## Contents

	List of contributors	12
	Preface	X
	Prologue	]
	General introduction: Animal minds, human minds	
	Kathleen R. Gibson	3
	A history of speculation on the relation between tools and	
	language Gordon W. Hewes	20
	Part I Word, sign and gesture	33
	Introduction: Relations between visual–gestural and vocal–	
	auditory modalities of communication Tim Ingold	35
1	Human gesture Adam Kendon	43
2	When does gesture become language? A study of gesture used	
	as a primary communication system by deaf children of	
	hearing parents Susan Goldin-Meadow	6.
3	The emergence of language E. Sue Savage-Rumbaugh and	
	Duane M. Rumbaugh	86
4	A comparative approach to language parallels	
	Charles T. Snowdon	109
	Part II Technological skills and associated social behaviors of	
	the non-human primates	129
	Introduction: Generative interplay between technical	
	capacities, social relations, imitation and cognition	
	Kathleen R. Gibson	13
5	Capuchin monkeys: A window into tool use in apes and	
	humans Elisabetta Visalberghi	138
6	The intelligent use of tools: Twenty propositions	
	William C. McGrew	15

7	Aspects of transmission of tool-use in wild chimpanzees	
	Christophe Boesch	171
	Part III Connecting up the brain	185
	Introduction: Overlapping neural control of language, gesture	
	and tool-use Kathleen R. Gibson	187
8	Disorders of language and tool use: Neurological and	
	cognitive links Daniel Kempler	193
9	Sex differences in visuospatial skills: Implications for hominid	
	evolution Dean Falk	216
10	The unitary hypothesis: A common neural circuitry for novel	
	manipulations, language, plan-ahead, and throwing?	
	William H. Calvin	230
11	Tool use, language and social behavior in relationship to	
	information processing capacities Kathleen R. Gibson	251
	Part IV Perspectives on development	271
	Introduction: Beyond neoteny and recapitulation: New	
	approaches to the evolution of cognitive development	
	Kathleen R. Gibson	273
12	Human language development and object manipulation: Their	
	relation in ontogeny and its possible relevance for	
	phylogenetic questions Andrew Lock	279
	Comparative cognitive development Jonas Langer	300
14	Higher intelligence, propositional language, and culture as	
	adaptations for planning Sue T. Parker and Constance	
	Milbrath	314
	Part V Archaeological and anthropological perspectives	335
	Introduction: Tools, techniques and technology Tim Ingold	337
15	Early stone industries and inferences regarding language and	
	cognition Nicholas Toth and Kathy Schick	346
16	Tools and language in human evolution Iain Davidson and	242
	William Noble	363
	Layers of thinking in tool behavior Thomas Wynn	389
18	The complementation theory of language and tool use	405
• •	Peter C. Reynolds	407
19	Tool-use, sociality and intelligence Tim Ingold	429
	Epilogue  Total de la constitución de la constituci	447
	Technology, language, intelligence: A reconsideration of basic	4.40
	concepts Tim Ingold	449
	Index	473