
lat	Latin	Romance	Indo-European		6
lec	Leco	Leco	Leco	1	
lew	Kaili	Sulawesi	Austronesian	1	
lin	Lingala	Bantoid	Niger-Congo	1	
lit	Lithuanian	Baltic	Indo-European	1	
ltc	Middle Chinese	Chinese	Sino-Tibetan		1
lug	Luganda	Bantoid	Niger-Congo	2	1
luo	Luo	Nilotic	Nilo-Saharan		1
luv	Luvia	Bantoid	Niger-Congo	1	
lvk	Lavukaleve	Solomons E. Papuan	Solomons E. Papuan	1	
mak	Makassar	Sulawesi	Austronesian	1	3
mal	Malavalam	South Dravidian	Dravidian	1	
mar	Marathi	Indic	Indo-European		1
max	Malay (No. Moluccan)	Sundic	Austronesian		1
mch	Carib (De'kwana)	Cariban	Cariban		1
mdf	Mordvin (Moksha)	Finnic	Uralic	1	
mea	Mevah	E. Bird's Head	E. Bird's Head	2	
mfe	Mauritian Creole		Creoles and Pidgins	1	
mhd	Mbugu	Southern Cushitic	Afro-Asiatic	1	
mhi	Ma'di	Moru-Ma'di	Nilo-Saharan	1	
mia	Miskito	Misumalpan	Misumalpan	1	
mig	Mangghuer	Mongolic	Altaic	1	
mkd	Macedonian	Slavic	Indo-European	2	1
mkv	Taba	SH-WNG	Austronesian	1	
mlt	Maltese	Semitic	Afro-Asiatic	2	
mlv	Mwotlap	Oceanic	Austronesian	1	
mlv	Malay	Sundic	Austronesian	1	6
mly	Malay (Brunei)	Sundic	Austronesian	1	-
mni	Meithei	Kuki-Chin-Naga	Sino-Tibetan	1	
mnr	Mono (in USA)	Numic	Uto-Aztecan	1	
mnx	Sougb	E. Bird's Head	E. Bird's Head	2	
moe	Montagnais	Algonquian	Algic	1	
		U 1	0		

mon	Mongolic	Mongolic	Altaic		1
mov	Mojave	Yuman	Hokan	1	
mpg	Melanesian Pidgin		Creoles and Pidgins		2
mri	Maori	Oceanic	Austronesian	1	
mrn	Cheke Holo	Oceanic	Austronesian		1
mrv	Mangarevan	Oceanic	Austronesian	1	
myv	Mordvin (Erzya)	Finnic	Uralic	1	
nav	Navajo	Athapaskan	Na-Dene	1	
nbj	Ngarinyman	Pama-Nyungan	Australian	2	
ncu	Chumburung	Kwa	Niger-Congo	2	
nds	Low German	Germanic	Indo-European		1
nep	Nepali	Indic	Indo-European		7
nfa	Dhau	Central MP	Austronesian	1	
nhe nhv	v Nahuatl (Huasteca)	Aztecan	Uto-Aztecan		1
nhn	Nahuatl (Central)	Aztecan	Uto-Aztecan	1	5
nid	Ngandi	Ngandi	Australian	1	
nig	Ngalakan	Ngalakan	Australian	1	
nld	Dutch	Germanic	Indo-European	2	10
nmm	Manange	Bodic	Sino-Tibetan	1	
nnk	Nankina	Finisterre-Huon	Trans-New Guinea	1	
nnm	Namia	Yellow River	Sepik	1	
nob	Norwegian	Germanic	Indo-European	2	
non	Old Norse	Germanic	Indo-European		1
npa	Nar-Phu	Bodic	Sino-Tibetan	1	
nrb	Nara (in Ethiopia)	Nara	Nilo-Saharan	1	
nuy	Nunggubuyu	Nunggubuyu	Australian	1	
nya	Chichewa	Bantoid	Niger-Congo	1	
nyh	Nyigina	Nyulnyulan	Australian	1	
oge	Old Georgian	Kartvelian	Kartvelian		1
ojg	Ojibwa (Eastern)	Algonquian	Algic	1	
ojp	Old Japanese	Japanese	Japanese	1	
ote	Otomí (Mezquital)	Otomian	Oto-Manguean	1	
otq	Otomí (Santiago Mexquititlan)	Otomian	Oto-Manguean	1	
otz	Otomí (Ixtenco)	Otomian	Oto-Manguean	1	
pam	Kapampangan	N. Philippines	Austronesian		1
pan	Panjabi	Indic	Indo-European	1	
pau	Palauan	Palauan	Austronesian	2	
pay	Pech	Paya	Chibchan	1	
pbe	Popoloca (Metzontla)	Popolocan	Oto-Manguean	1	
pci	Parji (Dravidian)	Ce. Dravidian	Dravidian	1	
pes	Persian	Iranian	Indo-European	3	5
pgu	Pagu	N. Halmaheran	West Papuan	1	
pjt	Pitjantjatjara	Pama-Nyungan	Australian	1	
plg	Pilagá	Guaicuruan	Guaicuruan	1	
pli	Pali	Indic	Indo-European		1
pmi pm	j Pumi	Qiangic	Sino-Tibetan	1	

pmt	Tuamotuan	Oceanic	Austronesian	1	
pno	Wariapano	Panoan	Panoan	2	
pol	Polish	Slavic	Indo-European	2	2
poq	Popoloca (Texistepec)	Popolocan	Oto-Manguean	1	
por	Portuguese	Romance	Indo-European	1	5
por	Portuguese (Brazilian)	Romance	Indo-European		4
por	Portuguese (USA)	Romance	Indo-European	1	
pos	Sayultec	Mixe-Zoque	Mixe-Zoque	1	
ppi	Paipai	Yuman	Hokan	1	
ppl	Pipil	Aztecan	Uto-Aztecan	1	
prv	Provençal	Romance	Indo-European	1	1
pum	Puma	Bodic	Sino-Tibetan	1	
puw	Puluwat	Oceanic	Austronesian	2	
quh	Quechua (Cochabamba)	Quechuan	Quechuan		1
quh qul	Quechua (Bolivian)	Quechuan	Quechuan	1	
quz	Quechua (Cuzco)	Quechuan	Quechuan		1
qvh	Quechua (Huallaga)	Quechuan	Quechuan		3
qvi	Quechua (Imbabura)	Quechuan	Quechuan	1	
qvs	Quechua (San Martín)	Quechuan	Quechuan	1	
qxu	Quechua (Arequipa)	Quechuan	Quechuan	1	
rap	Rapanui	Oceanic	Austronesian	2	
rit	Ritharngu	Pama-Nyungan	Australian		1
rma	Rama	Rama	Chibchan	2	
rmn	Romani (Balkan/Bugurdzi)	Indic	Indo-European	2	
rmn	Romani (Balkan/Sepecides)	Indic	Indo-European	4	
rmn	Romani (Vlax/Ajia Varvara)	Indic	Indo-European	4	1
rmo	Romani (Sinte/Burgenland)	Indic	Indo-European	3	
rmt	Domari	Indic	Indo-European	1	
rmw	Romani (Welsh)	Indic	Indo-European	2	
rmy	Romani (Vlax/Kalderash)	Indic	Indo-European	1	
ron	Romanian	Romance	Indo-European	10	2
rop	Kriol (Ngukurr)		Creoles and Pidgins		10
rou	Runga	Maban	Nilo-Saharan	1	
rtm	Rotuman	Oceanic	Austronesian	2	
ruq	Romanian (Meglenite)	Romance	Indo-European	\otimes	\otimes
rus	Russian	Slavic	Indo-European	2	32
sae	Sabanê	Nambikuaran	Nambikuaran	1	
sah	Yakut	Turkic	Altaic	2	1
san	Sanskrit	Indic	Indo-European		7
sce	Santa	Mongolic	Altaic	1	
scl	Shina	Indic	Indo-European		1
scr	Serbian-Croatian	Slavic	Indo-European		2
sdm	Kualan	Sundic	Austronesian	1	
sea	Semai	Aslian	Austro-Asiatic	1	
shp	Shipibo-Konibo	Panoan	Panoan	2	
shu	Arabic (Abbéché Chad)	Semitic	Afro-Asiatic		1

sjd	Saami (Kildin)	Finnic	Uralic	1	
sjw	Shawnee	Algonquian	Algic	1	
slv	Slovene	Slavic	Indo-European		3
sma	Saami (Southern)	Finnic	Uralic	1	
sme	Saami (Northern)	Finnic	Uralic	3	
smo	Samoan	Oceanic	Austronesian	1	3
sna	Shona	Bantoid	Niger-Congo	1	
snd	Sindhi	Indic	Indo-European		1
sot	Sesotho	Bantoid	Niger-Congo	1	
spa	Spanish	Romance	Indo-European	3	52
srh	Sarikoli	Iranian	Indo-European	1	
srm	Saramaccan		Creoles and Pidgins	5	
srn	Sranan		Creoles and Pidgins	1	2
srp	Serbian	Slavic	Indo-European	1	1
ssn	Oromo (Waata)	Eastern Cushitic	Afro-Asiatic		1
swe	Swedish	Germanic	Indo-European		3
swh	Swahili	Bantoid	Niger-Congo	2	4
sza	Semelai	Aslian	Austro-Asiatic	1	
tae	Tariana	Arawakan	Arawakan	2	
tah	Tahitian	Oceanic	Austronesian	2	3
tam	Tamil	South Dravidian	Dravidian	4	
tat	Tatar	Turkic	Altaic	1	
tbc	Takia	Oceanic	Austronesian	3	
tdh	Thulung	Bodic	Sino-Tibetan	1	
tel	Telugu	SCe. Dravidian	Dravidian	3	1
teo	Teso	Nilotic	Nilo-Saharan	2	
tep	Tepecano	Tepiman	Uto-Aztecan	1	
tet	Tetun	Central MP	Austronesian	1	
tft	Ternate	N. Halmaheran	West Papuan		1
tgk	Tajik	Iranian	Indo-European	1	
tgl	Tagalog	Meso-Philippine	Austronesian	6	
tha	Thai	Kam-Tai	Tai-Kadai	5	
thv	Tuareg (Air)	Berber	Afro-Asiatic		1
tin	Tindi	Avar-Andic-Tsezic	Nakh-Daghestanian	1	
tiw	Tiwi	Tiwian	Australian	1	
tkp	Tikopia	Oceanic	Austronesian	1	
tlh	Klingon		Artificial languages	\otimes	\otimes
tly	Talysh (Southern)	Iranian	Indo-European	1	
ton	Tongan	Oceanic	Austronesian	1	2
tpi	Tok Pisin		Creoles and Pidgins	1	11
tpj	Tapieté	Tupi-Guaraní	Tupian	1	
tpx	Tlapanec	Subtiaba-Tlapanec	Subtiaba-Tlapanec	1	
tss	Taiwanese Sign Language		Sign languages	\otimes	\otimes
tsz	Purépecha	Tarascan	Tarascan	2	
ttt	Tat	Iranian	Indo-European	\otimes	\otimes
tuo	Tucano	Tucanoan	Tucanoan		2

tur	Turkish	Turkic	Altaic	7	8
tur	Turkish (Anatolian)	Turkic	Altaic	2	
twq	Tasawaq	Songhay	Nilo-Saharan	1	
tzm	Berber (Figuig)	Berber	Afro-Asiatic	2	
tzz	Tzotzil (Zinacantán)	Mayan	Mayan	1	
ude	Udihe	Tungusic	Altaic	1	
udi	Udi	Lezgic	Nakh-Daghestanian	1	
uig	Uyghur	Turkic	Altaic	2	1
ukr	Ukrainian	Slavic	Indo-European	1	
uli	Ulithian	Oceanic	Austronesian		1
urd	Urdu	Indic	Indo-European	3	2
ute	Paiute (Southern)	Numic	Uto-Aztecan	1	
uwa	Kugu Nganhcara	Pama-Nyungan	Australian	1	
uzn uzs	Uzbek	Turkic	Altaic	2	2
vep	Vens	Finnic	Uralic	1	
vie	Vietnamese	Viet-Muong	Austro-Asiatic		1
vot	Votic	Finnic	Uralic	1	-
whn	Warlpiri	Pama-Nyungan	Australian	1	1
wdo	Western Desert (Ooldea)	Pama-Nyungan	Australian	1	1
wed	Wedau	Oceanic	Austronesian		1
wiv	Vitu	Oceanic	Austronesian	1	1
wls	Wallisian (F. Llyean)	Oceanic	Austronesian	1	
wis	Wambon	Awin-Dumut	Trans-New Guinea	1	
wol	Walnoon	North Atlantic	Niger-Congo	2	1
woi	Worov (in Australia)	Waray	Australian	1	1
wiz	Waray (III Australia)	Walay Domo Nuungon	Australian	1	
wyu	Mongim	Hatam	W Domion	1	
xnm vho	Vhose	Pantoid	W. Fapuali Nigor Congo	1	
XIIO	Allosa		Niger-Coligo	1	
xiu		Luie-viieia	Luie-viieia	1	
XIII	Mingreitan	Kartvenan	Kartvenan	1	1
xng	W. Middle Mongolic	Mongolic	Altaic		1
хрв	Proto-Berber	Berber	Alro-Asiatic	1	1
xqu	unid. Quecnua	Quecnuan	Quecnuan	1	
xst	Silt'e	Semitic	Afro-Asiatic	1	
yag	Yahgan	Yámana	Yámana	1	
yal	Jalonke	Western Mande	Niger-Congo	2	
yap	Yapese	Yapese	Austronesian	2	
yaq	Yaqui	Cahita	Uto-Aztecan	2	
ydd yih	Yiddish	Germanic	Indo-European	3	1
yee	Yimas	Lower Sepik	Lower Sepik-Ramu	1	
ygr	Hua	Eastern Highlands	Trans-New Guinea	1	
yor	Yoruba	Defoid	Niger-Congo	1	
yrk	Nenets	Samoyedic	Uralic	1	
yuu	Yugh	Yeniseian	Yeniseian	1	
yux	Yukaghir (Kolyma)	Yukaghir	Yukaghir	1	
yuy	Shira Yughur	Mongolic	Altaic	2	

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yuz	Yuracare	Yuracare	Yuracare	1	
zul	Zulu	Bantoid	Niger-Congo	1	
0ie	unid. Indo-European lg.	unid.	Indo-European		9
0mp	unid. Malayo-Polynesian lg.	Malayo-Polynesian	Austronesian		1
0of	Early Old Finnish	Finnic	Uralic	\otimes	\otimes
0tu	unid. Turkic lg.	Turkic	Altaic		3

A.1.2 Genealogical list of recipient languages

Afro-Asiatic: (21)

Berber (1): *Berber (Figuig)* Eastern Cushitic (1): *Gawwada* Egyptian-Coptic (1): *Coptic* Semitic (15): *Amharic; Arabic (Algerian Sp.); Arabic (Anatolian); Arabic (Bukhara); Arabic (Eastern Libyan); Arabic (Egyptian); Arabic (Iraqi); Arabic (Judeo-Moroccan); Arabic (Kormakiti); Arabic (Lebanese); Arabic (Moroccan); Arabic (North Levantine Sp.); Hebrew (Mod.); Maltese, Selt'i* Southern Cushitic (2): *Iraqw; Mbugu* West Chadic (1): *Hausa*

Ainu: (1)

Ainu

Algic: (4)

Algonquian (4): Michif; Montagnais; Ojibwa (Eastern); Shawnee

Altaic: (21)

Mongolic (4): Dagur; Mangghuer; Santa; Shira Yughur Tungusic (4): Even; Evenki; Nanat; Udihe Turkic (13): Aynu; Azari (Iranian); Chuvash; Karaim; Karakalpak; Kazakh; Tatar; Tofa; Turkish; Turkish (Anatolian); Uyghur; Uzbek; Yakut

Araucanian: (1)

Mapudungun

Arawakan: (3)

Arawakan (3): Amuesha; Garífuna; Tariana

Australian: (22)

Bunuban (1): Gooniyandi Gaagudju (1): Gaagudju Iwaidjan (2): Garig; Iwaidja Jaminjungan (1): Jaminjung Ndjébbana (1): Ndjébbana Ngalakan (1): Ngalakan Ngandi (1): Ngandi Nunggubuyu (1): Nunggubuyu Nyulnyulan (2): Bardi; Nyigina Pama-Nyungan (9): Alyawarra; Gurindji; Kaytetye; Kugu Nganhcara; Ngarinyman; Ngiyambaa; Pitjantjatjara; Warlpiri; Yolngu-Matha Tiwian (1): Tiwi Waray (1): Waray

Austro-Asiatic: (3)

Aslian (2): *Semai, Semelai* Munda (1): *Gadaba (Gutob)*

Austronesian: (42)

Borneo (1): *Malagasy* Bunun (1): *Bunun* Central Malayo-Polynesian (4): *Dhau; Kisar; Sawu; Tetun* Chamorro (1): *Chamorro* Meso-Philippine (2): *Bikol; Tagalog* Oceanic (20): *Dehu; Erromangan; Fijian; Hawaiian; Kokota; Mangarevan; Māori; Mwotlap; Puluwat; Rapanui; Rotuman; Samoan; South Efate; Tahitian; Takia; Tikopia; Tongan; Tuamotuan; Vitu; Wallisian (East Uvean)* Palauan (1): *Palauan* South Halmahera - West New Guinea (2): *Biak; Taba* Sulawesi (2): *Kaili; Makassar* Sundic (1): *Acehnese; Indonesian; Indonesian (Jakarta); Indonesian (Riau); Kualan; Malay; Malay (Brunei)* Yapese (1): *Yapese*

Aymaran: (1)

Aymara

Barbacoan: (2)

Awa Pit; Tsafiki

Basque: (1)

Basque

Border: (1) Imonda

Burushaski: (1)

Burushaski

Camsá: (1)

Camsá

Cariban: (1) Carib

Chibchan: (2)

Paya (1): *Pech* Rama (1): *Rama*

Chukotko-Kamchatkan: (1)

Southern Chukotko-Kamchatkan (1): Itelmen

Creoles and Pidgins: (7)

Ambonese Malay; Bislama; Mauritian Creole; Saramaccan; Seychelles Creole; Sranan; Tok Pisin

Damar: (1)

Damar (West)

Dravidian: (7)

Central Dravidian (1): *Parji* Northern Dravidian (2): *Brahui; Malto* South-Central Dravidian (1): *Telugu* Southern Dravidian (3): *Kannada; Malayalam; Tamil*

Eastern Bird's Head: (2)

Meyah; Sougb

Eskimo-Aleut: (2)

Aleut (Eastern); Greenlandic (West)

Guaicuruan: (1)

Pilagá

Hokan: (5)

Yuman (5): Cocopa; Diegueño (Mesa Grande); Kiliwa; Mojave; Paipai

Huavean: (1)

Huave (San Mateo del Mar)

Indo-European: (57)

Albanian (1): Albanian Armenian (1): Armenian (Eastern) Baltic (1): Lithuanian Celtic (3): Irish; Manx; Welsh Germanic (11): Danish; Dutch; English; English (USA); German; German (Zurich); Icelandic; Middle English; Norwegian; Old English; Yiddish Greek (2): Greek (Anatolian); Greek (Mod.) Indic (13): Bengali; Domari; Hindi; Konkani; Panjabi; Romani (Balkan/Bugurdzi); Romani (Balkan/Sepecides); Romani (Sinte/Burgenland); Romani (Vlax/Ajia Varvara); Romani (Vlax/Kalderash); Romani (Welsh); Sarnami; Urdu Iranian (6): Kurdish (Central); Kurmanji; Persian; Sarikoli; Tajik; Talysh (Southern): Romance (9): Catalan; French; Italian; Old French; Portuguese; Portuguese (USA); Provençal; Romanian; Spanish Slavic (10): Bulgarian; Croatian; Czech; Dalmatian; Macedonian; Polish: Russian: Serbian: Sorbian (Lower): Ukrainian

Japanese: (2)

Japanese; Old Japanese

Kartvelian: (1)

Mingrelian

Keresan: (1)

Keresan (Santa Ana)

Korean: (1)

Korean

Kwaza: (1)

Kwazá

Leco: (1)

Leco

Lower Sepik-Ramu: (1) Lower Sepik (1): Yimas

Lule-Vilela: (1) Lule

Mayan: (3) *Cakchiquel; Huastec; Tzotzil (Zinacantán)*

Misumalpan: (1) *Miskito*

Mixe-Zoque: (1) Sayultec

Mosetenan: (1) Mosetén

Na-Dene: (1)

Athapaskan (1): Navajo

Nadahup: (1)

Нир

Nakh-Daghestanian: (19)

Avar-Andic-Tsezic (16): Akhvakh; Andi; Avar; Avar (Antsukh); Bagvalal; Bezhta; Botlikh; Chamalal; Godoberi; Hinukh; Hunzib; Hunzib (Sarusian); Karata; Khvarshi; Tindi; Tsez Lezgic (1): Udi Nakh (2): Chechen; Ingush

Nambikuaran: (1)

Sabanê

Niger-Congo: (18)

Bantoid (12): Aghem; Chichewa; Ejagham; Kwanyama; Lingala; Luganda; Luyia; Sesotho; Shona; Swahili; Xhosa; Zulu Defoid (1): Yoruba Gur (1): Lama Kwa (1): Chumburung Northern Atlantic (2): Fulani (Adamawa); Wolof Western Mande (1): Jalonke

Nilo-Saharan: (8)

Kunama (1): *Kunama* Maban (1): *Runga* Moru-Ma'di (1): *Ma'di* Nara (1): *Nara (in Ethiopia)* Nilotic (2): *Alur; Teso* Saharan (1): *Kanuri* Songhay (1): *Tasawaq*

Oto-Manguean: (5)

Otomian (3): *Otomí (Ixtenco); Otomí (Mezquital); Otomí (Santiago Mexquititlan)* Popolocan (2): Popoloca (Metzontla); *Popoloca (Texistepec)*

Panoan: (4)

Capanahua; Chácobo; Shipibo-Konibo; Wariapano

Penutian: (1)

Klamath-Modoc (1): Klamath

Quechuan: (5)

Quechua (Arequipa); Quechua (Bolivian); Quechua (Imbabura); Quechua (San Martín); Quechua (unid.)

Salishan: (2)

Central Salish (1): *Halkomelem* Tsamosan (1): *Cowlitz*

Sepik: (3)

Middle Sepik (1): *Ambulas* Upper Sepik (1): *Abau* Yellow River (1): *Namia*

Sino-Tibetan: (11)

Bodic (7): Belhare; Chantyal; Gurung; Manange; Nar-Phu; Puma; Thulung Chinese (1): Mandarin Kuki-Chin-Naga (1): Meithei Qiangic (2): Pumi; Qiang

Siouan: (1)

Dakota

Solomons East Papuan: (1)

Lavukaleve

Subtiaba-Tlapanec: (1)

Tlapanec

Tacanan: (1) *Cavineña*

Tai-Kadai: (1) Kam-Tai (2): *Lao; Thai*

Tarascan: (1)

Purépecha

Torricelli: (1)

Marienberg (1): Kamasau

Trans-New Guinea: (4)

Awju-Dumut (1): *Wambon* Binanderean (1): *Tafota Baruga* Eastern Highlands (1): *Hua* Finisterre-Huon (1): *Nankina*

Tupian: (3)

Tupi-Guaraní (3): Cocama; Guaraní (Paraguayan); Tapieté

Uralic: (14)

Finnic (10): Estonian; Finnish; Karelian; Mordvin (Erzya); Mordvin (Moksha):; Saami (Kildin):; Saami (Northern); Saami (Southern); Veps; Votic Samoyedic (2): *Enets; Nenets* Ugric (2): *Hungarian; Khanty*

Uto-Aztecan: (7)

Aztecan (3): Nahuatl (Central); Nahuatl (Sierra de Zacapoaxtla); Pipil Cahita (1):] Yaqui Numic (2):] Mono; Paiute (Southern) Tepiman (1):] Tepecano

West Papuan: (5)

Hatam (2): *Hatam; Mansim* Kebar (1): *Mpur* North Halmaheran (1): *Pagu* North-Central Bird's Head (1): *Abun*

Yámana: (1)

Yahgan

Yeniseian: (2)

Ket; Yugh

Yukaghir: (1)

Yukaghir (Kolyma)

Yuracare: (1)

Yuracare

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A.1.3 Genealogical list of donor languages

Afro-Asiatic: (14)

Berber (2) Proto-Berber; Tuareg (Air)
Eastern Cushitic (2) Konso; Oromo (Waata)
Semitic (9) Amharic; Arabic (Abbéché Chad); Arabic (Iraqi); Arabic (Moroccan); Arabic (S. Levantine Sp.); Arabic (Sp.); Arabic (Std./Cl.); Arabic (Syrian); Hebrew (Mod.)
West Chadic (1) Hausa

Altaic: (12)

Mongolic (4) Buriat; Mongol (Khalkha); Mongolic; West Middle Mongolic Turkic (8) Azerbaijani; Chuvash; Turkic (West Xorasan); Turkish; unid. Turkic; Uyghur; Uzbek; Yakut

Australian: (4)

Jaminjungan (1) *Jaminjung* Pama-Nyungan (3) *Ritharngu; Warlpiri; Western Desert (Ooldea)*

Austro-Asiatic: (3)

Khmer (2) *Khmer; Khmer (Northern)* Viet-Muong (1) *Vietnamese*

Austronesian: (17)

Borneo (1) Malagasy Northern Philippines (1) Kapampangan Oceanic (7) Cheke Holo; Gedaged; Samoan; Tahitian; Tongan; Ulithian; Wedau South Halmahera - West New Guinea (1) Biak Sulawesi (1) Makassar Sundic (5) Indonesian; Indonesian (Irianese); Javanese; Malay; Malay (N. Moluccan) unid. (1) unid. Malayo-Polynesian

Aymaran: (1)

Aymaran (1) Aymara

Cariban: (1)

Cariban (1) Carib (De'kwana)

Creoles and Pidgins: (7)

Bislama; Chinook Jargon; Guianese French Creole; Kriol (Ngukurr); Melanesian Pidgin; Sranan; Tok Pisin

Dravidian: (2)

South-Central Dravidian (1) *Telugu* Southern Dravidian (1) *Kannada*

Indo-European: (51)

Albanian (1) Albanian
Armenian (1) Armenian (Western)
Celtic (2) Irish; Welsh
Germanic (12) Dutch; English; English (Australia & NZ); English (America); German; German (Bavarian); Low German; Middle Low German; Old High German; Old Norse; Swedish; Yiddish
Greek (3) Ancient Greek; Greek (Cypriot); Greek (Modern)
Indic (12) Halbi; Hindi; unid. Indic; Khowar; Marathi; Nepali; Pali; Romani (Vlax/Ajia Varvara); Sanskrit; Shina; Sindhi; Urdu
Iranian (3) Baluchi; Kurdish (Central); Persian
Romance (9) French; Italian; Latin; Middle French; Portuguese; Portuguese (Brazilian); Provençal; Romanian; Spanish
Slavic (7) Bulgarian; Macedonian; Polish; Russian; Serbian; Croatian; Slovene
unid. (1) unid. Indo-European language

Japanese: (1)

Japanese (1) Japanese

Kartvelian: (3)

Kartvelian (3) Georgian; Georgian (Kakhetian); Old Georgian

Nakh-Daghestanian: (1)

Avar-Andic-Tsezic (1) Avar

Niger-Congo: (7)

Bantoid (3) Kongo; Luganda; Swahili Kwa (2) Ewe; Fongbe Northern Atlantic (2) Fula (Guinean); Wolof

Nilo-Saharan: (2)

Nilotic (1) *Luo* Saharan (1) *Kanuri*

Quechuan: (3)

Quechuan (3) *Quechua (Cochabamba); Quechua (Cuzco); Quechua (Huallaga)*

Sino-Tibetan: (3)

Bodic (1) *Tibetan (Std. Sp.)* Chinese (2) *Mandarin; Middle Chinese*

Tucanoan: (1)

Tucanoan (1) Tucano

Tupian: (1)

Tupi-Guaraní (1) Guaraní (Paraguayan)

Uralic: (2)

Finnic (1) *Finnish* Ugric (1) *Hungarian*

Uto-Aztecan: (2)

Aztecan (2) Nahuatl (Central); Nahuatl (Huasteca)

West Papuan: (2)

Hatam (1) *Hatam* North Halmaheran (1) *Ternate*

A.2 Lists of strategy distributions

A.2.1 The abbreviations for the pattern types and strategies:

In earlier publications (cf. sec. 1.4.4.2), the database codes (IDs), beginning with M for *macro-type* (called *strategy* here) and with S for *subtype* (called *pattern type* here) were used. For the sake of clarity, I applied more distinct abbreviations for the accommodation strategies and the pattern types in this work.

(M1) Direct Insertion (D1) (cf. ch. 6)

- S11 Direct Insertion of a borrowed verb
- S12 Direct Insertion of inflected form³⁹
- **S13** Direct Insertion across word class
- S14 Verbal classifier
- S15 Reduction to root

(M2) Indirect Insertion (IndI) (cf. ch. 7)

- **S21** Affixation with a verbalizer
- S22 Affixation with a factitive/causative
- S23 Affixation with a LVM
- S24 Other verbalization

(M3) Light Verb Strategy / complex predicate (LVS) (cf. ch. 8)

- S31 Light verb "do", "make"
- S32 Light verb "be", "become"
- **S33** Light verb "go"⁴⁰
- S34 Other light verb
- S35 Co(n)verb, serial verb
- **S36** Verbal complex⁴¹
- **S37** Participle + Light verb

(M4) Paradigm Insertion (PI) (cf. ch. 9)

S41 - Borrowing of verb plus inflection

S42 - Paradigm Insertion plus further grammatical borrowing

(M5),(M8) Other (cf. ch. 10)

- **S51** Suppletion
- SX Other / unidentified
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- (MS) Semantic borrowing (cf. ch. 11.2)
 S61 Loan translation (Sem.)
 S62 Semantic extension (Sem.)

(MX) Non-pattern (cf. ch. 11)

SN - No borrowing (of verbs)

A.2.2 Language pairs and their accommodation techniques

The following list is a synopsis of all 553 language pairs of the LVDB sample and all accommodation pattern types and strategies each of these pairs employs, including the 3 pairs that have no verbal borrowings. This compilation of 588 examples represents the cleared sample as defined in sec. 2.4.3.1. If a pattern is attested in several sources, all references are given.

The list is sorted by recipient language name, then donor language name, then pattern type ID and strategy ID. The numbers and abbreviations for the latter two are given in sec. A.2.1 on the preceding page.

Recipient < Donor	Type \Rightarrow Strategy	References
Α		
Abau < English	$S11 \Rightarrow DI$	(Bailey 1975: 31)
Abun < Biak	$S23 \Rightarrow IndI$	(Berry and Berry 1999: 5 ex. 1.2)
Abun < Indonesian	$S23 \Rightarrow IndI$	(Berry and Berry 1999: 5 ex. 1.1)
Acehnese < Malay	$S11 \Rightarrow DI$	(Daud and Durie (eds) 1999)
Acehnese < Vietnamese	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Aghem < English	$S11 \Rightarrow DI$	(Attia 2004: 121)
Ainu < Japanese	$S11 \Rightarrow DI$	(Tamura 2000: 267 ex. 7.25)
Akhvakh < Avar	$S11 \Rightarrow DI$	(Khalidova 2006: 260)
Akhvakh < Avar	$S23 \Rightarrow IndI$	(Khalidova 2006: 138)
Albanian < English	$S11 \Rightarrow DI$	(Ködderitzsch and Görlach 2002: 298)
Albanian < Greek (Mod.)	$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze 1958: 514–517 ex. 776)
Albanian < Latin	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Aleut (E.) < Russian	$S11 \Rightarrow DI$	(Bergsland 1994: 288)
Alur < Swahili	$S12 \Rightarrow DI$	(Heusing 2005: 10 ex. 9)
Alyawarra < Kriol (Ngukurr)	$S21 \Rightarrow IndI$	(Yallop 1977: 67)
Ambulas < Tok Pisin	$S31 \Rightarrow LVS$	(Foley 1986: 39)
Amharic < English	$S11 \Rightarrow DI$	(Gerhardt 1975/1976: 64)

Ambaric – Fnglish	\$3
Amharia < Eronah	SJ 61
Amharic < Italian	51
Amman < Current Amman < Current (Current)	51
Amuesna < Quecnua (Cuzco)	51
And \langle Avar A solve (Alexator Cal) \langle For solve	52
Arabic (Algerian Sp.) < French	51
Arabic (Anatolian) < Kurdish (Ce.)	\$3
Arabic (Anatolian) < Turkish	S 3
Arabic (Bukhara) < Uzbek	S 1
Arabic (E. Libyan) < Italian	S5
Arabic (Egyptian) < Greek (Mod.)	S1
Arabic (Iraqi) < Greek (Mod.)	S1
Arabic (Iraqi) < Turkish	S1
Arabic (Judeo-Moroccan) < French	S1
Arabic (Judeo-Moroccan) < Spanish	S1
Arabic (Kormakiti) < Greek (Cypriot)	S4
Arabic (Lebanese) < French	S3
Arabic (Moroccan) < English	S1
Arabic (Moroccan) < English	S1
Arabic (Moroccan) < French	S1
Arabic (Moroccan) < French	S1
Arabic (Moroccan) < French	S1
Arabic (Moroccan) < Greek (Mod.)	S1
Arabic (Moroccan) < Spanish	S 1
Arabic (Moroccan) < Spanish	S1
Arabic (N. Levantine Sp.) < Italian	S1
Armenian (E.) < Russian	S2
Armenian (E.) < Russian	S3
Avar (Antsukh) < Georgian	S3
Avar < Arabic (Mod.Std.)	S2
Awa Pit < Spanish	S3
Awa Pit $<$ Spanish	S3
Aymara < Spanish	S 1
Aynu < Arabic (Sp.)	S2
Aynu < Khalkha	S2
Aynu < Persian	S2
Azari (Iranian) < Persian	S3

$S31 \Rightarrow LVS$	(Unseth, p.c.)
$S11 \Rightarrow DI$	(Gerhardt 1975/1976: 64)
$S11 \Rightarrow DI$	(Gerhardt 1975/1976: 64)
$S11 \Rightarrow DI$	(Adelaar 1996: 1326)
$S23 \Rightarrow IndI$	(Khalidova 2006: 137)
$S15 \Rightarrow DI$	(Heath 1989: 111)
$S31 \Rightarrow LVS$	(Vocke and Waldner
	1982: XLIV, 215)
$S31 \Rightarrow LVS$	(Vocke and Waldner
	1982: XLIV, 215)
$S15 \Rightarrow DI$	(Doerfer 1969: 303 ex. 58)
$S51 \Rightarrow other$	(Abdu 1988: 44, 131)
$S15 \Rightarrow DI$	(Kahane, Kahane, and Tietze
	1958: 514–517)
$S15 \Rightarrow DI$	(Kahane, Kahane, and Tietze
	1958: 514–517)
$S15 \Rightarrow DI$	(Reinkowski 1998: 243
	ex. 1a)
$S15 \Rightarrow DI$	(Heath 1989: 110–111)
$S15 \Rightarrow DI$	(Heath 1989: 106)
$S41 \Rightarrow PI$	(Newton 1964: 47)
$S31 \Rightarrow LVS$	(Abou 1962: 65)
$S11 \Rightarrow DI$	(Heath 1989: 114)
$S15 \Rightarrow DI$	(Heath 1989: 113)
$S11 \Rightarrow DI$	(Heath 1989: 106, 110)
$S12 \Rightarrow DI$	(Heath 1989: 109)
$S15 \Rightarrow DI$	(Heath 1989: 108, 111)
$S15 \Rightarrow DI$	(Kahane, Kahane, and Tietze
	1958: 514–517)
$S12 \Rightarrow DI$	(Heath 1989: 106–107)
$S15 \Rightarrow DI$	(Heath 1989: 105)
$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze
	1958: 68 ex. 24)
$S22 \Rightarrow IndI$	(Kozintseva 2003: 224)
$S31 \Rightarrow LVS$	(Kozintseva 2003: 222)
$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
$S21 \Rightarrow IndI$	(Khalidova 2006: 137)
$S31 \Rightarrow LVS$	(Curnow 1997: 156)
$S34 \Rightarrow LVS$	(Curnow 1997: 112)
$S11 \Rightarrow DI$	(Hardman, Vásquez, and
	Yapita 1988: 55)
$S21 \Rightarrow IndI$	(Lee-Smith 1996: 858)
$S21 \Rightarrow IndI$	(Lee-Smith 1996: 858)
$S21 \Rightarrow IndI$	(Lee-Smith 1996: 858)
$S31 \Rightarrow LVS$	(Kincses Nagy 2006)

B

Bagyalal $<$ Avar S11 \Rightarrow DI (Khalidova 2006)	: 137, 246)
Bardi < Kriol (Ngukurr) S31 \Rightarrow LVS (Bowern 2004: 2)	9 ex. 2.6)
Basque $<$ Latin S11 \Rightarrow DI (Haase 1992: 92;	
Céline Mounole,	p.c.)
Basque $<$ Spanish S11 \Rightarrow DI (Khanina 2006: 2	ex. 10)
Basque $<$ Spanish S31 \Rightarrow LVS (Céline Mounole	, p.c.;
Khanina 2006: 2	ex. 10)
Belhare $<$ Nepali S23 \Rightarrow IndI (Bickel 2003: 559)	9)
Bengali < English	01: 70)
Berber (Figuig) $<$ Arabic (Moroccan) S11 \Rightarrow DI (Wichmann 2004)	a ex. 3)
Berber (Figuig) < French	a ex. 2)
Bezhta $<$ Avar S31 \Rightarrow LVS (Khalilov 2004: 1	191)
Bezhta < Avar	
Bezhta < Georgian $S31 \Rightarrow LVS$ (Khalilov 2004: 1	191)
Bezhta < Georgian $S32 \Rightarrow LVS$ (Khalilov 2004: 1	191)
Bezhta < Georgian (Kakhetian) $S34 \Rightarrow LVS$ (Khalilov 2004: 1	191)
Biak < Indonesian	
2006: 183 ex. 64)
Bikol $<$ English S13 \Rightarrow DI (Mattes 2006: 2 e	ex. 4)
Bikol $<$ Spanish S11 \Rightarrow DI (Mattes 2006; and	d p.c.)
Bislama $<$ English S11 \Rightarrow DI (Crowley 1990: 1	28)
Bislama $<$ French S11 \Rightarrow DI (Crowley 1990: 1	18, 128)
Bislama < Melanesian Pidgin $S11 \Rightarrow DI$ (Crowley 1990: 1	10)
Bislama $<$ Samoan S11 \Rightarrow DI (Crowley 1990: 1	.38)
Bislama < Tok Pisin S11 \Rightarrow DI (Crowley 1990: 1	.34)
Botlikh $<$ Avar S11 \Rightarrow DI (Khalidova 2006)	: 259–260)
Brahui $<$ Arabic (Mod.Std.) S31 \Rightarrow LVS (Bray [1934] 198	6: 68)
Brahui $<$ Baluchi $S34 \Rightarrow LVS$ (Bray [1934] 198	6:97)
Brahui $<$ Persian S11 \Rightarrow DI (Bray [1934] 198	6: 249)
Brahul < Persian $S31 \Rightarrow LVS$ (Bray [1934] 198	6: 276)
Branul < Sindni/Kariri $S11 \Rightarrow DI$ (Bray [1934] 198	6:97)
Bulgarian $<$ English $S_{21} \Rightarrow$ Indi (Alexieva 2002: A	252)
Bulgarian \leq Greek (Mod.) S21 \Rightarrow Indi (Igla 1996: 209) Bulgarian \leq Greek (Mod.) S51 \Rightarrow ather (Equillet 1006: 77)	7)
Dulgarian $<$ Greek (Mou.) S51 \Rightarrow Other (Feumet 1990: 7) Dulgarian $<$ Turkich S21 \rightarrow Indi (Naikirk Schuler	1006, 10)
Bulgarian $<$ Turkish $S21 \Rightarrow$ Indi (Neikink Schuler Bulgarian $<$ Turkish $S23 \Rightarrow$ Indi (Igla 1006; 200)	1990. 40)
Dulgarian $<$ Intrinsin $523 \rightarrow$ Indi (1gia 1990, 209) Dulgarian $<$ unid Inde Europeon $521 \rightarrow$ Indi (Section 1094; 20	20)
Bungarian < unital nuto-European $S_{21} \Rightarrow Indi$ (Scatton 1964, 20 Bunun < Japanese $S_{21} \Rightarrow Indi$ (Nojima 1966, 0	ov 15)
Burnshocki – Khowar $S21 \rightarrow IUS$ (Regar 1074: 15)	(13)
Burushashi $<$ Khowai $351 \rightarrow LVS$ (Berger 1974: 13 Burushashi $<$ Shina $331 \rightarrow LVS$ (Berger 1974: 14	2) 8)
Burushaski $<$ Jirdu S31 \rightarrow LVS (Berger 1974: 14 Burushaski $<$ Urdu S31 \rightarrow LVS (Berger 1974: 13	1)
$551 \rightarrow LVS (Delgel 17/4.15)$	1)
С	
Cakchiquel $<$ Spanish S31 \Rightarrow LVS (Stenson 1998: 2)	24 ex. 3b)
Camsá \leq Spanish S11 \Rightarrow DI (Adelaar and Mu	vsken

		2004: 152)
Capanahua < Quechua (Huallaga)	$S23 \Rightarrow IndI$	(Valenzuela 2005: 129
		ex. 10)
Capanahua < Spanish	$S23 \Rightarrow IndI$	(Valenzuela 2005: 126 ex. 3)
Carib < Dutch	$S11 \Rightarrow DI$	(Renault-Lescure 2004:
		ex. 15)
Carib < Guianese French Creole	$S34 \Rightarrow LVS$	(Renault-Lescure 2004:
		ex. 19)
Carib < Guianese French Creole	$S34 \Rightarrow LVS$	(Renault-Lescure 2004:
		ex. 9)
Carib < Spanish	$S21 \Rightarrow IndI$	(Renault-Lescure 2005: 112
•		ex. 23)
Carib < Sranan	$S11 \Rightarrow DI$	(Renault-Lescure 2004:
		ex. 8, 16, 18)
Catalan < English	$S11 \Rightarrow DI$	(CollAlfonso, p.c.)
Catalan < English	$S21 \Rightarrow IndI$	(CollAlfonso, p.c.)
Catalan < English	$S31 \Rightarrow LVS$	(CollAlfonso, p.c.)
Catalan < English	S62 \Rightarrow sem.	(CollAlfonso, p.c.)
Cavineña < Spanish	$S32 \Rightarrow LVS$	(Guillaume 2004: 150
		ex. 5.38a)
Chácobo < Spanish	$S11 \Rightarrow DI$	(Valenzuela 2004: 3 ex. 7, 8)
Chamalal < Avar	$S11 \Rightarrow DI$	(Khalidova 2006: 136)
Chamalal < Avar	$S21 \Rightarrow IndI$	(Khalidova 2006: 246)
Chamalal < Avar	$S23 \Rightarrow IndI$	(Khalidova 2006: 139)
Chamorro < English	$S11 \Rightarrow DI$	(Topping 1980: 16)
Chamorro < Spanish	$S11 \Rightarrow DI$	(Topping 1980: 16)
Chantyal < Nepali	$S21 \Rightarrow IndI$	(Noonan 2003: 325)
Chechen < Russian	$S31 \Rightarrow LVS$	(Nichols 1994a: 49)
Chechen < unid. Turkic	$S31 \Rightarrow LVS$	(Nichols 1994a: 48)
Chichewa < English	$S11 \Rightarrow DI$	(Ron Simango 2000: 500 ex. 22)
Chichewa < English	$S31 \Rightarrow LVS$	(Ron Simango 2000: 497
U U		ex. 13)
Chumburung < English	$S11 \Rightarrow DI$	(Hansford 1990: 216)
Chumburung < Hausa	$S11 \Rightarrow DI$	(Hansford 1990: 216)
Chuvash < Russian	$S21 \Rightarrow IndI$	(Kincses Nagy 2006: 1
		ex. 1.1)
Chuvash < Russian	$S31 \Rightarrow LVS$	(Kincses Nagy 2006: 1
		ex. 1.2)
Cocama < Spanish	$S23 \Rightarrow IndI$	(Valenzuela 2004: 54 ex. 16)
Cocopa < Spanish	$S11 \Rightarrow DI$	(Mixco 1977: 13)
Coptic < Ancient Greek	$S11 \Rightarrow DI$	(Wichmann 2004a ex. 4)
Cowlitz < Chinook Jargon	$S11 \Rightarrow DI$	(Kinkade 2004: 340)
Cowlitz < English (USA)	$S11 \Rightarrow DI$	(Kinkade 2004: 338)
Croatian < English	$S23 \Rightarrow IndI$	(Filipović 2002: 232)
Croatian < German	$S11 \Rightarrow DI$	(Nuckols 2003: 111)

Croatian < German	$S23 \Rightarrow IndI$	(Filipović 2002: 232)
Czech < English	$S11 \Rightarrow DI$	(Nicole Richter, p.c.)
Czech < German	$S11 \Rightarrow DI$	(Nicole Richter, p.c.)
D		
Dagur < Mandarin	$S21 \Rightarrow IndI$	(Wang 1993: 85 ex. 61)
Dakota < unid. Indo-European	S62 \Rightarrow sem.	(Voegelin and Hymes 1953: 639)
Dalmatian < Greek (Mod.)	$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze 1958: 514–517)
Damar < Indonesian	$S11 \Rightarrow DI$	(Chlenov and Chlenova 2006: 3)
Danish < English	$S11 \Rightarrow DI$	(Wichmann 2004a:
	~~~ · · ·	ex. 1a, b)
Danish < French	$S23 \Rightarrow IndI$	(Wichmann 2004c:
		7 ex. 16a)
Dehu < English	$SII \Rightarrow DI$	(Tryon 1970: 430)
Dehu < Samoan	$S11 \Rightarrow D1$	(Tryon 1970: 430)
Dhau < Indonesian	$S11 \Rightarrow DI$	(Grimes 2006: 2: Fig.1)
Diegueño (Mesa Grande) < Spanish	$S11 \Rightarrow DI$	(Mixco 1977: 13)
Domari < Arabic (S. Levantine Sp.)	$S42 \Rightarrow PI$	(Matras 2005: 246 ex. 1a, 249 ex. 8)
Dutch < English	$S11 \Rightarrow DI$	(Berteloot and van der Sijs 2002: 48)
Dutch < English	$S23 \Rightarrow IndI$	(Berteloot and van der Sijs 2002: 48)
Dutch < French	$S23 \Rightarrow IndI$	(Malchukov 2003: 246)
Ε		
Ejagham < English	$S11 \Rightarrow DI$	(Bakume 2002: 57 ex. 7)
Enets < Russian	$S11 \Rightarrow DI$	(Florian Siegl, p.c.)
English (USA) < German	$S11 \Rightarrow DI$	(Webster's 2001: 5)
English < Irish	$S11 \Rightarrow DI$	(Webster's 2001: 781)
Erromangan < Bislama	$S31 \Rightarrow LVS$	(Crowley 1998: 192)
Estonian < German	$S11 \Rightarrow DI$	(Neetar 1990: 356)
Estonian < Middle Low German	$S11 \Rightarrow DI$	(Neetar 1990: 356)
Estonian < Russian	$S11 \Rightarrow DI$	(Neetar 1990: 355–356)
Even < Russian	$S11 \Rightarrow DI$	(Malchukov 2003: 239 ex. 3)
Evenki < Russian	$S11 \Rightarrow DI$	(Malchukov 2003; 238 ex 2)
Evenki – Russian	$S62 \rightarrow sem$	(Malchukov 2003: 238)
Evenki – Vakut	$S02 \Rightarrow Sciii.$	(Malchukov 2003: 230)
Lyonn \ Lunut	$JII \rightarrow DI$	(maionakov 2003. 242)
F		
Fijian < English	$S11 \Rightarrow DI$	(Schütz 1978: 38;
		Tamata 2003)
Finnish < English	$S11 \Rightarrow DI$	(Battarbee 2002: 271;

		Nau 1995: 72)
Finnish < English	$S23 \Rightarrow IndI$	(Hennariikka Kairanneva,
5		n.c.)
Finnish < German	$S11 \rightarrow DI$	(Kojvulehto 1999: 185)
Finnich / Dussian	$S11 \rightarrow D1$	(Campbell 2003: 2)
Finnish < Duccion	$SII \rightarrow DI$	(Naster 1000: 255, 256)
Filmish < Russian	$SII \Rightarrow DI$	(Neetar 1990: 555–556)
Finnish < Swedish	$SII \Rightarrow DI$	(Campbell 2003: 2)
Finnish < Swedish	$S23 \Rightarrow IndI$	(Hennariikka Kairanneva,
		p.c.)
Finnish < unid. Indo-European	$S21 \Rightarrow IndI$	(Nau 1995: 65)
Finnish < unid. Indo-European	$S23 \Rightarrow IndI$	(Nau 1995: 65)
French < Dutch	$S11 \Rightarrow DI$	(Walter 1999: 206)
French < English	$S11 \Rightarrow DI$	(Humbley 2002: 117;
5		Vendelin and Peperkamp
		2006: 1000)
French < Greek (Mod.)	$S11 \rightarrow DI$	(Kahane Kahane and Tietze
Trench < Oreck (mou.)	$\mathbf{D}\mathbf{I} \rightarrow \mathbf{D}\mathbf{I}$	1058: 51/ 517)
French / Italian	$S11 \rightarrow DI$	$(W_{elter}, 1000, 207)$
French < Process col	$SII \Rightarrow DI$	(Walter 1999, 207)
	$SII \Rightarrow DI$	(walter 1999: 204)
Fulani (Adamawa) < Arabic (Sp.)	$SII \Rightarrow DI$	(Stennes 1967: 128)
G		
G		
Gaagudju < Kriol (Ngukurr)	$S31 \Rightarrow LVS$	(Harvey 1992: 386 ex. 8–52)
Gadaba < Telugu	$S23 \Rightarrow IndI$	(Bhaskararao 1998:
		352–353)
Gadaba < Telugu	$S31 \Rightarrow LVS$	(Bhaskararao 1998: 353)
Gadaba < Telugu	$S32 \Rightarrow LVS$	(Bhaskararao 1998:
C C		352-353)
Garífuna < Carib (De'kwana)	$S11 \Rightarrow DI$	(Taylor 1977: 91)
Garífuna < English	$S11 \Rightarrow DI$	(Taylor 1977: 77)
Garífuna < French	$S11 \Rightarrow DI$	(Taylor 1977: 77)
Garífuna / Snanish	$S11 \rightarrow DI$	(Taylor 1977: 77)
Caria – Makassar	$S11 \Rightarrow D1$ $S11 \Rightarrow D1$	$(E_{\text{Vans}}, 1007; 254)$
Coursedo < Amborio	$S11 \rightarrow D1$	(Evans  1) (7, 254)
Gawwada < Anniaric	$SII \Rightarrow DI$	$(10800 \ 20005)$
	$SII \Rightarrow DI$	$(10800 \ 20006; (3))$
German (Zurich) < English	$S23 \Rightarrow IndI$	(Busse and Gorlach
		2002: 25)
German < English	$S11 \Rightarrow DI$	(Busse and Görlach
		2002: 25)
German < French	$S23 \Rightarrow IndI$	(Kluge 1995: 394)
German < Greek (Mod.)	$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze
		1958: 514–517)
German < Low German	$S11 \Rightarrow DI$	(Kluge1995: 795)
Godoberi < Avar	$S11 \Rightarrow DI$	(Khalidova 2006: 260)
Gooniyandi < English (Australia)	$S14 \rightarrow DI$	(McGregor 2002: 91)
Cooniyandi < Kriol (Naukurr)	$S14 \rightarrow D1$	(McGragor 2002: 91)
	$DI \rightarrow DI$	(mediegoi 2002. 35 ex. 27)

- **Gooniyandi** < Western Desert (Ooldea)
- Greek (Anatolian) < Turkish Greek (Anatolian) < Turkish Greek (Mod.) < English Greek (Mod.) < English Greek (Mod.) < English (USA) Greek (Mod.) < French Greek (Mod.) < French Greek (Mod.) < Italian
- Greek (Mod.) < Latin Greenlandic (W.) < Portuguese Guaraní (Paraguayan) < Spanish Guaraní < Spanish

Guaraní < Spanish

 $\mathbf{Guaran}\mathbf{i} < \mathbf{Spanish}$ 

Gurindji < Jaminjung Gurung < Nepali Gurung < Nepali Gurung < Nepali Gurung < Nepali

#### Η

Halkomelem < English (USA)	$S11 \Rightarrow DI$	(Gerdts 2000: 340 ex. 14)
Hatam < Indonesian (Irianese)	$S31 \Rightarrow LVS$	(Reesink 2002a: 16)
Hausa < Arabic (Abbéché Chad)	$S24 \Rightarrow IndI$	(Newman 2000: 314 ex. 1.3a)
Hausa < English	$S24 \Rightarrow IndI$	(Newman 2000: 313 ex. 1.1)
Hausa < Kanuri	$S24 \Rightarrow IndI$	(Kossmann 2005: 72)
Hawaiian < English (USA)	$S11 \Rightarrow DI$	(Parker Jones
		2006: 3 ex. 5.23)
Hawaiian < Tahitian	$S11 \Rightarrow DI$	(Marck 2000: 117)
Hebrew (Mod.) < English	$S15 \Rightarrow DI$	(Coffin and Bolozky
		2005: 88)
Hebrew (Mod.) < German	$S15 \Rightarrow DI$	(Ussishkin and Graf
		2002: 6)
Hebrew (Mod.) < unid. Indo-European	$S15 \Rightarrow DI$	(Zuckermann 2003: 68)
Hebrew (Mod.) < Yiddish	$S15 \Rightarrow DI$	(Zuckermann 2003: 68)
Hindi < English	$S31 \Rightarrow LVS$	(sanskrit.gde.to)
Hinukh < Avar	$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
Hinukh < Georgian	$S31 \Rightarrow LVS$	(Khalilov 2004: 191)

$S14 \Rightarrow DI$	(McGregor 2002: 91)
$S12 \Rightarrow DI$	(Bakker 1997a: 8)
$S23 \Rightarrow IndI$	(Bakker 1997a: 8–9)
$S21 \Rightarrow IndI$	(own data)
$S31 \Rightarrow LVS$	(own data)
$S31 \Rightarrow LVS$	(Moravcsik 2003: 1)
$S11 \Rightarrow DI$	(own data)
$S21 \Rightarrow IndI$	(Mackridge 1987: 315)
$S21 \Rightarrow IndI$ $S21 \Rightarrow IndI$	(Jola 1996: 209 fn 36:
$521 \rightarrow 1101$	Kahane Kahane and Tietze
	1058: 68 ev 24:
	Mackridge 1987: 322)
$S11 \rightarrow DI$	(Katsánis 1008)
$S11 \rightarrow DI$	(Katsains 1990) (von der Veert 1005: 120)
$S11 \Rightarrow D1$	(Valider Voort 1995, 159)
$S01 \Rightarrow sem$ .	(Hellinauel, p.c.)
SII ⇒ DI	(Gomez Rendon (Iortnc. a):
	15 ex. 45)
SII ⇒ DI	(Gregores and Suarez
	1967: 133;
	Hemmauer, p.c.)
$S22 \Rightarrow IndI$	(Gomez Rendon (forthc. a):
	16 ex. 45)
$S35 \Rightarrow LVS$	(McConvell 2005: 3)
$S31 \Rightarrow LVS$	(Hildebrandt 2005a: 5 ex. 7)
$S32 \Rightarrow LVS$	(Hildebrandt 2005a: 5 ex. 7)
$S34 \Rightarrow LVS$	(Hildebrandt 2005a: 5 ex. 7)
$SX \Rightarrow$ unid.	(Hildebrandt 2005a: 5)
	(Condta 2000, 240 av. 14)
$S11 \rightarrow D1$	(Definits 2000. 540 ex. 14)
$SOI \Rightarrow LVS$	(Newman 2000: 214 av. 1.2a)
$524 \Rightarrow IndI$	(Newman 2000; 314 ex. 1.3a)
$524 \Rightarrow \text{Ind}$	(Newman 2000: 515 ex. 1.1)
$S24 \Rightarrow IndI$	(Kossmann 2005: 72)
$SII \Rightarrow DI$	(Parker Jones
011 DI	2006: 3 ex. 5.23)
$SII \Rightarrow DI$	(Marck 2000: 117)
$S15 \Rightarrow DI$	(Coffin and Bolozky
	2005: 88)
$S15 \Rightarrow DI$	(Ussishkin and Graf
<i></i>	2002: 6)
$S15 \Rightarrow DI$	(Zuckermann 2003: 68)
$S15 \Rightarrow DI$	(Zuckermann 2003: 68)
$S31 \Rightarrow LVS$	(sanskrit.gde.to)
$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
$S31 \Rightarrow LVS$	(Khalilov 2004: 191)

Hua < Tok Pisin Huastec < Nahuatl (Huasteca) Huave (San Mateo d.M.) < Nahuatl (Ce.) **Hungarian** < Chuvash Hungarian < English Hungarian < German Hungarian < Latin Hungarian < Romani (Vlax/Ajia Varvara) **Hungarian** < **Slovene Hungarian** < **unid.** Turkic Hunzib (Sarusian) < Georgian Hunzib < Avar Hunzib < Georgian Hup < Portuguese (Brazilian) Hup < Tucano T Icelandic < English **Imonda** < **Indonesian** (Irianese) Imonda < Tok Pisin **Indonesian** (Jakarta) < Dutch Indonesian (Jakarta) < English Indonesian (Jakarta) < English **Indonesian (Riau)** < English Indonesian < Dutch **Indonesian** < **English Indonesian** < unid. Indic **Indonesian** < **Javanese Indonesian** < **Persian** Ingush < Russian **Ingush** < **unid. Turkic** Iraqw < Swahili Iraqw < Swahili Irish < English Italian < English Italian < Greek (Mod.) Itelmen < Russian Iwaidja < Makassar

$S31 \Rightarrow LVS$	(Foley 1986: 39)
$S11 \Rightarrow DI$	(Campbell 2003: 11)
$S11 \Rightarrow DI$	(Campbell 2003: 16)
$S11 \Rightarrow DI$	(Poppe 1960: 141 ex. 1)
$S21 \Rightarrow IndI$	(Farkas and Kniezsa
	2002: 285)
$S21 \Rightarrow IndI$	(Bárczi 1941: 346;
	Farkas and Kniezsa
	2002: 286)
$S21 \Rightarrow IndI$	(Bárczi 1941: 193)
$S11 \Rightarrow DI$	(Moravcsik 2003: 2)
$S21 \Rightarrow IndI$	(Bárczi 1941: 317)
$S11 \Rightarrow DI$	(Moravcsik 2003: 2)
$S32 \Rightarrow LVS$	(Khalilov 2004: 114–115)
$S32 \Rightarrow LVS$	(Khalilov 2004: 191)
$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
$S11 \Rightarrow DI$	(Epps 2005a: 5 ex. 9;
	Wichmann 2004a: ex. 5)
$S11 \Rightarrow DI$	(Epps 2005a: 3 ex. 2)
$S11 \Rightarrow DI$	(Kvaran and Svavarsdóttir
	2002: 98)
$S31 \Rightarrow LVS$	(Seiler 1985: 115 ex. 230)
$S31 \Rightarrow LVS$	(Seiler 1985: 115 ex. 230)
$S11 \Rightarrow DI$	(Chaer 1976: 235)
$S11 \Rightarrow DI$	(Chaer 1976: 43; Tadmor
	2007: 5 ex. 25)
$S22 \Rightarrow IndI$	(own data)
$S11 \Rightarrow DI$	(Gil 2004: 5 ex. 13b)
$S11 \Rightarrow DI$	(KBBI: 235)
$S12 \Rightarrow DI$	(own data)
$S11 \Rightarrow DI$	(Tadmor n.d.: 3 ex. 073)
$S11 \Rightarrow DI$	(Tadmor n.d.: 10 ex. 078)
$S11 \Rightarrow DI$	(Tadmor n.d.: 2 ex. 021)
$S31 \Rightarrow LVS$	(Nichols 1994b: 111-112)
$S31 \Rightarrow LVS$	(Nichols 1994b: 111-112)
$S21 \Rightarrow IndI$	(Mous and Qorro 2006: 9)
$S22 \Rightarrow IndI$	(Mous and Qorro 2006: 9)
$S11 \Rightarrow DI$	(Stenson 1990: 173;
	Stenson 1991: 567 ex. 7b)
$S11 \Rightarrow DI$	(Pulcini 2002: 160)
$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze
	1958: 514–517)
$S32 \Rightarrow LVS$	(Georg and Volodin 1999: 57)
$S11 \Rightarrow DI$	(Evans 1997: 254)

# J

Jalonke < Arabic (Sp.)	$S11 \Rightarrow DI$	(Lüpke 2006: 5)
Jalonke < Fula (Guinean)	$S11 \Rightarrow DI$	(Lüpke 2005)
Jaminjung < Kriol (Ngukurr)	$S34 \Rightarrow LVS$	(Schultze-Berndt 2003: 151 ex. 9b, 10)
Japanese < English	$S21 \Rightarrow IndI$	(Wichmann 2004c: 8 ex. 25)
Japanese < English	$S31 \Rightarrow LVS$	(Hinds 1986: 372 ex. 1062; Schmidt 2005)
Japanese < Mandarin	$S31 \Rightarrow LVS$	(Morimoto 2000: 371 ex. 2b)
К		
Kaili < Indonesian	$S11 \Rightarrow DI$	(Syahruddin Barasanji, p.c.)
Kamasau < Tok Pisin	$S31 \Rightarrow LVS$	(Sanders and Sanders 1994: 22 ex. 107)
Kannada < English	$S31 \Rightarrow LVS$	(Sridhar 1990: 46 ex. 159)
Kannada < Marathi	$S22 \Rightarrow IndI$	(Steever 1998a: 154)
Kannada < Sanskrit	$S22 \Rightarrow IndI$	(Steever 1993: 15)
Kanuri < Berber Proto	$S11 \Rightarrow DI$	(Kossmann 2005: 72)
Karaim < Russian	$S31 \Rightarrow LVS$	(Kincses Nagy 2006: 1 ex. 1.2)
Karakalpak < Russian	$S31 \Rightarrow LVS$	(Kincses Nagy 2006: 1 ex. 1.2)
Karata < Avar	$S21 \Rightarrow IndI$	(Khalidova 2006: 260)
Karata < Avar	$S23 \Rightarrow IndI$	(Khalidova 2006: 139)
Karelian < Russian	$S21 \Rightarrow IndI$	(Pugh 1999: 121)
Kaytetye < Warlpiri	$S11 \Rightarrow DI$	(Koch 1997: 34 ex. 3)
Kazakh < Russian	$S21 \Rightarrow IndI$	(Kincses Nagy 2006: 1 ex. 1.1)
Kazakh < Russian	$S31 \Rightarrow LVS$	(Kincses Nagy 2006: 1 ex. 1.2)
Keresan (Santa Ana) < Spanish	$SX \Rightarrow$ unid.	(Spencer 1947: 144)
Ket < Russian	$S11 \Rightarrow DI$	(Minaeva 2003: 48 ex. 18;
		Vajda 2005b: 4 ex. 3.2; Werner 2002)
Ket < Russian	$S12 \Rightarrow DI$	(Klopotova 2005: 7 ex. 44)
Ket < Russian	$S24 \Rightarrow IndI$	(Werner 2002)
Ket < Russian	S61 $\Rightarrow$ sem.	(Werner 2002)
Ket < Russian	S62 $\Rightarrow$ sem.	(Klopotova 2005: 5 ex. 26)
Khanty < Russian	$S11 \Rightarrow DI$	(Sauer 2001: 229 ex. 1.c)
Khvarshi < Avar	$S11 \Rightarrow DI$	(Khalilova 2006: 3)
Kiliwa < Spanish	$SX \Rightarrow$ unid.	(Mixco 1977: 12–13)
Kisar < Indonesian	$S11 \Rightarrow DI$	(Christensen 1991: 138)
Klamath < unid. Indo-European	S62 $\Rightarrow$ sem.	(Voegelin and Hymes 1953: 640)
Kokota < Cheke Holo	$S11 \Rightarrow DI$	(Palmer 1999: 329)

Konkani < Kannada	$S11 \Rightarrow DI$	(Miranda 1977: 262)
Konkani < Portuguese	$S31 \Rightarrow LVS$	(Wherritt 1989: 874)
Korean < English	$S31 \Rightarrow LVS$	(Kang 2003: 254)
Korean < French	$S31 \Rightarrow LVS$	(Thekla Wiebusch, p.c.)
Korean < Mandarin	$S31 \Rightarrow LVS$	(Morimoto 2000: 371 ex. 2b)
Kualan < Malay	$S11 \Rightarrow DI$	(Tadmor 2007: 2 ex. 11)
Kugu Nganhcara < English (Australia)	$S23 \Rightarrow IndI$	(Smith and Johnson 2000:
		414 ex. 3.1.14)
Kunama < Arabic (Sp.)	$S34 \Rightarrow LVS$	(Güldemann 2005: 137 ex. 12c.)
Kurdish (Ce.) < Turkic (W. Xorasan)	$S37 \Rightarrow LVS$	(Ido 2006)
Kurmanji < Arabic (Syrian)	$S31 \Rightarrow LVS$	(Tietze 1958: 286–287
		ex. 110)
Kurmanii < Turkish	$S37 \Rightarrow LVS$	(Ido 2006)
Kwanyama < English	$S11 \Rightarrow DI$	(Steinbergs 1985: 296)
Kwazá < Portuguese (Brazilian)	$S11 \Rightarrow DI$	(van der Voort 2004: 76)
		``````````````````````````````````````
L		
Lama < French	$S11 \Rightarrow DI$	(Ulrich 1997: 458 ex. 125b)
Lao < Khmer	$S11 \Rightarrow DI$	(Morev, Moskalev, and Plam
		1979: 34)
Lao < Sanskrit	$S11 \Rightarrow DI$	(Morev, Moskalev, and Plam 1979: 34)
Lavukaleve < Melanesian Pidgin	$S31 \Rightarrow LVS$	(Terrill 1999: 220 ex. 39)
Leco < Spanish	$S11 \Rightarrow DI$	(van de Kerke 2006: 178
	511 , 51	ex .9)
Leco < Spanish	S61 $\Rightarrow$ sem.	(van de Kerke 2006: 180
		ex. 13)
Lingala < French	$S32 \Rightarrow LVS$	(Morimoto 2000: 374 ex. 12)
Lithuanian < Polish	$S11 \Rightarrow DI$	(Senn 1938: 151)
Luganda < English	$S11 \Rightarrow DI$	(Mosha 1983: 512 ex. $d22$ )
Luganda < Swahili	$S11 \Rightarrow DI$	(Mosha 1983: 508 ex. 2)
Lule < Ouechua (Cochabamba)	$S11 \Rightarrow DI$	(Golluscio 2007: 3:
	511 / 51	Adelaar and Muysken
		2004: 391: Machoni 1732)
Luvia < Luo	$S11 \Rightarrow DI$	(Botne 2004: $157 \text{ ex}, 54a$ )
2uj.u < 2u0	511 , 51	
Μ		
Macedonian < English	$S21 \Rightarrow IndI$	(Friedman 2002: 36)
Macedonian < German	$S21 \Rightarrow IndI$	(Neikirk Schuler 1996: 143
		ex. 10)
Ma'di $<$ English	$S22 \Rightarrow IndI$	(Blackings and Fabb
8		2003: 69)
Makassar < Indonesian	$S12 \Rightarrow DI$	(own data)
Malagasy < Arabic (Sn.)	$S11 \Rightarrow DI$	(Versteegh 2001a: 181)
Malagasy < Malay	$S11 \Rightarrow DI$	(Adelaar 1994: 54)
Bush / Internal	511 / 51	(

Malay (Ambonese) < Portuguese	$S11 \Rightarrow DI$	(Baxter 1996: 319)
Malay (Brunei) < Javanese	$S11 \Rightarrow DI$	(Nothofer 1996: 77 ex. 3)
Malay < Sanskrit	$S11 \Rightarrow DI$	(Adelaar 1994: 55)
Malayalam < English	$S31 \Rightarrow LVS$	(Moravcsik 1975: 14)
Maltese < English	$S23 \Rightarrow IndI$	(Hoberman and Aronoff 2003: 75)
Maltese < Italian	$S11 \Rightarrow DI$	(Hoberman and Aronoff 2003: 71)
Maltese < Italian	$S15 \Rightarrow DI$	(Gerlach n.d.: 3)
Maltese < Italian	$S23 \Rightarrow IndI$	(Hoberman and Aronoff 2003: 73)
Malto < Hindi	$S11 \Rightarrow DI$	(Steever 1998b: 373)
Manange < Nepali	$S23 \Rightarrow IndI$	(Wichmann 2004a ex. 18)
Manange < Nepali	$S31 \Rightarrow LVS$	(Wichmann 2004a ex. 24)
Manange < Nepali	$S34 \Rightarrow LVS$	(Hildebrandt 2005a: 3)
Mandarin < English	$S11 \Rightarrow DI$	(Wichmann 2004c: 12
		ex. 38)
Mandarin < French	$S11 \Rightarrow DI$	(Wichmann 2004c: 12 ex. 38)
Mangarevan < Tahitian	$S11 \Rightarrow DI$	(Fischer 2001: 115 ex. 4.2)
Mangghuer < Mandarin	$S11 \Rightarrow DI$	(Slater 2003: 323 ex. 37)
Mangghuer < Mandarin	$S21 \Rightarrow IndI$	(Georg 2003: 294)
Mansim < Indonesian (Irianese)	$S21 \Rightarrow IndI$	(Reesink 2002c: 285 ex. 24)
Manx < English	$S23 \Rightarrow IndI$	(John Phillips, p.c.)
Maori < English (Australia)	$S11 \Rightarrow DI$	(Moorfield 2005)
Mapudungun < Spanish	$S11 \Rightarrow DI$	(Fernández-Garay 2005: 55 ex. 11)
Mauritian Creole $<$ Swahili	S62 $\Rightarrow$ sem.	(Michaelis 2004: 7)
Mbugu < Oromo (Waata)	$S21 \Rightarrow IndI$	(Mous 2003: 63)
Meithei < English	$S31 \Rightarrow LVS$	(Chelliah 1997: 101 ex. 7b)
Meyah < Hatam	$S23 \Rightarrow IndI$	(Reesink 2002a: 16)
Meyah < Indonesian	$S23 \Rightarrow IndI$	(Gravelle 2002: 149 ex. 61)
Michif < English (USA)	$S11 \Rightarrow DI$	(Bakker 2005: 14 ex. 19)
Michif < French	$S11 \Rightarrow DI$	(Bakker 2005: 14 ex. 16, 17)
Middle English < Middle French	$S11 \Rightarrow DI$	(Webster's 2001: 250)
Middle English < Old Norse	$S11 \Rightarrow DI$	(Webster's 2001: 401)
Mingrelian < Georgian	$S11 \Rightarrow DI$	(Lela Zamušia, p.c.)
Miskito < English	$S31 \Rightarrow LVS$	(Dennis 2004: 38)
Miskito < English	$S32 \Rightarrow LVS$	(Hale 1994: 270 ex. 18)
Mojave < Spanish	$S11 \Rightarrow DI$	(Mixco 1977: 13)
Mono (United States) < Spanish	$S31 \Rightarrow LVS$	(Kroskrity and Reinhardt 1998: 232)
Montagnais < French	$S31 \Rightarrow LVS$	(McConvell 2002: 335 ex. 2)
Mordvin (Erzya) < Russian	$S11 \Rightarrow DI$	(Molnár 2003: 71–72)
Mordvin (Moksha) < Russian	$S11 \Rightarrow DI$	(Molnár 2003: 71–72)

Mosetén < Spanish	$S11 \Rightarrow DI$	(Sakel 2005)
Mpur < Biak	$S23 \Rightarrow IndI$	(Odé 2002: 56 ex. 30)
Mpur < Dutch	$S23 \Rightarrow IndI$	(Odé 2002: 56 ex. 30)
Mpur < Indonesian	$S23 \Rightarrow IndI$	(Odé 2002: 56 ex. 30)
Mwotlap < Bislama	$S11 \Rightarrow DI$	(François 2001: 1020)
N		
Nahuatl (Ce.) < Spanish	$S11 \Rightarrow DI$	(Wichmann 2004a: ex. 8b)
Nahuatl (Ce.) < Spanish	$S32 \Rightarrow LVS$	(Wichmann $2004a$ : ex. $8a$ )
Nahuatl (Sierra de Zacapoaxtla) < Spanish	$S11 \Rightarrow DI$	(Key 1960: 142 fn. 24)
Namia < Tok Pisin	$S31 \Rightarrow LVS$	(Roberts (ed), Feldpausch.
		and Feldpausch 1992: 43 ex. 182)
Nanai < Russian	$S21 \Rightarrow IndI$	(Malchukov 2003: 239)
Nankina < Tok Pisin	$S31 \Rightarrow LVS$	(Spaulding and Spaulding
		1994: 230 ex. 27.5)
Nara (Ethiopia) < Arabic (Mod.Std.)	$S31 \Rightarrow LVS$	(Güldemann 2005: 137
		ex. 14c)
Nar-Phu < Nepali	$S34 \Rightarrow LVS$	(Hildebrandt 2005a: 3)
Navajo < English (USA)	$S31 \Rightarrow LVS$	(Schaengold 2004: 53
		ex. 34)
Ndjébbana < English (Australia)	$S35 \Rightarrow LVS$	(McKay 2000: 270 ex. 67)
Nenets < Russian	$S11 \Rightarrow DI$	(Malchukov 2003: 239)
Ngalakan < Kriol (Ngukurr)	$S21 \Rightarrow IndI$	(Baker 1999: 52 fn. 24)
Ngandi $<$ Ritharngu	$S14 \Rightarrow DI$	(Heath 1978b: 136)
Ngarinyman $<$ Jaminjung	$S35 \Rightarrow LVS$	(McConvell 2003: 3 ex. 3)
Ngarinyman < Kriol (Ngukurr)	$S35 \Rightarrow LVS$	(McConvell and Schultze-
		Berndt 2001: 7 ex. 4)
Ngiyambaa < English (Australia)	$S22 \Rightarrow IndI$	(Donaldson 1980: 212
		ex. 7.5.1)
Norwegian < English	$S11 \Rightarrow DI$	(Graedler 2002: 71)
Norwegian < English	$S23 \Rightarrow IndI$	(Graedler 2002: 72)
Norwegian < English (USA)	$S11 \Rightarrow DI$	(Haugen 1950: 221)
Norwegian < English (USA)	S61 $\Rightarrow$ sem.	(Haugen 1950: 214)
Nunggubuyu < Kriol (Ngukurr)	$S14 \Rightarrow DI$	(Heath 1984a: 625)
Nyigina < Kriol (Ngukurr)	$S35 \Rightarrow LVS$	(Bowern 2004: 332)
0		
Ojibwa (E.) < English	S62 $\Rightarrow$ sem.	(Voegelin and Hymes 1953: 637)
Old English < Latin	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Old French < Old High German	$S11 \Rightarrow DI$	(Walter 1999: 203 tab. 4)
Old Japanese < unid. MP	$S11 \Rightarrow DI$	(Schmidt 2006: 8 ex. 3.3)
Otomí (Ixtenco) < Nahuatl (Ce.)	$S11 \Rightarrow DI$	(Campbell 2003: 13)
Otomí (Mezquital) < Spanish	$S12 \Rightarrow DI$	(Lastra 2005: 227 ex. 8)
Otomí (Santiago Mexquititlan) < Spanish	$S11 \Rightarrow DI$	(Jorge Gómez Rendón, p.c.)

### P

Pagu < Ternate	$S11 \Rightarrow DI$	(Wimbish 1991: 148)
Paipai < Spanish	$S11 \Rightarrow DI$	(Mixco 1977: 13)
Paiute (S.) < unid. Indo-European	$S11 \Rightarrow DI$	(Voegelin and Hymes 1953: 639)
Paiute (S.) < unid. Indo-European	S62 $\Rightarrow$ sem.	(Voegelin and Hymes 1953: 638)
Palauan < English	$S11 \Rightarrow DI$	(Josephs 1984: 106 ex. 55)
Palauan < Japanese	$S11 \Rightarrow DI$	(Josephs 1984: 105 ex. 55)
Panjabi < English	$S31 \Rightarrow LVS$	(Romaine 1985: 37)
Parji (Dravidian) < Halbi	$S23 \Rightarrow IndI$	(Burrow and Bhattacharya 1953; 48 ex. 70)
Pech < Spanish	$S31 \Rightarrow LVS$	(Wichmann 2004c: 12 ex. 36)
Persian < Arabic (Iraqi)	$S31 \Rightarrow LVS$	(Karimi-Doostan 2006: 1 ex. 7b)
Persian < English	$S31 \Rightarrow LVS$	(Karimi-Doostan 2006: 1 ex. 7f)
Persian < W.M. Mongolic	$S37 \Rightarrow LVS$	(Doerfer 1963: 130 ex. 20)
Pilagá < English	$S11 \Rightarrow DI$	(Vidal 2001: 117 ex. 50)
Pipil < Spanish	$S31 \Rightarrow LVS$	(Campbell 1985: 144 ex. 10)
Pitjantjatjara < English (Australia)	$S21 \Rightarrow IndI$	(Glass and Hackett 1970: 4)
Pitjantjatjara < English (Australia)	$S22 \Rightarrow IndI$	(Glass and Hackett 1970: 4)
Polish < English	$S11 \Rightarrow DI$	(Manczak-Wohlfeld 2002: 224)
Polish < German	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Popoloca (Metzontla) < Spanish	$S22 \Rightarrow IndI$	(Veerman-Leichsenring 2006)
Popoloca (Texistepec) < Spanish	$S31 \Rightarrow LVS$	(Wichmann 2004c: 10 ex. 31a)
Portuguese (USA) < English (USA)	$S31 \Rightarrow LVS$	(Wichmann 2004c: 11 ex. 32)
Portuguese (USA) < English (USA)	S61 $\Rightarrow$ sem.	(Haugen 1950: 220)
Portuguese < French	$S11 \Rightarrow DI$	(Walter 1994: 75 ex. 39)
Provençal < Greek (Mod.)	$S11 \Rightarrow DI$	(Kahane, Kahane, and Tietze 1958: 514–517)
Puluwat < English	$S11 \Rightarrow DI$	(Elbert 1970: 236)
Puluwat < Japanese	$S11 \Rightarrow DI$	(Elbert 1970: 244)
Puma < Nepali	$S31 \Rightarrow LVS$	(Diana Schackow, p.c.)
Puma < Nepali	$S32 \Rightarrow LVS$	(Diana Schackow, p.c.)
Puma < Nepali	$S35 \Rightarrow LVS$	(Diana Schackow, p.c.)
Pumi < Mandarin	$S23 \Rightarrow IndI$	(Ding 1998: 5)
Purépecha < Nahuatl (Ce.)	$SX \Rightarrow \text{unid.}$	(Campbell 2003: 13)
Purépecha < Spanish	$S11 \Rightarrow DI$	(Chamoreau 2000: 142 ex. 6, 25, 28)

0		
Qiang < Mandarin	$S23 \Rightarrow IndI$	(LaPolla and Huang 2003:
		47 ex. 3.18)
Qiang < Mandarin	$S31 \Rightarrow LVS$	(LaPolla and Huang 2003:
		36 ex. 2.17)
Quechua (Arequipa) < Aymara	$S11 \Rightarrow DI$	(Adelaar 1996: 1328)
Quechua (Bolivian) < Spanish	$S11 \Rightarrow DI$	(Wichmann 2004a: 63 ex. 7)
Quechua (Imbabura) < Spanish	$S11 \Rightarrow D1$	(Gómez Rendón (forthc. b):
Queshus (Ser Martín) - Sugarish	$C_{12}$ $\rightarrow$ DI	$(V_{1} = 12)$
Quechua (San Marun) < Spanish	$S12 \Rightarrow D1$	(valenzuela 2004: 4  ex.  13)
Quecnua (unid.) < Spanisn	$SII \Rightarrow DI$	(Lockhart 1998: 43)
R		
Rama < English	$S31 \Rightarrow LVS$	(Grinevald n.d.: [174]
		Ch10, 32 ex. 10)
Rama < Spanish	$S31 \Rightarrow LVS$	(Grinevald n.d.: [82]
•		Ch5, 23 ex. 65a)
Rapanui < Spanish	$S11 \Rightarrow DI$	(Makihara 2001: 197 ex. 1)
Rapanui < Tahitian	$S11 \Rightarrow DI$	(Otsuka 2005: 24)
Romani (Ajia Varvara) < Bulgarian	$S23 \Rightarrow IndI$	(Igla 1996: 209)
Romani (Ajia Varvara) < Greek (Mod.)	$S23 \Rightarrow IndI$	(Igla 1996: 209)
Romani (Ajia Varvara) < Romanian	$S23 \Rightarrow IndI$	(Igla 1996: 209)
Romani (Ajia Varvara) < Turkish	$S41 \Rightarrow PI$	(Bakker 2005: 9 ex. I.4;
		Igla 1989: 74)
Romani (Balkan/Bugurdzi) < Romanian	$S23 \Rightarrow IndI$	(Igla 1996: 210)
Romani (Bugurdzi) < Slovene	$S23 \Rightarrow IndI$	(Igla 1996: 211)
Romani (Burg./Sintes) < German	$S23 \Rightarrow IndI$	(Matras 2002: 124)
Romani (Burg./Sintes) < German (Bavar.)	$S23 \Rightarrow IndI$	(Bakker 1997a: 6)
Romani (Burg./Sintes) < Serbian/Croatian	$S23 \Rightarrow IndI$	(Bakker 1997a: 6)
Romani (Sepecides) < Greek (Mod.)	$S21 \Rightarrow IndI$	(Cech and Heinschink
Domoni (Sonosidos) < Crook (Mod.)		(Cash and Usingshink
Komani (Sepecides) < Greek (Mod.)	$525 \Rightarrow 1101$	
Romani (Senecides) < Greek (Mod.)	$S51 \rightarrow other$	(Cech and Heinschink
Komani (Septences) < Greek (1960.)	$551 \rightarrow 6000$	(Ceen and Heinsennik 1999: 60)
Romani (Sepecides) < Greek (Mod.)	$S61 \Rightarrow sem$	(Cech and Heinschink
	201 / 2011	1999: 49)
Romani (Sepecides) < Macedonian	$S51 \Rightarrow other$	(Cech and Heinschink
		1999: 60)
Romani (Sepecides) < Slovene	$S11 \Rightarrow DI$	(Cech and Heinschink
		1999: 47)
Romani (Sepecides) < Turkish	$S23 \Rightarrow IndI$	(Cech and Heinschink
		1999: 54)
Romani (Sepecides) < Turkish	$S23 \Rightarrow IndI$	(Cech and Heinschink
		1999: 54)
Romani (Sepecides) < Turkish	$S51 \Rightarrow other$	(Cech and Heinschink

		1999: 60)
Romani (Vlax) < Serbian/Croatian	$S11 \Rightarrow DI$	(Bakker 1997a: 3 fig. 2)
Romani (Vlax) < Serbian/Croatian	$S23 \Rightarrow IndI$	(Igla 1996: 209)
Romani (Welsh) < English	$S23 \Rightarrow IndI$	(Bakker 1997a: 4)
Romani (Welsh) < Welsh	$S23 \Rightarrow IndI$	(Bakker 1997a: 4)
Romanian < Albanian	$S11 \Rightarrow DI$	(Schulte 2003: 3)
Romanian < Bulgarian	$S11 \Rightarrow DI$	(Schulte 2003: 2)
Romanian < English	$S11 \Rightarrow DI$	(Constantinescu, Popovici,
		and Ştefănescu 2002: 182)
Romanian < French	$S11 \Rightarrow DI$	(Schulte 2003: 2)
Romanian < German	S61 $\Rightarrow$ sem.	(Schulte 2003: 10)
Romanian < Greek (Mod.)	$S11 \Rightarrow DI$	(Igla 1996: 209)
Romanian < Hungarian	$S11 \Rightarrow DI$	(Schulte 2003: 2)
Romanian < Italian	$S11 \Rightarrow DI$	(Schulte, p.c.)
Romanian < Serbian	$S11 \Rightarrow DI$	(Schulte 2003: 2)
Romanian < Turkish	$S11 \Rightarrow DI$	(Schulte 2003: 11)
Rotuman < English	$S11 \Rightarrow DI$	(Schmidt 2000: 86 tab. 54)
Rotuman < Samoan	$S11 \Rightarrow DI$	(Schmidt 2000: 86 tab. 54)
Runga < Arabic (Sp.)	$S34 \Rightarrow LVS$	(Güldemann 2005: 140: 22)
Russian < English	$S11 \Rightarrow DI$	(Elena Maslova, p.c.;
		Selivanova 2005: 68)
Russian < English	$S21 \Rightarrow IndI$	(Maximova 2002: 205)
Russian < English	$S22 \Rightarrow IndI$	(Maximova 2002: 205)
Russian < German	$S21 \Rightarrow IndI$	(Gagarina 2002: 156 ex. 10)

## S

Saami (Kildin) < Russian	$S11 \Rightarrow DI$	(Rießler 2005: 3 ex. 5.49)
Saami (N.) < Finnish	$S11 \Rightarrow DI$	(Rießler 2005: 4 ex. 16.27)
Saami (N.) < Russian	$S11 \Rightarrow DI$	(Rießler 2004: 6)
Saami (N.) < Swedish	$S11 \Rightarrow DI$	(Rießler 2005: 3 ex. 11.16)
Saami (S.) < Swedish	$S11 \Rightarrow DI$	(Rießler 2005: 4 ex. 11.16)
Sabane < Portuguese (Brazilian)	$S11 \Rightarrow DI$	(Antunes 2004: 248)
Samoan $<$ English	$S11 \Rightarrow DI$	(Mosel 2004: 226)
Santa < Mandarin	$S21 \Rightarrow IndI$	(Kim 2003: 353)
Santa < Mandarin	$S31 \Rightarrow LVS$	(Kim 2003: 352)
Saramaccan $<$ English	$S11 \Rightarrow DI$	(Good 2005: 10)
Saramaccan < Ewe	$S11 \Rightarrow DI$	(Good 2006b: 6 ex. 2.5)
Saramaccan $<$ Fongbe	$S11 \Rightarrow DI$	(Good 2006b: 6 ex. 2.5)
Saramaccan $<$ Kongo	$S11 \Rightarrow DI$	(Good 2006b: 7 ex. 2.6)
Saramaccan < Portuguese	$S11 \Rightarrow DI$	(Good 2006a: 2 ex. 8)
Sarikoli $<$ Uyghur	$S37 \Rightarrow LVS$	(Ido 2006)
Sarnami < Dutch	$S31 \Rightarrow LVS$	(Kishna 1979)
Sarnami $<$ English	$S32 \Rightarrow LVS$	(Muysken 2000: 200)
Sarnami < Sranan	$S31 \Rightarrow LVS$	(Muysken 2000: 185)
Sawu < Indonesian	$S11 \Rightarrow DI$	(Grimes 2006: 2 fig. 1)
Sayultec < Spanish	$S11 \Rightarrow DI$	(Clark 1983: 27)

Semai < Malay Semelai < Malay Serbian < English Sesotho < English Seychelles Creole < English **Seychelles Creole** < **French** Seychelles Creole < Malagasy **Seychelles Creole** < **Wolof** Shawnee < unid. Indo-European Shipibo-Konibo < Quechua (Huallaga) Shipibo-Konibo < Spanish Shira Yughur < Mandarin Shira Yughur < Tibetan (Std. Sp.) Shona < English Silt'e < Arabic (Sp.) Silt'e < Arabic (Sp.) Sorbian (Lower) < German Sougb < Hatam **Sougb** < **Indonesian** (**Irianese**) **South Efate < Bislama South Efate** < **English Spanish** < **English Spanish** < **English Spanish** < **Greek** (Mod.) **Spanish (local)** < **Guaraní Sranan** < **Dutch** Swahili < Arabic (Sp.) Swahili < Arabic (Sp.) Swahili < English Т Taba < Malay (N. Moluccan)

Tafota Baruga < Tok Pisin Tafota Baruga < Wedau

$S11 \Rightarrow DI$	(Dentan 2003: 10)
$S11 \Rightarrow DI$	(Kruspe 1999: 37)
$S21 \Rightarrow IndI$	(Bugarski 2002: 61)
$S11 \Rightarrow DI$	(Sekere 2004: 52, 54, 63)
$S11 \Rightarrow DI$	(Michaelis and Muhme
	2006: 9)
$S11 \Rightarrow DI$	(Michaelis 2004: 6)
$S11 \Rightarrow DI$	(Michaelis and Muhme
,	2006: 3)
$S11 \Rightarrow DI$	(Michaelis and Muhme
	2006: 5)
$S62 \Rightarrow sem.$	(Voegelin and Hymes
	1953: 637)
$S23 \Rightarrow IndI$	(Valenzuela 2005: 128 ex. 7)
$S23 \Rightarrow IndI$	(Valenzuela 2005: 125)
$S21 \Rightarrow IndI$	(Nugteren 2003: 269)
$S21 \Rightarrow IndI$	(Nugteren 2003: 284)
$S11 \Rightarrow DI$	(Dembetembe 1979: 46
	ex. 6)
$S11 \Rightarrow DI$	(Leslau 1999: 120)
$S31 \Rightarrow LVS$	(Leslau 1999: 116)
$S11 \Rightarrow DI$	(Bartels 2005)
$S23 \Rightarrow IndI$	(Reesink 2002a: 16)
$S31 \Rightarrow LVS$	(Reesink 2002b: 212 ex. 95)
$S11 \Rightarrow DI$	(Thieberger 2004: 202 ex. 5)
$S11 \Rightarrow DI$	(Thieberger 2004: 202 ex. 3)
$S11 \Rightarrow DI$	(Rodríguez González
	2002: 140)
$S23 \Rightarrow IndI$	(Rodríguez González
	2002: 140)
$S11 \Rightarrow DI$	(Kahane, Kahane and Tietze
	1958: 514–517)
$S11 \Rightarrow DI$	(Dietrich 2001: 70)
$S11 \Rightarrow DI$	(Patte 2005: 159)
$S11 \Rightarrow DI$	(Schadenberg n.d.: LWTDB
	19.58)
$S31 \Rightarrow LVS$	(Versteegh 2001b: 488)
$S11 \Rightarrow DI$	(Schadenberg n.d.: LWTDB
	16.29)
$S11 \Rightarrow DI$	(Bowden 1997: 352 ex. 42)
$S31 \Rightarrow LVS$	(Farr, Furoke, and Buyers
	Farr n.d.: 32 ex. 85)

(Farr, Furoke, and Buyers Farr n.d.: 32 ex. 85)

 $S31 \Rightarrow LVS$ 

Tagalog < English	$S11 \Rightarrow DI$	(Baklanova 2006: 5)
Tagalog < English	$S12 \Rightarrow DI$	(Baklanova 2006: 6)
Tagalog < Kapampangan	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Tagalog < Malay	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Tagalog < Mandarin	$S11 \Rightarrow DI$	(Baklanova 2006: 5)
Tagalog < Sanskrit	$S11 \Rightarrow DI$	(Adelaar 1994: 63)
Tagalog < Spanish	$S12 \Rightarrow DI$	(Baklanova 2006: 6)
Tahitian < Dutch	$S11 \Rightarrow DI$	(Geraghty and Tent
	511 / 51	1997: 148)
Tahitian < English	$S11 \Rightarrow DI$	(Peltzer 1996: 342 ex 3 5)
Tajik < Uzbek	$S11 \Rightarrow DI$	(Ido 2006)
Tajik < Uzbek	$S11 \Rightarrow D1$ $S31 \Rightarrow LVS$	(Ido 2000) (Ido 2006)
Tajik < Uzbek	$S31 \Rightarrow LVS$ $S37 \Rightarrow LVS$	(Ido 2000) (Ido 2006)
Takia < English	$S34 \Rightarrow LVS$	$(Ross n d \cdot I WTDB 22.26)$
Takia < Gedaged	$S34 \rightarrow IVS$	(Ross n.d.: LWTDB 17.24)
Takia – Tak Pisin	$S34 \rightarrow LVS$	(Ross n.d.: LWTDB 11.24)
Talvsh (S) $< \Delta$ zerbajiani	$S37 \rightarrow IVS$	(Ido 2006)
Tanysh (5.) < Azerbaijam Tamil / Fnglish	$S37 \Rightarrow LVS$ $S31 \Rightarrow LVS$	(7velebil 1083: 437)
Tamil < English	$S31 \Rightarrow LVS$ $S34 \Rightarrow LVS$	(Annamalai and Steever
	534 → LVS	1998: 124)
Tamil < French	$S31 \Rightarrow LVS$	(Leena Kelkar-Stephan, p.c.)
Tamil < Sanskrit	$S11 \Rightarrow DI$	(Steever 1993: 15)
Tamil < unid. Indo-European	S62 $\Rightarrow$ sem.	(Zvelebil 1983: 431–432)
Tapieté < Spanish	$S22 \Rightarrow IndI$	(Gonzáles 2005b: 288 ex. 708)
Tapieté < Spanish	$SX \Rightarrow$ unid.	(Gonzáles 2005a: 176
	011 DI	ex. 11)
Tariana < Portuguese (Brazilian)	$SII \Rightarrow DI$	(Aikhenvald 2002: 176 ex. 7.3)
Tariana < Tucano	$S11 \Rightarrow DI$	(Aikhenvald 2002: 225
		$(W_{1}^{2})$ (W_{1}^{2}) (W_
Tasawaq < Tuareg (Air)	$SII \Rightarrow DI$	(Wichmann 2004a; ex. 13)
Tasawaq < Tuareg (AIr)	$S12 \Rightarrow D1$	(Wichmann 2004a: ex. 10)
Tatar < Russian	$531 \Rightarrow LVS$	(Kincses Nagy 2006: 1 ex. 1.2)
Telugu < English	$S31 \Rightarrow LVS$	(Moravcsik 1975: 14)
Telugu < Sanskrit	$S21 \Rightarrow IndI$	(Krishnamurti 1998: 238)
Telugu < Sanskrit	$S22 \Rightarrow IndI$	(Steever 1993: 15)
Telugu < Urdu	$S21 \Rightarrow IndI$	(Krishnamurti 1998: 238)
Tepecano < Nahuatl (Ce.)	$S11 \Rightarrow DI$	(Campbell 2003: 13)
Teso < English	$S11 \Rightarrow DI$	(Myers-Scotton and Okeju 1973: 887)
Teso < Luganda	$S11 \Rightarrow DI$	(Myers-Scotton and Okeju 1973: 887)
Tetun < Portuguese	$S11 \Rightarrow DI$	(Baxter 1996: 317)
Thai < English	$S11 \Rightarrow D1$ $S11 \Rightarrow D1$	(Raksanhet 1991 $\cdot$ 199)
	$\mathcal{D} \mathcal{I} \mathcal{I} \rightarrow \mathcal{D} \mathcal{I}$	(1. (1. (1. (1. (1. (1. (1. (1. (1. (1.

Thai < English	$S35 \Rightarrow LVS$	(Raksaphet 1991: 228)
Thai < Khmer (N.)	$S11 \Rightarrow DI$	(Suthiwan 2003: 3)
Thai < Middle Chinese	$S11 \Rightarrow DI$	(Suthiwan 2006: ex. 3)
Thai < Pali	$S11 \Rightarrow DI$	(Suthiwan 2006: ex. 3)
Thai < Sanskrit	$S11 \Rightarrow DI$	(Suthiwan 2006: ex. 3)
Thulung < Nepali	$S11 \Rightarrow DI$	(Lahaussois 2002: 15-16)
Thulung < Nepali	$S31 \Rightarrow LVS$	(Lahaussois 2002: 15-16)
Tikopia $<$ Tongan	$S11 \Rightarrow DI$	(Marck 2000: 112)
Tindi < Avar	$S21 \Rightarrow IndI$	(Khalidova 2006: 246)
Tiwi < Kriol (Ngukurr)	$S31 \Rightarrow LVS$	(McConvell 2002: 336
		ex. 3b)
Tlapanec < Spanish	$S31 \Rightarrow LVS$	(Wichmann 2004a: ex. 26a)
Tofa < Buriat	$S11 \Rightarrow DI$	(Kincses Nagy 2006)
Tok Pisin < English	$S11 \Rightarrow DI$	(Smith 2002: 104)
Tongan < English	$S11 \Rightarrow DI$	(Schütz 1970: 421)
Tsafiki < Spanish	$S32 \Rightarrow LVS$	(Dickinson 2002: 199 ex 84)
Tsez < Avar	$S31 \Rightarrow LVS$	(Comrie 2004: $5 \text{ ex}$ , 11a)
Tsez < Avar	$S32 \Rightarrow LVS$	(Comrie 2004: 5 ex. 11b:
		(balilov 2004: 191)
Tsez < Old Georgian	$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
Tsez < Russian	$S31 \Rightarrow LVS$	(Comrie 2004: 5:
		Comrie 2004: 6 ex. 11d)
Tuamotuan < Dutch	$S11 \Rightarrow DI$	(Geraghty and Tent
Turkish (Anatolian) / Arabic (Svrian)	$S21 \rightarrow IndI$	(Tietze 1958: 286 ev. 110)
Turkish (Anatolian) < Rulgarian	$S21 \Rightarrow IndI$ $S21 \Rightarrow IndI$	(Kineses Nagy 2006: 2
Turkish (Anatonan) < Duigarian	$521 \rightarrow \text{Ind}$	ex. 2.1)
Turkish < Arabic (Sp.)	$S31 \Rightarrow LVS$	(Lewis 1985: 154)
Turkish < Armenian (W.)	$S21 \Rightarrow IndI$	(Dankoff 1995: 33 ex. 86)
Turkish < Armenian (W.)	$S31 \Rightarrow LVS$	(Dankoff 1995: 33 ex. 86)
Turkish < Dutch	$S31 \Rightarrow LVS$	(Backus 1992 ex. 77)
Turkish < English	$S21 \Rightarrow IndI$	(own data)
Turkish < English	$S31 \Rightarrow LVS$	(Lewis 1985: 155)
Turkish < French	$S31 \Rightarrow LVS$	(Lewis 1985: 154)
Turkish < Greek (Mod.)	$S31 \Rightarrow LVS$	(Kahane, Kahane, and Tietze 1958: 514–517)
Turkish < Italian	$S31 \Rightarrow LVS$	(Kahane, Kahane, and Tietze 1958: 68 ex. 24: Slobin, p.c.)
Tzotzil (Zinacantán) < Spanish	none	(Brown 2007: 2)
U		
Udi < Georgian	$S31 \Rightarrow LVS$	(Khalilov 2004: 191)
Udihe < Russian	$S21 \Rightarrow IndI$	(Nikolaeva and Tolskaya
Ukrainian < unid. Indo-European	$S21 \Rightarrow IndI$	(Pugh and Press 1999: 268)

Urdu < Arabic (Sp.)	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Urdu < Arabic (Sp.)	$S32 \Rightarrow LVS$	(Anthony Grant, p.c.)
Urdu < English	$S31 \Rightarrow LVS$	(Moravcsik 1975: 14)
Urdu < Persian	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Urdu < Persian	$S31 \Rightarrow LVS$	(Anthony Grant, p.c.)
Urdu < Persian	$S32 \Rightarrow LVS$	(Anthony Grant, p.c.)
Uvghur < English	$S31 \Rightarrow LVS$	(Kincses Nagy 2006)
Uvghur < Mandarin	$S21 \Rightarrow IndI$	(Kincses Nagy 2006)
Uvghur < Mandarin	$S31 \Rightarrow LVS$	(Kincses Nagy 2006)
Uzbek < Arabic (Sn.)	$S31 \Rightarrow LVS$	(Schlyter 2003; 162)
Uzbek < Russian	$S31 \Rightarrow LVS$	(Kincses Nagy 2006: 1:
	501 / 215	Schlyter 2003: 162)
V		
v Vens < Russian	$S11 \Rightarrow DI$	(Pugh 1999: 126)
Vitu / Tak Pisin	$S11 \rightarrow DI$	(van den Berg 2006: 6)
Vitu < Tok Pisin	$S11 \Rightarrow D1$ $S22 \Rightarrow IndI$	(van den Berg 2006: 6)
Votic < Russian	$S11 \Rightarrow DI$	(Pugh 1999: 126)
W		
Wallisian (East Uvean) < Tongan	$S11 \Rightarrow DI$	(Marck 2000: 114)
Wambon < Indonesian	$S21 \Rightarrow IndI$	(de Vries and de Vries-
	$521 \rightarrow 1101$	Wiersma 1992: $14 \text{ ex}$ 14)
Waray (Australia) < English (Australia)	$S11 \Rightarrow DI$	(Harvey n d : $[109]$ : ch 3.6)
Warianana $< $ Ouechua (Huallaga)	$S11 \Rightarrow D1$ $S23 \Rightarrow IndI$	$(V_{2}) = 2005 \cdot 128 \text{ ev} = 8$
Wariapano < Spanish	$S23 \rightarrow IndI$	(Valenzuela 2005, 128 ex. 8) (Parker 1002, 23)
Warlapano < Spansn Warlairi < English (Australia)	$S23 \rightarrow IVS$	(Pavin and Shopen
	333 → L¥S	1985: 82)
Warlpiri < English (Australia)	S61 $\Rightarrow$ sem.	(Bavin and Shopen
	011 DI	1985: 84)
weisn < English	$SII \Rightarrow DI$	(Gensler 2004b: 16;
		Rogers 2006)
Weish < English	$S21 \Rightarrow IndI$	(King 1993: 132;
	0.41	Thorne 1993: 319)
Welsh < English	$S61 \Rightarrow sem.$	(Gensler 2004a: 5 ex. 25)
Welsh < Latin	$S11 \Rightarrow DI$	(Phillips, p.c.)
Wolof < English	$S11 \Rightarrow DI$	(Ngom 2006: 148 ex. 8)
Wolof < French	$S11 \Rightarrow DI$	(Ngom 2006: 33 ex. 1)
X		
Xhosa < English	$S11 \Rightarrow DI$	(Jokweni 1992: 215)
Y		
Yahgan < Spanish	none	(Adelaar and Muysken
		2004: 570 ex. 34a)
Yakut < Mongolic	$S11 \Rightarrow DI$	(Brigitte Pakendorf n.d.: 1)

ex. 3.2.5.2)

Yakut < Russian	$S21 \Rightarrow IndI$	(Brigitte Pakendorf, p.c.; Kincses Nagy 2006; Malchukov 2003: 239)
Yakut < Russian	$S31 \Rightarrow LVS$	(Brigitte Pakendorf, p.c.)
Yakut < Russian	$S34 \Rightarrow LVS$	(Brigitte Pakendorf, p.c.)
Yakut < Russian	$SX \Rightarrow$ unid.	(Brigitte Pakendorf, p.c.)
Yapese < German	$S11 \Rightarrow DI$	(Jensen 1977)
Yapese < Ulithian	$S11 \Rightarrow DI$	(Jensen 1977;
		Ross 1996: 160)
Yaqui < Nahuatl (Ce.)	$S23 \Rightarrow IndI$	(Estrada Fernández 2005: 3
		ex. 1; Estrada Fernández
		2006: 14 ex. 52b)
Yaqui < Spanish	$S11 \Rightarrow DI$	(Estrada Fernández 2006: 10
		ex. 35d)
Yaqui < Spanish	$S21 \Rightarrow IndI$	(Estrada Fernández 2006: 10
		ex. 35a, b)
Yaqui < Spanish	$S22 \Rightarrow IndI$	(Estrada Fernández 2006: 10
		ex. 35c)
Yaqui < Spanish	$S23 \Rightarrow IndI$	(Estrada Fernández 2005: 11
		ex. 25)
Yiddish < English	$S11 \Rightarrow DI$	(Gerlach n.d.: 7)
Yiddish < Hebrew (Mod.)	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Yiddish < Hebrew (Mod.)	$S32 \Rightarrow LVS$	(Anthony Grant, p.c.)
Yiddish < Hebrew (Mod.)	$S34 \Rightarrow LVS$	(Anthony Grant, p.c.)
Yiddish < Polish	$S11 \Rightarrow DI$	(Anthony Grant, p.c.)
Yimas < Tok Pisin	$S11 \Rightarrow DI$	(Foley 1986: 40)
Yolngu-Matha < English (Australia)	$S35 \Rightarrow LVS$	(Claire Bowern, p.c.)
Yolngu-Matha $<$ Makassar	$S11 \Rightarrow DI$	(Walker and Zorc 1981: 119
		ex. 26)
Yoruba < English	$S11 \Rightarrow DI$	(Orie 2000: 48 ex. 14a)
Yugh < Russian	$S11 \Rightarrow DI$	(Klopotova 2005: 8)
Yukaghir (Kolyma) < Russian	none	(Maslova 1999: 34 ex. 2–4 a)
Yuracare < Spanish	$S11 \Rightarrow DI$	(van Gijn 2006: 299 ex. 59)
Z		
Zulu < English	$S23 \Rightarrow IndI$	(van Huysteen 2003: 84

A.2.3 List of languages using more than one pattern

This table lists all 95 of the 352 recipient languages of the LVDB sample which are positively attested as using more than one pattern. It is a reflex of the full sample to the extent that it is not cleared for multiple patterns of the same pattern type or for nonce forms.

If a language is not listed here, this should not be understood as an implication that this language may not use or have used multiple patterns, too. See ch. 16 for a discussion of this issue.

The number in the second column (under *Pat.*) is the pattern ID used in the LVDB. In the third column, the pattern type ID is given, cf. sec. A.2.1 for the abbreviations used. In the fourth column, the patterns are associated with the strategies they belong to.

Recipient language	Pat.	Туре	Strategy
Akhvakh	30	S11	Direct Insertion
	216	S23	Indirect Insertion
Albanian	113	S11	Direct Insertion
	114	S31	Light Verb Strategy
Amharic	30	S11	Direct Insertion
	246	S31	Light Verb Strategy
Arabic (Moroccan)	30	S11	Direct Insertion
	126	S12	Direct Insertion
	214	S11	Direct Insertion
	302	S15	Direct Insertion
Armenian (Eastern)	47	S31	Light Verb Strategy
	92	S22	Indirect Insertion
Awa Pit	41	S31	Light Verb Strategy
	42	S34	Light Verb Strategy
Bardi	62	S31	Light Verb Strategy
	94	S31	Light Verb Strategy
Basque	30	S11	Direct Insertion
	163	S31	Light Verb Strategy

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Table 41. Languages using more than one pattern

Recipient language	Pat.	Туре	Strategy
Bezhta	170	S31	Light Verb Strategy
	188	S32	Light Verb Strategy
	190	S34	Light Verb Strategy
	201	S32	Light Verb Strategy
Bislama	30	S11	Direct Insertion
	57	S11	Direct Insertion
Brahui	144	S31	Light Verb Strategy
	145	S34	Light Verb Strategy
	146	S11	Direct Insertion
Bulgarian	108	S21	Indirect Insertion
	109	S21	Indirect Insertion
	164	S51	Other
	227	S21	Indirect Insertion
	228	S21	Indirect Insertion
	229	S23	Indirect Insertion
Carib	18	S34	Light Verb Strategy
	30	S11	Direct Insertion
	120	S21	Indirect Insertion
Catalan	30	<b>S</b> 11	Direct Insertion
	237	S62	Semantic borrowing
	249	S21	Indirect Insertion
	250	S31	Light Verb Strategy
Chamalal	30	S11	Direct Insertion
	196	S21	Indirect Insertion
	198	S23	Indirect Insertion
Chichewa	30	S11	Direct Insertion
	260	S31	Light Verb Strategy
Chuvash	32	S21	Indirect Insertion
	319	S31	Light Verb Strategy
Croatian	107	S23	Indirect Insertion
	261	S11	Direct Insertion
Dagur	115	S21	Indirect Insertion
	116	S21	Indirect Insertion
Danish	30	S11	Direct Insertion
	241	S23	Indirect Insertion

Recipient language	Pat.	Туре	Strategy
Dutch	95	S11	Direct Insertion
	96	S23	Indirect Insertion
Evenki	30	S11	Direct Insertion
	237	S62	Semantic borrowing
Finnish	30	S11	Direct Insertion
	52	S23	Indirect Insertion
	53	S21	Indirect Insertion
	54	S11	Direct Insertion
	205	S23	Indirect Insertion
French	6	S11	Direct Insertion
	30	S11	Direct Insertion
Gadaba (Gutob)	141	S32	Light Verb Strategy
	142	S23	Indirect Insertion
	143	S31	Light Verb Strategy
German	1	S23	Indirect Insertion
	30	S11	Direct Insertion
	95	S11	Direct Insertion
Gooniyandi	82	S14	Direct Insertion
	83	S14	Direct Insertion
	84	S14	Direct Insertion
Greek (Anatolian)	126	S12	Direct Insertion
	199	S23	Indirect Insertion
	200	S23	Indirect Insertion
Greek (Modern)	3	S11	Direct Insertion
	21	S31	Light Verb Strategy
	30	S11	Direct Insertion
	68	S21	Indirect Insertion
Guaraní (Paraguayan)	30	S11	Direct Insertion
	39	S61	Semantic borrowing
	128	S22	Indirect Insertion
Gurung	219	S31	Light Verb Strategy
	220	S34	Light Verb Strategy
	221	S32	Light Verb Strategy
	222	SX	unidentified

Recipient language	Pat.	Туре	Strategy
Hebrew (Modern)	298	S15	Direct Insertion
	301	S15	Direct Insertion
Hungarian	30	S11	Direct Insertion
	110	S21	Indirect Insertion
	111	S21	Indirect Insertion
	112	S21	Indirect Insertion
Hunzib	187	S31	Light Verb Strategy
	191	S32	Light Verb Strategy
Indonesian	30	S11	Direct Insertion
	126	S12	Direct Insertion
Indonesian (Jakarta)	30	S11	Direct Insertion
	55	S22	Indirect Insertion
Iraqw	160	S22	Indirect Insertion
	161	S21	Indirect Insertion
Japanese	45	S31	Light Verb Strategy
	46	S31	Light Verb Strategy
	251	S21	Indirect Insertion
Kannada	138	S22	Indirect Insertion
	139	S31	Light Verb Strategy
Karata	194	S21	Indirect Insertion
	198	S23	Indirect Insertion
Kazakh	32	S21	Indirect Insertion
	320	S31	Light Verb Strategy
Ket	13	S61	Semantic borrowing
	22	S24	Indirect Insertion
	30	S11	Direct Insertion
	126	S12	Direct Insertion
	237	S62	Semantic borrowing
Konkani	263	S31	Light Verb Strategy
	264	S11	Direct Insertion
Kurmanji	131	S37	Light Verb Strategy
	151	S31	Light Verb Strategy
Leco	30	S11	Direct Insertion
	39	S61	Semantic borrowing

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Recipient language	Pat.	Туре	Strategy
Macedonian	118	S21	Indirect Insertion
	280	S21	Indirect Insertion
Malagasy	30	S11	Direct Insertion
	258	S11	Direct Insertion
Maltese	30	S11	Direct Insertion
	206	S23	Indirect Insertion
	207	S23	Indirect Insertion
	266	S15	Direct Insertion
	267	S15	Direct Insertion
Manange	14	S23	Indirect Insertion
	15	S31	Light Verb Strategy
	217	S34	Light Verb Strategy
	223	S34	Light Verb Strategy
	224	S34	Light Verb Strategy
	225	S34	Light Verb Strategy
Mangghuer	30	S11	Direct Insertion
	32	S21	Indirect Insertion
	315	S21	Indirect Insertion
Manx	247	S23	Indirect Insertion
	248	S23	Indirect Insertion
Miskito	59	<b>S</b> 31	Light Verb Strategy
	60	S31	Light Verb Strategy
	63	S32	Light Verb Strategy
Nahuatl (Central)	9	S32	Light Verb Strategy
	30	S11	Direct Insertion
Norwegian	30	<b>S</b> 11	Direct Insertion
	39	S61	Semantic borrowing
	96	S23	Indirect Insertion
	97	S11	Direct Insertion
	98	S23	Indirect Insertion
Paiute (Southern)	30	S11	Direct Insertion
	237	S62	Semantic borrowing
Persian	127	S31	Light Verb Strategy
	135	S37	Light Verb Strategy

Recipient language	Pat.	Туре	Strategy
Pitjantjatjara	85	S21	Indirect Insertion
	86	S21	Indirect Insertion
	87	S22	Indirect Insertion
Puma	165	S31	Light Verb Strategy
	166	S32	Light Verb Strategy
	167	S35	Light Verb Strategy
Purépecha	30	S11	Direct Insertion
	999	SX	unidentified
Qiang	287	S31	Light Verb Strategy
	288	S23	Indirect Insertion
Romani (Balkan/Sepecides)	30	S11	Direct Insertion
	39	S61	Semantic borrowing
	164	S51	Other
	181	S23	Indirect Insertion
	182	S21	Indirect Insertion
	183	S23	Indirect Insertion
	184	S23	Indirect Insertion
	229	S23	Indirect Insertion
Romani (Sinte/Burgenland)	77	S23	Indirect Insertion
	181	S23	Indirect Insertion
Romani (Vlax/Ajia Varvara)	69	S41	Paradigm Insertion
	226	S23	Indirect Insertion
Romani (Vlax/Kalderash)	179	S11	Direct Insertion
	226	S23	Indirect Insertion
Romanian	30	S11	Direct Insertion
	39	S61	Semantic borrowing
	99	S11	Direct Insertion
Russian	78	S11	Direct Insertion
	103	S21	Indirect Insertion
	104	S22	Indirect Insertion
	105	S21	Indirect Insertion
	235	S21	Indirect Insertion
Santa	313	S31	Light Verb Strategy
	314	S21	Indirect Insertion

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Recipient language	Pat.	Туре	Strategy
Sarnami	307	<b>S</b> 31	Light Verb Strategy
	308	S32	Light Verb Strategy
Serbian	271	S21	Indirect Insertion
	272	S21	Indirect Insertion
Silt'e	30	S11	Direct Insertion
	329	S31	Light Verb Strategy
Sougb	20	S23	Indirect Insertion
	175	S31	Light Verb Strategy
Spanish	30	S11	Direct Insertion
	100	S11	Direct Insertion
	101	S23	Indirect Insertion
Swahili	156	S11	Direct Insertion
	259	S31	Light Verb Strategy
Tagalog	30	S11	Direct Insertion
	154	S12	Direct Insertion
Tajik	129	S31	Light Verb Strategy
	133	S37	Light Verb Strategy
	134	S11	Direct Insertion
Takia	157	S34	Light Verb Strategy
	158	S34	Light Verb Strategy
Tamil	30	S11	Direct Insertion
	137	S34	Light Verb Strategy
	234	S31	Light Verb Strategy
	237	S62	Semantic borrowing
Tapieté	290	S22	Indirect Insertion
	998	SX	unidentified
Tariana	30	S11	Direct Insertion
	80	S11	Direct Insertion
Tasawaq	30	S11	Direct Insertion
	126	S12	Direct Insertion
Telugu	140	S21	Indirect Insertion
	150	S22	Indirect Insertion
	316	S31	Light Verb Strategy

Recipient language	Pat.	Туре	Strategy
Thai	30	S11	Direct Insertion
	119	S35	Light Verb Strategy
Thulung	291	S31	Light Verb Strategy
	292	S11	Direct Insertion
Tlapanec	16	S31	Light Verb Strategy
	242	S31	Light Verb Strategy
Tsez	189	S31	Light Verb Strategy
	192	S32	Light Verb Strategy
	201	S32	Light Verb Strategy
	202	S31	Light Verb Strategy
Turkish	32	S21	Indirect Insertion
	148	S31	Light Verb Strategy
	245	S31	Light Verb Strategy
Urdu	30	S11	Direct Insertion
	210	S31	Light Verb Strategy
	211	S32	Light Verb Strategy
Vitu	30	S11	Direct Insertion
	155	S22	Indirect Insertion
Warlpiri	39	S61	Semantic borrowing
	43	S35	Light Verb Strategy
	44	S35	Light Verb Strategy
Welsh	30	S11	Direct Insertion
	39	S61	Semantic borrowing
	149	S11	Direct Insertion
	$\otimes$	S21	Indirect Insertion
Yakut	30	S11	Direct Insertion
	31	S31	Light Verb Strategy
	32	S21	Indirect Insertion
	33	S21	Indirect Insertion
	34	S34	Light Verb Strategy
	66	SX	unidentified
	238	S21	Indirect Insertion

Recipient language	Pat.	Туре	Strategy
Yaqui	30	S11	Direct Insertion
-	50	S23	Indirect Insertion
	162	S21	Indirect Insertion
	203	S21	Indirect Insertion
	204	S22	Indirect Insertion
Yiddish	30	S11	Direct Insertion
	212	S34	Light Verb Strategy
	213	S32	Light Verb Strategy
Yolngu-Matha	30	S11	Direct Insertion
	81	S35	Light Verb Strategy

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## A.2.4 List: Strategy distribution over families and genera

Family	Genus	DI	IndI	LVS	ΡΙ	oth.	MX	Sem.	unid.
Afro-Asiatic		13	5	4	1	1			
	Berber								
	E. Cushitic	1							
	Egyptian-Coptic	1							
	Semitic	10	2	4	1	1			
	S. Cushitic		2						
	W. Chadic		1						
Ainu	Ainu	1							
Algic		1		1				2	
	Algonquian	1		1				2	
Altaic		5	13	11				1	1
	Mongolic	1	4	1					
	Tungusic	2	2					1	
	Turkic	2	7	10					1
Araucanian	Araucanian	1							
Arawakan	Arawakan	3							
Australian		8	5	10				1	
	Bunuban	1							
	Gaagudju			1					
	Iwaidjan	2							
	Jaminjungan			1					
	Ndjébbana			1					
	Ngalakan		1						
	Ngandi	1							
	Nunggubuyu	1							
	Nyulnyulan			2					
	Pama-Nyungan	2	4	4				1	
	Tiwian			1					
	Waray	1							

## Table 42. Strategies : language families and genera

Family	Genus	DI	Ibul	LVS	Ы	oth.	MX	Sem.	unid.
Austro-Asiatic		2	2	2					
	Aslian	2	1	1					
	Munda		1	1					
Austronesian		38	4	2					
	Borneo	1							
	Bunun		1						
	Central MP	4							
	Chamorro	1							
	Meso-Philippine	2							
	Oceanic	18	1	2					
	Palauan	1							
	SH-WNG	1	1						
	Sulawesi	2							
	Sundic	7	1						
	Yapese	1							
Aymaran	Aymaran	1							
Barbacoan	Barbacoan			2					
Basque	Basque	1		1					
Border	Border			1					
Burushaski	Burushaski			1					
Camsá	Camsá	1							
Cariban	Cariban	1	1	1					
Chibchan				2					
	Paya			1					
	Rama			1					
Chukotko- Kamchatkan	S. Chukotko- Kamchatkan			1					
Creole and Pidgin	languages	6						1	
Domor	Domor	- 1						-	
Damar	Damar	1							
Dravidian		3	3	5				1	
	Ce. Dravidian		1						
	N. Dravidian	2		1					

Family	Genus	DI	IndI	LVS	Id	oth.	MX	Sem.	unid.
	SCe. Dravidian S. Dravidian	1	1 1	1 3				1	
Eastern Bird's Head	Eastern Bird's Head		2	1					
Eskimo-Aleut	Eskimo-Aleut	2							
Guaicuruan	Guaicuruan	1							
Hokan	Yuman	5							1
Huavean	Huavean	1							
Indo-European		35	23	18	2	2		6	
	Albanian	1		1					
	Armenian		1	1					
	Baltic	1							
	Celtic	2	1					1	
	Germanic	10	5	1				1	
	Greek	2	2	1					
	Indic	4	6	6	2	1		1	
	Iranian	1		6					
	Romance	8	2	2				3	
	Slavic	6	6			1		-	
Japanese	Japanese	1	1	1					
Kartvelian	Kartvelian	1							
Keresan	Keresan								1
Korean	Korean			1					
Kwaza	Kwaza	1							
Leco	Leco	1						1	
Lower Sepik-Ramu	Lower Sepik	1							
Lule-Vilela	Lule-Vilela	1							
Mayan	Mayan	1		1			1		
Misumalpan	Misumalpan			1					
Mixe-Zoque	Mixe-Zoque	1							

Family	Genus	DI	IndI	LVS	Ы	oth.	MX	Sem.	unid.
Mosetenan	Mosetenan	1							
Na-Dene	Athapaskan			1					
Nadahup	Nadahup	1							
Nakh- Daghestanian		6	6	9					
-	Avar-Andic-Tsezic	6	6	6					
	Lezgic			1					
	Nakh			2					
Nambikuaran	Nambikuaran	1							
Niger-Congo		16	1	3					
	Bantoid	10	1	3					
	Defoid	1							
	Gur	1							
	Kwa	1							
	N. Atlantic	2							
	W. Mande	1							
Nilo-Saharan		4	1	3					
	Kunama			1					
	Maban			1					
	Moru-Ma'di		1						
	Nara			1					
	Nilotic	2							
	Saharan	1							
	Songhay	1							
Oto-Manguean		3	1	1					
	Otomian	3							
	Popolocan		1	1					
Panoan	Panoan	1	3						
Penutian	Klamath-Modoc	1							
Quechuan	Quechuan	4							
Salishan		2							
	Central Salish	1							
	Tsamosan	1							

Family	Genus	DI	IndI	LVS	Ιd	oth.	MX	Sem.	unid.
Sepik		1		2					
1	Middle Sepik			1					
	Upper Sepik	1							
	Yellow River			1					
Sino-Tibetan		2	5	7					1
	Bodic	1	3	5					1
	Chinese	1							
	Kuki-Chin-Naga			1					
	Qiangic		2	1					
Siouan	Siouan							1	
Solomons East	Solomons East			1					
Papuan	Papuan								
Subtiaba-	Subtiaba-Tlapanec			1					
Tlapanec	-								
Tacanan	Tacanan			1					
Tai-Kadai	Kam-Tai	2		1					
Tarascan	Tarascan	1							1
Torricelli	Marienberg			1					
Trans-New			1	3					
Guinea									
	Awju-Dumut		1						
	Binanderean			l					
	E. Highlands			1					
	Finisterre-Huon			1					
Tupian	Tupi-Guaraní	1	3					1	1
Uralic		13	3						
	Finnic	9	2						
	Samoyedic	2							
	Ugric	2	1						

Family	Genus	DI	IndI	LVS	Id	oth.	MX	Sem.	unid.
Uto-Aztecan		5	1	3				1	
	Aztecan	2		2					
	Cahita	1	1						
	Numic	1		1				1	
	Tepiman	1							
West Papuan		1	3	1					
	Hatam		1	1					
	Kebar		1						
	N. Halmaheran	1							
	NCe. Bird's Head		1						
Yámana	Yámana						1		
Yeniseian	Yeniseian	2	1					1	
Yukaghir	Yukaghir						1		
Yuracare	Yuracare	1							

#### A.3 Correlations: WALS features and accommodation strategies

This table lists the selected 123 WALS features and the chi-square test results for the distribution of the three major strategies over their respective feature values of the available *recipient languages*. The first column, labeled "ID" lists the chapter and feature number from WALS for easier reference. Feature names/descriptions in the second column are given here in the form they were used in WALS.

The list is ranked by *p*-values, and the relevance threshold of  $p \ge 0.01$  is indicated in the table by a horizontal line. These data and the correlations are mainly discussed and interpreted in sec. 15.3 and 15.4.

ID	Feature description	chi-square <i>p</i> =
83	Order of Object and Verb	$6.9176598328599 \times 10^{-10}$
81	Order of Subject, Object and Verb	$6.2057626125286 \times 10^{-9}$
86	Order of Genitive and Noun	$5.683859719415  imes 10^{-7}$
26	Prefixing vs. Suffixing in Inflectional	$3.7711162069387  imes 10^{-6}$
	Morphology	
90	Order of Relative Clause and Noun	$4.8073876763249 \times 10^{-6}$
85	Order of Adposition and Noun Phrase	$3.2623957318043  imes 10^{-5}$
82	Order of Subject and Verb	$7.8940890143814 \times 10^{-5}$
94	Order of Adverbial Subordinator and	0.000901225455566874
	Clause	
93	Position of Interrogative Phrases in Content	0.00161380788568637
	Questions	
54	Distributive Numerals	0.00184782215962318
116	Polar Questions	0.00353911681925271
92	Position of Polar Question Particles	0.00458107065130048
69	Position of Tense-Aspect Affixes	0.00525784120077033
7	Glottalized Consonants	0.00620362138181627
112	Negative Morphemes	0.00708819110329017
118	Predicative Adjectives	0.0114618624170801
114	Subtypes of Asymmetric Standard	0.0129778865018110
	Negation	
42	Pronominal and Adnominal	0.0155804363232465
	Demonstratives	
74	Situational Possibility	0.0191996410786076

Table 43. Correlation of strategies and WALS features
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ID	Feature description	chi-square <i>p</i> =
33	Coding of Nominal Plurality	0.0214860268082619
113	Symmetric and Asymmetric Standard	0.0229640256422418
	Negation	
51	Position of Case Affixes	0.025692516522099
125	Purpose Clauses	0.0457168420498959
21	Exponence of Selected Inflectional Formatives	0.0477639953385578
66	The Past Tense	0.0709701494106297
60	Genitives, Adjectives and Relative Clauses	0.0735869393279573
84	Order of Object, Oblique, and Verb	0.0821993236962962
50	Asymmetrical Case-Marking	0.0848620620542905
53	Ordinal Numerals	0.0868307773558538
119	Nominal and Locational Predication	0.106411079327831
11	Front Rounded Vowels	0.108812261932858
62	Action Nominal Constructions	0.109674477358136
126	'When' Clauses	0.117759404916034
70	The Morphological Imperative	0.119475404952052
76	Overlap between Situational and Epistemic	0.119554661223484
	Modal Marking	
15	Weight-Sensitive Stress	0.129898905942412
71	The Prohibitive	0.138110581431653
98	Alignment of Case Marking of Full Noun	0.140717336024157
122	Philases Relativization on Subjects	0 141211285171115
122	Relativization on Subjects	0.141211283171113
19	Order of Adjactive and Neur	0.149483011037427
01 27	Definite Articles	0.151102240107062
57 41	Definite Afficies	0.151105249107902
41 62	Noun Dhrasa Conjunction	0.155185700502105
03 75	Fristamia Bossibility	0.100009372034729
106	Epistemic Possibility Reciprocel Constructions	0.108310300333012
100 52	Comitatives and Instrumentals	0.171924103087140
32 101	Expression of Pronominal Subjects	0.177481421278001
101	Antipassive Constructions	0.177765657745007
108	Third Derson Pronoung and Demonstratives	0.177705057745997
43 67	The Future Tense	0.18/293043339/79
07 50	Deseaseive Classification	0.191001382093923
39 20	rossessive Classification Inclusive/Evolusive Distinction in	0.193002301310270
39	Inclusive/Exclusive Distinction in Independent Pronouns	0.201819420398027
88	Order of Demonstrative and Noun	0.203376759826695

ID	Feature description	chi-square <i>p</i> =
68	The Perfect	0.218031667743042
117	Predicative Possession	0.218462120771521
123	Relativization on Obliques	0.225387236856089
47	Intensifiers and Reflexive Pronouns	0.236845735830888
107	Passive Constructions	0.254091414733309
124	'Want' Complement Subjects	0.261604441846179
49	Number of Cases	0.278901629518605
105	Ditransitive Constructions: The Verb 'Give'	0.288529185741361
79	Suppletion According to Tense and Aspect	0.298211044389531
78	Coding of Evidentiality	0.299451414814574
104	Order of Person Markers on the Verb	0.312600210440406
128	Utterance Complement Clauses	0.314685702968631
20	Fusion of Selected Inflectional Formatives	0.319735480876608
73	The Optative	0.333571763445663
115	Negative Indefinite Pronouns and Predicate	0.348858207831143
56	Conjunctions and Universal Quantifiers	0 349563287066832
72	Imperative-Hortative Systems	0.373897396891199
57	Position of Pronominal Possessive Affixes	0 377401909888668
9	The Velar Nasal	0 39205797863934
91	Order of Degree Word and Adjective	0 392512035602297
61	Adjectives without Nouns	0.411473053621211
12	Svllable Structure	0.431795754025636
45	Politeness Distinctions in Pronouns	0.441965949958952
28	Case Syncretism	0.456877027018722
127	Reason Clauses	0.457616717201709
77	Semantic Distinctions of Evidentiality	0.473812536061681
30	Number of Genders	0.480354235555295
102	Verbal Person Marking	0.489367560211846
80	Verbal Number and Suppletion	0.490656352687383
10	Vowel Nasalization	0.49449570722119
121	Comparative Constructions	0.508509484950926
18	Absence of Common Consonants	0.515175854959801
58	Obligatory Possessive Inflection	0.520918602278902
22	Inflectional Synthesis of the Verb	0.525453746722248
48	Person Marking on Adpositions	0.535298169065558
4	Voicing in Plosives and Fricatives	0.544843559145992
17	Rhythm Types	0.545440591539735
13	Tone	0.546700697701341
65	Perfective/Imperfective Aspect	0.570047690779857

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ID	Feature description	chi-square <i>p</i> =
36	The Associative Plural	0.573918387467766
99	Alignment of Case Marking of Pronouns	0.58110620568293
16	Weight Factors in Weight-Sensitive Stress	0.593058752966848
	Systems	
44	Gender Distinctions in Independent	0.597224698750125
	Personal Pronouns	
120	Zero Copula for Predicate Nominals	0.59951956162818
111	Nonperiphrastic Causative Constructions	0.626051793961545
34	Occurrence of Nominal Plurality	0.638718802958631
27	Reduplication	0.64370150130175
110	Periphrastic Causative Constructions	0.672306673006985
32	Systems of Gender Assignment	0.678038435052334
23	Locus of Marking in the Clause	0.690190852870168
100	Alignment of Verbal Person Marking	0.712886309749681
24	Locus of Marking in Possessive Noun	0.713584263682725
	Phrases	
89	Order of Numeral and Noun	0.734722382107494
38	Indefinite Articles	0.745662735101558
1	Consonant Inventories	0.747007540223672
8	Lateral Consonants	0.768385700641051
14	Fixed Stress Locations	0.803791658226484
35	Plurality in Independent Personal Pronouns	0.82740815160721
5	Voicing and Gaps in Plosive Systems	0.855832148455135
46	Indefinite Pronouns	0.893028951344424
64	Nominal and Verbal Conjunction	0.899669087306836
55	Numeral Classifiers	0.908310434801804
103	Third Person Zero of Verbal Person	0.914719885252831
	Marking	
31	Sex-based and Non-sex-based Gender	0.920870016298497
	Systems	
6	Uvular Consonants	0.933425469321199
109	Applicative Constructions	0.93804160030235
40	Inclusive/Exclusive Distinction in Verbal	0.96836683908834
	Inflection	
2	Vowel Quality Inventories	0.985357427331615
29	Syncretism in Verbal Person/Number	0.98903640620246
	Marking	

# Appendix B Maps

### **B.1 Introductory remarks**

B.1.1 General cartographic parameters

All maps in this chapter were generated with the digital WALS mapping tool. Therefore, the maps are Pacific-centered Robinson projections, just like the maps in WALS.

With every two-dimensional (i.e. flat) map covering an area of the threedimensional (spheric) earth, it is impossible to achieve a "perfect", undistorted rendering. It is impossible to have a map that is accurate in distances, area sizes, area shapes, and angles at the same time. — This is especially true for large-scale maps and world maps. One has therefore to decide which features must be represented in what degree of accuracy and which are rather negligible and then weigh the importance of these different factors in order to chose the optimal projection for the desired purpose.

The Robinson projection is a pseudocylindrical projection that balances the errors of the different factors mentioned above. This compromise solution helps to create an orthophanic (i.e. accurately appearing) map. Admittedly, this has the drawback that *all* of the parameters – area shapes, compass directions, scale(s), and distances – are distorted to various extents. But exactly this "distributed distortion" has the benefit that the resulting map projection is overall attractive and shows rather accurate surface size ratios of all areas except the polar regions.

For linguistic maps, and other maps in the field of anthropogeography, this "distributed distortion", in turn, has the advantage that the areas near the equator are not as much compressed as they would be with other projections. As pointed out in the introduction to WALS (cf. Comrie et al. 2005), this is an important property of Robinson projection maps, because around the globe, the equatorial regions are the areas with the highest density of languages (cf. Nettle (1999) for documentation and discussion of this fact).

Furthermore, Pacific-centered maps have the advantage that the contiguous area of Pacific islands with its many (mostly Austronesian) languages is not split up as it would be with Atlantic-centered maps.

#### B.1.2 About the maps

For the reasons outlined in the previous section, the central meridian of the world maps is  $150^{\circ}$  E and not  $0^{\circ}$ . Accordingly, the left and right map borders follow  $30^{\circ}$  W. The central parallel is the Equator. The practically uninhabited areas beyond the latitudes of  $87^{\circ}$  N and S respectively were clipped off.

The grid lines always run at intervals of  $15^{\circ}$ , starting at the Equator for the circles of latitude and at  $150^{\circ}$  E for the meridians.

Topographical information, like e.g. elevation, bodies of water, and toponyms (place names for cities, countries, bodies of water) were intentionally omitted from the maps for the sake of legibility. Where political or administrative boundaries are shown, they are meant for orientation only. Please note the disclaimer in sec. (0) on page xxxii.

In two of the detail maps (fig. 19 and 22), the ISO 639-3 three-letter codes are used so that the languages can be identified using the list of languages in sec. A.1.1. Giving the ISO codes was not feasible for most of the maps reproduced here. Such maps would have had to be printed on oversize paper to make them large enough so that all codes would be legible.

Table 44 on the facing page lists the symbols and colors used in all maps. The different symbols and colors for strategy combinations are used in the overall map of recipient languages (fig. 14) only. In the other maps on the main strategies, all languages having the respective strategy are unicolor.

Due to technical constraints, the maps had to be redrawn or resized and converted to grayscale images for their reproduction in this book. These maps as well as the original, full-size color maps are available online as PDF files at http://loanverb.linguist.de/maps/.

#### **B.2** Strategy distribution maps

The maps on the following pages illustrate the global distributions of the different accommodation strategies and the languages using them.

Figure 14 on page 370 gives the general overview over all 352 LVDB recipient languages, using the whole range of colors and symbols listed in tab. 44 on the facing page for the various accommodation strategies and the combinations thereof. The map was generated in such a way that the symbols for the most frequent strategies were rendered first, with the effect that the symbols for rarer strategies or strategy combinations always appear on top

Strategies	Color	Symbol	Example
DI only	black	circle	•
DI + IndI and/or LVS	gray	circle	•
IndI only	black	triangle	
IndI + LVS and/or PI	gray	triangle	
LVS only	black	square	
PI	white	square	
no borrowed verbs	white	diamond	$\diamond$
semantic borrowing only	black	diamond	•
other / unidentified	none	none	none
Donor language	white	triangle	$\triangle$

Table 44. Legend: symbols and colors in the maps

of other symbols, should overlap occur. While every symbol map with overlapping symbols runs the risk of misrepresenting facts, with this procedure at least the map image shows more diversity and less dominance of Direct Insertion than would otherwise be the case.

Next, figure 15 on page 371 shows the geographical distribution of 137 of the 140 LVDB donor languages. If feasible, abstract donor languages (cf. sec. 5.2.2) were assigned a location based on the putative locations of ancestral languoids.

The following three world maps, in contrast, show the distributions of the three major accommodation strategies separately. Figure 16 on page 372 for Direct Insertion, figure 17 on page 373 for Indirect Insertion, and figure 18 on page 374 for the Light Verb Strategy.

The map for the fourth main strategy, figure 19 on page 375, is not a world map. There was no need for a larger-scale map, because all attested instantiations of Paradigm Insertion are from the same part of the world.

This section is concluded by three regional maps of areas showing particularly interesting distributions. Australia, shown in figure 22 on page 378, is discussed in sec. 14.5. The other two maps are discussed in sec. 13.3.3 and show different parts of Eurasia with respect to the distribution of Indirect Insertion (fig. 20 on page 376) and the Light Verb Strategy (fig. 21 on page 377).



Figure 14. World map: Recipient languages



Figure 15. World map: Donor languages



Figure 16. World map: Direct Insertion







Figure 18. World map: Light Verb Strategy



Figure 19. Map: Paradigm Insertion



Figure 20. Map: Indirect Insertion in Eurasia











# Appendix C The Database

# C.1 Data collection

The screen shot in fig. 23 on the next page shows the input mask for the LVDB with all data fields that are associated with a single example. The loan verb example shown in fig. 23 is ex. (103) on page 177.

The data fields and the methodological considerations regarding them are discussed in sec. 2.3.2.

# C.2 Database structure

C.2.1 Tables and value lists used in the database

The following list compiles all tables and value lists used in the LVDB and states whether they were taken over from WALS or were generated either by scripts within *FileMaker* or outside the database, using other sources.

- **confidence** value list: confidence in the accuracy of a given data set; cf. sec. 2.3.2.6
- **contact info** value list: parameters describing the contact situation at the time the example word was borrowed; cf. sec. 1
- countries updated list from WALS; list of countries
- **ethnologue** updated list from WALS; cross-reference between WALS language names and Ethnologue language names
- families updated and corrected list from WALS; names of the language families
- **feat areas** list from WALS; thematic areas of the typological data (e.g. *Phonology, Syntax*)
- feature values list from WALS; cf. sec. 2.3.2.5
- features list from WALS; cf. sec. 2.3.2.5



- **genera** updated and corrected list from WALS; names of the language genera, linked to the families
- **ISO639** generated list of ISO 639-3 codes
- **languages** updated and corrected list from WALS; names of languages and their geographical location, linked to genera and macro-areas
- **LW status** value list: status of the loanword in the recipient language; cf. sec. 2.3.2.2
- macro areas list from WALS; the six major geographical areas, see sec. 13.3
- **macro typ** list of accommodation strategies (in the LVDB originally called *macro types*); cf. the list in sec. A.2
- **map data** script-generated list with language code, geographical position, symbol shape and symbol color; configured for data export into the WALS mapping tool (Bibiko 2005).
- **map pattern sym color** definition of symbol shapes and colors for map generation
- metadata the main table; see sec. C.2.2 on the next page
- pattern list of accommodation patterns
- references list of references (bibliography)
- **subfamilies** list from WALS; subfamilies (groups of genera) for some language families
- subtype list of pattern types (subtypes of a strategy); cf. the list in sec. A.2
- transitivity value list: valency of the item in question; cf. sec. 2.3.2.2
- wals2iso639 cross-reference of (WALS) language names and codes to ISO 639-3 codes
- **x ex relex** table linking examples classified as "related" (e.g. examples of the same verb, accommodated with different patterns)
- **x lg country** updated list from WALS; assigning languages to the countries where they are spoken

- x pattern subtype assignment of patterns to subtypes and strategies
- x SIL lg list from WALS; language names as used in Ethnologue
- **x typological data** the master list from WALS, linking languages and feature values; cf. sec. 2.3.2.5
- C.2.2 Field names and abbreviations used in the database

The field names listed below are those used in the various LVDB tables which are not completely self-explanatory. The type of database field is given in brackets after the field name. Cf. also fig. 24 on page 386.

dup cnt (Serial Number/Calculation)

counter of examples from the same language pair; used to eliminate doublets from the calculation of languages and language pairs

# all MacroTypes (Calculation)

lists all strategies (formerly called *macro types*) for the recipient language in question

all rels (Calculation)

list of examples manually defined as "related"

## biblio remark (Text)

bibliographical remarks; pointer for secondary sources

## com equal lgs (Calculation)

internal test, disallowing donor and recipient to be identical

## confidence ID (Number)

degree of reliability of the information; from the value list confidence

## contributed by (Text)

name of the person(s) who contributed the example

## date (Text)

estimated date (year, decade, century) when the borrowing occurred

# donor ID dup (Calculation)

used to eliminate doublets from the calculation of languages and language pairs donor lg ID (Number)

ID of the donor language, linked to table languages

donor root (Text)

the model form as it is found in the donor lg.

#### donor root meaning (Text)

meaning of the model form in the donor lg.

ex ID (Serial Number)

unique identification number for the examples; primary key of the database

## glossing (Text)

interlinear glossing of the example

- **hjbb don** (Calculation)⁴² counter: donor languages
- hjbb pair (Calculation) counter: language pairs
- hjbb rec (Calculation) counter: recipient languages
- include (Checkbox/Number) manually set flag: include example in cleared sample, cf. sec. 2.4.3.1
- **lg contact info** (Text) information on the language contact situation

# **lg contact info ID** (Number) ID(s) of contact situations, linked to table *contact info*

## **lg pair** (Calculation)

the names of donor language and recipient language, separated by the > sign; used for the generation of tables

## lg pair b (Calculation)

the names of recipient language and donor language, separated by the < sign; used for the generation of tables

## **lg pair dup** (Calculation)

used to eliminate doublets from the calculation of languages and language pairs

## lg pair num (Calculation)

used to calculate the number of examples per language pair

### lg temp number (Number)

used to eliminate doublets from the calculation of languages and language pairs

## OK? (Checkbox/Number)

manually set flag: data set correct or in need of revision?

# pattern ID (Number)

ID of the pattern involved; linked to table patterns

# quote ref (Text)

Internal LATEX reference code of the example when it is quoted in this work

## raw example native (Text)

the example in orthographic or phone(ma)tic representation

# raw example translitr (Text)

the example, transliterated (Latin or IPA) and hyphenated for glossing

## recipient lg ID (Number)

ID of the donor language, linked to a second instantiation of table *lan-guages* 

# ref ID (Number)

ID of the primary source; linked to table references

# ref ID2 (Number)

ID of the secondary or additional source; linked to table references

### ref item number (Text)

example, item, or footnote number in the primary source

## ref pages (Text)

page number in the primary source

#### ref2 item number (Text)

example, item, or footnote number in the secondary source

## ref2 pages (Text)

page number in the secondary source

#### remarks (Text)

general remarks regarding the example; short quotes; abbreviations, explanations

## reserve (Text)

field with remarks pertaining to the model form

#### status ID (Number)

ID of the lexical status in the recipient language; linked to value list *status* 

# timestamp A (Timestamp)

date and time the data set was created

## timestamp B (Timestamp)

date and time the data set was last modified

### trans donor ID (Number)

ID of the model form's transitivity value; linked to value list transitivity

### trans recip ID (Number)

ID of the loan verb's transitivity value; linked to value list transitivity

# C.2.3 Table relations

Fig. 24 on the next page shows the interrelations of the various tables and table fields used in the LVDB.

Each box represents one instance of a database table, in most cases these are actual tables, only those whose names end in a figure are multiple instances of the same value list or table used several times.

In the lower parts of the boxes, all fields of the tables are listed. Field names printed in italics indicate that these table fields are linked with others. In the upper parts of the boxes, these connected field names are repeated and shown with their connection(s).



Figure 24. LVDB tables and associations



# Notes

- 1. See http://community.livejournal.com/linguaphiles/1654972.html for details.
- 2. See http://www.eva.mpg.de/lingua/resources/glossing-rules.php for details.
- 3. The use of these two signs as arrow symbols follows the traditional practice in diachronic linguistics. The symbols must not be interpreted as indicating a value judgment of any kind.
- The term *languoid* has been suggested to refer to a linguistic entity of any status (idiolect, dialect, language, family, etc.); by Good and Hendryx-Parker (2006: 5, fn.7).
- 5. The omission of the /r/ from the Spanish model form can be observed in many languages borrowing from Spanish. This is discussed in sec. 5.3.3 and sec. 14.3.3.
- 6. See http://www.eva.mpg.de/lingua/files/lwt.html for more information.
- 7. See http://www.llc.manchester.ac.uk/research/projects/lcla/ for more information.
- 8. Page numbers refer to the 1971 reprint I consulted.
- 9. Gardani (2008) is a recent example for this fruitful transfer.
- 10. Cysouw (2008: 182-183) makes a similar point about WALS data.
- 11. The actual form used can be seen at http://loanverb.linguist.de/loanverb.html. Its functionality had to be discontinued, though, due to massive spam.
- 12. In a yet wider sense, there would be several more bidirectional pairs like these, if one e.g. counted Middle French > Middle English vs. (Modern) English > (Modern) French as such a bidirectional exchange, which I chose not to, because the exchange did not occur at the same time.
- 13. This term was also mentioned by Haugen (1950: 211), but in a similar fashion as the other terms, it conveys the improper notion of taking over an entity from one language (that thereby ceases to have it) into another.
- 14. *Spoken* here is to be understood as *oral* contrasting with *signed*. It does not matter whether these languages have writing and a written tradition or not or whether they are still actually spoken or extinct.
- 15. See ex. (33) on page 84, ex. (61) on page 103, ex. (129) on page 221, and examples from other Turkic languages in sec. 8.6.
- 16. Its allomorphs are {-ál ~ -al ~ -ól ~ -ol ~ -ól ~ -öl ~ -él ~ -el}, depending on vowel harmony and length. There are further allomorphs with long /l:/, eg. {-all}. For a description of this affix and and other Hungarian verbalizers, cf. Szent-Iványi (1995: 78–79).
- 17. This is a cognate of Standard German [deu] *reisen* 'to travel', which obviously could not have been the model form here.

- See note 16 for a list of its allomorphs. I did not extend the search to the allomorphs with long /l:/, or the other verbalizers listed in Szent-Iványi (1995: 78–79).
- Even though it is not the only technique available for Turkic languages to verbalize native as well as borrowed roots: Indirect Insertion using a verbalizer like {-*l*A-} is also common, cf. e.g. ex. (32) on page 84 and the discussion in sec. 16.4.4.3.
- 20. The example verb in (64) is the result of a specific internet search for the phrase *kánete download* in Greek script as well as in mixed Greek/Latin (English) script. The example is quoted from http://www.interreg.gr/gr/programs.asp but this or similar texts can be found on many Greek websites.
- 21. The language is also called *Arabic (Kormatiki)* (in WALS) or *Araviká* or *Kormakiti*. The latter, however, is rather the name of a village where it is spoken, cf. Gordon (2005).
- 22. Matras does not specify the variety of Arabic. Since the recipient language is the Domari of Jerusalem, I assumed South Levantine spoken Arabic [ajp] as the donor language for this language pair.
- 23. cf. http://www.ethnologue.com/show_language.asp?code=acy
- 24. Veselinova (2006: 146) states that the borrowed imperatives are "equally common, if not even more frequent than the native [forms]" while Feuillet (1996: 77) speaks of complete replacement.
- 25. Mifsud (1995: 118) suggests (standard) Italian *gode(re)* as the model form. According to Thomas Stolz (p.c.), the model is more likely Sicilian [scn] *gaudiri*, because the Sicilian diphthong /au/ would better account for the second consonant /w/ in the Maltese triconsonantal root.
- 26. The actual tests were kindly arranged and run by Michael Cysouw. However, all conclusions, inferences and errors made in compiling the data and interpreting the test results are of course entirely my own.
- Rounded speaker numbers for these languages: Amharic: 25.3 million, Armenian: 5.2 million, Hausa: 38.4 million, Ingush: 375,000, Iraqw: 575,000; Korean: 75.9 million, Navajo: 183,000, Zulu: 10.3 million; cf. Crystal (forthc.).
- 28. cf. its German obsolete cognate *bähen* 'to keep/make warm by covering (e.g. with a blanket)'
- 29. Arguably, *all* Indonesian words are consonant-initial; words that phonologically begin with a vowel, phonetically rather begin with a glottal stop /?/ (cf. Alieva et al. 1991: 32).
- 30. "New" here is meant by standards of language history, not necessarily by standards of technical development.
- 31. One such page, which has been cited, mirrored or copied multiple times, would e.g. be http://yunus.hacettepe.edu.tr/~sadi/dersler/Turkce_kullan.html
- 32. Estrada Fernández (2005: 7) gives the gloss and translation 'to measure' instead. Yet, *mediar* means 'to mediate; to intercede', whereas 'to measure' would be

*medir* in Spanish. Whichever the intended correct pair of verb and translation may have been is beside the point here — either way, the accommodation pattern used is the same.

- 33. A private collection at http://www.volvofan.at/ieren/ieren_view.asp even lists over 3100 verbs, but this figure includes many complex verbs that were formed from other {-*ieren*} verbs by derivation or composition as well as several simple verbs which just by chance have a stem ending in the sequence /ier/, such as e.g. *gieren* 'to yaw', *zieren* 'to adorn'.
- 34. Aside from Indirect Insertion, Modern Greek has also incorporated a handful of (French) verbs by Direct Insertion, cf. ex. (167) on page 268.
- 35. Ethnologue treats this extinct language as a variety of Hatam [had]. Reesink (2002c: 280), however, claims that it is a separate entity, and I prefer to follow his argumentation. To distinguish the two languages, I suggest to use the hitherto unassigned code [xhm] (motivation: *extinct Hatamic Mansim*) and do so in this work.
- 36. As a matter of fact, this match is perhaps not coincidental but could rather be an indicator of an ancient genealogical relationship between Na-Dene and Yeniseic, cf. Vajda (2005c) and (forthc.).
- 37. A paper by the same author and with basically the same title is also found in the ERIC microfiche catalog, dated to 1973 (Higa 1973) instead of 1979, but that document is not accessible for me.
- 38. This "quote" is rather a recollection of what I heard in a lecture by Olaf Kiese (Münster) in 1995. Since I do not remember the exact wording, I shall not credit it to him as a direct, literal quote.
- 39. This pattern type was part of the original typology presented in Wichmann (2004a, 2004c), Wohlgemuth (2005a, 2005b). It has been subsumed under S11, *Direct Insertion of a borrowed verb*; see sec. 5.4 for an explanation.
- 40. This pattern type was part of the original typology presented in Wohlgemuth (2005a, 2005b). It has been conflated with S34, *Other light verb*.
- 41. This pattern type was part of the original typology presented in Wohlgemuth (2005a, 2005b). It has been conflated with S35, *Co*(*n*)*verb*, *serial verb*.
- 42. The scripts for these calculations were kindly provided by Hans-Jörg Bibiko, hence the acronym.

# References

### **Bibliographical remarks**

Entries are sorted alphabetically by the name(s) of the author(s) or editor(s), or by the work's main title if no author or editor is identified, then chronologically by year of publication. Works by the same author(s) in the same year are marked by small letters following the year of publication; they are sorted chronologically (if concrete dates are given, e.g. with conference papers or journal issues) or by the sequence they occur in the same work, otherwise they are sorted alphabetically (by title).

Bibliographical information for the entries were in general directly taken from the consulted sources. Occasionally, additional bibliographic information was added from other sources, e.g. library catalogs; such additions are enclosed in square brackets: [...].

Spellings, capitalizations etc. were faithfully taken over and the bibliographical information was neither altered nor translated. However, for various technical reasons, references of sources written in scripts other than Latin had to be transliterated. In the same way, different spellings or forms of the same person's name(s) were not standardized here but follow the information given in the cited work. This is intended to facilitate retrieval of the sources.

Sources marked as (*Unpublished*) *Manuscript*(*s*) are mostly on stock at the institute library of the Max Planck Institute for Evolutionary Anthropology in Leipzig. If not, a copy is in my possession. Personal communication is not listed here.

Internet URLs were last verified on 31 January 2009. All internet resources listed here were freely accessible and all quoted contents existed in the quoted form by that date.

Edited works, compilations, etc. are also listed as separate entries if more than one article from that work is cited here. At any rate, the full reference is given in each article's entry.

Some works were used in the Loan Verb Database (LVDB) only – e.g. as sources of additional examples or background information on accommodation patterns – and were not directly quoted in this work. These works are listed here anyway, since they are nevertheless sources used for gathering and interpreting the data and for writing this book.

## 392 References

References of works mentioned by other, quoted authors have been included in this list only when I also quoted or referred to the primary sources or when I quoted the passage where they were explicitly mentioned. In a few cases where I was unable to verify the accuracy of the primary sources' contents and bibliographical information of such an indirect reference, its entry in this list is marked by the omission of the closing period.

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The *Subject index* (starting below) lists all keywords and topics. Pages which contain definitions of keywords are marked by boldface page numbers.

In the *Author index* (starting on page 449), all authors referred to or quoted in the running text are listed. For the sake of space, authors only referred to in the list of language pairs and patterns (sec. A.2.2) were not added.

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