



Universiteit
Leiden
The Netherlands

Indo-Slavic lexical isoglosses and the prehistoric dispersal of Indo-Iranian

Palmér, A.I.

Citation

Palmér, A. I. (2024, July 2). *Indo-Slavic lexical isoglosses and the prehistoric dispersal of Indo-Iranian*. Retrieved from <https://hdl.handle.net/1887/3765823>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3765823>

Note: To cite this publication please use the final published version (if applicable).

Indo-Slavic lexical isoglosses and the prehistoric dispersal of Indo-Iranian

Indo-Slavic lexical isoglosses and the prehistoric dispersal of Indo-Iranian

Axel I. Palmér

PhD dissertation

Leiden University, The Netherlands

Copyright © 2024 Axel I. Palmér. All rights reserved.

Cover image: ink painting by Carmen Sylvia Spiers.

This research was funded by the Dutch Research Council (Nederlandse Organisatie voor Wetenschappelijk Onderzoek, NWO) under the research programme PhDs in the Humanities (grant number PGW.19.022).

Indo-Slavic lexical isoglosses and the prehistoric dispersal of Indo-Iranian

Proefschrift

ter verkrijging van
de graad van doctor aan de Universiteit Leiden,
op gezag van rector magnificus prof.dr.ir. H. Bijl,
volgens besluit van het college voor promoties
te verdedigen op dinsdag 2 juli 2024
klokke 11:15 uur

door

Axel Ingemar Palmér
geboren te Uppsala (Zweden)
in 1994

Promotores: Prof.dr. G.J. Kroonen
Prof.dr. A.M. Lubotsky

Promotiecommissie: Dr. A. Korn (CNRS, Paris)
Prof.dr. M.J. Kümmel (Universität Jena)
Dr. T.C. Pronk
Prof.dr. J. Schaeken

Dedicated to

Edvard Selander Patrignani

*11 April 1994 †18 July 2022

Acknowledgements

This work concludes four and a half years as a PhD candidate at Leiden University Centre for Linguistics. It would not have been possible without the supervision and guidance – from writing the research proposal to submitting this dissertation – by Guus Kroonen and Sasha Lubotsky, to whom I am eternally grateful. Thank you for inspiring me with your knowledge, expertise, and curiosity to think outside the box and broaden my horizons.

The journey toward the PhD started in the final year of my MA at Leiden University. I thank Kate Bellamy for encouraging me to apply for funding with NWO. Thanks also to Marian Klammer, Owen Edwards, Hanna Fricke, Zoi Gialitaki, Gereon Kaiping, Francesca Moro, George Saad, Yunus Sulistyono, Eline Visser, Jiang Wu, and Nurenzia Yannuar for helping me improve my research proposal and my interview skills.

I wish to thank my teachers and colleagues at LUCL for always being willing to discuss questions and problems regarding research, teaching, and other matters. I feel very fortunate to have had the opportunity to work with you. A special thank you goes to the colleagues of the EUROLITHIC project. I have enjoyed our collaboration immensely. To my fellow PhD students and postdocs at LUCL – especially Andrew Wigman, Anthony Jakob, Cid Swanenvleugel, Paulus van Sluis, Rasmus Thorsø, Abel Warries, Louise Friis, Niels Schoubben, Stefan Norbruis, Carmen Spiers, Xander Vertegaal, Federico Dragoni, Jesse Wichers-Schreur, Tobias Søborg, Lis Kerr, Sophia Nauta, Jiang Wu, Ahmed Sosal, Bente de Graeve, Hester Groot, Olga Nozdracheva, Saskia Dunn, and Natasja Delbar – thank you for all the great discussions and good times that made these years so much more enjoyable.

Two highlights during my time as a PhD candidate were my research stays abroad. I am very grateful to the colleagues at the Research unit of Archaeology in Helsinki, especially Volker Heyd and Asko Parpola, for inviting me and teaching me so much about European and Asian prehistory. I would likewise like to extend a warm thank you to the colleagues at the David Reich Lab at Harvard University, especially to David Reich, Nick Patterson, Ali Akhbari, Iosif Lazaridis, and Tian Chen Zeng, for taking an interest in my research and challenging me to develop new ideas, and to Roslyn Curry, Daniel Tabin, Jeremy Choin, and Eveline Altena for making me feel so welcome during my time in Cambridge.

I would also like to thank my teachers and friends at Uppsala and Stockholm Universities, especially Christiane Schaeffer, Oscar Billing, Jenny Larsson, and Anders Jørgensen, for staying closely in touch during my years in the Netherlands.

Last but not least, my gratitude goes to my friends in the Netherlands, Sweden, and elsewhere, and to my dear parents Anne and Kjell. Thank you for all your love and support throughout the years.

Table of contents

List of tables and figures	xx
Tables	xx
Figures	xx
List of abbreviations	xxi
General	xxi
Symbols	xxii
Languages	xxii
1. Introduction	1
1.1. Preliminaries: historical linguistics and the study of human prehistory	1
1.2. Aim of the thesis	2
1.3. State of the art: the position of Indo-Iranian within the Indo-European language family	2
1.4. Research questions	14
2. Theory and methodology	15
2.1. Introduction	15
2.2. Phylogenetic subgrouping	15
2.2.1. The shared innovation principle	16
2.2.2. Typology of shared innovations	18
2.2.3. Lexical characters as evidence for subgrouping	18
2.2.4. Quantity of shared innovations in subgrouping	22
2.2.5. The Indo-Iranian bias	23
2.3. Dialectal subgrouping	24
2.4. Hybrid models	31
2.5. Linguistic palaeontology	35
3. Lexical isoglosses shared by Indo-Iranian and Balto-Slavic	39
3.1. Introduction	39
3.2. Isoglosses: plausible shared innovations	41
3.2.1. <i>*ǵ^hos-to-</i> ‘hand’	41
3.2.2. <i>*h₂eǵ-</i> ‘goat’	42
3.2.3. <i>*h₂eǵ-ino-</i> ‘animal skin, leather’	44
3.2.4. <i>*neih₁-</i> ‘to churn’	45
3.2.5. <i>*som</i> ‘together, with’	47
3.3. Isoglosses: possible shared innovations	49
3.3.1. <i>*b^(h)e</i> , <i>*b^(h)eǵ^h</i> ‘outside, without’	49
3.3.2. <i>*b^hrod^h-no-</i> ‘a (pale) horse colour’	50
3.3.3. <i>*b^hud^h-ro-</i> ‘attentive, awake’	50
3.3.4. <i>*d^heh₁i-nu-</i> ‘female mammal’	51
3.3.5. <i>*d^hemH-</i> / <i>*d^hmeH-</i> ‘to blow’	52
3.3.6. <i>*d^hoH-neh₂-</i> ‘grains’	52
3.3.7. <i>*d^hor-eie/o-</i> ‘to hold, support’	53

3.3.8.	* <i>ǵelp-</i> ‘to murmur, babble’	54
3.3.9.	* <i>ǵuelH-e/o-</i> ‘to burn, shine’	54
3.3.10.	* <i>ǵ^heuH-e/o-</i> ‘to call, curse’	55
3.3.11.	* <i>ǵ^houH-o-</i> ‘call, invocation’	56
3.3.12.	* <i>ǵ^huel-</i> ‘to be bent, walk crookedly’	56
3.3.13.	* <i>g^(w)eHi-</i> ‘to sing’	57
3.3.14.	* <i>g^woih₃-o-</i> ‘life’	58
3.3.15.	* <i>g^(wh)eh₂ǵ^h-</i> ‘to wade’	59
3.3.16.	* <i>g^(wh)eld^h-</i> ‘to be greedy, desire’	60
3.3.17.	* <i>HoustHo-</i> ‘lip’	61
3.3.18.	* <i>h₁ong^(w)-l-</i> ‘coal’	62
3.3.19.	* <i>h₁su-dru-</i> ‘made of good wood’	62
3.3.20.	* <i>h₁uk-ie/o-</i> ‘to be(come) accustomed to’	63
3.3.21.	* <i>h₂eu-r-eh₁</i> adv. ‘(over) there, downwards’	64
3.3.22.	* <i>h₃ieb^h-e/o-</i> ‘to copulate’	65
3.3.23.	* <i>ǵeuH-</i> ‘to throw, shove, shoot’	66
3.3.24.	* <i>ǵieh₁-mo-</i> ‘black, dark, grey’	67
3.3.25.	* <i>ǵleu-os-</i> ‘word’	68
3.3.26.	* <i>ǵkop-o-</i> ‘straw (carried by water)’	68
3.3.27.	* <i>ǵkuen-to-</i> ‘holy, sacred’	69
3.3.28.	* <i>ǵkuoit-ó-</i> ‘white, bright’	70
3.3.29.	* <i>k(o)rt-</i> ‘(one) time(s)’	72
3.3.30.	* <i>krs-no-</i> ‘black’	73
3.3.31.	* <i>kseud-</i> ‘to make small; to spray’	74
3.3.32.	* <i>k^wer-</i> ‘to perform magic’	74
3.3.33.	* <i>mentH-eh₁-</i> ‘(wooden) tool for stirring’	75
3.3.34.	* <i>miǵ-ro-</i> ‘mixed’	76
3.3.35.	* <i>mosg^h-en-</i> ‘brain, marrow’	77
3.3.36.	* <i>ne</i> ‘as, like’	78
3.3.37.	* <i>ni-h₃(e)k^w-</i> adj. ‘facing downwards’	79
3.3.38.	* <i>nog^w-o-</i> ‘naked’	80
3.3.39.	* <i>peh₂gs-ó-</i> ‘(body part) having a side’	81
3.3.40.	* <i>peh₃i-men-</i> ‘milk’	82
3.3.41.	* <i>pelH-ou-</i> ‘chaff’	83
3.3.42.	* <i>seng-</i> ‘to attach, fasten’	83
3.3.43.	* <i>seuk-</i> ‘to turn, twist; to churn’	85
3.3.44.	* <i>som-d^heh₁-</i> ‘agreement’	86
3.3.45.	* <i>suleh₂-</i> ‘juice; milk’	87
3.3.46.	* <i>tsprh_{2/3}-e/o-</i> ‘to kick away with the foot’	88
3.3.47.	* <i>tusk-io-</i> ‘empty’	89
3.3.48.	* <i>uert-men-</i> ‘course’	91
3.3.49.	* <i>uolǵ-o-</i> ‘hair’	91

3.3.50.	*uolo- ‘tail hair (of horse)’	92
3.4.	Uncertain isoglosses.....	92
3.4.1.	*b ^h erH-men- ‘support; burden’	92
3.4.2.	*b ^h reh ₁ ǵ- ‘to shine, dawn’	93
3.4.3.	*b ^h uHs- ‘to be active, strengthen’	94
3.4.4.	*b ^h uh ₂ -r(i)- ‘much, plenty’	94
3.4.5.	*-di- 3 rd person encl. pron.	95
3.4.6.	*d ^h (o)r-uo- ‘firm, healthy’	96
3.4.7.	*ǵemb ^h - ‘to suffer from cold’	97
3.4.8.	*ǵ ^h elh ₃ -en- ‘green, yellow, gold’	98
3.4.9.	*ǵ ^(h) (u)rstuo/eh ₂ - ‘stone, gravel, sand’	99
3.4.10.	*g ^w rh ₃ -e/o- ‘to devour, swallow’	100
3.4.11.	*Huep- ‘to call’	101
3.4.12.	*h ₁ ēd / *h ₁ ōd adv. ‘then, and, so’	102
3.4.13.	*h ₁ iti adv. ‘so, in this manner’	103
3.4.14.	*h ₂ eid ^h -smo- ‘firewood’	103
3.4.15.	*h ₂ sus-ko- ‘dry’	104
3.4.16.	*h ₂ ueh ₁ -iu- ‘wind’	105
3.4.17.	*ieh ₂ - ‘to drive’	105
3.4.18.	*keh ₁ k ^(w) -o/eh ₂ - ‘green edible plant’	106
3.4.19.	*kei- ‘to be orphaned’	106
3.4.20.	*kolH-to- ‘cold’	107
3.4.21.	*keh ₂ -mo- ‘desire’	108
3.4.22.	*kenH- ‘to dig’	108
3.4.23.	*k ^(w) er ^k - ‘to become lean, emaciate’	109
3.4.24.	*k ^(w) leik ^k - ‘to torment’	110
3.4.25.	*k ^(w) o(n)Hd- ‘to bite’	110
3.4.26.	*k ^(w) (o)r-no- ‘deaf, with mutilated ears’	112
3.4.27.	*med ^h u-h ₁ ed- ‘honey-eater’	113
3.4.28.	*m(e)itH-u- ‘opposed’	114
3.4.29.	*nis-tio- adj. ‘(being) outside’	115
3.4.30.	*pr(H)k ^k - ‘rib, side, flank, chest’	115
3.4.31.	*(s)ker-men- ‘hide, skin’	116
3.4.32.	*sm-b ^h eh ₂ - ‘assembly, social gathering, meeting, company’	117
3.4.33.	*sor(H)-to- ‘red(-faced)’	118
3.4.34.	*srom-o- ‘lame’	118
3.4.35.	*telp- ‘to make room’	119
3.4.36.	*t(H)ong ^h -eie/o- ‘to pull’	119
3.4.37.	*(t)plh ₁ - ‘fort’	120
3.4.38.	*uelk ^(w) - ‘to pull, drag’	121
3.4.39.	*u(e)nH- ‘forest’	122
3.4.40.	*uik ^k -poti- ‘lord of the settlement’	122

3.4.41.	<i>*uisu(-)</i> ‘in every direction’	123
3.4.42.	<i>*ulp-i-</i> ‘(wild)cat’	124
3.5.	Rejected isoglosses	124
3.5.1.	<i>*b^hag-o-</i> ‘god’	124
3.5.2.	<i>*b^heb^hr-u-</i> ‘beaver’	125
3.5.3.	<i>*b^heHg^h-</i> ‘to press, stick’	126
3.5.4.	<i>*b^heh₂d^h-</i> ‘to push, press’	126
3.5.5.	<i>*b^hoh₂u-eie/o-</i> ‘to cause to be, linger (?)’	128
3.5.6.	<i>*b^h(o)lg^{(w)h}-</i> ‘good; a deity (?)’	128
3.5.7.	<i>*b^hong-o/eh₂-</i> ‘wave’	128
3.5.8.	<i>*b^houd^h-eie/o-</i> ‘to make awaken’	129
3.5.9.	<i>*b^hruH-no- / *b^hrouH-neh₂-</i> ‘embryo; scale’	129
3.5.10.	<i>*dekm-t-</i> ‘decade’	130
3.5.11.	<i>*deks(i)-no-</i> ‘right’	131
3.5.12.	<i>*dlh₁g^h-ó-</i> ‘long’	132
3.5.13.	<i>*drǵ^h-</i> ‘fetter; belt, strap, girdle’	132
3.5.14.	<i>*dr(H)-ueh₂-</i> ‘wild grass (?)’	133
3.5.15.	<i>*d^he-d^hh₁-</i> ‘(sour) milk’	133
3.5.16.	<i>*d^heg^{wh}-e/o-</i> ‘to burn’	134
3.5.17.	<i>*d^heh₁i-</i> ‘to contemplate, behold, see’	135
3.5.18.	<i>*d^her-men-</i> ‘support; agreement’	135
3.5.19.	<i>*d^hoiH-neh₂-</i> ‘conception; song’	136
3.5.20.	<i>*ǵorh₂-eie/o-</i> ‘to make old, let ripen’	136
3.5.21.	<i>*g^hrem-e/o-</i> ‘to murmur; to thunder, rage’	136
3.5.22.	<i>*g^wes-e/o-</i> ‘to be extinguished’, <i>*g^wōs-eie/o-</i> ‘to extinguish’	137
3.5.23.	<i>*g^wi-n-h₃-</i> ‘to feed’	137
3.5.24.	<i>*g^wrH-</i> ‘rock’	138
3.5.25.	<i>*g^(w)riH-ueh₂-</i> ‘neck, nape’	138
3.5.26.	<i>*(H)roh₁d^h-i</i> postpos. ‘on account of, for the sake of’	139
3.5.27.	<i>*h₁endro-</i> ‘kernel; egg, testicle’	140
3.5.28.	<i>*h₁(e)r(H)ks-</i> ‘thorn’	140
3.5.29.	<i>*h₁mene</i> ‘of me’ (1sg.gen. pronoun)	141
3.5.30.	<i>*h₁(o)r-ti-</i> ‘attack, fight’	141
3.5.31.	<i>*h₁ui-d^hh₁-eu-eh₂-</i> ‘widow’	142
3.5.32.	<i>*h₁ui-d^hh₁-u-r(i)o-</i> ‘separated’	142
3.5.33.	<i>*h_{2/3}eg^(w)-ro-</i> ‘top; first, early’	143
3.5.34.	<i>*h₂ep-</i> ‘water’	143
3.5.35.	<i>*h₂eu-</i> ‘to weave’	144
3.5.36.	<i>*h₂eu-o-</i> 3sg.pron. ‘that’	144
3.5.37.	<i>*(h₂)gr-ōm-</i> ‘heap’	145
3.5.38.	<i>*h₂ōu-is</i> ‘evidently, manifestly’	147
3.5.39.	<i>*h₂sous-eie/o-</i> ‘to make dry (up)’	147

3.5.40.	<i>*h₂uodH-eie/o-</i> ‘to speak’	148
3.5.41.	<i>*h₃nob^h-i-</i> / <i>*h₃nob^h-H-</i> ‘nave, navel’	148
3.5.42.	<i>*ieu-o-</i> ‘grain, barley’	149
3.5.43.	<i>*k_i(e)h₁-uo-</i> ‘dark, black, grey’	149
3.5.44.	<i>*k_{lei}-e/o-</i> ‘to lean against (intr.)’	150
3.5.45.	<i>*k_{ok}(H)olo-</i> ‘chip of wood’	150
3.5.46.	<i>*k_{or}-H(-keh₂)-</i> ‘a kind of bird’	151
3.5.47.	<i>*k_{un}-ko/eh₂-</i> ‘dog-like; bitch’	151
3.5.48.	<i>*kor-o-</i> ‘army’	152
3.5.49.	<i>*krouh₂-io-</i> ‘corpse; flesh’	152
3.5.50.	<i>*kseub^h-</i> ‘to sway, swing’	153
3.5.51.	<i>*kumēl-</i> ‘young (of animal)’	153
3.5.52.	<i>*k^weit-</i> ‘to perceive’	154
3.5.53.	<i>*k^(w)it-ti-</i> ‘thinking, consideration’	154
3.5.54.	<i>*k^wu-d^he</i> ‘where’	155
3.5.55.	<i>*leh₁ġ^h-</i> ‘to crawl; to go’	155
3.5.56.	<i>*loip-eie/o-</i> ‘to smear, stick’; <i>*li-n-p-e/o-</i> ‘to smear, stick’	156
3.5.57.	<i>*l(o)uk-i-</i> ‘light’	156
3.5.58.	<i>*loup-eie/o-</i> ‘to tear (off), peel’	157
3.5.59.	<i>*mei(H)-e/o-</i> ‘to (ex)change, switch’	157
3.5.60.	<i>*mor-o-</i> ‘plague’	157
3.5.61.	<i>*mud-ro-</i> ‘cheerful, lively’	158
3.5.62.	<i>*neig^h-o-</i> ‘itching, disease’	158
3.5.63.	<i>*oti-loik^w-o-</i> ‘leftover, surplus’	159
3.5.64.	<i>*ped-ti-</i> ‘walking on foot’	159
3.5.65.	<i>*pě(n)s-(n)u-</i> ‘dust, sand’	160
3.5.66.	<i>*perg^(w)enio-</i> / <i>*perk^(w)uHno-</i> ‘a (thunder) god’	161
3.5.67.	<i>*post-sk^(w)(-eH)</i> ‘behind, after, afterwards’	161
3.5.68.	<i>*poti-</i> ‘self’	162
3.5.69.	<i>*prh₂-uo-</i> ‘first, foremost’	162
3.5.70.	<i>*pusk-o-</i> ‘flower; tuft’	163
3.5.71.	<i>*seu-io-</i> ‘left’	163
3.5.72.	<i>*(s)poh_i-men-</i> ‘foam’	164
3.5.73.	<i>*tek^w-</i> ‘to run (of water), flow’	164
3.5.74.	<i>*t(e)nH-u-ko-</i> ‘thin’	165
3.5.75.	<i>*tetk^h-</i> ‘to cut, hew, carpenter’	165
3.5.76.	<i>*teuh₂-</i> ‘to become fat’	166
3.5.77.	<i>*tok^w-o-</i> ‘course’	167
3.5.78.	<i>*top-eie/o-</i> ‘to make hot’	167
3.5.79.	<i>*tous-eie/o-</i> ‘to make calm, silent’	168
3.5.80.	<i>*tr-ne-d-</i> ‘to pierce, split’	168
3.5.81.	<i>*uer-</i> ‘to choose, put faith in’	168

3.5.82.	<i>*ure/o-to/eh₂</i> - ‘vow’	169
3.5.83.	<i>*urH-uo/eh₂</i> - ‘enclosure; hole, burrow’	169
4.	Analysis of the Indo-Slavic isogloss corpus.....	171
4.1.	Introduction.....	171
4.2.	Attestation across Indo-Aryan, Iranian, Baltic, Slavic	171
4.3.	Typological classification of isoglosses	173
4.3.1.	Shared borrowings	174
4.3.2.	Nominal derivation	174
4.3.3.	Verbal derivation	178
4.3.4.	Roots.....	179
4.3.5.	Semantics.....	179
4.4.	Semantic clusters in the isogloss corpus	181
4.4.1.	Agriculture	181
4.4.2.	Dairy	182
4.4.3.	Pastoralism.....	183
4.4.4.	Body parts.....	183
4.4.5.	Colours.....	184
4.4.6.	Magic and religion	184
4.5.	Non-exclusive isoglosses	184
4.5.1.	Albanian.....	185
4.5.2.	Armenian	185
4.5.3.	Celtic.....	185
4.5.4.	Germanic.....	185
4.5.5.	Greek.....	186
4.5.6.	Italic	186
4.5.7.	Tocharian	187
4.6.	Indo-Slavic? Innovations, archaisms, and quantity of isoglosses	187
4.7.	Indo-Slavic and alternative scenarios.....	188
4.7.1.	Graeco-Aryan hypothesis.....	188
4.7.2.	Primary split hypothesis.....	189
4.7.3.	Indo-Slavic hypothesis.....	190
4.7.4.	Indo-Balkan hypothesis.....	190
4.7.5.	Indo-Balto-Germanic hypothesis	191
4.7.6.	Indo-Balto-Albanian hypothesis	191
4.7.7.	Conclusion	192
5.	The archaeology and genetics of Indo-Iranian prehistory	195
5.1.	Introduction.....	195
5.2.	The Indo-European homeland question	196
5.3.	The Sintashta culture as an archaeological context for Proto-Indo-Iranian.....	198
5.4.	The Abashevo culture as an archaeological context for Pre-Proto-Indo-Iranian.	201
5.5.	From Yamnaya to Abashevo and Sintashta	205
5.5.1.	Scenario 1: Eastward migration hypothesis	205
5.5.2.	Scenario 2: via-Corded Ware hypothesis.....	207

5.5.3.	Scenario 3: Bell Beaker hypothesis	209
5.6.	Integration with linguistic evidence	210
5.7.	Limitations and outlook	215
6.	Bibliography	217
6.1.	Abbreviated works	217
6.2.	List by author	218
7.	Word index.....	249
7.1.	Indo-Aryan.....	249
7.1.1.	Sanskrit (Vedic).....	249
7.1.2.	Khowar	252
7.1.3.	Pāli	252
7.1.4.	Nepāli.....	252
7.1.5.	Sinhalese	252
7.2.	Iranian	252
7.2.1.	Old Avestan	252
7.2.2.	Young Avestan	252
7.2.3.	Old Persian.....	254
7.2.4.	Middle Persian	254
7.2.5.	Parthian	255
7.2.6.	Sogdian	255
7.2.7.	Khotanese	255
7.2.8.	Khwarezmian	255
7.2.9.	Bactrian.....	256
7.2.10.	Balochi.....	256
7.2.11.	Modern Persian	256
7.2.12.	Ormuri.....	256
7.2.13.	Ossetic.....	256
7.2.14.	Parači	256
7.2.15.	Pashto.....	256
7.2.16.	Roshani	256
7.2.17.	Shughni	256
7.2.18.	Tajik (Wanji).....	257
7.2.19.	Wakhi.....	257
7.2.20.	Wanetsi	257
7.2.21.	Yaghnobi.....	257
7.2.22.	Yazghulami.....	257
7.2.23.	Yidgha.....	257
7.2.24.	Munji.....	257
7.3.	Baltic.....	257
7.3.1.	Lithuanian	257
7.3.2.	Latvian	259
7.3.3.	Old Prussian.....	261
7.4.	Slavic.....	261

7.4.1.	Old Church Slavic.....	261
7.4.2.	Russian Church Slavic	262
7.4.3.	Serbian Church Slavic.....	262
7.4.4.	Croatian Church Slavic	262
7.4.5.	Church Slavic.....	262
7.4.6.	Bulgarian.....	263
7.4.7.	Czech	263
7.4.8.	Polish	263
7.4.9.	Russian.....	264
7.4.10.	Polabian	265
7.4.11.	Serbo-Croatian	265
7.4.12.	Slovene	266
7.4.13.	Ukranian	266
7.5.	Albanian.....	266
7.6.	Anatolian.....	267
7.6.1.	Hittite	267
7.6.2.	Cuneiform Luwian	267
7.6.3.	Hieroglyphic Luwian	267
7.6.4.	Lycian	267
7.6.5.	Lydian.....	267
7.6.6.	Carian.....	267
7.7.	Armenian.....	267
7.8.	Celtic	267
7.8.1.	Gaulish.....	267
7.8.2.	Old Irish.....	267
7.8.3.	Middle Irish.....	268
7.8.4.	Old Breton	268
7.8.5.	Middle Breton	268
7.8.6.	Breton	268
7.8.7.	Middle Welsh.....	268
7.9.	Germanic.....	268
7.9.1.	Gothic	268
7.9.2.	Old High German.....	268
7.9.3.	Middle High German	268
7.9.4.	German	268
7.9.5.	Dutch.....	268
7.9.6.	Old Saxon	268
7.9.7.	Old English	268
7.9.8.	English	269
7.9.9.	Old Norse.....	269
7.9.10.	Faroese.....	269
7.9.11.	Norwegian.....	269
7.9.12.	Old Swedish.....	269

7.9.13. Swedish.....	269
7.10. Greek.....	269
7.11. Italic	270
7.11.1. Latin.....	270
7.11.2. Oscan	271
7.11.3. Umbrian	271
7.12. Phrygian	271
7.12.1. Old Phrygian.....	271
7.13. Tocharian	271
7.13.1. Tocharian A	271
7.13.2. Tocharian B.....	271
Nederlandse samenvatting.....	272
Curriculum Vitae	272

List of tables and figures

Tables

Table 1. Criteria for classification of Indo-Slavic lexical isoglosses.	40
Table 2. Summary of archaeological cultures discussed in the chapter. EBA = Early Bronze Age, MBA = Middle Bronze Age, LBA = Late Bronze Age.	196
Table 3. Interdisciplinary compatibility of three hypotheses on Indo-Iranian origins.	214

Figures

Figure 1. The supporters of three major hypotheses on the position of Indo-Iranian discussed in Chapter 1.	9
Figure 2. Schleicher's Indo-European family tree (1861).	16
Figure 3. Pictet's divergence model (1859).	24
Figure 4. Meillet's Indo-European dialectal model (1908).	25
Figure 5. Bonfante's Indo-European dialectal model (1976/1931).	26
Figure 6. Bloomfield's Indo-European dialectal model (1935: 316).	27
Figure 7. Anttila's Indo-European dialectal model (1972: 305).	28
Figure 8. Gamkrelidze & Ivanov's Indo-European areal-genetic model (1995: 363).	32
Figure 9. Language fissure according to Ross (1997).	33
Figure 10. Lectal differentiation according to Ross (1997).	34
Figure 11. Isogloss distribution across (sub)branches.	172
Figure 12. Typology of Indo-Slavic lexical isoglosses.	174
Figure 13. Model of the prehistoric dispersal of Indo-Iranian in the via-Corded Ware scenario. Archaeological cultures are given with dates BCE. Names for the chronological stages in the development from Core Indo-European to Indo-Iranian are indicated in blue. Approximate dispersal route of Indo-Slavic and Indo-Iranian is marked with arrows.	215

List of abbreviations

General

AB	Aitareyabrāhmaṇa
ĀpŚS	Āpastambaśrautasūtra
AV	Atharvaveda (Saṃhitās)
AVParīś	Atharvavedapariśiṣṭas
BCE	before common era
BMAC	Bactria-Margiana archaeological complex
BP	before present
Br.	Brāhmaṇas
Car.	Carakasamhitā
CE	common era
Dhātup.	Dhātupāṭha
dial.	dialectal
EBA	Early Bronze Age
Ench.	Enchiridion
Ep.	Epics
EV	Elbing Vocabulary
GṛSū.	Gṛhyasūtra
intr.	intransitive
JB	Jaiminīyabrāhmaṇa
KauśS	Kauśikasūtra
Kāv.	Kāvya
KS	Kaṭhasamhitā
LBA	Late Bronze Age
Lex.	lexicographical
MBA	Middle Bronze Age
MBh.	Mahābhārata
N	Nērangestān
Ny	Niyāyiś
p.c.	personal communication
Pāṇ.	Pāṇini's Aṣṭādhyāyī
PN	personal name
PS	Paippalādasamhitā
Ragh.	Raghuvamśa
Rājat.	Rājatarāṅginī
RV	Ṛgveda (Saṃhitā)
S	supplement
ŚB	Śatapathabrāhmaṇa
ŚS	Śaunakasamhitā
Sū.	Sūtras

Suśr.	Suśrutasaṃhitā
tr.	transitive
TS	Taittirīyasamhitā
VarBṛS	Varāhamihirabṛhatsamhitā
VS	Vājasaneyisamhitā
Yt	Yašt
YV	Yajurveda (Samhitās)

Symbols

*	reconstructed form
**	incorrectly reconstructed form
Ø	zero (morpheme)
◦	attested in a compound, part of word missing
<	regular sound change from
>	regular sound change to
<<	irregular/analogical change, semantic change, borrowing from
>>	irregular/analogical change, semantic change, borrowing to
/ /	phonological transcription
[]	phonetic transcription
< >	orthographic transcription
C	any consonant
V	any vowel
N	any nasal
H	any laryngeal
R	any resonant

Languages

Alb.	Albanian	Gaul.	Gaulish
Arm.	Armenian	Ger.	German
Av.	Avestan	Goth.	Gothic
Bactr.	Bactrian	Gr.	Ancient Greek
Bal.	Balochi	Hitt.	Hittite
Bret.	Breton	HLuw.	Hieroglyphic Luwian
Bulg.	Bulgarian	I.	Iron (Ossetic)
Car.	Carian	Ilr.	Indo-Iranian
CLuw.	Cuneiform Luwian	Ion.	Ionian
CroatCS.	Croatian Church Slavic	Khot.	Khotanese
CS.	Church Slavic	Khow.	Khowar
Cz.	Czech	Khwar.	Khwarezmian
D.	Digoron (Ossetic)	Lat.	Latin
Dor.	Doric	Latv.	Latvian
Du.	Dutch	Lesb.	Lesbian
Eng.	English	Lith.	Lithuanian
Far.	Faroese	Luw.	Luwian

Lyc.....	Lycian	Pol.....	Polish
Lyd.....	Lydian	Psht.....	Pashto
Man.....	Manichaean	PSl.....	Proto-Slavic
MBret.....	Middle Breton	Rosh.....	Roshani
MHG.....	Middle High German	RuCS.....	Russian Church Slavic
MiP.....	Middle Persian	SCr.....	Serbo-Croatian
MIr.....	Middle Irish	SerbCS.....	Serbian Church Slavic
MoP.....	Modern Persian	Shu.....	Shughni
Mu.....	Munji	Si.....	Sinhalese
MWelsh.....	Middle Welsh	Skt.....	Sanskrit
Nep.....	Nepāli	Sln.....	Slovene
Novg.....	Novgorodian	Sogd.....	Sogdian
Nw.....	Norwegian	Sogd. B.....	Buddhist Sogdian
OAv.....	Old Avestan	Sogd. C.....	Christian Sogdian
OBret.....	Old Breton	Sogd. M.....	Manichaean Sogdian
OCS.....	Old Church Slavic	Sogd. S.....	Sogdian, Sogdian script
OCz.....	Old Czech	Sw.....	Swedish
OE.....	Old English	Taj. Wj.....	Tajik (Wanji)
OHG.....	Old High German	ToA.....	Tocharian A
OIr.....	Old Irish	ToB.....	Tocharian B
OKhot.....	Old Khotanese	Ukr.....	Ukrainian
OLith.....	Old Lithuanian	Umbr.....	Umbrian
ON.....	Old Norse	Wakh.....	Wakhi
OP.....	Old Persian	Wan.....	Wanetsi
OPhyrg.....	Old Phrygian	Yagh.....	Yagnobi
OPol.....	Old Polish	YAv.....	Young Avestan
OPr.....	Old Prussian	Yazg.....	Yazghulami
Orm.....	Ormuri	Yi.....	Yidgha
ORu.....	Old Russian	Žem.....	Žemaitian (Lithuanian)
OS.....	Old Saxon		
Osc.....	Oscan		
Oss.....	Ossetic		
OSw.....	Old Swedish		
Pā.....	Pāli		
Pahl.....	Pahlavi		
Pal.....	Palaic		
Par.....	Parači		
Parth.....	Parthian		
PBSl.....	Proto-Balto-Slavic		
PCelt.....	Proto-Celtic		
PGm.....	Proto-Germanic		
PGr.....	Proto-Greek		
Phryg.....	Phrygian		
PIE.....	Proto-Indo-European		
PIIr.....	Proto-Indo-Iranian		
PIr.....	Proto-Iranian		
Plb.....	Polabian		