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A GUIDE TO GENDER AND CLASSIFIERS

ALEXANDRA Y. AIKHENVALD



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Preface and acknowledgements

Gender and classifiers, as grammatical means for the linguistic categorization of noun referents, are among the most exciting and cross-linguistically daunting phenomena. My fascination with gender and classifiers was first sparked by Amazonian languages, especially Tariana and Baniwa of Içana. Their speakers adopted me as a family member, and taught me the wonders of their languages which never cease to amaze. The world of shape-based genders was revealed to me by speakers of Manambu, from the East Sepik Province of Papua New Guinea, especially the late Pauline Laki, my dearest friend and teacher. Speaking and learning languages with gender and/or with classifiers has been instructive, and fun, throughout my personal and academic life.

This book is a logical progression from my earlier work, especially my monograph *Classifiers: A Typology of Noun Categorization Devices* (OUP, 2003), expanded and improved, to incorporate new facts and new ideas. This study can be used both as a sourcebook for further typological investigations, and a textbook. The discussion is couched within basic linguistic theory (rather than any of the time-line formalisms). All generalizations are based on reliable language facts. I have endeavoured to analyse the facts and present the discussion in the clearest possible way—the complexity of the systems speaks for itself. This book is an integrated whole rather than a selection of separate essays. Ideally, it should be read as a coherent text, from beginning to end. To understand what follows, one needs to digest what precedes. Some chapters are relatively self-contained. None of the chapters will be understood without reading Chapter 1 which lays the conceptual and terminological foundations for the whole endeavour.

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Abbreviations and conventions

I	gender I in Dyirbal	ART	article
II	gender II in Dyirbal	ART.DEF	definite article
III	gender III in Dyirbal	ART.INDEF	indefinite article
IV	gender IV in Dyirbal	ASP	aspect
1, 2, 3	first, second, third person	ATTR	attributive
3.3	third person subject with third person object (in Innu)	AUG	augmented
		AUX	auxiliary
		BEN	benefactive
2sg>3sg	second person singular acting on third person singular	BENE:FUT	future benefactive
		CAUS	causative
		CJ	conjunct order verb
3.3'	third person subject with third person object (in Innu)	CL	classifier
		CL:GEN	generic classifier
		CL:HAB	classifier for habitat
3/1	third person minimal subject acting on first person minimal object (in Mayali)	CL:REP	classifier of repeater type
		CL:RES	residual classifier
3sg>3sg	third person subject acting on third person object	CLASS.TERM	class term (no abbreviation)
		CLII	noun class II (Mayali)
		CLIII	noun class III (Mayali)
		CLIV.NEUT	noun class iv neuter
		COLL.NOUN	collective noun
A	transitive subject	COM	comitative applicative
A1	animate intransitive verb	COMIT	comitative
ABS	absolutive	COMPAR	comparative
ACC	accusative	COMPL	completive, completely
ACT.FOC	action focus	CONT	continuative
ADJ	adjective	CONTnf	continuous non-feminine
Ag	agent	COP	copula
AGT.HAB.NMLZ	agentive habitual nominalization	CT	class term
		CURV	curvilinear
ANAPH	anaphoric	DC	declarative
ANIM	animate	DEC.OWNER	deceased owner
ANIM.INTR	animate intransitive	DECL	declarative
APPL.SOC.CAUS	applicative sociative causative	DEF.FEM	definite feminine
		DEF.MASC	definite masculine
APPLIC	applicative	DEIC.CL	deictic classifier
APPROX	approximate	DEL	delimitative

DEM	demonstrative	INDV	individuating marker
DEM.DIST	distal demonstrative	INDEF	indefinite person
DEM.INAN	inanimate	INFIN	infinitive
	demonstrative	INSTR	instrument
DEM.PROX	proximal	INTENS	intensifier
	demonstrative	IPn	immediate past
DEP	dependent clause		non-eyewitness
	marker	IRR	irrealis
DET:DIST	distal determiner	IRREG	irregular shape
DET.MASC	determiner masculine	L	low tone (raised letter)
DIM	diminutive	LK	linker
DIR	directional	LOC	locative
DISTR	distributive	LOC.CL	locative classifier
DOM	domesticated animal	m	masculine
DUR	durative	MASC, masc	masculine
DURnf	durative non-feminine	masc.sg	masculine singular
EGOPH	egophoric	MCL:ANIM	modifier classifier for animate referents
EMPH	emphatic		
EP	epenthetic	MCL:HUM	modifier classifier for human referents
ERG	ergative		
EXCL	exclusive	MD	modification marker
EXIST	existential	MH	mid-high tone (raised letters)
FEM	feminine	MIN	minimal
fem.sg	feminine singular	MOD	modifier
FOC	focus	MT	measure term
FUT	future	n	neuter
GEN	genitive	NCL	noun class
GEN.NOUN	generic noun	NEG	negation
GEN.PL	genitive plural	neut	neuter
GEN.POSS.CL	general possessive classifier	NEUTGENDERIV	gender IV neuter
GEND	gender	nf	non-feminine
GEND.VEG	vegetable gender	NFI	non-future indicative
GER	gerund	NFI.2SG>3SG	non-future indicative second person singular
H	high tone (raised letter)		
HON	honorific		acting on third person singular
HOR	horizontal	NFI.3PL>3SG	non-future indicative third person plural
IMPERS	impersonal		acting on third person singular
IMPF	imperfective		
IMPV	imperative		
INAN	inanimate		
INANIM.PL	inanimate plural	NFI.3SG>1SG	non-future indicative third person singular
INANIM.SG	inanimate singular		acting on first person singular
INCL	inclusive		
INCORP	incorporated form		
IND	indicative	NFUT	non-future

NM	non-masculine	PRON	pronoun
NOM	nominalization	PV	preverb
NOM.PL	nominal plural	Q	question
NON.EXT	non-extended	REAL.I	realis I
nonfem.sg	non-feminine singular	REC.PVIS	recent past visual
NONFEM.SG,		RECIP	reciprocal
nonmasc	non-masculine	REFL	reflexive
NOUN.CL	noun classifier	REL	relativizer
NOUN.CL.PL	noun class plural	REM.P.REP	remote past reported
NP	noun phrase	RES	residual
NPAST	non-past tense	S	intransitive subject
NUM.CL	numeral classifier	SFP	sentence-final particle
NUM.CL.REP	numeral classifier of repeater type	SG, sg	singular
O	object	sgf	singular feminine
OBJ	object	sgnf	singular non-feminine
OBJ.AGR	object agreement	SINO.JAP	Sino-Japanese form(s)
OBL	oblique	SUBEV	subjective evidential mode
OBV	obviative	SUBJ.IMPF	imperfective subject
OC	O-construction in Jarawara	TA	transitive animate verb
ONE.DIM	one-dimensional	TH	thematic
p	person	THREE.DIM	three-dimensional
PART	particle	TI2	type 2 transitive inanimate verb (Innu)
PASS	passive	TOP	topic
PERF	perfective	TOP.NON.A/S	topical non-subject
PL, pl	plural	TR	transitive
POSS	possessive	TRID	tridimensional
POSS.CL	possessive classifier	VBZR	verbalizer
POSSR	possessor	VEG.GENDERIII	vegetable gender (gender III) (Mayali)
PP	past perfective	VERB.CL verbal	classifier
PREF	prefix	VERB.CL.EXIST	existential verbal classifier
PRES	present	VERT	vertical
PRES.VIS	present visual	VM valency	modifier
PRES.VIS.INTER	present visual interrogative	WOODEN.OBJ	wooden object
PROG	progressive		

Conventions

Special symbols are:

- > ‘acting on,’ e.g. 3>2 ‘third person acting on second person’
- = clitic boundary

Numbers at the end of classifier forms represent tones. In examples from Mayan languages and from Pilagá, number 7 represents a glottal stop. Literal translations of classifiers are added occasionally. A full term in small caps can be used instead of an abbreviation (e.g. PAST) for ease of understanding. Translation and glossing of examples follow those in the original sources. For instance, if the quoted source on Chinese or Thai does not provide tones, the form is quoted without tones, as in the source. Language names are presented as authors of quoted sources spell them.

Classifiers are glossed by their types, e.g. NOUN.CL for noun classifier, NUM.CL for numeral classifier, VCL for verbal classifier, and so on. If a classifier occurs in multiple environments, it is glossed as CL. Classifiers and gender markers are in bold in the relevant chapters. If a classifier has different meanings, the appropriate meaning is included in the gloss. Examples, tables, diagrams, and boxes are numbered consecutively within each chapter. Each number contains the number of the chapter. For instance, the first example in Chapter 3 is numbered 3.1, the first table in Chapter 3 is referred to as Table 3.1, and the first Box in the same chapter is referred to as Box 3.1.

1

Noun categorization devices

Setting the scene

A noun may refer to a woman, a man, an animal, or an inanimate object of varied shape, size, and function, or it can have an abstract reference. Almost all languages have some grammatical means for linguistic categorization of nouns. These vary in their expression and the contexts in which they occur. Small gender and noun class systems in Indo-European and African languages and the languages of the Americas are expressed by means of agreement on adjectives, on demonstratives, and also on nouns themselves. Large sets of numeral classifiers in Southeast Asian languages are *de rigueur* with number words and quantifying expressions. Further devices include noun classifiers, classifiers in possessive constructions, verbal classifiers on verbs, and two rare types—locative classifiers and deictic classifiers. One language can have several kinds of noun categorization devices which classify referents in various ways. And one type of device can develop into another throughout the history of a language.

All noun categorization devices are based on universal aspects of meaning—humanness, animacy, sex, shape, form, consistency, orientation in space, and function. They may reflect the value of the object and speakers' attitude to it. Their meanings and usage mirror socio-cultural parameters and beliefs, and may change if the society changes. Noun categorization devices offer a window into how speakers conceptualize the world they live in.

1.1 Introducing gender and classifiers in their varied guises

Noun categorization devices are morphemes which occur under specifiable conditions and denote salient characteristics of the entity to which the noun refers. The most common device is linguistic gender.

Many languages, and especially familiar European ones, have genders—grammatical classes of nouns realized through agreement outside the noun itself. One class of nouns is marked in one way, another class in another

way. The class which includes most words referring to females is called ‘feminine’, and the class with most words referring to males is ‘masculine’. Gender classes which contain inanimate referents extend beyond sex, or ‘natural gender’, and can be semantically transparent to a greater or a lesser extent. Examples 1.1 and 1.2 illustrate the two genders in Portuguese, marked on the noun itself, the definite article, and the adjective. The gender markers are in bold. The noun *menino* ‘boy’ belongs to the masculine gender—see 1.1.

1.1	o	menin-o	bonit-o	Portuguese
	ART.DEF:masc.sg	child-masc.sg	beautiful-masc.sg	
	‘the beautiful boy’			

The noun *menina* ‘girl’ belongs to the feminine gender—see 1.2.

1.2	a	menin-a	bonit-a	Portuguese
	ART.DEF:fem.sg	child-fem.sg	beautiful-fem.sg	
	‘the beautiful girl’			

The choice of genders usually may involve further core semantic properties such as animacy, humanness, and also shape and size. Gender tends to be marked on an adjective, an article, or a verb. It can also be overtly marked on the noun itself. As a rule, every noun in a language belongs to a gender. The number of genders varies, from two in French, Spanish, Portuguese, and Hebrew, three as in Latin, German, and Russian, to ten or more in languages of Amazonia and Bantu languages in Africa (where they are conventionally called ‘noun classes’).

Classifiers of several distinct types are a further means for categorizing noun referents (or nouns, for short). In many languages of the world, to count an object, a number word, and sometimes another quantifying expression will require a special morpheme—a NUMERAL CLASSIFIER. A numeral classifier will be chosen depending on what the noun refers to—a human, an animate being, or something of a particular shape, form, consistency, or function. All classifiers are in bold throughout this chapter.

Examples 1.3–1.5 illustrate numeral classifiers in Indonesian (Sneddon 1996: 134–8). In 1.3, the noun *guru* ‘teacher’ refers to a human. The classifier *orang* for human beings has to be included in the counting expression which contains the number word *dua* ‘two’.

- 1.3 dua **orang** guru *Indonesian*
 two NUM.CL:HUMAN teacher
 ‘two teachers’

In 1.4, the noun *ikan* ‘fish’ refers to an animate non-human entity. The classifier *ekor* for non-human animates has to be used.

- 1.4 dua **ekor** ikan *Indonesian*
 two NUM.CL:ANIMATE fish
 ‘two fishes’

In 1.5, the noun *pena* ‘pen’ refers to an inanimate object. The classifier *buah* for inanimates is used here.

- 1.5 dua **buah** pena *Indonesian*
 two NUM.CL:INANIMATE pen
 ‘two pens’

Numeral classifiers in Indonesian are independent words. In some languages, they are suffixes or prefixes, or are fused with the number word. Numeral classifiers are a prominent feature of languages of Southeast Asia, Japanese and Korean, and numerous languages of Oceania, North and South America, and India.

A NOUN CLASSIFIER will be used just with the noun itself, no matter whether the noun phrase contains any other elements or not. Noun classifiers categorize the referent in terms of its nature, or a generic kind it belongs to. In Yidiñ, an Australian language, a man will be referred to as ‘a person man’—see 1.6 (Dixon 1982: 192, 2015: 44–60).

- 1.6 **bama** wagu:ja *Yidiñ*
 NOUN.CL:PERSON man
 ‘a man’

Noun classifiers tend to form a closed class of independent grammatical and phonological words, or they may be affixed to a noun. They are a feature of many Australian, a few Mayan, Western Austronesian, Tibeto-Burman, and Amazonian languages.

Table 1.1 Types of noun categorization devices: A summary

Noun categorization device	Locus of coding	Examples in Chapter 1	Where discussed
GENDER (OR NOUN CLASS)	modifiers in noun phrase; predicate; noun itself	1.1–1.2	Chapters 2–4
NUMERAL CLASSIFIERS	number words and also quantifiers	1.3–1.5	Chapter 5
NOUN CLASSIFIERS	noun phrase	1.6	Chapter 6
CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS	possessive constructions	1.7–1.8	Chapter 7
VERBAL CLASSIFIERS	verbs as predicates	1.9	Chapter 8
LOCATIVE CLASSIFIERS	adpositions; locational expressions	1.10	Chapter 9
DEICTIC CLASSIFIERS	demonstratives	1.11–1.12	Chapter 9

and separate sets of numeral, verbal, and locative classifiers, in addition to classifiers in possessive constructions.

Classifiers illustrated in examples 1.3–1.12 (see Table 1.1) represent CORE CONTEXTS of noun categorization. The same, or almost the same, set of classifiers can occur in several environments—with number words, with nouns themselves, and also with verbs and in possessive constructions. Languages with classifiers in MULTIPLE CONTEXTS—called ‘MULTIPLE CLASSIFIER’ languages—span the Americas, New Guinea, and parts of Southeast Asia. The existence of multiple classifier languages points towards unity of different classifier types which can be seen as facets of one phenomenon of noun categorization. In their meanings and their behaviour, classifiers in multiple contexts share some similarities with classifiers in each of the core contexts, and also have their own special features.

If a language has classifiers, it will have a CLASSIFIER CONSTRUCTION, that is, a specialized grammatical structure which will require the use of a noun categorization marker. For instance, a numeral classifier construction will consist of a noun and a number word, with a slot reserved for a numeral classifier. Each categorization device constitutes a grammatical system, and there is a paradigmatic relationship between classifiers in a dedicated slot. Each device is associated with the context in which it is required—noun phrases, or verbs.

Gender and classifiers of various types share their roles in discourse, and are never semantically or functionally redundant. Gender and classifiers refer anaphorically to a previously mentioned entity and serve as referent-tracking devices. They change as the society changes, reflecting the ways in which language and social environment are integrated with one another.

All noun categorization devices provide a unique insight into how people classify the world through their language in terms of universal semantic parameters involving humanness, animacy, sex, shape, form, consistency, and functional properties. In one language, a human will be classified in terms of orientation, as ‘vertical’, in another as male or female, and in another one as simply animate, or ‘rational’. Each type of noun categorization device has its preferred semantic parameters and reflects salient features of a referent in its different aspects. One type can develop from another: for instance, noun classifiers may give rise to gender systems. The meanings, and the uses, of nominal categorization offer unique insights into the workings of the human mind and human cognitive capacities, and also the social and cultural environment, or the ecology, of each language and its speakers.

1.2 The focus and the framework

The focus of our study is a comprehensive and empirically adequate typological analysis of the gamut of noun categorization devices, covering

- their forms, meanings, communicative and discourse functions, social underpinnings and underlying cognitive patterns,
- pathways of their development in language history and language contact,
- their grammaticalization,
- their loss in language obsolescence, and
- their role in language acquisition and dissolution.

To ensure the empirical adequacy and offer substantiated generalizations, our work is inductively based. In [Bloomfield’s \(1933: 20\)](#) classic adage,

‘the only useful generalizations about language are inductive generalizations. Features which we think ought to be universal may be absent from the very next language that becomes accessible ... The fact that some features are, at any rate, widespread, is worthy of notice and calls for an explanation; when we have adequate data about many languages, we shall have to

return to the problem of general grammar and to explain these similarities and divergences, but this study, when it comes, will not be speculative but inductive.’

To make sure we get a comprehensive view of the existing systems and achieve valid cross-linguistic generalizations and hypotheses, I endeavour to take account of as many linguistic systems as possible, with special attention to highly diverse minority languages of the Americas, New Guinea, the Tibeto-Burman region, and other areas. The investigation here is based on careful examination of about 2,550 grammars and other materials of spoken languages from various language families, linguistic areas, and regions of the world, in agreement with the Integrated Source-based approach following the principles of empirically-informed linguistic typology (see [Aikhenvald and Dixon 2017](#), [Aikhenvald 2021e](#)). I have made it my task to look at every language on which I could find comprehensive information. The analysis is cast in terms of Basic Linguistic Theory—a cumulative cross-linguistically informed framework of linguistic analysis which employs the fundamental concepts underlying all lasting work in language analysis, description, and change, and where justification and argumentation has to be given for every piece of analysis.¹

Our typology of noun categorization devices is primarily based on the grammatical loci, or environments, where they occur. We start with a typology of gender and classifiers and their dedicated constructions, and then proceed to uncover their meanings, functions, histories, and evolution. Each type of noun categorization is well delimited and can be viewed, synchronically, as a discrete concept and a discrete entity. In some cases, difficulties in clear delineation of classifier types—in addition to the fact that some devices historically develop into others—point towards a more fluid view involving analytic problems and alternative solutions.

A referent of a noun can be categorized by means other than by gender or classifiers. These means include different number forms for nouns with different semantics, assigning the nouns to different declension classes, or using different sets of cases. An analysis of these strategies (sometimes also called ‘noun classification’) lies beyond our purview. However, they may reflect

¹ This book is a logical progression from my previous work on noun categorization (especially [Aikhenvald 2003a, 2017, and 2019a](#)). Studies based on sampling methodology include [Gil \(2013\)](#), [Haspelmath et al. \(2013\)](#), and [Passer \(2016\)](#) (see the analysis of sampling [Aikhenvald and Dixon 2017: 27](#), and [Dixon 2012: 461–2](#)). These will be addressed in the individual chapters as appropriate. See [Dixon \(2010a–b, 2012\)](#) and [Aikhenvald \(2015b\)](#) for the principles of Basic Linguistic Theory.

comparable semantic parameters. Historically, they may go back to noun categorization systems, or give rise to them (further examples are in Aikhenvald 2003a: 436–41, and Chapter 15).

The following clusters of parameters form the basis of our analysis of the empirically established morphosyntactic types of noun categorization devices (elaborating on the approach in Aikhenvald (2003a, 2017, and 2019a).

- (A) MORPHOSYNTACTIC LOCUS OF CODING. A noun categorization device can be realized in different morphosyntactic loci, including some, or all, of the modifiers to a noun, or the predicate (see also Table 1.1).
- (B) DOMAIN OF CATEGORIZATION. Noun categorization devices can refer to nouns within noun phrases of different structures (head-modifier, possessive noun phrases, or adpositional noun phrases, or within a verb phrase). They can also refer to different constituents (e.g. possessed noun or possessor; A, S, O function or an oblique argument, and so on). Thus, in 1.9 the O constituent, ‘coconut’, is categorized by the morpheme *put* ‘CLASSIFIER: ROUND’, and constitutes the domain of this classifier morpheme, a verbal classifier.
- (C) PRINCIPLES OF CHOICE, OR ‘ASSIGNMENT’, OF A NOUN CATEGORIZATION DEVICE. The choice of a noun categorization device always involves semantic properties of the referent of the noun it refers to. Gender assignment may sometimes involve phonological and morphological make-up of the noun itself.
- (D) SCOPE AND APPLICABILITY OF A NOUN CATEGORIZATION DEVICE. Noun categorization devices vary in their scope—or how all-encompassing they are. Every noun has to be assigned to a gender. In contrast, classifiers may be limited to just some groups of noun referents.
- (E) SURFACE REALIZATION. Gender is always realized through an affix or a clitic. Classifiers of various types vary in whether they are affixes, clitics, or separate words.
- (F) AGREEMENT. In contrast to classifiers, gender involves agreement—that is, a requirement in formal covariance between grammatical meanings and markings of grammatical morphemes (cf. Steele 1978: 610 and §3.1).
- (G) MARKEDNESS RELATIONS. Some noun categorization devices will tend to have, a functionally and/or formally unmarked term, while others tend not to (see §4.2).

- (H) INTERACTIONS WITH OTHER GRAMMATICAL CATEGORIES. Various types of noun categorization interact with other nominal and verbal grammatical categories in diverse ways (including number, case, definiteness, and tense).
- (I) COEXISTENCE OF DIFFERENT SUBTYPES OF ONE NOUN CATEGORIZATION DEVICE IN ONE LANGUAGE. Some noun categorization devices may have several distinct subtypes coexisting within one language: one set of genders, or noun classes, may be used in one environment, and a somewhat different set in another. Systems of this kind are called 'split' systems.
- (J) COEXISTENCE OF SEVERAL KINDS OF NOUN CATEGORIZATION DEVICES IN ONE LANGUAGE. A language may combine gender and one or more classifier types, or several types of classifier types (for instance, numeral and possessive, or numeral and verbal classifiers). Each of these will differ in terms of their locus, domain, applicability, meanings, and functions.
- (K) MULTIPLE CONTEXTS FOR NOUN CATEGORIZATION DEVICES. The same set of classifiers may occur in several cross-linguistically established morphosyntactic contexts (§1.1), but never in all of these.
- (L) SEMANTIC ORGANIZATION AND FUNCTIONS OF THE SYSTEMS. Noun categorization devices differ in terms of preferred semantic parameters, the degree of semantic transparency, and also in the syntactic and discourse-pragmatic functions they perform, and how they reflect socio-cultural factors and concomitant changes.
- (M) HISTORICAL DEVELOPMENT. Distinct types of noun categorization devices differ in their etymological sources, the ways they develop, and how they fall out of use throughout language history, under the impact of language contact and in language obsolescence.
- (N) LANGUAGE ACQUISITION AND DISSOLUTION. Noun categorization devices show similarities and differences in how they are acquired by children, and what happens to them in language dissolution involving aphasia and brain damage.

Gender clearly stands apart from classifiers in (C) its principles of assignment, (D) its scope, (E) its surface realization, (F) its role in agreement, (G) markedness relations within it, and (H) grammatical categories it interacts with and the workings of these interactions. These features justify treating gender separately from classifiers in the contexts illustrated in §1.1. What unites them all

are (L) their range of meanings and functions, (M) their historical development, and also (N) their fate in language acquisition and loss. These clusters of parameters are addressed in each chapter.

1.3 The concepts and the terms

Studies of noun categorization devices—gender and different types of classifiers—have been the focus of linguistics for a number of decades. The past few years have seen new data, new languages, and new systems of gender and classifiers recognized and analysed. The time is now appropriate to systematically take stock of noun categorization devices worldwide, within a broader context of human categorization and the semantics of grammar.

1.3.1 The concepts: A brief view

Noun categorization devices have been the focus of studies by individual scholars and typologists for quite a long time.² Each kind of noun categorization has its own history. GENDER—both the notion and the term—is the oldest of all. The term ‘gender’ was first used in the fifth century BC by the Greek philosopher Protagoras, who divided Greek nouns into ‘feminine’, ‘masculine’, and ‘inanimate’ (nowadays called ‘neuter’) (we return to this in §2.1).

An early overview of noun categorization devices, with special attention to Indo-Germanic languages, goes back to Royen (1929). Similarities in functions and historical development of various noun categorization devices—from Bantu noun classes to noun classifiers, numeral, and verbal classifiers in Anindilyakwa, an Australian language—were pointed out by Worsley (1954).³ Insightful scholars (such as Brown 1981, in his investigation of Waris) noticed similarities across the spectrum of noun categorization devices, laying the foundations for a broader typology.

The past decades have seen a number of proposals for a semantic and grammatical typology of noun categorization, from closed grammaticalized

² See an overview in Aikhenvald (2003a), a historical investigation in Kilarski (2013), and a bibliography in Aikhenvald (2015a); see also the discussion in Aikhenvald (2004, 2016, 2017, 2019a, 2021a-c, and forthcoming).

³ Further comparison between noun classes and classifiers across Australia are in Dixon (2002); secondary studies include Singer (2016) and Skilton (2023).

agreement systems of gender and noun classes, to large sets of numeral classifiers and classifiers of other kinds. Dixon (1982, 1986) was the first to put forward a suggestion for differentiating gender (and agreement noun classes) on the one hand, and classifiers of two kinds (numeral classifiers and noun classifiers) on the other, in terms of the size of inventory, scope over the whole range of lexicon, and the marking. We will see, throughout this book, that gender and agreement noun classes indeed stand apart from classifiers as noun categorization devices. However, the intrinsic unity of these phenomena is corroborated by their functions, meanings, historical development (including from one into the other), and shared expression. Craig (1992) and Grinevald (2000) offer partial typologies of some classifier types based on their morphosyntactic contexts (excluding gender and some types of verbal classifiers). Allan (1977) is a brief snapshot of some classifier types (see Aikhenvald forthcoming for further details, and the discussion in individual chapters of this book).

A number of typological tendencies established in previous work remain valid. Dixon (1982, 1986) was the first to have explicitly stated a correlation between language type and noun categorization devices—that classifiers tend to be a property of isolating languages, while noun classes tend to be present in fusional and agglutinating languages, showing how one type (noun classifiers) can develop into another (noun classes). As we will see throughout this study, this is only a tendency, as a language of any morphological type may have classifiers. Having classifiers is not a defining feature of any kind of language.

A few general statements made about classifiers have recently been shown to be limited. Some of the previously accepted universals and general tendencies do not, in fact, hold. Greenberg's (1972) claim that languages with numeral classifiers do not have obligatory number distinction does not hold water for many languages (see §5.8). Dixon (1982: 220) suggested that languages could not have classifiers and gender as separate categories. Exceptions to this have been highlighted in recent studies. Investigations of South American and Papuan languages have shown that classifiers and genders do co-occur in one language (see also Aikhenvald 2003a: 185–96, 2019a–b and references there). Some languages have two distinct systems of gender (or agreement noun classes) in different environments, along the lines of classic work by Heine (1982) who identified distinct systems pronominal and nominal genders for many languages of Africa, and similar phenomena in many Amazonian languages (Aikhenvald 2012a: 280–6, and §4.1.3, §4.1.4).

A number of features set gender apart from classifiers in all their guises. Some of these were mentioned in §1.2. The dichotomy of agreement gender or noun class as, in [Dixon's \(1982: 105–6\)](#) words, an ‘obligatory grammatical system where each noun chooses one from a small number of possibilities’ on the one hand, and classifiers which may not cover every noun in the language and usually constitute a larger set, appears to be a promising working hypothesis. This underlies our study of the phenomenon of noun categorization, unified by similar meanings and functions, and patterns of historical evolution between gender and classifiers of different kinds.

In spite of considerable work already in place, a new integrated typological analysis is needed to account for all the types of noun categorization devices and the new language data which have appeared on the linguistic scene during last two decades. This is what is attempted here.

1.3.2 The terms

The terminology followed for each classifier type follows the established consensus supported by the rationale of cross-linguistic analysis. Each kind of noun categorization has its own story. The ways linguists of different traditions and trends use different terms, such as GENDER, NOUN CLASS, and CLASSIFIER, may at times be overwhelming.

The terms GENDER and NOUN CLASS are sometimes used interchangeably (a fuller account of this is in §2.1 and Box 2.1 on p. 28). In the Bantuist tradition, the term ‘noun class’ is used to refer to a set of singular and corresponding plural forms of a noun, and the agreement markers they trigger on modifiers and on the predicate, while the pairs of singular and plural markers are referred to as ‘genders’, or ‘gender pairs’. For example, Singular Noun Class 1 forms one ‘gender’ with its plural counterpart, Plural Noun Class 2 (see, for instance, Table 2.2 in Chapter 2). The term GENDER has also been used in a quite different way in the Athabaskan linguistic tradition where this term applies to classifiers on verbs which mark agreement with intransitive subject or transitive object, and characterize the referent noun in terms of shape and form ([Thompson 1993](#), and especially [Poser 2005](#)).⁴

⁴ In the Athabaskan linguistic tradition, the term ‘classifier’ refers to markers of voice and change of transitivity.

The term and the notion of NUMERAL CLASSIFIERS are pretty much well established, especially in Southeast Asian and East Asian languages (see, for instance, Adams 1989 and Downing 1996). Rarely used terms include numerical classifiers, numeratives, and ‘counting words’.

NOUN CLASSIFIERS are a relatively recent arrival in the field of typology of noun categorization. The concept of a generic classifier accompanying a noun was first articulated by Dixon (1968: 115–16), in his comparison between Djabugay, a language with noun classifiers, and Dyirbal, a language with agreement gender. A comprehensive discussion was first published in his grammatical analysis of Yidiñ (Dixon 1977), followed by Dixon (1982) (with up-to-date reassessments in 2002, and then 2015). The term ‘noun classifier’ was established among Australianists in the 1970s—this is evidenced by its use in grammars, such as Walsh’s (1976: 141–8) comprehensive description of Murrinhpatha (reprinted in 2012) (also discussed in further general studies including Harvey 1997, Reid 1997, and especially Sands 1995). Only later did the term ‘noun classifier’ make its way into the studies of Q’anjob’alan Mayan languages (e.g. Craig 1986a-b, Zavala 1992, 2000), other languages of Meso-America (including de León 1987), and some Amazonian languages (Derbyshire and Payne 1990).

Importantly, noun categorization devices are a means of categorizing nominal referents, or referents of nouns. The term ‘classifier’ refers to various types of noun categorization devices. Consequently, any classifier can be referred to as a NOMINAL CLASSIFIER. The term ‘NOUN CLASSIFIER’ refers to just one subtype of NOMINAL CLASSIFIER, used with the noun itself within a noun phrase (as we saw in 1.6, for Yidiñ).

Classifiers in POSSESSIVE CONSTRUCTIONS in Oceanic languages were first recognized by Codrington (1885). The credit for the first systematic study of relational classifiers and their differences from numeral classifiers in Oceanic languages goes to Lichtenberk (1983a); among further studies one must mention Harrison (1976), for Mokilese, Dixon (1988), for Boumaa Fijian, and Reh (1981) and Keating (1997), for Pohnpeian. Seiler (1983) provided an insightful analysis of noun categorization in possessive constructions, contrasting various kinds of these. Classifiers in possessive constructions were recognized for Uto-Aztecan and Yuman languages (see, for instance, Langacker 1977: 90–1), and also described for Meso-American languages (e.g. Suárez 1983: 89). They are also referred to as just ‘classifiers’, or ‘classifiers in possessive constructions’, or ‘classificatory nouns’.

The term ‘VERBAL CLASSIFIER’ has been consistently used to refer to classifiers on verbs which categorize arguments and obliques starting from the 1970s

(see also [Kilarski 2013](#): 40ff). The term ‘CLASSIFICATORY VERB’ with reference to different verb stems—whose choice correlates with animacy, shape, consistency, and function of an intransitive subject and a transitive object—has a long history in Athabaskan and Iroquoian studies (e.g. [Hojjer 1945](#), [Krauss 1968](#), [Rice and de Reuse 2017](#), and [Mithun 1999](#); see §8.1.3). Verbal classifiers in some languages come from incorporated nouns, oftentimes with generic semantics. This is the case in many Australian languages (see, e.g., [Dixon 2002](#): 423–9, 449–54, and §8.1.2).

A recurrent link and an etymological connection between verbal classifiers and incorporated nouns has led some to call ‘verbal classifiers’ as ‘verb-incorporated classifiers’. This term is of limited applicability, and should be used with caution. FIRST, verbal classifiers which categorize a core argument or an oblique via a morpheme in a verb are often distinct from noun incorporation, as we will see in §8.3. And SECONDLY, verbal classifiers may come from sources other than nouns and have nothing to do with noun incorporation. In a number of languages, verbal classifiers come from reinterpreted components of serial verb construction—this is the case in Waris (illustrated in 1.9 in §1.1).

The term ‘verbal classifier’ has been used in further ways, without reference to classifying nouns. Some Australianists (including [Rumsey 1982](#)) use the term ‘verbal classifier’ to refer to a closed class of inflected verbs which typically carry grammatical marking, and ‘classify’ the lexical verb, from an open class, by delimiting its aspect or scope (e.g. ‘do something on the surface’, ‘do something with hands’, ‘do moving up’; see a summary in [Dixon 2002](#): 183–7). The ways in which these verbs categorize actions can be compared to how generic noun classifiers categorize nouns. That is, a simple, or ‘classifier’, verb defines the generic scope of action, and the main verb specifies it. Similarly, a noun classifier indicates general reference (e.g. ‘person’, for people, or ‘animal’, for animates) and the specific noun following it further specifies this reference. Potential ‘noun classifying’ functions of simple verbs in Australian languages is an issue which requires further research.

The term ‘verbal classifier’ is used in yet another way by some specialists in the languages of South and Southeast Asia. In her pioneering study of classifiers in Thai, [Haas \(1942](#): 205) called ‘words indicating how many times an event takes place’ verbal classifiers; i.e. in a sentence like ‘he ran twice’, ‘twice’ will be called a ‘verbal’ classifier. In contrast to verbal classifiers on verbs which categorize nouns, event counters categorize actions (as captured in the pioneering study of Jacaltec by [Day 1973](#)). In some languages, a subset of numeral classifiers can be used to count events, or actions (see the discussion in [Luo](#)

2022 and Jarkey and Komatsu 2019: 256–7; however, equating verbal classifiers and action counters, as done by Gerner 2015, is misleading). Interactions between verbal action markers and numeral classifiers are addressed in §5.9.

DEICTIC classifiers as a special type were first recognized in the pioneering work by Rankin (1977) (revised in Rankin 2004), and Klein (1979), followed by Vidal (1997) and Ceria and Sandalo (1995), and Barron and Serzisko (1982). LOCATIVE classifiers, a rare type found in a limited number of South American languages, was elaborated upon in Aikhenvald and Green (2011).

The first systematic attempt at an analysis of CLASSIFIERS IN MULTIPLE ENVIRONMENTS, or MULTIPLE CLASSIFIER systems—whereby the same or almost the same set of morphemes is used in several classifier environments—was made in Aikhenvald (2003a: 204–41). This is where the term, now in use by many grammarians, was introduced. Systems of this kind were briefly mentioned by Dixon (1982) and also Lichtenberk (1983a).

1.4 How this book is organized

The focus of this book is an up-to-date analysis of noun categorization devices across the world, from small gender systems to extensive systems of classifiers of several types. The book is divided into three parts.

Part I focuses on GENDER (and noun classes)—noun categorization devices realized outside the noun itself within a head-modifier noun phrase and sometimes outside it (on the predicate, or adverbs). Chapter 2, ‘Gender: Meanings and choices’, deals with gender assignment. Chapter 3, ‘The expression of gender’, addresses principles of gender agreement and the formal expression of gender. In Chapter 4, ‘Gender in its further guises’, we look at different gender subsystems within one language, the issue of markedness in gender systems, and correlations between gender and other grammatical categories.

Part II consists of seven chapters, dealing in turn with classifiers of the types illustrated in §1.1. Chapter 5, ‘Numeral classifiers’, addresses classifiers used with number words and sometimes also quantifiers. There is special focus on the division between sortal numeral classifiers which categorize the entity in terms of its intrinsic properties—including animacy, humanness, shape, form, and consistency—and mensural classifiers which categorize the entity in terms of arrangements in which it occurs—piles, bunches, groups, and so on. Numeral classifiers of mensural type have to be distinguished from measure terms. Further topics include the order of components in numeral classifier constructions, the interactions between numeral classifiers and the value

of number words, and the coexistence of numeral classifiers and obligatory number on nouns.

Noun classifiers associated with the noun itself, and independent of any other element in a noun phrase or a clause, are the topic of Chapter 6. Noun classifiers have to be distinguished from ad hoc generic-specific combinations.

Chapter 7, ‘Classifiers in possessive constructions’, shows how classifier morphemes may reflect the relationship between the possessor and the possessee and the function of the possessee. A classifier in a possessive construction can also categorize the possessee (but hardly ever the possessor). The choice of a classifier in a possessive construction may depend on the type of possession—whether obligatory or not.

Chapter 8, ‘Verbal classifiers’, addresses classificatory morphemes which occur on verbs and categorize a core argument (typically, a transitive object or an intransitive subject) and sometimes also an oblique, all within a clause. Verbal classifiers are always bound morphemes. They can be realized as affixes on verbs, or as generic nouns incorporated into the verb. Alternatively, they can be fused with the verbal stem, and realized as ‘classificatory verbs’. Classificatory verbs reflect paradigmatic distinctions of their arguments in terms of their intrinsic properties, and have to be distinguished from occasional lexical pairings of verbs such as ‘eating’ (something solid) and ‘drinking’ (something liquid) across familiar Indo-European languages. Verbal classifiers as affixes stand apart from noun incorporation.

Chapter 9, ‘Classifiers of further kinds’, addresses two rare types—locative classifiers on adpositions—prepositions or postpositions, and deictic classifiers on demonstratives.

One language can have GENDER and one, or more, kinds of CLASSIFIERS. Gender can be independent of numeral classifiers in one language, and partly integrated within the system in another. Gender can coexist with noun classifiers, with classifiers in possessive constructions, with verbal classifiers, or with classifiers of other types. One language can have several classifier types. These combinations are the topic of Chapter 10, ‘Gender and classifiers in one language’.

The same, or almost the same, set of classifiers can occur in MULTIPLE CONTEXTS — with number words, with nouns, with verbs, in possessive constructions, and in locational expressions. In Chapter 11, ‘Multiple classifier languages’, we look at the contexts in which multiple classifiers occur, and then contrast classifiers in multiple contexts with the behaviour of classifiers in the core contexts (discussed in Chapters 5–9). This concerns their meanings, extended contexts, and forms.

Part III, ‘Gender and classifiers: Meanings, functions, and evolution’, consists of six chapters, each focusing on relevant aspects of noun categorization devices across the board. Chapter 12, ‘The meanings of gender and of classifiers’, outlines the preferred semantic features for gender (in Chapters 2–4) and for each of the established core classifier type (in Chapters 5–9) and also in multiple classifier languages (Chapter 11).

Chapter 13, ‘What are gender and classifiers good for?’, focuses on semantic, syntactic, and discourse functions of noun categorization devices. These cover refining meaning and disambiguating referents, individuation and specification, marking definiteness, and interacting with established or new referents in discourse and story-telling. Noun categorization devices interact with the organization of the lexicon, since the meanings of some overlap with the typical meanings of adjectives. All the devices are used for anaphoric reference, to keep track of the participants.

All noun categorization devices reflect the social and cultural environment of the speakers and are part and parcel of the ecology of each language. At the same time, noun categorization devices reflect the basics of human cognition and the power of abstraction and classification of referents. These are the topics of Chapter 14, ‘The world through the prism of language: Social context and cognitive patterns in gender and classifiers’.

Chapter 15, ‘Origins and histories of gender and classifiers’, focuses on the varied stories about where gender and classifiers come from, how they develop, and how they change over time, especially in those languages for which historically attested data are available. We also look at the reduction and reshaping of noun categorization devices over time, with a focus on preferred development paths for each kind.

Chapter 16, ‘Contact, obsolescence, and social change in gender and classifiers’, focuses on what happens to noun categorization devices when speakers of the languages involved are in contact with each other, and their demise and partial survival in typical contact languages—Pidgins and Creoles. What happens to noun categorization devices if languages fall into disuse and become obsolescent? And how do gender and classifier transform as a result of language engineering and a changing social environment? These are among the topics addressed.

Chapter 17, ‘How gender and classifiers are acquired, and how they are lost’, focuses on two further aspects of the dynamics of noun categorization—the ways in which the devices are acquired by children, and what happens to them in language dissolution (for people affected by aphasia or language loss due to old age and dementia, or brain damage). Despite the limitations

of existing sources—with their focus on gender and just on numeral classifiers in a small selection of languages—we establish a number of similarities between the ways all noun categorization devices are learnt, and how they are lost.

The final Chapter 18, ‘Gender and classifiers: The heart of the matter’, summarizes the main points relevant for noun categorization devices, in terms of their expression, applicability, functions, meanings, historical evolution, acquisition, and demise. This chapter contrasts all the noun categorization devices and offers a final justification for the unified phenomenon of noun categorization in their different guises.

The Appendix contains suggestions for linguists working on languages with noun categorization devices, that is, gender and classifiers of varied core types and classifiers in multiple contexts. The Appendix lists points to be addressed so as to offer as much of a comprehensive analysis of a language under consideration as is possible.

1.5 The empirical basis and a note on the conventions

This book is about noun categorization devices—gender and classifiers, their forms, functions, variation, and histories across the world’s languages. To keep the book to a reasonable size, I could not mention every relevant detail of every language, nor could I cite all the examples of each and every of c. 2,550 languages on which this study is based (and all the references). I usually provide a particularly illustrative example, and mention other similar ones (in a footnote). If a certain phenomenon is found in more than half of the languages under consideration, I call it ‘relatively frequent’; if it is found in a restricted number of languages (one to ten), I cite all of them and indicate its rarity. Chapters of the book address the geographical and areal distribution of noun categorization as appropriate.

Note, however, that what appears rare to us at the present stage of knowledge may turn out to be more frequent when we start learning more about hitherto little known languages and areas. This is the reason why I chose at this stage not to give any statistical counts. Only about one-tenth of all human languages have been adequately documented so far—it therefore remains most judicious to follow a qualitative approach, postponing a proper quantitative analysis to the time in the future when more data becomes available and can be scientifically and critically assessed.

A word on the conventions is in order. This book contains many examples from—and many mentions of—languages from various areas and genetic groupings. When the language is introduced for the first time, its affiliation and where it is spoken are listed after its name—for instance, ‘Murui, a Wito-toan language from Colombia’. Later mentions of the same language do not necessarily include this information.

It is incumbent upon any linguist to separate fact from unsubstantiated hypothesis. Highly speculative entities like Indo-Pacific, Amerind, Macro-Equatorial, ‘Arawakan,’ and the like, have no place in a piece of scholarly writing. Along similar lines, I avoid hypothetical groupings such the ‘Trans-New Guinea phylum’ for non-Austronesian languages of the New Guinea region. That is, Aboriginal languages of Australia are referred to as belonging to the Australian area. For Papuan languages a family is given only if established, e.g. Alamlak (Sepik Hill, Papuan area), or Manambu (Ndu, Papuan area). The terms Tibeto-Burman and Trans-Himalayan are used interchangeably, depending on the source quoted.

Terminological precision is the key to a well-informed typology. Throughout this book, the order of words (or word order) is consistently distinguished from the order of phrasal constituents (constituent order) within a clause. The term ‘number word’ is used instead of ‘numeral’, to avoid confusion with the term ‘numeral’ generally used of figures as written symbols standing for a number. The term ‘adposition’ covers both prepositions and postpositions. The terms ‘classifier contexts’ and ‘classifier environments’ are used interchangeably, as synonyms. Language names and language examples are quoted as they are given in the sources (I have made no attempt to respell any of the examples). Language examples are numbered separately for each chapter, with the first number referring to the chapter number, e.g. 2.1 is the first language example in Chapter 2; and 2.2 is the second example in Chapter 2 and so on. Boxes and Tables are also numbered by Chapter, e.g. Table 2.1 and Box 2.1 in Chapter 2. The markers of noun categorization are in bold. I sometimes add the literal translation where deemed appropriate and necessary. Cross-chapter references to Tables, Diagrams, and Boxes are accompanied by page numbers, for ease of reference.

The aim of this endeavour is to provide a comprehensive and accessible analysis of gender and classifier systems across hundreds of languages of the world, drawing examples from a wide range of reliable reference grammars and author’s original fieldwork. Special attention is paid to lesser studied minority languages across the world.

This book is not an encyclopaedia of noun categorization devices, nor can it be the last word on noun categorization. Many languages remain poorly understood and poorly analysed; many issues remain shrouded in mystery. As [Bolinger \(1991: 319\)](#) put it, ‘no matter how wide the net is cast, a fish or two always escapes’. It is my hope that the framework I offer will be a solid enough net to secure further catches to come.

PART I
GENDER

2

Gender

Meanings and Choices

Gender is the most widespread means of noun categorization. We start with a few examples, and then turn to the recurrent principles of gender choice.

2.1 What is gender?

Genders constitute grammatical classes of nouns based on core semantic properties such as sex (female and male), animacy, humanness, and also shape and size. An alternative term for larger systems of genders is ‘noun classes.’ The use of the two terms is explained further in this chapter.¹

The number of genders varies from two, as in Portuguese, Spanish, French, Hebrew, Arabic, and many languages of the Sepik region of New Guinea, three, as in German and Russian, four to six, as in numerous Australian and Caucasian languages, to ten or more, as in Bantu languages in Africa. Gender is expressed through agreement, especially (a) on the modifiers within a noun phrase, (b) on verbs, and (c) also on personal pronouns. It can also be marked on the noun itself.

Masculine and feminine genders in Portuguese are marked on the article, the noun itself, and the adjective, as we see in examples 2.1 and 2.2 (see also 1.1–1.2).

2.1	o	moç-o	gord-o	Portuguese
	ART.DEF:masc.sg	young.person-masc.sg	fat-masc.sg	
	‘the fat young man’			

¹ On the history of the terms ‘gender’ and ‘noun class’, see [Kilarski \(2013\)](#), [Aikhenvald \(2003a: 19–20\)](#), a bibliography in [Aikhenvald \(2015a\)](#), and [Corbett \(1991, 2014\)](#). In Present Day English, the term ‘gender’ itself covers three groups of concepts: (i) Linguistic gender—the main topic of our discussion; (ii) Natural gender (sometimes referred to as ‘sex’)—physiological differences between men, women, and other human groups; and (iii) Social gender—the social implications, and norms, of being a man, or a woman, or a representative of another grouping. The three aspects of ‘gender’ interact. This was discussed at length in my 2016 book *How gender shapes the world*.

- 2.2 **a** moç-**a** gord-**a** Portuguese
 ART.DEF:fem.sg young.person-fem.sg fat-fem.sg
 ‘the fat young woman’

The form of the noun tells us what gender it belongs to: *-a* for the feminine gender, and *-o* for the masculine. This is an example of OVERT gender marking.

Alternatively, gender may be expressed just on the agreeing forms. This is known as COVERT gender. The four genders in Dyirbal, an Australian language, are marked exclusively in the form of modifiers known as ‘noun markers’ (which are similar to articles), and in demonstratives (Dixon 2015: 22–42, 2022: 23–4). The four genders—I to IV—are shown in 2.3–2.6. Each contains the noun marker translated as ‘THERE’. Gender I covers males, and Gender II covers females. The order of words within a noun phrase in Dyirbal is free. In 2.3, the modifier precedes the noun, and in examples 2.4–2.6, it follows.

- 2.3 **bayi** ŋuma Dyirbal
 THERE.ABS.I father.I
 ‘the father’

- 2.4 yabu bala-**n** Dyirbal
 mother.II THERE.ABS-II
 ‘the mother’

Gender III is reserved for non-flesh foods—an important category for a traditional society of hunters and gatherers reliant on fruits of the surrounding rainforest.

- 2.5 jubula bala-**m** Dyirbal
 black.pine.III THERE.ABS-III
 ‘the black pine’ (an edible fruit)

Gender IV is reserved for ‘leftovers’—those entities which do not fit into any other gender category.

- 2.6 yugu **bala** Dyirbal
 stick.IV THERE.ABS.IV
 ‘the stick’

We return to further intricacies of gender choice in the language in §2.2.2.

Looking further afield, we encounter larger systems. Bantu languages—including Swahili, a major language of East Africa—are known for their gender-like noun classes, marked on the noun itself and on the agreeing forms. The choice of a noun class is partly semantically motivated. Swahili has ten such noun classes. The inanimate class marked by the prefix *ki-* subsumes inanimate items, especially artefacts ([Welmers 1973](#): 171)—see 2.7.

2.7 ki-kapu	ki-kubwa	<i>Swahili</i>
NCL:INANIM.SG-basket	NCL:INANIM.SG-large	
ki-moja	ki-li-anguka	
NCL:INANIM.SG-one	NCL:INANIM.SG-PAST-fall	
'One large basket fell'		

The noun classes are marked on the noun itself, on the modifiers 'large' and 'one', and on the verb. Most classes have a singular and a plural form. The plural counterpart of the singular noun class prefix *ki-* is *vi-*: this is what we see in 2.8.

2.8 vi-kapu	vi-kubwa	<i>Swahili</i>
NCL:INANIM.PL-basket	NCL:INANIM.PL-large	
vi-moja	vi-li-anguka	
NCL:INANIM.PL-one	NCL:INANIM.PL-fall	
'Many large baskets fell'		

Noun classes in Swahili and other Bantu languages are traditionally defined by such singular-plural pairings (so the pairing *ki-/vi-* is referred to as 7/8; summed up in [Table 2.2](#)).

A note on terminology is now in order. As mentioned in §1.3.2, the term 'gender' was first used in the fifth century BC by the Greek philosopher Protagoras, when he divided Greek nouns into 'feminine', 'masculine', and 'inanimate' (nowadays called 'neuter', as mentioned in §1.1). This gender system, found in many Indo-European languages, was also a feature of Latin, but as a result of historical change, neuter nouns were redistributed between the two other genders, giving the modern system of feminine and masculine genders in French, Italian, Spanish, and Portuguese.

When Europeans came to study African languages, they encountered larger gender-like systems with eight, ten, or more options, like Swahili. These often did not include a straightforward feminine-masculine distinction. The term 'noun class' came to be used for this type of system. Terms 'gender' and 'noun class' have been in alternating use for Australian languages, and for

the languages of the Caucasus, with four to six terms. For Bantu languages, the term ‘noun class’ has become the established one. The term ‘gender’ in the Bantu tradition is used in a different meaning, reserved just for the singular-plural pairings in the agreement marking. Box 2.1 summarizes the terminological issues to do with the terms ‘gender’ and ‘noun class’. Throughout this book, the term ‘gender’ will be used as a cover term unless further specified.

Box 2.1 Gender and noun class: A note on terminology

The term ‘gender’ will be generally reserved for small agreement systems, especially in Indo-European and Semitic languages, centred on masculine versus feminine opposition.

Larger agreement systems of noun categorization realized through agreement typically based on the properties of the referent—including sex and animacy, but going beyond it—are alternatively referred to as ‘noun classes’.

Box 2.2 summarizes general properties of genders (or noun classes).

Box 2.2 General properties of gender (or noun class)

- (i) There is a limited, countable number of genders, or noun classes, in a language identified through the presence of obligatory agreement on a form within a clause and/or a noun phrase.
- (ii) Each noun in the language belongs to one (or sometimes more than one) class.
- (iii) There is always some semantic basis to the grouping of nouns into genders, or noun classes. Languages vary in how much semantic basis there is. This usually includes animacy, humanness and sex, and also shape, size, and extent.
- (iv) Gender or noun class may be expressed overtly on the noun, but does not have to be.
- (v) A form outside the noun itself has to agree in gender with a noun. Agreement can be with other words in the noun phrase (adjectives, number words, demonstratives, articles, etc.) and/or with the predicate of the clause, or with an adverb. Gender can be marked in personal pronouns, reflecting ‘anaphoric’ agreement.

The choice of gender (or noun class) always has some semantic basis. Languages vary in the degree of transparency of gender meanings and how much semantics is involved in gender choice—see §2.2. Gender choice can also be based on the form of the noun itself—the topic of §2.3. The ways in which loans are assigned genders point towards the workings of each system—see §2.4.

Genders are a feature of most Indo-European languages, many Northeast Caucasian languages, Dravidian, and the majority of Afroasiatic languages (see [Matasović 2004](#), [Frajzyngier 2012](#), [Forker 2016](#)). More than two thirds of the languages of Africa have genders (alternatively referred to as noun classes). These are a salient feature of the majority of the Niger-Congo grouping, especially Bantu, and also numerous languages of North and South America, Papuan area, and Australia.²

2.2 The semantics of gender

The choice of any gender (or noun class) involves meaning, to varying degree. Typical parameters include humanness, sex, and animacy. Additional properties related to the inherent nature of the entity may also play a role. Gender assignment may be more—or less—semantically transparent. In most systems, humans stand apart from other referents.

2.2.1 Sex, animacy, humanness, and shape: Transparent choices

Gender assignment can be based on meaning only. Nouns in Tamil fall into two gender classes. One—labelled ‘rational’—covers humans, gods, and demons. It further divides into masculine and feminine. The other—labelled ‘non-rational’—includes animates and inanimates which do not belong to the ‘rational’ class ([Lehmann 1993](#): 20, [Asher 1985](#): 136–7). Malto, and a number of other Dravidian languages—including Kolami, Ollari, and Parji—have two genders: masculine, covering males, versus non-masculine, subsuming all other referents ([Mahapatra 1979](#): 91, [Krishnamurti 2003](#): 205–17). In Diyari

² See the overviews in [Heine \(1982\)](#), [Heine and Nurse \(2008\)](#), [Katamba \(2003\)](#), and [Welmers \(1973\)](#); [Krishnamurti \(2003\)](#) on Dravidian. [Aikhenvald \(2012a](#): 282–5) surveys gender across South American languages; see [Dixon \(2002](#): 461–514) for further details and a general perspective on the Indigenous languages of Australia. Agreement genders are atypical for Tibeto-Burman and Austronesian languages; they are an innovative feature of the languages of Eastern Indonesia discussed in [Schapper \(2010, 2015\)](#). An overview of genders in Papuan languages is in [Aikhenvald \(2003a](#): 78–9). [Mithun \(1999\)](#) surveys gender across Indigenous languages of North America.

(an Australian language), most Arawak languages from South and Central America, and Kaingang, a Jê language from southern Brazil, nouns divide into female humans and the rest (Austin 1981, Aikhenvald 2012a: 280–5). The division of nouns into two gender classes—animate and inanimate—is a feature of a few Austronesian languages in Eastern Indonesia, including Biak, Roon, Buru, and Tukang Besi (Schapper 2010). Northeast Caucasian languages Godoberi, Bagvalal, Avar, and Akhvakh distinguish three semantically based genders: male humans, female humans, and the rest (Forker 2016).

In Manambu, a Ndu language from the Sepik region of Papua New Guinea, the choice of gender for humans is based on their binary division into males and females. For non-humans, gender choice varies depending on the shape, size, importance, and extent of the entity (Aikhenvald 2016: 33–6). A big dog or a big pig will be masculine, and a small one feminine (no matter what their sex). A long and important story is masculine. A short and casual one is feminine. A ‘masculine’ song will be part of an important ritual. A ‘feminine’ song will be something informal. A large house is masculine, and a small one feminine. A long piece of wood is masculine, and a short and round one feminine. A long road will be referred to with masculine gender, and a short one with feminine. A little money or a little blood will be feminine, and a lot of money or blood will be masculine. A ‘feminine’ night is dark, but one can still see the outlines; a completely dark night is masculine. This is captured in Diagram 2.1.

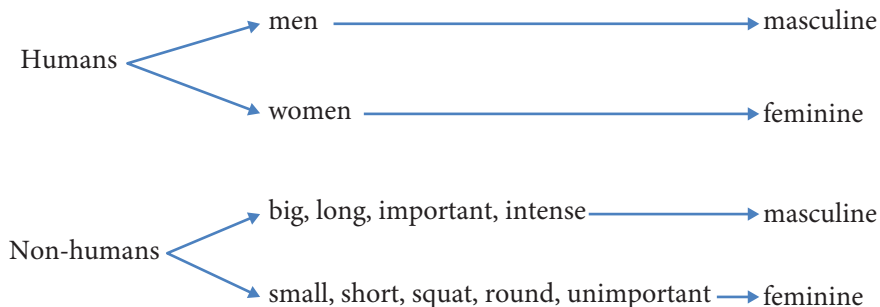


Diagram 2.1 Masculine and feminine genders in Manambu: Semantic assignment

Similar correlations between gender choice and shape-based properties for inanimate referents are a feature of many other languages of the Sepik River Basin: we return to these in §16.1.1.

Gender in Manambu is, as a rule, not marked on the noun itself. It is always expressed via agreement within a noun phrase and on the verb. In 2.9, the noun

of the noun marker). Table 2.1 summarizes the semantic groupings for the gender membership in Dyirbal (Dixon 2022: 24).

Table 2.1 Semantic composition of genders in Dyirbal

Gender I, <i>bayi</i>	Gender II, <i>balan</i>	Gender III, <i>balam</i>	Gender IV, <i>bala</i>
proper names of male humans	proper names of female humans		proper names of places
men and boys	women and girls		almost all body and other parts
most animals	bandicoots, platypus, echidna, dog		
some bats	some bats		
most snakes	some snakes		
frogs, lizards	turtles		
some birds	most birds		
most fishes	some fishes		
shellfish	prawns, crabs		
most insects	some insects		
	fire		
	stars		
moon	sun		
rainbow, thunder, lightning, rain			wind, cyclone, cloud, dew
boomerang	shield		sword
woomera	most spears		axe, knife, clubs,
fishing line, hook	firestick		gun
	spouting, bottle		bags, baskets
	fighting ground, waterfall		camp, hut, hill, cave, stone, clay, mud
	drinkable liquids		language, noises
	some non-edible plants	edible plants	flesh food (meat/fish)
		honey	most non-edible plants
			bees

In Dixon’s (2022: 23–6) words,

‘At first glance the items in each column seem so heterogeneous that one wonders whether there is any principled basis for gender assignment. The trick is to commence with the semantic distinctions made by speakers of

Dyirbal, and see how these are mapped onto gender categories. This explains almost all of the assignment. Certain basic concepts are associated with each gender, and there are also general principles for assigning or transferring genders.'

THE BASIC CONCEPTS behind each gender are as follows:

Gender I, *bayi*—male humans; non-human animates

Gender II, *balan*—female humans; fire; drinkable liquids; fighting

Gender III, *balam*—edible non-flesh food including honey

Gender IV, *bala* is then a residue gender, dealing with everything else (including body and other parts, place names, and flesh food (meat and fish)).

All animates are distributed between gender I and gender II (except bees which are in gender IV). Gender II is the one with several unrelated meanings. Attempts to relate female referents to fire, danger, or fighting were rejected by competent speakers of the language.

Three general principles determine gender membership of a noun.

I. MYTHOLOGICAL ASSOCIATION, OR MYTH-AND-BELIEF PRINCIPLE. If the referent of a noun has a characteristic X (on the basis of which its gender will be chosen) but is associated with characteristic Y through BELIEF OR LEGEND, it will be then assigned to a different gender based on characteristic Y.

It is believed that birds are, as a class, the spirits of dead women. Birds are classed as members of gender II (*balan*, which subsumes females) rather than *bayi* on the basis of their non-human animate status. There are exceptions to this, also based on beliefs. A small bird known as 'willy wagtail' belongs to gender I (which subsumes males), *bayi jigirrjigirr*, since he is believed to be the metamorphosis of a legendary man (and the way the bird wiggles its tail is reminiscent of how men dance in traditional dances, or corroborees).

Non-edible snakes are members of gender I (*bayi*). An exception is *balan bima* 'death adder' who is also a legendary woman, and thus belongs to gender II. The sun was believed to be a woman, and so belongs to gender II (*balan garri*). The moon is her husband, and so the noun belongs to gender I (*bayi gagara*). Thunder, lightning, and rain are believed to be legendary males, and are included in gender I.

II. PHYSICAL ASSOCIATION PRINCIPLE. If the referent of a noun with a characteristic X is perceived to have a PHYSICAL ASSOCIATION with the characteristic Y, then this may be reflected in the gender choice for this noun. The association can be based on a physical link. Terms for fruit and vegetable food belong to gender III; they are produced by plants which belong to gender IV. Honey

is *balam girñjal* (gender III), and is produced by bees. Because of this analogy, bees belong to gender IV—they are the only animates not in genders I or II.

III. IMPORTANT PROPERTY PRINCIPLE. If a set of nouns belongs to a certain gender, and members of its subset share a particular Important Property, then this subset may be assigned to a different gender. Most trees without edible parts belong to gender IV, but stinging trees are placed in gender II, due to their harmful nature. Most fishes belong to gender I, as non-human animates. But three species of fish belong to gender II, since they are harmful to humans. The jellyfish, *balan jawayi*, has tentacles that can inflict a painful sting. The fresh-water stonefish, *balan janggan*, has venomous spines which may give painful wounds if stepped on. And eating *balan jurunjun*, the toad fish, can be fatal.

These principles of gender choice reflect people's beliefs, their knowledge of the environment and the ecology of language (in the sense of [Haugen 1972](#)). We return to this in §14.1.

Mythological association—or the Myth-and-belief principle—accounts for the choice of gender in quite a few semantically based systems. Seemingly exceptional fixed gender choices in Manambu are rooted in beliefs and lore. The moon and the stars used to be women: they are always feminine. According to the speakers, this partly correlates with their round shape. The cassowary (*məd*), a large non-flying bird, used to be a woman. It is always assigned feminine gender, and so too is the bird of paradise. In numerous languages across Papua New Guinea, the cassowary is feminine, despite its relatively large size, as it is considered a totemic woman (further examples are in [Aikhenvald 2012b](#)). In Abu' Arapesh, a Torricelli language from Papua New Guinea, the moon is masculine as it is viewed as a mythological man who engages in sexual intercourse with women making them menstruate (and thus producing a 'moon'-sickness: [Nekitel 1986](#)).

Gender choice may be non-transparent, or opaque—this is what we turn to now.

2.2.3 Opaque gender

Opaque gender choices vary across languages and areas. We focus on a few examples.

A. JARAWARA, an Arawá language from southern Amazonia, has two covert genders, masculine and feminine marked via agreement on the predicate, demonstratives, and two of the adjectives ([Dixon 2004](#): 284–7). All nouns

with human reference are assigned gender based on sex: feminine for females, masculine for males. Of the non-human animates, about 85% belong to the masculine gender. The assignment of genders to inanimates is only partially predictable. About 53% of plant names are feminine, with the rest masculine. Most garden plants with sweet taste are feminine, e.g. *sami* ‘pineapple’ and *kana* ‘sugar cane’, and most starch foods are masculine, e.g. *fowa* ‘manioc’ and *kimi* ‘sweet corn’. About 80% of nouns referring to items other than fauna and flora are feminine (we will see, in §2.5, that feminine gender is the functionally unmarked choice in the language). A few semantic principles behind gender choice follow.

- (a) All liquids are feminine. These include recently introduced beverages and liquids, such as cane whisky, beer, and petrol.
- (b) Fire and light, and also all objects emitting fire (including torches, or flashlights) are feminine.
- (c) An artefact made from a certain plant has the same gender as the plant.
- (d) A manufactured foodstuff will have the opposite gender to its main ingredient, e.g. *fowa* ‘bitter manioc’ is masculine, and *ijawa* ‘roasted manioc flour and the flat bread made from it’ is feminine.

Terms for natural phenomena and celestial bodies—*bahi* ‘sun, thunder’, *abariko* ‘moon’, and *amowa* ‘star’—are regarded as mythical men by the Jarawara, and are assigned to masculine gender based on the Myth-and-belief principle. A watch or a clock will be referred to as *bahi* because one tells the time from it, as one would do from the sun.

Gender choice for many inanimates—other than flora and fauna—is hard to explain. Semantically opaque assignment of feminine and masculine genders for inanimates is a feature shared by other languages from the Arawá family (e.g. Paumarí in §4.1.4); however, cognate nouns vary across languages in their gender choice.

B. FOX AND OTHER ALGONQUIAN LANGUAGES of North America are known for their opaque gender choice (see [Craik 1982](#), [Dahlstrom 1995](#), [Goddard 2002](#)). Each noun belongs to animate or to inanimate gender. Gender is covert: it is being marked via agreement on demonstratives and verbs. Those nouns which denote humans and biologically animate beings belong to the animate gender, e.g. *neniwa* ‘man’, *ihkwewa* ‘woman’, *mahkwa* ‘bear’, and *maneto wa* ‘spirit, snake’. Nouns denoting entities that move—including spirits and heavenly bodies—are also grammatically animate. The noun *ničapa* ‘doll’ is animate, since a doll represents a human.

A number of nouns which refer to inanimate entities belong to animate gender. Some names of plants are inanimate, e.g. *ahte himini* ‘strawberry’, and others are animate, e.g. *witawi ha* ‘raspberry’. The ‘Implacable Raspberry’ in the title of a classic paper by [Straus and Brightman \(1982\)](#) sums up the idea of the unpredictability of Algonquian gender when it comes to entities other than sex-differentiable human beings or animals.

A few animate-inanimate pairs show regular differences in their meanings. In Fox, ‘grandfather’ is animate; and a ceremonial pole referred to as ‘our grandfather’ is inanimate. In Cree, another Algonquian language, *mistik* ‘tree’ is animate, and *mistik* ‘stick’ is inanimate.

Animate gender tends to be associated with spiritual power and agency. The noun *čipaya* ‘corpse, ghost’ is animate: it is conceived as a former human being. In its meaning ‘ghost’ it denotes a spiritually powerful being (we return to this in §13.1).

C. IN MANY AUSTRALIAN LANGUAGES the meanings of genders are only partly semantically straightforward. Nouns in Jingulu divide into four genders. The ‘vegetable’ class mostly includes objects which are long, thin, or pointed; this class happens to include most vegetables, as well as some body parts such as the colon, penis, and neck, some instruments such as spears, fire-drills, and barbed wire, some natural phenomena such as lightning and rainbows, and also roads and trenches. The ‘feminine’ class includes female humans and higher animates, and also words for axes, the sun, and most smaller songbirds. The semantic content of the remaining two classes, ‘masculine’ and ‘neuter’, is harder to define. Masculine is mostly used for other animates and neuter for other inanimates, except that flat and/or rounded inanimates (most trees and eggs, and body parts such as the liver and eyebrow) are masculine ([Pensalfini 2003](#): 159–68).

The choice of four genders in the Mayali dialect chain, also from Northern Australia, is transparent only in part. Gender I, ‘masculine’, subsumes male humans and a few malevolent beings, a number of mammals, snakes, lizards, birds, and fish. Gender II, ‘feminine’, covers female humans, a few marsupials, reptiles, and birds. Gender III, ‘vegetable’, includes most nouns denoting plants or their edible products, anatomical terms pertaining to genitalia and excretions, a few bird names and a few geographical names, some wooden implements, and terms for a few cultural practices. Gender IV, ‘neuter’, covers most body parts and some implements.³

³ See [Evans \(1997: 119–25, 2003\)](#) on partially transparent assignment of four genders in Mayali (or Bininj Gun-Wok); and a summary of further Australian languages in [Dixon \(2002: 486–8\)](#).

D. BANTU LANGUAGES of East Africa are well-known for their noun classes realized through agreement on various types of modifiers and on the verb and overt marking on nouns themselves—this is what we saw in 2.7 and 2.8, from Swahili.

Noun classes form singular-plural pairs reflected in their numbering. For instance, noun class 1 is marked with the prefix *ma-* in singular number and is paired with noun class 2 marked with the prefix *ba-* in plural. This pair is referred to as 1/2 (see §1.3.2 on the use of terms ‘gender’ and ‘noun class’ in the Bantuist tradition).

The choice of noun classes is semantically transparent only for humans: the noun class 1/2 uniformly includes human beings, including kinship terms and proper names, e.g. Northern Sotho *mo-tswadi* ‘parent’, *ba-tswadi* ‘parents’ (Louwrens, Kosch, and Kotzé 1995: 19). The pair *ki-* (class 7) and *vi-* (class 8) covers a wide range of inanimate referents.

Table 2.2 summarizes a basic semantic grid common to Bantu noun class systems in their singular-plural pairings across Bantu languages (based on Spitulnik 1989: 207). Further classes (termed 16–18) contain locatives and locational nouns (see Katamba 2003, Heine 1982, Heine and Nurse 2008).⁴

Table 2.2 Noun classes in Bantu languages: Their common semantic basis

Noun class (singular/plural)	Semantics
1/2	some humans, a few other animates
3/4	plants, plant parts, foods, most non-paired body parts, natural phenomena, miscellaneous
5/6	fruits, some paired body parts, natural phenomena, miscellaneous inanimates
7/8	body parts, tools, instruments, languages, disease, evaluatives (approbatives, derogatives), augmentatives, miscellaneous inanimates
9/10	animals, miscellaneous inanimates, a few humans
11/10	long objects, abstract entities, miscellaneous inanimates
12/13	small objects, birds
6	masses, liquids, time references
14	abstract qualities, states, masses, collectives
15	infinitive forms of verbs, some paired body parts

⁴ For further discussion of potential semantic basis for noun classes in Bantu languages, see Contini-Morava (2002), Denny and Creider (1986), and Denny (1979a: 109–10), and also Di Garbo and Verkerk (2022).

As we have just mentioned, only the class 1/2 ‘human’ is generally semantically homogeneous. But even this does not hold across the board. In individual Bantu languages, the semantic content the ‘human’ class may go beyond ‘just’ humans. In Babungo, it covers a number of animals (e.g. bull, buffalo, cobra, antelope), a few birds and insects, body parts, plants, household objects, and a few further items, including wheel, necklace, book, and rainbow. Class 15 contains infinitive forms of verbs and some body parts which come in pairs (e.g. arms and legs) (Schaub 1985: 175–6). Other classes appear to form ‘what looks like a ragbag’ (using Katamba’s 2003 words).

Partly semantically transparent noun classes are a feature of further languages of Africa, including Benue-Congo and Ubangi. Ejagham has a large set of twelve noun classes with singular/plural pairings and an additional seven with just one form for both numbers. For some, ‘there is an exclusive or dominant characteristic meaning’ (Watters 1981: 294) associated with the noun class: these are a class for humans, a class for long thin objects (rope or pestle) which also subsumes some natural objects, and a class for body parts. The semantic range of nouns belonging to other classes is diffuse, and their common nucleus is hard to capture. In contrast, the choice of each of five numeral classifiers is based on straightforward semantic parameters of shape, arrangement, and inherent nature of the entity (Watters 1981: 293–301; see §5.1.2). Along similar lines, the choice of each of the seven noun classes in Mba (Ubangi) languages (including ‘Dongo-ko) is opaque (Pasch 1985, 1986, Heine 1982: 208–9). Here, class 1 predominantly subsumes humans, and two further classes include body parts, with some human referents appearing in a variety of classes. This is in contrast to semantically transparent pronominal genders (§4.1.3) and possessive classifiers in Mba languages (§7.1.2).

2.2.4 The eccentricities of gender: An interim conclusion

The meanings of genders can be complex, and the choices opaque. Not every instance of gender assignment will be readily explainable. There is no synchronic reason why ‘raspberry’ should be animate throughout Algonquian languages—any mythological association which may have existed in the past has since been lost. The majority of gender choices in Dyirbal can be explained

in terms of general principles and rules of gender transfer and association. But, as Dixon (2015: 42) puts it, not all: ‘I know of no reason why *balan* (Gender II) is used for prawns and crabs, for the two egg-laying mammals (platypus and echidna), and for the dingo or native dog. (There are a number of other individual eccentricities)’.

In just a handful of instances in Manambu, gender choice has to be remembered. The noun *nabi* ‘year’ is always masculine (one speaker suggested that this is because the year is so long). In contrast, the noun *seker* ‘time’ is always feminine. A few insects are always assigned feminine gender, e.g. *sa:r* ‘fly’ and *sa:m* ‘bee’. Their gender has to be listed in a dictionary, as there does not seem to be a semantic reason for it.

Most languages have such ‘eccentricities’—an unpredictable residue of semantically unexplainable gender choice. In Dyirbal,

‘there may have been further legends and beliefs, which I [Dixon] did not become familiar with, that would help explain more about gender assignment. And there could be legends which had been forgotten but left in their wake some special gender specification. As in any judicious enquiry into the semantic basis of a grammatical system of genders, a lot can be explained—but not everything’ (Dixon 2015: 42–3).

Generalization 2.1 captures our expectations with regard to the extent of semantic predictability of gender choice.

Generalization 2.1 Semantic predictability of gender choice

humans < higher animates < lower animates and inanimates

In agreement with this generalization, gender will tend to be semantically predictable and meaning-based for humans; it can also be predictable for higher animates, and less so for the rest. Gender assignment to humans can be considered the basis for its core meaning. Choosing genders may involve further, formal parameters—this is what we turn to now.

2.3 Meaning meets form

Gender assignment is never arbitrary. However, the semantic basis of gender assignment may have its limits. The morphological form and the phonological make-up of a noun can also play a role.

2.3.1 Phonological and morphological principles in gender choice

In a few languages, if a noun ends or begins with a certain vowel or a consonant, it will be automatically assigned to a particular gender. In agreement with Generalization 2.1 (p. 39), non-semantic principles of gender assignment will tend to apply to inanimate referents.

Limilngan, an Australian language, has four gender classes whose choice is predominantly meaning-based (Harvey 2001: 45). Class I covers humans, Class II subsumes animals, Class III involves plants, and Class IV, a residue class, covers everything else. The membership of Class II and Class III is also affected by phonological factors. Nouns with initial segment /l/ or /d/ tend to be assigned to Class II, and nouns with the initial /m/ tend to be assigned to Class III, even if their reference lies outside the semantic domain of these classes. Phonological principles of gender choice can play a role in the ways in which gender is assigned to loans—we return to this in §2.4.

In Qafar, from the Saho-Afar subgroup of East Cushitic, nouns with inanimate reference whose citation form ends in a vowel are feminine, all the rest are masculine. In Hausa, all non-sex differentiable nouns which end in *-aa* are feminine (see Mous 2012, Heine 1982, 2000). In Punjabi, an Indo-Aryan language from India, nouns ending in *-aa* are typically masculine, and those ending in *-ii* are feminine (Bhatia 1993: 216–17).

Morphological and phonological principles interrelate with semantic choices, creating the basis for mixed principles of gender assignment.

2.3.2 Mixed principles in gender choice

No gender system is completely ‘mechanical’—that is, devoid of semantic motivation and based on principles other than meanings. There will always be a ‘core’ where meaning is crucial. In agreement with Generalization 2.1, this core typically includes humans and also animates. The choice of gender

in many languages with small systems—based on a combination of meaning with morphological and phonological form—is a case in point.

In the Harar dialect of Oromo, an East Cushitic language of Ethiopia, nouns referring to females are feminine, and nouns referring to males are masculine. Nouns referring to inanimates, or animates for which sex is not important, are feminine if they end in a non-low vowel; otherwise, they are masculine (Clamons 1993: 27).

Gender assignment in Russian is based on morphological and phonological features. Nouns belonging to the first declension typically end in *-a* and belong to the feminine gender. Nouns belonging to the second declension are masculine if they end in a consonant, and neuter if they end in the vowel *e* or *o*. However, sex-differentiable nouns are assigned gender according to their semantics, and not their form. Thus, nouns like *mužčina* ‘man’ or *detina* ‘a big man’ belong to the first declension and should be feminine. In fact, they are masculine. (see also Corbett 1991: 41). *Kruseiro* ‘cruseiro’ (former Brazilian currency) should be neuter based on its form; however, it is consistently treated as masculine, following the analogy of dollar and other currencies which are masculine. Meaning overrides form.

Modern Hebrew has two genders, masculine and feminine. The principles of assignment are semantic and morphological. Sex-differentiable nouns are assigned gender in agreement with their semantics. Nouns which refer to cities and land, and paired and some non-paired body parts are feminine. There are a few nouns which belong to feminine gender as unexplainable exceptions: *even* ‘stone’, *kos* ‘goblet’, *eš* ‘fire’ (see Aikhenvald 1990: 44, Berman 1985, and §17.1.1).

Gender in German reflects complex interaction between morphological, phonological, and semantic principles of gender choice. The three genders (in the singular) are feminine, masculine, and neuter. In quite a few instances, the form of the noun tells us precious little about its gender. In German, *Mond* ‘moon’ is masculine, while *Gabel* ‘fork’ is feminine. The form of the article they require will indicate their gender: we say *der Mond* ‘the (masculine singular) moon’ but *die Gabel* ‘the (feminine singular) fork’. The gender of a noun is recognizable through the agreeing forms. However, phonological form and the composition of many German nouns gives us a hint of what gender they belong to.

A connection between a derivational suffix and gender forms the MORPHOLOGICAL basis for gender choice in German. Some derivational suffixes always correlate with a particular gender choice: nouns containing the nominalizing suffixes *-ung* und *-keit* are always feminine: examples include *die Bild-ung*

‘education’, *die Prüf-ung* ‘exam’, *die Besser-ung* ‘improvement’, or *die Möglichkeit* ‘possibility’. Nominalizations containing the suffix *-en* are neuter, and so are nouns which contain a diminutive suffix—either *-chen* or *-lein*. The word *das Mäd-chen* ‘girl’ in German belongs to neuter gender based on its morphological make up: a diminutive suffix *-chen* which automatically requires neuter gender choice. Nouns which end in *-e* are typically feminine, as is the word for ‘turnip’, *Rübe*.

In his scurrilous attack on ‘The Awful German language’, Mark Twain complained that ‘In German, a young lady has no sex, while a turnip has’. Having neuter agreement for ‘a girl’ and feminine agreement for ‘turnip’ appeared illogical to him. In fact, nothing could be more straightforward: it is just the case that choosing a gender in German involves numerous lines of logic—a combination of phonology, and morphological make up. Similarly, the diminutive suffix *-(i)tsi* in Modern Greek triggers neuter gender: *koritsi* ‘girl’ is neuter, thanks to the suffix the noun contains. In contrast, the nouns with the augmentative suffix *-aros* are masculine, and so the augmentative form *koritsaros* ‘big, pretty or buxom girl’ belongs to the masculine gender (Joseph and Philippaki-Warburton 1987: 152).

The morphological principle of gender choice for diminutives overrides the meaning, in a seeming contradiction to Generalization 2.1. However, in Modern German, a girl, *Mädchen*, will be referred to with a feminine pronoun *sie*, (especially if she is grown up), the feminine relative pronoun *die*, and feminine derivations. This is what we see in 2.12 and 2.13. (www.abendblatt.de/meinung/article228329523/Der-Streit-um; see also Braun and Haig 2010).⁵

2.12 **Das Mädchen** fand schnell Freundinnen. German

‘The girl (neuter) quickly found friends’

2.13 Besonders bemühte **sie** (not *es) sich um **ihre** (not *seine)
Banknachbarin’

‘She (not *it) especially cared about her (not *its) desk-neighbour’

Using the neuter pronouns *es* ‘it’ or *seine* ‘its’ in 2.13 to refer to the girl mentioned in 2.12 (using the neuter article *das*) will result in an ungrammatical expression. Anaphoric pronouns follow a semantic, and not a formal principle, as predicted by the Agreement hierarchy to which we return in §3.1.

⁵ For more on gender choice in German and its social repercussions, see Nübling and Lind (2021) and an overview in Aikhenvald (2016: 185–208).

In addition to formal principles of gender choice in German, a seminal study by Zubin and Köpcke (1986) provides a semantic rationale for gender assignment of nouns of different semantic groups in German (see also Zubin and Köpcke 1981, 1984). In agreement with the natural sex principle, masculine and feminine genders mark the terms for male and female adults of each species of domestic and game animals, and neuter is assigned to non-sex-specific generic and juvenile terms. So, *Mann* ‘man’ and *Knabe* ‘boy’ are masculine, and *Frau* ‘woman’ and *Magd* ‘maid, maiden, female servant’ are feminine, while *Lamm* ‘lamb’ and *Fohlen* ‘foal’ are neuter.

An interesting exception to Generalization 2.1 is *Weib* ‘woman’ which belongs to the neuter gender. This term is now acquiring negative connotations and is seen as a reflection of subordinate status of a woman in the bad old days—the point made by Busley and Nübling (2021) with regard to neuter forms with feminine reference in German.

Superordinate terms are often neuter. Masculine gender is used for types of cloth, precipitation and wind, and types of minerals. Types of knowledge (e.g. *Kenntnis* ‘knowledge’) and disciplines (e.g. *Linguistik* ‘linguistics’) have feminine gender, and games and types of metal have neuter gender. Almost all nouns with generic reference, such as *das Ding* ‘thing’ and *das Gerät* ‘implement, apparatus’ belong to neuter gender (with one exception: *die Sache* ‘thing’ is feminine). Superordinate terms usually belong to neuter gender, and items of a more basic level are feminine or masculine, more rarely neuter. Table 2.3 illustrates the neuter gender of superordinate nouns and the non-neuter (masculine and feminine) of nouns referring to ‘basic level’ objects (see Zubin and Köpcke 1986: 147ff).

A combination of meaning-based and form-based principles account for gender choice in the majority of cases. But there is always a small residue of exceptions which cannot be explained (at least for the present). For example,

Table 2.3 Semantic basis of gender choice in German: An illustration

Superordinate	Basic level
<i>Instrument</i> (n) ‘musical instrument’	<i>Gitarre</i> (f) ‘guitar’, <i>Trompete</i> (f) ‘trumpet’
<i>Obst</i> (n) ‘fruit’	<i>Apfel</i> (m) ‘apple’, <i>Pflaume</i> (f) ‘plum’
<i>Spielzeug</i> (n) ‘toy’	<i>Bauklotz</i> (m) ‘block’, <i>Puppe</i> (f) ‘doll’
<i>Land</i> (n) ‘land’	<i>Wald</i> (m) ‘woods’, <i>Sumpf</i> (m) ‘swamp’, <i>Wiese</i> (f) ‘meadow’

two superordinate terms are feminine: *Pflanze* ‘plant, herb’ and *Farbe* ‘colour’, going against the principle in Table 2.3.

Morphological and semantic principles interact in German gender assignment for some groups of nouns. Bird names have masculine gender unless they end in a derivational suffix which is associated with the feminine gender. Sailing vessels are assigned to the feminine gender unless they end in a derivational suffix which triggers masculine gender choice (Zubin and Köpcke 1986: 175).⁶

An interaction of semantic and phonological principles of gender assignment has been described for Yimas, a Lower Sepik language from Papua New Guinea. Yimas has eleven agreement classes. Four are chosen by the meaning of the nouns; these cover (i) human males; (ii) human females; (iii) animals; and (iv) culturally important items. The rest are phonologically motivated: the agreeing constituent repeats the last consonant of the noun root (Foley 1986: 86ff, 1991: 119–64).

Arapesh languages, of the Torricelli phylum in the East Sepik Province of Papua New Guinea, have a noun class for male humans, and one for female humans (a pioneering account is by Fortune 1942; detailed discussions are in Nekitel 1986 and Dobrin 2012). Nouns of other semantic groups trigger ‘alliterative’ or phonologically based, agreement, similar to Yimas.⁷ This is always overridden by semantics, for nouns with human reference, following Generalization 2.1.

2.4 Adapting genders: Loans and new words

Loans and newly coined words are a testing ground for the extent and the applicability of different ways of choosing gender (or noun class). The following principles are at work.

I. MECHANICAL ASSIGNMENT. All loan words, no matter what their form or meaning, may be automatically assigned to one class. This is the case in Babungo, a Bantu language: all loans belong to the noun class 1/2 (the majority of its native members are humans: Schaub 1985: 191–2). Recent borrowings from English, such as *kàtápílà* ‘caterpillar’ and *mòtòsáykù* ‘motorcycle’, and older borrowings such as *shó’sà* ‘church’ and *yísa* ‘yeast’, borrowings

⁶ See also Zubin and Köpcke (1984) for a study of semantic features of gender assignment to German compounds (despite controversial claims such as Trudgill’s 2007).

⁷ Phonologically based alliterative agreement in Bainounk, a West Atlantic language spoken in Senegal and Guinea Bisau, was described by Sauvageot (1967) as one of the ways of marking noun class agreement. Recent studies have demonstrated that agreement markers in Bainounk go back to old noun class affixes on the head noun and on agreement targets, with many of them fossilized and no longer fully productive in their derivation functions (Quint 2015, Cobbinah 2017).

from Hausa, e.g. *sàlò* ‘man’s gown’, and others are assigned to this noun class, independently of their phonological shape.

II. ASSIGNMENT BY SEMANTIC ANALOGY. Borrowed nouns can be assigned to the same gender as nouns of similar meanings. Terms for natural phenomena in Jarawara including—*bahi* ‘sun, thunder’—are assigned to masculine gender following the Myth-and-belief principle (see §2.2.3). A watch or a clock will be referred to as *bahi* because one tells the time of the day from it, as one would do from the sun. The alternative term, *heroso*, a loan from Portuguese *relógio* ‘clock, watch’, is also assigned to the masculine gender (Dixon 2004: 285).

Gender choice for loan words in Arapesh languages reflects their partial semantic basis. Borrowed terms for humans are assigned to classes according to whether they refer to men or to women, independently of their form. In Abu’ Arapesh, most nouns which belong to Class 1 ‘masculine’ contain either a final or an initial segment *n* (e.g. *aleman* ‘man’, *Nekitel* ‘male name’). However, words like *Spiritu Santu* ‘Holy Spirit’ and *ankelo* ‘angel’ are attributed to Class 1 ‘masculine’, although they do not contain the ‘marker’ *n*; similarly, *siste* ‘nun’ (from English *sister*) is assigned to the Class 2 ‘feminine’ (though it does not contain ?- or *kw*-, initial segments typical of this class) (Nekitel 1986).

III. ASSIGNMENT BY PHONOLOGICAL FEATURES AND BY FORMAL ANALOGY. A few well-known examples come from Swahili (Whiteley 1967: 170, Awde 2011: 33–5, and Dixon 1982: 177). Those borrowed nouns with inanimate reference which happen to begin with the syllable *ki*- or *k*- are reanalysed as belonging to the noun class 7/8—which subsumes artefacts (as we saw in Table 2.2). The reanalysis can be seen in the form of the plural and in the agreement. So, *ki-tabu* ‘book’, a borrowing from Arabic *kita:b* ‘book’, has been reanalysed as containing the prefix *ki*-. Its plural is *vi-tabu* ‘books’. In 2.14, the prefix *ki*- occurs as agreement marker on the adjective *-kubwa* ‘large’.

2.14	ki - <i>tabu</i>	ki - <i>kubwa</i>	Swahili
	NCL.7-book	NCL.7-big	
	‘large book’		

Similarly, the Swahili term *kiplefti* ‘traffic roundabout’, from English *keep left*, has been reanalysed as containing the same noun class prefix *ki*-. Its plural form is *vi-plefti*, and *k-labu* ‘club’, from English *club*, has a plural *vi-labu*. Both words belong to the *ki*- (singular)/*vi*- (plural) noun class.

IV. A COMBINATION OF SEMANTIC, MORPHOLOGICAL, AND PHONOLOGICAL FEATURES. In German, the loanword *der Drink* ‘alcoholic drink’ is masculine,

and its gender assignment is based on a complex of semantic and morphological and phonological features (Zubin and Köpcke 1984: 44, Paul 1972). These are:

- (i) Phonological: Consonant clusters in initial *and* in final position; initial cluste *dr-*; final nasal (typical for masculine nouns)
- (ii) Morphological: *-s* ‘plural’ (characteristic of masculine or of neuter gender)
- (iii) Semantic: class of drinkable liquids.

If several principles are at work, semantic analogy may override formal principles. Based on its phonological form, the English loan *Stress* in German could be either masculine or neuter. Its assignment to masculine gender can be explained by its meaning: other nouns within the same semantic field are masculine—such as *Zwang* ‘constraint, pressure’, *Druck* ‘pressure’, and *Kampf* ‘struggle’.

2.5 To conclude

The meanings of gender always include animacy, sex, and humanness. Choosing a gender may involve complex rules for transfer of membership, by Myth-and-Belief, Physical association, and Important Property principles. A semantic residue—hardly explainable at our present stage of knowledge—may still remain. Generalization 2.1 (p. 39) captures our expectations with regard to the extent of semantic predictability of gender choice. To complicate matters, gender choice may also involve morphological and phonological features of a noun.

In languages where gender choice is opaque it is often hard—if not impossible—to offer an exhaustive explanation for every choice. The terms used to ‘label’ genders may then be somewhat misleading. A gender labelled ‘feminine’ may include more than just biological females, and the one labelled ‘masculine’ may cover more than just males.

The term ‘neuter’ tends to refer to a gender which includes inanimates, or irrational entities, or a residue gender whose semantic basis is difficult to capture. In each case, a linguist needs to carefully investigate the language-specific principles behind the nickname-like terms.

Assigning an inanimate entity to a gender labelled ‘feminine’ because it also includes terms for women, or to a gender labelled ‘masculine’ because it also includes terms for men does not make the inanimate entity into a ‘woman’ or

a ‘man’. The terms for table—*a mesa* and *la table*—in Portuguese and French respectively belong to the feminine gender. The terms for the same object—*der Tisch* in German and *stil* ‘table’ in Ukrainian—are masculine. Assigning them to different gender classes does not make them more or less man-, or woman-like. But when the images of gender as a social construct are projected onto the world at large, a feminine entity can be represented as a metaphorical woman, and a masculine one as a metaphorical man. The associations and the semantic subtleties of gender help animate the world—the topic of §14.1.

3

The expression of gender

Gender is always realized through agreement. We start with this in §3.1. Morphological means for expressing gender are the topic of §3.2. In §3.3, we turn to gender distinctions in the lexicon and in derivation.

3.1 Gender agreement

Agreement is defined as a ‘systematic covariance between a semantic or a formal property of one element and a formal property of another’ (Steele 1978: 610). The contexts in which agreement occurs are referred to as **DOMAINS** of agreement. Agreement in gender may take place between a head noun and its modifier, or modifiers, or within possessive constructions. Or there may be agreement within a clause involving the predicate and its arguments. The constituent on which agreement is marked will be referred to as **TARGET** of agreement. The constituent which determines, or controls, agreement will be referred to as **CONTROLLER** of agreement.¹

3.1.1 Regular agreement and anaphoric agreement

We distinguish two kinds of agreement. **REGULAR** agreement takes place between a noun and an overtly expressed constituent outside the noun (within a noun phrase, or a clause). **ANAPHORIC** agreement involves agreement with a constituent which is not overtly stated.

Examples of regular agreement from Portuguese are in examples 2.1–2.2, from §2.1. Examples 2.3–2.6 show regular agreement in Dyirbal, and examples 2.9–2.11 illustrate the same phenomenon in Manambu. Regular and anaphoric agreement in German is shown in 2.13 and 2.14 in §2.3.2. English

¹ Further references, discussion and reappraisal of agreement can be found in Contini-Morava (2009), Corbett (2006), and Aikhenvald (2003a: 29). The terms ‘target’ and ‘controller’ were introduced by Corbett (1991). The head of a noun phrase is the controller of agreement, and its grammatical features will be reflected on agreeing constituents (see Dixon 2010a: 229–32, 2010b: 296–8; and Aikhenvald 2015b: 81–2).

has anaphoric gender agreement in its personal pronouns (*he, she, and it*) and no regular agreement.

The presence of regular agreement does not presuppose the existence of anaphoric agreement in pronominal system. Swahili has regular agreement on numerous targets—as we saw in examples 2.7–2.8 in §2.1 and in example 2.15 in §2.4—and just one form *yeye*, the third person singular pronoun for ‘he’, ‘she’, and ‘it’.²

Anaphoric agreement subsumes two types of environments. SUBSTITUTION anaphora involves the uses of a pronoun (or a demonstrative) to refer to a noun phrase, e.g. *The murderer ran away. He was a coward*, in English. TEXTUAL anaphora involves reference to a clause, a sentence, or any chunk of discourse. An example, from English, is *John failed the exam. Mary considered it a shame* (where ‘it’ refers to the content of the previous sentence—that John failed the exam).³ ‘Anaphoric agreement’ is a cover term for agreement with a constituent mentioned *earlier in discourse* (known as anaphora proper) or mentioned *later in discourse* (known as cataphora).

3.1.2 Regular agreement: Domains and principles

The domains of regular agreement in gender (or noun class) can include (A) a noun phrase, (B) a clause, and (C) multiple targets. In (D), we turn to interrelations between domains of agreement. Constraints on agreement are the topic of (E).

A. GENDER AGREEMENT WITHIN A NOUN PHRASE. The noun which controls agreement and determines the agreement forms is the head of the noun phrase. In many languages, modifiers from an open adjective class agree in gender with the noun, as we saw in 2.1–2.2, for Portuguese and in 2.7–2.8, for Swahili. In Manambu, members of a small adjective class covering ‘size’ (‘big’ and ‘small’) and ‘value’ (‘fine’) display agreement in gender, as we saw in 2.9 for the adjective ‘big.’ Within a noun phrase, agreement may take place between the noun and a modifier from a closed class—an article in 2.1–2.2 from Portuguese and in 2.12 from German, or a noun marker in 2.3–2.6 from Dyirbal. Modifiers

² This, and other examples in this section provide consistent exceptions to Greenberg’s universal (1963, universal 43), stating that ‘if a language has gender categories in the noun, it has gender categories in the pronoun.’

³ For the discussion of anaphora and cataphora, see Dixon (2003, 2010b: 247–56), Aikhenvald (2015b: 190–1).

from closed classes which constitute the domain of gender agreement include number words (especially lower numbers ‘one’ and ‘two’), indefinites, and also interrogatives. In Mba-ne and ‘Dongo-ko, two Mba (Ubangi) languages from the Democratic Republic of Congo, noun class agreement is obligatory with demonstratives, number words, and interrogatives ‘which?’ and ‘what kind of?’, and also with members of the open class of adjectives (Pasch 1986: 154–5, 229–41).

The majority of Australian languages have one form which combines an indefinite and an interrogative meaning, ‘who/someone’, or ‘what/something’ (see an overview in Dixon 2002: 327–32). The choice of a gender prefix in Wandarrang helps distinguish the indefinite from the interrogative meaning: *-ngaya* with neuter class prefix *wu-* means ‘what?’ and with the indefinite prefix *ra-* means ‘something’. Languages vary in the kinds of indefinites/interrogatives which take gender marking: in Manggarayi, gender is marked only on ‘who/someone’, in Worrorra it is marked on ‘who/someone’ and ‘where/somewhere’, while in Mayali it is marked on who/someone and what/something (Dixon 2002: 479 and references there).

Gender (or noun class) agreement can be a feature of possessive constructions. In numerous Bantu languages, the possessive marker (called ‘associative’) is marked for the noun class of the possessed noun (Welmers 1973: 175). In 3.1, from Swahili, the possessive marker takes an allomorph of noun class 7, *ki-* (the same as that in examples 2.7 and 2.15).

3.1	ki-su	cha	Hamisi	<i>Swahili</i>
	NCL.SG.7-knife	NCL.SG.7+POSS	Hamisi	
	‘Hamisi’s knife’			

In Jarawara, a possessed noun agrees in gender with the possessor. This is an exclusive feature of inalienably possessed nouns, which denote referents conceptualized as closely linked to the possessor. These include body parts, plant parts, and physical characteristics such as smell, sickness, and taste. Okomobi is a man and so his name belongs to the masculine gender. In 3.2, ‘arm’—a part of Okomobi’s body—takes masculine agreement.

3.2	Okomobi	man-o	<i>Jarawara</i>
	Okomobi	arm-MASC.POSSR	
	‘Okomobi’s arm’		

Jane is a woman, and so her name belongs to the feminine gender. In 3.3, ‘Jane’s arm’ is marked as feminine, agreeing with the possessor.

- 3.3 Jane man-i *Jarawara*
 Jane arm-FEM.POSSR
 ‘Jane’s arm’

Gender agreement with both possessor and possessee is a feature of Manambu. In 3.4, the possessive marker *-ke-* is prefixed with the feminine *le-* marking agreement with the possessor, Pauline. The suffix *-də* on the possessive marker reflects the masculine gender of the possessee, *gwal*, ‘grandfather’.

- 3.4 Pauline lə-kə-də gwa:l *Manambu*
 Pauline(feminine) fem.sg-POSS-masc.sg grandfather(masculine)
 ‘Pauline’s grandfather’

In contrast to Jarawara, gender agreement in possessive constructions is not constrained by whether entities are alienably or inalienably possessed.

Occasionally, gender agreement is marked on adpositions. An example comes from Abkhaz, a Northwest Caucasian Language ([Hewitt 1979](#): 116).

- 3.5 Àxra yə-zə *Abkhaz*
 Axra 3sg.human.male-for
 ‘for Axra’

In E, we turn to constraints on agreement.

B. GENDER (OR NOUN CLASS) AGREEMENT OUTSIDE A NOUN PHRASE. Gender (or noun class) agreement outside a noun phrase often involves agreement on the verb with a core argument—the subject (S of an intransitive verb, A of a transitive verb) or the transitive object (O). Yalaku, a Ndu language from Papua New Guinea, has two genders—masculine and feminine. Just agreement with the subject, A or S, is expressed on the verb—see 3.6 (from my own fieldwork).

- 3.6 loki hekawa le-yi-k *Yalaku*
 she+too who+COMIT 3fem.sg-go-DECL
 ‘Who is she going with, too?’

There can also be agreement with the transitive object (O). An example from Jarawara in 3.7 shows agreement with the object ‘fish package’ on the verbal suffix meaning ‘now’ in Jarawara.

- 3.7 aba tafowe_O mee hi-ka-tisa-**we** *Jarawara*
 fish(m) package they_A Oc-APPLIC-unwrap-NOW.MASC
 ‘Now they unwrap the fish package’

In 3.8, the verb agrees in masculine gender with the intransitive subject S, 'fish' (Dixon 2004: 424).

- 3.8 abas hinita foje *Jarawara*
 fish(m) alone be.inside+MASC
 'Just fish is inside'

In 3.9, the verb agrees with the transitive subject (A), 'dog' (masculine). The agreement is shown in the suffixes on the main verb ('wake') and the auxiliary ('seem').

- 3.9 jomee_A tiwa_O na-tafi-**no** **awa?** *Jarawara*
 dog(m) 2sgO CAUS-wake-IPn.MASC seems.MASC
 ‘Did the dog waken you?’

Bantu languages show consistent noun class agreement with the intransitive subject (as we saw in 2.7–2.8 from Swahili), and with transitive subject and the direct object. The subject agreement marker usually comes before the tense marker, while the object agreement marker comes between the tense prefix and the root. In 3.10, the verb agrees with the animate subject (Maryamu) and the object ('children') (Bresnan and McChombo 1986: 293).

- 3.10 Maryamu_A **a-li-wa-onyesha** **wa-toto**_O
Maryamu NCL1_A-PAST-NCL2_O-show NCL2_O-children
ki-su_O *Swahili*
NCL7-knife
‘Maryamu showed the children a/the knife’

The object prefix is obligatory with animate objects, and optional if the object is inanimate.

It appears to be the case that no language has gender agreement with the object, unless there is agreement with the subject (transitive or intransitive). Agreement with a peripheral constituent is comparatively rare. In Manambu, a verb always bears agreement with the subject (A/S) and may also agree with

another constituent (object or oblique), provided it is topical (Aikhenvald 2008: 61–2). In Lak, a Northeast Caucasian language, gender agreement can be marked on a sentential adverb (Khaidakov 1980: 206).

C. GENDER AGREEMENT ON MULTIPLE TARGETS. In many languages, agreement gender (or noun class) occurs more than once in a sentence. In Portuguese and French, gender agreement is marked on articles, demonstratives, adjectives, and complex verbs (which contain an agreeing form of a past participle). An example from Portuguese is in 3.11.

- 3.11 um-a menin-a lind-a *Portuguese*
 ART.INDEF-fem.sg girl-fem.sg pretty-fem.sg
 está sentad-a aqui
 is sit.PARTICIPLE-fem.sg here
 ‘A pretty girl is sitting here’

French adds to these contexts agreement on the predicate of a relative clause with its object, as shown in 3.12.

- 3.12 la joli-e fille que j’ai *French*
 ART.DEF:fem.sg pretty-fem.sg girl that I’ve
 vu-e hier est
 see.PARTICIPLE-fem.sg yesterday is
 venu-e ici
 come:PARTICIPLE-fem.sg here
 ‘The pretty girl that I saw yesterday has come here’⁴

In Manambu, gender is marked on modifiers from closed classes (e.g. demonstratives, as in 2.10–2.11), possessive markers (3.4), and on verbs. In Dyirbal, gender is expressed on noun markers, the interrogative ‘where’, and on demonstratives. In Palikur, gender is marked on demonstratives, pronouns, some adjectives, and verbs (Aikhenvald and Green 2011). A few West Atlantic languages, !Xoo (Southern Khoisan), the North Kimberley languages of Australia (Worrorra, Ungarinjin, and Wunambal), Ubangi, and Bantu languages mark gender on every type of noun modifier and on the verb (see Dixon 2002: 470–85, Traill 1994, and Kilian-Hatz 2008).

⁴ For more on gender agreement in spoken and written French, see Loporcaro (2016).

Agreement on multiple targets—typical for Bantu languages—was illustrated in 2.7–2.8 for Swahili in §2.1. Using the same noun class marker on the modifiers and on the predicate has been called **ALLITERATIVE CONCORD**. Example 3.13, from Zulu, illustrates the same principle ([Herbert 1991](#): 106). Noun class 15 (which subsumes nominalizations) appears on the nominalization itself ('food'), on the possessive marker, the modifier 'all', and as agreement marker on the intransitive verb (as its subject, S).

- 3.13 **uku**-dla **kw**-ethu **ko**-nke **ku**-phelile *Zulu*
 NCL15-eat(=food) NCL15-our NCL5-all NCL15-is.finished
 'All our food is finished'

The agreement class prefix retains phonological similarity across all the contexts (with some minor differences). At first glance, such pervasive repetition may appear redundant. In fact, this is a valuable means for tracking the referent, and never losing sight of who did what to whom.

D. INTERRELATIONS BETWEEN DOMAINS OF GENDER AGREEMENT If a language has regular gender (or noun class) agreement on multiple targets within a noun phrase, Generalization 3.1 typically applies.

Generalization 3.1 Regular gender agreement within a noun phrase

- (a) agreement on modifiers from closed classes > agreement on modifiers from open classes
 - (b) agreement on modifiers > agreement in possessive constructions
-

Part (a) of this generalization implies that if a language has agreement on modifiers from an open class, it will have agreement with modifiers from closed classes. This is what we have seen in numerous examples so far. Part (b) implies that agreement in possessive constructions only occurs in those languages which have agreement with modifiers of other types. This is the case in Manambu, Jarawara, Bantu, and other languages where gender is expressed in possessive constructions.⁵

⁵ Potential correlations between different morphosyntactic loci of gender agreement are intriguing. Greenberg's Universal 31 states that 'a language which has agreement of the verb in gender with subject or object will also have agreement of the adjective with its head noun' ([Greenberg 1963](#): 112, repeated in [Corbett 1991](#): 111). In other words, the existence of predicate-argument gender agreement presupposes the existence of agreement with modifiers. This implies that once a language develops gender agreement on modifiers, this will spread onto verbs. This generalization does not hold water in numerous languages which have gender agreement on the predicate but not within noun phrases.

The interrelationship between gender agreement patterns within a noun phrase and outside it may take a more complicated form. Different kinds of modifiers may have different subsets of genders. Gender agreement between the predicate and its arguments may involve patterns of agreement different from those in noun phrases. We return to the coexistence of different subsets of gender in our discussion of SPLIT GENDER SYSTEMS in §4.1.3.

E. CONSTRAINTS ON AGREEMENT Agreement in gender (or noun class) can be constrained by a variety of language-specific factors. A subclass of adjectives may lack gender agreement forms. For instance, in Portuguese, adjectives which end in *-e* have the same form for both genders, e.g. *um homem gigante* ‘a giant man’, *uma mulher gigante* ‘a giant woman’. In Latin, adjectives fall into three classes: those which distinguish three genders (masculine, feminine, neuter), those which distinguish two (neuter versus non-neuter), and those which have just one form for all genders.

The presence or absence of agreement may depend on the construction type. In North Arawak languages, and also in Abkhaz-Abaza, agreement in gender on the verb is neutralized if the subject is preposed to the verb, as a means of focusing the subject (Aikhenvald 2021a).

Agreement may also depend on the topicality of a noun. In Motuna, a Papuan language from Bougainville, the predicate agrees in gender with subject and object, if it is topical (Onishi 2012 and p.c.). In Manambu, the verb will agree with a non-subject constituent only if it is topical. In Classical Arabic, agreement in gender in predicate-argument constructions depends both on the order of constituents and on definiteness (Russell 1984: 124–5). In predicate-initial sentences, agreement in gender is optional: it is more likely to occur if the noun phrase is definite. If the subject precedes the predicate, agreement in gender is obligatory.

Constraints on agreement may be due to additional factors. Cross-linguistically, terms for smaller numbers are more likely to display agreement in gender/noun class than larger ones. In most Berber languages of North Africa, only the number words ‘one’ and ‘two’ agree with the head noun in gender. In a number of Dravidian languages (Kolami, Parji, Naiki) which have two basic genders (male human and the rest), lower numbers have special forms for human females (more on this in Krishnamurti 2003). In Portuguese, two genders are distinguished in number words ‘one’ and ‘two’, and none for higher numbers. In French, two genders are distinguished only for the number word ‘one’. In Russian *odin* ‘one’ distinguishes three genders, as do all

Examples come from several prefixing Australian languages, including Marrithiyel (Green 1989) and Murrinhpatha (Walsh 1976) where gender (masculine and feminine) is marked only on dative bound pronouns and on free pronouns (further examples are in Dixon 2002: 484).

adjectives, but *dva* ‘two’ and *oba* ‘both’ distinguish only two genders (one form is used for masculine/neuter, the other one for feminine). Historically, these are remnants of forms marked for the dual number. The correlation between the value of a number word and gender agreement is reminiscent of correlations between the value of number and the use of numeral classifier (see §5.6).

Gender distinctions and gender agreement may be restricted to a subclass of nouns and adjectives. A few nouns with human reference in Ayacucho Quechua require agreement only with the adjectives borrowed from Spanish, e.g. *loko maqta* ‘crazy:MASC boy’, *loka sipas* ‘crazy:FEM girl’. A few Spanish borrowings referring to humans distinguish feminine and masculine forms, e.g. *biyudo* ‘widower’, *biyuda* ‘widow’ (Parker 1969: 34–5).

3.1.3 Formal agreement and semantic agreement

Agreement in gender may follow one of two paths. FORMAL agreement will be based just on the form of the noun. An example of formal agreement comes from German. We saw in §2.3.2 that the noun *Mädchen* belongs to the neuter gender, following the principles of morphological gender assignment. This gender choice is determined by the diminutive suffix *-chen*. This noun will occur with the neuter article *das* and feminine forms of adjectives and of relative pronouns (as we saw in 2.12 and 2.13). Examples of formal agreement in Swahili were shown in 2.7–2.8 in §2.1. We saw, in §2.3, how a few loan words commencing with *k(i)* in Swahili have been reanalysed as containing the noun class prefix *ki-*: these include *ki-plefti* ‘traffic roundabout’, from English *keep left*, and its plural form *vi-plefti* which were assigned the 7/8 noun class, by formal analogy (see also 2.14).⁶

SEMANTIC agreement will be based on the meaning of the noun. Semantic and formal agreement may be in competition, and then the meaning may well override the form, especially so for humans and also animates. The Latin noun *poëta* ‘poet’ is feminine by its form (it ends in *-a*, associated with the feminine gender). But it will take masculine agreement with adjectives and other modifiers if we are talking about men. So, Horace or Catullus will be referred to as *poëta magnus* (poet great.masc.sg) ‘(a) great poet’.

Semantic agreement in Swahili is the norm for animates, even if the head noun contains a prefix of a noun class containing mostly inanimates. In

⁶ Formal agreement is also referred to as syntactic, or mechanical, agreement: see Heine (1982: 194), Katamba (2003), Corbett (1991: 225–6).

Importantly, the option of having semantic or formal agreement is a specific feature of gender (or noun class) systems, which sets it apart from noun categorization devices (classifiers) of all other sorts. The choice of a classifier is always semantically based.⁷

The principles behind the choice of semantic versus syntactic agreement in various contexts are captured in the Agreement Hierarchy in Diagram 3.1.⁸

personal pronoun < relative pronoun < predicate < modifiers

Diagram 3.1 The Agreement Hierarchy

Diagram 3.1 reflects the likelihood of semantic agreement, which increases from left to right. Personal pronouns are more likely to display semantic agreement than modifiers, the predicate, or relative pronouns. This is what we saw in the patterns of gender choice for the German *Mädchen* ‘girl’ in §2.3.2. In example 2.12, the girl, *das Mädchen*, is introduced with the neuter definite article *das*, following the principle of formal agreement, since a noun with the diminutive suffix *-chen* is assigned to neuter gender on morphological principles. The girl is then referred to with the feminine anaphoric pronoun *sie* ‘she’ and *ihre* ‘her’ in 2.13.

A conflict between semantic and formal agreement with regard to humans may involve other factors. As shown by [Braun and Haig \(2010\)](#), Germans speakers tend to favour the feminine anaphoric pronoun *sie* with reference to older and more mature girls, and the neuter *es* to refer to younger girls who have not yet attained a full ‘womanhood’. In this way, semantic agreement may reflect the attitude and the status of a human referent (more on this in §14.1).

3.1.4 Head genders and agreement genders

A noun can be overtly marked for one gender (or noun class) called **HEAD GENDER**, and trigger agreement in another gender—**AGREEMENT GENDER**.⁹ Mayali, a Northern Australian language, has four genders: I. Masculine, II.

⁷ We hypothesize that languages with covert gender (not marked on the noun itself) are more likely to display predominantly semantic agreement than those with overt gender marking on each noun. This requires further study.

⁸ A discussion of the Agreement Hierarchy and its applicability is in [Corbett \(1991: 225–41, 2006: 207\)](#); see also [Aikhenvald \(2003a: 39\)](#).

⁹ For the notions of ‘head class’, or ‘head gender’, and ‘agreement class’ or ‘agreement gender’, see [Harvey \(1997\)](#) and [Evans \(1997\)](#); see also [Dixon \(2002: 487–8\)](#). Examples and discussion of Mayali are from [Evans \(1997: 108–9, 116, 126, 128–33\)](#) and [Carroll \(1995: 349\)](#). In his grammar of Bininj

Feminine, III. Vegetable, and IV. Neuter (a residue class). The assignment is semantically straightforward for humans, but less so for animates and especially inanimates.

The Masculine class subsumes human males, some mammals (such as ‘dingo’), a few birds and fishes. The Feminine class covers female humans, large female marsupials, some reptiles and small marsupials, birds, and a few miscellaneous words, e.g. grasshopper and stars. The Vegetable class covers most nouns denoting plants or their edible products, anatomical terms pertaining to genitalia, a few bird names, some geographical terms, some wooden implements used as weapons, the names for cultural practices, rain, and large fires. The Neuter class includes most body parts, things made of wood and string, landscape terms, names for language(s), for clans and clan territories, abstract nouns, and compounds.

Gender marked on the noun will usually correspond to the agreement gender, as we see in 3.17 (Evans 1997: 126, Carroll 1995: 349).

- | | | | |
|------|-------------------|------------------------|---------------|
| 3.17 | na-mekke | na-bininjkobeng | <i>Mayali</i> |
| | MASC.GENDERI-that | MASC.GENDERI-spouse | |
| | ‘that husband’ | | |

If a noun bears no overt head gender prefix, then the agreement is always semantic. In 3.18, the term *bininj* ‘man’ is masculine, and takes masculine gender agreement (Evans 1997: 116).

- | | | | |
|------|------------------|-------------------|---------------|
| 3.18 | bininj | na-mak | <i>Mayali</i> |
| | MASC.GENDERI:man | MASC.GENDERI-good | |
| | ‘(a) good man’ | | |

The mismatches between the head gender and the agreement gender occur under the following circumstances.

FIRST, a prefixed noun referring to a sex-differentiable being may have a conventionalized gender-marked form, but its agreement will depend on the sex of the referent. This is what we see in 3.19. The term for ‘evil spirit’ always bears the exponent of the masculine head gender, *na-*. This is an example of a generic masculine form.

Gun-Wok, which covers Mayali, Kunwinjku and other close dialects, Evans (2003) employs non-standard terminology: the term ‘gender’ for agreement classes, and the term ‘noun class’ for head genders (or classes) on nouns.

French). In Russian, gender-less *pluralia tantum* include *kanikuly* ‘vacations’, *brjuki* ‘trousers’, and *sani* ‘sledge’.

Inalienably possessed nouns which cannot occur without a possessor may have no inherent gender. In Jarawara, body parts and other inalienably possessed nouns agree in gender with their possessor. This is what we saw in 3.2 and 3.3, for the body part *-mano* ‘arm (masculine possessor)’ and *-mani* ‘arm (feminine possessor)’. This noun, like many other body part and orientation terms in the language, does not have a free form. Its gender is always inherited from its possessor (Dixon 2004: 283, 314–15, 343–60). The possessor determines the gender of the possessed nouns, and can thus be considered the head of the possessive construction.¹¹

3.2 The forms of gender

Grammatical gender, or noun class, is always marked on a constituent other than the noun itself, as a means of expressing agreement. Gender can also be marked overtly on the noun itself, as shown in examples 2.1–2.2 from Portuguese and 2.7–2.8, from Swahili. We start with the overtly marked gender and its functions in §3.2.1–2, and then turn to the morphological means used in expressing gender.

3.2.1 ‘Overt’ gender

Across Bantu languages, every—or almost every—noun will bear a prefix indicating its gender. So, in Nyankore, *mu-shaija* ‘man’ contains the prefix *mu-* characteristic of human noun class 1 to which the word ‘man’ belongs. The same prefix will be used as an agreement marker on an adjective, in *mu-shaija mu-hango* (NCL.SG.1-man NCL.SG.1-big) ‘a big man’. Similar examples from Swahili are in 2.7–2.8. In Portuguese and Spanish, the ending *-a* is generally typical of feminine, and the ending *-o* of masculine nouns, as in Portuguese *esposa* ‘a female spouse’ and *esposo* ‘a male spouse’, *juiz* ‘a judge, a male judge’, *juiza* ‘a female judge’. The same ending appears in agreeing forms (articles, demonstratives, adjectives), as we saw in 2.1–2.2. Sometimes morphological form can be misleading. In Portuguese, a few nouns with inanimate reference end in *-a* but are masculine, e.g. *dia* ‘day’ and *problema* ‘problem’; and some ending in *-o* are feminine, e.g. *mão* ‘hand’.

¹¹ Body part nouns in Yanyuwa, an Australian language, also have no inherent gender (see Evans 1994 and Dixon 2002: 487–8).

Overt gender marking may be restricted to just some semantic groups of nouns. Only personal names and a few kinship terms are overtly marked for gender in Manambu—a language with covert gender marking in all other instances. A male name may contain a formative *-dəmi* or *-dui*: *Wali-dəmi* and *Wali-dui* are recognizable as referring to males. In contrast, *-kay* or *-wali* occur in female names only, as in *Gwarabi-kay* and *Kapamada-wali* (Aikhenvald 2008: 127–8). In many Dravidian languages, overt marking of gender is a feature of nouns with human reference (Krishnamurti 2003: 206).

Generalization 3.2 summarizes our expectations with regard to overt gender marking on nouns.

Generalization 3.2 Overt gender marking on nouns: What to expect

human referents < sex-differentiable animate referents < lower animates and inanimates

This means that if a language has overt gender marking at all, it will have it on human referents. These may include personal names, as in Manambu. If there is overt gender marking on nouns with inanimate reference, we expect to also have it on nouns which refer to sex-differentiable animates. Overt expression of gender may interrelate with additional factors, A and B.

- A. THE ORIGINS OF THE FORM. In Anindilyakwa, an Australian language, only nouns of native origin are overtly marked for gender; the borrowings receive no overt class marking (Leeding 1989: 227, 268–9, Sands 1995: 260, Dixon 2002: 475). This may be an indication that overt noun class marking was productive at an earlier stage, but then ceased to be productive. In Swahili, adjectives borrowed from English do not agree in noun class with the noun they modify, and native adjectives do (Nurse 1997).
- B. SPECIFIC VERSUS GENERIC REFERENCE. Overt marking of gender reflects specific reference, and the lack of overt marking indicates more generic reference. In Turkana, an Eastern Nilotic language, overt gender marking is absent from nouns which are grammaticalized as locational expressions—this is what we see in the pair *a-kwap`* ‘country, land’ versus *kwap`* ‘underneath’. The gender prefix is frequently omitted from names of animals in folk tales when the names are used in reference to the general species. The nouns ‘lion’ and ‘ostrich’ in isolation are in 3.24 (Dimmendaal 1983: 221).

- 3.24 ε-ηatù *Turkana: overt gender marking*
 masc.sg-lion
 ‘lion’ (used in isolation)
 ε-kalèes
 masc.sg-ostrich
 ‘ostrich’ (used in isolation)

In 3.25, an extract from a traditional tale, the two forms which refer to a specific lion and a specific ostrich do not carry overt gender markers.

- 3.25 ηatùñ kà kalèes *Turkana: no overt gender marking*
 lion and ostrich
 ‘(Long ago, there were two friends), lion and ostrich’

The opposite situation has been reported for Warndarrang, an Australian language: every noun usually bears a noun class prefix when used in stories, but may be omitted in citation (Dixon 2002: 475). Overt gender marking in Alamblak (Sepik Hill family, Papuan area) is used to focus on the sex of an animate referent: *yima* ‘person’ (masculine or feminine) can be overtly specified with the masculine *-r*, yielding *yima-r* ‘man’, or feminine *-t*, in *yima-t* ‘woman’ (Bruce 1984: 97). Overt gender marking may have further, derivational functions—our next topic.

3.2.2 Making new words: The double duty of gender

Overt gender (or noun class) marking helps derive new words. In this way, it has DERIVATIONAL functions. In other words, changing gender helps expand the lexicon. At the same time, gender marks agreement, and in this way it is an INFLECTIONAL category. This double duty of gender in Portuguese was illustrated in 2.1–2.2 in §2.1.

A combination of derivational and inflectional functions is a pervasive feature of Bantu languages. Here, the same set of prefixes forms new words and also operates as agreement markers. Adding a non-standard noun class prefix to a noun root results in meaning change (see Mufwene 1980: 251 and Katamba 2003 for the double duty of noun class markers in Swahili and other Bantu languages; see also Demuth et al. 1986: 455, for Sesotho, and Denny and Creider 1986: 217, for Kikuyu).

Examples 3.26–28 illustrate this for Swahili. In 3.26, the root *-toto* bears the prefix of the noun class 1 (singular form). The core reference of the noun class is to humans, so the resulting form refers to a child (see also Table 2.2).

- 3.26 **m-toto** *Swahili*
 NCL1.SG-child
 ‘a child’

In 3.27, the same root occurs with the prefix *ki-*, of the noun class 7 (singular form) which subsumes animates and a variety of inanimate objects and implements; the resulting noun refers to a small child or a baby.

- 3.27 **ki-toto** *Swahili*
 NCL7.SG-child
 ‘a small child’

In 3.28, the same root occurs with the prefix *u-*, of the noun class 14 (which has no plural form if applied to uncountable referents). This class subsumes abstract concepts and also locations, and the resulting form refers to ‘childhood’.

- 3.28 **u-toto** *Swahili*
 NCL.14-child
 ‘childhood’

Following a similar principle, *m-gánda* (NCL1.SG-Ganda) is ‘a Ganda man’, *U-gánda* (ncl.14-ganda) is ‘the Ganda land’ (the nation which we know as Uganda), and *ki-gánda* (NCL.7-ganda) is the Ganda language.

Generalization 3.3 summarizes the functions of gender (or noun class) in languages where these categories are marked overtly.

Generalization 3.3 Inflectional and derivational functions of gender (or noun class)

In languages with overt gender (or noun class) marking, gender (or noun class) markers are likely to straddle the boundary between derivation and inflection.

We now turn to the morphological means in the expression of gender.

3.2.3 How to mark gender: The means employed

The most frequent means of marking gender (or noun class) is (A) SEGMENTAL AFFIXATION. Further, less common, means include (B) APOPHONY (or vowel alternations), and (C) SUPRASEGMENTAL processes.

(A) SEGMENTAL AFFIXATION. Gender and noun class are expressed more frequently with suffixes than with prefixes. This agrees with the general principle: that suffixes are more common than prefixes across the world's languages (see Dixon 2012: 439, 455, and references there).

Across Indo-European languages, gender is expressed with suffixes. Northern Australian languages with extensive sets of prefixes use prefixation for marking gender on the noun and in agreement.

Prefixes mark noun classes in Bantu and most Benue-Congo, Togo Remnant, West Atlantic, and Eastern Nilotic languages. Suffixes are used for marking noun class in Gur (Voltaic), some West Atlantic (e.g. Ful), a few Khoisan and Afroasiatic languages. Circumfixes—a prefix and a suffix used simultaneously—mark gender in a few Semitic and Berber languages.¹²

The use of a suffix or a prefix may depend on the domain of agreement and its target, and also the type of agreement target and the type of modifier. Agreement in each of four genders in Limilngan, an Australian language, is marked with prefixes on adjectives and pronominal possessors, and with suffixes on demonstrative modifiers (Harvey 2001: 45). Feminine and masculine genders in Tiwi, another Australian language, are marked with suffixes on nouns, adjectives, and the interrogative 'who/what', and with prefixes to verbs and demonstratives (Lee 1987).

(B) APOPHONY, OR VOWEL CHANGES. In Jarawara, vowel changes are used to mark feminine and masculine agreement, as we saw in 3.2–3.3. Six types of gender marking on possessed nouns include a combination vowel alternation and external affixation, e.g. *i/o* alternation in the last syllable, i.e. fem. *noki*, masc. *noko* 'eye, face', or *e/a* alternation in non-final syllable(s), e.g. fem. *tame*, masc. *teme* 'foot'; fem. *anate*, masc. *enete* 'chin'. This unusual fusional pattern of gender marking in possessed nouns in Jarawara can be explained in terms of a number of regular diachronic changes from an entirely agglutinating, suffixing structure in Proto-Arawá, with possessed nouns marked with the suffixes *-ni* 'feminine' and *-ne* 'masculine' (Dixon 1995: 281).

¹² See Dixon (2002: 468–97) for a comprehensive overview of Australian languages, Heine (1982: 194) for numerous language families across Africa, Rubin (2017) for Semitic languages, and Kossmann (2012) for Berber languages. Further examples of prefixes, suffixes, and apophony in gender marking are in Aikhenvald (2003a: 59).

Another notable example of genders (or noun classes) marked by vowel alternation comes from Marind, spoken in southern Irian Jaya. Marind has four genders which trigger head-modifier agreement with demonstratives and adjectives. Gender is indicated by the vowel of the stem-final syllable of some nouns, and of modifiers. The first class, with a characteristic vowel *e*, contains male humans; the second class, with vowel *u*, contains female humans and animals; the third class mainly consists of plants and trees, and is characterized by *e*, *a*, or *o*. The fourth class is a residual class which contains decorations, clothing, body parts, some plants and trees, and its characteristic vowel is *i*, e.g. *hazēz* ‘weak’ (1 class), *hazuz* ‘weak’ (2 class), *hazaz* ‘weak’ (3 class), *haziz* ‘weak’ (4 class) (Drabbe 1955: 22–3, Foley 1986: 82–3).

(C) SUPRASEGMENTAL PROCESSES (TONE AND STRESS) are another infrequent device for the expression of gender and noun class. In Rendille, an East Cushitic language, masculine nouns have the tone pattern high-low, and feminine nouns have low-high pattern on the last two syllables; all preceding syllables are low in both genders, e.g. *maxábal* ‘man, husband’, *maxabál* ‘woman, wife’ (where ´ marks high tone and low tone is unmarked: Heine 1982: 201). In Sochiapan Chinantec, gender agreement on adjectives, number words, and other modifiers, is marked via nasalization of the final vowel and sometimes also change of tone, e.g. *pa^{MH}* ‘big (inanimate singular)’, *pā^H* ‘big (animate singular)’ (Foris 2000: 184–6).

Genders and noun classes are never expressed with free morphemes (in contrast to numeral classifiers, noun classifiers, and verbal classifiers), nor via reduplication (in contrast to numeral and verbal classifiers). The repeater technique—whereby the noun itself will occur in the slot reserved for the agreement marker—is never used for gender (or noun classes).

3.3 Gender distinctions without gender agreement

Grammatical genders are absent from many linguistic families in Eurasia (including Uralic, Tungusic, and Turkic), the majority of Austronesian languages (with the exception of a few Western Austronesian languages), the Kwa and Mande languages from West Africa, and the majority of the languages of Southeast Asia. In North America, grammatical gender is absent from Eskimo, Wakashan, and Athabaskan languages. Gender-less languages in South America span Tupi, Carib, Quechua, Aymara, and Chibchan languages (in addition to a few isolates). The loss of grammatical gender in a few Indo-European

languages—including Armenian, some Indo-Aryan (such as Bengali), and Iranian (including Persian (or Farsi) and Balochi)—is attributed to the effects of language contact with adjacent languages (the topic of Chapter 15). Most European-based Creole languages use one form for ‘she’ and ‘he’ (e.g. Tok Pisin *em*, Kristang *el*, Papiamentu *e*, Nubi *uwo* ‘she, he’).

Meanings central for gender include sex, humanness, and animacy. In the absence of grammatical gender, the relevant distinctions will be expressed by using different words. Every language has some lexical means to differentiate a woman from a man, and a female from a male. Indonesian has no gender agreement: the same pronoun *dia* ‘he, she’ is used for a male and for a female. To distinguish a male from a female in Indonesian, the masculine form *lelaki* or *laki-laki* ‘male’ can be added to a noun to refer to a male—e.g. *orang laki-laki* ‘man’—and *perempuan* ‘female’ to refer to a woman—e.g. *orang perempuan* ‘woman’. The noun *betina* can be added to a term for an animal to denote the female, as in *singa betina* ‘lionness’, and *djantan* to denote a male, e.g. *singa djantan* ‘(male) lion’. A few derivational affixes mark forms with male and female reference, e.g. *dew-a* ‘god’, *dew-i* ‘goddess’, borrowed from Sanskrit.

Similar to other Uralic languages, Estonian has no agreement gender or anaphoric gender. There are numerous lexical pairs, including *naine* ‘woman’ and *mees* ‘man’, *tütar* ‘daughter’ and *poeg* ‘son’, and so on. The same third person singular pronoun *tema* or its shortened version *ta* is used for any sex or animacy. A few suffixes on nouns help distinguish a man from a woman, e.g. *kangelane* ‘hero’ and *kangelanna* ‘heroine’, *kuningas* ‘king’ and *kuninganna* ‘queen’, *sõber* ‘friend’ and *sõbranna* ‘female friend’. The feminine derivational suffix *-tar* in Estonian (and its Finnish counterpart *-tare*) was borrowed from a Germanic source. This suffix is now used with numerous terms (native and borrowed) referring to women, e.g. *runo-tar* ‘poetess’, from *runo* ‘poem’, *kuninga-tar* ‘queen’, *sõbra-tar* ‘girlfriend’.¹³

The expression of gender restricted to derivation and lexicon is tangential to gender as agreement category. However, one needs to keep in mind that exponents of lexical gender may develop into gender agreement markers. And markers of derivational gender can be the remainders of agreement gender lost in the course of language history. We return to these in §15.1.

Meanings associated with gender can also be expressed through other grammatical categories. Nouns with human or animate reference are more likely

¹³ See Kwee (1965: 55) and Sneddon (1996: 164), on Indonesian, Braun (2000: 53) for Turkish, Collinder (1965: 57) for Finnish, Hasselblatt (2015), Wiedemann (1875: 196–7) for Estonian, and further examples in Aikhenvald (2016: 63–74).

to occur with overt number marking and case-marking than those referring to lower animates and inanimates. The choice of a case marker often correlates with animacy and humanness of the subject or the object. The principle behind these is the Animacy Hierarchy (Diagram 5.1, p. 123). Animates can be distinguished from inanimates, and humans from non-humans, through different interrogative words, such as English *who* and *what*.

Social aspects of gender find their linguistic expression through the ways in which men and women speak. Men's and women's ways of speaking may be conventionalized, in the form of different registers or dialects. This was discussed at length in Chapter 9 'When men and women speak differently' of my 2016 book *How gender shapes the world* (Oxford University Press). This additional dimension of the expression of gender in a wider sense is tangential to our present study.

3.4 To conclude

Gender and noun class are marked in various ways—especially via agreement, regular and/or anaphoric. Gender meanings can be expressed lexically and also with derivational affixes. The expression of gender (on noun class) is summarized in Diagram 3.2.

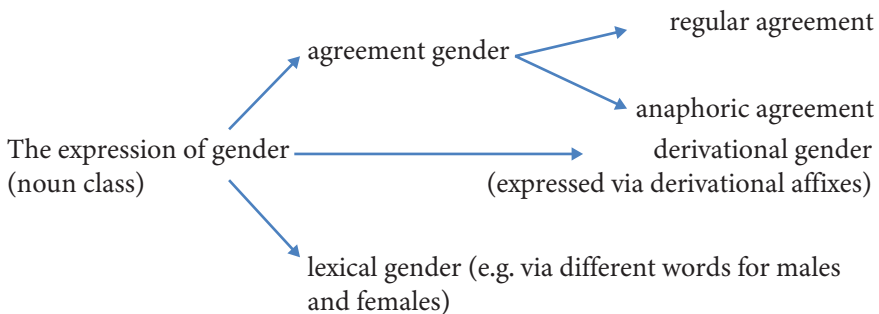


Diagram 3.2 How to express gender meanings

The likelihood of overt marking of gender correlates with the meaning of a noun. We saw in Generalization 3.2 (p. 63) that overt gender marking is more likely to occur on nouns with human reference than on those from other semantic groups. The exponents of gender in languages with overt gender marking are likely to be deployed as derivational devices, as a means for making new words.

4

Gender in its further guises

The question ‘how many genders does a language have?’ may not warrant a simple answer. This is the topic of §4.1. We then turn to the question of markedness in gender systems in §4.2, and the ways in which gender interacts with other categories in §4.3. The last section, §4.4, contains a summary.

4.1 How many genders?

Different sets of genders may occur in different agreement domains, or in different parts of the grammar. This is what we turn to now.

4.1.1 Different subsets of genders in different numbers

Gender in Romanian, an Eastern Romance language, has a partial semantic basis. Nouns referring to females and males are almost always assigned to feminine and masculine genders. Gender choice for inanimates is less straightforward. Some are assigned to masculine or to feminine, and others to the somewhat problematic neuter gender. Gender is expressed on the noun itself, and on agreeing modifiers (adjectives and demonstratives).

How many genders are there in Romanian? The answer to this question has been the matter of some controversy (for an up-to-date analysis of gender in Romanian, see [Maiden 2016a](#)). Nouns fall into two classes in the singular number, and into a different two in the plural. Table 4.1 summarizes the gender markers and the correlations between the two number systems.

Nouns may belong to the masculine gender in the singular and in the plural, or in the feminine gender in both numbers. The third grouping—the ‘neuter’—consists of nouns which take masculine-like markers in the singular, and feminine-like ones in the plural. That is, nouns fall into three classes.

Table 4.1 How many genders does Romanian have?

In singular number	Distribution in gender groups of nouns	Markers of plural number
-ă	feminine	} -e
-Ø	} neuter	
	} masculine	-i

I. 'MASCULINE': this grouping contains nouns which take -Ø in the singular and -i in the plural (marked on an agreeing adjective and other modifiers).

The core of this group of nouns refer to men. This is why this form is referred to as 'masculine gender'. Example 4.1 shows the singular form of the masculine noun 'friend'.

4.1	un	prieten	
	ART.INDEF:masc.sg	friend:masc.sg	
	bun		<i>Romanian: singular number</i>
	good:masc.sg		
	'a good male friend'		

Example 4.2 shows the plural form of the same noun.

4.2	prieten-i	bun-i	<i>Romanian: plural number</i>
	friend-masc.pl	good-masc.pl	
	'good male friends'		

II. 'FEMININE': this grouping contains nouns which take -ă in the singular and -e in the plural. The core of this group of nouns refer to women. This is why this form is described as 'feminine gender'. Example 4.3 shows the singular form of the feminine noun 'friend'.

- 4.3 un-ă prieten-ă
 ART.INDEF-fem.sg friend-fem.sg
 bun-ă *Romanian: singular agreement*
 good-fem.sg
 ‘a good female friend’

Example 4.4 shows the plural form of the same noun.

- 4.4 prieten-e bun-e *Romanian: plural agreement*
 friend-fem.pl good-fem.pl
 ‘good female friends’

III. ‘NEUTER’: this contains nouns which take -Ø in the singular (making them similar to masculine) and -e in the plural (making them similar to feminine).

This group of nouns consists of exclusively inanimates—hence the term ‘neuter’ (though not every inanimate referent belongs to this class). Example 4.5 shows the singular form of the ‘neuter’ noun ‘pencil’.

- 4.5 un stilou bun *Romanian: singular number*
 ART.INDEF:neut.sg pencil good:neut.sg
 ‘a good pencil’

Example 4.6 shows the plural form of the same noun.

- 4.6 stilou-ri bun-e *Romanian: plural number*
 pencil-pl good-neut.pl
 ‘good pencils’

The ‘neuter’ gender in Romanian does not have markers of its own (as we saw in Table 4.1). It is defined by the combination of the masculine marker in the singular and the feminine marker in the plural (see Maiden 2016a: 102). That is, two overlapping sets of gender forms in singular and in plural result in the division of nouns into three gender classes.¹

¹ Along similar lines, Telugu, a South Dravidian language, has two genders—human masculine versus everything else—in the singular, and two genders with different semantics—human versus non-human—in the plural. See Krishnamurti (2003: 210) on similar phenomena in Malto and Kurux, two North Dravidian languages.

4.1.2 Subgenders and superclassing

An existing gender may be further divided into SUBGENDERS—based on animacy or sex (that is, natural gender). Russian has three genders—feminine, masculine, and neuter. Masculine nouns are further divided into animate and inanimate. In the animate subgender, accusative case on the nouns and their modifiers coincides with the genitive. And in the inanimate subgender, the accusative case for nouns and their modifiers uses the same form as the nominative (as it does for all neuter nouns).²

CONCORDIAL SUPERCLASSING reflects the opposite phenomenon. One gender can subsume others, resulting in the creation of a ‘macro-gender’ (or a macro-class). Gaagudju, a language from northern Australia (Harvey 1997: 153–4),³ has four genders, or agreement classes, with distinct class prefixes:

- I—human males, most animates, European material objects, rain;
- II—human females, some animates;
- III—plants and their parts, weapons;
- IV—abstract entities, body parts, fire, geographical features, temporals.

Agreement gender is marked on adjectives, demonstratives, quantifiers, and in absolutive pronominal prefixes on the verb. With demonstratives as modifiers, all nouns with an animate referent tend to have Gender I agreement, and all the inanimates Gender III agreement. Thus, Gaagudju can be said to have two macroclasses marked on demonstrative modifiers: animate and inanimate.

4.1.3 Split gender

A SPLIT GENDER SYSTEM involves having different gender choices in different agreement domains.⁴ Palikur, a North Arawak language from Brazil and French Guiana, has three or two gender forms in various contexts within regular agreement—we discuss this in A. In B, we turn to Spanish and a few other Western Romance languages with different sets of genders in regular and in anaphoric agreement. Further instances of split gender are the topic of C.

² See also Janda (1999) and Kryk-Kastowsky (2000) on subgenders in Polish.

³ See Evans (1997), Harvey (1997), and also Sands (1995: 264–5) for further discussion of concordial superclassing in Australian languages.

⁴ The term and the notion of ‘split gender’ or ‘split noun class’ was introduced in Aikhenvald (2003a: 67–70). We owe the concept of pronominal gender as distinct from nominal gender (or noun class) to Heine (1982).

A. Split gender in regular agreement

In Palikur, THREE GENDERS—masculine, feminine, and neuter—are distinguished in demonstratives and personal pronouns (free and bound). Examples 4.7–4.9 illustrate genders marked on demonstratives.

4.7 **ner** awayg *Palikur*
 THIS:masc.sg man
 ‘this man’

4.8 **no** tino *Palikur*
 THIS:fem.sg woman
 ‘this woman’

4.9 **ini** ahin *Palikur*
 THIS:neut.sg path
 ‘this path’

The form of the noun in Palikur tells us nothing about the gender of the referent: gender is covert. The choice of genders is partly based on its meaning. Human males are always masculine and females are feminine. The gender choice for non-humans is less transparent. For instance, birds, turtles, and butterflies are always feminine, while the choice of gender for fish and mammals is determined by their size and speaker’s attitude to them (Aikhenvald and Green 2011: 403).

TWO GENDERS are distinguished in predicate-argument agreement shown within tense-aspect-modality markers: one for masculine/neuter and the other for feminine.

This split agreement system is summarized in Diagram 4.1.

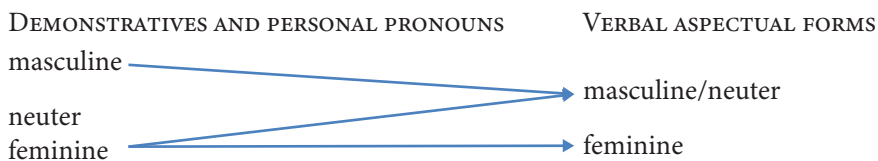


Diagram 4.1 Split gender in Palikur

The masculine-neuter agreement form for the continuative aspect is *-ne* and the corresponding feminine form is *-no* (further forms are in Aikhenvald and

[Green 2011](#): 406–8). In 4.10, both the demonstrative and the stative verb *barew* take agreement in feminine gender with the noun *tino* ‘woman’.

- 4.10 **no** tino barew-**yo** *Palikur*
 this:fem.sg woman be.beautiful/clean-DURATIVE.FEM
 ‘this woman is beautiful/clean’

In 4.11, the demonstrative takes agreement in masculine gender, and the stative verb *barew* takes agreement in masculine/neuter, all with the noun *awayg* ‘man’.

- 4.11 **ner** awayg *Palikur*
 this:masc.sg man
 barew-**yo**
 be.beautiful/clean-DURATIVE.NONFEMININE
 ‘this man is beautiful/clean’

In 4.12, the demonstrative agrees with the noun *ahin* ‘path’ in neuter gender. The stative verb *barew* takes the agreement form in the masculine/neuter gender with the same noun.

- 4.12 **ini** ahin barew-**ye** *Palikur*
 this:neut.sg path be.beautiful/clean-DURATIVE.NONFEMININE
 ‘this path is beautiful/clean’

The neuter gender in Palikur is a relatively recent development. A two-gender system (feminine versus non-feminine) is a feature shared with the majority of other languages from the Arawak family ([Aikhenvald 2012a](#): 300, 2020b).

B. Split gender in regular agreement versus anaphoric agreement

In Spanish, two agreement genders—feminine and masculine—are marked on numerous modifiers, including articles (feminine *la*, masculine *el*), adjectives, and demonstratives, and also participles within complex verbs. Each of the modifiers can also be used anaphorically. An additional neuter gender form is restricted to anaphoric agreement (see [Butt and Benjamin 2004](#): 84–91).

This is how it works. Feminine and masculine articles and pronouns can refer only to those referents which belong to either feminine or masculine

gender. The neuter pronoun and the neuter article *lo* are restricted to just anaphoric agreement (with no noun present), and refer ‘to concepts, ideas, or statements (e.g. a preceeding remark or a sentence)’. In other words, the neuter forms are used for substitution anaphora (for abstract concepts) and for textual anaphora (see §3.1).

In 4.13, the feminine form of the distal demonstrative ‘that’ refers to a woman.

- 4.13 No quiero hablar de aquella *Spanish*
 NEG want.1sg talk.INFIN about that.fem.sg
 ‘I don’t want to talk about that one (feminine, e.g. a woman)’

In 4.14, the masculine forms of the same demonstrative, *aquel*, refers to a man.

- 4.14 No quiero hablar de **aquel** *Spanish*
 NEG want.1sg talk.INFIN about that.masc.sg
 ‘I don’t want to talk about that one (masculine, e.g. a man)’

In both 4.13 and 4.14, the nouns are omitted but will be clear from the context. In 4.15, the neuter form of the same pronoun ‘that’ refers to a concept or an event—something previously said or done.

- 4.15 No quiero hablar de **aquello** *Spanish*
 NEG want.1sg talk.INFIN about that.neut.sg
 ‘I don’t want to talk about that (neuter) (e.g. a statement or an event)’

With an adjective, the neuter article *lo* can refer to a general abstract concept, e.g. *lo bello y lo feo* (ART.NEUT beautiful.masc.sg and ART.NEUT ugly.masc.sg) ‘beauty and ugliness’. If one uses a masculine or a feminine article, the referent will be a person, e.g. *el bello y el feo* (ART.MASC.SG beautiful.masc.sg and ART.MASC.SG ugly.masc.sg) ‘the beautiful one (masculine) and the ugly one (masculine)’. There is no neuter form for regular adjectival agreement.⁵ The neuter is an archaic remnant from Latin, which survives

⁵ For the neuter gender in anaphoric agreement in Catalan, see [Alsina \(2016: 376\)](#); see also [Tuten et al. \(2016: 396, 398\)](#) on Spanish; [Loporcaro et al. \(2014\)](#) on the neuter gender in Old Italian; and surveys in [Maiden \(2016b: 701\)](#) and [Loporcaro \(2016\)](#), and also [Loporcaro and Paciaroni \(2016\)](#).

predominantly in anaphoric agreement, which is more archaic than regular agreement.⁶

C. Split agreement in pronominal and nominal gender: looking further afield

In many languages of Amazonia, New Guinea, and Africa we find:

(a) One system of gender (or noun class) with personal, demonstrative, and other pronouns, and in verbal cross-referencing (of pronominal origin). This is referred to as ‘pronominal’ gender/noun class.

(b) Another system with adjectives (and sometimes other modifiers, such as number words and possessives). This is referred to as ‘nominal’ gender/noun class by Heine (1982: 195–6). In each case the two systems have all the properties of gender (or noun class) systems. They differ, with respect to: (i) domains and targets of agreement; (ii) the size of systems; and (iii) their semantic basis. These differences are summarized in Table 4.2.

Pronominal gender systems involve animacy, sex, and humanness, and the nominal systems add to this shape, size, shape, and consistency.⁷ The meanings of different subsystems with split gender agreement only partially overlap. A further option is coexisting independent agreement systems in gender and in noun class—to which we turn now.

Table 4.2 ‘Pronominal’ and ‘nominal’ agreement in gender systems

Properties	Pronominal gender	Nominal gender
(i) Domain of agreement	anaphoric agreement including personal pronouns regular and anaphoric agreement on demonstratives and in verbal cross-referencing	regular agreement on adjectives and other modifiers, e.g. number words
(ii) Size of system	smaller systems	larger systems
(iii) Semantics	animacy/sex/humanness	animacy/sex /humanness/shape/size and other parameters

⁶ Similarly, in English three genders survive in anaphoric agreement only, and have been completely lost in regular agreement: see §15.4.3.

⁷ Examples include Stebbins (2005) on Mali, a Baining language, Onishi (2012: 163–4, 173) on Motuna, a Papuan language from Bougainville, Aikhenvald (2012a, 2019b, 2020b) on Arawak languages, and Wojtylak (2021a) on Murui, a Witotoan language from Colombia.

4.1.4 Gender and noun class as independent agreement systems: Focus on Paumarí

Gender and noun class as independent agreement systems are a feature of Paumarí, an Arawá language from southern Amazonia. Similar to Jarawara, Paumarí has two genders: feminine and masculine. Gender is marked covertly via agreement on modifiers and in possessive constructions and on a few verbal suffixes.

Nouns also divide into two noun classes: one that triggers *ka*-agreement on a number modifiers and one that does not. Table 4.3 summarizes the targets of agreement in feminine and masculine genders and in *ka*-noun class, within a noun phrase.

Table 4.3 shows that the domains of agreement for gender and the *ka*-class partly overlap. The assignment of both gender and the *ka*-noun class is semantically based, but hardly straightforward. All nouns with female referents belong to the feminine gender, and all nouns which refer to males are masculine. All body parts, parts of plants, and the majority of artefacts and their parts are feminine. Some plants and lower animates are feminine, and some are masculine. Nouns denoting terrestrial natural phenomena, such as ‘earth’, ‘lake’, ‘beach’, are feminine. Nouns denoting celestial bodies are mostly masculine (e.g. ‘star’, ‘moon’, ‘sun’). However, the word for ‘sky’ is feminine.

The choice of the *ka*-noun class is only partly transparent. The referents covered by the *ka*-class tend to be flat and extended, and may consist of many parts (or contain seeds). Some body part terms have different meanings depending on whether they belong to the *ka*-class or not. The noun *sa’ay* means ‘finger’ if it does belong to the *ka*-class. The same form *sa’ay* which belongs to the *ka*-class means ‘hand’.

Table 4.3 Gender and *ka*-noun class in Paumarí: Targets of agreement in a noun phrase

Targets	demonstratives, personal pronouns, possessive constructions	small class of agreeing adjectives	stative verbs as modifiers
feminine and masculine gender	yes	yes	no
<i>ka</i> -noun class	no	yes	yes

A turtle is flat (and therefore belongs to the *ka*-class) and can be male or female. In 4.16, the male turtle triggers masculine agreement on the demonstrative ‘that’ and on the agreeing adjective ‘one’. Agreement for the *ka*-class is marked on the agreeing adjective ‘one’.

- 4.16 **ada** ojoro ka-hoara-**na** *Paumarí*
 that::masc.sg turtle KA.class-one-masc
 ‘that one male (flat) turtle’

If the turtle is female, feminine gender is marked on both the demonstrative and the number word ‘one’, as shown in 4.17.

- 4.17 **ida** ojoro ka-hoara-**ni** *Paumarí*
 that:fem turtle KA.class-one-fem
 ‘that one female (flat) turtle’

Gender agreement tells us what the sex of the turtle is. The noun *kawina* ‘howler monkey’ does not belong to the *ka*-class. The agreement is in gender only.

- 4.18 **ada** kawina hoara-**na** *Paumarí*
 that:masc.sg monkey(non-ka-class.masc) one-masc
 ‘that one monkey’

The masculine-feminine gender and *ka*-class interact, but are independent from each other. The majority of nouns with non-human inanimate referents which belong to the *ka*-class are feminine. A few *ka*-class nouns are masculine, including *kasi’i* ‘alligator’, *vahajari* ‘spectacled cayman’, and *maoba* ‘a ritual building’.

The interactions between gender and noun class, on the one hand, and number, on the other, follow different principles (see [Chapman and Derbyshire 1991](#): 254ff, and [Aikhenvald 2003a](#): 71–5, [2010](#), [2012a](#): 285–6, pace [Corbett 2005](#)). Gender distinctions are neutralized in the plural (in agreement with §4.3.1), while the distinctions in the *ka*-noun class are not.

Paumarí is highly endangered. Many children either do not learn it, or are not fully proficient in it. Gender and the *ka*-noun class differ in their fate in language obsolescence. Speakers have no trouble assigning a gender to a noun. In contrast, there is hesitancy in assigning nouns to the *ka*-class, especially for

animates (more on this in §16.2).⁸ This differential obsolescence further points towards gender and noun class in Paumarí as independent categories.

4.2 Markedness and resolution in gender systems

Genders (or noun classes) may differ in their status: one may be used more frequently than the others, and constitute a functionally unmarked option.

4.2.1 What is markedness?

There is a fundamental distinction between two kinds of markedness—formal and functional, captured in Box 4.1.

Box 4.1 Formal markedness and functional markedness

- I. Formal markedness relates to the formal realization. A formally unmarked term is the only one in its system to have zero realization (or a zero allomorph).
- II. Functional markedness relates to the situation of use. Functionally marked terms will be used in a restricted, specifiable situation, with the unmarked term being used in all other circumstances.

The Spanish masculine singular pronoun *el* ‘he’ does not bear any overt gender marking, and is formally unmarked. Or, one can say that gender is marked with a ‘zero’. In contrast, its feminine counterpart *ella* ‘she’, is formally marked for gender. In Portuguese, both *ele* ‘he’ and *ela* ‘she’ are equally formally marked. This reflects FORMAL MARKEDNESS.

A FUNCTIONALLY UNMARKED FORM will appear in contexts where the gender distinctions will be neutralized, or one avoids being specific. In Portuguese, the choice between a masculine or a feminine form is always made, when the sex of the referent is known and unambiguous. When it is unknown, or when there is a mix of referents of both sexes, the masculine form is used, e.g. *o filho* ‘the son’, *a filha* ‘the daughter’, and *os filhos* ‘the children’, and *o irmão* ‘the brother’, *a irmã* ‘the sister’, and *os irmãos* ‘siblings’, literally, ‘brothers’. The masculine is the functionally unmarked choice.

⁸ Coexisting genders (feminine and masculine) and an independent system of *ka*-noun class were described for Kulina, another Arawá language (see a summary in Dixon 1999: 294, 298–9, Tiss 2004: 49–55).

Until recently, the generic masculine singular pronoun *he* in English was favoured as a functionally unmarked option: a person in general would be anaphorically referred to as ‘he’. Perceived as a linguistic mark of social inequality of genders and the entrenched supremacy of the male social gender, this usage is currently changing with shifting attitudes to gender status—we return to this in §15.4.3 and §16.3.2.

Diagnostic contexts for determining which gender (or noun class) is functionally unmarked include gender agreement with generic and indefinite referents and controllers without inherent gender, and the choice of gender forms in coordination and in the reference to mixed groups of entities.

4.2.2 Functionally unmarked gender: What agreement tells us

The choice of agreement forms with generic and indefinite controllers can be an indicator of a functionally unmarked gender. Such controllers include interrogative and generic pronouns, and nouns with generic reference. Further controllers with no inherent gender subsume nominalizations and clausal arguments, including speech reports.

In numerous Northern Iroquoian languages, including Mohawk, Seneca, and Onondaga, the same agreement gender is used for females and in generic reference to humans, pointing towards the functionally unmarked character of feminine gender (see [Chafe 2004](#)).

In Jarawara, both feminine and masculine gender are formally marked. Feminine gender is the functionally unmarked choice, based on the following evidence from agreement ([Dixon 2004](#): 483).

- (i) The interrogative word *himata* ‘what?’ takes feminine agreement if the speaker has no idea about the gender of the item asked about, as in 4.19.

4.19 *himata ama-ri* *Jarawara*
 what be-CONTENT.INTERROGATIVE.FEMININE
 ‘What is it?’

- (ii) When a general statement is made and the gender is not known, the head of a noun phrase will take feminine agreement.
- (iii) All personal pronouns (first, second, and third person) trigger feminine agreement within a noun phrase and on the verb.⁹

⁹ Feminine gender is the unmarked choice in Paumari, similar to Jarawara. No markedness relationships can be established for the *ka*- noun class ([Aikhenvald 2010](#): 244).

If a language has concordial superclassing (when one agreement class can be used to replace some, or all the other classes) the gender class which is used as the superclass can be considered functionally unmarked. Australian languages with superclassing typically use masculine as the superclass. Concordial superclassing (§4.1.2) may provide further evidence for differential behaviour of functionally unmarked classes for animates and for inanimates (along the lines of [Jakobson's 1984](#) discussion of relative markedness of masculine and neuter genders in Russian). Mayali has a 'typical' Australian system of four genders. In the case of a mismatch between head class and agreement class, the class assigned to animates is always Gender I 'masculine', and the class assigned to inanimates is always Gender III 'vegetable food' ([Evans 1997](#)).

A functionally unmarked gender will also cover mixed groups of people or items of different genders and in gender resolution when nouns of different genders are coordinated.

4.2.3 Gender resolution and gender of mixed groups

Which gender (or noun class) will be chosen when nouns which belong to different genders are coordinated? Gender resolution rules may provide evidence in favour of a functionally unmarked choice.¹⁰

In Portuguese, if a feminine and a masculine noun are coordinated, the masculine plural form of agreeing adjective will be used. This is what we see in 4.20.

4.20	o-s		menino	e	menina	pequen-o-s	<i>Portuguese</i>
	ART.DEF.masc-pl		boy	and	girl	small-masc-pl	
	'the small boy and girl'						

Hebrew distinguishes feminine and masculine forms in singular and in plural. If two human referents are coordinated, and one is a male (of masculine gender) and the other one is a female (of feminine gender), the masculine plural forms are used.¹¹ Example 4.21 shows the masculine plural pronoun *hem* 'they'

¹⁰ The notion of 'resolution' in the choice of a noun class in coordination goes back to [Givón \(1970\)](#). Features which require 'resolution' in coordination may also include person and number (see [Aikhenvald 2003a](#): 52–3 for further references).

¹¹ See [Tobin \(2001](#): 183–5) and [Sálar \(2007](#): 417–26) on the functionally unmarked masculine gender in Hebrew.

(in the function of a ‘present tense copula’), the masculine plural noun *yeladim* ‘boys, children’, and a masculine plural adjective *tovim* ‘good’, to refer to a girl and a boy.

- 4.21 yael ve-xaim hem Hebrew
 Yael(fem) and-Haim(masc) they.masc.pl
 yelad-**im** tov-**im**
 child-masc.pl good-masc.pl
 ‘Yael (a girl) and Haim (a boy) are good children’

This criterion will not apply if no genders are distinguished in plural (as in German, Russian, or Manambu)—we turn to the correlations between gender and number in §4.3.1.

Reference to mixed gender groups is a further criterion for functional markedness. In Hebrew, the masculine plural form is used to refer to a group of mixed linguistic genders, for animates and for inanimates. For instance, *sus* means ‘(male) horse, stallion; horse in general’ and *sus-a* (horse-fem.sg) refers to a mare. *Sus-im* (horse-masc.pl) could refer to either horses in general or only to stallions. *Sus-ot* (horse-fem.pl) can refer only to mares. For mixed groups of human referents, masculine forms appear to be the norm. The masculine pronouns are used with generic reference, even if all the people covered are women.

In Palikur, a group of men will be referred to as *ig-kis* (he-pl) ‘they (masculine)’. But if there is at least one woman in the group, the group will be referred to as *eg-kis* (she-pl) ‘they (feminine)’. A married couple will be referred to as *eg-kis* since it involves a woman (Green 2018: 115).

Gender resolution can operate on a DIFFERENTIAL basis. We then expect different choices for human or animate referents on the one hand, and inanimates on the other hand. In Romanian, if the conjoined referents are animate, the plural agreement form will be masculine (no matter what gender the conjoined referents belong to). If the referents are inanimate, the agreement form tends to be feminine (Maiden 2016a: 103).

Differential noun class resolution is at work in a number of Bantu languages. Animates and inanimates follow different principles. In Haya, if one of the nouns refers to a human and the other one to an animal, the human plural noun class (referred to with number 2) agreement marker will appear on the agreement target. This is what we see in 4.22 (Katamba 2003).

- 4.22 omu-sháaija n'ém̥bwa bá-á-genda *Haya*
 NCL1-man and+NCL9/10-dog NCL2-PAST-go
 'the man and the dog went'

If two nouns with inanimate referents are coinjoined, a noun class 8 plural will be used, no matter what classes the nouns belong to. In 4.23, 'tree' belongs to class 3 and 'village' belongs to class 7.

- 4.23 omutí n'ékyaalo ni-bí-hya *Haya*
 tree(NCL3) and+village(NCL7) PRES-NCL8-burn
 'The tree and the village are burning'¹²

The phenomenon of gender resolution is not universal (see, for instance, [Rumsey 1982](#): 137, on Ungarinjin, an Australian language, where each coordinand will be repeated with each noun).

4.2.4 'Default' gender and the limits of functional markedness

A gender will be considered functionally unmarked if used in a variety of environments where the gender of the noun is unknown or unspecified. Such contexts will include nominalizations and textual anaphora (with clauses or chunks of discourse referred to).

A functionally unmarked gender can be referred to as a DEFAULT gender, covering the gender value applicable if no gender is specified (see also §12.7.3). In contrast to a default gender, a RESIDUE gender will encompass nouns which do not fit into the meanings of other gender categories. In small gender systems, the residue gender is typically labelled 'neuter': it subsumes a medley of referents with little semantics in common. A prime example is Gender IV, *bala*, in Dyrbal and similar 'neuter' gender in other Australian languages, including Limilngan ([Harvey 2001](#): 45, 47).

The residue gender IV in Limilngan 'does not have a focal semantic domain' (unlike other genders: see §2.2.1). This same gender is also used to refer to an unspecified referent as a functionally unmarked option.

¹² Gender resolution may operate on purely formal principles. In Kampa languages of Peru, when nouns of different genders (masculine and non-masculine) are coordinated, the conjunct adjacent to the verb will trigger agreement ([Mihás 2019](#): 49). The rules for noun class resolution described for Haya are not universal across Bantu languages; [Katamba \(2003\)](#) offers examples of how in Swahili the verb agrees with the nearest conjunct.

Generic terms ‘anything, nothing, something’ trigger agreement in gender class IV.

Not every diagnostic context for markedness is applicable to every language, and a system of genders or noun classes may not have a functionally unmarked member. Dyirbal has a semantically based system of four genders, as we saw in §2.2.2 (Table 2.1). Neither of them can be considered functionally unmarked. Dixon (2015: 42) elaborates on this:

‘I tried to investigate every possibility. For a group of people of mixed sex it seems that either *bayi* [Class I which includes male humans] or *balan* [Class II which includes female humans] may be used. There may be a tendency to use *balan* if most of the group are female, or if a senior member is a woman, and similarly for *bayi* and men. But these are only tendencies.

What about a baby in the womb whose sex is not known? In English, the pronoun *it* is often used here [...] *Bala* (Class IV, residue or neuter) could not be employed, since in Dyirbal animates are confined to *bayi* and *balan*. [...] I enquired about this and was told that as soon as a baby was conceived the parents would think of it as male or female, thus referring to it by *bayi* or *balan*’.

The issue of functional markedness—and the presence of an unmarked, or default choice—is crucial for gender systems, as part of their semantic organization. We return to this in §12.7.3.

4.3 Gender and other grammatical categories

Choices available in the gender system interrelate with other grammatical categories, including number, person, and case, in different ways.

4.3.1 Gender and number

In many languages, fewer genders are expressed in non-singular numbers than in the singular. In Polish, a West Slavic language, three genders (masculine, feminine, and neuter) are distinguished in the singular, and just two (masculine and non-masculine) in the plural. Fulfulde has twenty-three noun classes in the singular and just five in the plural, while Mba has six singular

and three plural classes. German, Russian, Manambu, and Jarawara distinguish genders only in the singular forms. As a consequence, gender cannot be determined for nouns which are used in plural only (*pluralia tantum*) which do not have a singular form (as we saw in §3.1.6).

If a language distinguishes singular, dual, and plural numbers, generally the largest set of gender distinctions will be expressed in the singular. Not infrequently, fewer distinctions will be made in the dual number, and fewer still in the plural. Old Church Slavonic had three genders (masculine, feminine, and neuter) in the singular, two in the dual (masculine and neuter having fallen together), and no gender distinctions in the plural. Upper Sorbian, a West Slavic language, distinguishes three genders in singular and two in dual and plural (feminine and neuter having fallen together) (De Bray 1951). Bagvalal, a Northeast Caucasian language, distinguishes three genders—masculine, feminine, and neuter—in the singular, and two—masculine/feminine and neuter—in the plural (Kibrik 2001: 461). Alternatively, a language may have the same set of gender distinctions in singular and in dual, but none in the plural. This is the case in Lavukaleve, a Papuan language from the Solomon Islands (Terrill 2003: 172).

All these instances exemplify a cross-linguistically attested dependency between number and gender,¹³ shown in Diagram 4.2.

Number > Gender

Diagram 4.2 Dependency between number and gender (1)

This dependency indicates that the choices available in the gender systems depend on the choices made in the number system.¹⁴

In Paumarí, a language with independent systems of gender and of noun class, masculine and feminine gender are distinguished in the singular, but not in plural. The *ka*- noun class is distinguished in both numbers (§4.1.4).

In just a few languages, we find more gender distinctions in non-singular numbers than in the singular. Biak, an Austronesian language from the South Halmahera-West New Guinea subgroup, has animate and inanimate forms for third person plural pronouns and demonstratives; there are no such distinctions in the singular, dual, or trial (Steinhauer 1986).

¹³ See Aikhenvald and Dixon (2011a) on the concept of dependencies between grammatical systems.

¹⁴ Diagram 4.2 relates to the putative Universal 37, by Greenberg (1963: 95) 'A language never has more gender categories in non-singular numbers than in the singular'. Further exceptions to this are discussed in Aikhenvald (2003a: 244–9, and references there).

Then the choices available in the number system may depend on the choice in the system of genders. This is summarized in Diagram 4.3.¹⁵

Gender > Number

Diagram 4.3 Dependency between gender and number (2)

Gender and number can be expressed through one portmanteau marker. This is a feature of Bantu languages with their regular pairings of gender class) and number markers—as in 2.7–2.9 from Swahili.

4.3.2 Gender and person

The choices available in the gender system may depend on the choices made in the person system. This is captured in Diagram 4.4.

Person > Gender

Diagram 4.4 Dependency between gender and person

One typically finds gender made just in third person—a feature of French, Portuguese, German, Russian, and many further Indo-European languages. This is intuitively plausible. First and second person can be thought of as uniquely specified: the gender of the referent is usually known, so having additional distinctions could be communicatively redundant.

However, numerous languages also show gender in second (but not in first) person in all numbers, as do most Afroasiatic languages, including Hebrew, Berber, and Chadic, such as Hausa (see [Kossmann 2012](#), [Frajzyngier 2012](#), [Rubin 2017](#)). Masculine and feminine genders in second and third persons are distinguished in Yalaku, Iatmul, Abelam, and Boiken, the Ndu languages of the East Sepik region in Papua New Guinea. Manambu and Gala, from the same family, also make the same gender distinction in first person. While Gala distinguishes two genders in independent pronouns, Manambu does so only in bound forms ([Aikhenvald 2008](#): 592). Tocharian A, now extinct, is the only Indo-European language with feminine and masculine forms of first person full pronouns: *näṣ* ‘I (male speaker)’ and *ñuk* ‘I (female speaker)’

¹⁵ Greenberg’s Universal 45 (1963: 93) claims that: ‘If there are gender distinctions in the plural of the pronoun, there are some gender distinction in the singular also’. This statement is valid only as a tendency, but hardly as a universal (more on this in [Aikhenvald 2003a](#): 244–7, and [Plank and Schellinger 1997](#)).

developed through reinterpretation of the old accusative and nominative case forms (Jasanoff 1989).

In a few instances, genders are distinguished in the first person, but not in the second person. Minangkabau, a Western Austronesian language, distinguishes feminine and masculine forms for second person singular pronouns, but not for any other persons. The form (*a*)*den* means ‘I’, and the form *inyo* refers to ‘he, she, and it’. The second person masculine form is *waang/ang* and the second person feminine is *kau* (Marnita 2016: 64).

There may be further interactions between gender, number, and person. Spanish distinguishes masculine and feminine genders in all persons in plural pronouns, but only in third person for singular number. First and second person plural pronouns are derived from a combination of a personal pronoun plus the indefinite adjective *otro* ‘other’ (masculine), *otra* (feminine)—see Table 4.4.

Along similar lines, in the independent personal pronouns in Tariana feminine and non-feminine genders are distinguished in all persons in the plural and just in the third person in the singular (Aikhenvald 2003b: 203–4).

There may be further, more complex, interactions between gender and other categories. Future tense forms of the verb in Hebrew have different second and third person forms for masculine and feminine genders in the singular. In the plural, we find a second person masculine, a third person masculine, and a single form covering both second and third person feminine. That is, the contrast between second and third persons is neutralized in feminine gender and plural number. The future paradigm of *katav* ‘to write’ is in 4.24.

4.24	SINGULAR	PLURAL	Hebrew
1st	extov	nixtov	
2nd masculine	tixtov	tixtəvu	
3rd masculine	yixtov	yixtəvu	
2nd feminine	tixtəvu	tixtovna	
3rd feminine	tixtəvi	tixtovna	

Table 4.4 Personal pronouns in Spanish

	Singular Masculine	Feminine	Plural Masculine	Feminine
1	yo		nosotros	nosotras
2	tu/vos		vosotros	vosotras
3	el	ella	ellos	ellas

Table 4.5 Paradigm of Latin *is* ‘this’

Case	Sg			Pl		
	masc	neut	fem	masc	neut	fem
Nominative	<i>is</i>	<i>id</i>	<i>ea</i>	<i>īī</i>	<i>ea</i>	<i>ēae</i>
Accusative	<i>eum</i>		<i>eam</i>	<i>eōs</i>		<i>eās</i>
Dative	<i>eī</i>			<i>īīs</i>		
Ablative	<i>eō</i>		<i>eā</i>	<i>īīs</i>		
Genitive	<i>ēius</i>			<i>eōrum</i>		<i>eārum</i>

This is an example of a complex dependency between tense, person, number, and gender.

4.3.3 Gender and case

Gender interacts with case, that is, the expression of grammatical relations. Choices made within the system of cases may depend on the gender and animacy of the noun referent. This dependency is summarized in Diagram 4.5.

Gender > Case

Diagram 4.5 Dependency between gender and case (1)

In Latin and in Russian, case distinctions relate to gender in connection with their declensional classes. All nouns which belong to masculine and feminine declensional classes have different forms for nominative and accusative cases. This distinction is neutralized for those nouns and their modifiers which belong to the neuter gender. Table 4.5 contains the paradigm of the demonstrative modifier *is* ‘this’ in Latin.

The neuter gender has fewer case forms than masculine and feminine. In addition, masculine and neuter forms fall together in the ablative singular, and in genitive plural. The portmanteau realization of gender, number, and case—all blended into one morpheme, shown in Table 4.5—is typical of a fusional language. Similar examples abound. Ket, a Yenisseian language, has twelve cases. Of these, the locative case is restricted just to inanimate referents (Vajda 2004: 21). Conversely, the choice of gender can depend on case in agreement with the dependency in Diagram 4.6.

Further examples of the dependency in Diagram 4.6 come from Australian languages. Mawung has five genders, roughly, masculine, feminine, ground,

Case > Gender

Diagram 4.6 Dependency between gender and case (2)

plants, and vegetable food. These are marked on noun phrases and in bound pronouns in the function of intransitive subject (S) and transitive object (O). The bound pronouns marking transitive subject (A) distinguish just two genders—masculine and non-masculine. In Ungarinjin, four genders are distinguished in S/O bound pronouns, and none are distinguished for A pronouns, while in Alawa and Tiwi two genders are distinguished for A/S and none for O (see a summary in [Dixon 2002: 481](#)).¹⁶

4.4 To conclude

Determining how many genders a language has may not be a straightforward matter. There may be different gender distinctions in different numbers, as we saw in Romanian. One gender can be subdivided into subgenders. Or one gender can subsume others, creating the phenomenon of superclassing. Numerous languages offer different gender choices in different agreement domains, termed SPLIT GENDER. A split can occur across different domains in regular agreement, as in Palikur; or between regular and anaphoric agreement, as in Spanish and a few other Western Romance languages. Or, it can take place between pronominal forms and adjectives as modifiers, as in numerous South American, African, and Papuan languages.

Gender and shape-based noun classes can coexist as separate agreement systems. So far, such systems have only been documented for Paumarí and Kulina, from the small Arawá language family in South America.

One gender may occur in a wider variety of contexts than others. A functionally unmarked gender will be employed if the actual gender of the entity is unknown or irrelevant. A functionally unmarked gender can be referred to as the default choice. If nouns belonging to different genders are coordinated, the agreement gender chosen to cover the whole group may be the default one. This is known as gender resolution.

Gender interrelates with other grammatical categories. Fewer genders may be distinguished in non-singular numbers. However, this is a tendency and not a rule. Gender distinctions may be confined to third person, or just to second

¹⁶ Gender choice can also correlate with choices made in tense and aspect (see [Aikhenvald and Dixon 2011a](#) on Russian and Hebrew, and a summary on Australian languages in [Dixon \(2002: 481, and references there\)](#)).

and third. Gender choices can depend on case (or grammatical function) of a noun.

Chapters 2–4 addressed the most salient properties of genders. We now turn to classifiers in their different guises in Part II.

PART II

CLASSIFIERS

5

Numeral classifiers

Numeral classifiers accompany a noun in the context of a number word and sometimes other quantifying expressions. A numeral classifier is chosen based on shape, animacy, function, inherent nature, form, arrangement, and other properties of the referent.

Numeral classifiers—sometimes referred to as ‘counters’, ‘counting words’, or ‘numeratives’—are the best recognized, and most discussed, type of classifier. They are a prominent feature of numerous languages across Asia, Oceania, and the Americas. Extensive numeral classifier systems come from Japanese, Korean, Mandarin Chinese, Thai, and Lao, plus numerous Tibeto-Burman languages. Numeral classifiers are found in some languages of Europe, and a few in Africa. They are atypical for Australian languages.¹

Korean has more than 150 obligatory numeral classifiers. Nouns with non-human reference are categorized based on their inherent nature, shape, or arrangement, as in 5.1–5.3 (Lee 2014: 23).

- 5.1 sey **mali** kom *Korean*
three NUM.CL:ANIMAL bear
‘three (animals) bears’
- 5.2 sey **calwu** yenphil
three NUM.CL:LONG pencil
‘three long pencils’

¹ See overviews in Aikhenvald (2003a: 121–4, 2015a, forthcoming); see Downing (1996) and Jarkey and Komatsu (2019) on classifiers in Japanese, Enfield (2021) on languages of the Mainland South-east Asia, Krishnamurti (2003) on Dravidian, Guérin (2017) and Blust (2013: 295–300) on Oceanic, Pan (2022) on Austronesian languages of Taiwan, and Kießling (2013, 2018) on the Niger-Congo languages, and also Her et al. (2022). The absence of numeral classifiers in Australian languages (except for Anindilyakwa) could be due to the lack of original number words and of a counting ‘routine’ (Hale 1975).

- 5.3 sey **katak** sil
 three NUM.CL:STRAND thread
 ‘three strands of thread’

Humans are categorized based on their social status and sex. The numeral classifier *pwun* refers to respected persons (and also the Christian God, Buddha, and other gods). The classifier *myeng* is a neutral way of referring to a person. The classifier *nom* refers to a despicable or insignificant male, and *nyen* to a despicable or insignificant female. These are shown in 5.4 and 5.5 (Lee 2014: 42–3).

- 5.4 kkangphay twu **nom** *Korean*
 gangster two NUM.CL:DESPICABLE.MALE
 ‘two male gangsters’

- 5.5 kkangphay twu **nyen**
 gangster two NUM.CL:DESPICABLE.FEMALE
 ‘two female gangsters’

Numeral classifiers fall into two categories: SORTAL CLASSIFIERS and MENSURAL CLASSIFIERS. Sortal classifiers, illustrated in examples 5.1–5.5, characterize the entity in terms of its intrinsic properties—animacy, humanness, shape, form, consistency, function, and more.

Mensural classifiers categorize the entity in terms of the arrangement in which it occurs, and, consequently, relate to how it can be measured. The mensural classifier *mal* is used for apportioning rice wine. In 5.6, it is used with the noun *makkeli* ‘rice wine’.

- 5.6 makkeli han **mal** *Korean*
 rice.wine one NUM.CL:RICE.WINE
 ‘one measure of makkeli (rice wine)’

Every language has quantifiers and measure words. In contrast, having numeral classifiers is not universal. Mensural classifiers have to be distinguished from measure terms, including kilograms, kilometres, miles, and litres.

In Korean, Semelai (an Aslian language from Malaysia), and Kham (a Tibeto-Burman language from Nepal) numeral classifiers occur with

number words only. In other languages, they are also used with a subset of quantifiers, including the interrogative ‘how many/how much.’ Nepali, an Indo-Aryan language of Nepal, has just two numeral classifiers *-jəna* ‘NUM.CL:ANIM’ and *-əuṭa* ‘NUM.CL:INAN’ used with number words and with the interrogative ‘how many.’ An example is in 5.7 (Riccardi 2003: 559).

5.7	Kəti- jəna	manche	Nepali
	how.man-NUM.CL:ANIM	man/person	
	‘How many persons?’ ²		

Generalization 5.1 holds for all languages described so far.

Generalization 5.1 Occurrence of numeral classifiers with quantifiers

In no language do numeral classifiers occur with quantifiers, unless they are also used with number words.

In other words, the use of numeral classifiers with quantifiers presupposes their use with number words. Exactly which kinds of quantifier—other than number words—are numeral classifiers likely to occur with is a question which requires additional typological research.

The size of the inventory of numeral classifiers varies—from two classifiers as in Nepali to an almost open-ended system in languages of Mainland Southeast Asia.

Major features of numeral classifiers are summarized in Box 5.1.

Numeral classifiers are a feature of many languages with analytic and isolating profile, especially those of Mainland Southeast Asia. We also find numeral classifiers in synthetic languages across the world, with varying degrees of inflectional complexity—including various families across Eurasia and India, North and South America, the Austronesian and the Papuan languages of the Pacific. Having numeral classifiers does not define the language in all its features. In many languages of Southeast Asia, classifiers used with number words and quantifiers occur in further contexts, including demonstratives (as in

² An example of a classifier with the interrogative quantifier ‘how many’ from Japanese is in 13.27a (Downing 1996: 60). Similarly, classifiers in Nung, a Tai language from Vietnam, are obligatory with number words, quantifiers ‘several’, ‘more than’, ‘much/many’, and the interrogative ‘how many/how much?’ (Saul and Wilson 1980: 28–9); see Enfield (2004b: 119–20) on similar contexts for numeral classifiers in Lao, and Solnit (1997: 203) on Sgaw Karen, a Tibeto-Burman language from Thailand.

Thai, Zhuang, Mandarin Chinese, and Vietnamese) and possessive constructions (as in Cantonese and Hmong). Classifiers with number words within multiple classifier systems are the topic of Chapter 11.

Box 5.1 Major features of numeral classifiers

- (i) Numeral classifiers accompany a noun which contains a number word and (sometimes) a quantifier of another kind.
- (ii) Numeral classifiers occur within a dedicated grammatical construction.
- (iii) The choice of a numeral classifier is based on the meaning of a noun referent.
- (iv) Not every referent has to be assigned to a numeral classifier.
- (v) Numeral classifiers can be free or bound morphemes.

In §5.1, we start with formal properties of numeral classifiers and constructions in which they occur. Sortal and mensural classifiers are further discussed in §5.2. In §5.3, we turn to interactions between numeral classifiers with and mass nouns and countable nouns. The limits of numeral classifiers are the topic of §5.4. In §5.5, we look into marginal instances reminiscent of numeral classifiers. Interactions between numeral classifiers and the value of number words are the topic of §5.6. Numeral classifiers are contrasted to quantifiers and measure nouns in §5.7. Having numeral classifiers does not mean that the language will have no obligatory number on nouns: we turn to this in §5.8. Numeral classifiers can be used to count actions, or events, but need to be distinguished from verbal action counters—the topic of §5.9. The last section contains a summary.

5.1 Formal properties of numeral classifiers and classifier constructions

Numeral classifiers can be free morphemes (separate phonological and grammatical words)—the topic of §5.1.1. The position of a numeral classifier within a noun phrase is discussed in §5.1.2. We then turn to constituency of classifier constructions in §5.1.3. Classifiers as bound morphemes are discussed in §5.1.4. A language can combine free and bound numeral classifiers—see §5.1.5.

5.1.1 Numeral classifiers as free morphemes

In numerous isolating and analytic languages of Southeast Asia, numeral classifiers form separate grammatical and phonological words. Mal, a Mon-Khmer language of northern Thailand and Laos, has about two dozen numeral classifiers which categorize the referent in terms of its animacy, humanness, shape, and inherent nature, similar to many other languages of the region. Example 5.8 illustrates the classifier *leʔ* for round objects (Wajanarat 1979: 295–6).

5.8 ʔən ʔui ʔɔɔi pʰeʔ leʔ *Mal*
 I have pot three NUM.CL:ROUND
 ‘I have three pots’

A synthetic language can also have numeral classifiers as independent words. Uzbek, a Turkic language, has fourteen numeral classifiers (Beckwith 1998: 131–2). A classifier for humans is shown in 5.9.³

5.9 bir **nafar** ādam *Uzbek*
 one NUM.CL:HUMAN person
 ‘one person’

Numeral classifiers are separate words in fusional languages of the Magadhan subgroup of Indo-Aryan, including Bengali, Maithili, and Marathi (see Emeneau 1956 and Riccardi 2003), and also in a number of Mayan languages, including Tzeltal and Tzotzil (Berlin 1968, de León 1987). The choice of a free or bound numeral classifier may correlate with the value of the number—see §5.1.5.

5.1.2 Order of components in numeral classifier constructions

Cross-linguistically, we find the following orders of components within numeral classifier constructions. Type 1 and Type 2 are common. Types 3–5 are rare (and are marked with an asterisk). The order *NUMBER WORD-NOUN NUMERAL CLASSIFIER is not attested.

ORDERS OF COMPONENTS IN NUMERAL CLASSIFIER CONSTRUCTIONS

Type 1. [Number word - numeral classifier] - [noun]

³ Further discussion of numeral classifiers in Turkic languages is in Johanson (2021) and Jumabay et al. (2022).

Type 2. [Noun] - [number word - numeral classifier]

***Type 3.** [Noun] - [numeral classifier - number word]

***Type 4.** [Numeral classifier - number word] - noun

***Type 5.** Numeral classifier- noun - number word

Two recurrent orders, Type 1 and Type 2, are a feature of many languages, including those of Asia and parts of the Pacific. In Type 1, the noun follows the number word - classifier sequence, as in 5.1–2, from Korean and 5.9 from Uzbek. In Type 2, the noun precedes the sequence of number word-numeral classifier, as in 5.8, from Mal. In both types, the number word precedes the classifier.⁴

Korean has both Type 1 and Type 2 orders. The choice depends on which part is focused (Lee 2014: 22–3, Sohn 1994a: 272, 1994b: 352–3). In 5.10, the number word and the numeral classifier appear before the head noun in an attributive noun phrase which contains a genitive marker *-uy*. This is an example of Type 1 order.

- 5.10 Minca-nun ecey sey **kwen-uy**
 Minca-TC yesterday three NUM.CL:VOLUME-GEN
 chayk-ul *Korean: Type 1 order*
 book-ACC
 sa-ss-ta
 buy-PAST-DC
 ‘Minca bought THREE books yesterday’

In 5.11, the sequence NUMBER WORD-NUMERAL CLASSIFIER appears after the noun. This illustrates Type 2 order. No marker can intervene between the three components. This is the most frequent choice in the spoken language (Lee 2014: 23).

- 5.11 Minca-nun ecey chayk sey **kwen-ul**
 Minca-TC yesterday book three NUM.CL:VOLUME-ACC
 sa-ss-ta *Korean: Type 2 order*
 buy-PAST-DC
 ‘Minca bought three BOOKS yesterday’

⁴ The distribution of Types 1 and 2 in the languages of Southeast Asia and surrounds was first investigated by Jones (1970: 3); further discussion is in Enfield (2021: 282–308). See Evans (2022b: 195) on the correlation between definiteness and orders of nouns and numeral classifiers in Dimasa, a Tibeto-Burman language.

This construction is more frequent in written than in colloquial language. According to Lee (2014: 22–3), the number, ‘three’, is focused on in 5.10. In 5.11, the noun ‘book’ will be focused.

Two further options of word order within a noun phrase with a numeral classifier are rare.

Type 3 is attested in Jingpo (Xu 1989; see also Morey 2010: 317). An example of the sortal classifier *khum*³¹ used with animals is in 5.12.⁵

- 5.12 wa³¹ **khum**³¹ mji³¹ *Jingpo*
 pig NUM.CL:ANIMAL one
 ‘one pig’

Type 3 is similar to Type 2 in that the numeral classifier and the number word are placed after the noun. The order of the numeral classifier and the number word is different: the classifier follows the number in Type 2, and precedes it in Type 3.

Type 4 is attested in Turung (a variety of Jingpo spoken in Assam, India: Morey 2010: 325–31), as an alternative to Type 3. Example 5.13 illustrates Type 4 order.

- 5.13 **din** mli nat *Turung: Type 4 order*
 NUM.CL:ANIM four spirit
 ‘four *nats* (spirits) came’

Type 4 is similar to Type 1 in that the numeral classifier and the number word are placed before the noun. In type 4, the number word follows the classifier. In Type 1, it precedes it.⁶

The development of numeral classifiers from independent words into prefixes to number word may have originated in orders of Type 3 and 4. The placement of numeral classifiers after the number word in Types 1 and 2 will be conducive to their development into suffixed classifiers. Cross-linguistically, suffixes appear to be more frequently attested in the world’s languages than prefixes (see Dixon 2012: 439, 455, and references there). Across the world, there are more instances of numeral classifiers as suffixes than as prefixes—as we will see in §5.1.3. This correlates with the rarity of

⁵ The superscript numbers here and elsewhere reflect tones.

⁶ An alternative to Type 4 order in Turung is Type 3 order, e.g. numsa maang din məsum (female youth num.cl:anim three) ‘three girls’ (Morey 2010: 329–30). The reasons for variation between the two infrequent orders need further study.

Types 3 and 4 as compared to Types 1 and 2. A full explanation for this remains an open question.

Type 5 features a discontinuous sequence of a noun and a numeral classifier. The only example found so far comes from Ejagham, a Benue-Congo language with five obligatory numeral classifiers. The choice of three of them is based on the shape and arrangement of an entity—whether round, long, or forming a cluster (Watters 1981: 309–13, *pace* Hall 2019: 248). One further classifier subsumes plants and vegetables, and a further one covers trees.

Ejagham also has a system of noun classes, or genders, marked with prefixes (see §2.2.3). Both the number word and the classifier agree in noun class with the noun. Noun classes have opaque meanings and are listed in singular/plural pairings (typical for the Bantu tradition; see Table 2.2, p. 37). The classifier and the noun itself each take a noun class marker fused with number. The numeral classifier construction in 5.14 contains a genitive linker ‘of’ between the classifier and the noun, marked suprasegmentally with floating tone `.

5.14 à-mə̀gè́ Ejagham
 NCL.PL.1/6-NUM.CL:SMALL.ROUND GEN.LK.of
 í-čà̀kùd á-bá'è'
 NCL.PL.19/3-orange.seed NCL.PL.1/6.pl-two
 'two orange seeds'

Classifiers in Ejagham are obligatory with nouns of a few semantic fields: inanimates, especially trees, vegetables, and fruits. There are no classifiers for humans or non-human animates (a feature of some numeral classifier systems: see §12.1).

Zhuang and Maonan, two closely related Tai-Kadai languages, display Type 5 as an alternative to Type 2 just for the number word ‘one’ (see [Lu 2010: 174, 2012: 67, 145](#)). An example from Zhuang is in 5.15.

5.15 **tu**² mou¹ ʔdeu¹ *Zhuang*
 NUM.CL:ANIMAL pig one
 ‘one pig/a pig’

The order with other number words is of Type 2, NOUN-NUMBER WORD-NUMERAL CLASSIFIER. This is shown in 5.16, with the number word ‘three’.

5.16 mou¹ sa:m¹ tu²
 pig three NUM.CL:ANIMAL
 ‘three pigs’

Zhuang

We return to further examples of special behaviour of the number word ‘one’ in Tai-Kadai languages in §5.6.

5.1.3 Constituency in numeral classifier constructions

In the overwhelming majority of languages, a number word forms one constituent (or syntactic unit) with the numeral classifier—see, for instance, [Enfield \(2021: 284–8\)](#).⁷

An exception comes from Kana and other Kegboid (or Ogoni) languages, from the Cross-River subgroup of Benue-Congo ([Ikoro 1994, 1996](#)). In contrast to their genetic relatives, these languages have no noun classes. They developed numeral classifiers as independent words of a predominantly nominal origin. Kana has sixteen numeral classifiers, whose assignment is semantically transparent. Classifiers are obligatory with number words and the interrogative quantifiers. The order is Type 1, NUMBER WORD - NUMERAL CLASSIFIER - NOUN.

Classifiers in Kana form a single grammatical and phonological word with the head noun, and not with the number word. Number words are independent phonological words, and can have the raised tone. Classifiers form one phonological unit with a noun and never occur with raised tone ([Ikoro 1994: 19–23](#)). In addition, the diminutive proclitic *í* and an adjective will always be placed before the classifier, and not before the number word, e.g. *zìi í kà núú* (one DIMINUTIVE NUM.CL:GENERIC rat) ‘one small rat’.

Why is Kana exceptional? Proto-Benue-Congo, to which Cross-River languages belong, had a noun class system marked on head nouns and on agreeing constituents. All Kegboid languages lost this system, and developed numeral classifiers instead. Noun categorization is still associated with the head noun, as a vestige of the noun class system of the proto-language. This may explain the unusual behaviour of numeral classifiers in Kana and other Kegboid languages: they maintain a connection with the head noun. Numeral classifiers as bound morphemes never occur on nouns they categorize (as we will see in §5.1.4).

⁷ [Sohn \(1994a: 272\)](#) treats numeral classifier-noun sequences in Korean as compounds.

In many languages, the constituent [number word - numeral classifier] can be separated from the head noun by prepositional noun phrases, adverbs and other forms. Khmu, a Mon-Khmer language from Laos, has a Type 2 order in a noun phrase with a classifier. An example is in 5.20 (Jenny et al. 2015: 125).

- 5.17 cm̥rɔ̃? pà:r kòn *Khmu*
 man two NUM.CL:HUMAN
 ‘two men’

In 5.18, the sequence number-numeral classifier is separated from the head noun ‘rat’ by a prepositional phrase (Jenny et al. 2015: 127).

- 5.18 kə piñ k.né? há:n tá ká:ŋ ʔò? mò:j
 3sg.masc shoot rat die LOC house 1sg one
 tó *Khmu*
 NUM.CL:ANIM
 ‘He shot one rat dead in my house’

This phenomenon—sometimes referred to as ‘quantifier floating’—depends on discourse factors, and warrants an in-depth study for each individual language.

5.1.4 Numeral classifiers as bound morphemes

Numeral classifiers can be bound morphemes attached to the number word. There are no instances of numeral classifiers attached to the noun. The morphemic shape and status of classifiers varies.

Japanese has 154 numeral classifiers, obligatorily suffixed to number words (Downing 1996; see also Jarkey and Komatsu 2019: 260). The meanings of classifiers span animacy, size, shape, and function. In 5.19, a dog is categorized as a small animate being. The final consonant of the number word assimilates to the initial consonant of the classifier.

- 5.19 inu ip-piki *Japanese*
 dog one-CL:SMALL.ANIM
 ‘a small dog’

In 5.20, a dog is classified as a large animate (Jarkey and Komatsu 2019: 273).

- 5.20 inu it-**too** Japanese
 dog one-CL:LARGE.ANIM
 ‘a large dog’

Numeral classifiers help distinguish different meaning overtones of the referent—we return to this in §13.1.⁸

Numeral classifiers as suffixes to number words are attested all over the world.⁹ Numeral classifiers as prefixes to number words are a feature of a few, including Chimila, a Chibchan language from Colombia (Malone 2004: 148–51, 182).¹⁰ In 5.21, the numeral classifier *kwa-* for one-dimensional flat objects categorizes the bone as ‘flat’.

- 5.21 **kwa**-mu^hna ki:kra Chimila
 NUM.CL:FLAT-two bone
 ‘two flat bones’

Numeral classifiers can be fused with a number word. Kusaiean, a Micronesian language, has two sets of numeral classifiers (referred to as Set A and Set B by Lee 1975: 120–2). Set A is used in counting animates (fishes, insects, four-legged animals), plants, means of transportation, and long pointed objects. Set B is used for everything else.

The number words are morphologically unanalysable and can be considered suppletive—see Table 5.1.¹¹

Reduplication is used in the formation of classifiers in Squamish, a Central Salish language from British Columbia. The language has numeral classifiers for ‘objects’, ‘animals’, and ‘persons’, used with numbers one to ten, and the interrogative quantifier ‘how many’. Numeral classifiers for numbers one to

⁸ Numeral classifiers in Japanese occur in four constructions, whose choice correlates with definiteness and specificity of the referent noun (see Jarkey and Komatsu 2019: 266–72).

⁹ Numeral classifiers as suffixes to number words are a feature of a number of Austronesian languages, several Indo-Aryan, Dravidian, and Munda languages in India (Rehg 1981: 125ff, Harrison 1976: 95–6, Guérin 2017, Bhattacharya 1990, Ghosh 2008), numerous Mayan languages, including Akatek and Jacalteco: Day 1973, Zavala 2000), and a few Arawak languages from Amazonia (Aikhenvald 2012a: 286–7). Quesada (2007) offers a limited account of classifiers in some Chibchan languages.

¹⁰ Further instances include Garo, a Tibeto-Burman language (Burling 2004: 251), and Totonacan languages (e.g. Upper Necaxa Totonac: García-Vega 2018, and Misanthla Totonac: MacKay 1999: 397–9).

¹¹ See Rehg (1981: 125) on fusion of classifiers with number words in the closely related Pohnpeian, and Blust (2013: 297–8) on Oceanic languages.

Table 5.1 Numeral classifiers fused with number words in Kusaiean

	Set A: animates, plants, means of transport, long objects	Set B: everything else
‘one’	<i>soko</i>	<i>sie</i>
‘two’	<i>lukoac</i>	<i>luo</i>
‘three’	<i>tolko(e)</i>	<i>tolu</i>
‘four’	<i>yoko</i>	<i>ahkorrr</i>

three, and the interrogative quantifier, are listed in Table 5.2 (Kuipers 1967: 149–50).

Table 5.2 Numeral classifiers in Squamish

	Objects	Animals	Humans
‘one’	nčʉʔ	niʼ-nčʉʔ	nčʼ-nčʉʔ
‘two’	ʔaʼnʔus	ʔaʼn.nʔus	ʔn-ʔaʼnʔus
‘three’	čaʼnat	čaʼ-čnʔat	čn-čaʼnat
‘how many’	kʰoi n	kʰo i i kʰo in	kʰo i n kʰo in

The form used for counting ‘objects’ is the simplest one. The classificatory form for counting animals is built upon it via partial initial CV reduplication. Forms used for counting persons are formed upon the simple form via double reduplication. Reduplicated forms of number words for counting people and animals are a pervasive feature of Salish languages, especially prevalent in Interior Salish and some Central Salish ones. Halkomelem, a Central Salish language, uses reduplication just with number words ‘one’ and ‘two’ when counting people (Gerdtz and Hinkson 2004: 255).¹²

5.1.5 Free and bound numeral classifiers in one language

Free and bound numeral classifiers can coexist in one language. They may be in complementary distribution, depending on number value. In Malto, a South Dravidian language (Mahapatra 1979: 120–1), numeral classifiers are prefixed to number words ‘one’ and ‘two’. An example is in 5.22.

¹² See Pan (2022: 167) on partial reduplication in the formation of numeral classifiers in Saaroa.

- 5.22 **maq-ond** o:ydu *Malto*
 NUM.CL:NON.HUMAN.ANIM-one cow
 ‘one cow’

Numbers one and two are fused with classifiers for humans, e.g. *ort maleh* (one+NUM.CL:HUMAN man) ‘one man’ (see also Steever 1998: 371–3).

With numbers ‘three’ or more, classifiers are independent words. The order in the noun phrase is Type 1, Number word-Numeral Classifier-Noun, as in 5.23.

- 5.23 *tini* **maq** o:ydu *Malto*
 three NUM.CL:NON.HUMAN.ANIM cow
 ‘three cows’¹³

Akatek, a Mayan language from Mexico, has two sets of numeral classifiers. Three classifiers are bound morphemes suffixed to the number word. Their meanings reflect humanness and animacy. About ten classifiers are independent words. Independent numeral classifiers characterize the noun with respect to its shape, size, configuration, and form. The two systems are contrasted in Table 5.3 (Zavala 1992: 130–6, 2000: 118–29).

Suffixed numeral classifiers can occur with all numbers except ‘one’, while free numeral classifiers occur with any number (Roberto Zavala, p.c.). Suffixed classifier are much more frequent in actual usage than the free ones (Zavala 2000: 124–5).¹⁴

A noun phrase can contain a suffixed and a free numeral classifier. A free classifier allows some freedom of choice for the speaker. A suffixed one does not. A ‘tortilla’ can be categorized in different ways using different free form classifiers, focusing on a variety of shapes and configurations, as we see in 5.24a–5.24b. In each example, the suffixed classifier remains the same: it is always *-eb* ‘inanimate object’. In 5.24a, a tortilla is categorized as an object of a half-a-circle shape, with the free classifier *kupan*.

¹³ Galo, a Tibeto-Burman language from northeast India, has about fifty-five bound and free forms of numeral classifiers. Bound forms attach to core numbers, from one to six, and ten. Free classifiers are used with other numbers (Post 2008: 387).

¹⁴ Similar systems have been described for Tzotzil (de León 1987: 64) and Jacalteco (Day 1973) (with a mention in Craig 1986c: 265–6 and Craig 1977).

Table 5.3 Numeral classifiers in Akatek

Semantics	Suffixed numeral classifiers	Free numeral classifiers
human	<i>-wan</i>	
non-human animate	<i>-k'on</i>	no terms
inanimate	<i>-eb'</i>	
long vertical, erect objects		<i>wa'an</i>
objects separate from one another		<i>k'itan</i>
bent, half-a-circle shape		<i>kupan</i>
circle-shaped and coiled up		<i>xoyan</i>
wide and flat	no terms	<i>patxan</i>
extended two-dimensional		<i>jenan</i>
spherical three-dimensional		<i>k'olan</i>
small spherical three-dimensional		<i>b'ilan</i>
big spherical or oval objects		<i>pilan</i>
round two- or three-dimensional		<i>xilan</i>
three-dimensional objects with longitudinal shape		<i>jilan</i>

5.24a	'ox- eb '	kupan	'ixim	
	three-NUM.CL:INAN	NUM.CL:HALF.A.CIRCLE	NOUN.CL:MAIZE	
	paat			<i>Akatek</i>
	tortilla			
	'three (half-folded) tortillas'			

In 5.24b, the tortilla is categorized as an extended two-dimensional item with the free classifier *jenan*.

5.24b 'ox-eb' **jenan** 'ixim
 three-NUM.CL:INAN NUM.CL:TWO.DIM NOUN.CL:MAIZE
 paat
 tortilla
 'three (non-round) tortillas'

Akatek

Different ways of categorizing a tortilla are reflected in the choice of free—but not of suffixed—classifiers (Zavala 2000: 127–9).

5.1.6 How far does a classifier go? Default classifiers and repeaters

What happens if the meaning of a referent is not compatible with any of the classifiers in the language? Some languages use a default or a general classifier – option A. Others employ a repeater or an autoclassifier – option B.

A. DEFAULT OR GENERAL CLASSIFIER

A ‘generic’, or a default, classifier is a recurrent option. The default classifier *kay* ‘small object’ in Korean is used for those entities to which no other classifier can be applied (Lee 2014: 61–2; see also §12.7). These include watches, e.g. *sikye twu kay* (watch two NUM.CL:DEFAULT) ‘two watches’. Similarly, the generic classifier *ge* in Mandarin Chinese subsumes the nouns which do not fit any classifier categories. We return to the notions of general, default, and residue classifiers in §12.7.1 (see also Box 12.1, p. 248).

B. REPEATER, OR AUTOCLASSIFIER, TECHNIQUE

In many languages of Mainland Southeast Asia, if a referent has no conventional classifier associated with it, a noun itself will occur in the classifier slot. This is known as ‘repeater’, or ‘autoclassifier’. In Thai and Lao virtually any noun can be used in the classifier slot, so that, in Carpenter (1992: 138)’s words, ‘classifiers straddle the boundary between closed class and open class words’. In these instances, the inventory of items which can occur in the classifier slot within a noun phrase is open. In 5.25, from Lao, the noun *hang2* ‘nest’ is used as a repeater classifier (Enfield 2004b: 120–1, 2007: 122–5).

5.25 kuu3 siø hêt hang2 sip2 **hang2** Lao
 1sg.NON.POLITE IRR make nest ten NUM.CL.REP:NEST
 ‘I’m going to make ten nests (for the chickens)’

If a noun has a numeral classifier assigned to it, using the repeater strategy will be ungrammatical.¹⁵

¹⁵ See Wajanarat 1979: 298) for similar examples from Mal, a Mon-Khmer language, and Matisoff (1973: 89), on Lahu, a Tibeto-Burman language from Thailand.

The repeater technique can apply to numeral classifiers as bound morphemes. Number words from one to nine in Trukese, a Micronesian language, are used with a set of five established classifiers and a large pool of repeaters—nouns which occur in the numeral classifier slot, e.g. *ye-yafa yafa* (one-NUM.CL.REP:INTESTINE intestine) ‘one intestine’, *ye-ηafa ηafa* (one-NUM.CL.REP:INTESTINE fathom) ‘one fathom’ (Benton 1968: 116; similar examples from other Micronesian languages are in Bender and Beller 2006).

Similarly to default classifiers, repeaters do not ‘classify’ the referent in terms of fitting it into any of the existing categories. Rather, they place each referent into a class of its own, outside the system of established classifier divisions.

5.2 Sortal classifiers and mensural classifiers

SORTAL CLASSIFIERS categorize nouns in terms of their humanness, animacy, shape, form, and inherent nature. MENSURAL CLASSIFIERS categorize the referent in terms of its arrangement.

In many languages, especially those in Mainland Southeast Asia, elaborate systems of numeral classifiers for humans reflect their social status and social hierarchies.

Korean has at least seven numeral classifiers for humans. These reflect status, respect, and even contempt, as we saw in examples 5.4–5.6. See Table 5.4 (Lee 2014: 42).

Table 5.4 Classifiers for humans in Korean

Classifiers	Meanings
pwun1	respected persons; God; Buddha: mountain god
myeng	person; angels
salam	adults
in	person
nom	male person with contempt; cute kids
nyesek	inferior male persons; cute kids
nyen1	female persons with contempt

Further discussion of numeral classifiers which reflect social status is in §14.1, especially with respect to Thai.

Classifiers for inanimate referents involve shape, dimensionality, size, consistency, function, and further inherent properties. Table 5.5 features a

Table 5.5 Classifiers based on physical properties in Korean

Classifier	Meaning	Example referents
<i>calwu</i>	one-dimensional, long, rigid	hoes, canes, pencils, rifles
<i>kaypi</i>	one-dimensional, small, rigid	sticks, cigarettes
<i>kalak</i>	one-dimensional, small, flexible	noodles, hairs
<i>cang</i>	two-dimensional, flat	sheets, blankets
<i>mo</i>	two-dimensional, small, flexible	bean curd, jelly
<i>al</i>	three-dimensional, round, rigid	fruits, eggs, bullets

selection of numeral classifiers based on physical properties in Korean (Lee 2014: 52).

Shape and dimensionality are essential for the choice of numeral classifiers—as we have seen in many examples discussed so far. Sortal classifiers may also cover function. Examples include Japanese *-dai* for vehicles and machines, *-ki* for aircraft, and *-choo* for large handheld tools like guns, hoes, and spades (Jarkey and Komatsu 2019: 262).

Classifiers in a large system may show further correlations with the material make-up and the nature of the entity. Numeral classifiers used with plants in Korean reflect the kind of plant and its fruit, and its typical shape and composition. For instance, the classifier *thol* will be used with entities consisting of smallish particles, such as rice or chestnuts (Lee 2014: 49).

In contrast, mensural numeral classifiers categorize the referent in terms of its arrangement and configuration (sometimes referred to as quanta)—clusters, bunches, groups, pairs, and bundles. The choice of a mensural classifier often correlates with what the referent is like, and its intrinsic properties. A selection of mensural numeral classifiers in Korean is in Table 5.6 (Lee 2014: 53).

Table 5.6 Mensural numeral classifiers in Korean

Classifier	Meaning
<i>cwul</i>	a line of people or things
<i>kkochi</i>	food on skewers such as fishpaste, bean curd, seaweed
<i>kyep</i>	folded objects, such as paper or clothes
<i>sali</i>	coils of noodles, thread or rope
<i>kap</i>	packets of matches or cigarettes

Mensural numeral classifiers may allow more freedom in their choice than do sortal classifiers. In Tzeltal, a Mayan language from Mexico (Berlin 1968: 175), the noun *lagrio* ‘brick’ occurs with one sortal numeral classifier *pech* ‘rectangular, non-flexible object’.

Bricks can occur in various configurations—a stack, a pile, or a row for aligned bricks. There is a mensural classifier for each of these—as shown in Diagram 5.1.

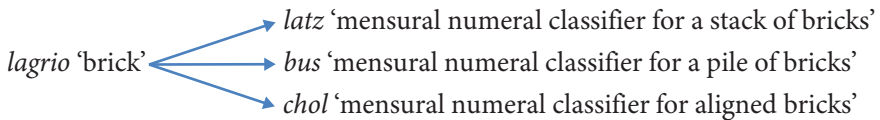


Diagram 5.1 Mensural classifiers used with the noun *lagrio* ‘brick’ in Tzeltal

Numeral classifiers are chosen on the basis of universal basic semantic parameters: humanness, animacy, physical properties (including shape, dimensionality, and consistency), function, and arrangement.¹⁶ Every system of numeral classifiers will involve physical properties, and also humanness and animacy. Languages with numeral classifiers based on function and arrangement will have classifiers based on humanness and/or animacy and/or physical properties in the first place. This is captured in Generalization 5.2 (see also Generalization 12.3, p. 234).

Generalization 5.2 Expected semantic properties in numeral classifier choice

The presence of numeral classifiers based on function and arrangement presupposes the existence of classifiers based on humanness, animacy, and/or physical properties.

Generalization 5.2 can be restated in the form of a hierarchy, in Diagram 5.2.

The choice of mensural classifiers is based on the semantic parameter of arrangement. As we saw in Generalization 5.2, only those languages which have classifiers whose assignment involves feature of humanness, animacy, and

¹⁶ The boundary between a sortal and a mensural classifier may not be clear-cut. The sortal numeral classifier *mai* ‘flat, two-dimensional object’ in Japanese covers leaves, pieces of paper, tickets, clothing, and dishes. It is also used for configurations of some substances, such as bread—slices of bread (Jarkey and Komatsu 2019: 256, Downing 1996: 303). ‘Slice’ is an imposed unit of quantification, and not an inherent feature of ‘bread’. It does describe the most common arrangement of ‘bread’, and can be considered a partitive mensural classifier.

Physical properties

Humanness

Animacy



Arrangement; function

Diagram 5.2 Expected semantic properties in the assignment of numeral classifiers

physical properties typical for sortal classifiers have a term, or several terms, based on arrangement. That is, if a language has numeral classifiers at all, it will always have sortal classifiers. Based on Generalization 5.2 and the hierarchy in Diagram 5.2, we can now rephrase this as Generalization 5.3 which holds across all languages.

Generalization 5.3 Sortal and mensural numeral classifiers

Every language with numeral classifiers has sortal classifiers.

Mensural classifiers are only found in languages with sortal classifiers.

Numeral classifiers, whether mensural or sortal, provide no information as to the quantity of the entity. But the ways in which the choice interacts with the arrangement and the countability of the referent is reminiscent of quantifying expressions. Every language has quantifiers whose choice depends on the arrangement, and even the nature of the entity to be quantified. One can talk about the arrangements of bricks in English, as *a stack of bricks*, *a pile of bricks*, and *a row of bricks*, and about *a drop of honey* and *five head of cattle*. How these quantifying expressions are different from numeral classifiers is the topic of §5.7.

5.3 Units, masses, and countability

Numeral classifiers are used in counting. A noun has to refer to a countable and discrete entity to be counted.¹⁷ All classifiers in combination with number words easily apply to countable discrete referents. For nouns which refer to substances and mass notions, a classifier will serve a further function: that of structuring a ‘mass’ into separate units.

¹⁷ A preliminary discussion of countability in nouns is in [Allan \(1980\)](#). As stressed by [Bril \(2014: 170\)](#), classifiers do not ‘neutralize’ distinctions between count and mass nouns (pace [Lyons 1977](#)). Instead, they help organizing a mass into countable units.

The noun *wenkoci* in Korean refers to manuscript paper as a mass. Its typical unit of arrangement, ‘sheets’, is provided by a classifier. To be used with a number word, it has to take the classifier *may*, for sheets (Lee 2014: 57) —see 5.26.

5.26	<i>wenkoci</i>	<i>tases</i>	may	<i>Korean</i>
	paper	five	NUM.CL:SHEET	
	‘five sheets of manuscript paper’			

We return to the functions of classifiers as unitizing devices in §13.3.

The division of nouns into mass and count is a recurrent feature of the world’s languages. Mass nouns refer to substances, such as water or money. They often differ from countable nouns in whether they occur with grammatical number markers, and how they can be modified (and whether they agree in number with their modifiers). The distinction between count and mass nouns is often reflected in the choice of quantifiers, e.g. English *many* and *much*, *few* and *little*, and interrogatives, e.g. *how many* and *how much*. Numeral classifiers help structure a mass, or a substance, creating countable units. In a similar way, they may also serve to organize events into countable ‘times’ or units of their occurrence. We return to numeral classifiers as event counters in §5.9.

5.4 The limits of numeral classifiers

Not every noun in the language may be assigned a numeral classifier. We mentioned in §5.1.2 that Ejagham, a Benue-Congo language, has no numeral classifiers for animates or humans. Hungarian, a Finno-Ugric language, has six numeral classifiers used only with inanimate objects (Beckwith 1992: 201). Classifiers categorize the nouns with respect to their shape and form, e.g. *egy szál gyertya* (one num.CL:LONG.CYLINDRICAL candle) ‘one candle’. Nouns with human referents in Hungarian are counted without a classifier,—one just says *egy ember* ‘one person’. In Vietnamese, abstract nouns appear without a classifier (Nguyen 1957: 131–2). Unclassifiable nouns in Japanese can be linked directly to a number word. Such nouns include colours, units of time, grades, geographical areas, and some loanwords denoting events (Downing 1996: 15, Jarkey and Komatsu 2019: 258). We return to the semantic span of unclassifiable nouns in §12.7.2.

The kinds of numeral classifiers can correlate with their origins. Numeral classifiers in Korean are of three kinds: Pure Korean, Sino-Korean, and loans

from Japanese and English. Classifiers of Pure Korean origin tend to combine with Korean number words, and just occasionally with Sino-Korean ones (Lee 2014: 32–3). In Sohn’s words (1994a: 272), ‘in general, native classifiers are used in the enumeration of natural objects or items reflecting traditional culture. Sino-Korean classifiers and a small number of loan classifiers generally cover products of modern civilisation’.

Numeral classifiers in Japanese divide into native Japanese and Sino-Japanese. There is a strong tendency—but hardly a steadfast rule—for native Japanese classifiers to occur with native number words, and for Sino-Japanese numbers to occur with Sino-Japanese classifiers, (Downing 1996: 46–7). Native number words-cum-native classifiers tend to be used for smaller numbers only (often just for one, two, sometimes three; almost never for numbers above ten: Jarkey and Komatsu 2019: 252). The presence of classifiers and number words of Sinitic (or Chinese) origin is the outcome of a prolonged contact with the Chinese in the history of both Korea and Japan.

Native number words in Munya, a Tibeto-Burman language from southwest China, coexist with number words borrowed from Tibetan, a major second language for the community. Numeral classifiers are obligatory with native number words, which cover values from one to twenty. Tibetan number words—which one can use to count from one to infinity—do not have to occur with classifiers (Bai 2019: 283).

Numeral classifiers of foreign provenance may be restricted to loans. The two numeral classifiers in Kolami, a Central Dravidian language, are *jen* ‘NUM.CL:MASC.HUMAN’ and *jenukul* ‘NUM.CL:FEM.HUMAN’. Both are borrowed from Marathi, an Indo-Aryan majority language. The classifiers occur just with Marathi loans (Subrahmanyam 1998). In Chapter 16, we return to the fate of numeral classifiers in language contact.

5.5 Marginal classifiers

A form optionally used with number words in a language may share similarities with numeral classifiers. In Russian *čelovek*, the genitive plural form of ‘man, person’, is unique in that it can be used with number words bigger than four for a restricted set of human referents, e.g. *pjatj čelovek detej* (five people:GEN.PL children:GEN.PL) ‘five children’ (lit. five people children). In this construction, the ‘classifier’ is used with the number word exactly as any noun would be (taking genitive plural). Such quasi-classifier use of *čelovek* ‘man:GEN.PL’ is optional. Noun phrases lacking it, e.g. *pjatero detej* ‘five:COLL

children:GEN.PL', or *pjatj detej* 'five children: GEN.PL', are perfectly grammatical. A similar construction (with genitive plural) will be used with quantifiers and measure terms whose choice correlates with the meaning of the referent, e.g. *pjatj golov skota* (five head:GEN.PL cattle:GEN.SG) 'five head of cattle', and measures, e.g. *pjatj kilogramm jablok* (five kilo:GEN.PL apple:GEN.PL) 'five kilos of apples'.

Similarly, Bulgarian, a South Slavic language, employs just one classifier-like term *dushi* 'soul:plural' in combination with human referents (Cinque and Krapova 2007). This is in addition to numerous measure terms and quantifiers used in the same, possessive-like, constructions. Similar to English quantifier expressions *five head of cattle* or *five measures of rice*, these are not classifier constructions: more on this in §5.7.

It will be premature to say that either Bulgarian or Russian has numeral classifiers. In both instances, one item with human reference appears to be developing a classifier-like function.

A special counting form—no longer a classifier—can be a relic of a system now lost. Only one remainder of a former, presumably larger, system of numeral classifiers survives in Fijian. To count human beings the form *lewe* is generally included before the number word and a few quantifiers, e.g. *vica* 'how many/some', *levu* 'many', and *lailai* 'few' (Churchward 1941: 44; Dixon 1988: 148).

These instances point towards a special status of humans in noun categorization devices, and their potential emergence from independent lexical items—see Chapter 15.

5.6 Numeral classifiers and the value of number words

The choice of a numeral classifier is always determined by the meaning of the referent noun within the classifier construction. Numeral classifiers are there for the noun to be able to be counted.¹⁸ The choice and the form of a numeral classifier may show some interaction with the value of number words.

Every type of noun categorization device interacts with its grammatical environment. We saw, in §3.12 (under E, p. 55) that limitations on gender agreement may correlate with subclasses of adjectives and demonstratives. The choice of possessive classifier may depend on the type of possessive relationship (see §7.3). The presence of a verbal classifier may correlate with the type

¹⁸ Further evidence comes from child language acquisition of Japanese (Sumiya 2008: 62) and Thai (Carpenter 1987, 1992); pace Bale and Coon (2014); see also §17.2.

of verb. Dependencies between the choice of a classifier and the number word (or another quantifier within a numeral classifier construction) are a special feature of numeral classifiers.

The set of numeral classifiers may depend on the number value in two ways.

- I. NUMERAL CLASSIFIERS CAN BE USED WITH LOWER NUMBERS RATHER THAN WITH HIGHER NUMBERS. This is captured in Generalization 5.4.

Generalization 5.4 Numeral classifiers and the value of number word

In no language will classifiers be used with higher numbers and not with lower numbers.

In Toqabaqita, an Oceanic language of the Solomon Islands, classifiers are not used with terms for hundreds and thousands, and are obligatory with other number values (Lichtenberk 2008: 293). In other Oceanic languages, numeral classifiers are typically used with number words ‘one’ to ‘nine’, and hardly ever with higher values (Guérin 2017 contains a survey and references). Similarly, in Nias, a Western Austronesian language, numeral classifiers are only used when counting things below ten (Brown 2001: 109).

- II. A LARGER SET OF CLASSIFIERS MAY BE USED WITH LOWER NUMBERS (ESPECIALLY ONE AND TWO) RATHER THAN WITH HIGHER NUMBERS. This is captured in Generalization 5.5.

Generalization 5.5 The number of numeral classifiers and the value of number word

In no language will a larger set of classifiers be used with higher numbers than with lower numbers.

The general classifier *càh* in Nung, a Tai-Kadai language, is restricted to ‘one’ (Saul and Wilson 1980: 28), while all other classifiers are used with the full set of numbers. In Warekena of Xié and Baniva of Guiana, two closely related Arawak languages from northern Amazonia, classifiers occur only with number words ‘one’ or ‘two’ (Aikhenvald 2019b). Palikur, a North Arawak language, has twenty numeral classifiers. Two of these are used exclusively with

the number word ‘one’, further nine with the number words ‘one’ and ‘two’, and the rest with other numbers (Aikhenvald and Green 2011: 415).

Alternatively, numeral classifiers may be obligatory with lower numbers and optional with higher ones. In Munya, native numeral classifiers are obligatory for numbers from one to twenty and optional with other values (Bai 2019: 283). In Marathi, classifiers are obligatory with number words higher than four, and optional with two to four (Emeneau 1956). In Minangkabau, specific sortal classifiers always occur with small numbers and are optional with large numbers (tens and hundreds: Marnita 2016: 69–70).¹⁹

The number word ‘one’ may stand apart from other number words with regard to the use of classifier, both in its morphological form and in its syntactic behaviour.

Numeral classifiers are suffixes to the number ‘one’ and independent words with other numbers in Indonesian and in Mingangkabau, e.g. Indonesian *se-orang guru* (one-NUM.CL:HUMAN teacher) ‘one teacher’, *dua orang guru* (two NUM.CL:HUMAN teacher) ‘two teachers’ (Sneddon 1996: 135, and also van Minde 1997: 73–4 and Blust 2013: 295–6, for Malay). In Maonan and Zhuang, the order of components NUMERAL CLASSIFIER - NOUN - NUMBER WORD is restricted to constructions with the number word ‘one’: this is what we saw in 5.15 and 5.16 (further examples from other Tai-Kadai languages in South-west China are in Enfield 2021: 295–6). Other number words require Type 1 order, NUMBER WORD - NUMERAL CLASSIFIER - NOUN.²⁰ A numeral classifier as a free word used on its own, implies the quantity of ‘one’ in Zhuang, a Tai-Kadai language, and in colloquial Thai (Lu 2012: 67–8) and Lao (Enfield 2004b: 131–2). The special status of one may have to do with its ambiguous status, as a number word and as an indefinite determiner (see Heine and Kuteva 2002, Givón 1981).

5.7 Drawing the line: Classifiers, quantifiers, and measure nouns

A language may have quantifying expressions whose choice correlates with some properties of the quantified referent. These expressions differ from numeral classifiers and should not be confused with them.

¹⁹ A numeral classifier may have different morphological form depending on the value of a number word, as in Palikur and a few North Arawak languages (Aikhenvald and Green 2011, Aikhenvald 2019b: 130).

²⁰ See also Haas (1942: 204) on the meanings of ‘one’ as a quantifier and as indefinite modifier depending on whether it precedes or follows the classifier in Thai.

5.7.1 How quantifiers and measure nouns differ from numeral classifiers

Every, or almost every, language has quantifiers, whose choice depends on what is being measured. For instance, in English the quantifier *much* is used with non-countable nouns and *many* with countable nouns. Nouns referring to countable entities are counted differently from those which come as uncountable masses and groups—they have to be grouped units first (as we saw in §5.3). Books can be counted based on the way they are arranged, as *stacks*, as in *three stacks of books*, or *piles*, as in *three piles of books*. Counting cattle in English and Russian is done by ‘heads’—hence English *five head of cattle* and the Russian equivalent in *pjatj golov skota*. Special terms can be used for units of different nature. A long twiggy object can be individuated, and then counted, in agreement with their shape properties, as in *a stalk of celery* or *a blade of grass*. Arrangement and shape of an entity play a role, as in *a ball of yarn* or *a head of cabbage*. Alternatively, a quantifier can be chosen based on the inherent nature of the entity. One talks about *a school of fish*, *a flock of birds*, and *a herd of cattle*.

The use of quantifying nouns may correlate with the distinction between mass and count referents. For instance, in both English and Hungarian, ‘honey’, a noun with mass reference, has to occur with a quantifier in order to be counted *egy csepp méz* ‘one drop of honey’, instead of **egy méz* ‘?one honey’ (which is ungrammatical). This makes them look similar to mensural classifiers.

However, none of these expressions can be considered numeral classifiers, for the following reasons.

I. Numeral classifiers are special morphemes used with number words (as we have seen throughout this chapter). Quantifying nouns (e.g. *flock* or *herd*) are nouns and are used as any other noun would be. In contrast to numeral classifiers, they have a lexical meaning of their own.

II. Numeral classifiers have to occur in a dedicated construction, distinct from constructions of other kinds. A numeral classifier will occupy a slot within this construction. In contrast, quantifying nouns do not fill an obligatory slot in the number word-noun construction.

Quantifying constructions in English are in fact a subtype of associative or specifying construction *X of Y*, with the slot X filled by a quantifier (or even a number word higher than ‘one’, e.g. *plenty of Y*, *a number of Y*). The slot X can

be filled with a noun which will specify the nature or the organization of the Y (see, for instance, [Dixon 2021](#): 112–13). An example is in 5.27.

- 5.27 a flood of tears a wave of enthusiasm
 a bunch of flowers a brute of a man
 a slab of cheese a bear of a man
 a school of fish a slip of a girl

The same construction type will be employed independently of whether a quantifying noun quantifies the entity (as in *half of (something)*), or contains reference to its arrangement (as in *row of corn*).²¹

5.7.2 Mensural classifiers and quantifiers

SORTAL classifiers categorize the entity in terms of its humanness, animacy, shape, and other features. MENSURAL classifiers reflect the typical arrangements of the entity and correlate with the way in which it can be measured. Why cannot mensural classifiers be considered a type of quantifier, or ‘measure word’?

In [Burling’s \(1965: 250\)](#) words, classifiers ‘are defined by the *meaning of the objects* which they classify’. In contrast, the choice of quantifiers depends on how one wishes to quantify, or measure, the referent. As [Jarkey \(2015: 35\)](#) put it, ‘classifiers are chosen based on semantic properties of the noun referent’, while measure terms ‘serve to divide count or mass noun referents of many different semantic types’ into divisions or parts (more on this in [Adams 1989: 5–10](#), and also [T’sou 1976](#) and [Bisang 1993: 9–10, 1999](#)).

A measure term does not have to be related to the properties of the referent. In 5.28, from Japanese, the quantifier *kiro* ‘kilogram’ is used to measure the quantity of rice ([Jarkey and Komatsu 2019: 254](#)).

- 5.28 Kanojo=wa kome=o ni-kiro kat-ta. *Japanese*
 she=TOP rice=ACC two-kilo buy-PAST
 ‘She bought two kilos of rice’

In 5.29, the same term, *kiro*, is not referring to any entity in particular.

²¹ Further discussion of differences between classifiers and quantifiers is in [Lehrer \(1986\)](#), [Adams \(1989: 5–10\)](#), [Beckwith \(1992\)](#), and also [Dixon \(1982: 211\)](#) (pace [Cinque and Krapova 2007](#)). See [Lichtenberk \(2008: 299–302\)](#) on the differences between quantifying or measure nouns and numeral classifiers in Toqabaqita.

- 5.29 Kanojo=wa hachijuk-kiro=o mochiage-rare-ru. *Japanese*
 she=TOP eighty-kilo=ACC lift-POTEN-NPST
 ‘She can lift eighty kilos’

The quantifier *kiro* cannot be considered a noun categorization device. A quantifier helps unitize a mass referent according to an imposed container, or as a way of measuring the substance, for instance, ‘sugar’ measured by spoonfuls in 5.30.

- 5.30 Satoo=o mi-saji ire-ta. *Japanese*
 sugar=ACC three-spoon put.in-PAST
 ‘[I] put in three spoonfuls of sugar’

In contrast, the mensural classifier *-tsubu* ‘tiny sphere-like objects such as grains, drops, or seeds’ will categorize the units of the substance *kome* ‘rice’ in terms of its inherent properties and ‘grain-like’ consistency, as in 5.31.

- 5.31 Kanojo=wa kome=o futa-tsubu hirot-ta. *Japanese*
 she=TOP rice=ACC two-grain pick.up-PAST
 ‘She picked up two grains of rice’

In Japanese, as in many languages with numeral classifiers, different numeral classifiers can be used to highlight distinct aspects of a polysemous noun—as we saw in examples 5.19–20 in §5.1.4 (see also §13.1). The choice of a classifier is constrained by the entity to which it refers. In contrast, the choice of a quantifier is constrained by the measure itself.

In [Jarkey and Komatsu’s \(2019: 255\)](#) words,

‘a single referent can be matched with more than one numeral classifier in different contexts’, but ‘the possibilities of alternative matchings tend to be highly constrained by the nature of the referent or by how human beings normally use or interact with it. On the other hand, the same referent can readily be matched with alternative measures or quantifiers, constrained only in that the unit of measure or the nature of the container (...) must be relevant to the referent ... Neither measures nor quantifiers are noun categorization devices.’

The choice of a quantifier may show some correlations with what is being quantified. A semantic boundary between classifiers and quantifiers will then be difficult to draw. The classifier *-fuku* ‘a puff, a dose, a breather’ in Japanese ‘works clearly as a mensural classifier when describing a naturally occurring

unit for puffs of a cigarette.’ The same classifier is a standard way of referring to packets of powdered medicine. Then, it can be considered a unit of quantification, straddling the border between classifier and quantifier (Jarkey and Komatsu 2019: 256).

Mensural classifiers and quantifiers may differ in their discourse uses. The use of classifiers in Assamese, and also in Vietnamese, correlates with definiteness and referentiality of the entity. The use of measure terms does not (Barz and Diller 1985, Borah 2013: 296–7, Löbel 2000: 293–8). Classifiers can be omitted in spoken Minangkabau, if clear from the context. In contrast, the omission of a quantifying expression leads to a change in meaning.²² We saw in §5.6 that the use of numeral classifiers may correlate with the value of a number word. This does not apply to quantifiers.

In multiple classifier languages, classifiers—and not quantifiers—occur in several contexts. This is what we find in Nung where classifiers, and not quantifiers, are used with demonstratives, in possessive constructions, and with nouns on their own, besides their occurrence with number words (Saul and Wilson 1980: 25). We return to this in Chapter 11.

5.8 Numeral classifiers and number on nouns

The use of numeral classifiers tends to interact with the semantic division of nouns into countable and uncountable (including mass nouns, and also abstract nouns)—this is what we saw in §5.3. The presence of numeral classifiers does not preclude the presence of obligatory number in nouns or any other parts of the grammar.²³

Table 5.7 features a selection of languages with and without numeral classifiers and with and without obligatory number distinctions on nouns.

Obligatory grammatical number is a feature of quite a few languages in the first row of Table 5.7. And a few languages mentioned in bottom row have neither numeral classifiers nor obligatory number on nouns. Notably, the use of numeral classifiers and the use of grammatical number go along different lines.

The choice of number marking interrelates with the semantics of the noun referent. That is, nouns referring to mass, abstract, or collective items may

²² See Borah (2013: 304) for an incisive analysis of differences between quantifiers and mensural classifiers in Assamese, and Löbel (2000: 287) on Vietnamese.

²³ Pace Greenberg’s claim that ‘numeral classifier languages generally do not have compulsory expression of nominal plurality, but at most facultative expression’ (1990: 177, 1972), which continues to be repeated by some (e.g. Her and Chen 2013, Sanches and Slobin 1973).

human (including kin terms) > animate > inanimate

Diagram 5.3 Animacy Hierarchy: The likelihood of number marking on a noun

not occur with overt exponents of grammatical number. This is superficially similar to distinct ways in which classifiers may apply to countable and uncountable entities. In addition to that, overt number marking on nouns and in noun phrases follows the principles of Animacy Hierarchy (Smith-Stark 1974, Corbett 2000: 56, 67, 70; see also Dixon 2012: 50–1). Diagram 5.3 features a simplified version of the Animacy hierarchy, applicable just to number expression on nouns or within a noun phrase.

The likelihood of number marking on a noun goes from left to right. That is, singular versus non-singular number marking in a given language is likely to be found on human nouns, especially kin terms. Or, as Corbett (2000: 70) put it, ‘as we move rightwards along the Animacy Hierarchy, the likelihood of number being distinguished will decrease monotonically’.

Table 5.7 Numeral classifiers and obligatory grammatical number

Numeral classifiers	Obligatory grammatical number on nouns	Language
yes	yes	Telugu, Kolami, Malto (Dravidian), Ejagham, Kana (Benue-Congo), Uzbek and other Turkic languages, Oriya, Bengali (Indo-Aryan), Totonacan languages, Chamorro, Mavea and Toqabaqita (Oceanic)
yes	no	Thai, Lao, Chinese (and many languages of Mainland Southeast Asia), Assamese, Korean, Japanese, Semelai, Tzotzil
no	no	Yidiñ, Dyirbal (and many other Australian languages), Creole languages

Sources for Table 5.7 include Krishnamurti (2003) and chapters in Steever (ed. 1998), for Dravidian languages; Mahapatra (1979) for Malto; Ray (2003) for Oriya; Masica (1991) for other Indo-Aryan languages; Johanson (2021: 452ff, 540–1) for Turkic languages; Guérin (2011: 132, 155) for Mavea; Bai (2019: 81) for Munya; van den Berg (2013) for Muna; Topping (1973) for Chamorro; García-Vega (2018), Beck (2004), McFarland (2009), and MacKay (1999) for Totonacan languages; Dixon (2002) for Australian languages; see also Harbsmeier (2012) on the expression of number and plurality in Chinese, and Meisterernst (2012) on the application of the Animacy Hierarchy to the expression of number in Chinese.

Many examples support this. In Dyirbal (Dixon 2022: 160), plural number forms exist only for a handful nouns with human reference, e.g. ‘man’ and ‘boy’. Number specification for nouns of other semantic groups is optional. The nominal plural in Koasati is marked only on nouns that refer to human beings (Kimball 1991: 403). Jarawara has special plural forms just for four nouns (child, spirit, woman, and man: Dixon 2004: 304–5). In Malto, a language with a system of numeral classifiers, number is obligatory only on nouns denoting humans (Mahapatra 1979: 62–3). In these cases, number marking can alternatively be analysed as a noun categorization device (see Appendix 1 in Aikhenvald 2003a, 2014).²⁴

5.9 Time and time again: Numeral classifiers and event counters

Numeral classifiers relate to the properties of nouns. They categorize noun referents in constructions involving counting, quantifying, and measuring. One can count, quantify or measure objects or substances. One can also count actions, in terms of the number of times they are being performed. It thus comes as no surprise that a subset of numeral classifiers can be used as event counters, or action counters.²⁵

Numeral classifiers in Japanese can refer to the number of events referred to by nouns, *chokugeki ip-patsu* (hit:NOUN one-NUM.CL:EXPLOSIVE) ‘a direct hit’, and also by verbs, as we see in 5.32 (Jarkey and Komatsu 2019: 256–7).

- 5.32 Atama.ni.ki-ta node beru=o ip-patsu
 get.angry-PAST because bell=ACC one-NUM.CL:EXPLOSIVE
 narashi-te-yat-ta. Japanese
 ring-GER-give-PAST
 ‘I got angry and I rang my bicycle bell with one (mighty) ring’

As a verbal action classifier, *-hatsu* is used to count explosions and ‘metaphorically explosive events’ including punches, farts, and ejaculations. As a numeral classifier, it subsumes ‘explosive’ entities: bullets, firearms, fireworks, things

²⁴ See also Downing (1996: 205–6) and Corbett (2000: 74) on further semantic factors which influence compulsory or optional marking of plural number in Japanese.

²⁵ Action counters indicating how many times an event takes place were first treated on a par with classifiers for Thai, by Haas (1942: 205). An overview of the phenomenon in a selection of languages from East Asia is in Gerner (2015); see the critique of his approach and terminology in Aikhenvald (2019a: 20). Further examples of forms for ‘times’ as part of classifier paradigm are in Poser (2005: 160), for Carrier and Bril (2014: 176) for Nêlêmwa.

that make noise, and even shocking utterances (Downing 1996: 296–7). The polysemous classifier *-hon* is used with long, thin things like pencils, rivers, and bottles. It is also used to categorize events involving actual or metaphorical trajectory like hits in baseball, telephone calls, and movies (Matsumoto 1993).

Along similar lines, the general classifier *-kai* in Japanese can also be used as a classifier with nouns and as an event counter. In 5.33, it occurs with a noun.

- 5.33 Kanojo=wa san-kai=no kekkon=o
 she=TOP three-time=GEN marriage=ACC
 keiken.shi-ta *Japanese: numeral classifier*
 experience-PAST
 ‘She has experienced three marriages’

In 5.34, the same classifier refers to the number of times the woman was married.

- 5.34 Kanojo=wa kekkon=o *Japanese verbal action counter*
 she=TOP marriage=ACC
 san-kai keiken.shi-ta
 three-time experience-PAST
 ‘She has experienced marriage three times’

Only sortal classifiers appear to be used this way. Verbal action markers occur in the same slot as do numeral classifiers, but do not categorize nouns. Their form may be different from that of numeral classifiers. In 5.35, from Newari, a Tibeto-Burman language from Nepal, the number word *ni*- ‘two’ is used with the numeral classifier *-pu* ‘thin and long object’ (Bhaskararao and Joshi 1985: 18–19, 25).

- 5.35 ni-**pu** peti *Newari*
 two-CL:LONG.THIN belt
 ‘two belts’

In 5.36, the verbal action marker *dhu*: ‘times’ occurs with the same number word, indicating the number of times the event has occurred.

5.36	ni-dhu:	wAlA	Newari
	two-VERBAL.ACTION.MARKER:TIMES	came	
	‘(Somebody) came twice’		

The choice of a verbal action marker correlates with the meaning of the verb. For instance, in Newari, the verbal action counter *dhu:* occurs with verbs of locomotion, *thu* is used with verbs which denote a sudden or momentary action, and *dha:* occurs with verbs of washing, rubbing, and kneading. This underscores their functions: they are a means of categorization of verbs, but not of nouns.²⁶ The overlap between numeral classifiers and verbal action classifiers appears to be restricted to large systems (such as Japanese).

5.10 To conclude

- I. Numeral classifiers are free or bound morphemes which occur in a dedicated construction with number words and sometimes other quantifiers, including the interrogative ‘how many/how much?’. No language uses numeral classifiers with quantifiers unless they are also used with number words—see Generalization 5.1 (p. 97).
- II. Classifiers as suffixes to a number word are more common than classifiers as prefixes. Classifiers can be fused with number words, or marked via reduplication. A language can have both free and bound numeral classifiers.
- III. Numeral classifiers usually form one constituent with the number word, with the exception of Kana and other Kegboid languages. A combination of a numeral classifier and a number word can be separated from the noun. This is sometimes referred to as ‘quantifier floating’ for Southeast Asian languages.
- IV. Numeral classifiers divide into SORTAL and MENSURAL. Sortal classifiers characterize a referent in terms of its humanness, animacy, and physical properties including shape, dimensionality, and size. Mensural classifiers characterize the referent in terms of arrangements in which it may occur.

²⁶ See also Zhang (2016: 408–44), on verbal action markers in Ersu, a Tibeto-Burman language from China. Verbal action markers in Munya are discussed by Bai (2019: 294–5), Chao (1968: 616–18), on Mandarin Chinese, Day (1973) for Jacalteco, Luo (2022: 288–9) for Zhuang, and Pan (2022) and Li (2006) for Austronesian languages of Taiwan.

- V. Languages with numeral classifiers based on function and arrangement always have classifiers based on humanness and/or animacy and/or physical properties—see Generalization 5.2 (p. 112). Consequently, no language has mensural classifiers without having sortal classifiers—see Generalization 5.3 (p. 113).
- VI. The choice of a classifier may correlate with the type of entity—whether it is countable or not. Classifiers with nouns referring to masses and substances transform them into countable units.
- VII. Numeral classifiers tend to correlate with the value of number words. Higher number values are less likely to occur with numeral classifiers than lower numbers—see Generalization 5.4 (p. 117). Classifiers may be obligatory with lower numbers and optional with higher ones but never the other way around—see Generalization 5.5 (p. 117).
- VIII. Numeral classifiers are relatively common, but not ubiquitous. In contrast, quantifying expressions and measure terms are there in every language. Mensural classifiers need to be distinguished from quantifiers and measure terms. Quantifying expressions such as English *a flock of birds* or *a stack of bricks* cannot be considered numeral classifiers.
- IX. The presence of numeral classifiers in a language does not presuppose absence of obligatory number on nouns—see Table 5.7 (p. 123).
- X. Numeral classifiers help structure a mass, or a substance, into countable units. In a similar way, they may serve to organize events into countable ‘times’ or instances of their occurrence. Special sets of event counters cannot be considered noun categorization devices.

6

Noun classifiers

Noun classifiers accompany a noun independently of any other element within the noun phrase or a clause. They categorize the noun's referent in terms of a generic type, or class, to which it belongs. In 6.1, from Yidiñ, an Australian language, the owl is categorized as a member of the class of 'birds'.

6.1 **jarruy** durrguu *Yidiñ*
NOUN.CL:BIRD owl
'owl', lit. 'bird owl'

Alternatively, the referent can be categorized in terms of its function. Speakers of Yidiñ eat birds, and so an owl can be talked about as 'food', or 'edible animal'. This is reflected in the noun classifier *miña* 'edible animal', in 6.2.

6.2 **miña** durrguu *Yidiñ*
NOUN.CL:EDIBLE.ANIMAL owl
'owl', lit. 'edible animal owl'

The major features of noun classifiers are outlined in Box 6.1.

Box 6.1 Major features of noun classifiers

- (i) Noun classifiers accompany a noun within a noun phrase independently of other elements, forming a noun classifier construction.
- (ii) The choice of a noun classifier is always semantically based.
- (iii) Several noun classifiers may co-occur within one noun phrase.
- (iv) Not every noun referent has to be assigned a classifier.
- (v) Noun classifiers can be free or bound morphemes.

Noun classifiers are relatively uncommon. The most extensive and diverse systems are limited to a few parts of the world—Australia and Central America,

with some instances in Amazonia, Africa, Asia, and the Pacific.¹ Noun classifiers are among recurrent classifier contexts in multiple classifier languages (see Chapter 11, and Table 11.1, p. 207).

We start with the principles of choosing a noun classifier in §6.1, and then turn to formal features of noun classifiers and classifier constructions in §6.2. Further functions of noun classifiers in syntax and in discourse set them apart from nouns—the topic of §6.3. In §6.4, we turn to phenomena which are only superficially similar to noun classifiers. The last section contains a summary.

6.1 How to choose a noun classifier

The choice of a noun classifier is always based on the meaning of the entity. The meanings in noun classifier systems fall into two groups.

THE FIRST GROUP of noun classifiers reflects the inherent nature of the entity, subsuming the categories such as ‘bird’, ‘animal’, ‘ant’, ‘tree’, ‘vegetable’, anything made of stone (e.g. pebble, hill, cave), water and associated concepts, or anything to do with fire (e.g. flame, spark, hot ashes). Of twenty noun classifiers in Yidiñ, fourteen are of the ‘inherent nature’ type (Dixon 1977: 480ff, 1982: 192ff, 2015): These fall into the following groups:

- humans (*wagu:ja* ‘man’, *buña* ‘woman’, and a superordinate *bama* ‘person’);
- fauna (*jarryu* ‘bird’, as in 6.1, *mangum* ‘frog’, *munyimunyi* ‘ant’);
- flora (*jugi* ‘tree’, *narra* ‘vine’); natural objects (*buri* ‘fire’, *walba* ‘stone’, *jabu* ‘earth’);
- artefacts (*gala* ‘spear’, *bundu* ‘bag’, *baji* ‘canoe’).

Inherent nature classifiers in Ngan.gityemerri, from the Daly area of Northern Australia, cover the categories of vegetable, tree, animal, and fire (Reid 1997). Jacalteco and a few other Mayan languages have an elaborate set of noun

¹ On noun classifiers in Australian languages, see a summary in Dixon (2002: 455–60), and also Harvey and Reid (1997) and Sands (1995). For the languages of Meso-America (especially Q’anjob’alan Mayan), see Zavala 1992, 2000 on Akatek and Craig (1986b, c) on Jacalteco; see also England (1983) on Mam, Hopkins (2012) for a summary on Mayan languages, de León (1987) on Tzotzil and Mixtec, and Foris (2000) on Sochiapan Chinantec. See Storch (2005: 381–433, 2014: 82–7) on Western Nilotic languages; for languages of South America, see Malone (2004: 153–64), on Chimila, Gabas (1999: 214–15) on Karo, with a summary in Aikhenvald (2012a: 288–90). In the Australianist tradition, noun classifiers are sometimes referred to as ‘generics’.

classifiers for humans and deities. Classification of humans reflects age, gender, kin and non-kin, and respect (Craig 1986c: 266–7; see also Hopkins 2012). Table 6.1 illustrates noun classifiers for humans in Jacalteco.

Table 6.1 Noun classifiers for humans in Jacalteco

Noun classifier	Meaning
<i>cumam</i>	male deity
<i>cumi7</i>	female deity
<i>ya7</i>	respected human
<i>naj</i>	male non-kin
<i>ix</i>	female non-kin
<i>naj ni7an</i>	young male non-kin
<i>ix ni7an</i>	young female non-kin
<i>ho7</i>	male kin
<i>xo7</i>	young male kin
<i>ho7 ni7an</i>	young male kin
<i>xo7 ni7an</i>	young female kin
<i>unin</i>	Infant

Noun classifiers for non-human referents in Jacalteco include terms for animal, dog, plant, rock, water, and fire—see Table 6.2.

Table 6.2 Noun classifiers for non-humans in Jacalteco

Noun classifier	Meaning
<i>no7</i>	Animal
<i>metx´</i>	Dog
<i>te7</i>	Plant
<i>ixim</i>	Corn
<i>tx´al</i>	Thread
<i>tx´añ</i>	Twine
<i>k´ap</i>	Cloth
<i>tx´otx´</i>	Soil/Dirt
<i>ch´en</i>	Rock
<i>atz´am</i>	Salt
<i>ha7</i>	Water
<i>k´a7</i>	Fire

Noun classifiers with human reference may stand apart from other inherent nature classifiers. A noun phrase in Yidiñ can contain two noun classifiers, one in a superordinate relation to the other. The superordinate term *bama*

‘person’ can be accompanied by either *wagu:ja* ‘male person, man’ or *buña* ‘female person, woman’, and then followed by a specific noun. An example is in 6.3 (Dixon 2015: 49).

6.3	bama	wagu:ja	wurgun	<i>Yidiñ</i>
	NOUN.CL:PERSON	NOUN.CL:MAN	pubescent.boy	
	‘the pubescent boy’ (lit. person man pubescent boy)			

This is the only instance of superordinate-subordinate relationship between classifiers in this language (see §12.5, and Table 12.5, p. 245, on superordinate-subordinate relationships in Japanese classifier systems).

THE SECOND KIND of noun classifier relates to the function of the referent of a specific noun. Yidiñ has six noun classifiers which refer to the way in which the entity can function, or be used:

miña ‘edible animal, or flesh food’ (as in example 6.2), *mayi* ‘edible non-flesh food’, *bulmba* ‘habitable’, *bana* ‘drinkable’, *wirra* ‘movable’, *gugu* ‘purposeful noise’.

A distinction between flesh and non-flesh food is typical for Australian languages with noun classifiers (Dixon 2002: 454–9, 2015, and references there). Gender, or noun class, systems with a similar distinction can be shown to have evolved from reinterpretation of noun classifiers and their fusion with the noun; we return to this in §15.3.1.

Function-based classifiers in Murrinhpatha include *thamul* ‘spears’ and *thu* ‘offensive weapons’: these include boomerangs, a large club, and playing cards (Walsh 1997: 257). Ngan.gityemerri has noun classifiers *syiri* ‘strikers’, *kurum* ‘canegrass spears’, *tyin* ‘woomeras’ (an Australian implement for propelling a spear), and *kini* ‘digging stick’ (Reid 1997: 177–8).

Noun classifiers of the two kinds—inherent nature and function-based—can occur together in one noun phrase. Then the inherent nature classifier invariably follows the function one (see Dixon 1977, Dixon 2002: 457, Wilkins 1989: 108, 2000: 154). In 6.4, from Arrernte, spoken in Central Australia, a grinding stone is categorized as a type of stone with the inherent nature classifier ‘stone’, and also as an artefact, with another noun classifier.

6.4	ame	pwerte	athere	<i>Arrernte</i>
	NOUN.CL:ARTEFACT	NOUN.CL:STONE	grinding.stone	
	‘grinding stone’			

The option of having several classifiers within one noun phrase (or even one word) is available in multiple classifier languages with noun classifiers as one of the classifier contexts. We return to this in §11.3.3 (and examples 11.12–14, from Shiwilu).

Meanings of noun classifiers can involve shape and function. Ersu, a Tibeto-Burman language from southwest China, has five noun classifiers. These are bound morphemes, suffixed to a noun (Zhang 2016: 373–5). The classifiers categorize the noun in terms of its shape and size, and also animacy. The classifier *-kaka* ‘irregular round smallish object’ is illustrated in 6.5.

6.5 pu

Ersu

‘potato’

pu-**kaka**

potato-NOUN.CL:IRREGULAR.ROUND.SHAPE.SMALL

‘a small potato of irregular roundish shape’

The semantic range of noun classifiers of the classifier *tun* in Coatzoquitengo Mixtec and its extensions covering shape and materials are summarized in Diagram 6.1.

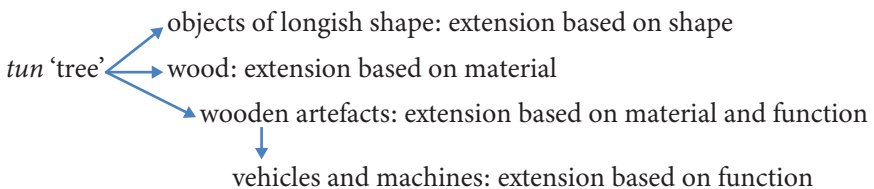


Diagram 6.1 Semantic range of the classifier *tun* in Coatzoquitengo Mixtec and its semantic extensions

Not every kind of referent has to be assigned a noun classifier. In Emmi, from Northern Australia, only nouns referring to edible plants or to edible flesh acquire a noun classifier (Ford 2011: 100). The rest of the referents are not classified. In Karo, a Tupí language from Brazil, intrinsically ‘shapeless’ referents (including liquids, powdery substances, and mass nouns in general), nominalizations, body parts, abstract nouns, and natural phenomena never occur with a noun classifier (Gabas 1999: 214–15). And in Jacalteco, abstract nouns, locative nouns (such as road, church, school, market, or village), body parts and substances such as beer, Coca-Cola, food, garbage, smoke, cloud, and stars, take no classifiers.

6.2 Formal features of noun classifiers

In many languages, noun classifiers constitute a closed class of free forms each constituting one grammatical and one phonological word. The size of their inventory varies. Batjamalh, an Australian language neighbouring Emmi, has three classifiers—for trees, edible vegetables, and meat (Ford 2016: 42). Sochiapan Chinantec has nine, Ngan.gityemerri has fifteen, Murrinhpatha has ten, and Yidiñ twenty. Mayan languages have larger systems—for instance, Jacalteco has thirteen terms for humans, and twelve for animates.

Noun classifiers can be independent grammatical and phonological words. This is the case in Australian, Mayan, Chinantecan, some Western Austronesian, and a few Amazonian languages. In a few Tibeto-Burman languages, Western Nilotic languages, and some languages in South America, they are suffixes to nouns (as we saw for Ersu in 6.5). Noun classifiers in Khmer, a Mon-Khmer language—whose meaning is restricted to ‘respect’ (or lack thereof)—are prefixes to nouns, e.g. *a:-neak* (NOUN.CL:DISHON-person) ‘a miserable wretch’ (Haiman 2011: 155–9, on Khmer; and Enfield 2007: 151–2 for kinship prefixes and markers of disrespect in Lao which can be considered noun classifiers).

The question of ‘how many’ noun classifiers a language has may not warrant a simple answer. In a few languages, noun classifiers are said to be recruited from a semi-open class of nouns with generic reference. Any noun with generic semantics appears to be used as a noun classifier to a noun with more specific reference in Minangkabau (Marnita 2016), within a noun classifier construction. The exact number of noun classifiers is hard to ascertain. In an alternative approach, such languages can be said to have classifier constructions—rather than a limited set of classifiers—which would involve a syntactic combination of a generic and a specific noun (also see the discussion in Wilkins 2000).

In most languages, a noun classifier expressed with a free form will typically precede the noun in a noun phrase, as we have seen in the examples so far. Quite a few Australian languages have a fairly free word order, and so the noun classifier can either precede or follow the noun. Either order is acceptable in Kayardild, though it is more common for a noun classifier with generic reference to come first (Evans 1995: 245). A noun classifier is usually contiguous with the noun. In Murrinhpatha, other constituents can intervene between the classifier and the specific noun (Walsh 1997: 264). In Ngan.gityemerri, a noun classifier will precede the noun and its modifiers. This is likely to be a

precursor of the development of noun classifiers into noun class, or gender, agreement markers in the language (Reid 1997: 177, and §15.3.1).

Box 6.2 How to distinguish a noun classifier from a noun in Yidiñ

Yidiñ has two pronouns meaning ‘what/something’.

Wanyi ‘what, something’ is used ‘to refer to an object concerning which nothing is known—it enquires about the genus’.

Wanyirra is used ‘when it is known which generic classifier the object comes under, and the actual species name is being sought’. That is, *wanyirra* occurs with a generic classifier, and ‘a criterion for whether a word belonged to the set of generic classifiers was whether it could occur with *wanyirra*’. This is how speakers use these forms. The classifier *miña* ‘edible animal’ is in bold.

person A: wanyi gali-ŋ
 what.genus:ABS go-PRES
 ‘What is that going [along there]?’

person B: **miña** gali-ŋ
 NOUN.CL:EDIBLE.ANIMAL:ABS go-PRES
 ‘It’s an animal going [along].’

person A: [wanyirra **miña**] juŋgaŋ
 what.species:ABS NOUN.CL:EDIBLE.ANIMAL:ABS run-PRES
 ‘What sort of animal is it running [along there]?’

person B: [**miña** ganguul] warri-ŋ
 NOUN.CL:EDIBLE.ANIMAL:ABS wallaby:ABS jump-PRES
 ‘It’s a wallaby jumping [along].’

The preference for a generic-first order is intuitively plausible and reflects the principle of iconicity. A more general, or a superordinate term, is introduced first. The specific term—which narrows down the general

field—follows. If a noun classifier is a bound morpheme, its position as a suffix or as a prefix is determined by the language's preferences. For instance, Ersu is predominantly suffixing, so the fact that noun classifiers are suffixes comes as no surprise.

The specific noun, rather than the noun classifier, tends to be considered the head of the noun phrase. However, in Kayardild, both classifier and the noun can appear on their own depending on the way discourse is structured. Both the noun classifier and the noun have syntactically equal status (see [Evans 1995](#): 245; a similar syntactic indeterminacy was signalled for Martuthunira by [Dench 1995](#): 195).

A noun classifier as a free form can be distinguished from a specific noun by using grammatical criteria. Box 6.2 shows how classifiers and nouns require different question words in Yidiñ ([Dixon 1982](#): 190–1).

6.3 Noun classifiers in syntax and discourse

Noun classifiers have roles in discourse which sets them apart from specific nouns they may accompany. In Yidiñ, one would not generally say: 'the girl saw the wallaby'. It is more felicitous to include a generic noun classifier and say 6.6, literally, 'the person girl saw the animal wallaby' ([Dixon 1977](#): 480–1, [1982](#): 185). The constituents [NOUN.CL:PERSON girl] and [NOUN.CL:ANIMAL wallaby] are in square brackets.

6.6 [bama-al	yaburu-ŋgu]	[miña	
NOUN.CL:PERSON-ERG	girl-ERG	NOUN.CL:EDIBLE.ANIMAL:ABS	
ganguul]	wawa-al		Yidiñ
wallaby:ABS	see-PAST		

'The girl saw the wallaby' (lit. The person girl saw the animal wallaby)

One of the best attested syntactic functions of noun classifiers is their use for participant anaphora—that is, to refer to a previously mentioned referent. A typical example from Akatek is in 6.7 ([Zavala 2000](#): 134). The king is referred to as *naj smam.konob* (NOUN.CL:MAN king) in 6.7a. In the next clause, 6.7b, he (the king) is referred to just with the classifier, *naj* (which is pronounced as a stressed form).

- 6.7a tatol chinchax an yuu **naj**
 because/if I.am.found 1sg by NOUN.CL:MAN
 smam.konob'
 king
 '... because if I am found by the (man) king' *Akatek*

- 6.7b chinsma'_kam **naj** an
 he.kill.me NOUN.CL:MAN 1sg
 'He (the man) is going to kill me'

Noun classifiers in Mam ([England 1983](#): 158–60) are suffixes to verbs and non-verbal predicates, and are only used anaphorically, to refer to a previously mentioned referent.

Noun classifiers may correlate with the introduction of new participants into discourse. Emmi has just two noun classifiers—one for edible flesh and the other one for edible plants. At its first mention, a noun denoting one of these concepts has to be preceded by a classifier. After that, the specific noun can be omitted. In 6.8, a magpie goose is referred to with a combination of a noun classifier and the noun, in the first clause, as *awa tjulvorr* (NOUN.CL:EDIBLE.FLESH magpie.goose). In the second clause, it is referred just as *awa* NOUN.CL:EDIBLE.FLESH ([Ford 2011](#): 102).

- 6.8 kandu gana=yi **awa**
 man 3MIN.S.REALIS.walk=PERF NOUN.CL:EDIBLE.FLESH
 tjulvorr yene miriwuda *Emmi*
 magpie.goose LOC swamp
awa dawal gulanya+than
 NOUN.CL:EDIBLE.FLESH many 3AUG.A.REALIS.chop+shoot
 'A man went for magpie geese in the swamp, where they shoot
 many (magpie geese)'

Further discussion of anaphoric functions of noun classifiers, in the context of other noun categorization devices, is in §13.6.

A noun classifier may correlate with topicality and definiteness of the referent. In Akatek, noun classifiers are not used in the environments which require non-individuated and non-referential forms. So, an indefinite noun cannot occur with a classifier, and nouns accompanied with classifiers are interpreted as individuated. [Zavala \(2000](#): 139–40) remarks that 'in narratives, most of the

instances of a noun with a classifier coincides with a thematically important participant in discourse, i.e. a participant that will be subsequently mentioned in foregrounded episodes.' In contrast, 'if the participant plays a role in sections of the narrative that are backgrounded, the noun does not occur with the noun classifiers'. Along similar lines, noun classifiers in Jacaltec are never used in non-referential noun phrases and are restricted to definite nouns, or nouns which encode an important new protagonist.

6.4 Drawing the line: The limits of noun classifiers

In many, if not all, languages, a noun phrase may consist of a pairing of a generic noun followed by a specific one, forming a GENERIC-SPECIFIC COLLOCATION. In English, it is possible to use a proper name together with a descriptive noun phrase or a generic noun. One can say *that evil man Adolf Hitler*. Or ask a question: *what kind of soup do you want?*, and receive an answer *I want a soup-soup*—meaning that I want a normal, everyday kind of soup, a 'soup of a soup type'. Such appositional noun phrases are used for a rhetorical effect. It differs from noun classifiers in Australian, Mayan, and other languages discussed so far, which form a set of grammaticalized items, with specific semantic, syntactic, and discourse functions. Generic-specific pairings may become an historical source for grammaticalized noun classifiers (see [Dixon 2002](#): 450 and [Sands 1995](#): 270).

COMBINATIONS OF A NOUN WITH A SPECIFIER may have to be differentiated from noun classifier constructions. In Minangkabau, the noun phrase *buruang balam* (NOUN.CL:BIRD turtledove) 'a turtledove' contains a noun classifier. The noun classifier *buruang* can be omitted, once a new topic has been introduced with the full sequence of noun classifier-specific noun (see also examples 13.16–13.17). The noun phrase *buruang antu* 'ghost bird' (lit. bird ghost) is superficially similar to the construction noun classifier-noun. It contains the generic noun, *buruang*, followed by another noun ('ghost'). The noun phrase refers to a type of bird. However, this is not a noun classifier-noun construction. The generic component *buruang* cannot be omitted: such omission would result in the change of meaning: we will then be no longer talking about a type of bird, but just a ghost.²

Alternatively, a compound may contain a component with a general meaning, known as a 'CLASS NOUN' or a 'CLASS TERM'. An example is 'berry'

² Similar problems with distinguishing noun classifier constructions from compounds in Murrinh-patha are discussed by [Walsh \(1997](#): 272–3).

in the English compounds *straw-berry*, *blue-berry*, *black-berry*, *rasp-berry*, and so on. In contrast to noun classifiers, class nouns (or class terms) tend to be restricted to a few terms within a limited semantic subfield. The meaning of a combination of a class noun and a specific noun may not be fully predictable, as is the case with *strawberry*. In contrast, noun classifiers will cover the whole semantic field (e.g. all the plants rather than just ‘berries’). Similarly, in Lao, class nouns occur as initial components of compound polymorphemic forms denoting objects and people. They refer to kinds of objects, *paø-duk2* (CLASS.TERM.FISH-fish) ‘cat-fish’, *paø-thuu2* (CLASS.TERM.FISH-fish.species) ‘mackerel’; social roles, e.g. *mèø-khaaw3* (CLASS.TERM.MOTHER-white) ‘nun’, and function, e.g. *lotø-thiip5* (CLASS.TERM.VEHICLE-push.away.with.foot) ‘bicycle’ (Enfield 2007: 146–50). A class term specifies a property of the subsequent noun, often in a partly unpredictable, idiomatic way. Class nouns do not have anaphoric or other discourse functions typical for noun classifiers (see §6.3). They derive new nouns.³

HONORIFIC NOUNS, across Tibetic languages, consist of a first element indicating ‘honorificity’ and the second one with a more specific meaning (see Wangdi 2021, Watters 2021, and DeLancey 1998, and references there, for Classical Tibetan and Dzongkha and Brokpa, two Bodish languages of Bhutan). For instance, in Dzongkha, honorific forms containing *chip* ‘horse:HONORIFIC’ include horses, and both traditional and modern forms of transportation, such as cars (Watters 2021: 91–5). A combination of an honorific with a noun may result in syllable deletion, e.g. Brokpa *samba* ‘thought’ (ordinary form), *thuk-sam* (MIND:HONORIFIC-thought) ‘thought (honorific form)’ (Wangdi 2021b: 123). Some monosyllabic nouns have suppletive honorific forms, e.g. Brokpa *sem/samba* ‘mind’ (ordinary), *thuk* ‘mind (honorific)’. These features set them apart from noun classifiers.

6.5 To conclude

- I. Noun classifiers are free or bound morphemes which characterize the referent of a noun in terms of its generic kind, function, and, more rarely, shape and consistency. They occur independently of any other element within a noun phrase.

³ See also Enfield (2021: 300–8), Vidal (1997: 61) on class nouns in compounds in Pilagá, a Guaycuruan language from Argentina, and DeLancey (1986) for historical connections between class nouns and classifiers.

- II. The number of noun classifiers may be limited. In some instances, any generic noun can be used as a classifier in a special noun classifier construction.
- III. Noun classifiers have a number of functions in syntax and discourse which set them apart from nouns.

Noun classifiers have to be distinguished from generic-specific combinations available in all languages, from possessive and other compounds, and from class terms.

Noun-classifier-like forms with generic meanings were a feature of numerous writing systems of the ancient Near East—Ancient Egyptian, Sumerian, Akkadian, Hittite, and Hurrian. These ‘graphical classifiers’, or ‘determinatives’, were used to distinguish polysemous signs, e.g. a city from a country (see [Rude 1986: 155–6](#), and [Selz, Grinevald, and Goldwasser 2017](#)). As far as we know, none of these languages had noun classifiers in their spoken register.

Classifiers in possessive constructions

Classifiers in possessive constructions categorize the possessed item in terms of its inherent properties and the ways in which it can be handled or consumed. Tamambo, an Oceanic language from Vanuatu, has four classifiers. Each reflects a way of handling an entity (Jauncey 2011: 205–10). In a possessive construction in 7.1, *bia* ‘beer’, a drink, is accompanied by the classifier *ma-* for drinkable items.

- | | | | |
|-----|-------------------------|------------|----------------|
| 7.1 | ma-m | <i>bia</i> | <i>Tamambo</i> |
| | POSS.CL:DRINKABLE-2sg | beer | |
| | ‘your beer’ (drinkable) | | |

To talk about possession of something edible, the noun has to be accompanied by the classifier *ha-*. This is what we see in 7.2 where *niu* ‘coconut’ is categorized as an edible item.

- | | | | |
|-----|-------------------------|------------|----------------|
| 7.2 | ha-m | <i>niu</i> | <i>Tamambo</i> |
| | POSS.CL:EDIBLE-2sg | coconut | |
| | ‘your coconut’ (edible) | | |

The classifier *bula-* is used to talk about plants which one grows for home use and live animals one owns.

- | | | | |
|-----|-------------------------------|----------------|----------------|
| 7.3 | bula-na | <i>manioko</i> | <i>Tamambo</i> |
| | POSS.CL:LIVE.PLANT-3sg | manioc | |
| | ‘his manioc’ (which he grows) | | |

When talking about personal property in general, the classifier *no-* ‘general possession’ is appropriate.

- | | | | |
|-----|----------------------|---------------|----------------|
| 7.4 | no-m | <i>ihele</i> | <i>Tamambo</i> |
| | POSS.CL:GENERAL-2sg | digging.stick | |
| | ‘your digging stick’ | | |

Similar to other Oceanic languages, classifiers in Tamambo are not used with nouns which denote referents conceptualized as closely linked to the possessor. These include body parts, plant parts, and some, or all, kinship relations. Such nouns are referred to as inalienably, or ‘directly’, possessed. In 7.5, the inalienably possessed noun *lima*- ‘hand’ in Tamambo takes the possessive suffix without the ‘intermediary’ of a classifier (Jauncey 2011: 198–9).

7.5	<i>lima-ku</i>	<i>Tamambo</i>
	hand-1sg.POSS	
	‘my hand’	

Other referents are subsumed under ‘alienable possession.’ As we saw in 7.1–7.4, they require a classifier to be used in a possessive construction, and are referred to as ‘indirectly possessed.’ The classifiers in 7.1–7.4 categorize the way in which an alienably possessed item is handled or manipulated by the possessor. The classifiers reflect the nature of possessive relationship (as they are restricted to alienable, or less close, possession) and the interaction of the possessee with the possessor.

The choice of possessive classifiers may be based on inherent properties of the possessed item and the general class of items it belongs to. Yuman languages of California have two classifiers: one for pets and domestic animals, and another one for everything else. In 7.6, from Maricopa, the noun *qwaqt* ‘horse’ is used in a possessive construction in combination with a possessive classifier *-hat* ‘pet’ (Gordon 1986: 33).

7.6	<i>qwaqt</i>	<i>-ny-hat</i>	<i>Maricopa</i>
	horse	1sg-POSS-POSS.CL:PET	
	‘my horse’		

In 7.7, the noun *kwar’o* ‘knife’ occurs with the classifier *-nywish* ‘general possession.’

7.7	<i>kwar’o</i>	<i>m-nywish</i>	<i>Maricopa</i>
	knife	2-POSS.CL:GENERAL.POSSSESSION	
	‘my knife’		

Possessive classifiers with generic meaning are obligatory in possessive constructions with plants, animals, and natural phenomena in Macushi and Apalaí, two North Carib languages from Brazil and adjacent regions in Venezuela (Abbott 1991, Koehn 1994). In 7.8, from Macushi, a horse is categorized as belonging to the class of ‘domestic animal’.

7.8 u- yekîn	kaware	<i>Macushi</i>
1sg-POSS.CL:DOMESTIC.ANIMAL	horse	
‘my horse’ (lit. my-domestic.animal horse)		

In 7.9, ‘papaya’ is categorized as edible fruit with the generic possessive classifier ‘fruit food’.

7.9 u- yekkari	ma’pîya	<i>Macushi</i>
1sg-POSS.CL:FRUIT.FOOD	papaya	
‘my papaya’ (lit. my-fruit papaya)		

Possessive classifiers are found in a few pockets across the world, including Oceanic and a few other Austronesian languages, a few Papuan languages of New Guinea, a number of languages in South America, Yuman and Uto-Aztec languages in North America, some Otomanguean and Mixtec languages in Meso-America, and one known instance in Sub-Saharan Africa.¹

Box 7.1 summarizes the major features of classifiers in possessive constructions.

Possessive constructions are among recurrent contexts for multiple classifier systems (see §11.1 and §11.4). The size of inventories of possessive classifiers varies, from two in Manam (Lichtenberk 1983a: 291–5), and Maricopa and other Yuman languages, three in some Uto-Aztec languages, to ten in Palikur, a North Arawak language (Table 7.1, p. 146), eighteen in Kusaiean, and twenty three in Iai (Lee 1975: 118–119, Ozanne-Rivierre 1976: 188–94).

¹ Function-based possessive classifiers in Oceanic languages were termed ‘relational’ in a seminal paper by Lichtenberk (1983a). An obsolete term is ‘genitive’ classifiers (e.g. Carlson and Payne 1989; see Aikhenvald 2013: 12–16 for a critique). Overviews of possessive classifiers in Oceanic languages are in Guérin (2017: 922), Lynch et al. (2003: 77), and Blust (2013); see also Aikhenvald (2003a: 133–7, 2013: 20–7). An overview of possessive classifiers in the Chaco region of South America and surrounding areas is in Ciucci and Bertinetto (2019); see Suárez (1983: 89) on possessive classifiers in Meso-American languages, and Aikhenvald (2012a: 290–2) on possessive classifiers across Amazonia.

Box 7.1 Major features of classifiers in possessive constructions

- (i) Possessive classifiers occur in possessive constructions and categorize the possessed noun in terms of its inherent properties, function, and interaction with the possessor.
- (ii) Possessive classifiers generally correlate with the type of possessive construction and possessive relationship.
- (iii) The choice of a possessive classifier is always semantically based.
- (iv) Possessive classifiers can be a subclass of nouns, or form a separate closed class of bound morphemes.
- (v) The choice of possessive classifiers may reflect some features of the possessor.

The divisions of possessive classifiers are the topic of §7.1. Formal features of possessive classifiers are discussed in §7.2. In §7.3, we look at possessive classifiers and possessive relationships. The choice of possessive classifiers may interact with some features of the possessor—the topic of §7.4. The final section contains a summary.

7.1 How to choose a possessive classifier

A possessive classifier is always chosen on a semantic basis. Its assignment can be determined by the function of the possessed and the way it is handled by the possessor—see §7.1.1. A classifier can also be chosen on the basis of inherent properties of the possessee, including its animacy, shape, dimensionality, form, and consistency— see §7.1.2.

7.1.1 Function-based possessive, or ‘relational’, classifiers

Many Oceanic languages have a set of possessive markers whose choice reflects the way in which the possessor handles or manipulate the possessed, as we saw in 7.1–7.4, from Tamambo.

The simplest system of function-based, or ‘relational’, classifiers contains two terms: general possession versus alimentary possession. This

type of system is found in Manam and in Kove, both Oceanic (Lichtenberk 1983a: 151, 1983b: 291–5, Sato 2013: 158–85). The alimentary classifier *ʔaná* in Manam is used with edible items, e.g. *bóro ʔaná-ŋ* (pig POSS.CL:EDIBLE-1sg) ‘my pig’. The general classifier *né* is used for all other alienably possessed objects, e.g. *ʔúsi né-gu* (loincloth POSS.CL:GENERAL-1sg) ‘my loincloth’.

Raga, an Oceanic language from Vanuatu (Duhamel 2019: 33), has five possessive classifiers. Two are chosen based on the way the possessee is used: *ga-* ‘food’ and *ma-* ‘drinks and sweets’. The classifier *wa-* is used specifically for sugarcane. The way it is consumed differs from ‘drinking’ and ‘eating’, as its fibre has to be chewed to drink its juice. The classifier *no-* is used for general possession. There is, in addition, the classifier *bila-* for valuable possessions. Three classifiers are used in one sentence in 7.10.

7.10	Mwa	lai	ga-n	damu	Raga
	3sg.PROG	take	POSS.CL:EDIBLE-3sg	yam	
	no-n		bwana	bila-n	boe
	POSS.CL:GENERAL-3sg	mat	POSS.CL:VALUABLE	pig	
	‘She takes her yam, her mat, her pig.’				

In 7.10, ‘yam’ is categorized as ‘food, or edible object’, ‘pig’ is treated as valuable possession, and a mat—for which no special classifier is available—is accompanied with the classifier for general possession. ‘Value’ as a semantic parameter comes up time and time again in possessive classifiers (see Generalization 12.4, p. 243, and §12.5).

A large system of function-based possessive classifiers may involve kinship relations and social functions. Of the eighteen possessive classifiers in Kusaeian, a Micronesian language, six reflect kinship relations, including mother and wife, husband and father, offspring, and siblings (Lee 1975: 111–12). Possessive classifiers in Pohnpeian, a neighbouring Micronesian language, include special terms for maternal uncles, nieces and nephews, clan members, and peers (Keating 1997: 252–5).

Three possessive classifier forms in Boumaa Fijian adds further distinctions. All items are divided into consumable (drunk/sucked/licked versus eaten/chewed/smoked) and non-consumable, the latter split into (a) items relating to possessor, and (b) items owned by the possessor. This is shown in Diagram 7.1 (Dixon 1988: 136–7).

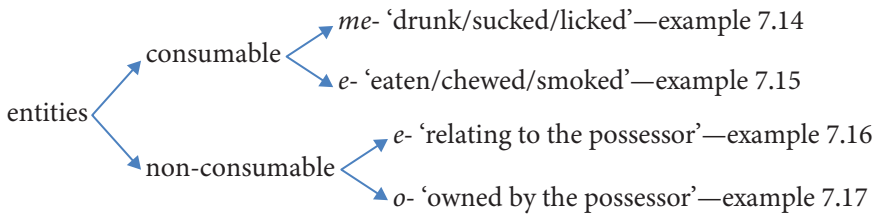


Diagram 7.1 Possessive classifiers in Boumaa Fijian

Examples 7.11 and 7.12 illustrate items consumed in different ways. Kava is a special fermented drink, popular across Fiji and the South Pacific. In 7.11, *waqona* ‘kava’ is intended to be drunk and is used with the classifier *me-*.

- 7.11 **me-na** *waqona* *Boumaa Fijian*
 POSS.CL:DRUNK.SUCKED.LICKED-3sg *kava*
 ‘his kava’

In 7.12, *drega* ‘chewing gum’ is used with the classifier *e-* because it is chewed:

- 7.12 **'e-mu** *drega* *Boumaa Fijian*
 POSS.CL:EATEN.CHEWED.SMOKED-3sg *chewing.gum*
 ‘your chewing gum’

The meanings of the classifiers with those items which cannot be consumed reflect association between the possessor and the possessed, or ownership. A gun can be associated with the person without belonging to them—for instance, used to kill them, as in 7.13. Then the classifier *'e-* will be used.

- 7.13 **a 'e-mu** *da'ai* *Boumaa Fijian*
 ART POSS.CL:NONCONSUMABLE.RELATED.TO-2sg *gun*
 ‘your gun’ (which will be used to shoot you)

If a gun is owned by the person, the classifier *o-* will be used, as in 7.14.

- 7.14 **a o-mu** *da'ai* *Boumaa Fijian*
 ART POSS.CL:NONCONSUMABLE.OWNED-2sg *gun*
 ‘your gun’ (which belongs to you)

Four semantic categories are covered by three forms—each showing correlations between the possessor, the possessed, and its inherent properties.

7.1.2 Possessive classifiers and the meanings of the possessed noun

A possessive classifier can categorize the entity in terms of its generic type or class, reflecting a hierarchically-oriented taxonomy. A set of ten generic nouns is used as possessive classifiers in Palikur—see Table 7.1 (based on Aikhenvald and Green 2011 and Diana Green, p.c.). The third column contains examples of possessive noun phrases with classifiers.

Animals are categorized depending on the ways they can be handled—domesticated or caught for food and cooked in various ways. Plants can be

Table 7.1 Possessive classifiers in Palikur

Classifier	Meaning	Examples
-kamkayh	offspring	<i>nu-kamkayh awayg</i> (1sg-POSS.CL:OFFSPRING boy) ‘my son’
-pig	pet, domesticated animal	<i>gi-pig pewru</i> (3masc.sg-POSS.CL:PET dog) ‘his dog’
-win	catch; animal caught to eat	<i>nu-win arudiki</i> (1sg-POSS.CL:CATCH tapir) ‘my tapir’ (the tapir I caught)
-masara	roast (meat or fish)	<i>gi-masara-kis kavine</i> (1pl-POSS.CL:ROAST wild.pig) ‘their wild pig’ (the one they roasted)
-tetwan	cooked (meat or fish)	<i>gi-tetwan kunan</i> (3m-POSS.CL:COOKED bass) ‘his bass’ (the fish he cooked)
-mana	edible fruit and vegetables	<i>pi-mana uwas</i> (2sg-POSS.CL:FRUIT.VEG.FOOD orange) ‘your orange’ (that you will eat)
-matig	porridge	<i>gu-matig-kis dug</i> (3f-POSS.CL:PORRIDGE.LIKE-pl rice) ‘their rice porridge’
-mutra	plant	<i>n-amutra pilatno</i> (1sg-POSS.CL:PLANT banana) ‘my banana plant’ (that I planted)
-manta	hollowed log for making a canoe	<i>pi-manta tamuka</i> (2sg-POSS.CL:LOG tamuka.wood) ‘your tamuka log’ (that you will make a canoe from)
-kahri	sickness	<i>gi-kahri nuwiskawanka</i> (3m-POSS.CL:SICKNESS seizure) ‘his epilepsy’

cooked, eaten, planted, or carved into artefacts. There is just one classifier for humans, ‘offspring’, and a specific classifier for sicknesses. Those specific nouns with which classifiers occur in Palikur cannot take possessive prefixes on their own. Ten possessive classifiers always occur with prefixes.

The choice of a possessive classifier can also be based on the inherent properties of the possessed item, including its animacy, shape, and consistency. The choice of possessive classifiers in many Uto-Aztecan languages is based on animacy and humanness. Papago (or Tohono O’odham) and Northern Tepehuan have special classifiers for animates and for inanimates. Cora (Casad 1982: 236) distinguishes human, animate, and inanimate possessive classifiers. Papago classifier *ʒoi-* ‘possessive classifier for animate nouns’ is illustrated in 7.15 (Saxton 1982: 186–7, Langacker 1977: 92).

7.15	g	gogs	ʒoi-ga-ʃ		g	huan	<i>Papago</i>
	ART	dog	POSS.CL:ANIM-ALIENABLE-GEN		ART	Juan	
			‘the dog of Juan’s’				

‘Dongo-ko, a Mba (Ubangi) language from the Democratic Republic of the Congo, has ten possessive classifiers which include terms for people, for animals, and various body parts (Pasch 1985: 75–80, 1986: 240–55).²

Possessive classifiers in Oceanic languages of New Caledonia, including Nêlêmwa, reflect inherent properties of the kinds of food (whether it is flesh, starch, vegetables or leaves, crabs, etc.) and the ways in which food is consumed (whether it is drinkable or chewable) (Bril 2014: 70, 2002: 365–7). There are also special classifiers for seedlings, weapons, pets, prey, and baskets. Table 7.2 features the system in Nêlêmwa.³

Possessive classifiers in Pohnpeian reflect the kind of relationship between the possessor and the possessed item, the nature of the possessed, and the social status of the possessor. The language distinguishes three speech styles: honorific, or ‘exalted’, neutral, and humiliating. The neutral register—unmarked for politeness—has twenty-two classifiers. The honorific register has twenty-two forms, with only fourteen the same as in the neutral register, and the rest different.

The general classifier *ah* and the classifier *nah* ‘general with dominance of possessor’ in Pohnpeian correspond to one honorific classifier *sapwellime*.

² See Ciucci and Bertinetto (2019: 152–9) on possessive classifiers in Zamucuan languages which combine reference to the function of the possessee and to its intrinsic properties.

³ For possessive classifiers in the languages of New Caledonia, see Osumi (1996: 438) on Tinrin; Ozanne-Rivierre (1976: 191) and Dotte (2013: 241ff) on Iaai.

Table 7.2 Possessive classifiers in Nêlêmwa

Classifier	Meaning
<i>khoo-</i>	meat or fish food
<i>caa-</i>	starch food
<i>kûû-</i>	vegetable food
<i>khora-</i>	sugar-cane, coconut flesh
<i>maa-</i>	chewed food
<i>kêâ-</i>	drinks
<i>ââ-</i>	plant tubers/seedlings
<i>thiiva-</i>	flower seedlings
<i>aadaxi-</i>	weapons
<i>pwaxi-</i>	pets, or cattle (lit. 'child')
<i>fha-</i>	prey (obtained by fishing or hunting)
<i>kee-</i>	baskets

Two ‘common register’ classifiers *kene* ‘edible’ and *nime* ‘drinkable’ correspond to three in the honorific speech: *koanoat* ‘possession of food/drink by paramount chief’, *pwenieu* ‘possession of food/drink by paramount chief-tainess’, and *sahk* ‘possession of food/drink by secondary chief’ (see Keating 1997: 252–3, 255, 258). In the humiliative register (used to address those who are viewed as socially inferior), there is just one kind of possessive classifier: a combination of the general classifier *ah* and the specific humiliative classifier *tungoal* (lit. ‘food’). All the semantic distinctions present in honorific and common style classifiers are neutralized.

The same noun can be used with different classifiers, depending on the status of the Possessor. An example of a possessive construction in the common register is in 7.16.

7.16 **nah** pwutak Pohnpeian
POSS.CL:GENERAL.UNMARKED.STATUS boy
‘her/his boy’ (unmarked for status)

When talking about a possessor of a higher status, 7.17 will be appropriate.

7.17 **sapwellime** N pwutak Pohnpeian
POSS.CL:GENERAL.HON.STATUS Title boy
‘Highly respected N’s boy’ (N is a chief)

And if the Possessor is low in status, 7.18 is the one to use:

7.18	ah	tungoal		pwutak	<i>Pohnpeian</i>
	POSS.CL:GENERAL.LOW.STATUS			boy	
				‘his/her (a humble person’s) boy’	

Social functions and social hierarchies play a role in possessive classifiers in the language. We return to this in §14.1.

7.2 Formal properties of possessive classifiers

Possessive classifiers are always independent grammatical words.⁴ In many Oceanic languages (including Tamambo and Fijian), possessive classifiers form a closed class of grammatical items which are similar to obligatorily possessed nouns in that they have to take possessive suffixes. They lack other grammatical features of nouns. For instance, they do not require a specifier article, or take number inflections; nor can they be modified by demonstratives or adjectives. Etymologically, possessive classifiers in Oceanic languages are heterogenous, as they come from nouns and from verbs.⁵ We return to this in §15.3.

In Palikur, possessive classifiers are generic nouns (Table 7.1). In Apalai and Macushi (examples 7.8–7.9), any noun with an appropriate generic meaning can be used in the possessive classifier construction (Koehn 1994, Koehn and Koehn 1986: 85–7). The class of generic forms is said to be open to introduction of new items, via borrowing.

A set of possessive classifiers will not have a term for every class or type of referent. A recurrent choice in many systems may involve a general, or default, classifier (this is similar to numeral classifiers, as we saw in §5.1.6). The classifier *no-* in Tamambo covers ownership ‘of inanimate nouns, states, and endeavours’ which are not subsumed under the other, more specific classifiers shown in examples 7.1–7.3. A digging stick is neither edible, nor drinkable, nor can it be considered a live animal: the classifier *no-* is the only option, as we saw in example 7.4. The same classifier is also used for customary ways of doing

⁴ Classifiers in possessive constructions as one of the contexts in multiple classifier systems can be affixed: see §11.3.2.

⁵ In Paamese, an Oceanic language, possessive classifiers are treated as nominals (but not as full-fledged nouns), based on the fact that they combine with possessive suffixes (Crowley 1982: 111–12). Classifiers in Maricopa are treated as a separate word class (Gordon 1986: 33, 79).

things, rituals, songs, and language, e.g. *no-m sora-e* (POSS.CL:GENERAL-2sg talk-NOM) ‘your language’ (Jauncey 2011: 206–7).

Alternatively, a language can use the repeater, or autotransformer, technique, similar to the phenomenon illustrated for numeral classifiers in §5.1.6. Truques has a large system of classifiers which refer to the ways in which items can be possessed, or handled, and also to the physical properties of referents (Benton 1968: 123ff). Every noun has to be assigned a classifier. Those nouns which do not fall under the semantic scope of an existing classifier occur in the slot where one would expect a possessive classifier. In 7.19, the noun *kuusa* ‘blanket’ occupies the possessive classifier slot.

7.19	kuusa-yi	we	kuusa	<i>Truques</i>
	POSS.CL:BLANKET-1sg	DEM	blanket	
	‘my blanket’			

The repeater technique appears to be less widespread for possessive classifiers than it is for numeral classifiers and classifiers in multiple contexts.⁶ Having a repeater technique makes the set of classifiers appear open-ended.

7.3 Possessive classifiers and possessive relationships

The concept of ‘possessive constructions’ covers a wide range of meanings. The core types of meanings in possessive constructions cover (a) ownership (of property), (b) whole-part relations, including body parts and plant parts; and also kinship, covering blood, or consanguineal, relations, such as ‘mother’ or ‘father’ and affinal relations, such as ‘spouse’ (see Aikhenvald 2013: 3–4, 12–14). Whole-part relations and kinship relations can be expressed in one way, and other types of ownership in another. Across Oceanic languages, body parts and kinship terms are possessed ‘directly’: that is, a possessive pronominal suffix is attached to the noun without any intermediary.

For instance, in 7.5, from Tamambo, *lima-* ‘hand’ takes the possessive suffix directly, yielding *lima-ku* (hand-1sg.poss) ‘my hand’. None of these referents can occur on their own, without a possessor, or the ‘whole’. As mentioned at the beginning of this chapter, they are referred to as inalienably, or obligatorily,

⁶ Repeaters as possessive classifiers have been attested in a few languages, including Iaa (Bril 2014: 70, Ozanne-Rivierre 1976: 191) and also Panare, a North Carib language (Mattéi-Müller 1974).

possessed. Possession of other referents involves a classifier, as we saw in 7.1–7.4. The classifier will categorize the object in terms of how it can be handled and in terms of its inherent features. Possessive classifiers across Oceanic languages are restricted to optionally, or alienably, possessed nouns. This is what we also find in Uto-Aztecán, Yuman, Carib, and some Arawak languages.

Across Oceanic languages, the type of relationship between entities can be specified with the help of different function-based possessive classifiers. Alternatively, the function of an item and its relationship to the possessor can be specified through different possessive constructions. In Manam, a ‘head’ as one’s own body part is inalienably possessed and takes the suffix *-gu* ‘my’ directly, as in 7.20 (Lichtenberk 1983a).

- 7.20 *paŋana-gu* *Manam*
 head-1sg
 ‘my head’

Manam has two function-based possessive classifiers—one for alimentary possession and a general one (Lichtenberk 1983a). The same noun ‘head’ can be used to refer to heads other than ‘my own’. The head of a fish I am going to eat will be used in a construction with alienable possession and the possessive classifier *ʔana-* ‘alimentary possession’, in 7.21.

- 7.21 *paŋana ʔana-gu* *Manam*
 head POSS.CL:ALIMENTARY-1sg
 ‘my head’ (e.g. fish head to be eaten)

A head (of fish or pig) found somewhere will be used with the general classifier *ne-* in 7.22.

- 7.22 *paŋana ne-gu* *Manam*
 head POSS.CL:GENERAL-1sg
 ‘my head’ (e.g. the one I found)

Most nouns in Ambae, an Oceanic language from Vanuatu, can be used in both alienable and inalienable possessive constructions, and with different classifiers depending on what the object is to be used for. An example is in Box 7.2 (Hyslop 2001: 181–4).

Box 7.2 How to deal with ‘water’ in Ambae

WATER AS A DRINK: *Wai* ‘water’ in Ambae is typically seen as something to drink, as in *me-mu wai* (POSS.CL:DRINKABLE-2sg water) ‘your water (to drink)’.

WATER TO WASH WITH, OR TO USE FOR ANOTHER PURPOSE: If water it to be used for some other purpose, e.g. to wash with, one will refer to it as *no-mu wai* (POSS.CL:GENERAL-2sg water) ‘your water (to wash with, or use for some other purpose)’.

WATER FOR BATHING: If the water it to be used for bathing oneself, an inalienable construction will be appropriate: *wai-mu* (water-2sg) ‘your water’ (as close possession).

Possessive classifiers, the possessive construction used—whether alienable or inalienable—and the type of relationship it expresses, conspire to categorize the possessee and the way it is handled by the possessor.

The restriction on the use of possessive classifiers with optionally possessed nouns is recurrent (as formulated in Chappell and McGregor 1989), but not universal. Possessive classifiers in 'Dongo-ko (Pasch 1985: 75ff, 1986: 240ff) are used with both alienably and inalienably possessed items (including body parts). Kadiwéu, a Guaycuruan language of central Brazil, does not distinguish between alienable and inalienable possession. There are two classifiers—one for domestic animals and a general one (Sandalo 1995, Souza 2012, Griffiths and Griffiths 1976: 101–3) (also see §11.3.2 on possessive constructions as one of multiple classifier contexts).

Generalization 7.1 holds across all the languages documented so far.

Generalization 7.1 Correlations between classifiers and possession types

- i. Function-based possessive classifiers are always limited to optionally, or alienably, possessed nouns.
 - ii. Possessive classifiers whose choice is based on intrinsic properties of the possessed entity, in addition to its function, do not have to be restricted to constructions with optional, or alienable, possession.
-

7.4 Categorizing the possessor

Features of the possessor may interact with the meanings of a classifier in possessive constructions. A possessive classifier can encode the interaction between the possessed and the possessor. We saw in Diagram 7.1, p. 145, that the classifier *e-* in Boumaa Fijian characterizes something related to the possessor (but not owned by them, e.g. ‘a gun used to shoot you’, in 7.13), and the classifier *o-* refers to an object the possessor owns.

Mavea, an Oceanic language of Vanuatu, (Guérin 2011: 171), has six possessive classifiers which combine reference to the way the referent is handled (eaten or drunk), and its inherent nature. An additional classifier refers to possessions of a deceased person—that is, a feature of the possessor. The list of possessive classifiers in Mavea is in 7.23.

7.23	<i>a-</i>	‘POSS.CL:EDIBLE ENTITY’	<i>Mavea</i>
	<i>ma-</i>	‘POSS.CL:DRINKABLE ENTITY’	
	<i>no-</i>	‘POSS.CL:GENERAL POSSESSION; VALUABLES’	
	<i>pula-</i>	‘POSS.CL:RAISED (FOR AN ANIMAL), PLANTED (FOR A VEGETABLE)’	
	<i>sa-</i>	‘POSS.CL:HOUSING AND LAND’	
	<i>madoue-</i>	‘POSS.CL:DECEASED PERSON’S POSSESSION’	

When a Tamambo person dies, the ‘personal items belonging to them can no longer be referred to by other classifiers’, such as *no-* ‘general possession, personal property’ and *bula-* ‘living things that one owns’, as we saw in 7.1–7.4. The classifier *koru-*, literally ‘be dry’, is used instead (Jauncey 2011: 220–1). Two classifiers—one used in (a) if the owner is alive and the other in (b) if the owner is dead—are shown in 7.24.

	Owner	alive		<i>Tamambo</i>
7.24 (a)	simba	no-ni		mama
	knife	POSS.CL:GENERAL-LK		Dad
	‘Dad’s knife’			
	Owner	dead		
(b)	simba	koru-ni		mama
	knife	POSS.CL:DEC.OWNER-LK		Dad
	‘the late Dad’s knife’			

An alternation between possessive constructions can have a similar effect, reflecting the role of the possessor. A few nouns in Ambae can be used as inalienably and as alienably possessed with a difference in meaning: *ahi* ‘song’

refers to a song about the possessor (if inalienably possessed), and to a song either written by, or a favourite of, the possessor (if alienably possessed). *Nunu* ‘image’ refers to an image (photo, reflection, or shadow) of the possessor (if inalienable), and to an image owned by the possessor (if alienable) (Hyslop 2001: 182).

Generally speaking, the type of possessor displays less cross-linguistic variation than the possessed item. The kind of possessive construction may vary depending on whether the possessor is human or animate. In Mussau-Emira, an Oceanic language, inalienable, or ‘direct’, possession is used for body-parts of humans. Body parts of animals and plant parts require an associative construction, ‘with’, rather than in a possessive structure. One says *natu-na ateva Kealo* (child-3SG.POSSessor sg.1 Kealo) ‘Kealo’s child’, but *laa ng-ai* (branch ASSOC-tree) ‘branch of a tree’ (Brownie and Brownie 2007: 75–6, 84).

Human and non-human possessors can be marked differently. In Awa Pit, a Barbacoan language from Ecuador, a human or a referential possessor is marked with the genitive enclitic =*pa*/=*wa*, e.g. *Santos=pa pimpul* ‘Santos’s leg’ (Curnow 1997: 123). For non-human possessors, simple apposition is used, as in *kwizha pimpul* ‘dog’s leg’. Mam, a Mayan language (England 1983: 68), has a possessive construction just for entities possessed by humans. A content interrogative, ‘whose?’, often refers just to a human and animate possessor, as is the case in English and many other languages, including Martuthunira, from Western Australia (Dench 2013; further examples are in Aikhenvald 2013: 11–12). Grammatical expression of the properties of possessor in possessive construction can be a basis for noun categorization, additional to classifiers and separate from them.

7.5 To conclude

- I. Possessive classifiers are independent grammatical words which occur in possessive constructions and categorize the possessed in terms of its function and relationship with the possessor, and in terms of its inherent properties.
- II. Possessive classifiers tend to be a subclass of nouns.
- III. If a language has just function-based possessive classifiers, they will be restricted just to alienably, or optionally, possessed items. If a language has possessive classifiers whose choice is based on intrinsic properties of the item, including animacy and shape, and also function, the

classifiers are likely to apply to alienably and inalienably possessed items—Generalization 7.1, p. 152.

- IV. Possessive classifiers and possessive constructions may specify different meanings of a noun—a feature shared with all noun categorization devices.
- V. The choice of a possessive classifier may reflect properties of the possessor, and possessor's control over the object.

8

Verbal classifiers

Verbal classifiers are bound morphemes which occur on verbs and categorize the subject of an intransitive verb (S) or the object of a transitive verb (O) in terms of their dimensionality, animacy, consistency, shape, function, and also position and orientation. Verbal classifiers can be affixes to a verb. In 8.1, from Waris, a Papuan language from the Border family in New Guinea, the prefixed classifier *put-* ‘VERB.CL:SPHERICAL’ on the verb categorizes a coconut as a spherical entity (Brown 1981: 95–6; repeated from 1.9). The coconut is the object (O) of the transitive verb ‘give’.¹

8.1 sa ka-m **put**-ra-ho-o Waris
 coconut_O 1sg-to VERB.CL:SPHERICAL-get-BEN-IMPERATIVE
 ‘Give me a coconut’ (lit. ‘coconut to-me round.one-give
 (lit. ‘get-benefactive’)

The classifier *put-* applies to any round object, including balls. In 8.2, also from Waris, the classifier *mwan* ‘VERB.CL:PLIABLE’ categorizes a bark mat as flat and pliable. The bark mat is the subject of the intransitive verb ‘lie crumpled (of pliable entities)’.

8.2 psa **mwan**-vil-v Waris
 bark.mat_S VERB.CL:PLIABLE-lie.crumpled-PRES
 ‘A bark mat lies crumpled’

The classifier *mwan-* refers to all flat pliable objects, including clothing, net bags, and mats. Waris has sixteen verbal classifiers altogether. Their choice is based on consistency, dimensionality, shape, function, and arrangement of the entity (see §15.2.2, on their origins in serial verbs constructions).

Innu, an Algonquian language, has eight verbal classifiers suffixed to the verb. These are chosen on the basis of inherent properties of the entity, including its shape and consistency (Drapeau and Lambert-Brétière 2011:

¹ Syntactic functions of arguments are added as subscripts in the glosses.

302–4). In 8.3, the verbal classifier *-eci* ‘sheet-like’ categorizes a ‘scarf’ in S function.

- 8.3 *mâk ni-tâpiškâkan mišta-miš-eci-šî-pan* *Innu*
 and 1sg-scarf_S very-big-VERB.CL:SHEETLIKE-ANIM.INTR - PRETERITE
 ‘And my scarf was very large’

In 8.4, the verbal classifier *-âšku-* ‘long and rigid’ categorizes the pipes, in O function.

- 8.4 *putitê-y-âšku-mutâ-w* *ukutuškwêw-a* *Innu*
 inside-LK-VERB.CL:LONG.RIGID-install-TI2-3 pipe-pl_O
anitêhê micwâp-it
 there house-LOC
 ‘He installs the pipes there inside the house’

A verbal classifier in Innu can also categorize an oblique argument. The classifier *-âšku-* ‘long and rigid’ categorizes the instrument, ‘stick’ in 8.5.

- 8.5 *êkwê matuštêwê-y-âšku-w-ât* *Innu*
 then throw.in-LK-VERB.CL:LONG.RIGID-with.instrument.TA-3.3’.CJ
ašit mištikw-ihu
 with stick-OBV_{INSTR}
 ‘Then he threw it (the caribou skin) in the fire using a stick’

Alternatively, a verbal classifier can be fused with the verbal root, and forms suppletive verbal stems for handling, existence, and location for entities of different shape and consistency (e.g. round, long, rigid) and arrangement (piles, bags, and so on). These are known as classificatory verbs. They typically categorize the S (intransitive subject) or the O (transitive object). In 8.6–8.7, from Chiricahua Apache, an Athabaskan language (Hoijer 1945: 14), classificatory verbs categorize the object of a transitive verb with the meaning of ‘handle’. One stem is used for a round object in 8.6, and another one for a fabric-like object in 8.7.

- 8.6 *hà-n-ʔà·h* *Chiricahua Apache*
 out.of-2SUBJ.IMPF-handle.a.round.object:IMPF.MOMENTANEOUS
 ‘you take a round object (out of enclosed space)’

8.7 hà-n-l-có's

Chiricahua Apache

out.of-2SUBJ.IMPF-VOICE.MARKER-handle.a.fabric.like.object:

IMPF.MOMENTANOUS

'you take a fabric-like object (out of enclosed space)'

Box 8.1 summarizes the major features of verbal classifiers.

Box 8.1 Major features of verbal classifiers

- (i) Verbal classifiers occur on verbs, characterizing the O, S, and in some languages also an oblique (instrument or location) in terms of its intrinsic properties (shape, form, consistency, arrangement, and rarely animacy and function).
- (ii) Verbal classifiers are always bound morphemes.
- (iii) Verbal classifiers always form a closed set. There are no instances of repeaters, or auto-classifiers, as verbal classifiers in their core contexts.
- (iv) The choice of a verbal classifier is always semantically based.
- (v) The use of verbal classifiers may correlate with semantic groups of verbs.

Verbal classifiers are less widespread than gender and numeral classifiers. They are a feature of many languages of the Americas, the Tibeto-Burman languages, and a few languages in New Guinea and northern Australia. So far, the only language in Africa reported to have verbal classifiers is Gumuz, an isolate spoken in north-western Ethiopia and adjacent regions of the Sudan. Classifiers can occur on verbs in multiple classifier languages (see Chapter 11, especially §11.3.4).²

Formal features and subtypes of verbal classifiers are discussed in §8.1. We then turn to syntactic functions of arguments categorized by verbal classifiers in §8.2. Affixed verbal classifiers are distinct from noun incorporation—this is the topic of §8.3. The choice of verbal classifiers may correlate with the meanings of verbs they apply to—see §8.4. Differences between classificatory verbs and verbs like 'eat' and 'drink' in English are summarized in §8.5. The final section offers a summary.

² See Aikhenvald (2003a: 149–71, 2019a) on general features of verbal classifiers, and references there; Aikhenvald (2012a: 292–4) on Amazonian languages (see also Bisang 2018). Verbal classifiers never occur on predicates other than verbs, and so should not be called 'predicate classifiers' (pace Allan 1977).

8.1 Formal features of verbal classifiers

Verbal classifiers come in three guises—as affixes to verbs (§8.1.1), as classificatory generic noun incorporation (§8.1.2), and as suppletive classificatory verbs (§8.1.3). Languages which combine two or more kinds of verbal classifiers are the topic of §8.1.4.

Verbal classifiers always constitute a closed set of bound morphemes. In contrast to numeral classifiers and possessive classifiers, verbal classifiers are never expressed via the repeater or autotransformer technique.

8.1.1 Verbal classifiers as affixes on verbs

Verbal classifiers can be prefixes to the verb—as we have seen in 8.1–8.2, from Waris.³

Verbal classifiers can be suffixed to the verbal root: this is what we saw in 8.3 and 8.4, from Innu. In 8.8, also from Innu, the classifier *-(i)tak* ‘dry wood’ refers to a log cabin previously mentioned in the story. The log cabin is where the crow was looking out from (Drapeau and Lambert-Brétière 2011: 307).

8.8 ê=pakunê-**tak**-â-li-t *Innu*
 PREVERB=be.hole-VERB.CL:DRY.WOOD-II-OBV-3CONJUNCT
 ‘Where there was a hole in the log cabin’ (lit. VERB.CL:DRY WOOD)

The verbal classifier in 8.8 refers to the location (more on this in §8.2). The noun itself (‘log cabin’) is omitted, as it is clear from the context (see §13.7).

Gumuz has nine verbal classifiers (Ahland 2012: 270–95). They categorize referents in O, S, and instrument functions in terms of their shape and size, humanness, and other inherent properties. Each classifier is transparently related to a body-part term. For instance, the classifier *-o’kw/-ilúkw*, literally, ‘head’, covers round objects including fruit and body parts and pots. In 8.9, it categorizes an orange (a round fruit).

8.9 ʔaf-**ilúk’w** bartukána *Gumuz*
 wash-VERB.CL:ROUND orange_O
 ‘Wash the oranges!’

³ Similar examples from closely related Imonda are in Seiler (1989: 120–33, 1986).

In 8.10, the classifier *-ílik'ós*, for tooth-like objects, refers to the beads in O function. This classifier subsumes small tooth-like entities, including buttons, beads, and seeds.

- 8.10 ʔaf-**ɪɫk**’ós minza Gumuz
wash-VERB.CL:TOOTH.LIKE beads_O
‘Wash the beads!’

Cherokee, an Iroquoian language, has five verbal classifiers obligatorily suffixed to verbal roots. Classifiers categorize O or S of the verb (Blankenship 1997; Haas 1948/1978: 302). The classes of referents—each covered by a classifier—are living (or animate), liquid, flexible, long, and compact. In 8.11, the classifier *káà-* categorizes the cat as a living being (Blankenship 1997: 92). The object ‘cat’ is overtly stated.

- 8.11 Wèesa gà-kaà-nèěa Cherokee
 cat_O 3sgA+3sgO-VERB.CL:LIVING-give:PRES
 ‘She is giving him a cat’

It is not uncommon for a verbal classifier to have a nominal origin, as in Gumuz. In contrast, verbal classifiers in Innu and in Cherokee have no synchronic connection with independent nouns (Drapeau and Lambert-Brétière 2011: 300). Diachronically, some of them may have developed out of grammaticalized nouns incorporated into the verb (Blankenship 1997: 98); see §15.3.4.⁴

8.1.2 Generic nouns as verbal classifiers

A noun with generic reference can be incorporated into the verb to categorize its direct object or intransitive subject (and sometimes also an instrument or a location). The generic-specific relation between the incorporated noun and the verb's argument is reminiscent of generic noun classifiers (Chapter 6) and generic classifiers in possessive constructions (Chapter 7). Incorporated generic nouns always form a closed class of items.

⁴ These facts go against referring to verbal classifiers across the board as ‘verb-incorporated classifiers’ (pace Gerner 2015). See Denny (1979a: 98–100), on verbal classifiers in Ojibway and Cree (Algonquian), and Hori (2001), on Skidegate Haida (Eyak-Athabaskan).

In 8.12, from Mayali (also known as Bininj Gun-Wok), from Northern Australia, a generic incorporated noun categorizes the specific noun ‘ironwood tree’ in S function as a member of the class of trees (Evans 1996: 77; further examples are in Evans 2003: 472).

- 8.12 *ga-rrulk-di* *Mayali*
 3NPAST-VERB.CL/GEN.NOUN:TREE-stand(NPAST)
 an-dubang
 GENDER.III-ironwood tree
 ‘An ironwood tree is there’ (lit. a tree-is an ironwood tree)

And in 8.13, the generic noun *-bo* ‘liquid’ incorporated into the verb characterizes the O, water.

- 8.13 *An-marne-bo-yi-rrund-i* *gukku Mayali*
 3/1-BEN-VERB.CL/GEN.NOUN:LIQUID-COM-return-PP water
 ‘He brought the water back for me’ (lit. he brought-liquid water)

Across Australian languages, only a limited set of generic nouns can undergo classificatory incorporation. In Mayali this set consists of forty or sixty nouns (Evans 2003: 332, 467). The form of incorporated nouns is often different from the free form for the same item. We can see, from 8.13, that the incorporated form of *gukku* ‘water’ in Mayali is *bo* (a similar phenomenon was described for Tiwi by Lee 1987 and Osborne 1974: 49).

Classificatory noun incorporation stands apart from other kinds of incorporation within one language.⁵ Mayali has three kinds of noun incorporation. Lexical compounding (Evans 1996: 72–4) is a non-productive process, whereby ‘stems with lexically incorporated nominals lack unincorporated paraphrases’ (p. 73). In contrast, the choice between incorporated and unincorporated constructions in body part incorporation and classificatory noun incorporation depends on the discourse status of the constituent.

Body part incorporation and classificatory incorporation in Mayali differ in two further ways. FIRST, incorporated generic nouns with classificatory function are a closed class, the majority of which are inanimate. In contrast, incorporable body parts are an open class. SECONDLY, two body parts in a

⁵ See Mithun (1984, 1986) and Aikhenvald (2007a: 15–20) on noun incorporation and its types; a summary of noun incorporation of different types in Australian languages is in Dixon (2002: 123–4) and references there.

part-whole relationship may be incorporated into one verb (Evans 1996: 77). In contrast, incorporating two classificatory nouns is not possible. Besides the syntactic differences mentioned above, incorporated body parts terms and incorporated verbal classifiers have a number of semantic contrasts. For instance, *gun-gaj* as a body part noun means ‘flesh, muscle’, and as a classifier it means ‘meat’ (Evans 1996: 78, 2003: 333).

8.1.3 Classificatory verbs

Classificatory verbs are suppletive forms whose selection is systematically conditioned by the properties of the transitive object or intransitive subject. Having classifiers fused with the verbal stem is reminiscent of numeral classifiers fused with a number word (as we saw for Kusaiean, a Micronesian language: Lee 1975: 120–2; Table 5.1, p. 106, and §5.1.4).

Classificatory verbs fall into two categories.

A. Classificatory verbs which categorize the referent in terms of its inherent properties, including shape and dimensionality, animacy, arrangement, consistency, and function.

B. Classificatory verbs which categorize the referent in terms of its orientation or position, in correlation with its inherent properties.

A. CLASSIFICATORY VERBS CATEGORIZING THE REFERENT IN TERM OF ITS INHERENT PROPERTIES. Classificatory verbs of this sort are predominantly found in North American Indian languages, in Tibeto-Burman languages, and also in Ika and Chimila, two Chibchan languages from Northern Colombia.⁶

Suppletive classificatory verbs in Athabaskan languages categorize the S/O constituent in terms of its shape, form, dimensionality, animacy, number, and consistency. Chipewyan, one of the languages of the family, distinguishes classificatory verb stems for round objects, long or stick-like objects, living beings (animate or human), containers with contents, fabric-like objects, a collection of objects or rope-like objects, granular mass, dough-like or mud-like object, piled-up fabric (blankets). Table 8.1 features classificatory verbs in Chipewyan (Carter 1976: 25–7).

⁶ For classificatory verbs in Athabaskan languages, see Hoijer (1945), Carter (1976), Krauss (1968), Conathan (2004), Mithun (1999: 106–19), Rice (1989: 779ff), Rushforth (1991: 253, Landar (1967)). and also Rice and de Reuse (2017), Casad (1996: 246) on Cora, a Uto-Aztecan language, and a summary in Aikhenvald (2003a: 155–60, 297–300); see Malone (2004) on Chimila, and Suárez (1983: 90–1) on Meso-American languages.

Table 8.1 Classificatory verbs in Chipewyan

Verb Stem (‘be in’)	Class of Objects Covered	Examples
-ʔa	inanimate solid objects	axe, stone, hat, body parts, ball
-tti	dead beings	dead person, bear carcass, dead dog, raw fish
-ti	people, sleeping beings	person, girl, sleeping baby, sleeping bear
-ka	liquids	water, blood, boiling water, milk
-dzáy	granular masses	a pile of sand, a pile of sugar, loose tobacco, powdered milk
-la	rope-like objects; objects in sets, or plurality of objects	rope, veins, arrows, eyeglasses, two or more fish, three dogs, two oranges
-ta	stick-like objects or empty containers	aeroplane, bow, empty box, canoe, chair, firewood, spear, cigarette, pen
-tta	containers with contents	box with stuff in it, can of beer, pack of cigarettes, cup of coffee, bottle of whisky
-ltšuØ	fabric-like objects	calendar, parka, pants, sheet of paper, writing pad, book, glove, a tree leaf

Classificatory verbs in Ika reflect the ways of handling physical objects (‘put’, ‘carry’, ‘drop’, etc.) and the position and location of the entity (‘lie’, ‘hang’, ‘fall’, etc.: Frank 1990: 55). The classificatory verbs are partly analysable. The parameters of dimensionality and shape correlate with consistency, form, and directionality of the entity—see Table 8.2.

Table 8.2 Classificatory verbs in Ika

	Long	Flat	3-dimensional	Liquid	Holders	Upright
exist/loc	<i>gaka</i>	<i>pa</i>	<i>sa</i>	-	-	<i>tšo</i>
be in	<i>aʔ-geikua</i>	<i>aʔ-pʌnkua</i>	<i>aʔ-nikua</i>	<i>aʔkua</i>	<i>aʔžu</i>	<i>aʔnuk</i>
be up on	<i>i-geikua</i>	<i>i-pʌnkua</i>	<i>i-nikua</i>	-	-	<i>i-nuk</i>
be on	<i>geikua</i>	<i>pʌnkua</i>	<i>nikua</i>	-	-	<i>nuk</i>
put up on	<i>igeika</i>	<i>i-pan</i>	<i>isa</i>	<i>idos</i>	-	<i>itšo</i>
put down	<i>gaka (gakó)</i>	<i>pan (pa)</i>	<i>sa</i>	<i>dos</i>	-	<i>tšoʔs</i>
put in	<i>kʌgaka</i>	<i>kʌpas</i>	<i>kʌssa</i>	<i>kʌdos</i>	<i>kʌžus</i>	<i>kʌtšoʔs</i>

The verb *gakó* ‘put down (a long extended object)’ is used with the object ‘stick’ in 8.14.

8.14	kan	gakó	u	<i>Ika</i>
	stick _O	put.down:LONG.OBJECT	AUX	
	‘Put down the stick!’			

In 8.15, the verb *pa* refers to putting down a flat object—a book.

8.15	ribru	pa	u	<i>Ika</i>
	book _O	put.down:FLAT.OBJECT	AUX	
	‘Put down the book!’			

Suppletive classificatory verbs in Tibeto-Burman languages are restricted to existential and locative verbs, and categorize their intransitive subject. The minimal distinction is of animate and inanimate forms (as in Idu, with *i*⁵⁵ ‘animate existential verb’ and *kha*⁵⁵ ‘inanimate existential’: LaPolla 1994: 75). Lizu has six existential verbs, with special forms for animate referents, movable versus unmovable referents, abstract terms, referents in a container and referents in general. (Zhang 2016: 444). Animacy distinction in existential verbs is attested in Japanese *iru*, an existential verb used for humans and animate, versus *aru*, an existential verb used for inanimates. This may reflect an areal typological feature shared with Tibeto-Burman languages (LaPolla 1994: 76; Elvis Huang p.c.).⁷

B. CLASSIFICATORY VERBS CHARACTERIZING THE S/O ARGUMENT PRIMARILY IN TERMS OF ITS ORIENTATION IN SPACE AND ITS INHERENT PROPERTIES. Suppletive classificatory verbs involve reference to the orientation and stance of S/O in a number of North American Indian languages, e.g. Dakota (Siouan: Boas and Deloria 1941: 126), and Nevome (Uto-Aztecan: Shaul 1986: 12). Nevome has two sets of classificatory verbs, for animates and for inanimates, depending on their position (lying or standing)—see Table 8.3.

Suppletive classificatory positional verbs are a feature of Muskogean languages (Haas 1948/1978: 306). The choice of each of the five such verbs in Koasati depends on the shape of the referent (Kimball 1991: 452–9). The verb ‘stand’ is used for tall, vertical things, such as posts, trees, and objects with legs; ‘sit’ is used for globular objects, such as ball, hill, sun, and heaps of objects;

⁷ See also Lidz (2010: 356) on Yongning Na and Bai (2020: 279–94) on Munya.

Table 8.3 Classificatory verbs in Nevome

	inanimate referent	animate referent
be lying	<i>catu/vutu</i>	<i>voho/vopo</i>
be standing	<i>cuhca/tutu</i>	<i>cuhca/guguhuca</i>

three different verbs, all glossed as ‘lie’ are used for large, long, thin things; for small, long, thin things; and for objects covering a broad area (see also [Martin 2011](#): 331, on Creek, another Muskogean language).

Classificatory verbs which combine reference to the orientation of the noun and to its inherent properties are a feature of numerous languages of the Papua New Guinea Highlands, including those of the Engan family.⁸ Enga ([Lang 1975](#), [Foley 1986](#): 89–91) has seven classificatory verbs, shown in Table 8.4. They classify a noun (S argument) in terms of its orientation in space and its inherent properties. Their lexical meaning is given in brackets in the first column of the table.

Table 8.4 Classificatory verbs in Enga

Verb	Semantics of classified nouns	Examples of nouns
<i>katengé</i> (‘stand’)	referents judged to be tall, large, strong, powerful, standing, or supporting	men, house, tree
<i>pentengé</i> (‘sit’)	referents judged to be small, squat, horizontal, and weak	woman, possum, pond
<i>lyingí</i> (‘hang’)	referents hanging or protruding out of another object	wasp, fruit, seed
<i>palengé</i> (‘lie inside’)	referents internal or subterranean	worm, heart, sweet potato
<i>epengé</i> (‘come’)	referents which are intermittent, but capable of growth; or liquid or gas	rain, fur, blood
<i>síngé</i> (‘lie’)	referents which are orifices, locations, or crawling or aquatic	ground, eels, mouth
<i>mandenge</i> (‘carry’)	referents of sexual production	penis, vagina, testicles

⁸ See also [Brown \(1981\)](#) and [Franklin \(1981\)](#), and [Merlan, Roberts, and Rumsey \(1997](#): 75) on Ku Waru, a Papuan language from Western Highlands of New Guinea.

Classificatory existential verbs in Enga reflect categorization of noun referents by their typical posture. Men and houses ‘stand’, and women ‘sit’. Conventionalized, and thus grammaticalized, position in space is the basis for the obligatory assignment of classificatory verbs to semantic groups of referents in the languages discussed here.

8.1.4 Two kinds of verbal classifiers in one language

A language can combine affixed verbal classifiers and suppletive verbal stems known as classificatory verbs. We saw in 8.1–8.2, that Waris, a Papuan language from the Waris family (Brown 1981), has verbal classifiers prefixed to the verb. They are listed in Table 8.5.

The choice of a verbal classifier is determined by consistency, dimensionality, shape, function, and arrangement of the referent (Brown 1981: 101–3).

Table 8.5 Verbal classifiers as prefixes to verbs in Waris

Verbal Classifier	Meanings of Referents	Semantic Features
<i>mwan-</i>	pliable, soft, flat (example 8.2)	consistency
<i>lé-</i>	leaf-like with soft stem	
<i>pola-</i>	leaf-like with hard stem	
<i>ih-</i>	grainy substances	shape
<i>put-</i>	spherical (balls, fruit) (example 8.1)	
<i>ninge-</i>	cooked food	function and nature
<i>vet-</i>	food removed from the fire ready to eat	
<i>vend-</i>	dead game	
<i>tuvv-</i>	pieces cut from longer lengths	arrangement based on inherent properties
<i>kov-</i>	cut lengths of vine	
<i>vela-</i>	objects inside a container	
<i>ev-</i>	container	
<i>selvo-</i>	bundle	unique classifiers
<i>sengeit-</i>	betelnut	
<i>si-</i>	pitpit (edible grass)	

Similar to many Papuan languages, Waris has a set of classificatory existential verbs whose choice is determined by the referent’s orientation in space and position, its shape and other inherent properties—see Table 8.6.

Table 8.6 Classificatory existential verbs in Waris

Verb	Semantics	Nouns it occurs with
<i>loh-</i>	be standing	vertical or standing things: man, tree, garden, dog, pig, fish in water, sugar cane, sun, sky
<i>a-</i>	be sitting	small roundish things: woman, small animal, insect, taro in garden, bunch of betelnut on tree
<i>li-</i>	be lying prone	water, liquids, yam in garden, snake
<i>dihil-</i>	lie or sit	axe, road, tractor
<i>naloh-</i>	lie or sit (orderly)	firewood
<i>dia-</i>	lie or sit (disorderly)	fallen trees in newly cut garden
<i>end-</i>	be hanging	fruit, rattan, peanuts on stem underneath the earth
<i>vil-</i>	lie crumpled or folded	net bag, towel

Prefixed verbal classifiers and classificatory existential verbs highlight different aspects of the referent. The two can occur together, as we saw in example 8.2. A net bag requires the prefixed verbal classifier *mwan* for soft and pliable items. Its typical position is ‘lying crumpled or folded’; hence the verb *vil-*. Two distinct types of verbal classifier highlight different characteristics of the referent. The system of classificatory existential verbs in Waris is similar to that of Enga (see Table 8.4, p. 165). The two systems of verbal classification in Waris have different origins (see Brown 1981, and §15.3.5).

A few Northern Athabaskan languages combine prefixed verbal classifiers and classificatory verbs. Carrier (Poser 2005: 144–5) has four prefixed classifiers.⁹ The classifier *n-* typically refers to round objects, for instance, a ball in 8.16.

8.16 Labrot *ṉaṉalat* *Carrier*
 balls it.n.is.floating around
 ‘A ball is floating around’

The classifier *d-* refers to stick-like objects, for instance, a log in 8.17.

⁹ The two most widespread verbal classifiers across the family are *d-* ‘long, slender objects’ and *n-* ‘round objects’. Verbal classifiers are highly productive in Koyukon, Dena’ina, Ahtna, Tanana, Carrier (Thompson 1993, Poser 2005; see also Morice 1932: 141–4) and Gwich’in (Bushey 2021); see Thompson (1993: 317–18) and Rice (2000: 55–9) on special features of the classifier *hu-*, also known as the ‘areal’ prefix. As mentioned in §1.3.2, the Athabaskan linguistic tradition calls prefixed verbal classifiers ‘genders’; see the criticism in Poser (2005).

- 8.17 Dačan n^ΔΔalat *Carrier*
 logs it.**d**.is.floating around
 'A log is floating around'

The prefix x^w refers to 'things having areal or spatial extent', and objects which are 'saliently two-dimensional', for instance, a house in 8.18.

- 8.18 Yoh n^Δ $x^wΔalat *Carrier*
 houses it. x^w .is floating.around
 'A house is floating around'$

The prefix *ta-* refers to bodies of water, e.g. the ocean in 8.19.

- 8.19 Yatu? tantel *Carrier*
 oceans **body.of.water**.is wide
 'The ocean is wide'

There are no classifiers for humans. In 8.20, no classifier is used on the verb with 'young woman' as the subject.

- 8.20 T'et nØlat *Carrier*
 young.woman_s she.is.floating.around
 'A young woman is floating around'

The choice of some prefixed verbal classifiers can be semantically complex. The *d* classifier is used with sounds, songs, and messages. The classifier x^w is assigned to spaces and periods of time. A verbal classifier can be omitted if the referent is generic.

Typically for Athabaskan languages, Carrier and other Northern Athabaskan languages, including Koyukon, have several dozen suppletive classificatory verbs, similar to Chipewyan (Table 8.1) and Chiricahua Apache (8.6–8.7). Classificatory forms cover verbs of handling, verbs of uncontrolled motion, and locational verbs. Special forms are used with long rigid objects, bodies, contents of open containers, mushy stuff, liquids, hay, and fluffy stuff, with the categorized referent in S or O function. In contrast to verbal classifiers, the choice of a classificatory verb always has to be made for the type of referent it covers, no matter whether it is generic or not.

The following generalization summarizes the applicability of verbal classifiers to syntactic functions of referents. This holds across all languages described so far.

Generalization 8.1 Applicability of affixed verbal classifiers to constituents depending on syntactic function

S < O < Location/Instrument

Generalization 8.1 states that

- if a language allows for verbal classifiers to categorize location or instrument, it will then allow for verbal classifiers to categorize transitive objects;
- if a language allows for verb classifiers to categorize transitive objects, it will allow for them to categorize intransitive subjects.

In other words, no language will allow for verbal classifiers to apply to location or instrument unless classifiers also apply to objects. In no language do classifiers apply to the transitive object, unless they also apply to the intransitive subject.¹¹ The reason for association between O and S in noun incorporation and in the assignment of verbal classifiers lies in the recurrent close connection between a transitive verb and its O argument, and between an intransitive verb and its S argument.

A verbal classifier never categorizes the recipient of a ditransitive verb or a beneficiary of an action. This can be due to a cross-linguistic tendency for the recipient to be human or animate (further discussion is in [Dixon 2010b](#): 134–6). Verbal classifiers hardly ever categorize the subject of a transitive verb (A). This is a feature they share with a few other phenomena, including noun incorporation, number suppletion in verbs, verbal number affixes, and some demonstratives (in agreement with [Aikhenvald and Dixon 2011b](#): 160–1).

In contrast, verbal classifiers as one of the contexts in multiple classifier languages can categorize the transitive subject (A). Example 8.23 comes from Shiwilu, a Kawapangan language from Peru ([Valenzuela 2019](#): 97–8). The verbal classifier *-nan* (CL.TRUNK) categorizes a spear, the subject of the transitive verb, ‘pierce’. The overt subject ‘spear’ is omitted, as it is clear from the context.

¹¹ This generalization is reminiscent of the hierarchy of incorporability of nouns (see a summary in [Aikhenvald 2007a](#): 19).

8.23 pa-suker'-**nan**-tu-llun*Shiwilu*

STABBING-pierce-CL.TRUNK-VM-NFI.3SG>1SG

tula=wek=kek

upper.leg=POSS.1SG=LOC

'(The spear) speared me in the upper leg'

Classifiers in Shiwilu are used in several contexts: with number words and quantifiers, demonstratives, adjectives, interrogatives, personal pronouns, nouns themselves, and on verbs. A transitive verb can contain two verbal classifiers: then the first classifier refers to the object, and the second one to the subject. This is what we see in 8.24.

8.24 tekkua-**tek**-tu-**lun**-llina'ishek-tek asu' *Shiwilu*

fear-CL.SKIN-VM-CL.FEM-NFI.3PL>3SG bat-CL.SKIN this

wila-lun=lusa'

child-CL.FEM=PL

'These young girls fear vampire bats'

Both A ('girls') and O ('vampire bats') are overtly stated.¹² In contrast to verbal classifiers as affixes, suppletive classificatory verbs never categorize a constituent other than S and O (see also §11.5).

8.3 Verbal classifiers and noun incorporation

Noun incorporation and verbal classifiers are distinct phenomena. Classificatory noun incorporation may stand apart in its properties from noun incorporation of other kinds, within the same language, as we saw in §8.1.2, for Mayali. A few of eleven verbal classifiers in Palikur, have the same form as body parts (see §15.2.1). For instance, the classifier *-kiya-/kig* for pointed objects is transparently related to the noun 'nose' (Aikhenvald and Green 2011). Incorporated body parts (which form a closed set of seven items: chest, foot, hand, head, eye, mouth, and top) occupy the same slot within the verbal word as do verbal classifiers, and do not co-occur with them. And yet the two phenomena are different in a number of ways.

¹² Comparable examples come from two related languages of Bougainville, Motuna (Onishi 2012: 176) and Nasioi (Hurd 1977: 144), with classifiers in multiple contexts (with verbs, number words, and nouns), and also in Bora/Miraña (Boran, Peru and Colombia) (Thiesen and Weber 2012: 127–9, 173–9, Valenzuela 2019: 97).

FIRST, verbal classifiers categorize the S or O constituent, but do not replace it. In contrast, incorporated body parts have the function of the O of a transitive verb, or the S of a stative verb, and cannot be accompanied by an overt NP. SECONDLY, if a stative verb contains an incorporated body part, there is always a possessed-possessor relationship between the body part and the subject. This is different from the function of verbal classifiers used in the S slot of a stative verb. The verbal classifier *-buk* 'VERB.CL:LINEAR' in 8.25 categorizes the cord (referred to with the neuter form of the demonstrative)—the subject of a stative verb.

- 8.25 in barew-**buk** *Palikur: verbal classifier*
 this:neut be.clean-VERB.CL:LINEAR
 'This (the cord) is clean'

In contrast, the incorporated body part in 8.26 refers to 'his foot', and there is a possessive relationship between *eg* 'he' and the foot.

- 8.26 eg barew-kug *Palikur: body part incorporation*
 3fem.sg clean-INCORP:FOOT
 'She is clean-footed' (i.e. her feet are clean)

THIRDLY, incorporated body parts can form semantically non-compositional combinations with verbs. This never happens with verbal classifiers. The combination of the verb 'grab' and the incorporated body part term 'chest', *kamax-duk-aw* (grab-INCORP:CHEST-REFL) forms an idiomatic expression, 'he had a quick snack', where the meaning of the whole can not be determined on the basis of the meaning of the parts. There are further differences between body part incorporation and verbal classifiers in Palikur. A body part does not get incorporated if it refers to just one, individual part, or if it is in contrastive focus to another entity. In contrast, verbal classifiers are used only if the subject or the object are completely involved in the state or in the action (see also §13.5.1).

In Innu, the incorporated noun occupies the same slot as a verbal classifier, and the two are mutually exclusive (Drapeau and Lambert-Brière 2011: 313–6). Noun incorporation is not limited to body part terms (in contrast to Palikur). Verbal classifiers in Innu do not show any obvious etymological link with nouns. Classifiers categorize the S, O, location, or

instrument in terms of its shape, dimensionality, and other inherent features. Only intransitive subjects (S) and objects (O) can be incorporated into a verb.¹³

In each instance, verbal classifiers and noun incorporation are different techniques, with different syntactic and semantic functions, and discourse effects. Their exact similarities and differences have to be worked out on the language-specific basis.

8.4 Verbal classifiers and the verbs they occur with

We have seen, throughout the previous chapters, that every type of noun categorization device shows correlations with the grammatical environment in which it occurs. The choice of numeral classifiers shows dependencies with the value of the number word itself (§5.6). The choice of possessive classifier may interact with the possessive relationships (§7.3). The use of a verbal classifier may correlate with the semantics of a verb.

Classificatory verbs in Tibeto-Burman and in Papuan languages categorize the S (intransitive subject) of existential and locational verbs, and are restricted just to these semantic domains (as we saw in §8.1.3). Affixed classifiers and classificatory verbs categorize S, O, and, in case of affixed verbal classifiers, additional arguments (see Generalization 8.1, p. 170). They can be restricted to semantic types of handling, motion, location, and existence. In Skidegate Haida, classifiers occur with verbs of motion and induced motion and handling ('fall', 'drop', 'pick up', 'throw', 'make crumble', 'crumble') and existential verbs (Hori 2001), in addition to number words which form a subclass of intransitive verbs.

Classifiers in Cherokee are used with about forty verbs. The majority of these involve handling physical objects, e.g. 'have', 'hold', 'handle', 'break', 'hide', 'put into water', and 'take out of water', and also 'send', 'eat', and 'wash'. Classifiers are also used with verbs of position and motion ('lie', 'drop', 'fall') (Blankenship 1997: 97, 105–7).¹⁴

In Palikur, classifiers are used on stative verbs categorizing its intransitive subject and on transitive verbs categorizing its object. Stative verbs used with

¹³ In addition, incorporated nouns always have generic reference. For instance, if the object 'house' is incorporated into the verb 'wash', this refers to a general activity of doing the cleaning, rather than washing a particular house. Also see Michael (2008: 333), on the differences between classifiers on verbs and noun incorporation in Nanti, a Kampa (Arawak) language from Peru.

¹⁴ The Cherokee native speaker's intuition points towards the perception of combinations 'classifier+verb' as one entity, similar to classificatory verbs, offering an option for their alternative analysis (see also Montgomery-Anderson 2015: 83–4, and §8.1.3).

classifiers cover dimension, physical property, and colour. Classifiers are also used with positional verbs ‘to hang’, ‘to stand’, or ‘to lie’, and with those transitive and intransitive which imply a possibility of a direct physical contact with the object, such as ‘grab’, ‘wash’, ‘hit’, ‘rub’, ‘peel’, ‘eat’, ‘bite’, and ‘shoot’, and the telic verb ‘look’ (as opposed to ‘see’). Classifiers are not used with verbs denoting mental processes, such as ‘think’ or ‘remember’, or verbs which do not involve direct physical contact with the object, such as ‘hear’ or ‘say’ (Aikhenvald and Green 2011).

Classificatory verbs in Ika are restricted just to verbs of existence, location, and induced location (‘putting’), as we saw in Table 8.2, p. 163 (see also Malone 2004: 194–9, on the closely related Chimila). Suppletive classificatory verbs across Athabaskan languages always refer to concrete actions. In Carter’s (1976: 24) words, they describe ‘objects at rest, in motion, being handled, being dropped, or falling’ (see also Poser 2005: 153, on Carrier).¹⁵

8.5 Drawing the line: Eating, drinking, sitting and standing, and classificatory verbs

Every language has a few verbs whose choice depends on physical properties of the object or its position. Most languages have lexical items similar to English *drink*, which implies a liquid O, or *chew* (which implies an O of chewable consistency) or *eat*. Jarawara, from Amazonia, has four verbs of ‘eating’, depending on the nature of action: *-kaba-* means ‘eat where a lot of chewing is involved’ (used of meat, fish, sweet corn, yams, manioc, biscuits, etc.), *jome -na-* ‘eat where little or no chewing is needed, e.g. eating an orange or banana’ (also used for swallowing a pill), *komo -na-* ‘eating which involves spitting out seeds’, and *bako -na-* ‘eating by sucking’ (e.g. watermelon, cashew fruit) (Dixon 2004: 543, 553, 562–3).

Such sets of individual verbs of ingestion should not be confused with classificatory verbs. Classificatory verbs in languages from North and South America, New Guinea, and the Tibeto-Burman languages (and also Gumuz, from Africa) make consistent paradigmatic distinctions in their correlations between fixed sets of S/O argument throughout the verbal lexicon covering the whole semantic field and not just a couple of items, as we find in English

¹⁵ Classificatory verbs may show correlations with the number of the classified referent, as in Tewa, a Kiowa-Tanoan language from New Mexico (Speirs 1974). The use of suppletive dual and plural forms of positional verbs correlates with shape and consistency of objects in Muskogean languages (see Haas 1948/1978; and Martin 2011: 211–13 for Creek).

or Jarawara. As Poser (2005: 155–6) puts it, sets like ‘drink’ and ‘chew’ in English

‘differ in two crucial ways from the Athabaskan classificatory verbs. First, whereas the various verbs of ingestion cover a small semantic field, the range of actions described by classificatory verbs is enormous, and their frequency of occurrence is very high ... Second, whereas the primary meaning of verbs like the verbs of ingestion is not classificatory, and the classificatory function is a side effect of the restriction of the object to foods with certain properties, the Athabaskan classificatory verbs are primarily classificatory. Beyond their classificatory function, their only semantic content is extremely abstract, consisting of the distinctions among controlled handling, uncontrolled handling, inherent motion, and location.’¹⁶

Similarly, posture verbs in many languages tend to occur with objects of a certain shape or posture. But this does not mean that every language has classificatory positional verbs. For instance, in German, long vertical objects usually ‘stand’, and long horizontal ones ‘lie.’¹⁷ But in contrast to languages with classificatory positional verbs like Enga or Waris (Table 8.4 and Table 8.5), there are no systematic correlations between the nature of the entity and the choice of a posture verb.

In Enga, the verb ‘sit’ is always used with entities such as women or possums. In Waris, entities perceived as having vertical shape—men, trees, dog, etc.—‘stand’. There is a conventionalized grammaticalized association between a referent and an existential verb (reflecting a generalization of a typical posture and shape assigned to these referents). The existential verb is assigned to an entity of a particular shape, no matter what its position is. That is, the existential verb ‘stand’ will categorize a man or a dog no matter whether they are lying down, sitting, or actually standing. In contrast, in languages including German, English, Tariana, and Manambu—positional verbs refer to the referent’s position and stance, with only marginal correlation with its shape.

¹⁶ Poser’s statement is aimed as a critique against Grinevald’s (2000: 68) attempt to dismiss classificatory verbs as a kind of lexical selection which all languages have.

¹⁷ See Borneto (1996); a similar discussion of posture verbs in Tariana and in Manambu is in Aikhenvald (2003a: 608–15, 2008: 81–5).

8.6 To conclude

- I. Verbal classifiers are bound morphemes which occur on a verb and categorize its intransitive subject S, its transitive object O, and in some also location and/or instrument—see Generalization 8.1. Verbal classifiers never categorize the recipient. Verbal classifiers categorize the transitive subject (A) in a few languages with classifiers in multiple contexts (the topic of Chapter 11).
- II. Verbal classifiers come in three guises.
 - (a) They can be affixes to verbs.
 - (b) Incorporated nouns with generic meaning can be used as verbal classifiers.
 - (c) Verbal classifiers fused with verbs form classificatory verbs.
- III. An incorporated generic noun can categorize the verb's argument—the phenomenon known as classificatory noun incorporation. Classificatory noun incorporation will differ in its properties from other kinds of noun incorporation within the same language.
- IV. Verbal classifiers can be fused with verbal stems forming suppletive classificatory verbs. These are of two kinds. First, they can categorize the S/O argument in terms of its inherent properties, and also orientation in space. The assignment of classificatory existential verbs may also involve location in a container, and animacy. Secondly, classificatory verbs may categorize the S/O argument in terms of its orientation in space, in addition to inherent properties. Classificatory verbs only categorize S and O.
- V. The use of verbal classifiers of all kinds correlates with semantic groups of verbs. They are typically restricted to verbs of handling, motion, location, and existence.
- VI. Classificatory verbs are different from verbs of ingestion—eating and drinking—whose choice is determined by lexical selection of the argument: in other words, 'eat' and 'drink' in English are not classificatory verbs. Classificatory verbs which categorize their argument in terms of its conventional orientation in space in Papuan languages are different from verbs like 'stand' and 'sit' in languages such as English or German.

Classifiers of further kinds

Two further kinds of classifiers occur in a limited set of languages of the Americas. Locative classifiers used with adpositions are the topic of §9.1. Deictic classifiers obligatorily used with demonstratives and also articles are discussed in §9.2. The final section contains a brief summary, with a mention of further classifier contexts.

9.1 Locative classifiers and their properties

The choice of a locative classifier is determined by the meaning of the object referred to by the locative marker. In a few languages, classifiers are fused with adpositions (prepositions or postposition). So far, locative classifiers have been attested in a limited number of languages from northern South America (Aikhenvald 2003a: 172–83, 2019a: 6)—Palikur and Lokono (North Arawak), North Carib languages, and Dâw, from the Yuhup-Hupda-Dâw family in Northwest Amazonia.

Palikur has twelve locative classifiers whose choice is based on the shape, dimensionality, and boundedness of the head noun, with no animacy distinctions (Aikhenvald and Green 2011: 430–3). In 9.1, the locative classifier *-min* categorizes the arm as a vertical location. The number word ‘one’ is accompanied by a numeral classifier for vertical objects *-t*.

9.1	pis	keh	paha-t	arab	pi-wan	<i>Palikur</i>
	2sg	make	one-NUM.CL:VERT	shield	2sg-arm	
	min					
	LOC.CL:VERT					
	‘You make a shield (to put) on your arm’					

In 9.2, the locative classifier *-peru* is used to refer to a branch on a tree as a location.

9.2	ig-kis	ute-e-gi	ig	motye	<i>Palikur</i>
	3masc.sg-pl	find-COMPL-3masc.sg	3masc.sg	wasp	

ay-h-te a-peru ah
there-INTENS-DISTAL 3neut.sg-LOC.CL:BRANGLIKE tree
'They found the wasps on the tree'

Table 9.1 features locative classifiers in Palikur.

Table 9.1 Locative classifiers in Palikur

locative classifier	Meaning	Meaning
<i>-buhku(-mna)</i>	linear object	
<i>-pit</i>	irregular or round	
<i>-kigsa</i>	pointed	shape
<i>-peru</i>	branch-like	
<i>-kigbi(-mna)</i>	sharp-edged	
<i>-apa</i>	concave	
	three-dimensional	
<i>-madka</i>	two-dimensional: flat	dimensionality
<i>-min</i>	one-dimensional: vertical	
<i>-eku/-ik</i>	bounded: within periphery, inside	boundedness
<i>-bet</i>	unbounded: substances (mud, porridge, hair); otherwise unclassifiable items	
<i>-hakwa</i>	water	specific
<i>-vigku</i>	road, river	

A small set of five locative classifiers has been described for Lokono (Aikhenvald 2003a: 174; Pet 1987: 37–8). One, *koborokon* ‘inside an animate body, among living beings’, is chosen on the basis of the animacy of the referent. Three relate to the referent’s interiority and consistency (*loko* ‘inside a hollow or a solid object’; *rakon* ‘in a fluid’; *kolokon* ‘in fire or light’), and one is chosen based on its interiority and dimensionality of the item (*roko* ‘on the inside surface’).¹

Locative classifiers are a feature of numerous North Carib languages (Derbyshire 1999). Their choice depends on dimensionality and consistency of a referent. A list of locative classifiers in three Carib languages of northern Brazil—Apalaí, Hixkaryana, and Macushi—is in Table 9.2. The forms are partly analysable—that is, classificatory forms can be separated from the postpositions ‘in’, ‘on’, and ‘to’.

¹ Further instances of locative classifiers have been described for Dâw, from Northwest Amazonia (Martins 1994: 53ff, Martins and Martins 1999), and Kadiwéu (Griffiths and Griffiths 1976; see also Sandalo and Michlioudakis 2016).

Table 9.2 Locative classifiers in three Carib languages

	Apalaí	Hixkaryana	Macushi
Liquid, in	<i>kua-o</i>	<i>kwa-wo</i>	<i>ka</i>
into	<i>kua-ka</i>	<i>kwa-ka</i>	<i>ka-ta</i>
Flat surface, on	<i>po</i>	<i>ho</i>	<i>po</i>
to	<i>po-na</i>	<i>ho-na</i>	<i>po-na</i>
Open area, on	<i>ta-o</i>	<i>ta-wo/ya-wo</i>	<i>ya</i>
to	<i>ta-ka</i>	<i>ta-ka/ya-ka</i>	<i>ya-pih</i>
Enclosed place, in	<i>a-o</i>	<i>ya-wo</i>	<i>ta</i>
to	<i>a-ka</i>	<i>ya-ka</i>	<i>ta-pih</i>

Locative classifiers are here fused with adpositions with classificatory functions, whose choice depends on physical properties of the head noun. Following the analogy of classificatory verbs (§8.1.3), they could be called classificatory adpositions. In no instances described so far do multiple classifier contexts include the contexts for locative classifiers, that is, adpositions (see Chapter 11).

A locative adposition in Palikur, Lokono, and North Carib languages is always chosen depending on the properties of the referent noun. Classificatory adpositions form a paradigm. This sets them apart from other languages where the choice of some prepositions or of a locational expression may only partly correlate with the properties of the noun. For instance, the referent of a noun in English has to have a surface for the preposition *on* to be used with it, and have an ‘inside’ for *in* to be used. The preposition *along* introduces a noun phrase with the meaning ‘move from one part of the referent of the NP to another part, always maintaining contact with it’, as in *along the road* or *along the verandah* (Dixon 2021: 327–8). *Along* can only be applied to a referent which consists of a number of parts or is extended in space; saying **along a point* makes no sense. This lexically-determined limited dependence between the choice of some prepositions and physical properties of a referent is different from locative classifiers which form a consistent paradigm.

9.2 Deictic classifiers

Deictic classifiers obligatorily occur with demonstratives and articles. They fall into two categories. Classifiers with primarily positional meanings are the

topic of §9.2.1. In §9.2.2, we turn to deictic classifiers which combine reference to the entity's shape, stance, and animacy, and its visibility and proximity to the speaker. Neither appear to occur in multiple classifier contexts (see Chapter 11).

9.2.1 Deictic classifiers with positional meanings

Deictic classifiers with positional meanings extending to shape, dimensionality, and animacy are a feature of Siouan languages shown in 9.3–9.5, and also two isolates—Seri in Mexico and Ona (or Selk'nam), a highly endangered language of Tierra del Fuego.² They categorize the referent in terms of its position in space and also shape. Typical distinctions include one-dimensional (long, vertical, or 'standing'), two-dimensional (horizontal, or 'lying'), or three-dimensional (round, or 'sitting') (see Rankin 1977, 2004).

In 9.3–9.4, from Omaha-Ponca, from the Dhegiha subgroup of Siouan, definite articles are chosen depending on the shape and position of the noun (Rankin 2004: 211–12). The deictic classifier (the article) *the* 'standing, vertical, inanimate' is used with *žá* 'tree' in 9.3.

9.3 *žá* **the** *Omaha-Ponca*
 tree DEIC.CL:STANDING.VERTICAL
 'the tree'

In 9.4, the noun *žá* refers to a 'log': it then takes the deictic classifier *khe* 'horizontal, lying'.

9.4 *žá* **khe** *Omaha-Ponca*
 tree DEIC.CL:LYING.HORIZONTAL
 'the log'

An extended object, such as the sky or the land, will be used with the deictic classifier *ďa* 'sitting, spread out', as shown in 9.5.

9.5 *máye* **ďa** *Omaha-Ponca*
 sky DEIC.CL:SITTING.EXPANDED
 'the sky'

² See Marlett (2005: 66) on Seri and Rojas Berscia (2014) and references there on Ona.

There is no special term for animate referents. The objects are categorized by their typical shape and stance, similarly to classificatory verbs in Papuan languages. Long objects and people ‘stand’, round objects ‘sit’ and flat objects ‘lie’ (see also Watkins 1976: 30).

The assignment of a deictic classifier in Omaha-Ponca is semantically based, but not fully predictable. The nouns *waxíha* ‘paper’ and *há* ‘skin, hide, bark’ always take the deictic classifier *ḏa* ‘sitting, spread out’, and the noun *náde* ‘wall, side of a lodge’ only occurs with the deictic classifier *khe* ‘sitting, horizontal’ (see Rankin 2004: 214).

Yuchi (or Euchee), an endangered isolate from Oklahoma in North America, has three deictic classifiers, each transparently related to a positional verb. Each applies only to inanimates (Linn 2000: 364–72; Watkins 1976: 35; Barron and Serzisko 1982: 96–7). These are listed in Table 9.3, together with positional verbs they come from.

Table 9.3 Deictic classifiers and positional verbs in Yuchi

Deictic classifier	Meaning	Positional verb	Meaning
- <i>ci</i>	sitting position, spread out, roundish shape	<i>ci</i>	sit
- <i>fa</i>	standing position, vertical, longish shape	<i>fa</i>	stand
- <i>e</i>	lying position, horizontal, extended	<i>e</i>	lie

These morphemes occur with nouns as exponents of definiteness, e.g. *ya-fa* (wood-DEIC.CL:VERTICAL) ‘the tree’, *ya-e* (wood-DEIC.CL:HORIZONTAL) ‘the log’, *ne-fa ya-fa* (this-DEIC.CL:VERTICAL wood-DEIC.CL:VERTICAL) ‘this tree’. Distinctions in deictic classifiers in Yuchi are neutralized in the plural. There is just one plural marker *-ha* for all inanimate referents.

Uncountable nouns and mass nouns only occur with the plural marker, unless they appear in a container: a container for liquids always takes the deictic classifier *-fa* ‘DEIC.CL:VERTICAL’. The assignment of classifiers is semantically based, but not fully transparent. For instance, a spirit takes the deictic classifier *-ci* ‘DEIC.CL:SITTING’ and a shadow occurs with the classifier *-e* ‘DEIC.CL:LYING’. This is what we see in the pair *dowōne-ci* ‘my spirit’ and *dowoñe’e* ‘my shadow’ (Linn 2000: 367).

9.2.2 Deictic classifiers with reference to position, shape, proximity, and visibility

Classifiers chosen on the basis of the spatial position of an object, its shape and form (including extendedness versus non-extendedness; and horizontal versus vertical extension), and its visibility are a feature of Guaycuruan languages of Argentina—especially Toba and Pilagá.³

Toba has a paradigm of six deictic classifiers, obligatory with headless demonstrative pronouns and optional with nouns (as deictic markers). Deictic classifiers fall into two semantic groups:

- (i) classifiers whose primary meaning relates to position and stance, and
- (ii) classifiers whose meanings are integrated with categories typical for demonstrative systems: visibility and proximity to the speaker.

A noun phrase can contain only one deictic classifier. The system is shown in Table 9.4 (Messineo and Cúneo 2019: 201, 204–5). The rightmost column lists the semantic groups of nouns subsumed under each term. The deictic form *ka* ‘out of sight, absent’ applies to any referent, and thus does not have classificatory functions.

Classifiers with primarily positional meanings, group (i) (*da*, *zi*, and *ñi*), encode three positions of the human body—standing [vertically extended], lying [horizontally extended], and sitting [three-dimensional]. Entities are categorized in terms of their typical position and concomitant shape properties. This is comparable to classificatory existential verbs in Papuan languages, including Enga (discussed in §8.1.3, and Table 8.4, p. 165).

Classifiers of group (ii) express meanings typical for demonstratives: two degrees of relative distance (*na* ‘proximal’ and *so* ‘distal’) and the absence of visual access (*ka*).

In 9.6, a jaguar—a four-legged animal—occurs with the classifier *ñi* ‘DEIC.CL:THREE.DIM’.

³ Klein (1979: 89–91; 1978: 151ff) called them ‘locative particles’, for Toba (see Aikhenvald 2003a: 179). Further discussion of deictic classifiers in Guaycuruan languages is in Céria and Sandalo (1995) and Gualdieri (2006). Deictic classifiers in Pilagá are discussed in Vidal (1997). Arguably, similar distinctions occur in a few Eskimo languages where demonstrative stems vary ‘according to vertical elevation, extendedness and direction along the coast as well as degree of proximity’ (Fortescue 2017: 688). Semantic distinctions in demonstratives with classificatory meanings in Central Yup’ik (the Chevak dialect) are discussed by Woodbury (1981: 237–8; see also Aikhenvald 2003a: 181–2).

Table 9.4 Deictic classifiers in Toba

Classifier	Semantic group	Meaning	Referents categorized
<i>da</i>	(i) positional	standing (vertically extended)	standing humans, objects with vertical shape, abstract nouns, trees, vines, palm trees, cactuses, word (9.7).
<i>zi</i>		lying (horizontally extended)	lying humans, dead beings, objects with horizontal shape, natural environment (woods, night, forest, as in 9.9), fish outside water, crawling animals, snakes, crawling insects, insect larvae
<i>ñi</i>		sitting (three-dimensional)	sitting humans, objects with three-dimensional shape; internal body parts, relatives or other social relations, celestial bodies, God, Jesus, Holy Ghost, four-legged animals (a jaguar in 9.6), birds, insects (an ant in 9.9), fruit, and seeds
<i>na</i>	(ii) integrated with demonstrative meanings	proximal, in movement (towards the speaker)	external body part, atmospheric phenomena, seasons
<i>so</i>		distal, in movement (away from the speaker)	mythical characters birds in flight fish in the water
<i>ka</i>		out of sight, absent	no restrictions

9.6 **ñi** kizok Toba
 DEIC.CL:THREE.DIM jaguar
 ‘the jaguar’

The choice of classifiers is predominantly semantic, with some degree of opacity. For instance, ‘a spoken word’ requires the vertical classifier *da*—as shown in 9.7.

9.7 **da** y-ʔaq-tak Toba
 DEIC.CL:VERT POSS-speak-PROG
 ‘my (spoken) word’

The classifier *zi* ‘horizontal’ is used with terms for natural environment, which are viewed as extended in space—such as a forest or a lake. An example is in 9.8.

9.8	zi	awyaq	<i>Toba</i>
	DEIC.CL:HOR	forest	
		‘the forest’	

The same classifier is used to refer to plural entities. In 9.9, one single ant is referred to with the classifier *ñi* ‘DEIC.CL:THREE.DIM’ (in agreement with Table 9.4).

9.9	ñi	qagesaq	<i>Toba</i>
	DEIC.CL:THREE.DIM	ant	
		‘the ant’	

In 9.10, the horizontal classifier *zi* refers to numerous ants:

9.10	zi	qagesaq-pi	<i>Toba</i>
	DEIC.CL:THREE.DIM	ant-pl	
		‘the ants’	

That is, the distinction between the positional deictic classifiers is neutralized in plural (similar to what we saw for Yuchi in §9.2.1). This is reminiscent of neutralization of gender distinctions in non-singular numbers (discussed in §4.3.1).

9.3 To conclude: Rare classifier types and further classifier contexts

Two comparatively rare classifier types are locative classifiers and deictic classifiers. Locative classifiers occur on adpositions or are fused with them. They are found in just a few languages from northern South America (see §9.1).

Deictic classifiers are of two kinds. Positional deictic classifiers categorize the referent in terms of its stance in space and concomitant conventionalized properties: for instance, humans and animals are categorized as ‘vertical’, or ‘standing’. These classifiers are a feature of a few languages of the Americas,

with the best described systems in the Dhegiha subgroup of Siouan languages and in Yuchi (see §9.2.1).

Deictic classifiers in Guaycuruan languages are integrated into the demonstrative system. They combine reference to the properties of the entity (including their position in space in Guaycuruan) with categories typical for demonstrative—visibility and proximity to speaker. These can alternatively be called ‘classificatory demonstratives’, following the analogy of classificatory verbs in §8.1.3.

A further question arises. It is conceivable that languages may have further types of classifier in further grammatical contexts.

In many languages, numeral classifiers are used with quantifiers, including ‘many’, ‘all’, and also ‘how many/much’. We saw in Generalization 5.1 at the beginning of Chapter 5 (p. 97) that if a language uses classifiers with quantifiers—including interrogatives—it will also use them with number words. In most instances, the same set is used with both.

One curious instance has been documented. Carrier, a Northern Athabaskan language, has five numeral classifiers used with number words and quantifiers ‘all’ and ‘many’ (Poser 2005: 160). The classifiers are fused with the number words and with the quantifiers. The semantic categories are generic, human, multiplicative ‘times’, locative, and abstract. The interrogative quantifier ‘how many?’ has several partly analysable forms whose choice depends on the nature of the entity whose quantity is questioned. Stuart-Trembleur Lake Carrier distinguishes the following classificatory forms of the interrogative quantifier ‘how many?’—generic, human, round, stick-like, and areal. The categories of the interrogative quantifier do not correspond to those in numeral classifiers. This suggests the existence of a further classifier type—interrogative classifier.

Can we expect previously undescribed or poorly documented languages to reveal further, yet unknown, types of noun categorization devices? This remains a question for further empirical research.

Gender and classifiers in one language

Gender and various kinds of classifiers have so far been presented as relatively independent from each other. Each of these has its own dedicated context (summarized in Table 1.1, p. 6, in §1.1). In a number of languages, gender coexists with one, or more, kinds of classifier—the topic of §10.1–§10.4. Further languages with no grammatical gender have several classifier types—the topic of §10.5.¹ The last section contains a summary.

10.1 Gender and numeral classifiers

Gender and numeral classifiers are among the most frequently attested noun categorization devices. A number of languages have both. Malto has a set of thirty numeral classifiers. They are prefixes to number words ‘one’ and ‘two’ and independent words with other numbers, as we saw in examples 5.22–5.23. Numeral classifiers have one term for humans, and another one for non-human animates (see Mahapatra 1979: 62, and Steever 1998: 372). Malto also has two genders, with the distinctions of masculine versus non-masculine in the singular and human versus non-human in the plural. Gender is marked on third person pronouns and demonstrative modifiers, and on verbs (referencing the subject).

Gender and numeral classifiers partly overlap in their meanings for humans. A noun with human reference will occur with the numeral classifier *jen*, no matter whether male or female. Detailed categorization of non-human and inanimate referents is reflected in numeral classifiers. All inanimate referents are subsumed under non-masculine gender in the singular, and zero-marked non-human gender in the plural. For instance, the anaphoric pronoun *a:h* ‘he (masculine)’ will refer to a man, and *a:d* ‘she, it (non-masculine)’ to a woman or a bullock. In contrast, just one numeral classifier *jen* ‘NUM.CL:HUMAN’ will refer to a man and to a woman, and the numeral classifier

¹ Detailed studies of co-existing systems of gender and classifiers are in Aikhenvald (2003a: 184–203, 2012a: 279–89, 2015b: 103–10, 2017: 382, 2019a: 6–9, 2019b) and references to other work there; see also Ciucci and Bertinetto (2019), Mihas (2019), and some instances in Fedden and Corbett (2017), to name just a few.

maq ‘NUM.CL:NONHUMAN.ANIMATE’ will cover a bullock. Further classifiers categorize entities in terms of their shape and consistency, with special terms for long large objects, long small objects, long flexible objects, and flat and broad objects.² Numeral classifiers in Malto and other Dravidian languages appear to be a relatively recent innovation, while gender is inherited from the proto-language (see §15.5, footnote 23).

Gender can be partly integrated within a subset of numeral classifiers with animate reference. Achagua, a North Arawak language from Colombia and adjacent areas of Venezuela, has two genders, feminine and non-feminine (Meléndez Lozano 1998: 75, 92ff, Wilson 1992: 34, 63). Gender is realized via regular agreement on modifiers (demonstratives and adjectives) and on verbs, and in anaphoric agreement with personal pronouns. It is overtly marked on nouns referring to humans (in agreement with Generalization 3.2, p. 63). Of twelve numeral classifiers, ten categorize inanimates in terms of their shape and inherent nature. Two further classifiers, with feminine and non-feminine form each, refer to humans, and non-human animates. The classifier *-na* for animate mammals distinguishes two forms—one for feminine, and one for non-feminine entities. The dog in 10.1 is a female. This is reflected in the feminine gender marker *-u* on the classifier *-na-*.

10.1	áaba- na-u	auli	<i>Achagua</i>
	one-NUM.CL:MAMMAL -fem	dog	
	‘one female dog’		

In 10.2, the fact that the dog is male is reflected in the non-feminine gender marker *-i* on the classifier.

10.2	áaba- na-i	auli	<i>Achagua</i>
	one- NUM.CL:MAMMAL-nonfem	dog	
	‘one male dog’		

No gender forms are distinguished for lower animates (whose sex is considered irrelevant) and for inanimates.

² Further instances of numeral classifiers and gender in one language include Telugu (Krishnamurti and Gwynn 1985: 106–7, Krishnamurti 2003: 210–1); see also Aikhenvald (2019b: 104–45) on North Arawak languages, including Warekena of Xié and Baniva of Guainia, and Mihás (2019) on Kampa languages. Numeral classifiers and noun classes co-exist in Ejagham, a Benue-Congo language (see §2.2.3 and §5.1.2, and example 5.14; Watters 1981: 193–301, 309–13).

10.2 Gender and noun classifiers

Genders and noun classifiers coexist in a number of prefixing languages from Northern Australia. Ngan.gityemerri, from the Daly group, has fifteen noun classifiers whose meanings cover sex of the referent (male or female), and also vegetables, trees, strikers, spears, digging sticks, fire, and a few other specific categories (see §6.1 and Reid 1997). There is, in addition, a system of seven genders marked by prefixes on the head noun and, optionally, on modifiers within a noun phrase. Masculine and feminine genders are also distinguished in third person singular pronouns, as exponents of anaphoric gender.

Noun classifiers in Ngan.gityemerri overlap with genders in their meanings—see Table 10.1. For instance, the gender prefix *a-* ‘animals’ has a free noun classifier counterpart *gagu*, and the gender prefix *mi-* ‘plant, food, vegetable’ has a free form noun classifier *miyi* with the same meaning (Reid 1997: 175ff).

Table 10.1 Genders and noun classifiers in Ngan.gityemerri

Meaning	Gender marker	Noun classifier
male	<i>wa-</i>	
female	<i>wur-</i>	
human group	<i>awa-</i>	
body parts	<i>da-</i> , <i>Ø-</i> , <i>a-</i>	
canine	<i>wu-</i>	
animal	<i>a-</i>	<i>gagu</i>
plant food, vegetable	<i>mi-</i>	<i>miyi</i>
trees/things	<i>yerr-</i>	<i>yawurr</i>
bamboo spears	<i>yeli-</i>	<i>yawul</i>
strikers		<i>syiri</i>
fire		<i>yenggi</i>
liquid		<i>kuru</i>
digging sticks		<i>kini</i>
large woomeras		<i>tyin</i>
canegrass spears		<i>kurum</i>

Genders and noun classifiers differ in their form and usage. An overt gender marker on a noun is obligatory, while the use of a noun classifier will depend

on discourse organization. In 10.3, the noun classifier *miyi* can be omitted, and the gender prefix *mi-* cannot be.

10.3 (miyi)	mi-meli	<i>Ngan.gityemerri</i>
NOUN.CL:VEG	GEND.VEG-purple.plum	
wurrbun-ba-ket		
3plSlash-arm-cut		
'They are picking purple plums'		

Historically, gender prefixes go back to grammaticalized independent noun classifiers (following the scenario in §15.3.1).

10.3 Gender and classifiers in possessive constructions

Genders and classifiers in possessive constructions can be independent systems. Uto-Aztec languages, including Papago (or Tohono O'odham), Northern Tepehuan, and Cora have small sets of classifiers in possessive constructions (see example 7.15, from Papago). There is, in addition, a human versus non-human distinction in anaphoric agreement forms of third person pronouns (see [Langacker 1977](#): 91–2, 124–5; and [Seiler 1977](#): 293–4 on Cahuilla).

Alternatively, gender agreement with the possessed noun can be marked on the classifier. Maká, a Mataguayan language from Paraguay, has two genders, masculine and feminine ([Messineo and Gerzenstein 2007](#): 70–1). Males belong to the masculine gender, and females to the feminine. Gender choice for inanimates appears to be opaque. Gender is marked via agreement with demonstratives, e.g. *n-a' nunax* (DEM.PROX-masc.dog) 'this (male) dog', *n-e' nunax* (DEM.PROX-fem.dog) 'this (female) dog'. Maká also has three possessive classifiers used with alienably possessed nouns: one for domestic animals, one for cultivated plants, and one for a mounted animal. The first two show agreement in gender with the possessed noun, and the third one does not. See Table 10.2.

The noun *nunax* 'dog' refers to a male domestic animal, and so the classifier takes masculine agreement, as we see in 10.4.

10.4 yi-lin-ek	nunax	<i>Maká</i>
1sg.POSS-POSS.CL:DOM-masc	dog	
'my (masculine) dog' (lit. my-domestic.animal.masculine dog)		

Table 10.2 Possessive classifiers in Maká

Possessive classifiers	Gender	Meanings
<i>-lin-ek</i>	masculine	domestic animal
<i>-lin-ki</i>	feminine	
<i>-en-ekxuʔ</i>	masculine	cultivated plant
<i>-in-kixuʔ</i>	feminine	
<i>-wut</i>	masculine/feminine	mounted animal

The hen, *ta ʼa ʼa*, belongs to the feminine gender and is also a domestic animal, and so the classifier agrees with it in feminine gender, as we see in 10.5.

10.5	<i>yi-lin-ki</i>	<i>ta'a'a</i>	<i>Maká</i>
	1sg.POSS-POSS.CL:DOM-fem	hen	
	'my (feminine) hen' (lit. my-domestic.animal.feminine hen)		

Gender agreement on possessive classifiers is a feature of other languages of the Chaco linguistic area, including Zamucoan (Ciucci and Bertinetto 2019: 169–71, and §16.1.1).³

10.4 Gender and classifiers of other types

Numerous prefixing languages of northern Australia combine generic verbal classifiers with genders. Verbal classifiers in Mayali were discussed in §8.1.2. Mayali also has four genders—I. Masculine, II. Feminine, III. Vegetable, and IV. Neuter (or a residue class), as we saw in §3.1.4 (Evans 1996: 77ff, 1997: 108–9, 126–33). Gender markers occur on the nouns themselves and on agreeing modifiers, shown in 3.17–3.18. In 8.12, a generic verbal classifier categorizes the specific noun ‘ironwood tree’ in S function as a member of the class of trees. In the same example, ‘ironwood tree’ is marked for the Vegetable gender (III).

Algonquian languages typically have two genders—animate and inanimate (see §2.2.3, under B). Some also have verbal classifiers, as does Innu, which has eight verbal classifiers suffixed to the verb, as we saw in Chapter 8 (Drapeau and Lambert-Brétière 2011). Classifiers categorize the entity on the basis of

³ Dongo-ko (§3.1.2; Pasch 1985: 75–80, 1986: 240–55) has ten possessive classifiers which agree in noun class with the possessee, a feature apparently shared with related languages.

its inherent features, including shape and consistency (see examples 8.3–8.5). Genders are expressed via agreement on demonstratives (Clarke and MacKenzie 2007: 912). Gender assignment is semantically straightforward for animate beings (in agreement with Generalization 2.1, p. 39). For inanimate objects, it may be opaque. For instance, items such as ‘tobacco’, ‘oar’, and ‘raspberry’ belong to the animate gender. In each instance, categorization via genders and through verbal classifiers follows different lines. Genders categorize referents in terms of their sex and inherent nature. Classifiers help organize entities into generic classes, or shape- and nature-based categories. The choice of classifiers tends to be straightforwardly semantic. In contrast, the choice of gender has a degree of opacity.

Locative and deictic classifiers are a feature of just a few languages across the world (see Chapter 9). Lokono has five locative classifiers whose choice is based on the animacy, interioricity, and consistency of the entity (§9.1). Two genders—masculine and feminine—are expressed covertly. The domains of regular agreement include articles, demonstratives and other modifiers, and the verb, e.g. *to kodibio* (ART.FEM.SG bird) ‘the bird’ and *li da-rethi* (ART.MASC.SG 1sg-husband) ‘this husband of mine’ (Pet 1987: 25–7). Deictic classifiers with positional meanings are a feature of Yuchi (see Table 9.3, p. 81). Four genders are distinguished in personal pronominal prefixes on the verb marking agreement with the subject (Linn 2000: 121–7).

Gender can coexist with two further types of classifiers.

(A) GENDER, CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS, AND LOCATIVE CLASSIFIERS are a feature of numerous North Carib languages. Of these, Trio, Apalaí, Hixkaryana, Panare, and Waiwai have an animate versus inanimate distinction in anaphoric gender, expressed via third person singular pronouns. Many also have possessive classifiers—examples from Macushi are in 7.8–7.9. Their further feature is locative classifiers, shown in Table 9.2 (p. 179). Locative classifiers apply to a selection of inanimates, distinguishing between liquids, entities with flat surface, open area, and enclosed places. Possessive classifiers categorize entities in terms of their belonging to a general subclass and are restricted to alienably possessed nouns with inanimate referents. Possessive classifiers in Macushi and Apalaí involve names for plants and animals, and in Panare they categorize inanimates as belonging to numerous groups, based on their inherent nature.⁴ The three kinds of categorization devices deploy different semantic parameters: animacy in anaphoric pronouns, shape

⁴ See Carlin (2004: 148–51) on Trio, Koehn and Koehn (1986: 95) on Apalaí, Derbyshire (1985: 6–10) on Hixkaryana, Mattéi-Müller (1974), and Payne and Payne (2013: 83–4) on Panare.

and consistency in locative classifiers, and generic category based on inherent nature of the entity, for possessive classifiers.

(B) GENDER, DEICTIC CLASSIFIERS, AND CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS have been described for two languages from the Guaycuruan family in Argentina—Toba and Pilagá (see Klein 1973: 202–6, 2001, Messineo and Gerzenstein 2007: 70–1, Messineo 2011: 202, and Messineo and Cúneo 2019: 200, 206). Three deictic classifiers have positional meanings, characterizing entities as vertical (or ‘standing’), horizontal (or ‘lying’), and three-dimensional (or ‘sitting’). A further three classifiers are integrated with demonstrative meanings (‘proximal’, ‘distal’, and ‘out of sight’)—see Table 9.4 (p. 183). Two genders, feminine and masculine, are marked on some nouns, and on agreeing constituents, including deictic classifiers. In 10.6, feminine agreement gender on the deictic classifier is expressed with the prefix *a-*. The noun ‘palm’ belongs to the feminine gender.⁵

10.6	a-da	chayk	<i>Toba</i>
	fem-DEIC.CL:VERT	palm	
	‘the palm (tree)’		

Similarly, in example 9.8, the masculine noun ‘jaguar’ occurs with the deictic classifier *ñi* ‘tridimensional’ (typical for four-legged animals). Gender assignment is partly semantically motivated. As expected, feminine gender includes women, and masculine gender includes men. Gender assignment to inanimates is opaque. Trees belong to the feminine gender, and many inanimates are masculine. In addition, gender assignment of terms for fruits and seeds is based on their shape and also size. Elongated fruits belong to the masculine gender, and round fruits and seeds are feminine (Cristina Messineo and Paola Cúneo, p.c.). The choice of deictic classifiers is only partly predictable—see examples in Table 9.4 (p. 183).

Toba has one possessive classifier which refers to domestic animals. All other entities do not require a classifier in possessive constructions. In 10.7, the classifier *-lo* co-occurs with a deictic classifier marked with feminine gender, since ‘cow’ is feminine.

⁵ Examples are from Messineo and Cúneo (2019: 200, 206); see also Vidal (1997, 2001: 85) on Pilagá. Coexisting noun categorization devices in Kadiwéu, the only Guaycuruan language outside the Chaco, require further investigation (see Ciucci and Bertinetto 2019: 167–72).

10.7	a-na	i-lo	waka	<i>Toba</i>
	FEM-DEIC.CL:PROX	1SG.POSS-POSS.CL:DOM	cow	
	'my cow' (lit. this (close) cow of mine)			

Distinctions in gender and in deictic classifiers are neutralized in non-singular numbers. In contrast, no such neutralization has been attested for the possessive classifier.

(C) GENDER/NOUN CLASS, NUMERAL CLASSIFIERS, AND NOUN CLASSIFIERS are a feature of some Chinantec languages of Mexico. In Sochiapan Chinantec, two genders—animate and inanimate—are realized via agreement with modifiers, including number words, and on the verb. Gender agreement is marked via nasalization of the final vowel and sometimes also change of tone (see C in §3.2.3, p. 67; [Foris 2000](#): 100–1, 173–4, 184–7, 205–12). Numeral classifiers—of which there are several dozen—are independent words. The entities are categorized in terms of their shape, consistency, and inherent nature. The number word ‘two’ and the numeral classifier for spherical objects are illustrated in 10.8.

10.8	tũ^L	mái^L	hlái ^M	<i>Sochiapan Chinantec</i>
	two.INANIM	NUM.CL:SPHERE	egg	
	'two eggs'			

The number word agrees in animacy with the head noun, ‘egg’. The numeral classifier reflects the spherical shape of the egg. In this way, gender distinctions co-occur with numeral classifiers. Animate and inanimate genders are distinguished in the singular and in the plural.

As mentioned in §6.2 (p. 133), Sochiapan Chinantec also has noun classifiers which are independent words. Of the nine forms, four categorize the inanimate entity in terms of its shape and extension (spherical, flat, irregular shape) and two in terms of its gender (masculine and feminine). In 10.9, a numeral classifier and a noun classifier occur together in one noun phrase.

10.9	tũ^L	ho^{MH}	<i>Sochiapan Chinantec</i>
	two.INAN	NUM.CL:LONG.FLAT	
	mu^{MH}	kú ^H hẽ ^M	
	NOUN.CL:FLAT.INAN	tin	
	'two sheets of roofing iron'		

The combination of the noun classifier for flat items and the noun ‘tin’ refers to roofing iron (a sheet of iron or tin used to cover a roof). This object is counted using the numeral classifier for a long flat object. The noun classifier and the numeral classifier overlap in their meanings. Their functions are different: the combination of a noun with general meaning ‘tin’ and the noun classifier is a conventional way of referring to roofing iron. In this way, a noun classifier helps create a new lexical entry. And a numeral classifier is a way of counting it, as a discrete entity.

Two further instances of numerous coexisting gender and classifier types are worth a mention. Carrier (Poser 2005) combines gender, numeral classifiers, and verbal classifiers. Three gender forms—non-human, human singular, and human plural—are distinguished in demonstratives, both in regular agreement and in anaphoric agreement (Poser 2005: 157). The number words from one to ten, and quantifiers ‘all’ and ‘many’, have five classificatory forms, each of which are only partly analysable. Similar to many other Northern Athabaskan languages, Carrier has prefixed verbal classifiers illustrated in 8.16–8.19 (see §8.1.4 and §8.5). Furthermore, Carrier has four subtypes of suppletive classificatory verbs: ‘controlled motion or handling’, e.g. verbs of putting; ‘uncontrolled motion or handling’ whereby the subject initiates the motion but then loses control, e.g. verbs of throwing; ‘inherent motion’ with no external agent, e.g. verbs of falling; and verbs of location (Poser 2005: 153, and §8.5). The system of noun categorization devices in Carrier is arguably one of the most complex in the world. Its most unusual feature is having different numeral classifiers with number words, and with the interrogative quantifier ‘many’, in addition to two subtypes of verbal classifiers (shared with the related languages). The various systems of noun categorization are based on partly overlapping and largely independent semantic parameters. The ‘human’ category is limited to the two subtypes of numeral classifiers and gender in demonstratives. Specialized shape-based categories in classificatory verbs have no counterpart in other systems.

Palikur offers a further complex system, with (a) a split gender system, (b) numeral classifiers, (c) verbal classifiers as suffixes on verbs, (d) locative classifiers, and (e) classifiers in possessive constructions. Of these, gender (a) is partly integrated within numeral classifiers. Three genders are distinguished on agreeing modifiers and three on verbal suffixes (as we saw in §4.1.3, examples 4.7–4.12).

Numeral classifiers (b) form a closed set of twenty forms. Two of these are used exclusively with the number word ‘one’, a further nine with the number

words ‘one’ and ‘two,’ and the rest with other numbers (as mentioned in §5.6). The gender system is integrated with the system of numeral classifiers for sex-differentiable animate referents just for the number ‘one,’ similar to what we saw for Achagua, in §10.1.

Verbal classifiers (c) in Palikur form a set of eleven forms suffixed to the verbal stem which categorize the O of a transitive verb or the S of a stative verb in terms of its shape, boundedness, and division into parts. Locative classifiers (d) in Palikur form a set of about twelve forms which categorize the object of an adposition—see Table 9.1 (p. 178). Classifiers in possessive constructions are a set of nouns with generic meanings, including ‘offspring,’ ‘pet,’ ‘edible fruit or vegetable,’ and ‘plant’—see Table 7.1 (p. 146). Table 10.3 contrasts numeral, verbal, and locative classifiers in their forms and meanings (Aikhenvald and Green 2011).

Table 10.3 Numeral, verbal, and locative classifiers in Palikur

Semantics	Numeral classifiers	Verbal classifiers		Locative classifiers
		Stative verbs	Transitive verbs	
animate	<i>-p</i>			
round, square	<i>-u/-so</i>	<i>-pit</i>	<i>-pit</i>	
irregular shape	<i>-a/-sa</i>			<i>-pit</i>
side		<i>-muh</i>	<i>-muh</i>	
vertical objects		<i>-min</i>	<i>-min</i>	<i>-min</i>
rigid, thin	<i>-t/-ta-</i>	<i>-ah</i>		
flat	<i>-k/-ka/-bu</i>	<i>-boha</i>	<i>-bo</i>	<i>-madka</i>
concave;		<i>-apa</i>	<i>-ap</i>	
NUM.CL: metal	<i>-mku/-muk</i>			
objects				
edge		<i>-kiya</i>	<i>-kig</i>	<i>-kigbi</i>
pointed		<i>-kisa</i>		<i>-kigsa</i>
linear; numeral				<i>-buhku(-mna)</i>
classifier: long	<i>-tra/-tahr/-bu</i>	<i>-buka</i>	<i>-buk</i>	
and extended				
road, river				<i>-vigku</i>
the inside part	<i>-iku/-rik</i>	<i>-eku</i>	<i>-ik</i>	<i>-iku</i>
of; NUM.CL:				
extended with				
boundaries				
tree, plant,	<i>-kti/-kat</i>	<i>-kat</i>	<i>-min</i>	<i>-pew</i>
trunk				
tree, branch-like		<i>-pewa</i>	<i>-peru</i>	<i>-peru</i>
water	—	<i>-pit</i>	<i>-pit</i>	<i>-hakwa</i>

The sets of numeral, verbal, and locative classifiers show some overlap. For instance, the forms *-min* ‘vertical objects’ and *-peru* ‘branch-like’ (and its allomorphs) are used as verbal and as locative classifiers, and *-kat* ‘tree, plant, branch-like object’ is used as a numeral classifier and as a verbal classifier on stative verbs. The formative *-kig* ‘edge’, ‘pointed object’ is found in verbal classifiers and in locative classifiers. The set of classifiers in possessive constructions is completely different from numeral, verbal, and locative classifiers.

Several kinds of classifiers can occur together in one clause. In 10.10, a ‘cord’ is categorized in three ways: (i) as belonging to the neuter gender, (ii) as a linear elongated object, with a numeral classifier, and (iii) as an elongated object in a horizontal position, with a locative classifier.

- 10.10 yu bat **a-buhkumna** *Palikur*
 crow sit 3neut.sg-on:LOC.CL:LINEAR
 paha-**tra** akati
 one-NUM.CL: LINEAR cord
 ‘A crow sits on a (horizontal) cord’

Each type of classifier highlights a selection of shape, consistency, and other inherent-nature related properties of the noun. Coexistence of several systems of noun categorization within one language shows that different core classifier types are relatively independent.

10.5 Several types of classifier in one language

Recurrent combinations of classifier types attested in one language include (A) numeral classifiers and noun classifiers, (B) numeral classifiers and classifiers in possessive constructions, (C) numeral classifiers and verbal classifiers.

(A) NUMERAL CLASSIFIERS AND NOUN CLASSIFIERS as independent systems are a feature of Minangkabau, a Western Austronesian language, and of Q'anjob'alan Mayan languages.

Any noun with generic semantics in Minangkabau can be used as a noun classifier accompanying a specific noun. In contrast, numeral classifiers are a closed class. Numeral classifiers categorize entities in terms of their humanness, animacy, and form and shape for inanimate nouns. Noun classifiers signal that the referent of a noun belongs to a certain class of objects.

Semantic differences between the two classifier types are especially illustrative when the same morpheme is used as a noun classifier and as a numeral classifier. As a noun classifier *batang* means ‘trees as a class’. As a numeral classifier, *batang* covers long vertical objects, including trees. A numeral classifier and a noun classifier can co-occur in one noun phrase, as we see in example 10.11 (see [Marnita 2016](#)).⁶

10.11	sa- batang	batang	pisang	<i>Minangkabau</i>
	one-NUM.CL:LONG.VERT	NOUN.CL:TREE	banana	
	‘one banana tree’			

The banana tree is categorized as a tree with the noun classifier *batang*, and as a long vertical object with the numeral classifier *batang*. Numeral classifiers and noun classifiers differ in their syntactic behaviour. We mentioned in §5.6 that sortal numeral classifiers in Minangkabau are obligatory with small numbers and optional with large ones (tens and hundreds: [Marnita 2016](#): 69–70). A special semi-suppletive form *sa-* of numeral ‘one’, *satu*, is used with numeral classifiers, as we can see in 10.11. In contrast, noun classifiers are always independent phonological and grammatical words. The use of noun classifiers in Minangkabau is regulated by the flow of discourse. A speaker will introduce an entity with a classifier, and after the first mention just use the classifier anaphorically (as we see in §13.5.1, examples 13.16–13.17). This is a feature which noun classifiers in Minangkabau share with many other languages. Numeral classifiers do not have any of such properties.

AKATEK, a Q'anjob'alan Mayan language, has fourteen noun classifiers listed in Table 10.4. Each has a nominal origin. The nominal sources of noun classifiers are listed in the third column of the table.

Akatek also has two sets of numeral classifiers, as we saw in §5.1.5. Three classifiers are bound morphemes suffixed to the number word. They are ‘human’, ‘non-human animate’, and ‘inanimate’. About ten classifiers are independent words; they characterize the entity with respect to its shape, size, configuration, and form, and have no special terms based on humanness or animacy. The two systems are contrasted in Table 5.3 (p. 108) ([Zavala 1992](#): 130–6, 2000: 118–29).

Noun classifiers and numeral classifiers of two kinds can occur together in one clause—this is illustrated in examples 5.24a–b. Noun classifiers categorize entities in terms of their inherent nature, adding an extra dimension of

⁶ As an independent noun, *batang* means ‘tree trunk’.

Table 10.4 Noun classifiers in Akatek

Semantics	Noun classifier	Nominal source
man	<i>naj</i>	<i>winaj</i>
woman	<i>'ix</i>	<i>'ix</i>
honorific (human)	<i>k'o</i>	(not known)
familiar (human)	<i>yab'</i>	(not known)
animal	<i>no'</i>	<i>noq'</i>
tree	<i>te'</i>	<i>te'</i>
rock	<i>ch'en</i>	<i>ch'een</i>
maize, corn	<i>(')xim</i>	<i>'ixim</i>
thread	<i>tx'an</i>	<i>tx'an</i>
soil/dirt	<i>tx'otx'</i>	<i>tx'ootx'</i>
salt	<i>tz'am</i>	<i>'atz'am</i>
water	<i>a'</i>	<i>ja'</i>
vegetable	<i>an</i>	?
fire	<i>ka'</i>	<i>kaq'</i>

familiarity and respect (for humans). Categorization of referents via numeral classifiers involves humanness and animacy in one subsystem, and shape, consistency, and extendedness in the other. The coexistent classificatory techniques in Akatek help highlight different features of the referent, and follow different rules. Numeral classifiers are obligatory with number words. Noun classifiers can accompany a noun, or they can be used anaphorically, to refer to a previously mentioned referent (as we saw in 6.7a-b). The presence of a noun classifier correlates with topicality and definiteness of the referent (we return to this in §13.3–§13.5).⁷

(B) NUMERAL CLASSIFIERS AND CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS are a feature of numerous Oceanic and Polynesian languages. As we saw in Chapter 7, classifiers in possessive constructions categorize the possessed noun. Their choice correlates with the way in which the entity can be possessed or handled, and they only apply to inalienably (or ‘indirectly’) possessed items (see §7.3). Many languages add to this a system of numeral classifiers.

Fourteen possessive classifiers in Mussau-Emira, an Oceanic language from New Ireland, categorize entities in terms of their general properties and nature. Seven numeral classifiers distinguish long objects and collective referents,

⁷ See Day (1973: 59–61, 69–71) for a pioneering analysis of numeral classifiers compared with noun classifiers in Jacalteco; Zavala (2000: 125) and de León (1987) on other Mayan and Mixtecan languages; Luo (2022) on noun classifiers and numeral classifiers in Zhuang and related Tai-Kadai languages.

paired objects, pieces, groups, sides and dishes, and roads, leaves and hairs, in addition to a general one. Numeral and possessive classifiers can occur in one noun phrase—categorizing the entity in different ways. This is what we see in 10.12.

10.12	gha -lima	kie -m	<i>Mussau-Emira</i>
	NUM.CL:GENERAL-five	POSS.CL:DOMESTIC.ANIMAL-2sg	
	paolo		
	chicken		
	‘your five chickens’		

The numeral classifier *gha*- categorizes ‘chicken’ as a member of the class of general items which subsumes collective nouns. The possessive classifier *kie*- reflects the fact that the chicken is viewed as a domestic animal (Brownie and Brownie 2007: 45–59, 77–8, 89).⁸ Both numeral classifiers and possessive classifiers go back to Proto-Oceanic.

(C) NUMERAL CLASSIFIERS AND VERBAL CLASSIFIERS coexist in a number of Tibeto-Burman languages, including Munya. This language has a set of eleven sortal and twelve mensural numeral classifiers. They are obligatory with native number words from one to twenty and optional with other numbers (see §5.6). Munya also has six classificatory existential verbs for animate and for inanimate referents, referents in a container, movable referents, and abstract referents, and a further existential verb for an upright referent (Bai 2019, 2020: 279–94).⁹

Further instances of co-occurring classifier types have been attested in just one or two languages each. Co-occurrence of verbal classifiers and classifiers in possessive constructions is a feature of Cora, a Uto-Aztec language (Casad 1982: 236–7, 1996: 246). Noun classifiers and locative classifiers coexist in Dâw (Martins 1994: 53ff, Martins and Martins 1999). Ersu (Zhang: 2016: 372–407, 445), Chimila (Malone 2004) have independent systems of noun classifiers, verbal classifiers, and numeral classifiers. The rarity of such co-occurrence may be due to the relative rarity of the phenomena themselves, or to a gap in our present knowledge.

⁸ For further instances of co-existing numeral and possessive classifiers in Oceanic and Micronesian languages, see Harrison (1976: 95, 128–31) on Mokilese, Elbert (1974: 60–1) on Puluwat, Keating (1997: 252–8) and Rehg (1981: 178–85) on Pohnpeian, and Bril (2013: 70, 2014: 170–1, 176–7, 196–7) for Zuanga and Nêlêmwa; Benton (1968: 102–23ff) on Truquese; a summary is in Aikhenvald (2003a: 187–96).

⁹ Coexisting numeral classifiers and classificatory verbs are a feature of many Qiangic languages, e.g. nDrapa (Elvis Huang, p.c.), Qiang (LaPolla 2003: 65–8), and Yongning Na (Lidz 2010: 233, 356) (see also Zhang 2016: 443–55). Japanese has a large system of numeral classifiers (see Chapter 5 and Jarkey and Komatsu 2019) and animacy distinctions in existential verbs (B in §8.1.3).

10.6 To conclude

A few languages across the world combine gender and classifiers, or classifiers of different types. Attested combinations are summarized in Table 10.5. Different letters (x, y, z, a, b) refer to the different classifier sets.

Table 10.5 Gender and different classifier sets in different environments in one language

Gender	Num.cl	Noun.cl	Verb.cl	Poss.cl	Loc.cl	Deic.cl	Sections where discussed and focal languages illustrated
x	y	-	-	-	-	-	§10.1—Malto, Achagua
x	—	y					§10.2—Ngan.gityemerri
x	—			y			§10.3—Uto-Aztec languages, Maká
x				y			
x			y				§10.4—Mayali, Innu
x					y		§10.4—Lokono
x						y	§10.4—Yuchi
x				y	z		§10.4—North Carib languages
x				y		z	§10.4—Toba, Pilagá
x	y	z					§10.4—Sochiapan Chinantec
x	y		z				§10.4—Carrier
x	y		z	a	b		§10.4—Palikur
-	x	y	-		-	-	§10.5 (A)—Minangkabau, Akatek
-	x		-	y	-	-	§10.5 (B)—Mussau-Emira
	x		y				§10.5 (C)—Munya

- I. Gender can occur together with classifiers of every type. Co-occurrence of gender agreement and numeral classifier tends to be restricted to humans and animates. In those languages where gender is partly integrated within numeral classifiers, the number word ‘one’ may stand apart from the other numbers—reflecting its multifaceted nature as a number and an indefinite determiner. This is reminiscent of what we saw in §5.6, for numeral classifiers.

If a language has more than one kind of noun categorization in the same environment, one of these is always gender. This is captured in Generalization 10.1.

Generalization 10.1 Two kinds of noun categorization in the same environment

If a language has more than one kind of noun categorization in the same environment, one of these will always involve gender.

Generalization 10.1 is based on the fact that only gender as a noun categorization device can have scope over a noun phrase, and/or over the whole clause.

- II. Categorization of a referent via genders and through classifiers follow different lines. Genders categorize referents in terms of their sex, animacy, and inherent nature. Classifiers help organize entities into categories based on shape and further intrinsic properties of the entity. The choice of classifiers tends to be semantically straightforward. In contrast, the choice of genders may have a degree of opacity—as we saw for Algonquian and Australian languages, and also for Palikur (resonating with §2.2.3). Gender and each classifier type preserve their specific properties.
- III. A few languages have one (rarely more) classifier type without having grammatical gender. Numeral classifiers coexist with noun classifiers; with classifiers in possessive constructions; or with classificatory verbs (a subtype of verbal classifiers). Numeral classifiers are the most frequent classifier type. It thus comes as no surprise that coexisting classifier systems should, in their majority, include numeral classifiers.

Multiple classifier languages

In quite a few languages across the world, the same set of classifiers occurs in several grammatical contexts. These include:

- (i) number words—the core context for numeral classifiers (see Chapter 5);
- (ii) nouns themselves—the core context for noun classifiers (see Chapter 6);
- (iii) possessive constructions—the core context for possessive classifiers (see Chapter 7);
- (iv) verbs—the core context for verbal classifiers (see Chapter 8);
- (v) demonstratives—the core context for deictic classifiers (Chapter 9);
- and
- (vi) adjectives and other extended contexts.

Classifiers in multiple contexts are found in numerous languages across South-east Asia, the Americas, and also New Guinea. Languages with the same set of classifiers in multiple contexts are referred to, for short, as ‘multiple classifier languages.’¹ Features of classifiers in multiple contexts are summarized in Box 11.1.

¹ The term ‘multiple classifier language’ was introduced in Aikhenvald (2003a: 204–39); see also Aikhenvald (2017: 383–5, 2019a: 17, 2012a: 279–89); see, e.g. Wojtylak (2019, 2021a) on Witotoan languages, and Ingram (2003) on Anamuxra, a Papuan language. An alternative term sometimes used for multiple classifier systems across Asia is ‘bare classifiers’ (Simpson et al. 2011 and Pichetpan and Post 2021, and the discussion and critique in Luo 2022; further analysis is in Enfield 2007: 144, and Phillips and Hanna 2019). Classifiers in multiple contexts are glossed as CL, and are in bold.

Box 11.1 Major features of multiple classifier systems

- (i) In multiple classifier languages, the same set of classifier morphemes occurs in several classifier environments.
- (ii) Classifiers in multiple environments can be free or bound morphemes.
- (iii) Classifiers in each environment within a multiple classifier language may have specific pragmatic features and functions typical for the core classifier type in each environment.
- (iv) The size of classifier inventory in multiple classifier languages tends to be relatively large.
- (v) Classifiers in a multiple classifier language may have features atypical for classifiers in core classifier type in each environment.
- (vi) The choice of a classifier in a multiple classifier system is always semantically based and involves animacy, sex, shape, form, dimensionality, consistency, and other aspects of the inherent nature of entities.

In §11.1, we start with some examples of classifiers in multiple contexts.²

11.1 Classifiers in multiple contexts: Free and bound morphemes

The same set of classifiers as FREE MORPHEMES is used with (a) number words, (b) demonstratives, (c) adjectives, and (d) nouns on their own in Zhuang, a Tai-Kadai language from South China (Luo 2022; see also Lu 2012 and Matthews 2006: 231). In 11.1, the classifier *pu*⁶ ‘CL:HUMAN’ is used with the number word *saam*¹ ‘three’. In each instance, a classifier precedes the noun it categorizes.

11.1 *saam*¹ *pu*⁶ *hun*⁴ *Zhuang: (a) classifier with number word*
 three CL:HUMAN person
 ‘three people’

² A number of Arawak and Witotoan languages have separate systems of genders on the one hand and classifiers in multiple contexts on the other (see Aikhenvald 2019b, Wojtylak 2019, 2021a, b, Michael 2008: 296–301). Kilivila has a large set of over 100 classifiers in multiple contexts in addition to three separate classifiers in possessive constructions relating to the way the possessee is handled (Senft 1986: 49–54). Classifiers with number words and with verbs may show minor differences, opening the option of an alternative analysis (see Hori 2001, on Skidegate Haida).

In 11.2, the same classifier is used with the demonstrative ‘that’.

- 11.2 **pu**⁶ hun⁴ te¹ *Zhuang: (b) classifier with demonstrative*
 CL:HUMAN person that
 ‘that person’

A classifier will also be used with an adjective as a modifier, as we see in 11.3.

- 11.3 **teieu**¹ pua⁵ diŋ¹ *Zhuang: (c) classifier with adjective*
 CL:CLOTHING jacket red
 ‘the red jacket’

In 11.4, the classifier is used with a noun on its own.

- 11.4 **pu**⁶ he:k2 taŋ⁴la:n⁴
 CL:HUMAN guest reach.house
 lo
 PARTICLE on its own *Zhuang: (d) classifier with noun*
 ‘The guest(s) has/have arrived’

A classifier is used with a noun on its own under particular pragmatic conditions (for more on these, see §13.4–13.5).³ In 11.4, the classifier accompanies a specific and definite referent. Using a classifier with the noun correlates with pragmatic features of the referent, similar to the use of noun classifiers as a core context (also discussed in §6.3). This alerts us to a salient feature of multiple classifier languages: classifiers in each context may share features with core classifiers in that context—see §11.3.

A complex noun phrase in Zhuang may contain a number word and a demonstrative. Then the classifier will be used only once, as shown in 11.5.

- 11.5 si² **pu**⁶ hun⁴ te¹ *Zhuang: classifier in a complex NP*
 four CL:HUMAN person that
 ‘those four people’

Classifiers in Kilivila are used with (a) number words, (b) demonstratives, and (c) adjectives. In contrast to Zhuang, classifiers in Kilivila are BOUND

³ The interactions between classifier use and definiteness and/or specificity of the referent, are discussed in [Simpson et al. \(2011: 169ff\)](#), [Chang \(2014\)](#), and [Jian \(2015\)](#), for various Sinitic languages; see also §13.4.

than others. The fact that in Zhuang, and many other languages with classifiers as free morphemes, just one classifier occurs with a number word and with a demonstrative in a noun phrase shows that we are dealing with a single unified phenomenon of classifiers in multiple contexts.

We now turn to an overview of options for classifier contexts in multiple classifier languages in §11.2. Features of classifiers within multiple classifier systems which are shared with each core context are outlined in 11.3. Extended contexts for multiple classifiers are the topic of §11.4. Classifiers in multiple contexts may have features atypical for each individual core context—the topic of §11.5. The limits on classifiers in multiple contexts are discussed in §11.6. The last section contains a summary.

11.2 Classifiers in multiple contexts: The options

One set of classifiers can be used in as many as six environments. So far, we have identified four groups of options summarized in Table 11.1. Each context in the Table is assigned a letter and a number repeated here.⁴

OPTION A involves the same set of classifiers in three contexts:

- **A1** involves the same set of classifiers with (i) number words, (ii) nouns on their own, and (iii) demonstratives.
- **A2** involves the same set of classifiers with (i) number words, (iii) demonstratives, and (vi) adjectives.

⁴ On Mandarin Chinese, see [Chao \(1968: 589–600\)](#), [Chang \(2014\)](#); on Vietnamese, see [Bisang and Quang \(2020\)](#), [Daley \(1996, 1998\)](#), [Löbel \(2000\)](#), [Kölver \(1982a\)](#), [Nguyen \(1957\)](#); on Awará, a Papuan language from Morobe Province in PNG, see [Quigley \(ms\)](#), and also *p.c.* (For a similar system in closely related Wantat, see [Davis n/d.](#)) On Kilivila, see [Senft \(1986, 1996\)](#) and [Lawton \(1993\)](#); on Newari, see [Bhaskararao and Joshi \(1985: 24ff\)](#). On Galo and other related languages, see [Post \(2008, 2022\)](#). On Thai, Maonan, Tai Lue, Zhuang, and other Tai-Kadai languages, see [Hundius and Kölver \(1983\)](#), [Luo \(2022\)](#), [Lu \(2012\)](#), [Phillips and Hanna \(2019\)](#), and also [Enfield \(2004b, 2007: 140\)](#). On Anamuxra, see [Ingram \(2003\)](#); on Tanimuca (or Retuará), a West Tukanoan language, see [Barnes \(1999: 219\)](#), [Strom \(1992\)](#), and [Eraso \(2015\)](#). Information on Hmong is from [Bisang \(1993\)](#), [Jaisser \(1987\)](#), [Jarkey \(2015\)](#), with a partial overview of literature in [White \(2019\)](#); see [Saul and Wilson \(1980\)](#) on Nung. On Waujá, see [Jackson \(1966\)](#), [Richards \(1973\)](#), and some information in [Postigo \(2014: 153–5\)](#); on Baure, see [Danielsen \(2007: 138–49\)](#) and also [Sell and Terhart \(2016\)](#). On Ignaciano, see [Ott and Ott \(1983\)](#) and [Olza Zubiri et al. \(2001: 192–339\)](#). See [Michael \(2008\)](#) on Nanti, [Mihás \(2017, 2019\)](#) on Kampa languages. On Chaozhou, see [Xu \(2007\)](#). Partial information on classifiers in Cantonese in [Matthews and Yip \(1994: 93ff\)](#) and [Pacioni \(2018\)](#) was supplemented by [de Sousa \(2015: 177, 180–3, and p.c.\)](#), and also [Simpson et al. \(2011\)](#), and [Erbaugh \(2002\)](#) and [Matthews and Yip \(2001\)](#). On Wei Ning, a Hmong-Mien language of China, see [Wang \(1972: 125, 128–31\)](#). Data from Tukano are based on [West \(1980\)](#), [Ramírez \(1997a: 320, 325–7, 333\)](#), [Barnes \(1999: 219\)](#), and own work; on Tuyuca, see [Barnes \(1990\)](#), [Eberhard \(2009: 331–40, 500–1\)](#) and [Lowe \(1999: 180–2\)](#) on Nambiquara languages; on Murui, see [Wojtylak \(2017, 2019, 2021a\)](#). On Shiwilu, see [Valenzuela \(2016, 2019\)](#); on Paresi-Haliti, see [Brandão \(2016: 278–80\)](#); on Mundurukú, see [Crofts \(1973: 87, 1985\)](#), [Gonçalves \(1987\)](#), [Gomes \(2006\)](#); on Yagua, see [Payne \(2007\)](#); on Waorani (or Auca), see [Peeke \(1973: 125–9\)](#); for Baniwa of Içana, see [Aikhenvald \(2007b, 2019b\)](#) and also [Ramírez \(2001a, b\)](#). On Kubeo, see [Gomez-Imbert \(1996\)](#), [Morse and Maxwell \(1999\)](#); and some information in [Chacon \(2012\)](#). On Motuna, see [Onishi \(2012\)](#); on Nasioi, see [Hurd \(1977: 132\)](#); on Mika, see [Wojtylak \(2019\)](#).

Table 11.1 Classifier contexts in multiple classifier languages: Options and example languages

contexts	(i) number words	(ii) nouns on their own	(iii) demonstratives	(iv) possessive constructions	(v) verbs	(vi) adjectives	example languages	
free or bound							free morphemes	bound morphemes
A1	yes	yes	yes	no	no	no	Mandarin, Vietnamese	Awará
A2	yes	no	yes	no	no	yes	not known	Kilivila, Newari
A3	yes	yes	no	no	no	yes	Galo	
B1	yes	yes	yes	no	no	yes	Thai, Zhuang, Maonan, Tai Lue	Anamuxra, Tanimuca
B2	yes	yes	yes	yes	no	no	Hmong, Nung	n/a
B3	yes	yes	no	no	yes	yes	not known	Nanti, Waujá, Ignaciano, Baure
C1	yes	yes	yes	yes	no	yes	Chaozhou, Cantonese, Wei Ning	Tukano, Tuyuca, Nambiquara, Murui
C2	yes	yes	yes	no	yes	yes	not known	Shiwilu, Paresi-Haliti, Mundurukú, Yagua, Waorani
C3	yes	yes	no	yes	yes	yes	not known	Baniwa of Içana
D	yes	yes	yes	yes	yes	yes	not known	Kubeo, Motuna, Nasioi, Mika

- **A3** involves the same set of classifiers with (i) number words, (ii) nouns on their own, and (vi) adjectives.

OPTION B involves the same set of classifiers in four contexts:

- **B1** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (iii) demonstratives, and (vi) adjectives.
- **B2** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (iii) demonstratives, and (iv) possessive constructions.
- **B3** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (v) verbs, and (vi) adjectives.

OPTION C involves the same set of classifiers in five contexts:

- **C1** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (iii) demonstratives, (iv) possessive constructions, and (vi) adjectives.
- **C2** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (iii) demonstratives, (v) verbs, and (vi) adjectives.
- **C3** involves the same set of classifiers with (i) number words, (ii) nouns on their own, (iv) possessive constructions, (v) verbs, and (vi) adjectives.⁵

OPTION D involves the same set of classifiers in six contexts: (i) number words, (ii) nouns on their own, (iii) demonstratives, (iv) possessive constructions, (v) verbs, and (vi) adjectives.

Options A1-3, B1-2, and C1 have been attested in languages with classifiers as free morphemes and as bound morphemes. Due to an overwhelming tendency for verbal classifiers to always be bound morphemes (see §8.1), options A2, B3, C2, C3, and D always involve classifiers as bound morphemes. Options B3, C1, and D are a feature of a few highly synthetic languages. Classifiers tend to be free morphemes in the highly analytic languages of Southeast Asia, and bound morphemes elsewhere, especially in the highly synthetic languages of Amazonia. No language has been found to have just two classifier contexts,⁶ or more than six contexts.

⁵ Yanomama (from the Yanomami family in Brazil) appears to have classifiers in a further different set of four environments: number words, verbs, possessive constructions, and nouns themselves (see Ferreira 2009).

⁶ The statement on two classifier contexts in Mandarin in Aikhenvald (2003a: 206) was based on the limited information in Matthews and Yip (1994: 93) concerning the lack of use of classifier with the noun itself in that language (shown to be incorrect in later literature, e.g. Chang 2014).

Cross-linguistically, number words constitute the most common classifier environment for multiple classifier languages. Locative classifiers—a rare type—do not feature as a context for multiple classifier context at all, and are not included in Table 11.1 (p. 207). Neither do deictic classifiers with positional meanings (addressed in §9.1–9.2). Every language included in Table 11.1 employs classifiers with number words. This goes together with the frequency of numeral classifiers in the world’s languages.⁷

Classifiers in multiple contexts and the core classifier types share their meanings. All classifiers categorize the noun referent in terms of typical semantic categories shared by all the noun categorization devices—animacy, humanness, shape, form, consistency, and inherent nature (see Chapter 12). The inventories of classifier forms in multiple classifier systems are always relatively large. They vary, from eleven in Paresi-Haliti, twenty in Shiwilu, and over forty in Baniwa of Içana, to several dozen in Anamuxra and more than a hundred in Kilivila, Tai-Kadai, Tariana, and Witotoan languages.

11.3 Classifiers in core contexts and in multiple classifier languages: Shared features

Classifiers in multiple contexts share a number of features with classifiers in the relevant core context—with number words (§11.3.1), in possessive constructions (§11.3.2), with nouns on their own (§11.3.3), and on verbs (§11.3.4).

11.3.1 Numeral classifiers as a core context and classifiers with number words in multiple classifier languages

Numeral classifiers as a core context share the following features with classifiers with number words as one of the contexts in multiple classifiers languages.

FIRST, numeral classifiers within this core context correlate with the value of the number, following Generalization 5.4 (p. 117), repeated here.

⁷ The commonality of number words as a context for multiple classifiers does not justify the claim about primacy of this context over others (pace Grinevald 2000 and Fedden and Corbett 2017; see the criticism in Phillips and Hannah 2019: 4); see Chapters 15–17 on different classifier contexts in language history and language acquisition. Multiple classifier systems without classifiers on number words are in need of further study. Eyak, an Eyak-Athabaskan language, appears to have the same classifier morphemes on verbs and in locational expressions (Krauss 1968: 195). Classifiers in Omaha-Ponca may have been used on deictics and also on interrogatives and in locative expressions (Rankin 2004: 215–17), opening further options for multiple classifier contexts.

Generalization 5.4 Numeral classifiers and the value of number word

In no language will classifiers be used with higher numbers and not with lower.

This applies to many multiple classifier languages. In Newari, a language with three classifier environments (Option A2 in Table 11.1), classifiers tend not to be used with higher numbers, and are obligatory with adjectives and demonstratives. In Nung, with four classifier environments (Option B2), classifiers with number words are optional with powers of ten (Saul and Wilson 1980: 25ff).

SECONDLY, numeral classifiers with the number word ‘one’ may have special features (§5.6). This also applies to classifiers with number words in multiple classifier languages. The general classifier *càh* in Nung is restricted to ‘one’ (Saul and Wilson 1980: 27–8). All other classifiers in the language are used with the full set of number words and in other environments. The form ‘one’ performs double duty as a number word and as an indefinite modifier.

THIRDLY, in languages with numeral classifiers as a core context, they are used with other quantifying expressions only if they occur with number words. This is the essence of Generalization 5.1 (p. 97) repeated here.

Generalization 5.1 Occurrence of numeral classifiers with quantifiers

In no language do numeral classifiers occur with quantifiers, unless they are also used with number.

In 11.7, from Shiwilu (Option C2 with five classifier contexts), the classifier *-si* ‘CL:CANE’ is used with the quantifier ‘many’ (Valenzuela 2019: 78).

11.7	wapu’-si	ker-la	pinter=pen	Shiwilu
	many-CL:CANE	bring-NFL.2sg>3sg	tobacco=POSS.2sg	
	‘Did you bring many bundles of tobacco?’			

Classifiers in Shiwilu do not occur on the interrogative quantifier ‘how many’. In Murui (Option C1), they occur on quantifiers of all types (Wojtylak 2021a). The exact choice of quantifiers which require classifiers appears to be language

specific. Occurrence in multiple contexts may be used as a criterion for distinguishing between measure terms and mensural classifiers (along the lines of §5.7)—a hypothesis to be tested.

11.3.2 Classifiers in possessive constructions as a core context and in multiple classifier languages

The use of classifiers in possessive constructions as a core context often correlates with the type of possessive relationship, as we saw in §7.3. Across Oceanic and North Carib languages, classifiers are restricted to constructions with alienably, or optionally, possessed nouns. In languages with classifiers in multiple contexts, the use of classifiers in possessive constructions may also depend on the nature of the possessed.

In Hmong, a language with four classifier contexts (Option B2), classifiers are used with number words, with demonstratives, with nouns themselves, and in possessive constructions. There, they are optional if the possessee is a kinship term, a body part, or an important attribute, and is treated as inalienably possessed. For all other entities they are obligatory. In 11.8, from White Hmong, the noun ‘son’ is a kinship term, and the classifier is omitted ([Bisang 1993](#); [White 2021](#): 282–9; Nerida Jarkey, p.c.).

11.8	kuv	tub		<i>White Hmong</i>
	1sg	son		
		‘my son’		

The classifier *tus* ‘CL:ANIMATE’ can be optionally used, as shown in 11.9.

11.9	kuv	tus	tub		<i>White Hmong</i>
	1sg	CL:ANIM	son		
		‘my son’			

In contrast, classifiers are obligatory in possessive constructions if the item is alienably possessed.

11.10	Tsav.Xeev	lub	qhov-taub		<i>White Hmong</i>
	Cha.Seng	CL:GENERAL	hole-be.hard		
		‘(in) Cha Seng’s bunker’			

In 11.10, the classifier *lub* categorizes the alienably possessed noun, ‘bunker’, and cannot be omitted.⁸

11.3.3 Noun classifiers as a core context and classifiers with nouns on their own in multiple classifier languages

The following features of noun classifiers as the core context are shared with classifiers used with nouns in multiple classifier languages.

FIRST, as mentioned in §6.3, the use of noun classifiers correlates with pragmatic properties of the categorized entity. For a noun classifier to be felicitously used in Akatek, the entity has to be specific, referential, and thematically important. Noun classifiers cannot be used in non-individuated and non-referential environments (Zavala 2000: 137–8, 1992: 171–3). Similarly, in Emmi and a number of other Australian languages, noun classifiers indicate specificity and thematic importance of the entity in the subsequent discourse (see example 6.8). We return to these functions in §13.5.

Classifiers with nouns on their own in multiple classifier languages have similar functions. As we saw in example 11.4, a classifier used with a noun in Zhuang marks the referent as definite. The use of a classifier with a noun on their own is comparable to an article in a European language. In 11.11, also from Zhuang, the tiger introduced with the classifier *thua* ‘CL:ANIMAL’ is a new participant, to be deployed further in the story (Luo 2022: 294).

11.11 kham³ **thua**⁴ kuuk⁶ haw³ thaŋ⁴ ... Zhuang
 because CL:ANIMAL tiger enter reach
 ‘Because a tiger entered (the people reviled him loudly)’

Pragmatic functions of classifiers in multiple classifier languages vary. In Kampa languages, they serve to reactivate a referent in discourse, or to introduce a new referent to be deployed later, as shown for Asheninka Perené by Mihás (2019: 53–4). In numerous Amazonian languages, including Tukano and Murui (Option C1 in Table 11.1), classifiers individualize the referent and specify the meaning of the entity (Wojtylak 2021a: 174–5; and see §13.5).⁹

⁸ A similar principle applies to the use of classifiers in possessive constructions in Tukano, a language with classifiers in five contexts (Option C1: Ramirez 1997a: 320, 325–7, 333, Barnes 1999: 219, and own data).

⁹ See also Eberhard (2009: 338–9) on discourse functions of classifiers in Mamaindê, a Northern Nambiquara language (Option C1).

SECONDLY, noun classifiers as the core context can occur more than once within a noun phrase or on the noun itself (see example 6.3 from Yidiñ and comments in §6.1.1). This is also a feature of classifiers with nouns on their own in multiple classifier languages. An example from Shiwilu is in 11.12. The adjective ‘white’ is followed by the classifier for liquids. The resulting form is accompanied by the classifier for soil (Valenzuela 2019: 92–4).

- 11.12 **dadapu-dek-lu’** *Shiwilu*
 white-CL:LIQUID-CL:SOIL
 ‘white clay’ (lit. white liquid which is soil-like)

The meaning of the resulting noun with two classifiers in 11.12 is transparent. White clay is obtained from white (clear) waters (hence the classifier for liquids) and is soil-like. Depending on the intended meaning, the order of classifiers on the noun itself can be reversed, as we see in 11.13. This is a special feature of classifiers on nouns themselves, not attested for any other classifier contexts in the language.¹⁰

- 11.13 **lu’lek-lu’-dek** *Shiwilu*
 black.ant-CL:SOIL-CL:LIQUID
 ‘Black Ant River’ (lit. river (liquid) on whose banks (soil) black ants abound)

There can be two or three instances of classifiers within one word. The classifier *-dek* ‘CL:LIQUID’ derives the word for ‘milk’, from the noun ‘udder’, yielding *waka’mudi-dek* (udder-CL:LIQUID) ‘milk’. In 11.14, adding the classifier *-lu’* ‘CL:SOIL’ to the term for ‘milk’ produces the term for ‘butter, cheese’, based on perceived similarity of its consistency with soil.

- 11.14 **waka’mudi-dek-lu’** *Shiwilu*
 udder-CL:LIQUID-CL:SOIL
 ‘butter, cheese’

One can add the classifier *-dek* ‘CL:LIQUID’ to the term for ‘butter, cheese’ (in 11.14), and produce the term for ‘butter soup’, or liquefied butter, in 11.15.

¹⁰ Further examples are in Valenzuela (2016). Variable order of classifiers on nouns in Tariana and related languages is discussed in Aikhenvald (2003b, 2019b).

11.15 waka'mudi-**dek-lu'-dek***Shiwilu*

udder-CL:LIQUID-CL:SOIL-CL:SOIL

'butter soup'

Similar examples are found in Murui, Tukano, Tariana, and many other highly synthetic languages of Amazonia. Classifiers on nouns are the basis of their extended functions as derivational devices—see §11.4.

11.3.4 Shared features of verbal classifiers as a core context and with verbs in multiple classifier languages

Affixes to verbs are the only kind of verbal classifier attested in multiple classifier languages (see §11.6). Similar to verbal classifiers as a core context, classifiers on verbs as one of the contexts in multiple classifier languages categorize the object of a transitive verb (O) or the subject of the intransitive verb (S). In 11.16, from Shiwilu (Option C2: [Valenzuela 2016](#): 343) the classifier *-mek* 'CL:LEAFLIKE' categorizes the object of the transitive verb 'spread'. The object—'blanket'—is referred to with the number word 'one' which takes the same classifier.

11.16 ala'-**mek**=sa' idimunan

one-CL:LEAFLIKE=DEL blanket

uklu-**mek**-tu-lek*Shiwilu*

spread-CL:LEAFLIKE-VM-NFUT.1sg

'I spread one blanket'

In 11.17, also from Shiwilu, the classifier *-dek* 'CL:LIQUID' categorizes 'water spring' in the intransitive subject (S) function. The same classifier occurs with a noun on its own ([Valenzuela 2016](#): 361).

11.17 Asu' paksha-**dek**

this water.spring-CL:LIQUID

mu-**dek**-sha-lli*Shiwilu*

be.good-CL:LIQUID-DIM-NFUT.3sg

'This water spring has clear water' (lit. 'This water spring's water (liquid) is good')

Affixed verbal classifiers as one of the classifier contexts can also categorize instrument or location (following Generalization 8.1 for verbal classifiers as a core context, repeated here).

Generalization 8.1 Applicability of affixed verbal classifiers to constituents depending on syntactic function

S < O < Location/Instrument

A classifier with a verb in Nanti, a Kampa language from Peru with four classifier contexts (Option B3), can categorize the object of a transitive verb (O) or an intransitive subject S (Michael 2008: 333). A classifier can also categorize a location, as we see in 11.18. The location is expressed overtly. The classifier *-se* ‘CL:MASS’ categorizes ‘ground’.

- 11.18 hara no=pirini-**se**-a kipatsi *Nanti*
 NEG.IRREALIS 1subject=sit-CL:MASS-REAL.A ground
 ‘I will not sit on the ground’

Alternatively, a classifier can also categorize the instrument, as in 11.19.

- 11.19 i=pasa-**gii**-i=ro pihiri *Nanti*
 3masc.subject=beat-CL:1DIM.RIGID-REAL.I=3nonmasc.O bat
 ‘He is beating the bat with an arrow’

The instrument itself, ‘arrow’, to which the classifier *-gii* ‘classifier for one-dimensional rigid objects (‘CL:1DIM.RIGID’) refers, is omitted but can be recovered from the context (see §13.6–13.7). Classifiers of nominal origin in Nanti are distinct from noun incorporation, as only objects (O) and intransitive subjects (S) can be incorporated (see §8.3).

11.4 Extended classifier contexts in multiple classifier languages

Classifiers in multiple contexts can occur in a number of extended environments atypical for each single core context. These are not included in Table 11.1.

I. RELATIVIZERS AND NOMINALIZERS. Classifiers used on nouns on their own in a multiple classifier language can be used as markers of relative clauses. In

Chaozhou (Option C1, with classifiers in five contexts) a classifier is used as a relative clause marker, if the common argument refers to a specific and individuated entity (Xu 2007: 117). In 11.20, the classifier for ‘books’ refers to the common argument in O function in the relative clause and the subject of the verbless main clause.

- 11.20 i³³ sia³³ **puŋ**⁵³⁻³⁵ siau5335sueʔ² *Chaozhou*
 3sg write CL:BOOKS novel
 ho5335-toi⁵³³⁵si⁵³⁻³⁵
 good-read dead
 ‘The novel he wrote is a very good read’ (lit. dead good-read)¹¹

In many Amazonian languages with multiple classifiers, classifiers can occur on verbs as nominalizers. An example from Murui is in 11.21 (Wojtylak 2018: 35).

- 11.21 gui-ya-**ko** *Murui*
 eat-NOM-CL:COVER
 ‘plate’ (lit. cover for eating)¹²

Nominalizations are used as relativization and complementation strategies across Amazonian languages (Aikhenvald 2012a: 332–4). Verbal classifiers as a core context never have word-class changing derivational functions, in contrast to classifiers in multiple contexts which can nominalize verbs (as we saw in 11.21).

II. EXTENDED MODIFIER CONTEXTS. In multiple classifier languages, classifiers can occur with a wide variety of modifiers. These may include adjectives and demonstratives, as we saw for Options A2, B1, C1, C2, and D in Table 11.1, and also question words. In 11.22, from Shiwilu, a classifier is used with the question word ‘what (kind of)’.

- 11.22 Ma’nen-**mek** i’na nana? *Shiwilu: classifier with question word*
 what-CL:LEAF FOC that
 ‘What (kind of) leaf is that?’

¹¹ Similar examples from Cantonese (Option C1) are in Matthews and Yip (1994: 111–12, 406).

¹² Further examples of classifiers in multiple contexts as nominalizers on verbs come from Waurani, Yagua, and Nambiquara (Aikhenvald 2003a: 220–2), Paresi-Haliti (Brandão 2016: 279), Kampa languages (Mihás 2019: 51ff), numerous Tukanoan languages (Aikhenvald 2019b, Ramirez 1997a, Stenzel 2013, Barnes 1999: 218–19), and also Anamuxra and Wantoat (Ingram 2003: 131, Davis n/d).

Multiple classifier languages vary as to which modifiers require classifiers. In many Amazonian languages classifiers are used with demonstratives and with interrogatives—this is the case in Tukanoan, Witotoan, Kawapanan, and Nambiquara languages, and also Yagua, Waorani, and Tariana (see [Aikhenvald 2012a](#), 2003a: 219–21, [Barnes 1999](#): 221–3, and sources there). It is also the case in Anamuxra ([Ingram 2003](#): 131).

Classifiers may occur just with demonstratives and adjectives, but not with interrogatives, as in Paresi-Haliti ([Brandão 2016](#)). In Baniwa of Içana, classifiers are used with question words, but not with demonstratives (see [Aikhenvald 2007b](#)). Potential dependencies between extended contexts of multiple classifier use require further study.

III. PERSONAL PRONOUNS. In multiple classifier languages, classifiers—especially those with animate reference—can occur on personal pronouns. An example from Shiwilu is in 11.23 ([Valenzuela 2019](#): 79).

11.23	kua-lun	kua-pen	enpu'niipa'	<i>Shiwilu</i>
	1sg-CL:FEM	1sg-CL:MALE	very.much.FOC	
	pata'tu-tek-ku		nuka'-ka	
	touch-VM-AGT.HAB.NMLZ-1sg		COP-1sg	
	'I (woman) / I (man) am very hardworking.'			

We hypothesize that classifiers are used with personal pronouns only if they are also used on demonstratives, as is the case in Shiwilu, Murui ([Wojtylak 2021a](#): 129), Tukano, and Tariana.

11.5 How classifiers in multiple contexts are special

Classifiers in multiple contexts have features atypical for classifiers in each core context (outlined throughout Chapters 2–9).

I. CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS AS FREE MORPHEMES. If a language has possessive classifiers as one core context, classifiers are always bound morphemes (see Chapter 7). In contrast, if a language has classifiers in multiple contexts, classifiers in possessive constructions can be expressed with free morphemes. This is what we saw in examples 11.9–10 from White Hmong (a language with classifiers in four contexts: Option B2).¹³

¹³ Similar examples come from Cantonese and Chaozhou (Option C1) ([Matthews and Yip 1994](#): 93ff) and [Xu \(2007\)](#).

II. REPEATERS OR AUTOCLASSIFIERS IN MULTIPLE CLASSIFIER LANGUAGES.

Quite a few languages with classifiers in multiple contexts employ repeaters, or autoclassifiers (mentioned in §5.3.4). Then, a noun or a part of it is repeated in the classifier slot to categorize a referent for which no other classifier is available (see §12.7.2).

Repeaters are a feature of numeral classifiers and classifiers in possessive constructions as core contexts (see §5.1.6 and §7.2). Repeaters in other classifier contexts are found exclusively in multiple classifier languages. The repeater *-gui* has the same form as the noun *gui* ‘agouti’. It appears on the noun itself, e.g. *iii-gui* (man-CL:REP.AGOUTI) ‘male agouti’. In 11.24, the repeater *-gui* occurs on the anaphoric demonstrative *nai* (Wojtylak 2021a: 181, p.c.).

11.24 *nai-gui*

Murui

ANAPH.THAT-CL:REP.AGOUTI

‘that (previously mentioned) agouti’

In Tukano and the neighbouring Tariana, any underived noun can occur in the classifier slot in the residue function if no specific classifier is available, e.g. Tukano *ati-dihpi* (that-REP.CL:BRANCH) ‘that (branch)’ (West 1980: 119, own data, and §12.7.2).

III. CLASSIFIERS ON VERBS AND THEIR FUNCTIONS. Verbal classifiers as a core context categorize the transitive object (O) and the intransitive subject (S) (see also §8.3). The only instances in which classifiers on verbs categorize the transitive subject (A) come from languages with classifiers in multiple environments. This was illustrated with 8.23–8.24, from Shiwilu (Valenzuela 2019: 97, 2016: 367–8). A similar example is in 11.25. Who did what to whom is clear from the personal marking on the verb: ‘you’ is the object of the transitive verb ‘scratch’. The transitive subject (A) is referred to with the classifier *-mek* ‘CL:LEAF’.

11.25 *Sekwa'-mek-llen*

Shiwilu: classifier on a verb

scratch-CL:LEAF-NON.FUT.IND.3sg/1sg>2sg

‘The leaf (A) scratched you’

In 11.26, both A and O are referred to with classifiers. The classifier for O, ‘man’, precedes the classifier for A, ‘woman’. It was the woman (A) who killed the man (O).

- 11.26 di'-**pen-lun**-lli Shiwilu
 kill-CL:MALE-CL:FEM-NFUT.3sg
 'The woman killed the man'

In 11.27, the classifier for 'woman' follows the classifier for 'man'. The man is now the A—the killer, and the woman is the O, the victim.

- 11.27 di'-**lun-pen**-lli Shiwilu
 kill-CL:FEM-CL:MASC-NFUT.3sg
 'The man killed the woman'

Changing the order of classifiers results in the change in the roles of participants—this is what we see in 11.26–11.27.

IV. CORRELATIONS WITH VERB TYPES. The use of verbal classifiers as a core context tends to correlate with types of verbs (as we saw in §8.4). This does not appear to be the case for verbs as one of multiple classifier contexts, including Nanti (Option B3), Shiwilu and Paresi-Haliti (Option C2), and Motuna (Option D) (Table 11.1). Classifiers are used with verbs of all semantic groups.

V. FUNCTIONS OF CLASSIFIERS ON VERBS. Verbal classifiers as a core context never change the word class of the verb they apply to. That is, they are never used as nominalizers. In contrast, classifiers on verbs as an extended context in multiple classifier languages may have nominalizing functions (as we saw in §11.4).

VI. CLASSIFIERS WITH ADJECTIVES. In multiple classifier languages, classifiers may occur with adjectives (especially modifiers) of any semantic type, as is the case in Zhuang, Shiwilu, and Murui (see Table 11.1).¹⁴ Alternatively, classifiers may occur on adjectives from limited semantic types. In Thai (Option B1), classifiers are used with number words, as seen in 11.28, demonstratives, as in 11.29, and also adjectives, as in 11.30 (Hundius and Kölver 1983).

- 11.28 rôm sǎam **khan** Thai: classifier with number word
 umbrella three CL:LONG.HANDLED
 'three umbrellas'

¹⁴ See Enfield (2007: 120, 137–46, 2021: 192–4) on modifier classifiers as a potentially separate classifier type in Lao.

- 11.29 rôm **khan** ní *Thai: classifier with demonstrative*
umbrella CL:LONG.HANDLED this
‘this umbrella’
- 11.30 nók **tua** jàj *Thai: classifier with adjective*
bird CL:BODY big
‘the big bird’

Classifiers are restricted to just some adjective types, namely those of dimension and colour (Hundius and Kölver 1983).¹⁵

VI. CLASSIFIERS in multiple contexts may be realized with different morpheme types. A few examples are in Table 11.2.

Classifiers used with number words stand apart from other classifiers in Yagua and Waorani. In contrast, in Mundurukú, classifier suffixes are used with number words, with demonstratives and on nouns, while prefixes are used with verbs and adjectives. In this language, adjectives could be alternatively analysed as a subclass of verbs.

Classifiers as free forms may occupy different slots in different classifier contexts. In Thai, the order in a noun phrase is number word-classifier, classifier-demonstrative, and classifier-adjective (further details are in Hundius and Kölver 1983: 169, 172, 178–81; and see examples 11.27–11.30). If a noun phrase contains more than one context requiring a classifier, both Strategy I and Strategy II (p. 205 earlier in this chapter) are at work. Strategy I is used

Table 11.2 Different morpheme types in different classifier contexts

Language	Morpheme type
Kilivila (Option A2)	classifiers on demonstratives are infixes; classifiers with adjectives and number words are prefixes
Yagua, Waorani (Option C2)	classifiers on number words are infixes; classifiers on nouns, verbs, demonstratives, and adjectives are suffixes
Mundurukú (Option C2)	verbal classifiers and classifiers on adjectives are prefixes; classifiers on number words, demonstratives, and nouns are suffixes

¹⁵ This is in contrast to Zhuang and Maonan, where classifiers occur with adjectives of any semantic group (Yongxian Luo, p.c.). See Xu (2007: 111) on the expressive effect of classifiers on adjectives in Chaozhou (Option C1).

when there are several adjectives or demonstrative modifiers. That is, the classifier is repeated with each. The noun phrase in 11.31 contains two adjectives, dimension type ‘big’ and colour type ‘green’. The classifier *tua* is repeated with each.

- 11.31 *nók* **tua** *sii-khǎaw* *Thai: classifier with two adjectives*
 bird CL:BODY green
 tua *jàj*
 CL:BODY big
 ‘the big green bird’

Strategy II (p. 205) will be used if a noun phrase contains a number word and a demonstrative, as we see in 11.32, where just one classifier is used.

- 11.32 *rôm* *săam* *Thai: classifier with number word and demonstrative*
 umbrella three
 khan *nii*
 CL:LONG.HANDLED this
 ‘three umbrellas’

Different strategies in complex noun phrases alert us to the differences between classifier contexts. In Thai, classifiers are optional with adjectives and with demonstratives (Hundius and Kölver 1983: 169, 172). With number words, classifiers are always obligatory and have special features when used in the context of ‘one’ (see §5.6 and note 19 there). That classifiers in multiple classifier languages may display special behaviour in different contexts creates a superficial point of similarity between multiple classifier languages and languages with several classifier types (discussed in Chapter 10).

11.6 The limits of multiple classifiers

Restrictions on multiple classifiers concern (A) their surface realization and (B) their meanings.

(A) SURFACE REALIZATION OF MULTIPLE CLASSIFIERS. Only classifier forms which are easily segmentable occur in multiple contexts. Classifiers fused with their context never do. Numeral classifiers fused with number words (see, for

instance, Table 5.1 (p. 106), for Kusaiean) and classificatory verbs (§8.1.3) are never used in further classifier contexts.

(B) MEANINGS OF CLASSIFIERS. Noun classifiers and possessive classifiers may have generic meanings and display superordinate-subordinate relationships between the classifier and the entity (as we saw in §6.1 for Australian languages and for Minangkabau, and in §7.1–7.2 for Yuman, Uto-Aztecan, North Carib languages, and Table 7.1 (p. 146) for Palikur). These are never used in multiple contexts. The same applies to generic verbal classifiers (§8.1.2, for Australian languages).

Many Oceanic languages have so called ‘relational classifiers’ in possessive constructions whose choice is based just on the function of the possessed noun (see §7.1.1). These are never used in multiple contexts. In contrast, those classifiers in possessive constructions whose choice is based on intrinsic properties of the entity—including animacy, humanness, shape, form, and consistency—can occur in multiple classifier contexts (in agreement with Box 11.1, p. 203).

11.7 To conclude

In multiple classifier languages, the same classifier morpheme can be used in a number of contexts. Each of these correspond to core contexts of classifiers outlined in Chapters 5–9. Four groups of options, from three (Options A) to six (Option D), are summarized in Table 11.1 (p. 206). Major features of multiple classifier systems are listed in Box 11.1 (p. 203). Classifiers in multiple contexts can be free morphemes, as in Zhuang and Hmong. Or they can be affixes, as in Anamuxra, Tukano, or Shiwilu.

Classifiers in multiple contexts share features with each core context, as we saw in §11.3. At the same time, classifiers in multiple contexts have features of their own which set them apart from classifiers in each core context. These include further extended contexts, as we saw in §11.4; features atypical for classifiers in each core context, discussed in §11.5; and further restrictions, shown in §11.6. Table 11.3 contrasts classifiers in core contexts and as one of the contexts in multiple classifier systems.

Synchronically, neither classifier environment can be considered ‘primary’ in any sense. Historically, some classifier environments in multiple contexts may develop earlier than others, or pass into disuse as a result of contact-induced change (see §15.5).

Table 11.3 Contrasting classifiers in core contexts and in multiple contexts

Core contexts versus multiple contexts		Features
NOUN CLASSIFIERS	AS CORE CONTEXT	<ul style="list-style-type: none"> • used with noun only • may have generic meaning
	AS ONE OF CONTEXTS IN MULTIPLE CLASSIFIER SYSTEMS	<ul style="list-style-type: none"> • may be used in extended contexts, e.g. as nominalizers, relativizers • do not have generic meanings
NUMERAL CLASSIFIERS	AS CORE CONTEXT	<ul style="list-style-type: none"> • may be expressed with free or bound forms including reduplicated forms and forms fused with number words
	AS ONE OF CONTEXTS IN MULTIPLE CLASSIFIER SYSTEMS	<ul style="list-style-type: none"> • may be expressed with free or bound forms and never reduplicated forms and forms fused with number words
CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS	AS CORE CONTEXT	<ul style="list-style-type: none"> • bound morphemes • may have generic meanings • may refer just to the function of the possessee (as 'relational classifiers' in Oceanic languages)
	AS ONE OF CONTEXTS IN MULTIPLE CLASSIFIER SYSTEMS	<ul style="list-style-type: none"> • bound or free morphemes • do not have generic meanings • never refer just to the function of the possessee
VERBAL CLASSIFIERS	AS CORE CONTEXT	<ul style="list-style-type: none"> • categorize S, O, and obliques, never A • may show correlations with verb types • expressed with bound forms or suppletive stems
	AS ONE OF CONTEXTS IN MULTIPLE CLASSIFIER SYSTEMS	<ul style="list-style-type: none"> • can categorize A, S, O, and obliques • do not show correlations with verb types and apply to all verbs • expressed with bound forms and never with suppletive stems

Classifiers in multiple contexts differ from gender (or noun class) marking on multiple targets (including modifiers and the verb, as illustrated in 2.1–2.2 and 3.11, from Portuguese, 3.12 from French, and 3.13, from Zulu, for an instance of alliterative concord on numerous targets). Gender agreement on multiple targets preserves the features of gender (or noun class) as closed

grammatical systems which may interrelate with other grammatical categories (as we saw in §4.3). Classifiers in multiple contexts preserve some features of each individual classifier context, as we saw in §11.3. The choice of a classifier will always be based on meaning. In contrast, agreement in gender and noun class can be determined, in part, semantically and, in part, syntactically (or formally) (as we saw in §2.3–2.4). Gender (and noun class) agreement markers always have the same status and the same form on every target. In contrast, same morphemes in different contexts in multiple classifier languages may differ in their status and obligatoriness, as we saw in Table 11.2 (p. 220).¹⁶

The existence of classifiers in multiple contexts across the world's language supports the unity of noun categorization as an overarching phenomenon, at the same time highlighting specific features of each context.

¹⁶ Further discussion of the differences of gender agreement on multiple targets and multiple classifier systems based on a wide variety of sources is in Aikhenvald (2003a: 228–30) and forthcoming (with critique of Grinevald and Seifart 2004).

PART III

GENDER AND CLASSIFIERS:
MEANINGS, FUNCTIONS, AND
EVOLUTION

The meanings of gender and of classifiers

The meanings of gender and of classifiers involve the following parameters:

- (A) HUMANNESSE, ANIMACY, and SEX** (the topic of §12.1),
- (B) PHYSICAL PROPERTIES** (the topic of §12.2),

Physical properties divide into three interrelated groups.

(BI) Dimensionality, shape and form, size, direction, and orientation

- Dimensionality has three values: one-dimensional (long), two-dimensional (flat), and three-dimensional (spherical).
- Shape and form reflect outlines of an entity, e.g. curved, linear, elongated, or rounded.
- Size—large, or small, or minuscule—tends to correlate with dimensionality and shape.
- Direction and orientation reflect (a) a distinction between objects which are vertically or horizontally extended, and (b) the position of a referent, as standing, sitting, hanging, etc.

Direction and orientation may correlate with shape. Vertically oriented objects tend to be elongated, and horizontally oriented ones may be conceived as rounded.

(BII) Consistency, constitution, material make-up, and inherent nature

- Consistency reflects the physical state of an entity—liquid, solid, or paste-like—and its manipulability and plasticity—hard or soft, rigid, foldable, flexible or viscose.
- Constitution, or composition, of an entity reflects its internal structure: for instance, an object may consist of particles or be powder-like.

These parameters correlate with the material make-up of the object, for instance, whether wooden, metal, or woven, and with its inherent nature.

(BIII) ARRANGEMENT refers to the configuration of entities, e.g. a coil of rope, or a string of pearls. Arrangement may correlate with shape, consistency, and material. For instance, an object has to be long and flexible to be able to occur in coils. Or it may correlate with the inherent properties of a referent and its typical configurations. For instance, bananas typically grow in bunches.

(C) FUNCTION AND FUNCTIONAL INTERACTION reflect specific uses of entities and kinds of action typically performed on them (such as ‘edible’ or ‘drinkable’)—the topic of §12.3.

(D) SOCIAL INTERACTION and SOCIAL STATUS—typical for humans—are parallel to functional interaction. This is the topic of §12.4.

Parameters in (B)-(C) are frequently intertwined. This is addressed in each of the sections. Further parameters in noun categorization are the topic of §12.5.

In large classifier systems, one often finds terms whose scope is restricted to a limited set of entities, or to just a single one—the topic of §12.6. In §12.7, we turn to residue, default, and unspecified referent options in noun categorization. Semantic complexity in noun categorization devices is the topic of §12.8. The meanings of gender and of classifiers reflect cognitively salient features at the fundamental level of human categorization, and also cultural preoccupations of speakers—for more on these, see §14.1–2. Preferred semantic parameters in different types of noun categorization are summarized in §12.9.

Temperature, smell, taste, and colour are among the parameters regularly absent from noun categorization. That is, no language has a gender or a classifier just for cold or warm entities, or for bitter or sweet items, or for pungent or aromatic things, or for red, black, or white objects. Is this so because of the subjective nature of these features? The question remains open for now.¹

12.1 Humanness, animacy, and sex

Sex (or natural gender), animacy, and humanness are the backbone of the meanings of GENDER (or NOUN CLASSES) in all their guises (see Box 2.1, p. 28). Every known system of gender (or noun class) involves humanness, animacy, and/or sex, as we saw in §2.2.1. Bantu languages, known for their large systems

¹ Further discussion of semantic parameters in noun categorization is in Aikhenvald (2003a: 271–305, 2017, 2019a, 2021c, forthcoming), and references there, including Frawley (1992) and Denny (1979a, b). See also Erbaugh (2006: 4) and Huang and Ahrens (2003). ‘Lustre’, or ‘visibility’ reported to be among classificatory parameters in noun class choice in Anindilyakwa by Leeding (1989), but not in later work (van Egmond 2012).

of noun classes with complex meanings, have a class subsuming humans (and a few other animates), as we saw in Table 2.2 (p. 37).

Humanness is a salient parameter in most NUMERAL CLASSIFIERS. Puyuma and Saaroa, two Austronesian languages of Taiwan, have just two numeral classifiers—one for humans, and one for non-humans (Pan 2022: 161, 166–7).² Alternatively, there may be one classifier for humans, and a number of classifiers whose choice is based on physical properties for non-humans, as in Acehnese, Toba Batak, Nêlêmwa, and Zuanga (see Conklin 1981 and Bril 2014). A three-way classification may involve the division of referents into humans, non-human animates, and inanimates, as in Squamish (Table 5.2, p. 106). Malay, Indonesian, Minangkabau, Balinese, Malto, and Nivkh have one classifier for humans, one for animals, and a number of classifiers for inanimates (Emeneau 1956, Mahapatra 1979: 12, Conklin 1981: 241, Marnita 2016, Sneddon 1996, Gruzdeva 2004).

A language with two subsets of numeral classifiers may have a term for humans or animates in just one subset. As shown in Table 5.3 (p. 108), Akatek has classifiers for humans, animals, and inanimates in the suffixed set of numeral classifiers, but not in independent ones (Zavala 1992: 130–1, 140–1, 2000).

Numeral classifiers may lack a term for humans and for animates. In nDrapa, a Qiangic language from Western Sichuan in China, humans are counted using the general default numeral classifier *-ji* (used for items not covered by other classifiers: §12.6.2).³ Animals, birds, and caterpillars are subsumed under the classifier for two-dimensional long objects. The only specific classifier for humans is the honorific *-zâ* which covers monks, teachers, and other respected people (Huang 2022; see also §12.4.1).

NOUN CLASSIFIER systems often have special terms for humans, based on sex, function, and respect. This is what we saw in Table 6.1 for Jacalteco (p. 130). But this is not universal. In a number of languages, animate and human referents do not require a classifier, as is the case in Emmi and many further Australian languages, Ersu, and Karo (see §6.1).

Special terms for humans or animates are atypical for classifiers in POSSESSIVE CONSTRUCTIONS. Their choice is based on the function of the possessee and how it is handled. Nêlêmwa has no possessive classifiers for humans or animates in Table 7.2 (p. 148).

² Similar systems are found in Ainu (Tamura 2000: 607) and a few Dravidian languages, including Telugu (Krishnamurti and Gwynn 1985: 106–7, Krishnamurti 2003: 210).

³ Numeral classifiers for humans are absent from Galo, Sochiapan Chinantec, Ersu, and Ejagham (Post 2008, Foris 1993: 305, 317 ff, and Watters 1981).

VERBAL CLASSIFIERS as affixes typically reflect physical or functional properties of referents, or their position and posture, and may have no terms for humans or animates (§8.1.1). Humans may be unclassified, as in Carrier (example 8.20) and in Innu (see Table 12.3, p. 237). In contrast, Cherokee has a classifier for living beings (Blankenship 1997: 92), and Gumuz has a classifier for humans (Ahland 2012: 270–95).

Classificatory verbs vary. Existential classificatory verbs in Tibeto-Burman languages tend to have a special form for animates (see §8.1.3). Animacy and humanness are absent from the system in Ika (Table 8.2, p. 163). Classificatory positional verbs in Papuan languages are based on the typical position of any referent without involving animacy (see Table 8.4 for Enga, p. 165, and in Table 8.6 for Waris, p. 166).

DEICTIC CLASSIFIERS tend to be similar to classificatory positional verbs in that all referents are categorized by their typical posture (see §9.2.1–9.2.2, and Table 9.3 for Yuchi, p. 181, and Table 9.4 for Toba, p. 183). There are no specific terms for humans or animates. Animacy as a parameter in LOCATIVE classifiers has only been found in Lokono (§9.1).

The choice of CLASSIFIERS in MULTIPLE CONTEXTS involves the same semantic parameters as do the core classifier contexts (as we saw in §11.2). Most languages have terms for humans and animates. Shiwilu has separate classifiers for males and for females (see example 11.23), and so does Southern Nambiquara (Lowe 1999). Mamaindê, a Northern Nambiquara language, has just a general term for animates (Eberhard 2009: 332–3).⁴

12.2 Physical properties

In gender assignment, physical properties of an entity are contingent on the basic parameters of humanness, animacy, and sex. For most types of classifiers, physical properties are essential.

12.2.1 Physical properties in gender

Dimensionality, shape, size, and extent in some small gender systems are corollaries of humanness, sex, and animacy. This is captured in Generalization 12.1.

⁴ Classifiers for animates have additional gendered forms in multiple classifier systems in Bora, Murui, and other Witotoan languages (Thiesen 1996: 43, Weber and Thiesen 2012, on Bora, Wojtylak 2017, 2021a). Wantoat and Awará do not have special terms for animates or for humans. Humans are categorized by their position, and assigned the same classifier as ‘upright’ objects (e.g. tree, pole) (Davis n/d, Quigley ms).

Generalization 12.1 Semantics of gender

No system of gender (or noun class) will be based on physical properties of the entity, without involving humanness, animacy, or sex.

This is what we saw in §2.2.1, for Manambu (Diagram 2.1, p. 30). Humans are assigned to feminine or to masculine gender depending on their sex. Gender assignment of non-humans correlates with their shape, size, extent, and importance. Objects associated with the feminine gender are small, horizontal, roundish, and of lesser extent and importance. Linguistic gender choice can be seen as a projection of physical properties conceived as typical of males and females. This is comparable to the extension of gender meanings based on ‘important property’ (discussed in §2.2.2).

The correlation between vertical orientation, long and slender shape, and large extent and importance on the one hand, and masculine gender choice on the other, can be seen as reflecting ‘phallic’ imagery. It may also reflect male superiority typical of many New Guinea cultures, especially in the Sepik region (Aikhenvald 2016: 32–52, and further examples from Amharic, Cushitic and Omotic, and Eastern Nilotic languages there).

Alternatively, feminine gender can be associated with larger size and masculine gender is associated with something smaller. In Cantabrian Spanish, or *Montañés*, gender assignment to humans and higher animates generally follows their sex, e.g. *oveju* ‘ram’, and *oveja* ‘ewe’. Inanimates and lower animates which are tall, of smaller size, of narrow shape, and/or of vertical orientation are masculine. Objects which are unusually large, wide, horizontal, or small and squat are feminine. So, the masculine *montón* will refer to a ‘stack (of hay)’, and its feminine counterpart *montona* to ‘a very large stack of hay’ (Holmquist 1991).⁵

Physical properties, including shape and dimensionality for inanimate referents, may be reflected in larger systems of noun classes. Extendedness, configuration, and consistency play a role in the choice of noun classes for non-human referents in Bantu languages (as we saw in Table 2.2, p. 37). In ChiBemba, class 11/10 covers long objects, extending over space, and class 14 includes flat objects and surfaces (as suggested by Spitulnik 1989: 210, 212). Material make-up and arrangement do not appear to ever play a role in the choice of gender (or noun class).

⁵ For more on gender and size in Spanish and other Romance languages, see Pountain (2005), and Oliviéri and Sauzet (2016: 328) on Occitan. A similar correlation was described for Tiwi, an Australian language (Osborne 1974), and Hamar (an Omotic language from Ethiopia) (see Aikhenvald 2016: 44).

12.2.2 Physical properties, arrangement, and material make-up in classifiers

Physical properties are a pervasive basis for the assignment of NUMERAL CLASSIFIERS. The choice of sortal classifiers, especially for inanimates, always involves physical properties—dimensionality, shape, size, boundedness, consistency, composition, and constitution. The choice of mensural classifiers is based on arrangement (see §5.2).

SHAPE AND DIMENSIONALITY are basic. If a system of numeral classifiers involves physical properties, there will be terms based on dimensionality (one-, two-, and three-dimensional) and corresponding shape (linear, flat, and round). Our expectations with regard to dimensionality and shape in numeral classifiers follow the hierarchy in Diagram 12.1.

one-dimensional > three-dimensional > two-dimensional

Diagram 12.1 Dimensionality and shape in numeral classifiers

In agreement with Diagram 12.1, we do not expect to encounter a system with a classifier for round three-dimensional objects without having one for one-dimensional long things, or a classifier for two-dimensional objects without a term for a one-dimensional and a three-dimensional entity. The hierarchy in Diagram 12.1 is at work in child language acquisition of numeral classifiers, as we will see in §17.2.

A smallish system of numeral classifiers may include a term just for ONE-DIMENSIONAL objects, as in Baniva of Guiana, an Arawak language from Venezuela (Aikhenvald 2019b: 130). Several classifiers for one-dimensional objects can further categorize objects. For instance, Munya has one numeral classifier for thin objects and one for long ones (Bai 2019: 285). Large systems with dozens of numeral classifiers usually have terms for various one-, two-, and three-dimensional items, as is the case in Japanese, Korean, and Burmese.

MORE SHAPE DISTINCTIONS tend to be made in one-dimensional items than in two- and three-dimensional ones. For instance, in Korean we find three terms for one-dimensional objects, and two for each of two- and three-dimensional ones (Table 5.5, p. 111). In Thai, classifiers for one-dimensional (long) items allow for more differentiation in shapes than do two-dimensional (flat) and three-dimensional ones (see Hundijs and Kölver 1983: 206).

DIRECTIONALITY and ORIENTATION in numeral classifier systems typically go together with shape and dimensionality. Classifiers for flat objects are usually applied to entities which are horizontally spread and extended (as is the

case in Minangkabau and Palikur). Long one-dimensional objects tend to be vertical in their orientation. An example is the numeral classifier *batang* ‘long vertical objects’ in Minangkabau (example 10.11).

SIZE in numeral classifier systems is typically a corollary of dimensionality and shape. It never occurs as an independent parameter. A language may have a numeral classifier for a small object of a particular shape, but hardly ever a classifier just for small items. Examples include numeral classifiers *petak* ‘classifier large square objects such as rice fields and farm lots’ and *buah* ‘classifier for small and medium size round objects’ in Minangkabau (Marnita 2016: 101–5). Or size may be associated with animacy. The classifier *-hiki* in Japanese refers to small non-human animate beings (Jarkey and Komatsu 2019 and Komatsu 2018). An additional parameter concomitant to dimensionality is INTERIORICITY—the distinction between rings and holes. While rings ‘focus’ on the outside outline of an object viewed one-dimensionally, holes ‘focus’ on the interior of the outline. Classifiers involving boundedness and interioricity are a feature of those languages which have an elaborate system of shape- and dimensionality-based terms. Upper Necaxa Totonac, a Totonacan language from Mexico, has four numeral classifiers whose choice is based on shape and dimensionality, with size as an additional parameter. The feature of interioricity is reflected in the classifier for openings (García-Vega 2018: 366–7).

Table 12.1 Shape, interioricity, and size in numeral classifiers in Upper Necaxa Totonac

Classifier	Meaning	Example referents
<i>hen-</i>	long, thin, one-dimensional	log, finger
<i>pe'h-</i>	flat, thin, two-dimensional	leaf, sheet of paper, board
<i>he:-</i>	bulky, cylindrical, two-dimensional	stack, gourd, mango
<i>mak-</i>	hefty, round, three-dimensional	bun, stuffed tortilla, whole cheese
<i>kilh-</i>	openings	interior of a mouth, openings, items with openings (boxes), bottle's opening

Further classifiers occur with a restricted set of items each: we return to these in §12.6.

The interdependency between dimensionality, shape, and concomitant parameters of size, boundedness, and interioricity is captured in Generalization 12.2.

Generalization 12.2 Semantics of numeral classifiers - 1

The presence of numeral classifiers based on size and interioricity is contingent on the presence of numeral classifiers based on shape and dimensionality.

In agreement with Generalization 12.2, we will not expect a language to have a numeral classifier for big items or holes, unless it has numeral classifiers based on shape and dimensionality.

The choice of a numeral classifier can involve **CONSISTENCY**—the physical state of an entity (liquid, solid, or paste-like) and its manipulability and plasticity—and also its **COMPOSITION**—whether formed of particles, or powder-like. These may correlate with the material make-up of the entity. For instance, Sochiapan Chinantec has a classifier for liquids, and one for bush-like or grass-like objects, in addition to three classifiers for one-dimensional entities (long flat objects, flat and thin ones, and tall and flexible ones) (Foris 2000: 205–11).

Material make-up, or inherent nature, of a referent (called ‘taxonomic essence’ by Enfield 2007: 128) is a common parameter across all noun categorization devices, except gender. Munya has a numeral classifier for plants, another one for places, and one for days, while nDrapa has one for flora. Material make-up correlates with physical properties of a referent. A classifier for powdered entities can be described in terms of consistency, or in terms of material make-up. Numerous classifiers in Japanese are based on the nature of the referent, including *shoku* for meals, *toori* for methods and opinions, *shu* for poems, and *too* for political parties (see Downing 1996: 58–9).

ARRANGEMENT reflects the ways in which an object can be apportioned, handled, and organized in measurable groups. This is a major semantic parameter in mensural classifiers. The presence of consistency, composition, material make-up, or arrangement in numeral classifiers is contingent on dimensionality and shape. This is captured in Generalization 12.3.

Generalization 12.3 Semantics of numeral classifiers - 2

The presence of numeral classifiers based on consistency, composition, constitution, or arrangement is contingent on the presence of numeral classifiers based on dimensionality and shape.

That is, one does not expect to encounter a system of numeral classifiers whose choice is based just on consistency, but with no shape distinctions. No language will have a classifier for liquid items, solid items, but not for long, flat, or round ones. Similarly, no language will have a numeral classifier for bundles of items, without having classifiers based on dimensionality and shape. These empirically based expectations were partly summarized in Generalization 5.2 (p. 112) and Diagram 5.2 (p. 113).

Diagram 12.2 further sums up our expectations with regard to physical properties in numeral classifier systems, in Generalizations 12.2–12.3.

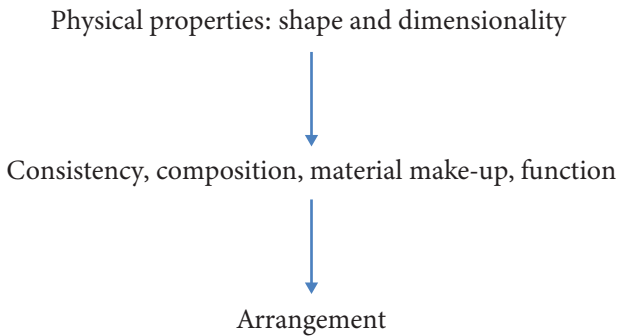


Diagram 12.2 Expected semantic properties in the assignment of numeral classifiers

Only languages with numeral classifiers whose assignment involves semantic features of dimensionality, shape, consistency, composition, material make-up, and function, will have classifiers based on arrangement. Generalizations 12.2 and 12.3 and Diagram 12.2 reflect the fact that no language has mensural classifiers—whose choice always involves arrangement—without having sortal classifiers (as we saw in Generalization 5.3, p. 113).

Assignment of a numeral classifier to inanimate referents can involve a complex combination of shape, dimensionality, boundedness, consistency, and inherent nature. For instance, Korean has a large set of numeral classifiers whose choice is based on shape and other physical properties of the entity (some examples are in Table 5.5, p. 111). Some examples of arrangement-based classifiers whose choice interacts with material make-up and shape of the object are in Table 12.2 (Lee 2014: 53–4).

Along similar lines, Minangkabau has a number of numeral classifiers whose choice is based on arrangement, big or small in size and the nature (or material make-up) of a referent, e.g. *lombo/tombo* ‘classifier for a large amount of tobacco’ and *atua* ‘classifier for fish and small fruits on a skewer’ (Marnita 2016: 97, 104; see also Aikhenvald and Green 2011, on shape, consistency, and arrangement in the assignment of numeral classifiers in Palikur).

Table 12.2 Arrangement-based classifiers in Korean

Classifier	Referents covered
<i>cwul</i>	a line of people or things
<i>kkochi</i>	skewered food such as fried bean curd or seaweed
<i>kyep</i>	folded objects such as paper or clothes
<i>sali</i>	coiled noodle, thread, or straw rope
<i>thalay</i>	thread or rope wound on a reel
<i>maytup</i>	knots of thread or rope
<i>kap</i>	packets of matches or cigarettes

In contrast to numeral classifiers, the role of physical properties in the choice of NOUN CLASSIFIERS offers a mixed picture. Physical properties of shape (and also size) and consistency play a role in the choice of noun classifiers as bound morphemes, as we saw in 6.5 for Ersu (similar examples come from Chimila: [Malone 2004](#): 154–64, 191–2, and Karo: [Gabas 1999](#)). The assignment of noun classifiers as independent words in Australian, Mayan and Austronesian languages involves generic-specific distinctions, function, and the inherent nature of the entity (see §12.3 and §12.5).

Classifiers in POSSESSIVE CONSTRUCTIONS typically lack terms whose assignment is based on shape, dimensionality, directionality, or arrangement. Large systems may contain terms which reflect the nature of the referent, often coupled with its function. Nêlêmwa ([Bril 2014](#), and Table 7.2, p. 148) has classifiers for foods of different kinds (starch, coconut, meat, or fish food), for different kinds of seedlings, for baskets, and for weapons. Panare, a Carib language, has possessive classifiers for artificial lights, body paints, and for musical instruments ([Payne and Payne 2013](#): 83–4).

VERBAL CLASSIFIERS of all kinds are assigned based on the physical properties of the entity they categorize, as mentioned in §8.1, with examples from Innu, Cherokee, Palikur, Gumuz, Waris, and Imonda. Verbal classifiers often combine reference to shape, consistency, and inherent nature of the entity. Of eight verbal classifier prefixes in Innu, an Algonquian language, four reflect shape-related properties. There are two classifiers for liquids whose choice is linked to the parameter of boundedness—one for enclosed liquid, and one for free-flowing liquid. There is no term for humans. A human body and its parts are referred to with the classifier for long and rigid items. This is what we see in Table 12.3 ([Drapeau and Lambert-Brétière 2011](#): 300).

Table 12.3 Verbal classifiers in Innu

Classifier	Meaning	Applies to
-âpêk-	string-like	rope, thread, line, yarn, belt, root, hair, snake, etc.
-âškw-	long and rigid	tree, stick, mast, pole, branch, trunk, candle, penis, leg, arm, finger, human body, etc.
-âwk-	granular matter	sand, grain, sugar, flour, coffee grains, beans, etc.
-êk-	sheet-like	sheet, blanket, napkin, curtains, skin, envelope, gift wrapping, tissue, fabric, paper, leaf, etc.
-(â)kam-	enclosed liquid	lake, liquid in a cup or bottle, blood in the body, etc.
-(i)pê(k)-	free-flowing liquid	free-flowing water, gasoline, oil, juice, etc.
-âpišk	mineral	rock, stone, stove, money, metal jewels, knife, scissors, etc.
-(i)tak	dry wood	dry wood, house, wall, log, roof, floor, canoe, dry tree, arrow, etc.

Prefixed verbal classifiers in Athabaskan languages, including Carrier and Koyukon, categorize the referent in terms of its shape, extendedness, and constitution (Poser 2005, and examples 8.16–8.19). Classificatory verbs across Athabaskan languages also categorize the referent in terms of its shape and dimensionality, extendedness, constitution (rigid or flexible), and arrangement, as we saw in Table 8.1, p. 163, for Chipewyan (further examples are in §8.1.3).

The choice of classificatory existential verbs in the languages of New Guinea is determined by the referent's directionality and position in space, and shape as a concomitant feature (see Table 8.6, for Waris, and Table 8.4, for Enga, pp. 167 and 165). Classificatory verbs in Tibeto-Burman languages typically have a term for a referent in a container (reflecting the parameter of arrangement), and also terms for movable and non-movable referents. Directionality features as an additional semantic parameter in Munya and a few other languages (see §8.1.3).

All the attested instances of LOCATIVE CLASSIFIERS involve shape and dimensionality, as is the case in Palikur (Table 9.1, p. 178). Locative classifiers in Carib languages (Table 9.2, p. 179) are based on consistency ('liquid'), shape ('flat surface'), and boundedness ('open space' versus 'enclosed space'). DEICTIC CLASSIFIERS categorize the referent in terms of its position and directionality and concomitant shape. A one-dimensional object will be viewed as 'standing' and vertically oriented. A two-dimensional one will be 'lying' or horizontal, and a three-dimensional one will be 'sitting'. This was shown for Siouan languages in 9.3–9.5, for Yuchi in Table 9.3 (p. 181), and for Toba

in Table 9.4 (p. 183), with examples 9.6–9.10). Correlations between position, directionality, and shape of the referent are reminiscent of classificatory existential verbs—the source of these deictic classifiers (see §15.3.5).

The presence of verbal classifiers whose choice is based on inherent nature and MATERIAL MAKE-UP is contingent on the presence of classifiers based on dimensionality and shape, following the principle stated in Diagram 12.2. Prime examples are classifiers for minerals and for dry wood in Innu (Table 12.3, p. 237). Two prefixed verbal classifiers in Waris (Table 8.5, p. 166) relate to the material make-up of the referent—a classifier for dead game and one for cooked foods. Classificatory verbs in Chipewyan have terms for fabric-like objects (§8.1.3). Small sets of classificatory verbs (as in Ika, in Table 8.2, p. 163) and classificatory existential verbs in Papuan and in Tibeto-Burman languages do not contain reference to the material make-up.

Systems of CLASSIFIERS IN MULTIPLE CONTEXTS are generally large and involve a combination of parameters, including shape and dimensionality, in the first place, and also consistency and constitution. All multiple classifier systems involve physical properties, covering one-, two-, and three-dimensional distinctions (in agreement with Diagram 12.1, p. 232, and Generalizations 12.2–12.3, p. 234). Paresi-Haliti has less than a dozen classifiers in five environments (used with number words, nouns itself, verbs, demonstratives, and adjectives (Option C2 in Table 11.1, p. 207; [Brandão 2016](#): 277). Of these, six are chosen based on shape and dimensionality, one involves interioricity (the inside of a hole), and two involve composition and consistency (one term for liquids, and one for powder). Shiwilu has twenty-one classifiers (Option C2 in Table 11.1, p. 207), with terms for one-, two-, and three-dimensional objects, in addition to distinctions based on constitution (liquid, powdery or pasty, flesh), function, and also arrangement ([Valenzuela 2019](#): 73–4).

12.3 Function and functional interaction

FUNCTION and FUNCTIONAL INTERACTION in noun categorization devices reflect specific uses of objects and kinds of actions typically performed with them. Objects can be classified depending on whether they can be eaten or drunk, planted, or domesticated. Further function-based distinctions may include transport, clothing, and housing.

Function is never the only semantic parameter in the choice of gender (or noun class). Functional properties as one of the parameters behind gender choice are typical for a few Australian languages (as mentioned in §2.2.3, p. 36).

Semantic composition of gender in Dyirbal is a case in point—detailed in Table 2.1 (p. 32). As shown in §2.2.2, the choice of gender II is based on the function of the entity—its consumability (as drinkable liquids) associated with the consistency of the object, and, independently, with fighting. The choice of gender III, ‘edible non-flesh food’, involves inherent nature (non-flesh food) and the functional property of being edible (see [Dixon 2022: 26ff](#)).

Function and functional interaction are deployed in large NUMERAL CLASSIFIER systems. In agreement with Diagram 12.2, no language with numeral classifiers will have classifiers based on function unless it has classifiers based on physical properties. Function-based numeral classifiers in Korean ([Lee 2014: 58](#)) combine reference to function, material make-up and shape. For instance, the classifier *cengl* is used with ‘instruments with a long handle’, such as rifles, shovels, and hoes. Commonly used classifiers relating to function in Japanese include *-dai* for vehicles and machines, *-ki* for aircraft, and *-choo* for large hand-held tools like guns, hoes, and spades.

Function-based classifiers reflect activities of the speakers, and are often culture-specific. As [Jarkey and Komatsu \(2019: 262\)](#) put it, in Japanese ‘classifiers for entities frequently encountered in daily life include those related to clothing, eating, housing, and business, classifiers for items and activities of cultural importance relate to reading, writing, poetry, drama, martial arts, and sports, among many others’ (see also [Burling 1965](#), and [Denny 1976](#) for function-based classifiers in Burmese). Functions encoded in classifier systems correlate with the relevant social practices—we return to this in §14.1.

The choice of NOUN CLASSIFIERS reflects categorization of humans in terms of their inherent properties, social function, and status—the topic of §12.5. The choice of classifiers for inanimates involves functional properties coupled with material make-up. For instance, the names for cars, planes, and objects made with wire in Akatek (Table 10.4, p. 198) are assigned to the class of ‘rocks’. The class of ‘corn’ subsumes all newly introduced grains and derived products ([Zavala 2000: 134–6](#)). Functional parameters are salient in the choice of noun classifiers in many Australian languages. We mentioned, in §6.1, that Yidiñ has six noun classifiers whose choice is based on the function of the entity and how it is handled—*miña* ‘edible flesh food’ (as in example 6.2), *mayi* ‘edible non-flesh food’, *bulmba* ‘habitable’, *bana* ‘drinkable’, *wirra* ‘movable’, and *gugu* ‘purposeful noise’.

CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS tend to categorize the entity in terms of its function and how it can be handled, and also in terms of its nature, as in numerous Oceanic languages (see §7.1.1). The primary semantic division of entities tends to be that of consumable versus non-consumable, as shown in

Diagram 7.1, for Boumaa Fijian (p. 145). Small systems of possessive classifiers in Yuman and Uto-Aztecan languages always involve functional interactions between the possessor and the possessee. The classifier for ‘pet, domesticated animal’ in Maricopa was illustrated in example 7.6 (and [Press 1979](#): 60–1, on Chemehuevi, a Uto-Aztecan language). A larger system in Cahuilla, another Uto-Aztecan language, contains a term for plants growing wild, for fruit and blossoms to be picked from a tree, for edible items after they have fallen off a tree, for edible foods, for plants and their fruit which had been planted, for cooked foods, for domesticated animals (pets), and for moiety animals which used to be associated with each of the two Cahuilla traditional groups ([Seiler 1977](#): 299–305).

In contrast to the other classifier types, functional parameters are hardly a salient feature of VERBAL CLASSIFIERS (neither in most systems of affixed classifiers nor in classificatory verbs, as we saw in Chapter 8). Large systems of verbal classifiers in Imonda and Waris are an exception to this. Imonda has a classifier for fruit to be picked, for objects which are normally broken (e.g. coconuts), for objects to be caught and killed (e.g. fish), and for objects to be cooked. In fact, many of these classifiers appear to have originated in grammaticalized verbs of handling. Neither do function and functional interaction play a role in locative and deictic classifiers.

FUNCTION as a semantic parameter plays a role in most systems of multiple classifiers. Shiwilu has a classifier for clothing. The classifier *rab* in White Hmong, with classifiers with four contexts (used with number words, nouns, possessive constructions, and demonstratives: Option B2 see Table 11.1, p. 207), categorizes tools and weapons ([Jarkey 2015](#): 34). The classifier *tsab* covers messages, letters, and papers, and *zaj* is reserved for stories, songs, and ceremonies. Chaozhou has classifiers referring to books (example 11.20), section of a play or a film, housing, and clothing ([Xu 2007](#): 103–5). The meanings of classifiers are indicative of speakers’ way life—more on this in §13.8.

12.4 Social function and human categorization

Social status and social interaction reflect the position and the function of a person within the society. Social status and human classification (including age and kinship relations and relative status) are a feature of NUMERAL CLASSIFIERS, of NOUN CLASSIFIERS, of CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS, and also of classifiers in MULTIPLE CONTEXTS. No system of genders,

verbal classifiers, or deictic and locative classifiers, have special terms reflecting social function. Respect and social status through genders are the topic of §12.5.

Many languages of South and Southeast Asia have elaborate sets of NUMERAL CLASSIFIERS which reflect societal structures and divisions of people, and their interactions through kinship relationships. Numeral classifiers for humans in Assamese are shown in Table 12.4 (Borah 2013: 301).

Table 12.4 Numeral classifiers for humans in Assamese

Classifiers	Meaning
<i>zanā</i>	deities/saints (female/male)
<i>garāki</i>	humans highly respected by society (female/male)
<i>zan</i>	humans respected by society (male)
<i>zani</i>	humans of not high social rank (female)

There is one classifier for supreme beings (deities and saints), and a further one for highly respected humans (each covers both males and females). A further classifier refers to respected men. Its feminine form categorizes low-ranked females. The imbalance between men and women in terms of status and respect reflects societal attitudes of a male-dominated culture—somewhat similar to semantic imbalance in the meanings of masculine and feminine derivations in many languages of the world, including English *master* and *mistress*. The meanings asymmetries with regard to sex reflect the status of social genders (more on this in Aikhenvald 2016, and §14.1).⁶

Human categorization interrelates with politeness, status, and also speaker's attitude. We saw in Table 5.4 (§5.2, p. 110) that Korean has at least seven numeral classifiers for humans. Humans are categorized by a person's age and status. There are, in addition, two classifiers for despicable persons. Examples of elaborate categorization of humans and their interrelationships with existing—and changing—social structures come from classifiers in Thai and other Tai-Kadai languages (see §14.1.1). The prominence of kin-based relationships in Vietnamese and other Mon-Khmer cultures, and among the speakers of Yi (Tibeto-Burman) languages, is reflected in the large sets of classifiers for family groups (Bradley 2001: 11). The only numeral classifier

⁶ See Becker (1975: 116–17) on traditional beliefs and social hierarchies in Burmese numeral classifiers; Adams (1992: 114–15, 121) on numeral classifiers for royalty and deities across Palaungic languages, in the pre-revolutionary Khmer, and in Vietnamese.

with specifically human reference in nDrapa is the one for monks, teachers, and other respected people. In each instance, the semantics of specific classifiers tells us something about the society of the speakers (Huang 2022). Social function and status may extend from humans to their attributes. The status of elephants in the Thai culture is reflected in the ways in which they are assigned numeral classifiers: we return to this in §14.1.

The importance of social hierarchies does not in itself entail the elaboration of social functions in a classifier system. Korean has an elaborate system of numeral classifiers which reflects social status and social categories. Japanese—a language with numerous politeness levels embedded in its grammar—offers a different picture. In Jarkey and Komatsu's (2019: 261) words, 'social criteria are not especially prominent in the Japanese numeral classifier system.'

Social status is salient in NOUN CLASSIFIER systems. Noun classifiers in Akatek have an honorific and a familiar term for humans (with no sex distinctions), in addition to classifiers for man and woman (Table 10.4 in §10.5, p. 198). Mam, from the Mamean group of Mayan, has noun classifiers for someone of the same status as the speaker (with connotations of endearment), and special classifiers for old men and old women with overtones of respect (England 1983: 158).

Noun classifiers may reflect culture-specific categories of people. Male initiation is important in many Indigenous Australian societies. Noun classifiers in Yankunytjatjara (a dialect of Western Desert language) reflect people's social status: 'initiated man', 'woman', and 'child' (Goddard 1985: 93–6). Murrinhpatha, from the Daly area (Walsh 1997: 256–7), has two classifiers for humans. The classifier *kardu* covers Aboriginal people and spirits of a living person, and the classifier *ku* refers to non-Aboriginal people and all other animates and their products, including wild honey.

Classifiers in POSSESSIVE CONSTRUCTIONS may also reflect human relationships. Palikur (Table 7.1, p. 146) has a possessive classifier, *kamkayh*, for 'offspring'. Large systems of classifiers in possessive constructions in Micronesian languages may involve several terms for kinship relations. Puluwat, a language with at least a dozen possessive classifiers, has terms for senior persons, junior persons (including animals), and classificatory siblings of ego's sex (Elbert 1974: 60–1).

In contrast to numeral classifiers and noun classifiers, classifiers in possessive constructions do not have special terms reflecting social status or rank. This may be so because the overwhelming majority of languages are spoken in egalitarian societies, only some of which have recently acquired independent nationhood.

12.5 Further parameters in noun categorization

Value, importance, respect, endearment and affection—or lack thereof—can be reflected in noun categorization devices. Value is a relatively common semantic parameter in classifiers in POSSESSIVE CONSTRUCTIONS in Oceanic languages. Raga has a special classifier for valuable objects (example 7.10). The general possessive classifier *no-* in Mavea, an Oceanic language from Vanuatu, refers to valuable possessions (see Guérin 2011: 91, and example 7.23). Generalization 12.4 summarizes the conditions for the parameter of ‘value’ for classifiers in possessive constructions.

Generalization 12.4 Value as a parameter of classifiers in possessive constructions

If a language has a possessive classifier for valuable objects, it will also have possessive classifiers reflecting ways of handling the referent and its function (eating, drinking, etc.).

Negative value can find its expression in a NOUN CLASSIFIER system. The choice of most noun classifiers in Sochiapan Chinantec is based on shape and dimensionality, with one classifier for disused, old, and silly objects. A NUMERAL CLASSIFIER may refer to something negative, as we saw in Korean classifiers for despicable people (Table 5.4, p. 110).⁷ Additional overtones of value in human categorization can be achieved by extending shape- and dimensionality-based classifiers for inanimate items to humans—as if downgrading them to inanimates. In Assamese, the classifier *-dāl* categorizes long rigid or flexible (one-dimensional) objects and animals which are rope-like in shape, including snakes and worms. When applied to human males, this classifier has distinctly abusive overtones, expressing contempt. The classifier *-tā* applies to three-dimensional entities of round shape, especially fruit and vegetables, and other round-shaped objects. With humans it signals their low social status (Borah 2013: 306).

Changing noun class prefixes in Swahili may have a similar effect. Example 3.16 in Chapter 3 showed how using an agreement marker of class 5 (rather than human class 1) with a human noun is a way of stressing something unusual about that person. A conventional way of referring to

⁷ See Mihás (2019: 52) on pejorative overtones of the classifier *-peta* ‘flattened and flaccid fruit and a hanging pouch; useless things’ in Alto Perené, a multiple classifier language.

an old person is *m-zee*, with the human noun class prefix. If the root *-zee* is used with the class 7 prefix *ki-* (used for inanimates), the resulting form *ki-zee* will mean ‘scruffy old person’ (Denny 1976: 123–4; Dixon 1982: 166).

There are no gender (or noun class) systems with a term whose meaning is restricted to just value, ‘good’ or ‘bad’. The choice of gender can, however, have correlations with value and affection, and also importance (or lack thereof). This is especially salient in languages with variable—rather than fixed—gender assignment. Positive overtones are associated with the masculine gender in Lokono (Pet 1987: 26–7, Aikhenvald 2012a: 283–5). In contrast, in Palikur, feminine gender is associated with positive value, while masculine goes together with negative feelings. The rat is assigned masculine gender because it is looked upon as dirty and bad. But a cute little baby rat would be referred to as feminine (Aikhenvald and Green 2011: 403).

Value overtones of gender can be seen in gender reversals. In many languages with two-gender systems, referring to a man with feminine gender is derogatory, belittling, and patronizing. This is a feature of Amharic (Pankhurst 1992: 169). In contrast, in Cantabrian Spanish, gender reversal, from feminine to masculine, has pejorative and demeaning overtones. The term *oveju* ‘male sheep’ can refer to a particularly meagre and substandard animal (Holmquist 1991: 60; see also Aikhenvald 2016: 36–47).

The neuter gender in Bulgarian includes mostly inanimates. It may have overtones of joking endearment if applied to humans. Mladenova (2001: 37–9) refers to these as ‘value-laden neuters’. Swiss German has three genders. Changing feminine and masculine gender of names for relatives and also for personal names to neuter imparts overtones of familiarity and endearment for names for relatives and also personal names in Swiss German. One can only say *liebes Teddy* (dear:neuter.sg Teddy) ‘dear Teddy’ (rather than standard *lieber Teddy* (dear:masc.sg Teddy)) to someone who is particularly valued and close to the speaker (Christen 1998). These connotations may be historically related to the neuter gender choice for diminutives in German (see a comprehensive discussion in Baumgartner and Christen 2017, and in Nübling 2017, on other German varieties) and reminiscent of the value of endearment typical for diminutives in general.

Further meanings of noun categorization may include location (see Louwrens et al. 1995, on locative noun classes in Northern Sotho, and Guérois 2016). Garo, a Tibeto-Burman language of India, has a numeral classifier *dam-* for places and things in fixed locations, including fields and houses (Burling 2004).

A classifier and a noun it categorizes can be in a GENERIC-SPECIFIC relation. Then, a classifier as a superordinate generic term will delineate a class of referents to which the entity belongs as a subordinate member. The differentiation between superordinate level of noun categorization (e.g. animal or plant as a class, a vehicle in general, etc.) and subordinate level (a particular plant or animal, or a car as a vehicle) is basic to this relationship. Generic terms usually cover inherent nature and functional categories. Generic-specific relations are typical for NOUN CLASSIFIERS, classifiers in POSSESSIVE CONSTRUCTIONS, and GENERIC VERBAL CLASSIFIERS—see §6.1, §7.1, and §8.1.2. Generic-specific relations generally have little relevance in the choice of genders (or noun classes), deictic or locative classifiers. However, as we saw in Table 2.3 (§2.3.2, p. 43), gender choice in German partly correlates with the superordinate versus subordinate meanings of nouns. Generic-specific relations do not apply in multiple classifier systems (see §11.6 (B)). A selection of numeral classifiers which display superordinate-subordinate relation between each other in Japanese is given in Table 12.5.

Table 12.5 Some superordinate-subordinate pairs in Japanese numeral classifiers

Superordinate	Subordinate
1. <i>-dai</i> ‘vehicles, furniture, machines’	<i>-ki</i> ‘air vehicles’, <i>ryo</i> ‘train cars’, <i>taku</i> ‘tables, desks’
2. <i>-hen</i> ‘literary work’	<i>-ku</i> ‘haiku and other short poems’, <i>shu</i> ‘poems of other kinds’
3. <i>-heya</i> ‘rooms’	<i>-shitsu</i> ‘rooms’, <i>-ma</i> ‘Japanese style rooms’
5. <i>-hon</i> ‘long, thin objects’	<i>-furi</i> ‘swords’

In each case, ‘the more general term [can] be used for all members of the category denoted by a more specific term’ (Downing 1996: 126).

12.6 Specific and unique classifiers

Classifiers which subsume a narrow set of entities are called ‘specific classifiers’. Those used with just one referent are termed ‘unique classifiers’. The presence of specific and unique classifiers in a language is contingent on the presence of shape, dimensionality, and other physical properties in the classifier system. That is, no classifier system will have just specific or unique classifiers without classifiers based on shape, as shown in Generalization 12.5. This applies to any type of classifiers.

Generalization 12.5 Prerequisites for specific or unique classifiers in any system

The presence of specific or unique classifiers in any system is contingent on the presence of classifiers based on shape and dimensionality and other physical properties.

For instance, Upper Necaxa Totonac has over thirty numeral classifiers whose choice involves dimensionality, shape, consistency, composition, arrangement, material make-up, and function of the referent. A selection was given in Table 12.1 (p. 223). Further, specific classifiers include *a'kpu*- ‘crown of head’, *la'hape'h*- ‘flat side of an object’, and *la':hapú:t* ‘geometrical forms, such as a triangle or a pyramid’. One classifier, *he:stí*-, is restricted to just ‘cloves of garlic’ (García-Vega 2018: 366–7).

Of 154 numeral classifiers in Korean, a few have specific referents. A selection is in Table 12.6 (Lee 2014: 55–6). Most of these classifiers are of Sino-Korean origin (see §5.4).

Table 12.6 Specific numeral classifiers in Korean: A selection

Classifier	Referent(s) covered
<i>swu</i>	poems
<i>kok</i>	songs
<i>cal</i>	characters
<i>sek</i>	seats
<i>chep</i>	paper-wrapped packets of herb medicine
<i>mayl</i>	sheets of (manuscript) paper
<i>hwanl</i>	ball-shaped, small, traditional medicine

These specific classifiers vary in their semantic scope. The classifier *chep* represents just one kind of referent—packs of traditional herb medicine. The classifier *mayl* refers exclusively to manuscript paper designed for writing in Korean characters. Both can be considered ‘unique’. The classifier *cal* refers to Korean characters, or to ‘words’, when used with reference to English.

Specific classifiers tend to cover items of material culture, food and environment. Out of twenty-four numeral classifiers in Halkomelem, a Salish language, four reflect key items of material culture—‘house’, ‘garment’, ‘paddle’,

and ‘canoe’ (Gerdts and Hinkson 2004: 258, and §15.4.2). Terms for culturally important items and salient distinctions are a feature of classifiers in possessive constructions. Possessive classifiers in Mussau-Emira include a term for watercraft—an important object for an island culture (Brownie and Brownie 2007). The presence of a specific possessive classifier for ‘land’ in Pohnpeian is likely to be associated with the importance of land ownership (Keating 1997). Possessive classifiers with unique referent in Panare, a Carib language of Venezuela, include ‘hammock’, ‘hatchet’, ‘blowgun’, and ‘swidden garden’ (Payne and Payne 2013: 83–4). All of these objects and notions are typical of Amazonian societies and their slash-and-burn agricultural practices.

Specific classifiers with restricted meanings are a feature of many multiple classifier languages. Mandarin Chinese has at least a hundred and twenty numeral classifiers in current use. Of the twenty-two core classifiers identified by Erbaugh (1986) as the most frequent in day-to-day use, two-thirds categorize referents in terms of general categories of shape and dimensionality, including *tīao* ‘extension, classifier for long things’ and *zhāng* ‘classifier for flat things, such as paper’. About a third have ‘only a single common referent’ and ‘focus on culturally valued items’, including *běn* for books, *shěu* for verse, *děng* for hats, and *pě* for horses—as Erbaugh (1986: 403–4) put it, things ‘highly valued throughout Chinese history’.

Classifiers assigned to a narrow semantic range of referents, or even just to one referent, do not classify anything. They highlight social and cultural practices, offering insights into the dynamics of how people live and what they value—more on this in §14.1.2. Specific terms with restricted application have not been attested for verbal, locative, or deictic classifiers, and are atypical for gender systems.⁸ The absence of specific and unique terms in verbal classifiers may lie in their link to verbs referring to generalized actions and event types.

Classifier categories are semantically heterogenous. A term in noun categorization may optionally subsume other, more specialized ones, if a speaker does not wish to focus on particular features of a referent. This is what we turn to now.

⁸ Just occasionally does a large gender (or noun class) system have a term applicable to a limited set of members or a unique item. Babungu, a Bantu language with c. twenty noun classes, has a noun class restricted to three terms—‘liver’, ‘fishing net’, and ‘a kind of weed with thorns called “leopard’s teeth”’. Another small noun class consists just of four abstract nouns—‘fashion’, ‘tradition’, ‘origin’, and ‘family’ (Schaub 1985: 183–4). Unique classifiers for pitpit (edible grass) and betelnut in Waris (Table 8.5, p. 166) are an exception, possibly due to the origin of these classifiers in verbs with specific meanings.

12.7 Residue, default, and unspecified referents

The existing pool of noun categorization devices may not cover every entity. One term will then cover the unclassifiable residue of items. Or one classifier may substitute others, under specified conditions. Alternatively, a classifier can refer to an unspecified entity whose properties are not known. Within classifier systems, these three options are often subsumed under the umbrella concept of a ‘general’ classifier.⁹ A summary is in Box 12.1.

Box 12.1 The three facets of a ‘general’ classifier

- I. RESIDUE TERM: referents outside the semantic domains covered by established classifiers.
- II. DEFAULT TERM: a term with general semantics which can replace specialized classifiers.
- III. UNSPECIFIED REFERENT: a term used to refer to an entity whose properties are not known.

A term with either of the three functions in Box 12.1, can be considered functionally unmarked (see §4.2.1). We now turn to the meanings of a ‘general’ classifier.

12.7.1 The meanings of a ‘general’ classifier

A general classifier may be used as a residue option. In Upper Necaxa Totonac, the general NUMERAL CLASSIFIER *a'h-* is used for entities which do not fit into other classifier categories, including abstract nouns and artefacts (such as baskets) (García-Vega 2018: 349–51). The numeral classifier *-ji* in nDrapa (Huang 2022) covers a wide variety of referents not covered by other classifier terms, including ordinary humans. Residue CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS are often called markers of ‘generic possession’ (see example 7.3, for Tamambo, and 7.7 for Maricopa). A residue term is a feature of some systems of CLASSIFICATORY VERBS. In Koyukon, the verb with the meaning of ‘handling three-dimensional objects’ subsumes those entities to which no other classificatory verb is applicable (see Henry and Henry 1965 and Denny 1979a: 99).

⁹ See Zubin and Shimojo (1993), and further discussion in Aikhenvald (2003a: 335–7).

In Navajo, the verb for handling three-dimensional objects subsumes entities not covered by other classificatory verbs (Young and Morgan 1980).

A VERBAL CLASSIFIER may combine the function of (i) a residue term with that of (iii) unspecified referent. In Cherokee, items which ‘do not readily fit’ into the scope of one of the five verbal classifiers require the classifier for ‘compact’ items (Blankenship 1997: 93–5). This classifier is also used in content interrogatives questioning the identity of the yet unknown object in an unspecified referent function. The verb stem for handling flat flexible objects is used for unspecified referents in Chipewyan (Carter 1976).

Having one general classifier in all of these three functions appears to be uncommon for NOUN CLASSIFIER systems. If an entity does not fall within the scope of the existing terms, it may be simply left unclassified. This is the case in most Australian languages and also in Jacaltec (Craig 1986b: 276).

Nêlêmwa and Zuanga have separate systems of numeral classifiers and of classifiers in possessive constructions (along the lines of B, under §10.6.1). A major difference between the two is the presence of a general numeral classifier with residue function. Classifiers in possessive constructions do not offer such an option: the items to which the existing terms do not apply are left unclassified (as pointed out by Bril 2014: 171).

The general classifier in Mandarin Chinese, a multiple classifier language, has all the three functions. As a residue option, it ‘serves as a fallback’ for those nouns which do not have a conventionally assigned classifier. These include toys, wheel, drawers, many abstract nouns (including ‘problem’, ‘idea’, and ‘revolution’) and large or unique objects such as ‘city’ and ‘sun’ (Erbaugh and Yang 2006: 179). The same classifier may be used for unspecified referents and as a default option. It can replace a more specific classifier which will be used at the first mention of an entity. We return to this in §13.5.2.

A general classifier may be limited to inanimates only, as is the case for *pwa-* in Nêlêmwa and *po-* in Zuanga (Bril 2014: 177–8, 196). The classifier *kay* in Korean is used as a residue option for inanimates which are not classifiable otherwise, and also as a default option (Lee 2014: 62–3; see also Zubin and Shimojo 1993: 496, and Shimojo 1997 on two general classifiers in Japanese, *-ko* and *-tsu*).

In all known instances, general numeral classifiers belong to the sortal type. Mensural classifiers whose meanings are centred on arrangements of the referents do not have a residue, a default, or an unspecified referent function. As Matisoff (1973: 91–2) put it, ‘the default “all-purpose” classifier *mà* in Lahu can substitute more specific classifiers (but not measure and group terms)’. The special status of the general classifier in its various meanings is corroborated

by its role in child language acquisition and language dissolution: we turn to this in §17.2.1 and §17.2.4.

12.7.2 ‘Unclassifiables’: Further options for residue terms

Languages may deal with entities which fall outside the conventional classifiers in yet another way. A residue option (Box 12.1) may consist in using the noun itself in the classifier slot. This ‘repeater’ (or ‘autoclassifier’) technique is a feature of many languages of Mainland Southeast Asia (as mentioned in §5.1.6 and example 5.25 from Lao) and in Amazonian languages (including Murui, Tukano, and Tariana). An example from Thai is in 12.1. The entity ‘room’ cannot be subsumed under any existing classifier. To say ‘three rooms’, one has to repeat the noun *hôn* ‘room’ in the classifier slot (Hundius and Kölver 1983: 182–3; see also Juntanamalaga 1988: 317).

12.1	<i>hôn</i>	<i>săam</i>	<i>hôn</i>	<i>Thai: repeaters</i>
	room	three	CL.REP:ROOM	
	‘three rooms’			

Repeaters as a classificatory technique are used in those languages which have numeral classifiers and those with classifiers in possessive constructions, as core types (as in Truquese, based on Benton 1968). They have not been attested in those languages which have only noun classifiers or verbal classifiers (nor deictic nor locative classifiers), as core types. Repeaters as a residue option are not uncommon in multiple classifier systems (including those in Amazonian, including Murui, Tukano, and Tariana (see Aikhenvald 2012a: 395–8, and §11.5, II, and example 11.24). The use of nouns as repeaters makes it hard to say how many classifiers a language has. The inventory of items in the classifier slot is open, or almost so.¹⁰

In many languages nouns which denote abstract concepts, units of time, colours, social units, and geographical areas are often used without any classifier. In Japanese, abstract nouns can be counted with the general classifier *tsu* in its residue function, or they can be ‘simply appended’ to the number words, e.g. *ni-genri* ‘two-principles’ (Downing 1996: 73). Unclassified objects in Vietnamese include nouns denoting substances, colour, smell, tastes, noise,

¹⁰ There may be limits on referents used as repeaters. In Murui, they can be used with animate referent, but not with humans. In Tariana and the neighbouring Tukanoan languages, repeaters do not apply to humans or to animates (Wojtylak 2021a, Aikhenvald 2003b).

time units, geographical regions and areas, or administrative and social units. Then, omission of a classifier can be considered a residue option (Goral 1978: 33, Nguyen 1957: 131–2, Löbel 2000: 294–8, Daley 1996: 136).¹¹

12.7.3 Residue, default, and unspecified referents in gender systems

In numerous—albeit not all—classifier systems, there is an option of leaving an item unclassified. Gender systems never offer this option. Every noun in a language has to be assigned to a gender (or noun class): this was mentioned in Box 2.1 in Chapter 2 (p. 28), as one of the definitional properties of gender. As we saw in §4.2.2, one gender can be used in more contexts than others, as a functionally unmarked option. A functionally unmarked gender will cover all, or some, of the general functions stated in Box 12.1. A default gender may be used with generic or indefinite controllers of agreement, in the unspecified referent function (as we saw in §4.2.2). Of the two genders in Jarawara and Paumari, the feminine gender subsumes unspecified referents and is used as a default option (see §4.1.4). Feminine gender in Manambu has unspecified and default referent function for non-humans (Aikhenvald 2008). Gender resolution and the gender of mixed groups may offer an additional test for default option, as we saw in example 4.21, for Hebrew, and in examples 4.22–4.23 for Haya.

Meanings of linguistic genders reflect the social aspects of social genders—feminine and masculine. A default choice within a gender system may carry with it certain connotations of unfair preferential use of one gendered form over the other, as a reflection of the dominance of a social gender. We return to this in §14.1.1 and §16.3.

12.8 Semantic complexity in noun categorization

A gender or a classifier can be transparent in its meaning. For instance, genders in Malto and a few other Dravidian languages, numeral classifiers in Akatek, noun classifiers in Minangkabau and numerous Australian languages, and Papuan classificatory existential verbs offer straightforward semantically based options (discussed in §2.2.1). Or the choice of a gender or of a classifier may be opaque and seem arbitrary—a few examples were given in §2.2.2 and §2.2.3, for gender and noun class systems, and in Chapter 5,

¹¹ See also Sneddon (1996: 136) for classifier omission in Indonesian.

for numeral classifiers. The seeming heterogeneity of each device may be explained through semantic transfers and extensions, involving metaphors, metonymy, and semantic chaining (many of which are specific to each cultural environment).

At first sight, the composition of each of the four genders in Dyirbal, featured in Table 2.1 (p. 32) in §2.2.2, is impenetrable. We seem to be faced with a random selection of items in each (perhaps with the exception of Gender III, limited to edible plants and honey). A closer look reveals the presence of four basic concepts behind each, and three general principles of extension determining gender membership of most referents. The principles apply to all other noun categorization devices.

MYTHOLOGICAL ASSOCIATION, or MYTH-AND-BELIEF PRINCIPLE states that if a referent of a noun has a characteristic X but is associated with a property Y through belief or legend, it will be associated with the gender based on property Y. Across mythological traditions of New Guinea, in the days when animals were human, cassowary and a bird of paradise were women. This is why in Manambu, Yalaku, and many other languages of the region, they are assigned to the feminine gender (as mentioned in §2.2.2). In Yidiñ, sugar was referred to as *mayi gulgi* (NOUN.CL:NONFLESH.FOOD SAND), literally, edible sand, based on its similarities with sand (see Dixon 1977, 2015).

If an entity is perceived to have a PHYSICAL OR FUNCTIONAL ASSOCIATION with a characteristic feature associated with a particular gender or classifier, this may be reflected in the gender of that entity. The noun classifier for ‘rocks’ in Jacaltec subsumes objects similar to rocks in their consistency, including ice and hail, and also a few ‘rock-like’ items introduced by Spanish colonizers, including glass and bottle (Craig 1986c: 175–6; further similar examples from Mixtec are in de León 1987: 159–90).

If a set of entities covered by a gender or a classifier shares an IMPORTANT PROPERTY, the set can be extended to include referents which share this property. Important property may involve physical association and also function. The classifier *khan* in Thai subsumes spoons, umbrellas, bicycles, motorcycles, trucks, trains, buses, and other vehicles. Originally, *khan* was the classifier for referents with long handles, such as ladles, umbrellas, traditional musical instruments, and rikshas (introduced into Thailand in 1871). The connection between items with long handles and vehicles stems from rickshaws. The functional association was further extended to bicycle—another means of transport with salient long handles and the first Western vehicle to be introduced to Thailand. Further terms for vehicles—including cars, motorcycles, and tanks—followed suit, and were assigned the same classifier *khan* based on

shared function as an important property. As a consequence, at present the classifier *khan* covers two types of objects—(a) objects and implements with handles like forks, umbrellas, and spoons, and (b) vehicles of all sorts. This is shown in Diagram 12.3 (Carpenter 1987: 47).

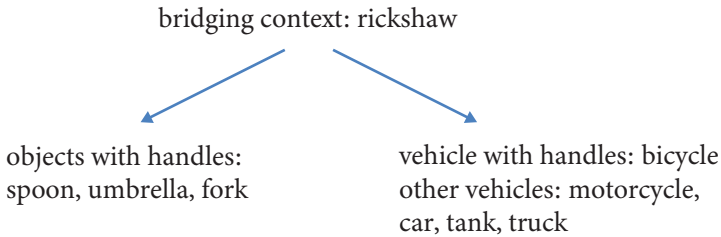


Diagram 12.3 Schematic structure of the semantic scope of the classifier *khan* in Thai

A rickshaw is thought to have been the original item which set off a functional extension of *khan* first to bicycles and then to other vehicles. A rickshaw constitutes *bridging context* between the two semantic sets, (a) and (b). The composition of the classifier *khan* has changed over the past century due to technological innovations. We return to the ways in which noun categorization devices reflect social environment and change in §14.1.2.

The semantic range of a classifier can be viewed as a network, or a chain, of transfers from a more central to a more peripheral one on the basis of important properties—especially shape and function, and physical and functional association (see Borah 2013: 307–9, on semantic extensions of numeral classifiers in Assamese). But to get an understanding of important property and association in the network of the meanings of classifiers, one needs to have a grasp of the conventionalized world-view of the speakers. In Becker's (1975: 118) words, 'unless one knows that the traditional Burmese pictorial map of the cosmos has man located on an island, from the center of which flows a river in a spiral course to the sea, one may question why rivers and oceans are classified here along with arrows and needles, which move in circular orbits'.

The classifier *tua* in Thai, a multiple classifier language, subsumes a wide and seemingly disparate variety of entities—from animals to clothing and letters of the alphabet, based on an analogy with the human body, and now also to university courses. The directionality of multiple extensions, from the original

reference to the body of an animal (or a human), partly reflects the historically attested development of this form over the past centuries (described by Carpenter 1987: 46 and Yuttapongtada 2012).¹²

A historically documented bridging context helps connect what looks like widely different meanings, as we saw for the classifier *khan* in Thai. In the instance of classifier *lem* in Thai, cultural change—and partial obsolescence of the erstwhile tradition—appear to have almost ‘erased’ the link between seemingly disparate objects. The classifier *lem* currently categorizes

- (a) long, sharp things such as knives, pins, needles, and also candles, and
- (b) bound printed matter—books and magazines.

What do these two groups of items have in common? As Carpenter (1987: 47) put it, ‘the missing link is the traditional Thai book which was written on long strips of palm fiber, shaped much like a knife blade.’ This is shown in Diagram 12.4.

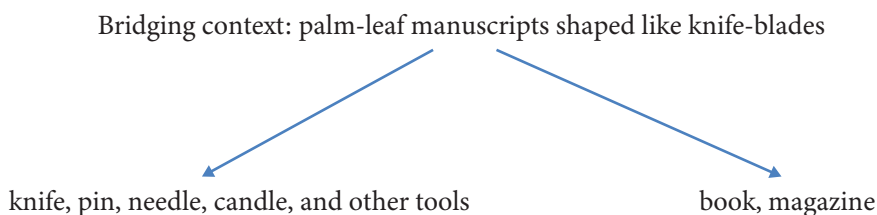


Diagram 12.4 The meanings of the classifier *lem* in Thai

The extension from long, sharp things to printed matter is based on the shape of traditional Thai manuscripts. Knowledge of Thai culture and the make-up of traditional manuscripts is crucial for making sense of the two groups of meanings of this classifier and connecting them.

Many a linguist has complained about how arbitrary and opaque noun categorization devices are. Scholars of different backgrounds have been treating Thai numeral classifiers in diametrically opposed ways. The ‘essentially arbitrary nature’ of classifier-noun relationship in Thai was stressed by numerous Western scholars, DeLancey (1986) among them. In contrast, Thai linguists took the opposite direction—presenting ‘the semantically motivated aspects of the Thai classifier system’ (using Carpenter’s 1987: 51 words). What may

¹² See Jarkey and Komatsu (2019: 262) on various approaches to extended meanings of classifiers in Japanese, and Inoue (2000: 234), Lakoff (1986: 25), Matsumoto (1993: 677), and Downing (1996: 100) on the semantic networks involved in the classifier *hon*; Rosch (1975a, b) for the notion of prototype; Rushforth (1991: 261) on semantic extensions of classificatory verbs in Navajo.

look an ‘arbitrary choice’ to an outsider may well reflect the limitations of their knowledge, and not a fact about the system. But if the historical information, and thus the bridging context, are no longer accessible, an explanation will remain wanting.

12.9 To conclude: The meanings of gender and classifiers

In their meanings, all noun categorization devices are heterogenous, non-hierarchically organized systems based both on universal and culture-specific parameters. They go beyond ‘the convenient fiction of the homogenous lexical category bounded by a set of features shared by all its members’ (Downing 1996: 119). Some of the classifier categories ‘contain members of different statuses, included on the basis of different semantic rationales’. The ways these parameters work for gender and for classifiers correlate with cognitive mechanisms and socio-cultural environment—see §§14.1–14.2.

Gender and classifiers of each type differ in their preferred semantic parameters. These are summarized in Table 12.7. Basic meanings are distinguished

Table 12.7 Preferred semantic parameters in noun categorization devices

Device	Basic	Contingent on other features	Generic-specific
gender	animacy, humanness	physical properties value	no
numeral classifiers	animacy, humanness physical properties	arrangement, material make-up, value, unique terms	rare
noun classifiers	social status, functional properties, nature	physical properties, material make-up, unique terms	yes
verbal classifiers	physical properties	rarely animacy, function	yes
classifiers in possessive constructions	functional properties including social functions physical properties	inherent nature, animacy value	yes
locative classifiers	physical properties	animacy	no
deictic classifiers	directionality and orientation	physical properties, animacy	no

from those which are contingent on them, in agreement with the generalizations in this chapter.

Universal parameters represented in most systems are animacy, humanness and physical properties, including dimensionality, shape, consistency, and composition. The semantic range of a gender or a classifier can be presented in the form of a network of extensions, from a prototypical referent to a more marginal one. Creating links between what looks like a fairly heterogeneous set of items subsumed under a classifier may involve a substantial amount of socio-cultural knowledge and history. Noun categorization devices as a repository of knowledge are among the topics of our next chapter.

What are gender and classifiers good for?

Gender and classifiers have multiple functions and do multiple jobs across semantics, syntax, and discourse.¹ One of their functions is to refine the meanings of a polysemous noun (§13.1). Gender and classifiers help expand the lexicon, and may have the meanings expressed by adjectives in other languages (§13.2). They may individuate the referent (§13.3) and mark it as specific or definite (§13.4). Gender and classifiers are instrumental in organizing a narrative and highlighting the status of each participant (§13.5). They play a role in anaphoric reference (§13.6). A stand-alone classifier will be enough to express what the speaker has to say if the noun itself may be known from the context and does not have to be mentioned (§13.7). The final section contains a brief summary.

13.1 Refining meanings and disambiguating referents

Gender and classifiers help refine the meanings of nouns and disambiguate polysemous or vague referents. A small dog in example 5.19, from Japanese, is distinguished from one large dog in example 5.20 by using different classifiers: *-hiki* for a small animate being and *-too* for a large animate. Different classifiers highlight special features of an object.

If we choose to talk about a round balloon in Japanese, *fuusen* ‘balloon’ will be used with the numeral classifier *-ko* ‘small three-dimensional items.’ If a balloon is cylindrical in shape, it will be referred to with the numeral classifier *-hon* for long and thin objects. Using the same noun with the classifier *-mai* for thin flat things will indicate that the balloon is not inflated. Salmon as live fish will require the classifier *-hiki*. Processed salmon will be categorized with the classifier *-hon* (as a long and thin item: Jarkey and Komatsu 2019: 273).

¹ Further discussion of the functions of classifiers and gender is in Aikhenvald (2003a: 307–36, 2017, 2019a and references there, and Huang and Ahrens 2003, page Allan 1977: 293). The functions listed in Aikhenvald (2003a: 307–36) were reiterated in Contini-Morava and Kilarski (2013). Further evidence of the functional load and communicative importance of gender and also classifiers comes from recent literature on the role of gender processing including Sá-Leite et al. (2019), and also Eng and Chen (2022), on the role of classifiers in improving word retrieval for patients with aphasia.

A river in Burmese can be viewed from different perspectives depending on the facet one wishes to highlight. Each way is reflected in a numeral classifier, as we see in Table 13.1 (with the number word ‘one’: Becker 1975: 113).

Table 13.1 Various aspects of a ‘river’ in Burmese reflected in numeral classifiers

Noun ‘one’	Classifier	Translation
<i>myi?</i> <i>tə</i>	<i>ya?</i>	‘river one place’ (e.g. destination for a picnic)
<i>myi?</i> <i>tə</i>	<i>tan</i>	‘river one line’ (e.g. on a map)
<i>myi?</i> <i>tə</i>	<i>hmwa</i>	‘river one section’ (e.g. a fishing area)
<i>myi?</i> <i>tə</i>	<i>‘sin</i>	‘river one distant arc’ (e.g. a path to the sea)
<i>myi?</i> <i>tə</i>	<i>thwə</i>	‘river one connection’ (e.g. tying two villages)
<i>myi?</i> <i>tə</i>	<i>‘pa</i>	‘river one sacred object’ (e.g. in mythology)
<i>myi?</i> <i>tə</i>	<i>khu’</i>	‘river one conceptual unit’ (e.g. in a discussion of rivers in general)
<i>myi?</i> <i>tə</i>	<i>myi?</i>	‘river one river’ (the unmarked case)

If one chooses to talk about a river, one will use the repeater, *myi?*, in the first line of Table 13.1. Specific classifiers—‘place’, ‘line’, ‘section’, ‘arc’, ‘connections’, ‘sacred object’, and ‘conceptual unit’—help focus on various aspects of the same entity. Along similar lines, anything to do with water, or a waterway, in Tariana is referred to with the polysemous noun *uni* ‘water, waterway’. Classifiers help distinguish a lake, *uni hanu-nai* (water big-NOUN.CLASSIFIER:LAKE) ‘big lake’, from a bay, *uni hanu-dawa* (water big-CL:CORNER) ‘big bay’ (Aikhenvald 2019a). Classifiers do not provide information additional to the noun itself. They help distinguish various facets of meaning in a concise manner.

Similarly, noun classifiers in Yidiñ highlight different ways of viewing an entity. An owl is viewed as a bird in example 6.1 and as edible meat in 6.2. In Ngan.gityemerri, a stick can be used for fighting, for digging, or for making fire. Each of these functions is differentiated with noun classifiers (Reid 1997: 178), noun classifiers help highlight what *yawurr* ‘stick’ can be used for, as we see in 13.1 (a list of noun classifiers is in Table 10.1, p. 188).

13.1	syiri	<i>yawurr</i>	<i>Ngan.gityemerri</i>
	NOUN.CL:STRIKERS	stick	
		‘stick for fighting’	
	kini	<i>yawurr</i>	
	NOUN.CL:DIGGING.STICK	stick	
		‘stick for digging’	
	yenggi	<i>yawurr</i>	
	NOUN.CL:FIRE	stick	
		‘stick for burning’	

phau ntawv
 NOUN.CL:PILE paper/writing
 ‘book’

tsiaj ntawv
 NOUN.CL:ANIMAL paper/writing
 ‘letters of the alphabet’

Similarly, gender helps narrow down the meaning of a polysemous noun. In Mayali, *kukku* can refer to a drink, or to a body of water. Gender agreement tells us what is being talked about. In 13.5, *kukku* triggers agreement in gender III (which covers non-protein foods and drinks), and refers to ‘water as a drink.’³

13.5 yun yi-bongu-n **man-ih** kukku *Mayali*
 don’t 2-drink-NONPAST III-this:here water
 ‘Don’t drink this water!’

In 13.6, ‘water’ is seen as part of the landscape. It then triggers agreement in Gender IV, which includes landscape items.

13.6 kun-ekke kukku **kun-bo-gimuk** *Mayali*
 IV-that water IV-liquid-big
 ‘that (body of) water is big’

Different genders typically indicate whether one is talking about a woman or a man. This is especially relevant for epicene nouns which have one form for feminine and masculine. In French, *enfant* ‘child’ can be male or female. The agreement forms of the article come to our aid: *un enfant* (ART.INDEF.MASC.SG child) will refer to a male child, and *une enfant* (ART.INDEF.FEM.SG child) to a female.

Creative manipulation of any noun categorization device may achieve further effects. In Jacaltec, one can express additional positive or negative feelings towards someone by referring to them with an unexpected choice of a

³ See Evans (1997: 133) on Mayali (and §3.1.4 and §4.2.2); see Aikhenvald (2016: 53–8) and references there on further examples on how gender differentiates the meanings of nouns; further examples from Dyirbal are in Dixon (2002: 69–72).

noun classifier. An elderly or an eminent person will be expected to be referred to with the classifier *ya7* ‘respected human’ (see Table 6.1, p. 130). Referring to them as either *ix* ‘female non-kin’ or *naj* ‘male non-kin’ is a form of insult. And if someone is expected to be referred to as *ix* or *naj*, using the classifier *ya7* to them will sound as a compliment (Craig 1986c: 270, 290).

Among the Arrernte, artful use of noun classifiers may produce a humorous effect (Wilkins 2000: 151). The term for beer *urlkerrpe*, or *piye* (from English *beer*) (an innovation brought into the communities by colonial invaders) usually occurs with the function noun classifier *ngkwarle* ‘sweet honey-like food/drink’. On one occasion, an Arrernte man who had been quite ill had been warned by doctors not to drink alcohol. When caught drinking beer, he playfully referred to it as *awelye urlkerrpe* (NOUN.CL:TRADITIONAL.MEDICINE beer), ‘a medicinal beer’, as if he needed beer as medicine, which brought about laughter. On another occasion, light beer was disdainfully referred to as *kwatye piye* (NOUN.CL:WATER beer) ‘water-like beer’—to the amusement of the crowd.

Creative uses of gender help make a story more expressive. Algonquian languages are known for their animate and inanimate genders, whose choice is only partially transparent (Craik 1982, Dahlstrom 1995, Goddard 2002). As mentioned under B in §2.2.3 (p. 35), the animate gender can be associated with spiritual power and agency. This can be seen in gender shifts in traditional narratives. In Fox, a stone (*aseny-*) is generally inanimate. But in one traditional story, a man addresses a prayer to a stone using an animate agreement marker on the verb for it.

A gender can be projected onto beliefs, superstitions, and anthropomorphized imagery, especially in poetry. In the famous poem by a German classic, Heinrich Heine, a *Fichtenbaum* ‘pine-tree (masculine)’ is pining for a *Palme* ‘palm-tree (feminine)’, and there is an obvious romantic connotation to this: a lonely pine-tree-man is longing for a lonely and sad palm-tree-woman. These connotations are lost in the English translation (see more on this, and further metaphors of gender across the world’s languages in Aikhenvald 2016: 121–6; and examples of expression of value through variable gender choice in §12.5).⁴

⁴ Also see Morrison (2018) on linguistic creativity in the use of noun classes in Bantu languages.

13.2 Gender, classifiers, and the lexicon

Gender and classifiers belong to the domain of grammar. Overt markers of gender can derive new words, as we saw in §3.2.2.⁵ Similar functions for affixed noun classifiers were mentioned in §6.1.1 (see examples 6.5–6.6 from Ersu). Classifiers with nouns themselves in multiple classifier languages have the same function (as we saw in §11.4, especially examples 11.12–11.14 from Shiwilu and Valenzuela 2019: 84–5), and 11.21 from Murui. The noun *yera* ‘tobacco’ in Murui can combine with at least a dozen classifiers, creating various terms. So, *yera-fo* (tobacco-CL:CAVITY) means ‘tobacco container with a hole’, *yera-ko* (tobacco-CL:COVER) means ‘round tobacco container’, *yera-ji* (tobacco-CL:SMALL.ROUND) refers to tobacco in the form of a small ball, and *yera-rui* (tobacco-CL:DAY) means ‘the day when tobacco is sent out’ (Wojtylak 2019: 184) (similar examples from other Amazonian languages, including Tariana, are in Aikhenvald 2019b).

In numerous multiple classifier languages from north-west Amazonia, classifiers cover notions for which no full nouns are available. To create an independent form with that complex of meanings, a classifier will attach to a pronominal root, or a dummy root, *maka-*, e.g. Tariana *maka-pukwi* (DUMMY.ROOT-CL:RING.LIKE) ‘a ring-like object, a ring’, *maka-nai* (DUMMY.ROOT-CL:LAKE) ‘a lake’, *maka-kuya* (DUMMY.ROOT-CL:EXTENDED.PART.OF.RIVER) ‘an extended part of a river’ (Aikhenvald 2002: 94–5, 2003b: 121). Similarly, Miraña, a Boran language, has no noun meaning ‘hole’. The notion is conveyed by the classifier *-pà:hì* ‘CL:HOLE’. The combination of the classifier with the bound pronominal root *tɛ* ‘-’ is the only way of referring to a hole, *tɛ* *-pà:hì* ‘PRON.ROOT-CL:HOLE’ ‘a hole’ (Seifart 2004: 240–1).⁶

Verbal classifiers (as in Innu) and classifiers on verbs in multiple classifier languages may also contribute to expanding verbal lexicon. They can form lexicalized combinations with a verbal root. Combinations of a verb stem with a verbal classifier referring to the typical object or a typical location may come to

⁵ Genders and classifiers form paradigms (see Chapter 1). Interactions between gender and classifier and the lexicon do not make them ‘lexical’, just like derivational affixes in European languages are not part of the vocabulary (pace Grinevald 2000 and Seifart 2004: 229); for more on lexicon and grammar, see Dixon (2010a: 47–54), Aikhenvald (2015b: 5–7, 282–7).

⁶ Further examples of how classifiers in combination with anaphoric or dummy roots create new nouns are in Aikhenvald (2004: 113, 2012a: 299–300), also Ramirez (1997a: 327–8, 1997b: 128), on Tukano; Waltz (2007) on Wanano; Miller (1999: 44) on Desano; Wojtylak (2019: 185) on Murui; Quiexalós (1998: 49) on Sikuani (a Guahibo language, from Colombia).

be used so frequently that they gradually become one lexical item (see [Drapeau and Lambert-Brétière 2011](#): 301, and §15.4.4).

Classifiers specify a property of a referent, and thus disambiguate a polysemous term, as we saw in §13.1. They may be translated into a language without classifiers with appropriate adjectives, or with other expressions of physical property. The classifier *-lu* ‘meat, flesh’ in 13.7, from Shiwilu, a language with classifiers in multiple contexts, conveys the fact that the protagonist’s neck is meaty, that is, thick and fleshy ([Valenzuela 2019](#): 89).

13.7 piper ‘-unker-**lu**’

Shiwulu

(be)red-neck-CL:MEAT

‘red thick-necked (man)’

Classifiers convey additional information about the referent, similar to what an adjective would do (see [Dixon 2010b](#): 70–1 on semantic functions of adjectives). In examples 5.19 and 5.20, from Japanese, the classifiers *-hiki* ‘NUM.CL:SMALL.ANIMATE’ and *-too* ‘NUM.CL:LARGE.ANIMATE’ ‘may render superfluous further information indicating shape, size, function, animacy, and so on’ ([Jarkey and Komatsu 2019](#): 273). This alerts us to a semantic overlap between classifiers and some adjectival concepts.

Functional similarity between an adjective and a classifier does not make classifiers into a subtype of adjective. However, detailed shape and form-based specification by classifiers may interact with the composition of the adjective class. In a number of multiple classifier languages, the expression of shape, form, and dimensionality through extensive classifier sets correlates with scarcity, or absence, of adjectives with corresponding meanings. Tariana has numerous classifiers with shape- and form-distinctions (see [Aikhenvald 2003b](#): 89–92). There are no adjectives referring to shape (a small class of adjectives in the language covers size, age, value, and colour). The concept of ‘round’ will be expressed with the classifier *-kwema* ‘CL:ROUND’, and the concept of curvilinear with the classifier *-kha* ‘CL:CURVED’.⁷

A similar correlation between having a relatively small class of adjectives and a large set of noun classes was suggested by [Nurse \(1997](#): 283), for Bantu languages. Due to their variable assignment, noun classes ‘can express a range of semantic modification of the basic reference of a noun’, thus doing the job

⁷ [Aikhenvald \(2019a](#): 18) addresses the correlations between the semantic composition of adjective classes and the presence of classifiers; see also [Valenzuela \(2016, 2019](#): 89–90) on Shiwilu; [Mihás \(2017\)](#) on Kampa languages; [Waltz \(2007\)](#) for Wanano; [Wojtylak \(2021a](#): 101–6) for Murui.

adjectives do in other languages. The fact that Swahili has lost some of the original noun classes may partly explain the fact that it has more adjectives than more conservative Bantu languages. Many new adjectives have been borrowed from Arabic, most of them quite recently. So far, no similar examples have been attested in other languages with large systems of genders (or noun classes).

Semantic membership of the adjective class varies across languages. Concepts of physical properties and human propensity may be expressed through nouns or through verbs, affecting the composition of the adjective class (Dixon 2010b: 100–3). The expression of shape- and form-related concepts through classifiers—rather than through adjectives of physical property—in multiple classifier languages offers a further dimension for the analysis of how adjectival concepts can be expressed. This will have implications for a fine-grained semantic typology of the complex of meanings subsumed under physical property.

13.3 Individuation and unitization

Noun categorization devices help provide a division of entities into units and help individuate the referent. In particular, numeral classifiers help organizing referents into countable units (as we saw in §5.3). In Denny's (1986: 298) words, if 'the noun refers to some kind of mass,' 'the classifier gives it a unit of the mass.' A typical unit of arrangement for 'paper' will be provided by a numeral classifier, as we saw in example 5.26, from Korean.

In many multiple classifier languages from north-west Amazonia, a noun with an inanimate referent refers to an entity in general unless supplied with a classifier. In Tariana *deri* means 'banana' in general. This form cannot be pluralized. A classifier will individuate the referent and make it countable, specifying its shape and dimensionality. In 13.8, the classifier *-pi* 'palm-tree' specifies the noun as referring to a banana palm.

13.8 *deri-pi*

Tariana

banana-CL.PALM.TREE

'banana palm'

In 13.9, the classifier *-phe* 'leaf-like' indicates that we are talking about a banana leaf.

13.9 *deri-phe*

Tariana

banana-CL:LEAF.LIKE

‘banana leaf’

The same classifier will be used on number words, in possessive constructions, modifiers, and verbs. Once accompanied by a classifier, the noun can be pluralized—one can talk about *deri-pi-pe* (banana-CL:PALM.TREE-pl) ‘banana palms’ and *deri-phe-pe* (banana-CL:LEAF.LIKE-pl) ‘banana leaves’. In contrast, **deri-pe* with a plural marker is ungrammatical (see also Aikhenvald 2014).

Unitizing and individuating functions of classifiers are a feature of numerous languages. In 13.10, from Lao, the classifier *too3* ‘CL:ANIMATE’ occurs with the noun ‘fish’ (Enfield 2007: 144–5).

13.10 kuu3 hên3 **too**=paø-duk2

Lao

1sg.BARE see MCL:ANIM=CT.FISH-species

juu1 naj2 kakhuq2

be.at inside bucket

‘I saw (a/the) catfish in the bucket’

The implication is that there is only one fish in the bucket. The classifier is also likely to indicate that the referent in 13.10 is definite (we return to this in §13.4). In 13.11, the noun *paø-duk2* ‘catfish’ occurs without a classifier.

13.11 kuu3 hên3 paø-duk2 juu1 naj2 kakhuq2 Lao

1sg.BARE see CT.FISH-species be.at inside bucket

‘I saw (a) catfish in the bucket’

There is no expectation in 13.11 as to the number of the fish referred to. The fish is likely to be indefinite (see Lu 2012: 155, on similar overtones of the omission of a classifier in Zhuang).

The use of any noun categorization device may correlate with specificity of a referent. This is what we saw in §3.2.1, with examples 3.24–3.25, from Turkana, where the gender prefix is omitted in reference to generic rather than specific items. In Carrier, a prefixed verbal classifier can be omitted with a generic referent (Poser 2005: 144–5; see also §6.3 on discourse functions of noun classifiers). Individuating the referent and focusing on it by means of classifiers is closely linked to their interactions with specificity and definiteness (§13.4), and their role in organizing discourse (§13.5).

13.4 Specificity and definiteness

Definiteness, specificity, and identifiability often account for the use of classifier. We saw in 13.10, from Lao, that a specific referent accompanied by a classifier is likely to be definite (Enfield 2007: 145).⁸ In Sinitic languages with classifiers in multiple contexts, a noun accompanied by a classifier can be interpreted as definite or as indefinite depending on the clausal constituent order. In Cantonese, a noun with a classifier always refers to a specific entity. A CLASSIFIER-NOUN construction can receive a definite or a specific interpretation in both preverbal and postverbal position (Matthews and Yip 1994: 93, Simpson et al. 2011: 169ff, and de Sousa 2015: 177). A noun on its own accompanied by a classifier can be definite or indefinite, but it cannot be generic. The actual interpretation depends on the role of referent in subsequent discourse.⁹

In Mandarin Chinese, a CLASSIFIER-NOUN construction in post-verbal position has to have an indefinite specific referent, which would be expected to be discussed further. In contrast to Cantonese, a classifier-noun construction in Mandarin never occurs before the verb (a Mandarin equivalent of 13.18 from Cantonese would not be grammatical (see Chang 2014 on Mandarin, and Jian 2015 for an overview of Sinitic languages).

In Dimasa, a Bodo-Garo language from the Tibeto-Burman family, the placement of numeral classifier accompanying number words correlates with definiteness of the referent. The order NUM.CL-NUMBER.WORD-NOUN is consistently used with indefinite and newly introduced entities, including those which are mentioned just once and do not recur in the texts (Evans 2022b: 195). The order NOUN NUM.CL-NUMBER.WORD indicates that the referent is definite and is to be deployed in further discourse.

A combination of a classifier with a noun on its own in Vietnamese can occur before or after the verb.¹⁰ The classifier will correlate with specificity and definiteness. Its use correlates with individuation of a referent and their

⁸ Similar examples, from multiple classifier languages, include 11.4 from Zhuang and discussion around this example. See also Simpson et al. (2011: 169ff), Chang (2014) for Mandarin Chinese, and Jiang (2017) for various Sinitic languages, Jaisser (1987: 171) and Bisang (1993) on White Hmong, and Xu (2007) on Chaozhou.

⁹ Similar to Cantonese, in Zhuang, a classifier with a noun on its own can also occur before and after a verb (see 11.4 and 11.11; and Luo 2022).

¹⁰ See Li and Bisang (2012), and Bisang and Quang (2020) on how classifiers with nouns on their own considered exponents of definiteness and specificity across Sinitic languages and in Vietnamese, and also Goral (1978: 14–15), Löbel (2000: 271), and Daley (1996, 1998: 56–60). Li and Bisang (2012) address the possibility of definite and indefinite interpretation of classifier-noun constructions in Cantonese, Wu, and Mandarin depending on the grammatical function and constituent order (see also Erbaugh and Yang 2006: 191 on Shanghai Wu; authors differ in their analysis of definiteness and specificity requirements for classifier-noun combinations across Sinitic. According to de Sousa (2015: 177), preverbal classifier-noun phrases in Cantonese always have a definite interpretation. Matthews and Yip (1994: 93) state that classifier+noun always refer to a specific object (contrary to Li and Bisang 2012: 338–9). A detailed discussion of discourse repercussions of classifier-noun constructions in Mandarin (deemed non-existent by Matthews and Yip 1994: 93) is in Chang (2014), Erbaugh (2002), and Erbaugh and Yang (2006: 187–92).

- 13.15 ni-**mai**=no irogami=o tot-ta *Japanese*
 two-NUM.CL:SHEET=GEN coloured.paper=ACC take-PAST
 ‘[I] took (the) two sheets of coloured paper.’

The difference between 13.14 and 13.15 is reflected in the definite article in the translation in 13.14 and its absence in 13.15.¹¹

Agreement in gender and noun class may also correlate with definiteness or topicality of the noun. In Motuna, gender agreement on the predicate is obligatory only with a definite or topical subject constituent (Onishi 2012). Overt noun class marking on a noun signals its definiteness in Gola, a West Atlantic language (Westermann 1947: 17, Heine 1982: 193).

13.5 Discourse organization and the status of participants

The structure of discourse and the status of the participants—whether mentioned for the first time and then deployed as a topic, and whether salient or not—plays a role in using classifiers and gender—see §13.5.1. An interplay of general and specific classifiers may correlate with the way discourse is structured—see §13.5.2.

13.5.1 Classifiers, gender, and the role of participants in discourse

In numerous languages, a classifier will occur with a noun at its initial mention. Minangkabau is a case in point: an object mentioned for the first time will be accompanied with a noun classifier (Marnita 2016: 65). After that, a noun classifier will be used anaphorically on its own, to refer to the previously introduced participant. This is what we see in a spontaneous conversation between a child and her mother in 13.16–13.17. In 13.16, the child introduces a pigeon, a new entity, using a noun classifier *buruang* for birds.

- 13.16 Mak, ado **buruang** merpati datang ka rumah
 mother have NOUN.CL:BIRD pigeon come to house
 awak *Minangkabau*
 1pl.INCL
 ‘Mother, there is a pigeon coming to our house’ (lit. bird pigeon)

¹¹ Further discussion and references on the choice between classifier constructions in Japanese are in Jarkey and Komatsu (2019: 266–72); see also 5.10–5.11 and Lee (2014: 22–3) on different numeral classifier constructions in Korean, and their correlations with the focus on the number, or on the object.

In contrast, noun phrases with generic or indefinite referents not to be deployed in subsequent discourse contain no classifiers. In a general statement in 13.20, neither noun takes a classifier (Jarkey 2015: 39).

- 13.20 plas yog noog *White Hmong*
 owl COP bird
 ‘Owls are birds’ (or: an owl (in general) is a bird)

A salient entity contrasted to another one in White Hmong is likely to occur with a classifier. The compound noun *teb chaws* ‘country’ (underlined) in its initial mention in 13.21 appears on its own, without a classifier. This stretch of the story is about the war breaking out, and not about any particular country.

- 13.21 neeg kuj txhua leej txhua **tus** *White Hmong*
 person then all person all CL:ANIMATE
 tsuas nrhiav kev tawm teb chaws los tsuas
 only look.for way leave country Laos
 tuaj mus rau sab thaib teb
 come go to side Thailand
 ‘Everyone looked for a way to leave Laos and go to the Thai side.’

In 13.22, the focus changes. The same item, *teb chaws* ‘country’, now takes the classifier *lub* ‘CL:GENERAL’. The classifier emphasises the fact that the speaker chose one particular country (Laos) after the war had broken out (Daley 1996: 81–2).

- 13.22 Kuv tau peb hnub tomqabxav hais tias *White Hmong*
 I get three day after think that
 yog tsis khiav ces yuav nyob
 if not run then will stay
 lub teb chaws los tsuas ntawd
 CL:GENERAL country Laos there
 ‘Three days after that I thought that if I didn’t escape, then I would live in Laos ...’

The verbal classifier in 13.23 draws attention to the object, similar to a focus marker. In a number of multiple classifier languages, the occurrence of classifiers on verbs interacts with salience and focality of the argument (some examples from Baniwa of Içana and Tariana are in Aikhenvald 2003a: 393, 2007b). No special correlations between the discourse status of the referent have been described for classifiers in possessive constructions or locative classifiers. Discourse functions of deictic classifiers are intrinsically linked to their morphosyntactic locus, and the functions of the deictics they occur with.

13.5.2 General versus specific classifiers in discourse

Different varieties of classifiers can play a role structuring discourse. Specific classifiers in Mandarin typically mark the first mention of a new item occurring with indefinite nouns. In Erbaugh's (1986: 408) words, 'once reference is established, subsequent mentions take the general classifier or constructions where no classifier is required' (see also Erbaugh and Yang 2006: 199). Example 13.24, from Shanghai Wu, illustrates the point (Erbaugh and Yang 2006: 179). A general classifier in its default function can replace a specific classifier (see §12.7.1). The specific classifier 'CL:PEAK' is used for the first mention of the hat in the story, introduced with the number word 'one' in 13.24.

- 13.24 tsəŋ³³ hɔ⁴⁴ kə³³ tɔ⁴⁴ fi¹³ iɾ³ tiŋ⁴⁴ mɔ²² tɕ⁴⁴ Shanghai Wu
 at.the.same.time, saw his one CL:PEAK hat
 'At the same time, (he) saw his (one) hat'

After the reference has been established, the general classifier *ɦəɾ*³³ (the Shanghai Wu equivalent of the Mandarin *gè*) is used. In the story, 13.25 immediately follows 13.24.

- 13.25 dzɿy¹³ ne⁵³ dii¹ ɦəɾ²³ mɔ²² tɕl⁷⁴⁴ zɿi²² tɕi⁵⁵ le²¹ Shanghai Wu
 then take this CL:GENERAL hat pick.up
 'Then (he) picked up this hat'

Old and established information will warrant a general classifier, while new information will warrant a specific one.¹⁴ In the corpus of stories in Shanghai

¹⁴ Using a specific classifier in lieu of a general one is a further means of highlighting and specifying the referent in Murui (Wojtylak 2017: 233). The general classifier is used to refer to a topically established inanimate entity in Miraña, an endangered Boran language from Colombia (Seifart 2004: 239).

Wu, Mandarin, and Cantonese analysed by Erbaugh and Yang (2006: 189), the number word ‘one’ is pervasively used with specific classifiers. A reason for this is its frequent use to introduce new referents. Higher number words typically appear with the general classifier in each language, because they are associated with previously mentioned referents and old information.

13.6 Anaphora and textual coherence

Gender and classifiers of every type help organize discourse. In their anaphoric functions, they refer to a previously mentioned or an understood entity, and help keep track of who did what to whom. An illustrative example of this participant-tracking function comes from German. In 13.26, *Krug* ‘jug’ belongs to the masculine gender, and *Schale* ‘bowl’ is feminine. Consequently, the jug is anaphorically referred to as ‘he’ and the bowl as ‘she’. There is no ambiguity as to what got broken (Zubin and Köpcke 1986: 174).

13.26	Der	Krug (masculine)	fiel	<i>German</i>
	ART.DEF.masc.sg	jug	fell	
	in	die	Schale (feminine),	
	into	ART.DEF.fem.sg	bowl	
	aber	er (masc)	zerbrach	nicht
	but	he	broke	NEG
	‘The jug fell into the bowl but it (the jug, lit. he) didn’t break’			

In English, ‘it’ refers to both ‘jug’ and ‘bowl’, and the disambiguation is less straightforward. Different forms for different genders allow communication to proceed in a succinct fashion.

The Australian rainforest is lush and enticing—exquisite vines and colourful fruit beckon an uncanny newcomer to touch them or to put it into their mouth. Some are poisonous, others are edible, and yet others are neither. This is where anaphoric functions of genders in Dyirbal come handy. One does not have to mention the name of the plant. Just pointing at it and using the gendered noun marker will be enough to provide reassurance or to warn of the impending danger. Saying *balan* ‘Gender II: harmful entities’ means the plant is dangerous. Saying *balam* ‘Gender III: edible vegetable gender’

In Korean, the default classifier—rather than a specific one—is preferred when the process of counting or the number of entities are more important than the entity counted (see Lee 2014: 62–3; see also Zubin and Shimojo 1993: 496 and Shimojo 1997 on Japanese).

common argument of a main and a relative clause in multiple classifier languages (see 11.20 in §11.4, from Chaozhou: Xu 2007: 117, and similar examples from Cantonese in Matthews and Yip 1994: 111–12, 406).

Classifiers in possessive constructions often refer to something previously mentioned or understood. In Tamambo, if food is offered, one can just say 13.29 (Jauncey 2011: 209).

13.29 Ha-m! Tamambo
 POSS.CL:EDIBLE-2sg
 ‘It is yours to eat, it is for you’

A possessed noun in Raga can occur with a classifier, as we saw in example 7.13 in §7.1.1. If previously mentioned, the possessed noun can be omitted (Duhamel 2019: 43). In 13.30, the bananas are introduced with a noun.

13.30 Na-v lai ihi ba ta-v gani-a Raga
 1sg-FUT take banana CAUS 1pl.INCL-FUT eat-3sg.OBJ
 ‘I will take (the) banana (bundle) so that we eat it’

Later in the story, the bananas are referred to just with the classifier for edible items, *ga-* ‘POSS.CL:EDIBLE’, as we see in 13.31.

13.31 Mwa harabora **ga-ra** vurihaḡe
 3sg.PROG divide POSS.CL:EDIBLE-3pl then
ga-na Raga
 POSS.CL:EDIBLE-3sg
 ‘She shares theirs (food, that is, banana), then hers’

Intra-sentential anaphoric use of classifiers and of genders enhance the coherence of discourse and help track participants.¹⁵ Classifiers help avoid redundancy and repetition, making discourse concise and coherent, and participants trackable.

¹⁵ Examples of classificatory verb stems which help track referents are in Rushforth (1991: 255, 257). See also Juntanamalaga (1988: 316–17) for Thai, Valenzuela (2019: 86–7) for Shiwilu, Mihas (2019: 56) on Kampa languages, Seiler (1985: 220) and Merlan et al. (1997: 96–7) for Imonda and other Papuan languages, and Messineo and Cúneo (2019: 209–12) on Toba; see also Morrison (2018) on noun classes as reference tracking devices in Bantu languages, and summary in Aikhenvald (2003a: 330–1). No information is available on cataphoric functions of classifiers. Classifiers in Kilivila, a multiple classifier language, are crucial for ‘securing coherence in discourse’ (Senft 1996: 21, and examples there).

13.7 ‘Stand-alone’ classifiers: Long-distance anaphora and delimitation of referents

A classifier may refer to an entity mentioned earlier in a story or a conversation, as an instance of long-distance anaphora. Or a referent may be referred to with a classifier only, without an overt previous mention of a specific term, if its identity is clear to all. This phenomenon is sometimes referred to as ‘stand-alone’ classifiers (the term introduced by [Drapeau and Lambert-Brétière 2011: 306](#)).

A classifier of any kind can be used on its own to refer to a group of items whose nature is clear from the context. In 13.32, from Raga, the possessive classifier *ga-* for edible things refers to food in general ([Duhamel 2019: 43](#)).

13.32 Ga-m kuki **ga-mai** *Raga*
 1pl.excl-PROG cook POSS.CL:EDIBLE-1pl.excl
 ‘We cook (some) food for ourselves’

There is no need to add the term ‘food’: the classifier *ga-* is enough to understand that we are talking about an edible object. In contrast to 13.31, where the edible referent is known to be the ‘banana’ introduced in the previous stretch of discourse, no specific food item is implied in 13.32. Here, we are talking about food in general. The classifier delimits what is being talked about, without specifying what exactly is to be eaten. A classifier refers to a group of entities rather than to a specific item.

Human communication does not take place in a vacuum. There is always some shared ground between the speaker and the audience. Entities discussed can be understood from context or presupposed as part of shared background. A classifier will then be enough, for speakers to understand each other. The noun referring to the concept covered by the classifier will either have been introduced in the previous stretch of discourse or it will be clear from the context or general knowledge. ‘Stand-alone’ classifiers without a noun next to them are a subtype of anaphoric classifiers. They involve long-distance anaphora across several sentences. Or they may serve to delimit a type of understood or previously established referents. This goes together with the rarity of full noun phrases in natural discourse, redundant, once one knows what is being talked about.

Let’s now turn to some examples from Innu. In 13.33, the ‘rock’ is introduced with a full noun. This same item is then referred to with the verbal classifier

'mineral' on the verb 'be flat' in 13.34 (Drapeau and Lambert-Brétière 2011: 306–7).

- 13.33 êkwê natwâpata-k nê âyâšêss ašinî-lu *Innu*
 then look.for.TI1-3CJ DEM Aiashess rock-OBV
 'And then Aiashess looked for a rock'
- 13.34 êkwê miška-k ê=papak-âpišk-â-li-t *Innu*
 then look.for.TI1-3CJ PV=flat-VERB.CL:MINERAL-II-OBV-3CJ
 'and found one (VERB.CL:MINERAL) that was flat'

This is a typical instance of an anaphoric use of the classifier, where the noun is clear from the immediate context. A similar example is 8.8, also from Innu, where the verbal classifier *-(i)tak* 'dry wood' refers to a log cabin previously mentioned in the story (Drapeau and Lambert-Brétière 2011: 307–9). Note that a verbal classifier can co-occur with a full noun (see 8.4 from Innu and 8.11 from Cherokee).¹⁶

The sentence in 13.35, also from Innu, contains no overt noun to which the verbal classifier *-âšku-* 'VERB.CL:LONG.RIGID' would be applicable. The verb 'throw in' contains a marker of instrument. The context suggests that the verbal classifier refers to a long and rigid instrument (e.g. a stick).

- 13.35 êkwê matuštwe-y-âšku-w-ât
 then throw.in-LK-VERB. L: LONG.RIGID-with.instrument. TA-3.3'CJ
 iškutê-t *Innu*
 fire-LOC
 'Then he threw (the caribou skin) in the fire with a long and rigid instrument (e.g. a stick)'

In contrast, in example 8.5, also from Innu, the stick (also the instrument) is stated overtly. In 13.35, the word for 'stick' could be added, if the speaker wished to make specific reference to it. The instrument itself is not taken up within the discourse context, which is why there is no need to specify it with an extra noun. The 'stand-alone' classifier for long rigid objects in 13.35 indicates the nature of the instrument, understood based on general knowledge (but not made specific). Similarly, 'stand-alone' classifiers are often used on verbs

¹⁶ Contrary to Passer's (2016) claim that verbal classifiers cannot co-occur with a full noun.

in Shiwilu, to delimit the entity which does not play a central role in discourse (Valenzuela 2019: 87).¹⁷

The fact that nouns do not have to accompany a classifier does not mean that classifiers fail to perform their task as noun categorization devices. On the contrary: the existence of stand-alone classifiers accounts for succinct organization of discourse with little redundancy and repetition, and reliance of shared context.

13.8 To conclude: The utility of noun categorization devices

All noun categorization devices—gender and classifiers alike—have multiple functions, and are highly useful in communication. None are in any way redundant.

I. Gender and classifiers help refine meanings of polysemous nouns and disambiguate referents. They help expand the lexicon and relate to the composition of word classes, especially adjectives.

II. Gender and classifiers help individuate referents. They are often used with specific items and correlate with their definiteness.

III. Gender and classifiers signal the role of an entity in discourse—whether it is backgrounded or salient and important. An item may be introduced with a specific classifier, and then followed through with a more general one.

IV. Gender and classifiers are used anaphorically, to refer to a previously mentioned entity and as a means of referent tracking, following through who did what to whom, and ensuring textual coherence. The nature of an entity can be understood from the context, or shared experience. A noun categorization device of any kind can be used on its own. Then, the overt noun categorized with a classifying device will be absent from the clause, and referred to with a classifier only. This can be seen as long-distance anaphora, or a means for delimiting a kind, or a class, of understood referents. Such ‘stand-alone’ uses of classifiers make the discourse compact and coherent.

¹⁷ For similar examples, see also Barnes (1990: 289) on Tuyuca; Payne and Payne (1990) on Yagua; Thiesen (1996: 35) on Bora; and Lowe (1999) for Nambiquara; and Aikhenvald (2019b) for Tariana and other North Arawak languages; and Lu (2012: 72) on Zhuang. Stand-alone classifiers in Innu are frequently used with impersonal verbs, referring to a general backgrounded phenomenon (Drapeau and Lambert-Brétière 2011: 309–10).

The world through the prism of language

Social context and cognitive patterns in gender and classifiers

All noun categorization devices are demonstrably sensitive to the features of the societies of their speakers. They are indicative of various facets of social environment and also means of subsistence—the topic of §14.1. At the same time, semantic features encoded in gender and in classifiers offer unique insights into the human mind and reflect perceptual and cognitive mechanisms shared by humans—see §14.2. The final section contains a brief summary.

14.1 Society and environment through gender and classifiers

Gender and classifiers of all types mirror the ways people live. Salient societal attitudes, hierarchies, means of subsistence, and physical environment find their expression through noun categorization.¹

14.1.1 Social environment in gender and classifiers

Elaborate systems of classifiers for humans reflect social categories and social hierarchies. This is what we saw in §12.4. Some examples include numeral classifiers in Assamese (Table 12.4, p. 241) and also Table 5.4, for Korean in §5.2 (p. 110), and of noun classifiers in Akatek (Table 10.4, p. 198) and in Jacalteco (Table 6.1, p. 130).

Throughout the history of Thai, ‘classification of people ... had links with an elaborated vertical social structure’ (Diller 1985: 66). In the first comprehensive study of the phenomenon by Haas (1942), the following five numeral

¹ Gender and classifiers are indicative of integration points between language and society (within a general framework and further examples in Aikhenvald et al. 2021b: 8–10), and can be considered token of language ecology (along the lines of Haugen 1972). See also Bisang (2017) and Jiang (2017).

classifiers were given in a descending hierarchical order shown in 14.1 (see also [Diller 1985](#): 64, 72).

14.1 CLASSIFIER	EXAMPLE REFERENTS	
<i>ʔoŋ</i>	high royalty, monks	<i>Thai</i>
<i>rûup</i>	monks	
<i>thân</i>	lower royalty, high officials	
<i>naay</i>	individuals slightly above the common people in rank or position	
<i>khon</i>	ordinary people	

A further classifier, *phráʔoŋ* (noted in [Haas 1964](#): 601), covers royalty. Over the past decades, the social system of Thai has undergone changes, and so have the numeral classifiers. The hierarchy reflected in 14.1 is ‘somewhat reminiscent of the Thai semi-feudal *sakdina* system of precise social ranking, formally abolished only ten years before Haas’s original article appeared’ ([Diller 1985](#): 64; see also [Haas 1942](#)). The forms *thân* and *naay* have since then shifted to being used as ‘elegant equivalents’ of the general human classifier *khon*. The meanings of classifiers for humans reflect the minute details of social organization. One can reconstruct the hierarchies just through looking at classifiers.

Thai and Lao are closely related but spoken in different political situations. They share many classifiers, but differ in those referring to social status. Thai is spoken in a traditional monarchy, with Buddhism as the major religion (further examples are in [Burusphat 2007a](#): 113–15). Categorization of humans in Lao, spoken in the communist Republic of Laos, is less elaborate. There is no special classifier for royalty—no need for that in a republic. The numeral classifier *khon*² ‘person’ covers humans other than divine beings and monks. The classifier *than* is used for important officials, high ranking officers, and as a classifier for respectable people. The classifier *nāay* is used for policemen ([Lu 2012](#): 111–12, and [Enfield 2004b](#)).

Zhuang, a closely related northern Tai language, is spoken by a large community without a nation of its own, unlike the Thai of Thailand or the Lao of Laos. Neither have any major religious institutions ever played a major role. The Zhuang system of specific classifiers whose choice would be determined by social rank and status in a religious hierarchy is even less elaborate than in Lao. The language lacks those specific classifiers whose choice would be determined by the social rank, or religious position ([Lu 2012](#): 112–14).

Table 14.1 Classifiers for humans in Zhuang

Meaning		Classifier	Example referents
ordinary human		<i>pou</i> ⁴	doctor, blacksmith, officer, general, student, teacher, etc.
male	young	<i>tak</i> ⁸	boy, young man, son, unmarried male
	old	<i>kɔŋ</i> ¹	(male) policeman, (male) officer, (male) law court judge, (male) professor, elderly male
female	young	<i>ta</i> ⁶	girl, daughter, female singer, unmarried female
	old	<i>me</i> ⁶	(female) fortune teller, (female) vendor, (female) tailor, married female
unpleasant		<i>ʔdak</i> ⁷	unpleasant male
despicable		<i>ʔai</i> ¹	despicable person
affectionate		<i>tu</i> ²	lovely child

Humans in Zhuang are classified by their age and gender. The set of classifiers for human referents in Zhuang is in Table 14.1.

Age is associated with status and social gender: the classifier for older male is also used for male representatives of respected professions (Lu 2012: 114–15). The ways in which the changing roles of social genders are reflected in classifiers in Maonan, a related minority language of China, are mentioned in §16.3.

Social function and concomitant status associated with humans may extend to their possessions and attributes. The status of elephants in Thai culture is reflected in classifier choice. The classifier used just for domestic elephants is *chúuak*. This comes from the noun ‘rope’, going back to a nineteenth-century expression for ‘elephant lasso’ (Juntanamalaga 1988: 320). Wild elephants are categorized with the classifier *tua* which subsumes animals, ghosts and, by extension, clothes, furniture, and other items (shown in Diagram 15.5, p. 317). An example is in 14.2.

14.2 cháaŋ sǎam **tua** Thai
elephant three CL:ANIMAL
‘three (wild) elephants’

Royal elephants have a special elevated status. A royal elephant will be used with a repeater (or autotransformer), as *cháaŋ* ‘CL.REP:ELEPHANT’ in 14.3 (Burusphat 2007a: 122, Diller 1985: 65 and p.c., Juntanamalaga 1988).

14.3 cháaŋ sǎam **cháaŋ**
 elephant three CL.REP:ELEPHANT
 ‘three (royal) elephants’

Thai

The repeater classifier highlights the special status of an elephant as a royal attribute.

Classifiers can be seen as repositories of people’s histories and attitudes. Knowledge of those helps make sense of the seemingly inexplicable classifier choices. The introduction of rickshaw and then other vehicles (including bicycles) in Thai triggered the expansion of the classifier *khan* to subsume machinery and means of locomotion, and explains the semantic scope of the classifier, as we saw in Diagram 12.3 (p. 253). Without the knowledge of the shape of traditional Thai manuscripts, the assignment of the classifier *lem* in Thai would be incomprehensible (see Diagram 12.4, p. 254). The classifier *hiki* in Japanese is another case in point (see [Jarkey and Komatsu 2019](#): 175–6, and a comprehensive study in [Komatsu 2018](#)). Typical referents include small non-human living beings. By physical association, *-hiki* can be used to refer to micro-organisms and, metaphorically, to anything conceived as a living creature. The classifier can be applied to human beings who are inferior and lower in their social status and thus metaphorically smaller. An instructive example comes from the history of the famous *kabuki* theatre.

At the time when the dramatic art of *kabuki* theatre emerged in the early Edo Period (1603–73), it did not have the prestige it enjoys today. Instead, it was seen as cheap entertainment for ordinary people. Being a *kabuki* actor was far from a respected job. Actors often supplemented their meagre income by prostitution and begging, and a member of the profession was referred to as *yakusha ip-piki* (actor one-CL:SMALL.ANIM). The *kabuki* actors have risen in status since 1600; but the usage remains. This is an example of a semantic extension of a classifier based on Important Property. The classifier use reflects the history of the attitudes to performing arts, and thus social environment.

Classifiers in possessive construction often encode kinship relationships, as we saw in §12.4. Classifiers in Pohnpeian also reflect the social status of the speaker and of the addressee (see examples 7.16–18; based on [Keating 1997, 1998](#)). Possessive classifiers used in the honorific speech register differ from those used in the common register.

For instance, the common register distinguishes the classifiers *kene* ‘edible things’ and *nime* ‘drinkable things’. In the honorific register—used when

addressing a chief or speaking in the chief's presence—three classifiers *koanoat*, *pwenieu*, and *sak* will refer to all comestibles (food and drink); they distinguish the rank of possessor: paramount chief, the paramount chieftess, and the secondary chief, respectively (Keating 1997: 262). Thus, if one is invited to share a chief's food, this share would be referred to with a classifier corresponding to the status of the owner.

This is how Keating (1997: 262) describes this: 'a plate of food sent to me by the paramount chieftess, as I stood by the video camera filming a feast, was announced to the gathering as *Elizabet, kepin pwenieu!* (lit. portion POSS.CL:PARAMOUNT.CHIESTEES)'. In contrast, 'humiliative' or status lowering speech is characterized by neutralization of all the semantic oppositions found in common speech. One would not expect to find classifiers related to social hierarchies in egalitarian societies, e.g. in Australian languages; and indeed, they are absent there.

The system of traditional values can be further integrated into function-based possessive classifiers. Possessive classifiers in Paamese, an Oceanic language from Vanuatu, include a term for edible objects, a term for drinkable items and items used for domestic purposes, and a term for instruments (including axes and canoes). A further classifier 'expresses the social relationship ... determined by traditional law or custom', that is, possession by law—of a home, of a village, the land and whatever grows on it, and also one's patrilineage (Crowley 1982: 211–14).

The choice of gender may correlate with social status and cultural importance, as we saw in §12.4 and also §4.4.1–§4.4.2. Feminine gender choice for non-humans in Manambu is associated with smaller size, and masculine gender with larger size. All male-oriented rituals and ceremonial objects in Manambu are assigned masculine gender, as are terms referring to speech and ceremonies in this language if they are culturally important. They are treated as belonging to the feminine gender, if they are considered less important or casual. A man who is not up to the societal standards of behaviour can be referred to with feminine gender, reflecting male dominance typical of the Manambu culture.

Meanings of linguistic genders reflect the social aspects of gender roles (see Aikhenvald 2016: 109–14, and references there). Preferential choice of one gender over another as a default option may indeed reflect the special status of each social gender. Asymmetries in the expression, and meanings, of gender in many European languages can be indicative of the inequalities in social genders. As Baron (1986: 113–15) put it,

‘feminine English nouns tend to acquire negative connotations at a much faster rate than masculine or neuter ones, creating semantic imbalances in originally parallel masculine/feminine pairs like *fox* - *vixen* and *governor* - *governess*. Efforts on the part of feminists and usage critics to eliminate feminine nouns like *authoress* in favour of unmarked equivalents on the grounds that the marked terms are demeaning have been only partially successful.’²

In many languages, the masculine grammatical gender and the masculine pronoun are the unmarked choice if one does not know the sex of a person or wishes to refer to someone in general. And in many Indo-European languages the word ‘man’ is traditionally used when talking about a human being in general. This applies to many professions, especially those traditionally associated with men. These speech practices—also known as ‘sexist language’—are a target for increasing tendencies to employ a gender-neutral *they/them/theirs* as a generic pronoun in English. Feminization of job titles in France was made into a law by Lionel Jospin’s government (1998). The obligatory use of the feminine form *presidenta* ‘she-president’ rather than a general *presidente* in Brazilian Portuguese was reinforced in 2012 by the first female president of Brazil, Dilma Rousseff. Gender-neutral forms are being enforced by the guidelines produced by the European Parliament for languages of the nation-members of the EU. Gender-inclusive language goes beyond the binary division between men and women, striving to create new gender-neutral forms and forms for newly recognized genders, such as LGBTQ plus. Changing correlations between gender and social attitudes in the changing world are reflected in language change in the composition of gender—we return to this in §16.3.

14.1.2 Reflecting the world of the speakers

Every type of classifier reflects what is important for people’s livelihood. A special feature of those classifiers which are assigned to a narrow set of referents, or to just one, unique, entity, reflect people’s lifestyle, subsistence, and salient

² Derogatory connotations of the feminine form of the numeral classifier for humans in Assamese (Table 12.4, p. 241) reflects a similar principle. Further discussion and examples of social inequality reflected in gender choice, and language planning efforts counteracting sexism in language, across European languages are in Aikhenvald (2016: 191–208). The use of feminine gender as default option in Iroquoian languages is believed to correlate with a high status of women within these societies (see the references and discussion in Aikhenvald 2016: 185–205).

features of the environment. The Traditional Nivkh, a Paleo-Siberian isolate, had over twenty sortal numeral classifiers. Of these, three refer to animates, with one term for humans, one for animals (and their attributes, such as dog-collars, skins, and bear chains), and one for fish. Three classifiers are based on dimensionality—one for one-dimensional, one for two-dimensional, and one for three-dimensional objects. Inanimate objects not subsumed under any of the existing terms used to be referred to with a general classifier. A selection of further specific sortal classifiers is in Table 14.2 (Gruzdeva 2004).

Table 14.2 Specific sortal numeral classifiers in Traditional Nivkh: A selection

Classifier	Referents	Semantic group
-ř	sledges	means of transport
-m	boats	
-u/-i	fishnet cells	fishing gear
-řqi/-řqe/-řqyi	fishnet strips	
-vor/-vur/-for	fishnets and fish-spears	
-o/-u	fishnets for fishing hunchback and Siberian salmon	
-la/-lu/-l	poles for fish-spears	
-sk	poles for drying fish	

In their traditional subsistence, the Nivkh used to rely on fishing—and this is what we can clearly see from the specific classifiers in Table 14.3. The classifiers reflect culture-specific means of transport—sledges and boats, and detailed properties of fishnets and other devices.

Mensural classifiers in Traditional Nivkh offer a similar picture. One can almost tell the story of how people used to handle what was most important for their survival—fish, hooks, and smelt. A selection is in Table 14.3.

Table 14.3 Specific mensural classifiers in Traditional Nivkh: A selection

Classifier	Referents covered
-qos/-ğos/-ğ*yš	special twigs with smelt* strung on them
-ŋaq/-ŋyq	twigs with smelt strung on them
-r/ar/-arɬ	bundles of slices of dry salmon
-ŋaq/rŋaq	bundles of dried smelt
-fat/-fyt	cords of hooks

* smelt is a type of small fish.

Along similar lines, many numeral classifiers in Kazakh, a Turkic language, reflect animal husbandry—the backbone of the material culture of the people (Jumabay et al. 2022).

Noun classifier systems reflect the categories important for the speakers and their livelihoods (as mentioned in §6.1). Hunting used to be a major practice among the peoples of the Daly River area in Northern Australia. This is mirrored by a multiplicity of noun classifiers for hunting implements. For instance, Murrinhpatha (Walsh 1997: 280) has a classifier *thu* for ‘strikers’, e.g. *thu kuragatha* (NOUN.CL:STRIKER boomerang) ‘a boomerang’, *thu paku* (NOUN.CL:STRIKER large.club) ‘a large club’, and *thamul* for spears, e.g. *thamul nguni* (NOUN.CL:SPEAR short.spear) ‘short light spear’, *thamul menek* (NOUN.CL:STRIKER ironwood.spear) ‘ironwood spear’. The special role of corn in the history and subsistence of speakers of Mayan languages correlates with the presence of a special noun classifier just for this entity in Jacaltec (Craig 1986b: 267) and Akatek (Zavala 1992: 152) (see Table 6.2, p. 130). In each case, specific classifiers assigned to a narrow class of referents, and unique classifiers assigned to just one, highlight what is important for the culture of the speakers’ community (as we saw in §12.6).

If a practice or a set of objects are no longer used and become obsolescent, classifiers will also fall into disuse. Numerous specific classifiers in Japanese refer to ‘obsolete or obsolescent artefacts or religious objects’ and are no longer in active use. These include *shuku* ‘suits of armour’, *kazari* ‘litters used for carrying travellers’, *tsubo* ‘pots of a type called *tsubo*’, and *kashira* ‘Buddhist images’ (Downing 1996: 78). We turn to the fate of classifiers in language obsolescence in §16.2.

Classifiers in possessive constructions tell us about what people engage in. The presence of classifiers for domesticated animals and plants indicates the presence of animal husbandry and agriculture in a number of Uto-Aztecan languages, as mentioned in §7.1 (see also Ciucci and Bertinetto 2019, on similar distinctions in the languages of the Chaco area in Bolivia and Paraguay, and Table 10.2, p.190 on possessive classifiers in Maká). Classifiers in possessive constructions in Nêlêmwa (Table 7.2, p. 148) reflect what is important for the people in their interactions with the outside world—singling out pets, seedlings, and prey.

Traditionally, the Murui lived along small rivers and streams separated by the mixed terrain of the rainforest (Wojtylak 2021b: 220–1). This is reflected in the special classifiers for different types of watercourses (including *-mani* ‘big river’ and *-tue* ‘small stream’) and specific land formations (e.g. *-du* ‘hill’). Classifiers which refer to subtypes of plants, trees, and bushes reflect the importance of the rainforest itself (e.g. *-fu* ‘small young roundish plants’, *-ri*

‘bush, clump of trees’). Similarly, numerous classifiers and noun classes in Tariana reflect the kinds of waterways important for the livelihood of the riverine people (Aikhenvald 2019a).

Gender may also reflect the ways people live. The choice of masculine and feminine gender for inanimate entities in Kwami, a West Chadic language, correlates with male and female spheres of activity. Referents belonging to the domestic sphere, as the prerogative of women, are feminine, while referents belonging to male spheres outside the household are masculine (Dinslage, Leger, and Storch 2000: 125, Aikhenvald 2016: 61).

The use of classifiers may also correlate with politeness. To communicate properly, one needs to know which classifier to use under which circumstances. The numeral classifier *-hiki* ‘small living animates’ in Japanese can be used, in a somewhat jocular way, to express ‘mild disapproval of close friends and family members, or even of oneself’. In one instance, three women—the speaker’s wife, his sister, and their friend—were behaving like immature teenagers, not rising up to the speaker’s expectations. The speaker referred to them as *dame-dame san-biki* (hopeless:REDUP three-NUM.CL:SMALL.ANIMATE), expressing his disappointment, ‘in a slightly joking and affectionate way’ (Jarkey and Komatsu 2019: 278–9). This usage is only acceptable between people in a close relationship. It would not be suitable if the threesome in question had been socially superior or not intimately known to the speaker. Linguistic creativity is anchored in conventions, social values, and relationships within the Japanese society.

In Thailand Mien (a Hmong-Mien language), the choice of a classifier correlates with politeness (Enfield 2021: 292–3, Lu 2012: 99). The same classifier *tau*⁵³ is used for people and for animals. When referring to a respected person such as a guest, a special honorific classifier *la:n*⁵³ has to be used. In Mandarin Chinese, using the general classifier *gè* for guests or customers in a restaurant is considered rude. The correct option is the honorific classifier *wèi* (Jonathan Evans, p.c.). The use of classifiers in Thai is regulated by stylistic rules. Omission of classifiers is a feature of the informal language if noun and classifier are both understood from the prior discourse (Juntanamalaga 1988: 316). The choice of the general numeral classifier *-tsu* instead of specific classifiers in Japanese may be considered substandard or childish (Downing 1996: 273).

The world of the speakers finds its reflection in gender and classifiers. It thus comes as no surprise that they enjoy ‘a high level of conscious speaker awareness’ (Enfield 2007: 132). The Lao readily discuss the ways in which classifiers are used. Classifiers in Thai are the focus of prescriptive conventions (as highlighted by Juntanamalaga 1988). The Manambu are aware and proud of their

two genders, masculine and feminine, and never fail to point out the importance they play out in distinguishing size, shape, and importance of individual object (Aikhenvald 2012b).³ The awareness of gender and classifiers, and their indexicality in determining speakers' identity, status, and proficiency, correlate with the role of gender and classifiers in conscious language manipulation, language engineering, and prescriptive tendencies. We return to this in §16.3.

We now turn to more general aspects of noun categorization—how they reflect universal perceptual and cognitive categories and mechanisms shared by humans.

14.2 Human cognition and noun categorization

Human beings are inherently oriented towards acknowledging the most perceptually salient characteristics at the basic level of categorization. General semantic features encoded in gender and classifiers offer a unique insight into workings of a human mind. This level of categorization is associated with a set of universal cognitive categories—humanness, animacy, shape, and dimensionality, and also consistency and composition (see, for instance, Lucy 1992b: 201–7, 2000). These are the parameters always present in noun categorization. Humanness, animacy, and sex are essential for gender choice, as was captured in Generalization 12.1 (p. 231). Shape and dimensionality are basic for numeral classifiers: the presence of parameters such as size, boundedness, interiority, consistency, composition and constitution, and also arrangement, is contingent on the existence of classifiers whose choice is determined by shape. This was summarized in Generalizations 12.2 (p. 234), 12.3 (p. 234), 12.5 (p. 246), and Diagram 12.2 (p. 235).

Categorization based on salient nature-related properties—access to which is shared by all humans—has its correlates in human perception and shared experience. Reasons for the importance of vision-related parameters in noun categorization were suggested by Adams and Conklin (1973: 8): 'One of the most fascinating facts of numeral categorisation is its dependence on the visual feature of form. There are no metaphors based on sound, feel, taste, or smell'; these might be 'less useful because the impressions gained from them are more time-based and transitory' (see also the beginning of Chapter 12).

³ A fascinating example of socio-cultural motivation behind deliberate 'errors' in noun class choice in Wolof, a West Atlantic language, further underscores speakers' awareness of noun class and their conscious manipulation (Irvine 1978, Aikhenvald 2003a: 348).

The evidence for the universality of parameters such as animacy and dimensionality comes from child language acquisition. In a seminal paper, [Clark \(1977\)](#) showed that the patterns of overextensions of lexical items by English-speaking children are based on parameters very similar to the ones used in classifiers. These universal natural categories include animacy, shape, size, texture (or material), and function. The most frequent categories of overextension are ROUND and LONG/EXTENDED. Thus, for instance, the children's lexical item *mooi* 'moon' is overextended to such round objects as cakes, round marks on windows, round shapes in books, round postmarks, letter 'O'; and the children's item *tee* 'stick' was used for canes, umbrellas, rulers, and other stick-like objects. Relative size tends to be less important than shape. Clark concludes that 'both classifier systems and children's over-extensions reflect a basic categorisation process that goes on FIRST at the non-linguistic level ... One way that people seem to organise entities is to group them on the basis of their perceptible properties, with shape playing a very important role ... The data from children suggest that some properties of shape may be more salient than others and thus more likely to be used in categorisation ... Within classifier systems, then, one might expect to see a progression from systems that only distinguish animates from inanimates, to systems with more and more complex subdivisions using several dimensions at once to produce a large number of classifier-categories' ([Clark 1977](#): 460–1). Children prefer to group basic level objects by perceptual features rather than by functional features because perceptual features are readily available; this explains the predominance of perceptual features over functional ones in categorization via classifiers ([Tversky 1986](#): 72).⁴ According to [Rosch \(1975a\)](#), colour is not predictive of other attributes, and thus is a relatively inconsequential attribute for categorization of objects. This may be a reason why colour is never used in grammatical noun categorization devices, as was mentioned at the beginning of Chapter 12.

Classic work by Rosch and other psychologists confirms the importance of a basic level of categorization. As [Rosch et al. \(1976\)](#) put it, 'In taxonomies of concrete objects, there is one level of abstraction at which the most basic category cuts are made. Basic categories are those which carry the most information, possess the highest category cue validity, and are, thus, the most

⁴ See also [Rosch \(1975a, b\)](#), on the importance of shape in human perception. The 'anchoring' of categories encoded in classifiers in the mentally projected world is confirmed by further studies (e.g. [Frawley 1992](#): 134–5). For the psycholinguistic reality of noun categorization in cognition, see [Carroll and Casagrande \(1958\)](#) and the discussion of experimental results in [Lucy \(1992b\)](#): 201–7, and [Rosch \(1987\)](#).

differentiated from one another'. The cognitive importance of basic level categories lies in their predictive power, due to clustering of mutually independent properties of entities.

As Lee (1988: 232) put it, 'It is a fact about the world that animals which have wings are almost invariably birds and have other properties of birds (feathers, two short legs, beak, etc.). In this sense, the property 'has wings' has a high 'cue validity', that is, it is a good predictor of other properties ... Because of these ... correlations, we need only identify one of these properties when we want to know what kind of animal we are dealing with. *Bird*, for the urban English speaker, is therefore a basic level category'.

The basic level categories also show a high degree of internal coherence, and their members share many more properties with each other than with members of other categories. Generic-specific relations in noun categorization systems—especially the ones in noun classifiers in Mayan, Austronesian, and Australian languages—reflect cognitive mechanisms behind human categorization and classification of the world. They result from setting up classes of objects, or persons, subsuming the relevant categories.

Basic level of categorization is linked to salient properties of objects, such as shape and other physical properties (e.g. consistency) via extension of classes to new nouns. Since 'cognitively salient properties tend to be those with high cue validity' (Lee 1988: 236), it is natural to suggest that initial members of classes serve as prototypes for further extensions based on these properties. 'Shape' is generally considered the most important of these properties, since 'the function of an object may be unknown, or variable over time' (Erbaugh 1984). However, extensions by function may have higher cue validity than extensions by shape, and this is what happens with respect to such domains as human categorization where social status is a kind of functional categorization. One expects more functional extensions in the realm of possessive constructions which are more directly linked to handling of objects and the ways objects relate to their possessor. This is indeed the case. The validity of functional categories in a system is always linked to the ways categories are conventionalized in a given socio-cultural environment. Salient physical properties encoded in classifiers are integrated into the domain of physical interaction of humans with their environment, and this is where functional properties come in. Functional properties reflected in classifier systems correlate with social interaction and socio-cultural environment.

The choice of gender and classifiers always involves categorizing an entity in terms of its basic cognitively salient features. At the same time, all noun categorization devices relate to the cultural context of a language. This tension between the general and the specific is reminiscent of a classic debate in cognitive anthropology, between the ‘intellectualist’ and the ‘utilitarian’ approach to categorization, taxonomies, and naming. According to the ‘intellectualist’ approach, by [Berlin \(1992: 53\)](#) in the first place, ‘people are intellectually engaged with perceptual and other distinctions that the natural world reveals’ ([Enfield 2022: 423](#)) and thus focus on perceptually most salient categories at the basic level of categorization—animacy, humanness, shape, and dimensionality in the first place, the ‘beacons on the landscape’ of universal basics of general concepts (cf. [Enfield 2015: 9](#)).

The ‘utilitarian’ approach states that people will name those distinctions which are culturally, or practically, important to them. The culture- and society-specific component of the meanings and development of noun categorization will then be guided by the ‘practical consequences’ and importance of individual items ([Hunn 1982: 834](#)). In particular, classifiers with specific and unique semantics (illustrated in §12.6 and §14.1.2) can be seen as ‘beacons’ of special features of each culture and society, highlighting cultural and environmental diversity.

The Berlin-Hunn debate highlights a dichotomy between two possible ways of explaining why human languages categorize the world—either by general categories which frame our sensory perception or by reflecting the practical importance of notions reflected in culture, society, and also environment in use. The two positions are not in competition. Both reflect different aspects of linguistic reality, as evidenced in the combination of universal and culture-specific parameters in the varied facets of noun categorization. What is universal is always filtered down to the actual system through the prism of language’s social and cultural setting. As [Rosch \(1987: 28\)](#) put it, ‘[when] we speak of the formation of categories we mean their formation in the culture.’

14.3 To conclude

I. All noun categorization systems reflect what is important for each language and its speakers within the cultural context. Grammatical gender—particularly as it is assigned to humans—is prone to reflect the stereotypes associated with social gender—the social implications and norms associated

with being a man, or a woman, or a representative of further, gay, transgender, and other groups. Classifiers of most types reflect social interactions and hierarchies, physical environment and means of subsistence as points of integration between languages and societies in which they are spoken. Classifiers with specific and unique referents and semantic extensions within noun categorization devices reflect cultural concerns and practices of the speakers and the societies.

II. The basic meanings which underlie all noun categorization devices are animacy, humanness, shape, and dimensionality. These parameters reflect cognitively salient features common to all, and are indicative of shared perceptual and cognitive mechanisms as a window to the human mind. The primacy of basic meanings in noun categorization is confirmed by Generalization 12.5 (p. 246)—that no language will have specific classifiers without classifiers based on more general semantic features.

The two faces of noun categorization—the reflection of human mind in general and the specifics of the cultural and social environment—are inseparable. The presence of a named category reflects a basic mechanism of categorization filtered through what is relevant and salient for the society the language is spoken in. In each instance, the question of why a language has gender or classifiers of a particular kind is, rephrasing [Enfield \(2022: 436\)](#), ‘only secondarily ... about perception or thought. It is primarily a question of language’s social value’.

To reiterate: On the one hand, noun categorization and grouping of entities into classes—an inherent concern of the human mind—is anchored in perceptually and cognitively salient features. These include the basic parameters of humanness, animacy, shape, consistency, and function. On the other hand, no language is an ideal mechanical system spoken in a vacuum. In [Haugen’s \(1972: 325\)](#) words, language ‘only functions in relating’ its users ‘to one another and to nature, i.e. their social and natural environment ... The true environment of a language is the society that uses it.’ And this is where we see further import of noun categorization devices, gender and classifiers of varied kinds—highlighting what is specific for each society of speakers, their subsistence, relationships and networks, and the world around.

15

Origins and histories of gender and classifiers

We now turn to the origin, development, and histories of gender and classifiers. We start with the development of gender in §15.1. Origins of classifiers are the topic in §15.2. In §15.3, we look at the ways in which languages develop gender and classifiers. How noun categorization devices change throughout language history is the topic of §15.4. The relative age of different kinds of noun categorization is addressed in §15.5. In §15.6, we turn to reduction and loss of noun categorization. The last section contains a summary.

15.1 Where does gender come from?

Gender can develop out of a closed subset of generic nouns or a closed class of pronouns, as a result of their grammaticalization and reinterpretation.¹ These are the topics of §15.1.1–15.1.2. Gender interrelates with other nominal categories (as we saw in §4.3). Reinterpretation of these may account for the emergence of additional gender distinctions—see §15.1.3.

15.1.1 From generic nouns to gender markers

Nouns referring to humans (‘person’, ‘woman’, and ‘man’) can give rise to a closed grammatical system of personal pronouns which express anaphoric gender. For instance, in Bari and Toposa, Eastern Nilotic languages, masculine personal pronoun *lo* ‘he’ and its feminine counterpart *na* come from nouns, **IV* ‘member/person of’ and **nyaa*- ‘girl, daughter’. in Zande, an Ubangi language spoken in the Democratic Republic of the Congo, personal pronouns

¹ See Kuteva et al. (2019) on the principles and pathways of grammaticalization; further examples of historical development of gender are in Aikhenvald (2016: 76–98).

as exponents of anaphoric gender (Claudi 1985 and Heine 1982: 214) come from independent nouns with generic meanings. This is shown in 15.1.

15.1 Lexical origins of a selection of Zande pronouns as exponents of anaphoric gender

NOUN		GENDERED PRONOUN	<i>Zande</i>
man, male	>	masculine	
person	>	human	
animal, meat (pl)	>	animal (pl)	
thing	>	inanimate	

Personal pronouns which mark anaphoric gender can be further reanalysed as exponents of agreement gender (see §§3.1–3.3). Personal pronouns which are lexical in origin have given rise to agreement markers used on adjectives as copula complements in Zande. In 15.2, the personal pronoun *kɔ́* is used as a suffix and as an agreement-marking prefix on the verb and then on the adjective ‘big’:

15.2	<i>kɔ́</i> -ni	bakε´rε´- <i>kɔ́</i>	<i>Zande</i>
	he-be	big-he	
	‘He is big’		

Similar scenarios have been reconstructed for a few Eastern Nilotic languages (see Heine and Vossen 1983 and Heine and Reh 1984: 219–20, 230–2).² The neuter gender prefix *i-* in Turkana arose from a grammaticalized anaphoric noun meaning ‘place just referred to’ (Dimmendaal 1983: 219).³

15.1.2 From anaphoric gender in pronouns to agreement gender

Agreement gender can arise via reinterpretation of anaphoric gender expressed in demonstratives and/or in third person pronouns. This scenario has been described for a number of Australian languages. Warndarrang has

² Further examples of generic nouns with human reference developing into third person pronouns are in Heine and Kuteva (2002: 209, 315), Frajzyngier (1993: 49), and Kuteva et al. (2019). So far, no examples of generic nouns developing into gender-sensitive derivational affixes and then into agreement genders without first marking anaphoric genders have been reported.

³ Derivational gender may originate in a noun with a general meaning. The gender-sensitive derivational suffix *-(a)nım* in Turkish is used in a few words with female reference, e.g. *hocanım* ‘female teacher’. This suffix comes from grammaticalization of the lexeme *hanım* ‘woman, lady’ (Braun 2000: 53). Turkish has no anaphoric or agreement gender.

five genders. The marker for the masculine gender *rna-*, which subsumes human males, transparently relates to the extant free masculine pronoun *na*. The marker for the feminine gender which covers human females and some animals, *ŋa-*, is cognate with the free pronoun *ŋa(l)* (Dixon 2002: 499, and references there).

Demonstratives, third person pronouns, and articles with gender distinctions can develop into agreement gender markers. Diagram 15.1 summarizes the putative scenario.

Stage 1 --->	Stage 2 --->	Stage 3
(1) Demonstrative or third person pronoun with anaphoric gender	(2) Specificity marker with nouns with anaphoric gender	(3) Marker of nominality as derivational gender

Diagram 15.1 Historical evolution of gender markers

Evolution of gender markers in Diagram 15.1 involves development from a demonstrative or a third person pronoun with anaphoric gender to a specificity marker on noun, in the passage from Stage 1 to Stage 2. Stage 3 involves reinterpretation and semantic bleaching of specificity markers as markers of nominality. Concomitant changes typically involve a shift from a free word to clitic, and from clitic to a bound morpheme—a derivational affix (for more on this, see Heine 2000, with examples from Khoe languages). Stage 3 involves the emergence of derivational gender.⁴ This may then give rise to the agreement gender. An example comes from the reconstructed history of agreement gender in Indo-European languages.

Many scholars believe that feminine agreement gender in Proto-Indo-European has come about through reinterpretation of derivational affix **-h₂* used to form abstract and action nouns (see Meillet 1931: 17–20).⁵ This may also have involved an analogy with the term for ‘woman’, **g^wenh₂*, the noun which gave rise to words for ‘woman’ in many languages, include Greek *gine* ‘woman’, and, incidentally, *queen* in English. Due to its ending in the laryngeal **h₂* this noun may have become associated with the abstract and collective nouns with the same ending, reanalysed as derivational marker for the new

⁴ The process of evolution of gender markers from demonstratives was first proposed by Greenberg (1978: 61ff); see its critique in Heine (2000), on the basis of an in-depth study of Khoe languages; Dimmendaal (1983: 222) for Turkana; Childs (1983) on the development of noun classes in the Southern branch of West Atlantic languages, and Aikhenvald (2020b) for Arawak languages.

⁵ Further discussion of the putative origins of gender in Indo-European languages are in Luraghi (2009, 2011). A somewhat different scenario is outlined in Melchert (1994). See also Dixon (2002: 499), and Heine and Reh (1984: 232–4), for further instances of development of gender agreement based on anaphoric gender and derivational gender.

feminine gender. Once reanalysed as a derivational gender marker, it was extended to mark agreement on various targets.

15.1.3 From other nominal categories to gender

Gender distinctions can have their roots in reinterpretation of another category—typically number and case. Languages tend to have more number distinctions for human and animate nouns than for inanimates (in agreement with the Animacy Hierarchy, Diagram 5.3, p. 123, in §5.8). As a consequence, categorization based on animacy may be encoded through number marking.

A development of a special ‘masculine’ (or ‘virile’) form out of reinterpreted case-number combination has been reported for Polish. The genitive-accusative came to be used with nouns of masculine gender exclusively, giving rise to ‘virile’ forms initially used just with number word ‘two’ and the modifier ‘both’. Over the course of the fourteenth–seventeenth centuries, dual forms were gradually replaced with plural forms and extended to constructions with other numbers. The scenario is outlined by Janda (1999: 80–2). The ‘virile’ genitive construction in Polish appears in number words in 15.3, for ‘men’.

15.3	pięciu/dziesięciu/wielu	panów	<i>Polish</i>
	five:VIRILE/ten:VIRILE/many:VIRILE	men: GEN.PL	
	‘five/ten/many men’		

Example 15.4 shows the absence of ‘virile’ forms for ‘women’, with the same number words.

15.4	pięć/dziesięć/wiele	kobiet	<i>Polish</i>
	five/ten/many	women:GEN.PL	
	‘five/ten/many women’		

Alternatively, new gender distinctions can be developed through reanalysis of existing case forms. During the Common Slavic period, the nominative and the accusative singular forms of masculine nouns fell together, due to phonological shortening and erosion of final segments. The masculine gender thus became similar to neuter (where nominative and accusative forms were the same). The homonymy of different cases (or ‘case syncretism’ of two cases in one form) was solved by substituting the genitive for the

accusative for masculine animate nouns.⁶ Originally, this may have started just from nouns referring to singular males of special status. In thirteenth and fourteenth centuries Russian, only free adult males were covered by the ‘animate’ conjugation—thus adding a sociolinguistic dimension to the classification of nouns (see [Huntley 1980](#)).

15.2 Where do classifiers come from?

Classifiers of all types have their origins in open classes—nouns and verbs. The development of a classifier will involve reinterpretation and subsequent grammaticalization of a form. Table 15.1 summarizes typical sources for different kinds of classifiers.

Table 15.1 Origins of classifiers: Typical sources

Classifier type	Attested origins
numeral classifiers (Chapter 5)	nouns—§15.2.1 verbs—§15.2.2
noun classifiers (Chapter 6)	nouns—§15.2.1
classifiers in possessive constructions (Chapter 7)	nouns—§15.2.1 verbs—§15.2.2
verbal classifiers as affixes (§8.1.1)	nouns—§15.2.1 rarely verbs—§15.2.2
verbal classifiers: classificatory verbs of handling and position and classificatory existential verbs (§8.1.3)	verbs—§15.2.2
deictic classifiers (§9.2)	verbs—§15.2.2

Table 15.1 does not include locative classifiers, a rare type (§9.1). Classifiers in multiple contexts come from a variety of sources, spanning all the sources attested for the core contexts.

Of all classifier types, numeral classifiers and classifiers in possessive constructions are the most eclectic, with forms originating from nouns and also

⁶ For more on the ‘animate’ and ‘inanimate’ declensions in Slavic languages, see [Priestly \(1983: 357–8\)](#) and also [Luraghi \(2014: 223–4\)](#). [Marchese \(1988: 329\)](#) discusses the emergence of an innovative noun class in Grebo, a Kru language, as a result of reinterpretation of the number system. Tocharian A, an extinct Indo-European language, is the only language in the family with feminine and masculine forms of first person full pronouns: *nās* ‘I (male speaker)’ and *niuk* ‘I (female speaker)’. [Jasanoff \(1989\)](#) demonstrated that the masculine-feminine gender distinctions in the language developed through reinterpretation of the old accusative and nominative case forms. The non-specific agent marker in Proto-Northern-Iroquoian came to be used just for humans, possibly, based on the frequency of its use with agentive humans. Its specific counterpart developed into a non-human marker ([Mithun 2014](#)).

from verbs (see Generalization 15.1, p. 302). Languages with some possessive and/or some numeral classifiers originating in verbs have one feature in common. All of them have polyfunctional roots—used as nouns or as verbs (or predicates with zero-derivation). That is, each verb at the origin of a numeral or a possessive classifier can be interpreted as an instance of a zero-derivation.

Nouns can be the source of any classifier type, with the exception of deictic classifiers and classificatory existential verbs. Noun classifiers appear to never come from verbs.

Unlike gender, closed classes of demonstratives or pronouns never give rise to classifiers. Unlike gender, classifiers never come from reinterpretation of other nominal categories (as we saw in §15.1.3).

15.2.1 Nouns as a source for classifiers

Classifiers often come from grammaticalized nouns. Terms for various divisions of humans—‘man’, ‘woman’, ‘person’—frequently give rise to SORTAL NUMERAL CLASSIFIERS. A prime example is the numeral classifier *orang* ‘NUM.CL:HUMAN’ in Indonesian and Minangkabau, which comes from the noun *orang* ‘person’. Along similar lines, the Korean numeral classifier *salam* ‘CLASSIFIER:PERSON/ADULT’ is related to the noun *sālam* ‘person’ (Martin 1992: 180, 768; Lee 2014: 42). Generic nouns of any sort rarely give rise to numeral classifiers of mensural type. A rare instance is the mensural classifier *man-de* in Garo, from the noun ‘person’, which categorizes the height of humans and plants (Burling 2004: 253).

NOUN CLASSIFIERS with human referents typically originate from nouns. In Akatek, *naj*, the noun classifier meaning ‘man’, developed from the noun *winaj* ‘man’. The noun classifier *ʔiʃ* ‘woman’ developed from *ʔiʃ* ‘woman’ (Zavala 1992: 152, 2000: 134). ‘Inherent nature’ noun classifiers in Australian languages include terms for ‘man’, ‘woman’, and ‘person’. They transparently come from independent nouns with generic reference. Yidiñ forms ‘person’, ‘woman’, ‘man’ can be used as full nouns and as noun classifiers (see §6.1).

CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS may also go back to terms for humans and kin. The possessive classifier *-kamkayh* ‘child, offspring’ in Palikur (Table 7.1, p. 146) developed from a noun with human reference. Each of the possessive classifiers which reflect

kinship relationships in Pohnpeian (Keating 1997), goes back to a kinship noun, e.g. *ullap* ‘POSS.CL:MATERNAL.UNCLE’ from *ullap* ‘maternal uncle’, *kiseh* ‘POSS.CL:RELATIVE’ from *kiseh* ‘relative’, and *wahwah* ‘POSS.CL:NIECE/NEPHEW’ from *wahwah* ‘man’s sister’s child’. On Pohnpei, rank is traditionally passed on to a man’s sister’s son; hence specific classifiers for maternal relatives in the language. This highlights the importance of cultural conventions in the historical development of classifiers.

Once grammaticalized into a classifier, an erstwhile noun with human reference may acquire a broader meaning. The classifier *pwaxi*- in Nêlêmwa comes from the noun ‘child’, and now also categorizes pets and cattle (Table 7.2, p. 148; Bril 2014: 70, 2002: 365–7). The general classifier *ji* in nDrapa goes back to a noun ‘man, human being’ (Huang 2022: 230). The honorific classifier for humans comes from the noun ‘son, child’.

GENERIC NOUNS of various semantic groups can be used as classifiers in possessive constructions. In Maricopa and numerous other Yuman languages, a general term for ‘pets’ is used as a possessive classifier (example 7.6 in Chapter 7). In Macushi and Apalaí any generic term referring to animals and plants can be used as a possessive classifier (see examples 7.8 and 7.9). Incorporated generic nouns may give rise to VERBAL CLASSIFIERS, as we saw in §8.1.2, with examples from Mayali, an Australian language (Evans 2003: 332, 467; see §15.3.4, for more on their development).

Terms for BODY PARTS and PLANT PARTS are a common source for NUMERAL CLASSIFIERS of both sortal and mensural types. For instance, the numeral classifier for human beings *cha:-* in Upper Necaxa Totonac comes from *cha:n* ‘shin’, and the classifier *tan-* for animals comes from *táni* ‘buttocks’ (García-Vega 2018). The numeral classifier for animals in Indonesian (*ekor*) and in Minangkabau (*ikua*) comes from the body part ‘tail’. In Dimasa, the numeral classifier for ‘humans’, *saw-*, comes from the noun *saw* ‘body’ (Evans 2022b).⁷

Body part terms are also a frequent source for VERBAL CLASSIFIERS. In Palikur, three of the twelve locative classifiers in Palikur originate from body parts. For instance, *-kigsa* ‘on.POINTED’ is related to *-kig* ‘nose’, and *-vigku* ‘on.ROAD.RIVER’ derives from *-vigik* ‘bone, marrow’ (see Tables 9.1 and 10.3, pp. 178 and 194, and Aikhenvald and Green 2011). All classifiers in Gumuz are transparently related to body-part terms (Ahland 2012: 270, and examples 8.9–8.10).

⁷ Further examples come from Papantla Totonac, a Totonacan language (Levy 1994, 2004: 287–8) and Tzotzil (De León 1987: 93).

CLASSIFIERS IN MULTIPLE CONTEXTS may also involve grammaticalized body parts. More than half of the classifiers in Shiwilu have clear origins in body and plant parts, including *-mek* ‘CL:LEAF’, from *mek-* ‘leaf’, or *-pi* ‘CL:BODY’ from *pi-* ‘body’ (Valenzuela 2019: 77–8).

Terms for UNITS AND ARRANGEMENTS may give rise to numeral classifiers of mensural type. Examples include Minangkabau *kapa*, a classifier used for ‘objects that can be held in the palm of one’s hand’, e.g. cooked rice, sand, dirt, from *kapa* ‘handful’ and *ujuang jari*, a classifier used for ‘things which one can take with a tip of one’s finger’, from ‘finger tip’ (Marnita 2016: 134).

Classifiers with specific or unique reference come from corresponding nouns. Examples include terms for woomeras, canegrass spears, or digging sticks in Ngan.gityemerri, an Australian language (Reid 1997). Specific possessive classifiers in Pohnpeian come from names for the culturally important items they categorize, e.g. *ede* ‘POSS.CL:NAME’ from *ahd* ‘name’, and *sapwe* ‘POSS.CL:LAND’ from *sahpw* ‘land’ (Keating 1997: 253).⁸

15.2.2 Verbs as a source for classifiers

Classifiers can come from grammaticalized verbs. Classificatory existential verbs in the languages of New Guinea uniformly come from verbs of posture and of motion. This is what we saw in Table 8.4, for Enga (p. 165), and in Table 8.6, for Waris (§8.1.3, p. 167). Classificatory verbs are transparently related to posture verbs ‘sit’, ‘stand’, ‘hang’, and ‘lie’, and the verb of motion ‘come’.⁹

Posture verbs are a recurrent source of DEICTIC CLASSIFIERS. Table 9.3, from §9.2.1 (p. 181) shows a straightforward link between deictic classifiers and verbs ‘sit’, ‘stand’, and ‘lie’ in Yuchi. Similarly, deictic classifiers across the Dhegiha subgroup of Siouan languages are transparently related to posture verbs ‘sit’, ‘stand’, and ‘lie’ (see Rankin 2004 for these and further developments of posture verbs across the family). Deictic classifiers in Guaycuruan languages go back to a combination of deictic elements with grammaticalized positional and motion verbs (‘sit’, ‘stand’, ‘lie’, ‘come’, and ‘go’: see Ceria and Sandalo 1995: 181).

⁸ Further examples of classifiers originating in nouns are in Aikhenvald (2003a: 442–6); Klammer (2014) on numeral classifiers in Papuan languages of the Alor-Pantar area in Indonesia originating in body and plant parts and other part-whole relationships; Ciucci and Bertinetto (2019: 154, 158) for possessive classifiers from nouns in Zamucoan languages; and examples of mensural classifiers coming from terms for traditional kinds of arrangements in Kazakh (Jumabay et al. 2022: 315–16).

⁹ Classificatory existential verbs in Ku Waru (Merlan et al. 1997: 75) are transparently linked to verbs of standing, lying, and staying. Classificatory existential verbs in Tibeto-Burman languages typically come from positional verbs (Bai 2019, Zhang 2014).

Verbal classifiers as bound morphemes can go back to GRAMMATICALIZED VERBS OF HANDLING. We mentioned at the beginning of Chapter 8 that verbal classifiers in Waris originate in grammaticalized verbs within erstwhile single-word serial verb constructions. A similar scenario was described for Imonda, a related language. Imonda has a large set of about sixty verbal classifiers which categorize the object of a transitive verb or the subject of an intransitive verb in terms of its properties—whether it is a round fruit to be picked, a breakable object, or something extended, like a rope or a belt.

In 15.5, the verb *pōt* is used within an asymmetrical serial verb construction with the verb ‘give’ (W. Seiler 1985: 191, 1989). The serial verb construction is in bold.

- 15.5 sa ka-m **pōt-ai-h-u** Imonda
 coconut 1sg-GOAL pick.fruit-give-RECIPIENT-IMPV
 ‘Give me the coconut!’ (literally, pick.fruit give)

In 15.6, the same form *pui-* is used in a different function, as a classifier prefixed to the verb. It categorizes the coconut as a type of fruit which was picked, and refers to the object of picking, similar to example 1.9 in closely related Waris (W. Seiler 1985: 200).

- 15.6 sa ka **pōt-i-uagl-f** Imonda
 coconut 1sg CL:FRUIT.TO.BE.PICKED-LK-carry-PRES
 ‘I am carrying a coconut’ (lit. fruit.to.be.picked carry)

In Imonda, the classifier *pōt* ‘fruit to be picked’ is related to the verb *pōt* ‘pick fruit’. The choice of a verb of handling in Imonda and related languages is determined by the type of object and its properties. The verbs specify the way in which an object is being handled. As a result of fusion and phonological depletion within a single word serial verb construction, verbs of handling must have gradually lost their verbal meaning and became prefixes referring to the properties of the object. In this way, they acquired a classificatory function (see also §15.3.5 and Table 15.2, p. 311). In Olutec, a Mixe-Zoquean language from Mexico, two verbs ‘spread’ and ‘be together’ grammaticalized as verbal classifiers in erstwhile serial verb constructions (Zavala 2006: 294–7; see also Aikhenvald 2021d: 235).

Classifiers IN POSSESSIVE CONSTRUCTIONS may also originate from verbs. A number of possessive classifiers for inanimate objects in Pohnpeian can be traced to verbs of handling. The classifier *ullunge* for pillows comes from the

verb *ulung* ‘to use a pillow’, and the classifier *ipe* ‘sleeping covers’ is related to the verb *ipir* ‘to blow at, as the wind’ (Keating 1997). Large systems of NUMERAL CLASSIFIERS may involve terms with transparent verbal origin. Verbs of handling in Tzeltal which have given rise to numeral classifiers reflecting ‘arrangement’ include ‘strike with an open hand’, or ‘take large mouthfuls’, or ‘break between fingers’ (Berlin 1968: 213), ‘press’, or ‘break’, and ‘trap’ (Berlin 1968: 214).¹⁰

In no language do all numeral classifiers or all classifiers in possessive constructions come from verbs. At least some of these will come from nouns—summarized as Generalization 15.1. This is in contrast to classificatory existential verbs and affixed verbal classifiers (as in Imonda and Waris) and deictic classifiers which have a uniformly verbal origin.

Generalization 15.1 Origins of classifiers in possessive constructions

If a language has numeral classifiers or classifiers in possessive constructions which come from verbs, there will also be classifiers which go back to nouns.

DEVERBAL NOMINALIZATIONS are a frequent source of NUMERAL CLASSIFIERS. In Kazakh, many mensural classifiers can be transparently traced back to nominalizations verbs of handling and typical activities associated with the item (Jumabay et al. 2022: 314–15). For instance, the classifier *tızbek* ‘arrangement in a line’ goes back to the nominalized verb *tız-* ‘to arrange, put in order’.

CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS may come from deverbal nominalizations. In Oceanic languages, possessive classifiers **ka-* ‘food, edible items’ and **m(w)a-* ‘drink, drinkable items’ go back to a derivation from the Proto-Oceanic verbs ‘eat’ and ‘drink’ (Harrison 1988: 67, 74–5, Lichtenberg 1985: 99, and Lynch et al. 2003: 77–8). All the classifiers in possessive constructions in Cahuilla, a Uto-Aztecan language, are related to deverbal nominalizations (Seiler 1983: 36–8, 1977: 299–305). The classifiers describe the ways in which objects can be handled. Examples are *ʔáyʔa*, the classifier used for ‘fresh fruit or blossoms plucked from the tree’, from the transitive verb stem *ʔáy* ‘pluck’; *číʔa*, the classifier used for edible items fallen off the tree and picked from the ground, from *čí-* ‘pick from the ground’; and *wésʔa*,

¹⁰ That verbal classifiers may include terms grammaticalized from verbs shows that Mithun’s (1986: 388) suggestion that ‘all classificatory stems begin life as nouns’ is of limited validity.

the classifier used for planted trees and fruits, from *wés* ‘plant’. (Seiler 1977: 300–5).¹¹

15.2.3 Eclectic origins of classifiers

The whole system of classifiers may come from one word class. All numeral classifiers in nDrapa come from nouns (Huang 2022), and so do all noun classifiers in Minangkabau and in Akatek (Marnita 2016 and Zavala 2000). Nominal origin has been postulated for classifiers in multiple contexts in Shiwilu, in Kilivila, and across many North Arawak and Kampa languages (Valenzuela 2019: 77–8, Senft 1996, Aikhenvald 2019b, Mihás 2019).

Alternatively, classifiers may come from a variety of word classes. Most noun classifiers in Mam come from nouns, with the exception of the classifier for ‘man’ related to the adjective ‘big’ (England 1983: 158). About one-fifth of numeral classifiers in Minangkabau are of verbal origin, and the rest come from nouns. The majority of classifiers of verbal origin come from verbs which imply physical manipulation, such as *atua* ‘to pierce’ (for fish and small fruits on a skewer), *balah* ‘to cut in two parts’ (for objects cut in halves), *kapiang* ‘cut with an axe’ (for big pieces of wood). A few sortal shape-based classifiers with specific meaning come from verbs of handling typical for the classified object, e.g. *guluang* ‘to roll’ for a rolled object, such as a roll of paper’ (Marnita 2016).

Some numeral classifiers in Mayan languages come from roots termed ‘positionals’ indicating position or shape. These may be nouns in one language and verbs in another. In Tzotzil, classifiers from positional roots, or transitive roots which encode semantic dimensions of shape, size, material, position, etc. include *jav* ‘to cut, sever’ (positional), *jav-* ‘to be cut’ (intransitive verb), *-jav* ‘to cut’ (transitive verb) > *jov* ‘piece’ (numeral classifier) (De León 1987: 60–1).

Large sets of classifiers in possessive constructions tend to combine forms of nominal and of verbal origins. The majority of the fourteen possessive classifiers in Mussau-Emira come from nouns (Brownie and Brownie 2007). Two classifiers can be traced to verbs—*ropi-* for drinkable items and *usu-* for things to suck juice from. In addition, the classifier *ane-* for food or edible items is related to the Proto-Oceanic root ‘eat’ (following Harrison 1988: 67).

Verbal classifiers as bound morphemes in North American and South American languages typically come from nouns, but can also involve other sources.

¹¹ See Messineo and Gerzenstein (2007: 70–1) on the origins of possessive classifiers in Maká from participial forms and nominalizations, and Ciucci and Bertinetto (2019: 154) on Ayoreo.

In Cherokee, most classifiers are etymologically related to nouns in other Iroquoian languages. The classifier for ‘compact’ items can be traced to a plain verb root (Blankenship 1997: 97–8).¹²

15.3 How languages develop gender and classifiers

The mechanisms for the development of gender and classifiers of various kinds involve reinterpretation of

- generic-specific pairings—§15.3.1,
- components of compounds—§15.3.2,
- repeater constructions—§15.3.3,
- noun incorporation—§15.3.4, and
- verbs—§15.3.5.

In each case we are dealing with grammaticalization and subsequent reinterpretation and reanalysis of the erstwhile forms. Of these mechanisms, only the reinterpretation of generic-specific pairings can give rise to anaphoric, derivational, and agreement gender. All the other mechanisms lead to the development of classifiers.

A noun which grammaticalizes into a classifier may undergo phonological change (in agreement with general principles of phonological reduction in grammaticalization: Kuteva et al. 2019). In Akatek, the noun classifier for ‘man’ is *naj*, from the noun *winaj* ‘man’ (Zavala 2000). In contrast, in Minangkabau, the form of every noun classifier is the same as that of the corresponding noun (Marnita 2016).

15.3.1 Generic-specific pairings

Generic-specific pairings of nouns almost universally give rise to noun classifiers as free morphemes. This scenario has been documented across Australian languages. Here, noun classifier constructions go back to erstwhile combinations of a generic noun and a noun with specific reference (see Dixon 2002: 448–50). The generic noun will be the prime term and the head of the noun phrase. A specifier will be added as appropriate for clarification and disambiguation of referents. A story could begin with a generic noun, e.g. ‘there was (this) animal’. The specific noun, or the specifier, say, ‘dog’, ‘pig’, or ‘wallaby’,

¹² Some classificatory verb stems in Athabaskan and Wakashan languages are believed to have developed out of incorporated nouns and also from reinterpretation of extant verbs (Fortescue 2006).

will be added to distinguish one animal from another. The general term for ‘animal’ may gradually develop into a grammaticalized noun classifier. This pattern of development, from (a) to (b), is summarized in Diagram 15.2.

(a) Generic noun	specifier	>	(b) Classifier	specific noun
e.g. animal	pig		NOUN.CL:ANIMAL	pig

Diagram 15.2 Development of noun classifiers from generic nouns

In a noun phrase with a classifier and a noun (a), the noun is the head of the noun phrase. Grammaticalization path from (a) to (b) involves evolution from a generic noun to a noun classifier. The meaning of a noun classifier can differ from that of the corresponding noun in the language. In Yidiñ, *bana* means ‘water’, and the corresponding noun classifier *bana* ‘NOUN.CL:DRINKABLE’ refers to any drinkable item (Dixon 2015: 50–7).

A further OUTCOME of the development of a generic noun into a noun classifier may involve subsequent evolution of gender summarized in Diagram 15.3.

Generic noun > noun classifier > derivational gender > agreement gender

Diagram 15.3 A development path from a generic noun to gender

Once generic nouns have developed into a closed system of noun classifiers, they can give rise to genders. This involves reinterpreting noun classifiers as affixes to a noun they occur with and as agreement markers on accompanying modifiers. A prime example comes from the ongoing processes of grammaticalization in Ngan.gityemerri, from the Daly River area of northern Australia, a language with noun classifiers and genders (see Table 10.1, p. 188, in §10.2 and examples there, and example 13.1). The development from noun classifiers to agreement genders in this language follows six steps.

STEP 1 involves a generic-specific ‘pairing’ of nouns: a generic noun classifier precedes the specific noun it refers to. An example is in 15.7. Classifiers and gender markers are in bold.

15.7	[gagu	wamanggal]	NOUN.CL-NOUN	<i>Ngan.gityemerri</i>
	NOUN.CL:ANIMAL	wallaby		
	kerre	ngeben-da		
	big	1sgs+AUX-shoot		
	‘I shot a big wallaby’			

STEP 2 involves the occurrence of classifiers with adjectives on their own (with the noun omitted). Noun classifiers in Ngan.gityemerri are independent words and are often favoured over specific nouns, especially to maintain reference within a story. That is, a noun phrase can consist of a generic noun plus a modifier. We thus obtain a sequence of a noun classifier accompanying an adjective, as in 15.8.

- 15.8 **gagu** kerre ngeben-da *Ngan.gityemerri*
 NOUN.CL:ANIMAL big 1sgs+AUX-shoot
 ‘I shot a big animal [wallaby]’

STEP 3 involves classifiers with nouns and with adjectives as modifiers to nouns which are overtly stated. If specific nouns are included, both the specific noun and modifiers will be used with the noun classifiers. This ‘repetition’ of noun classifiers—attested in the language—is the precursor of agreement.

- 15.9 [**gagu** wamanggal]_{NOUN.CL-NOUN} *Ngan.gityemerri*
 NOUN.CL:ANIMAL wallaby
 [gagu kerre]_{NOUN.CL-ADJ} ngeben-da
 NOUN.CL:ANIMAL big 1sgs+AUX-shoot
 ‘I shot a big wallaby’ (lit. I shot a NOUN.CL:ANIMAL-wallaby
 NOUN.CL:ANIMAL-big)

STEP 4 involves phonological reduction of noun classifiers and development of agreement. Repeated noun classifiers cliticize to the specific nouns, and are reduced to proclitics which mark agreement, as in 15.10.

- 15.10 **wa=ngurmumba** **wa=ngayi** darany-fipal-nyine *Ngan.gityemerri*
 male=youth male=big 3sgs+AUX-return-FOCUS
 ‘My initiand son has just returned’

STEP 5 involves further development of gender or noun class prefixes. Gender or noun class marking proclitics become obligatory prefixes on the nouns and on agreeing modifiers. At this stage, they can be considered fully grammaticalized.

- 15.11 **wu**-pidirri **wu**-mákarri Ngan.gityemerri
 NOUN.CL:CANINE-dingo NOUN.CL:CANINE-bad
 ‘a bad dog’

STEP 6 involves ‘prefix absorption’: that is, a gender class prefix on a noun becomes lexicalized as part of it. Some prefixed roots may be interpreted as stems which can take further gender marking. This may lead to double class marking, e.g. *wa-mumu* (male-police) ‘policeman’; *wur-wa-mumu* (female-male-police) ‘policewoman’.

Similar scenarios apply in other Australian languages (see a survey in [Dixon 2002](#): 454–5, and [Sands 1995](#): 285–6).¹³ The development of agreement gender does not have to pass through the stage of derivational gender: this is a language-specific feature.

15.3.2 Grammaticalization and reinterpretation of compounds

Classifiers often originate in grammaticalized components of compound nouns. An erstwhile compound will consist of Noun 1 with a specific meaning plus Noun 2 with (a) either a general meaning or (b) a body part or a part-whole relation. The grammaticalization process involves reinterpretation of a part of compound into a noun classifier as a bound morpheme, as shown in Diagram 15.4.

NOUN 1 - NOUN 2  NOUN 1 - NOUN.CLASSIFIER

Diagram 15.4 A development path from part of a compound to a noun classifier

This process can be accompanied by semantic change, from a specific to a more general concept (following the process referred to as ‘desemantisation’ in studies of grammaticalization: [Kuteva et al. 2019](#); see also §15.4.1). The scenario in Diagram 15.4 is typical for many Arawak languages, including Apurinã, from southern Amazonia in Brazil. Apurinã has productive noun compounding ([Facundes 2000](#): 172–80). A set of obligatorily possessed

¹³ The development of gender agreement similar to Ngan.gityemerri was suggested for Marrithiyel, a related language ([Green 1989, 1997](#)); noun classifiers in Murrinhpatha appear to be developing into prefixes, which would suggest an ongoing development similar to Ngan.gityemerri ([Mansfield 2020](#): 170–9, p.c.). The discussion of noun classifiers in [Mansfield \(2020: 10–15\)](#) follows an idiosyncratic approach, and the exact status of noun classifiers in the language remains unclear.

nouns—which refer to body parts and manufactured elements—combine with semantically appropriate nouns as second components of compounds. For instance, the noun *-muna* ‘trunk (of something)’ forms transparent compounds with terms for trees, e.g. *āā-muna* (plant-trunk.of) ‘tree trunk’. In combination with nouns of other semantic groups, *-muna* undergoes semantic change based on the shape and dimensionality of the object, from ‘trunk (of something)’ to ‘cylindrical object’, as in *aiko-muna* (house-trunk.of) ‘house beam’ (cylindrical part of a house) or *lātehna-muna* (torch/flashlight-trunk.of) ‘tube of a torch’ (cylindrical part of a torch). Apurinã has a closed set of over twenty bound nouns of this kind which can be synchronically considered noun classifier affixes.

Following the mechanisms similar to those described for Ngan.gityemerri in §15.3.1, bound noun classifiers may expand to further contexts. These contexts may include number words, giving rise to numeral classifiers, as suggested for nDrapa (Huang 2022: 230–1). They can also include demonstratives, adjectives and other modifiers, as suggested by Kießling (2013: 60) for Niger-Congo languages.¹⁴ Or they may develop into classifiers in multiple contexts.

15.3.3 Repeaters as a source for classifiers

In many languages of Mainland Southeast Asia and Amazonia, an alternative to using a specific classifier is a repeater, or ‘autoclassifier’, technique, especially if no appropriate classifier is available. Then the noun itself will occur in the classifier slot (see §5.1.6, §7.2, §11.5, and §12.7.2). A repeated form will categorize the unique referent of the noun (see a summary in Aikhenvald 2003a: 361–2).

Over the course of language history, repeaters and partial repeaters evolve into classifiers. This pathway was suggested by Hashimoto (1977: 74) for Chinese. The original form of the classifier construction in Chinese involved the putative repeater structure in 15.12.

15.12 noun₁ + number word + noun₂ (where noun₁=noun₂)

¹⁴ The pathway from a head of a compound to a derivational gender marker and then to agreement marker in the history of Bantu languages was also suggested by Claudi (1997); see a summary in Katamba (2003: §3).

This was documented in the language of the Western Chou dynasty (221–206 BC). In the course of history, the repeated part ‘underwent certain generalization or unification’, with more general terms substituting the specific, repeated item. As Hashimoto (1977: 74) puts it, ‘the first step of such generalisation can be seen in the following phrase ...: *ch’iang¹ shih² jen²* (Kiang ten person) “ten Kiangs (a tribal name)”, where, instead of repeating the tribal name, a general term for “man”, *jen²*, is substituted for *ch’iang¹*, “Kiang” (see also Evans 2022a, for the role of repeaters in the development of numeral classifiers in Bodo-Garo languages). The largest subset of numeral classifiers in Dimasa comes from repeaters, full or partial. For instance, the classifier *groy-* ‘seed-like items’ comes from the noun *bgroy* ‘seed’, and the classifier *bar* ‘flower’ comes from the noun *bubar* ‘flower, blossom’ (Evans 2022b: 186).¹⁵

Repeaters can expand their meanings to subsume more than just one single referent following the principles of semantic extension by important property and function. The repeater technique can be considered a bridging context for the development of unique and specific classifiers extended to cover a larger set of items.

15.3.4 Incorporated nouns as a source for verbal classifiers

Noun incorporation involves a noun added to a verb. The resulting construction will be also a verb which will form one grammatical word. A relatively common type of noun incorporation is classificatory noun incorporation (see §8.1.2). Incorporated nouns often give rise to verbal classifiers. Verbal classifiers in Mayali clearly stem from classificatory noun incorporation, as we saw in §8.1.2 (and examples 8.12–8.13).

Verbal classifiers in many languages, including Palikur, can be traced to incorporated body parts. In contrast to Australian languages, only obligatory possessed nouns—including body parts—typically undergo noun incorporation in Amazonian languages. The verbal classifiers in Palikur (Table 10.3, p. 195) which are transparently related to incorporated body or plant parts are *-kiya/-kig* ‘VERB.CL: POINTED OBJECT’ from *-kig* ‘nose’ and *-kat* ‘trunk-like’ from *-kat* ‘tree trunk’. Synchronically, however, incorporated body parts tend

¹⁵ See further examples of repeaters and partial repeaters Murui in Wojtylak (2021a: 191–2); and Hashimoto (1977: 75) for Newari.

to be syntactically and semantically distinct from the same items grammaticalized as verbal classifiers (as we saw in §8.1.2 for Mayali and in §8.3 for Palikur).

15.3.5 Reinterpretation of verbs in the evolution of classifiers

Positional verbs ‘stand’, ‘sit’, and ‘lie’ regularly develop into classificatory existential verbs, as we saw in §15.2.2. This development involves reinterpretation. Long items are often viewed as ‘standing’ and round and squat ones as ‘sitting’. We saw in §15.2.2 and in Tables 8.4 and 8.6, pp. 165 and 167, for Enga and Waris that the use of these and other verbs with referents based on their shape is subject to grammatical rules. Some of their meanings and uses are not fully transparent.

Posture verbs are also a typical source for deictic classifiers (as we saw in §15.2.2). The choice of positional verbs correlates with the prototypical position of a referent—‘standing’ for vertical items, ‘lying’ for horizontal and extended objects, and ‘sitting’ for quadrupeds and round referents (see [Ceria and Sandalo 1995](#): 181 for Guaycuruan languages and [Rankin 2004](#) for Siouan). Classifiers retain a synchronic link with the source verb (see also §9.2).

A tendency for posture verbs to develop classificatory overtones, that is, to be used to classify their S argument in terms of its form, is attested in other languages (see §8.5, on how these have to be distinguished). Some suppletive classificatory verbs in Athabaskan and Wakashan languages are believed to have evolved as a consequence of reinterpretation and semantic extension of verbs of position, motion, and handling. For instance, the classificatory verb root *c’is-* ‘to put something line-like, e.g. a rope’ in Nuuchahnulth categorizes the type of object placed or handled. The verb goes back to Proto-Wakashan **ci(:)s-* or **ci’?is-* ‘wind up or braid’ (further examples and discussion are in [Fortescue 2006](#): 279–81).

Verbal classifiers as bound morphemes may come from grammaticalization and subsequent reinterpretation of verbs referring to conventional patterns of handling, within serial verb constructions. This scenario appears limited to just a few languages of the world. This was illustrated in 15.5–15.6 for Imonda in §15.2.2. A selection of verbal classifiers in Imonda and their source verbs is in Table 15.2.

An example such as 15.5 could have meant, at an earlier stage, ‘pick (up) give me coconut’.

The first verb was originally specifying a way of manipulating an object in this state (a typical function of a component in a serial verb construction).

Table 15.2 A selection of verbal classifiers in Imonda

verbal classifier	semantics	source verb	semantics
<i>pōt-</i>	‘fruit to be picked’	<i>pōt</i>	‘pick fruit’
<i>pui-</i>	‘objects which are breakable’	<i>puiual</i>	‘break in two’
<i>ninge-</i>	‘vegetables’	<i>ningev</i>	‘tie up’

It gradually lost its verbal meaning in this context and was reanalysed as a classifier for the noun in object function.

15.3.6 Developing classifiers and gender: Interim conclusions

Table 15.3 summarizes our expectations with regard to the origins of different classifier types.

Table 15.3 Historical development of classifiers: Our expectations

Pathways and sources	Classifier type
I. Generic-specific pairings (§15.3.1)	noun classifiers as free morphemes classifiers in possessive constructions
II. Components of nominal compounds (§15.3.2)	noun classifiers as bound morphemes, numeral classifiers, classifiers in multiple environments
III. Repeaters and partial repeaters (§15.3.3)	numeral classifiers, classifiers in multiple environments
IV. Classificatory noun incorporation (§15.3.4)	verbal classifiers
V. Reinterpretation of verbs (§15.3.5)	classificatory positional and motion verbs deictic classifiers suppletive classificatory verbs verbs of handling in single-word serial verb constructions

Of the five pathways in Table 15.3, Pathways I and II can be historically connected. Generic-specific pairings can give rise to nominal compounds. The generic component may then develop into a noun classifier, and extend into other classifier contexts.

Pathway III involves the development of a repeater into an established classifier. This creates a link between Pathway III and Pathway II: a component of a compound effectively grammaticalizes into a classifier. Pathways IV and

V involve grammaticalization and reinterpretation of components of a verbal word. Their outcome is verbal classifiers of different kinds and also the rare type of deictic classifiers. This is what sets these pathways apart from Pathways I–III.

In contrast to all classifier types, gender can originate in closed classes of pronouns. As we saw in 15.1, for Zande, the pronouns themselves may originate in generic nouns. This reflects the potential for a common history of classifiers and gender.

We hypothesize that most—if not all—pathways will be at work in the development of classifiers in multiple contexts within one language. However, while each of the Pathways I–V may account for the development of some of the terms, there may still remain an unexplainable residue. The older the system, the harder it is to pinpoint the exact source of all its members.

15.4 How gender and classifiers change in language history

When a lexical item develops into a classifier, it undergoes semantic change—see §15.4.1. In many instances, the original meaning of the form has to be reconstructed based on the comparison with languages of the same family. Languages with a long-term written tradition offer more. Here, we find evidence for the evolution of classifiers over time—see §15.4.2. In §15.4.3, we turn to the development and reshaping of gender in language history. Over time, classifiers can undergo further changes—see §15.4.4.

15.4.1 From a lexical item to a classifier: Pathways of semantic change

Semantic changes, from a lexical item to a classifier, reflect general tendencies outlined within the framework of grammaticalization theory. These include abstraction and metaphorical extensions (cf. Heine, Claudi, and Hünemeyer 1991: 39–45). We often find a meaning change from a more concrete notion to a more abstract notion. For instance, a noun meaning ‘fruit’ or ‘stone’ develops into a classifier for ‘round objects’.

Nouns which cover a general group of items may develop into classifiers with a general meaning. The general term for ‘person’ is a frequent source for noun classifiers with the same meaning in Australian languages. In

Minangkabau, *batang* ‘tree, tree trunk’ (a reflex of Proto-Austronesian ‘trunk; tree; timber; platform’: Conklin 1981: 259) is used as a generic classifier for all trees, and the generic term *bungo* ‘flower’ is used as a generic noun classifier for flowers (Marnita 2016). Along similar lines, superordinate nouns meaning ‘man’ or ‘woman’ often give rise to gender markers (see 15.1, for Zande).

In many languages of Southeast Asia, default classifiers are based on a generic term for ‘person’ (or ‘body’: Adams 1992: 110). A generic noun, ‘domestic animal’, when used as a verbal classifier, covers all animals, in Cayuga, an Iroquoian language (Mithun 1986: 387, 389).

In each instance, semantic developments involve extensions by physical or functional association and important property (along the lines of the semantic extensions of established classifiers discussed in §12.8). The most common changes from a lexical item to a classifier go along the following four paths.¹⁶

A. PART-WHOLE RELATIONSHIPS constitute a frequent basis for classifiers with nominal origin following the principle of metonymy, that is, defining the whole by its part(s). The polysemous numeral classifier *tua* which covers animals and other animates in Thai and other Tai languages originates in the word ‘body’ (see Conklin 1981: 135–6, Carpenter 1986, 1987: 46, and Yuttapongdada 2012, and Diagram 15.5, p. 317). The term for ‘eye’ evolved into a numeral classifier for humans in a number of Austroasiatic languages. The noun ‘tail’ developed into a numeral classifier for animals in Indonesian and Minangkabau (*ekor* and *ikua* respectively). The numeral classifier *cha:* ‘humans’ in Upper Necaxa Totonac comes from the noun *cha:n* ‘shin’ (García-Vega 2018).

B. SALIENT SHAPE. The numeral classifier *buah* ‘round items’ in both Indonesian and Minangkabau goes back to the noun *buah* ‘fruit’. The numeral classifier *pwa-* in Nêlêmwa, from *pwa* ‘fruit’, applies to round objects, including *mwa* ‘house’ (as traditional houses used to be of round shape). It also applies to time nouns referring to temporal cycles, such as ‘day’, ‘hour’, ‘month’, and ‘year’ (Bril 2014). The term for ‘tree, tree-trunk’ is a frequent source of classifiers for vertical items. Examples include the numeral classifier *batang* (NUM.CL:VERT) in Minangkabau (example 10.28) and the verbal classifier *ah* ‘vertical objects’ in Palikur, from the noun ‘tree, tree trunk’ (Table 10.3, p. 195). Body parts may

¹⁶ Further examples are in Aikhenvald (2003a: 401–6, 442–6); Further examples of the development of numeral classifiers from kinship terms and from body parts in Austroasiatic languages are in Adams (1989: 57, 67, 71, 77, 93, 1992: 109–10) and Conklin (1981: 135 ff.). See Wilkins (1996) for a general discussion of semantic change in body part terms and recurrent polysemies, such as ‘head’ and ‘top (of something)’. See Peyraube (1991: 116), Erbaugh (1986), Bisang (1996), and Wang (1994), and references there for the lexical origins of classifiers in Chinese.

develop into shape-related classifiers of different types. For instance, ‘head’ often becomes classifier for round objects. In Mundurukú, a Tupí language from Brazil, *a*² ‘head’ is a classifier for round objects in multiple contexts (Gonçalves 1987: 24). Athabaskan verbal classifier *d* which refers to roundish objects is etymologically related to **də* ‘head’ in Proto-Eyak-Athabaskan (Jeff Leer, p.c.). In Gumuz, the verbal classifier *-(V)k’w* and its variant *-ilúk’w* ‘head’ cover round entities, including eggs, pots, pans, cans, and also people and animals, as we saw in 8.11 (Ahland 2012: 273–4).

‘Eye’ is a frequent source for classifiers for round and small objects. In Kana, the ‘numeral classifier for spot-like objects’ derives from ‘eye’ (Ikoro 1996). In Gumuz (Ahland 2012: 269–335), the suffixed verbal classifier *-(V)c*—which categorizes small seed-like objects and a variety of similar entities—is transparently related to the noun ‘eye’.

A frequent source for a classifier for flat and flexible objects or objects with extended surface is the word for skin. In Baniwa of Içana and Tariana *-ya*, a classifier for spread out, flat objects, such as skins, comes from *-ya* ‘skin’. In Kana, *ákpá*, a classifier for flat objects, also comes from the noun meaning ‘skin’ (Ikoro 1996: 96).

Shape-based extensions of other body parts may evolve into classifiers. In Gumuz, the verbal classifier *-íl* which categorizes entities which have a concave or convex surface or encompass a large area, such as bowls, pits, and fields, comes from the noun ‘belly’. The noun ‘ear’ developed into the verbal classifier for flat, thin, and flexible objects; and ‘tooth’ evolved into a classifier for sharp items (Ahland 2012: 274–9, §8.1.1).

Classifiers for round objects are a frequent source of general residue classifiers (see §12.7). This follows a common tendency across Oceanic languages (Bril 2014: 177–8). In Teiwa, a Papuan language from the Alor-Pantar area of Indonesia, the general numeral classifier *bag* which is used as a residue and as a default option comes from the noun ‘seed’ (Klamer 2014: 143). The general classifier in Indonesian and Minangkabau is *buah*, originally meaning ‘fruit’ (further similar examples from Tai-Kadai languages are in Conklin 1981: 150, and Burusphat 2007b: 149).

C. MATERIAL MAKE-UP AND CONSISTENCY. The term ‘water’ often gives rise to a classifier for drinkable liquids. Examples include *kuru* ‘water, NOUN.CL:DRINKABLE.LIQUID’ in Ngan.gityemerri (Reid 1997), *bana* ‘fresh water, NOUN.CL:DRINKABLE.LIQUID’ in Yidiñ (Dixon 1982: 199), and *del* ‘water, CL.LIQUID’ (Valenzuela 2019: 77). In the languages of Q’anjob’alan branch of Mayan the noun classifier for corn is used for corn, and also for

products made of corn and for newly introduced grains. The noun classifier for ‘rock’ is used with objects made of stone. Names of newly introduced objects made of metal—cars, planes, and items made of wire—are also assigned to the class of ‘rocks’ (Zavala 1992: 158–9; further examples are in §6.1.2).

D. FUNCTION. In Ngan.gityemerri *syiri* ‘weapon’ became extended to all things which involve striking, e.g. lightning; and *yawurr* ‘tree’ was extended to all wooden artefacts, and then to all modern manufactured products, even if they are not made of wood (Reid 1997). In Akatek, noun classifier for ‘animals’ subsumes all animals and also animal products, fungi, and now plastic products (Zavala 2000: 134–6). The possessive classifier *were* ‘POSS.CL:VEHICLES’ in Pohnpeian is a grammaticalized form of the noun *wahr* ‘canoe’ (see Keating 1997: 252–3).

Material make-up and function often form a joint basis for semantic development from a noun to a classifier. In Ngan.gityemerri, *yenggi* ‘fire’ is used, as a noun classifier, to classify all things associated with fire, such as firewood, charcoal, smoke, firestick (Reid 1997). The way in which a noun with specific reference can become a generic classifier for the whole group to functionally related items is reminiscent of the development from a prototypical item to those related to it based on important property (discussed in §12.8).

When a verb or a deverbal nominalization develops into a classifier, it will specify some of the properties of its original argument in S, or O function, and more rarely, of an oblique (see §8.3). We saw in §15.3.5 that posture verbs develop into deictic classifiers and verbal classifiers which refer to the shape and orientation based on the extension of a typical posture of the S argument. Then, the verb ‘stand’ becomes a classifier for vertical or one-dimensional referents which may also be large and strong. ‘Lie’ becomes a classifier for two-dimensional or horizontal objects, which can be associated with the ground. ‘Sit’ tends to be associated with three-dimensionality, or roundness.

Verbs of handling and manipulation develop into verbal classifiers which refer to the function of the object or the way it has to be handled. In Imonda, ‘pick fruit’ became a verbal classifier for ‘fruit to be picked’, and ‘break in two’ for ‘objects which are normally broken’ (Table 15.2, p. 311). Nominalizations of verbs of handling have given rise to classifiers in possessive constructions in Cahuilla (Seiler 1983: 36–8, 1977: 299–305, and §15.2.2).

Verbs from other semantic groups may become specific numeral classifiers based on relationship between the activity and the shape, or type of object

involved. For instance, the verb ‘spread out’ developed into a classifier for ‘clothing’ (flat, foldable) in Tai languages and to ‘mats’ in Makassar (Conklin 1981: 167, 442). Each of these developments involve extension by important property and function.

15.4.2 How classifiers change over time

Languages with a long-standing written tradition offer evidence for the development of classifiers over time. The meanings of individual classifiers can expand to cover newly introduced items. The classifier *khan* in Thai—traditionally used for objects with long handles—was extended to rickshaws, introduced to Thailand in 1871, and then to bicycles (the first Western vehicle to be used in the country). From then on, it has been expanding to all means of transport covering cars, motorcycles, and buses. This extension was based on the salient function—a vehicle, and has happened over the last century (captured in Diagram 12.3, p. 253; and Carpenter 1986: 19).

The classifier *tua* in Thai subsumes a wide and seemingly disparate variety of entities—from animals to clothing and letters of the alphabet. The directionality of multiple extensions, from the original reference to the body of an animal (or a human), partly reflects the historically attested development of this form over the past centuries (described by Carpenter 1987: 46 and Yuttapongdada 2012). The form itself comes from the noun ‘body’. The attested history of the classifier *tua* in Thai goes back to the Sukhotai period (starting in the late thirteenth century). From then till present, the classifier gradually extended its meanings, from ‘body’ of a human or an animal to further items (Yuttapongdada 2012). Diagram 15.5 reflects the range of extensions of *tua* (based on Carpenter 1987: 46).

As Carpenter (1987: 45–6) put it, *tua* ‘covers a wide, but not incoherent, range of things. The articles of clothing used with /tua/ are trousers, shirts, jackets, skirts, and, less often, dresses, underwear, and bathing suits. The items of furniture most likely to be used with /tua/ are tables and chairs, and less often, dressers and beds.’

These extensions suggest that it is **THE PRESENCE OF LIMBS**, giving these objects a body-like shape, that causes speakers to classify them with /tua/. Originally, the classifier was used with animals, and the prototype is probably some good **QUADRUPEDAL ANIMAL**, such as a dog or a water buffalo.

Tables and chairs were included on the basis of **SHAPE**, either because of their general quadrupedal outline or perhaps because of the specific presence

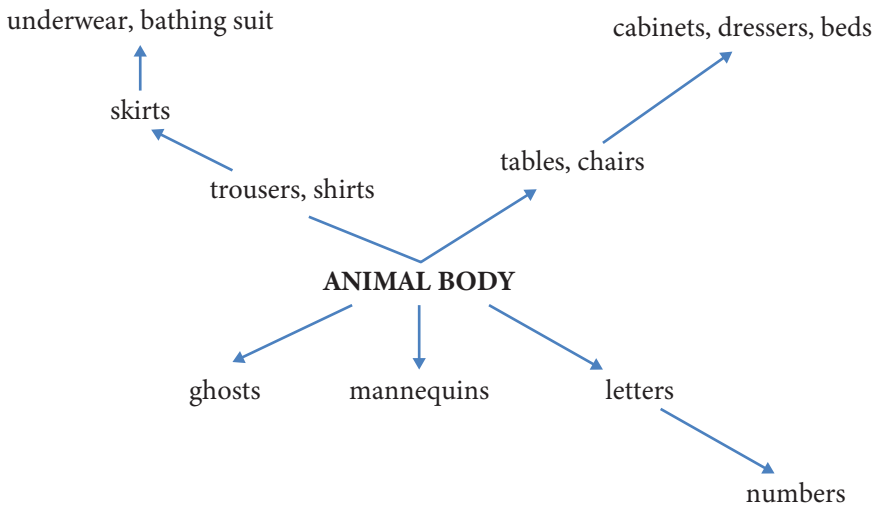


Diagram 15.5 Semantic range of the classifier *tua* in Thai

of limbs. Other kinds of furniture were then added because of their shared **FUNCTION** with tables and chairs.

Trousers and shirts were also included because of their **SHAPE**, again either because generally they follow the contours of the body of their wearer, or specifically because they have limbs. Other kinds of clothing were included because of their **SHAPES**. Letter (of the alphabet) in Thai is a compound */tua nangseu/* ‘body book’, so a combination of shape and repetition of the generic compound head caused letters to be classified with */tua/*. Numbers were included either on the basis of shape or by their shared function with letters. Ghosts were included because of their similarity with the shape of a human body. Humans can be used with *tua* if they are considered bad, that is, on a par with animals.¹⁷

The classifier *tua* continues expanding. Recently, it started being used with newly introduced objects, including radio, tape recorder, and computers, and also with financial terms, including ‘stock’, ‘merchandise’, and ‘medicine’. A number of relatively new devices—among them camera, machinery, and computer, used to have a classifier of their own (based on a repeater or a partial repeater) when they were first introduced into Thai. They are now conventionally referred to with *tua*. The innovative use of *tua* to count university

¹⁷ In Carpenter’s (1987: 46) words, “the internal structure” of *tua*, then, clearly, mixes prototypes and chains, with strongest members being those closest to an animate quadruped, but some chaining based on similarities to non-prototypical members’.

courses commenced in the past decades when the grade system using letters replaced percentage assessment. The letter grades (A, B, C, D, etc.) are categorized with *tua* and so this classifier has been extended to cover courses and subjects associated with the grades. The usage has not been accepted by the Royal Institute (the major prescriptive authority for the Thai language), where only *wichaa* (and not *tua*) is listed as the appropriate classifier for university courses (Deepadung 1997: 52–3, Burusphat 2007a: 122–3).

The use of *tua* has its limits. We mentioned in §14.1.2, that this classifier is not deemed appropriate with animals (dogs and elephants) associated with royalty (example 14.3). The high and unique status of these is reflected in the use of repeaters—classifiers for one of a kind. Once again, the cultural preoccupations of speakers, and of linguistic policy-makers, affect the classifier use (more on this in Diller 1985 and Juntanamalaga 1988, and §16.3).

A semantic extension of a classifier may start its life as an instance of an idiosyncratic use, which may then gradually grow into a convention. A further recent innovation in Thai involves the use of the classifier *lêm* ‘books’, ‘notebooks’ as an alternative classifier for university courses (see Diagram 12.4, p. 254). According to Burusphat (2007a: 123), ‘this innovative classification of courses with *lêm* originated from Ramkhamhaeng University, where one book is used as required reading for one subject’, and then spread to other universities.

A specific or unique classifier may gradually expand to more than just one referent, based on a function or another property they share, if communicative necessity arises. The classifier *-whya* ‘canoe’ in Tariana is a case in point. Canoes used to be the only means of transportation for this river-oriented people. As the Tariana started acquiring knowledge of, and access to, other means of transport, new derivations emerged with the classifier *-whya*, e.g. *ka-koloka-whya* (ATTR-roll-CL:CANOE) ‘car’ and *ka-araka-whya* (ATTR-fly-CL:CANOE) ‘aeroplane’. During the life-time of those speakers who were born in the 1910–20s, what used to be a unique classifier for a unique important object was extended to classify objects by the function, covering new means of transportation (see Gerdts and Hinkson 2004, on a similar development in Halkomelem).

The evolution of classifiers and their semantic changes have been traced across the history of Chinese. Numeral classifiers do not appear to have been in use in the documents from the Pre-Archaic Chinese (fourteenth to eleventh centuries BC) nor in Early Archaic Chinese (eleventh to sixth centuries BC) (Peyraube 1991). During the Classical Chinese period (starting from

500 BC), number words were commonly used ‘without the need for a classifier’ (Pulleybank 1995: 59). The few forms used in counting included *pí* ‘horses’, *shèng* and *liàng* for ‘carriages’, and *gè* for ‘arrows.’ Productive use of classifiers with number words started under the Early Han Dynasty (second century BC) and spread during the Early Medieval Period. Following a similar development for measure terms, the order of numeral classifiers changed from a post-nominal to a prenominal position, in the Late Medieval period (starting c. 850 AD; see the discussion in [Peyraube 1991, 1998](#)).

Table 15.4 illustrates the historically attested semantic changes from specific to more general reference of three Mandarin Chinese classifiers ([Erbaugh 1986](#): 428–31).

Table 15.4 Historical changes in three Mandarin Chinese classifiers

Dynasty, time	classifier <i>tiáo</i>	classifier <i>méi</i>	classifier <i>gè</i>
SHANG ca.1400 B.C.	small branch	trunk of bamboo tree	bamboo
ZHOU 1100 B.C.	↓	trees	↓
QIN 255 B.C.	sticks	wooden objects	↓
HAN 200 B.C.	↓	↓	lengths of bamboo
POST-HAN 25 A.D.	snakes, lengths of cloth, strings of gold ingots	flutes, swords, birds, fish, jewels, dishes	arrows
TANG 600-900 A.D.	↓	↓	↓
	string, clothing	general classifier	arrows, candles, dogs, chickens, horses
SONG 960-1117 A.D.	↓	↓	↓
	long things in general		fruit, birds, people
MING 1368-1643 A.D.	↓	↓	↓
			general
QING 1644-1912 A.D.	↓	↓	↓
			classifier for people, and unclassified objects
MODERN 1912-	↓	virtually dies out except for needles, badges	

Semantic extensions attested across the history of Mandarin Chinese are based on shape, which is the preferred semantic property of numeral classifiers (see §12.2.2, and Table 12.7, p. 255). For instance, the classifier *kē* was first used to classify peaches, then all fruits, and then extended to all small and round objects, following the principles in B in §15.4.1 (Erbaugh 1986: 430).¹⁸ Extralinguistic factors, such as the cultural importance of an object, may also influence the rate of change. Some Chinese classifiers, e.g. *pǐ* ‘horses’ and *běn* ‘books’ have retained their exclusive reference.

15.4.3 Reshaping gender

Genders change, expand, and contract in a variety of ways. Derivational gender markers on nouns can start being used on personal pronouns, and then develop into anaphoric gender (along the lines of §15.1.3). South Dravidian languages innovated a feminine singular form in personal pronouns by extending the feminine derivational suffix **-aɭ* to the pronominal root **aw*. The feminine personal pronoun *awaɭ* was created following the analogy of pairs such as **mak-antu* ‘son’, **mak-aɭ* ‘daughter’. This new anaphoric gender has its roots in an erstwhile derivational marker (Krishnamurti 2003: 211).¹⁹

The composition and the principles of gender choice may change.

A. CHANGES IN PRINCIPLES OF GENDER ASSIGNMENT. In Hausa, feminine gender is currently assigned on the basis of the noun’s phonological form: nouns in *-aa* are feminine (see Newman 2000). This ending goes back to a fossilized derivational suffix used to form feminine nouns. What used to be a morphological principle of assignment has now shifted to a phonological basis.

B. CHANGES IN COMPOSITION AND THE MEANINGS OF GENDERS. Konkani, an Indo-Aryan language spoken on the west coast of India, has three genders—masculine, feminine, and neuter—inherited from the proto-language. There is anaphoric gender in pronouns, and gender agreement on some adjectives and verbs. In some dialects of the language, the neuter gender can now be used to

¹⁸ For the origins and development of classifiers across Chinese varieties, see Peyraube and Wiebusch (1993), Bisang (1996); and Shi and Li (2002), Lee (2014: 59) for attested semantic changes in a function-based numeral classifier *tai* in Korean.

¹⁹ Further discussion and alternative approaches to the history and reconstruction of gender in Dravidian languages, and the reduction in the number of genders in some languages, are in Krishnamurti (2003: 210–17) and Steever (2019). See Dixon (2002: 503–4) and references there on the development of gender agreement on different targets in different languages of the Mindi subgroup of Australian languages.

refer to young women (or those who are relatively young, from the speaker's viewpoint: [Miranda 1975](#): 209–11).

The gender-number pair 1/2 in Bantu languages is reconstructed as covering humans and some animates (as we saw in Table 2.2, p. 37, in §2.2.3). Across Bantu languages, it can expand to cover non-human animates. In Kuria, this class includes just personified animals ([Aksenova and Toporova 1994](#): 76), and in Pogoro and Tonga all animals are included in this class ([Aksenova and Toporova 1990](#): 28). In a number of Bantu languages, including Teke, some animate nouns originally belonged to the noun class 9/10 and shifted into Class 1/2, by semantic analogy. Consequently, in these languages, the erstwhile 'human' noun class (1/2) has become 'animate' ([Good forthcoming](#): §2.2).²⁰

C. CHANGES IN THE PRINCIPLES OF GENDER AGREEMENT. Gender agreement based on form may become more meaning-based. The German word for girl, *Mädchen*, belongs to the neuter gender, on morphological grounds (as we saw in §2.3.2). This noun contains the diminutive suffix *-chen* always associated with the neuter gender. Recent studies have demonstrated that the feminine pronoun *sie* 'she' (and not the neuter pronoun *es* 'it') tends to be consistently used to refer to girls (especially eighteen and older: [Braun and Haig 2010](#)). A meaning-based choice of gender form overrides the one based on form (see example 2.14 in §2.3.2). The gender choice is changing—becoming more meaning-based, and especially so in pronouns. This follows the principles of the Agreement Hierarchy (Diagram 3.1, p. 58 in §3.1.3).

D. WHEN GENDERS REGROUP: REINTERPRETATION AND REANALYSIS. Loss of one gender within a system may trigger changes in the whole system. In many Indo-European languages with three genders—feminine, masculine, and neuter—the neuter has been the weakest.

Latin had three genders—masculine, feminine, and neuter. These were marked on the noun itself, and also through agreement on adjectives, possessive pronouns, and so on. Most Romance languages lost the neuter gender, and now have just masculine and feminine. Gender is shown by the ending of the noun. For instance, Latin *caballus* 'horse' gave rise to Italian *cavallo*, Spanish

²⁰ See [Wald \(1975: 271–2\)](#), for further examples of changes in the semantic composition of Bantu noun classes, [Good \(forthcoming\)](#) and [Katamba \(2003: §6\)](#) on class mergers across Bantu, and [Maho \(1999\)](#) for a comprehensive study of noun classes across Bantu languages. Proto-Bantu is uncontroversially reconstructed as having had prefixal noun class markers. In a few Bantu languages, noun class suffixes are often considered later developments (e.g. the discussion in [Guérois 2016](#), and a summary in [Katamba 2003: §3](#) and [Good forthcoming](#)). The reduction and rearrangement of noun class markers across the dialects of Swahili ([Nurse 1997: 281–3](#)) may be due to partial creolization of the language.

caballo, Portuguese *cavalo*, and French *cheval* (Posner 1966: 132). Agreement gender is shown in the modifiers, including adjectives, articles, and possessive pronouns, e.g. Italian *il monte* (DEF.ARTICLE.masc.sg mountain), French *le mont*, Portuguese *o monte*, Spanish *el monte* (all from Latin *mons*, *montem* ‘mountain’ (masculine)); and Italian *la notte* (DEF.ARTICLE.fem.sg night), French *la nuit*, Spanish *la noche*, Portuguese *a noite* (from Latin *nox*, *noctem* ‘night’ (feminine)). Anaphoric gender is a feature of personal pronouns.²¹

The erstwhile Latin neuter nouns were redistributed between masculine and feminine. Nouns of the second declension (which contained numerous masculine nouns) became masculine. For instance, the neuter noun *ferrum* ‘iron’ in Latin evolved into masculine forms in Italian and Portuguese *ferro*, Spanish *hierro*, French *fer*, Catalan *ferre*, Sardinian *ferru*.

Some Latin neuter nouns had variable gender in Latin itself. They became masculine in some languages and feminine in others. The descendant of the Latin neuter noun *mare* ‘sea’ is feminine in French (*la mer*), but masculine in Portuguese (*o mar*) and in Spanish (*el mar*; but old Spanish *la mar*). According to Pope (1952: 304), *mer* ‘sea’ in French was co-opted into the feminine gender by analogy with its counterpart, *terre* ‘earth, ground’ (Latin *terra*, also feminine). Some Latin neuter plurals ending in *-a* were drawn into the feminine gender, as their ending *-a* was reinterpreted as a feminine gender marker. The Latin neuter plural *arma* ‘arms’ evolved into feminine nouns *arma* in Italian, Sardinian, Catalan, Spanish, Portuguese and *arme* in French. In many Romance languages, terms for trees belonged to the second declension and were masculine (ending in a consonant), and thus were assigned masculine gender based on their phonological form. Fruit names came to be treated as feminine as the result of the reanalysis of the neuter plural in *-a* (as a feminine ending), by analogy with typically feminine nouns in *-a*.

This analogical development gave rise to the common pairs of the masculine for trees and feminine for related fruit in Italian, Corsican, Tuscan, and

²¹ See Posner (1966: 132), Pope (1952: 304), Matasović (2004: 49–52), and Loporcaro (2016) on the evolution of gender in Romance. One of the reasons for the demise of the neuter gender could have been the weakening of the final unstressed syllable (see also §15.6). In the history of French, masculine and neuter endings merged in the period between the end of the fifth century and the end of the eleventh (Pope 1952: 304); as a result, neuter gender was lost. On the neuter gender in Romanian, see §4.1.1 and Maiden (2016a: 102). Loporcaro, Faraoni, and Gardani (2014) offer further evidence for the neuter gender in some Italian dialects; see also the discussion of the neuter anaphoric gender in Spanish and in Catalan in §4.1.3. According to Posner (1966: 135), the neuter article *lo* in Spanish may have been derived from the dialectal masculine of the same form. Masculine and feminine genders have fallen together into a ‘common’ gender in a number of Germanic languages (see Harbert 2007: 93–103). A summary is in Matasović (2004: 59–61).

the dialects of southern Italy, e.g. Calabrian and Sicilian *piro* ‘pear (tree)’ versus *pira* ‘pear (fruit)’ (Loporcaro 2016: 926, Ledgeway 2016a: 215, 2016b: 256). In Cantabrian Spanish and other dialects of the languages, and a few others, including the dialects of Southern Italy, a noun of feminine gender refers to a larger version of its masculine counterpart (see §12.2.1; Holmquist 1991, Pountain 2005), e.g. Standard Italian *spillo* ‘pin’ (masculine) versus *spilla* ‘brooch’ (feminine), Neapolitan *caniosto* ‘small basket’ versus *canista* ‘large basket’ (Ledgeway 2016a: 215–16, 2016b: 256). A further distinction between mass and count nouns in the dialects of southern Italy and in rural Spanish in Cantabria and Old Castile resulted in the emergence of an additional neuter gender for mass nouns, giving rise to a four gender system (Loporcaro 2016: 932–3, Ledgeway 2016b: 256, Tuten et al. 2016: 398).

The history of gender in English is a story of partial loss and partial reinterpretation. Gender in English—if compared to its direct ancestor, Old English (and to Proto-Germanic)—is distinctly impoverished. Old English had three genders—masculine, feminine, and neuter. Genders were marked on nouns themselves, and on agreeing modifiers. Nouns of different genders belonged to different declensions.²² Gender agreement forms of the demonstrative ‘this’ are shown in 15.13–15.15.

15.13	se this.masc.sg ‘this king’	cýning king.masc.sg	Old English
15.14	sēō this.fem.sg ‘this queen’	cwēn queen.masc.sg	Old English
15.15	þæt this.neut.sg ‘this ship’	scīp ship.neut.sg	Old English

Most nouns denoting men were grammatically masculine (e.g. *man*, *secg* ‘man’, *wer* ‘man’) and nouns denoting women were feminine (e.g. *mægd* ‘maid’, *cwen* ‘queen’). There were a number of notable exceptions for nouns referring to females—the masculine noun *wifmann* ‘woman’; and neuter nouns

²² A comprehensive source-based investigation of the use of anaphoric gendered pronouns and the gradual shift from grammatical to semantic basis in anaphoric gender in English is in Curzan (2003: 58–132) and references there. A summary is in Matasović (2004: 58–61). Curzan (2003: 47–54) addresses the possible external causes in the demise of gender agreement in English.

wif ‘woman’ and *mægden* ‘maiden’. Anaphoric gender—marked in personal pronouns—was mostly based on grammatical gender of a noun. The noun *wif* ‘wife’, grammatically neuter, would be referred to with a neuter pronoun (similar to its cognate in German, the neuter noun *Weib* ‘woman’). Studies of Middle English show that the seeds of semantic agreement were already visible as early as eleventh century, especially in the anaphoric use of pronouns (Curzan 2003: 45). Further on inanimate objects started being referred to with ‘it’ independently of their grammatical genders. By the end of the fourteenth century, agreement gender and gendered forms of nominal declensions were all but lost, as part of general decay of case and agreement endings. All the gender-sensitive forms of the demonstrative (as shown in 15.13–15.15) were replaced with just one form for all in the modern language.

The three anaphoric genders survived in personal pronouns (and also in reflexives, such as *herself* and *himself*). Their choice shifted to being almost exclusively based on sex and animacy: nouns denoting male humans are referred to by *he*, nouns denoting female humans referred to by *she*, and nouns denoting non-humans referred to by *it*—irrespective of their sex. This is only a rough approximation. Additional conventionalized uses of gendered pronouns (such as ‘she’ for ships, cities, and countries) make the system somewhat less straightforward.

The history of gender loss and restructuring in English involved two strands.

A. Loss of agreement gender and gendered declensions was due to the decay of case and agreement ending (the result of phonological attrition of word-final syllables). This process was complete by mid- to late-fourteenth century (within the Middle English period).

B. The anaphoric gender was never lost. It underwent semantic reinterpretation: from that based on the grammatical gender of a noun (independently of the referent’s sex or animacy) to that based on animacy and sex (in agreement with the Animacy Hierarchy in Diagram 3.1, p. 58, in §3.1.3). The process started in Old English (before declensional distinctions were lost), and must have become complete by the late Middle English period.

In all likelihood, the two processes took place simultaneously. The exact reason for the demise of agreement gender and gendered declensions in English (point A) remains a matter of some debate. As Curzan (2003: 48) puts it, ‘the facts of the gender shift in English potentially argue for at least some external causes. The stress rule alone cannot account for why English lost its complex inflectional system and grammatical gender system’—German did not, and the phonological changes were very similar. Some scholars suggested an influence from Old Norse, or Norman French, as a likely trigger.

The changing status of social genders and the necessity for new ways of expressing gender equality have triggered the emergence of newly coined gender-neutral pronouns and agreement forms. We turn to these, and to the history of the generic masculine form in English in §16.3.2.

15.4.4 What happens next: Lexicalization and grammaticalization of classifiers

A frequently used combination of a classifier with a noun can acquire a conventionalized meaning. Noun classifiers in Shiwilu form part of established place-names and terms for body parts, e.g. *Milek-pi-lu-'dek* (yarina.palm-CL:FRUIT-CL:SOIL-CL: RIVER) 'Yarinayacu river' (lit. the river on whose banks the fallen fruits of the Yarina palm abound') (Valenzuela 2019). In Innu, combinations of a verb stem with a classifier referring to the typical object or a typical location may be used so frequently that they gradually become one lexical item (see Drapeau and Lambert-Brétière 2011: 301, and §13.2). Verbal classifier prefixes *d-* 'round objects' and *n-* 'long objects' remain productive in the Northern Athabaskan languages—Koyukon, Dena'ina, Tanana, Ahtna, and Carrier (Thompson 1993, Kari 1990, Poser 2005 and p.c.). Further south, in Navajo and Apache, they have become part of the verb theme, and no longer have a classificatory function (Willem de Reuse, p.c.).

Numeral classifiers may develop additional, non-classificatory functions and thus undergo re-grammaticalization. In Munya, the number word 'one' in combination with the general classifier can be used as a degree adverb 'a little' or as a complementizer. Combinations of 'one' with erstwhile classifiers gave rise to indefinite pronouns (Bai 2019: 291–5, on varied meanings of reduplicated numeral classifiers, especially with the number word 'one'). Classifiers in these contexts no longer classify anything (somewhat similar to the classifier forms surviving in some Chinese-based Pidgins and Creoles—the topic of §16.1.3).

15.5 The relative age of noun categorization devices

If a language has two or more noun categorization devices, some may be historically older than others. A system whose origins clearly relate to lexical sources will be relatively new. The extent of phonological change in grammaticalization is an indicator of the relative age of the system.

Sochiapan Chinantec has nine noun classifiers and several dozen numeral classifiers (Foris 1993: 173–4, 205, 210; and examples 10.8–10.9 in §10.4). Both classifier types come from nouns. In a few instances, the same noun has grammaticalized into a noun classifier and into a numeral classifier. This phenomenon is known as POLYGRAMMATICALIZATION. The developments of nouns *máʔ* ‘sphere’ and *mu^{MH}* into classifiers of the two types are summarised in Diagram 15.6.

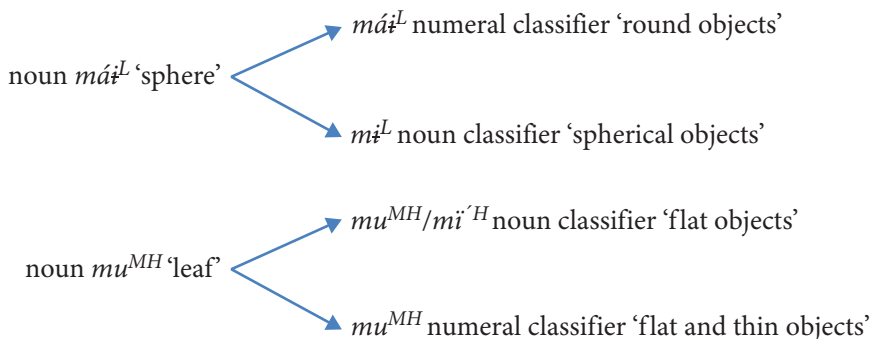


Diagram 15.6 Polygrammaticalization in noun classifiers and numeral classifiers in Chinantec

In each instance, the noun classifier has undergone phonological reduction while the numeral classifier has not. Noun classifiers almost certainly developed earlier than numeral classifiers, as the forms are more reduced. The meaning differences between the two are minimal. Numeral classifiers in the Niger-Congo domain appear to be of a relatively recent origin. The majority of numeral classifiers in Kana are transparently related to nouns. For instance, the classifier for fruit transparently comes from the noun ‘fruit’, and the classifier for wooden objects and means of transport comes from the noun ‘tree’ (Ikoro 1996: 12). Many of the numeral classifiers in Ejagham are related to extant nouns, e.g. the classifier *-sən* ‘NUM.CL:TREE’ and the noun meaning ‘tree trunk’, and the classifier *-dáb* ‘NUM.CL:TREES, PLANTS, VEGETABLES’ and the noun meaning ‘bottom’ (Watters 1981: 309–13; further examples are in Kießling 2013: 49–50, 2018). In contrast, noun classes can be reconstructed to the proto-language without any identifiable lexical sources. The original noun class markers in Kana and the related Ogoni (or Kegboid) languages survive as fossilized markers on nouns. We mentioned in §5.1.3 that numeral classifiers in Kana are typologically unusual in that they form one grammatical word with the noun rather than the number word. This is indicative of an association between

the noun and the noun categorization device, typical for Benue-Congo languages.²³

If one noun categorization device is replaced by another, its traces may still be discernible in the new system. Bengali lost its grammatical gender and number marking due to phonological coalescence of paradigms (Kölver 1982b) and acquired numeral classifiers using, in part, the same morphological ‘material’. The feminine gender marker *-i* in Old Indo-Aryan and New Indo-Aryan (see Chatterji 1926: 672ff, Kölver 1982b) was reanalysed as a diminutive affix on numeral classifiers.

In a multiple classifier language with the same set of classifiers in more than one environment, one classifier context may be historically older than another. In the history of Chinese, the usage of classifiers with number words is thought to historically pre-date their usage with demonstratives. Classifiers in possessive constructions in Cantonese and Yue dialects are considered a later development as a consequence of Hmong-Mien influence (including Hmong, see Matthews 2006: 231–2).

The use of classifiers with demonstratives in Tariana and in Resígaro is, in all likelihood, due to the influence of neighbouring languages—East Tukanoan for Tariana, and Bora and Witotoan for Resígaro. Genetically close Arawak languages (including Yucuna, Achagua, and Baniwa of Içana) use classifiers with number words, and also on nouns themselves, but not with demonstratives (Aikhenvald 2002: 87–95, 2007b, 2019b, Allin 1975).

One of the classifier contexts may undergo attrition and loss. Murui, a Witoan language, is a case in point. Synchronically, classifiers are used in five contexts—number words, nouns, possessive constructions, demonstratives, and adjectives (Option C1). Traces of classifiers on verbs survive in some verbal formatives. A detailed analysis of available sources on Mika, a closely related language which is no longer actively spoken, shows that classifiers were used on verbs to refer to objects or obliques (Wojtylak 2019: 189–92). The Murui formatives cognate to verbal classifiers in Mika are no longer productive. None of the languages within the Caquetá–Putumayo Basin in Colombia—where Murui is spoken—has classifiers with verbs. The loss of verbal classifiers as a context for the Murui multiple classifier system may be

²³ Gender can be reconstructed to Proto-Dravidian. Numeral classifiers in a few languages of the family such as Malto and Telugu are considered a recent innovation (Krishnamurti 2003: 205–7, 405, Steever 2017: 894–5, 2019). Two genders (feminine and masculine) can be reconstructed to the proto-language for the Arawak language family. In contrast, numeral classifiers and classifiers in multiple contexts developed independently in various branches (see Aikhenvald 2019b, 2020b).

considered an instance of contact-induced change, also known as negative borrowing.

Different fates in language histories demonstrate differences in each context of multiple classifier use.²⁴

15.6 Reduction and loss of noun categorization

Gender and noun classes can undergo reduction and be eventually lost, due to language-internal reasons. If a marker of gender gets reduced and disappears due to phonological change, the gender itself is in danger. In a number of Indic and Iranian languages, the masculine and feminine declensional paradigms merged. Bengali, Assamese, and Oriya, among other Eastern Indo-Aryan languages, lost the traces of masculine, feminine, and neuter genders so prominent in Sanskrit, their oldest Indo-Aryan relative.²⁵ In *Masica's* (1991: 221) words, 'far from being aberrant' this loss of gender 'can be seen as the most natural outcome of the phonological erosion' of Old Indo-Iranian endings of nouns.²⁶

The loss of overt gender marking on nouns does not necessarily precede the loss of agreement (more on this in *Aikhenvald 2003a*: 395–6). Across Niger-Congo languages, agreement genders are generally more conservative than derivational genders (as argued by *Dimmendaal 2001a*: 381 and *Demuth et al. 1986*; some exceptions are discussed by *Good 2012*: 307; see also *Good 2018*: 41–4). In many instances, loss of agreement can be considered the result of language contact (*Dimmendaal 2001a*: 381), especially in the emergence of Creole languages which typically lack it (see §16.1.3). The question of which morphological context (or domain) of agreement is more likely to have emerged first and which is more likely to be lost first remains open.

²⁴ No information as to the relative age of different classifier contexts in Chinese languages is available. *Peyraube* (1998: 60) appears to suggest that the use of classifiers with demonstratives in what he called 'a function of qualification' has a later origin than that of classifiers with number words (and developed between then Late Medieval Period and the Modern Period (nineteenth century). We are not aware of any studies dealing with the historical development of different classifier contexts in Thai (a multiple classifier language).

²⁵ See *Matasović* (2004: 41–6), on the redistribution and loss of gender in individual Indo-Aryan and Iranian languages, and *Kölver* (1982b) on the coalescence of declensional paradigms followed by complete loss of gender oppositions in a number of Indic and Iranian languages (e.g. Assamese, Bengali, Nepali, Oriya; and Persian, Beludzhi, and Ossete).

²⁶ See also *Storch* (1997) on the loss of genders (or noun classes) in Jukun, due to word stem apocope; and *Priestly* (1983) on the loss of the neuter gender in Sele Fara dialect of Slovene, due to the phonological reduction of its main marker.

If a classifier system undergoes reduction, classifiers for animates and humans tend to be more stable than others. Numeral classifiers can be reconstructed to Proto-Oceanic (Lynch, Ross, and Crowley 2003, Malcolm Ross p.c.). Fijian has only one remainder of a former system of numeral classifiers: *lewe*, used for counting humans (Churchward 1941: 44, Dixon 1988: 148). A comparison of traditional Malay classifiers and classifiers in Bahasa Indonesia (Conklin 1981: 211) shows that the human classifier (*orang*) and the animal classifier (*ekor*) are the most stable (see also Marnita 2016: 148–55, 165–6).²⁷

Historical records for Purépecha (or Tarascan), an isolate from the highlands of Michoacán in south-western Mexico, go back to 1558. The first description of the language, by Maturino Gilberti, a Franciscan monk, contains a list of eighteen classifiers used with number words, whose choice was based on shape, form, and arrangement of inanimate referents. There were no classifiers for humans or animates (not atypically for numeral classifiers, as mentioned in §12.1). Animals used to be categorized with the classifier *xanxha*, together with four-legged objects such as benches (Chamoreau 1999, 2013). The system described over two centuries later in 1831 had only twelve forms. Only three numeral classifiers survive in twentieth-century descriptions (including Friedrich 1970: 381–6). They reflect the most basic shape categories: *-itʃa-* ‘long one-dimensional object (e.g. a tree)’, *-itʃu-* ‘flat two-dimensional object (e.g. tortilla or cloth)’, and *-iəa-* ‘round and three-dimensional object (house, pot, bullet)’. These forms appear to have the most frequent ones in the earliest source. At present, classifiers are relatively rare and optionally used. In one dialect of the language, they have been completely lost. Gradual reduction of the numeral classifier inventory could be in part due to the encroaching influence of Spanish and subsequent language obsolescence.

15.7 To conclude

The origins and the histories of gender and of classifiers follow a series of distinct albeit partly interlinked paths.

I. Gender can develop from generic nouns which give rise to personal pronouns which express anaphoric gender. Anaphoric gender and derivational gender can give rise to agreement gender.

²⁷ Many Oceanic languages have reduced and eventually lost classifiers in possessive constructions (a comprehensive analysis is in Lichtenberk 2013: 220–1), possibly due to early contacts with Papuan languages. We return to the impact of contact on classifiers and on gender in §16.1.

II. Gender stands apart from other noun categorization devices in two respects. First, it can develop out of a closed class of third person pronouns and demonstratives. Secondly, gender distinctions can originate in reinterpretation of other nominal categories, e.g. number and case.

III. Classifiers of all kinds develop from open classes of nouns. Typical sources for classifiers are in Table 15.1 (p. 297). Numeral classifiers and classifiers in possessive constructions may go back to deverbal nominalizations and verbal roots. Classificatory existential verbs and deictic classifiers may come from reinterpretation of posture verbs. These are the only types of classifiers which always come from verbs.

IV. Mechanisms involved in the development of classifiers and gender include reinterpretation and reanalysis of generic-specific pairings of nouns, of components of compounds, of repeater constructions, of incorporated nouns, and of verbs. Table 15.3 in §15.3.6 (p. 311) summarizes our expectations concerning the pathways likely to lead to each of the classifier types.

V. Semantic change in classifiers reflects extensions based on metaphor and metonymy in correlation with preferred semantic parameters for each classifier type. There are substantial similarities between the diachronic semantic change from lexical items to classifiers and the synchronic semantic extensions. The most common changes involve (A) part-whole relationships (with a whole categorized by its part), (B) salient shape, (C) material make-up and consistency, and (D) function. This is in addition to culturally conditioned semantic extensions which can only be understood in the context of societal values and expectations. Written sources on languages with a long-standing tradition and attested language histories help identify the ways in which classifiers evolve.

VI. Evolution and reshaping of genders may result in changing principles of gender assignment, changes in composition and meanings of gender, and in principles of agreement. Reanalysis of gender forms can result in the emergence of new semantic features of gender.

VII. Lexicalization of classifiers may lead to the loss of their classificatory functions.

VIII. Some types of noun categorization devices, and contexts, in multiple classifier languages may be historically older than others.

IX. When classifier systems undergo reduction, terms for animates, humans, and basic shapes can be more stable than others.

A major drive for the loss and the gain of noun categorization is language contact. This is the topic of our next chapter.

Contact, obsolescence, and social change in gender and classifiers

When speakers of different languages come into contact with each other, they start sharing ways of saying things. Gender and classifiers of all types are particularly open to being borrowed from one language to the next and to contact-induced change. This is the topic of §16.1. When a language becomes endangered and gradually slides into oblivion, a gender or a classifier system will change, as we see in §16.2. Gender and classifiers reflect societal transformations and are amenable to human intervention—language engineering and language planning, especially in what concerns the status of social genders and sexist language—see §16.3. The last section contains a summary.

16.1 Gender and classifiers in language contact

If two or more languages are in contact, speakers of each language will have some knowledge of the other, and they will come to borrow linguistic features. These will include phonetic traits, distinctive sounds (phonemes), construction types, grammatical categories, and lexical and grammatical meanings. There can also be borrowing of lexical and of grammatical forms, but the extent of this varies. Language attitudes (including speakers' purism and aversion to foreign elements), the structure of languages in contact, the frequency and the salience of a form or a category, and its cultural and cognitive underpinnings are among the factors which facilitate borrowing and diffusion. When languages are in contact, features important for cognition and communication adjust to each other, as a way of reducing cognitive overload and easing language processing.¹

Gender and classifiers reflect society and environment, alongside basic principles and categories of human cognition, as we saw in §14.1. Once speakers

¹ Further discussion of factors which facilitate borrowing and contact-induced changes, and the concepts of direct and indirect diffusion are in [Aikhenvald \(2006\)](#), further chapters in the same volume, [Aikhenvald \(2022\)](#), and references there.

of different languages start interacting with one another, they will be likely to share social structures, values, means of subsistence, and the ways of conceptualizing the world around them. The importance of gender and classifiers in reflecting these underlies their openness to borrowing and spread through language contact.

The impact of language contact on gender and classifiers may involve evolution of new patterns and restructuring of existing ones. These processes, also known as ‘indirect’ diffusion, are the topic of §16.1.1. ‘Direct diffusion’—the topic of §16.1.2—involves borrowed actual forms. The fate of gender and classifiers in Pidgins and Creoles, typical outcomes of language contact, is addressed in §16.1.3.

16.1.1 Borrowing patterns: Indirect diffusion in gender and classifiers

Language contact may result in (A) the development of a system of gender or classifiers, (B) reshaping of the existing system, and (C) reduction and loss.

A. DEVELOPING CLASSIFIERS AND GENDER. If one language is significantly different from its proven genetic relatives, and has features in common with unrelated neighbours, language contact is the ‘usual suspect’. Palikur, a North Arawak language, is unusual for its family in that it has a system of CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS (as we saw in §7.1.2, Table 7.1, p. 146; see also §10.5.2). The principle of classifying the possessed noun with a generic term is shared with the neighbouring North Carib languages (see examples 7.8 and 7.9, from Macushi). The Palikur have a history of long-term interactions with Carib-speaking peoples. In all likelihood, the classifiers in possessive constructions in Palikur developed under North Carib influence (see also [Aikhenvald and Green 2011](#)).

The history of NUMERAL CLASSIFIERS in Korean reflects the overwhelming influence of Chinese. Classifiers were rarely used in Middle Korean (c. 918–1600). Under the impact of Chinese, classifiers became more and more prolific during and after Early Modern Korean (from seventeenth to nineteenth century: [Robbeets 2020](#): 133–4, [Rhee 2020](#): 580). Many Sino-Korean classifiers replaced their native Korean counterparts in Modern Korean (starting from the early twentieth century: we saw in §5.4 that classifiers of Sino-Korean origin form a separate subclass).² Numeral classifiers are believed to have been introduced in the Middle Japanese period (starting from late

² See [Robbeets \(2020: 133–4\)](#) on the spread of numeral classifiers within the Trans-Eurasian domain and the influence of Chinese. The history of numeral classifiers across Northeast Asia may reflect a

eighth century) when Chinese influence became extensive (Robbeets 2020: 133–4, see also Vovin 2005: 379, and Shimojo 1997).³

Classifiers of any type may be shared by adjacent languages. NUMERAL CLASSIFIERS are a feature of a number of genetically unrelated languages of the Pacific Northwest—Salish and Wakashan. Numeral classifiers in Wakashan languages share numerous universal and specific semantic features with classifiers in Salish (see Gerds and Hinkson 2004: 275–6). In all likelihood, shared patterns are due to language contact. Similarly, CLASSIFICATORY VERBS in the Northern Wakashan languages (including Kwakiutl) may be due to contact with, and diffusion from, Athabaskan languages (see §8.1.3). They are absent from Wakashan languages not in contact with Athabaskan (Fortescue 2006: 282–3).

Classifiers of any kind are a frequent feature of a linguistic area (or Sprachbund) understood as a geographically defined region including languages from at least two language families, or different subgroups of the same family (Emeneau 1956, see also Aikhenvald 2022). Members of a linguistic area will share traits absent from related languages outside the area. Numeral classifiers are a feature of several linguistic areas, including Meso-America (Campbell et al. 1986: 550) and Mainland Southeast Asia (Bisang 1996, Enfield 2021). Classifiers in multiple contexts are a feature of the Vaupés River Basin linguistic area and of the neighbouring Caquetá-Putumayo River Basin (a summary is in Aikhenvald 2022). POSSESSIVE CLASSIFIERS are shared by four genetically unrelated language families in the Chaco area of Bolivia, Paraguay, and the neighbouring regions of Argentina and Brazil—Zamucoan, Guaycuruan, Mataguyan, and Ehlhet-Enenlhet, and also Chiquitano, an isolate (see Ciucci and Bertinetto 2019: 166–72). They can be considered one of the defining features of the area.⁴

Specific features of GENDER may also be shared by adjacent languages. Numerous unrelated languages of the Sepik region share shape-based choice of masculine and feminine genders. Round and smallish objects are feminine, and longish and big ones are masculine in Manambu and other Ndu languages (as we saw in §2.2.1, Diagram 2.1 (p. 30), for Manambu, and §12.2.1). A similar principle is a feature in unrelated languages Alamlak and Sare (both from the Sepik Hill family), and in Kwoma (from the Kwoma-Nukuma family: see Aikhenvald 2012b, 2016: 32–50 and references there).

combination of genetic inheritance and areal diffusion (see Jumabay et al. 2022, Johanson 2021: 540, and Janhunen 2000 on Mongolic languages, and also Rhee 2020: 601, Tamura 2000).

³ Peyraube (1998: 60) notes that Contemporary Chinese has ‘many more classifiers in southern dialects, which have been in closer contact with Tai languages, than in Mandarin (Northern Chinese)’, in contact with Altaic (or Transeurasian) languages with no classifiers.

⁴ The exact source of classifiers within an area may remain a matter of some debate, as is the case in the languages of India (Emeneau 1956: 11–16, Steever 2019: 40).

B. **RESHAPING GENDER AND CLASSIFIERS.** If a language already has anaphoric gender in third person pronouns or gender in derivation, contact with other languages may trigger expansion and restructuring of gender, and subsequent development of agreement. A telling example comes from Yanyuwa, an Australian language, from the Ngarna subgroup (alongside Wagaya, Bulamu, and Warluwara: [Dixon 2002](#): 500–2).

Yanyuwa has five genders, marked by prefixes on nominals (nouns and adjectives) and to verbs. The genders are human masculine, human feminine, vegetable, neuter (or a residue class), and an additional class for abstract nouns. The forms have been developed from Yanyuwa's own resources. Of those, the 'vegetable' gender prefix *ma-* is likely to have come from a reinterpreted noun classifier *mayi* 'vegetable food' (typical for many Australian languages). The masculine and the feminine forms emerged as a result of reinterpretation and reanalysis of gender-differentiated free pronouns. The recent innovation of prefixes and the expansion of genders in Yanyuwa is, in all likelihood, due to relatively recent language contact with adjacent prefixing languages ([Dixon 2002](#): 500).

If languages are in contact, their genders may adjust to each other. An example comes from language contact in the multilingual village of Kupwar in India, briefly described by [Gumperz and Wilson \(1971](#): 156). The dominant language in Kupwar is Kannada, a Dravidian language, in addition to two minority languages—Marathi and Hindi-Urdu, from the Indo-Aryan group of Indo-European. The Kupwar Kannada gender system is identical to that of standard Kannada. The assignment of three genders (masculine, feminine, and neuter) in this language is semantically based. Nouns referring to males belong to the masculine gender, nouns referring to females belong to the feminine gender, and all other animates and inanimates are neuter. The standard Marathi also has three genders. Here, inanimates can belong to any of the three.

Kupwar Marathi is different, and more streamlined in its gender assignment. All non-human nouns belong to the neuter gender, replicating the Kupwar Kannada pattern. Only human males are masculine, and human females are feminine. For instance, *nadī* 'river' belongs to the feminine gender in standard Marathi. The same noun in Kupwar Marathi is treated as neuter (see [Gumperz and Wilson 1971](#), and also [Pandharipande 1997](#): 368–9 on standard Marathi). The principles of gender choice have been restructured and adjusted to the main language—the Kupwar Kannada.

Language contact may be responsible for the emergence of a new classifier context. We mentioned in §15.5 that some classifier contexts can be historically younger than others. The emergence of classifiers in possessive constructions

in Cantonese may reflect prehistoric contact with Hmong-Mien languages (as suggested by [Matthews 2006](#): 231–2).

Most East Tukanoan languages do not use classifiers on verbs. Kubeo is the only outlier in the family which does this. The reason for this lies in its contact with Baniwa of Içana-Kurripako, an unrelated North Arawak language where classifiers are used with verbs ([Gomez-Imbert 1996](#): 451). Language contact can trigger changes in the semantic composition of a classifier. In Baniwa of Içana-Kurripako animals are categorized based on their shape. In contrast, in the closely related Tariana and its unrelated East Tukanoan neighbours, animals are categorized based on animacy. This development in Tariana is due to language contact ([Aikhenvald 2002](#): 87–95).

An unusual order of components within a classifier construction may stem from language contact. The cross-linguistically uncommon order NUMERAL.CLASSIFIER NUMBER.WORD (which subsumes types 3 and 4 in §5.1.2) is a feature of a number of Tibeto-Burman languages in northeast India shared with Tai languages (see [Evans 2022a](#), b). As [Evans \(2022b\)](#): 199 puts it, ‘it is possible that the concept of classifiers was borrowed from Tai Ahom during the period of Tai dominance in Assam from the medieval period until the nineteenth century’. We saw in §5.6 that, in Tai languages, a numeral classifier can precede the number word ‘one’ (see an example in [Haas 1942](#): 204). An analogical extension of this order may have led to its generalization for all number words in the Tibeto-Burman languages of the region. The same order is believed to have spread to Newari due to contact with related Bodo-Garo languages ([Evans 2022a](#): 17).

C. REDUCTION AND LOSS OF GENDER AND OF CLASSIFIERS. Language contact may lead to the reduction and even loss of gender. Standard Latvian, a member of the Baltic subgroup of Indo-European, has two genders, masculine and feminine. The Tamian dialect of Latvian has no gender distinctions, due to its close contact with Livonian, a Balto-Finnic language with no genders ([Matthews 1956](#): 316).

Most members of the Arawak language family—which spans South America and the Caribbean—have two genders, feminine and non-feminine (see [Aikhenvald 2020b](#) for an overview). Gender is reconstructible for the proto-language. A few languages lost the archaic agreement gender due to contact with gender-less languages. The loss of gender in Amuesha could be due to impact from Quechua. Mawayana lost its gender under the influence of neighbouring Carib languages. The loss of gender in Bahuana is due to a combination of factors—the dominance of Nheêngatú, a Tupí-Guaraní

language, and language obsolescence (see the discussion in Aikhenvald 2012a: 303).⁵

Classifiers on verbs are atypical for most multiple classifier languages of the Caquetá-Putumayo River Basin in Colombia. Their demise in this context in Murui, a Witotoan language spoken in the area, is a likely consequence of areal pressure from its neighbours (as mentioned in §15.5). The impact of a dominant language may result in the reduction of a classifier system—we return to the example of Minangkabau in §16.2.

16.1.2 Borrowing forms: Direct diffusion in gender and classifiers

Neither gender nor classifier forms are immune from being borrowed. Foreign forms can enter a language complete with their gender markers. Then loans will constitute a limited system of derivational and agreement gender. In its native forms, Quechua has no grammatical gender. A few nouns with human reference borrowed from Spanish into Ayacucho Quechua distinguish feminine and masculine forms. A few adjectives of Spanish origin show agreement with the noun (as we saw in §3.1.2; see Parker 1969: 34–5).⁶

A few loanwords with human reference from Sanskrit, an Indo-Aryan language with genders, into Indonesian, a language with no grammatical gender, come in pairs. Forms denoting males end in *-a* and forms denoting females end in *-i*—for instance, *putra* ‘son’ and *putri* ‘daughter’, *saudara* ‘male sibling or relative’ and *saudari* ‘female sibling or relative’, *dewa* ‘god’ and *dewi* ‘goddess’. This principle has been extended to a few native words. *Pemuda* originally meant ‘young person’, but nowadays this refers to ‘young man’, and a new word, *permud-i* ‘young woman’, was created as its female counterpart (Tadmor 2007: 311–13, Sneddon 1996).

Foreign markers of derivational gender are not uncommon in languages which have genders of other kinds. The feminine suffix *-ess* in English is a case

⁵ See Dixon (2002: 507) for examples of contact-induced gender loss in Australian languages, including Iwaydja. The loss of possessive classifiers in the Oceanic languages of New Ireland may well be due to ancient contacts with Papuan languages, most of them no longer known (as mentioned in §15.6). Northern Mao is the only Omotic language without gender, which is attributed to the influence of unrelated neighbouring Surmic (Nilo-Saharan) languages (Amha 2017: 823). See Steever (2019) on the demise of gender in Brahui, a Dravidian language.

⁶ See also Braun (2000), Lewis (2000: 23) on borrowed gender-sensitive derivational suffixes in Turkish, and §3.3 on Estonian. See Heath (1978: 90–1) on massive borrowing of noun class markers across the languages of Arnhem Land (Northern Australia), and Pasch (1988: 58) on similar phenomena in Mba languages. No instances of borrowed forms in noun classifiers, classifiers in possessive constructions, or verbal classifiers have been reported. An example of massive borrowing of classifiers in multiple context comes from Resígaro, a North Arawak language (Aikhenvald 2001, 2019b).

in point. The suffix goes back to Greek *-issa* from where it was borrowed into Latin as *-issa* and French as *-isse*. Pairs such as *host* and *host-ess* and *patron* and *patron-ess* were subsequently borrowed into Middle English. From about the late fourteenth century onwards, the suffix expanded to native English nouns, creating forms like *goddess*, *danceress*, and *dwelleress*. The suffix is quite productive. Further examples include *hostess*, *waitress*, *governess*, and *stewardess* (see Dixon 2014: 320–4; and also Aikhenvald 2016: 89–90).

Number words and counting practices are easy to borrow. Semelai, an Aslian language of Malaysia, has two sets of numeral classifiers. A small set of classifiers borrowed from Malay categorize referent in terms of its inherent features—animacy and shape, and also arrangement. For instance, the classifier *ʔkur* covers all animates (human and non-human). It comes from Malay *ekor*, a numeral classifier for animals (literally ‘tail’). The classifier *bjeʔ* ‘three-dimensional objects’ goes back to two Malay classifiers, *buah* ‘round objects’ (literally ‘fruit’) and *biji* ‘small round objects’ (literally ‘seed’). Indigenous classifiers come from native nouns, and their meanings reflect shape and arrangement, with no animacy distinctions. In contrast to borrowed classifiers, they can be used independently of number words as ‘individuators’ (Kruspe 2004: 206–7, 218–19, Enfield 2021: 288–9).

Borrowing number words may go together with borrowing numeral classifiers. The two numeral classifiers in Kolami, a Central Dravidian language, come from Marathi, the majority Indo-Aryan language of the region. Borrowed numeral classifiers are only used with number words of Marathi origin (as we saw in §5.4). Native number words are used without classifiers (Subrahmanyam 1998: 306–7). Similarly, all numeral classifiers in Juang, a Munda language from India, are borrowed from Oriya, an Indo-Aryan language, and are used exclusively with borrowed number words (Patnaik 2008: 524; see also Osada 2008: 115 on Mundari).

16.1.3 Gender and classifiers in Pidgins and Creoles

As different groups come together for the purposes of work or trade, shared patterns of communication emerge. Throughout the process of European colonization, people from different language groups were forced to work together as slaves or indentured workers. They would then communicate with each other, and with their masters, using a simplified language, for limited purposes—simple commands, questions, and statements. Such a makeshift

means of communication is known as *Pidgins* (ultimately from English *business*). A Pidgin will be used in limited circumstances, most frequently for trade. It will not be native to anyone and will not have any first-language learners.

Numerous Pidgins—also referred to as ‘trade jargons’—sprang up spontaneously in various parts of the world, following the need for simple, and yet efficient, communication. A few indigenous Pidgins developed outside the European colonial rule, following the need to communicate within the context of trade. These include Pidgin Swahili in East Africa, Chinook Jargon in the Pacific Northwest of North America, and a few in the Sepik region of New Guinea (e.g. Yimas-Arafundi Pidgin and Pidgin Iatmul (Foley 1986 and a summary in Aikhenvald 2024)).

Once speakers of a Pidgin start marrying each other and establishing families, a Pidgin may become the sole language spoken by the next generation. It will then expand into a fully-fledged language which can be used for all purposes, and will grow into a Creole. European-based Creoles have much of their vocabulary from a European language (their ‘lexifiers’). Creoles are highly analytic, with some derivational forms but with little if any inflectional morphology or agreement (for more on this, see Daval-Markussen and Bakker 2017: 260–2).

Tok Pisin, a national language of Papua New Guinea, is an example of a Creole with English lexifier. It is believed to have emerged over a hundred years ago, on the plantations of Samoa and other areas of Melanesia, including New Britain. Its vocabulary is mostly English, with a few words from German (who ran large chunks of the New Guinea island until World War I), and from Austronesian languages spoken in its birthplace. Another Creole language, Unserdeutsch (literally, ‘our German’), or Rabaul Creole German (the only attested Creole with a German lexifier), evolved in New Britain by children from varied linguistic backgrounds in a boarding school environment. Following decolonization of Papua New Guinea, the language has gradually become obsolescent (see Maitz and Volker 2017). In contrast to English and German, both Tok Pisin and Unserdeutsch have no genders, either in anaphora or in agreement.

This is typical for most Pidgins and Creoles. A Creole will have just one form for ‘she’, ‘he’, and ‘it’—for instance, Tok Pisin *em*, Kristang (a Portuguese-based Creole of Malacca in Malaysia) *el*, and Nubi (an Arabic-based Creole) *uwo* ‘s/he/it’. A rare exception appears to be the Negerhollands Creole Dutch, spoken until recently in the United States Virgin Islands. The language distinguished between animate (*h*)*am* ‘he, she’ (cf. Dutch *hem* ‘him’) and inanimate *di* ‘it’ (cf. Dutch *dit* ‘this: neuter gender’) (see Holm 2000: 261–7, 222, and a

summary in Aikhenvald 2016: 71–2). Along similar lines, Pidginized Hausa uses just one, the erstwhile ‘masculine’ form of personal pronouns and verbs, in contrast to Standard Hausa, a major language of Northern Nigeria, which has two genders, masculine and feminine (Heine and Reh 1984: 42–3; see Owens 2001: 349, 355, 2014: 283, and 1997 for similar phenomena in Arabic-based Creoles).

All noun classes, typical for a Bantu language, have been lost from Fanagalo, a Bantu-based Creole spoken in Botswana (Anderson and Janson 1997: 183–5). Similar principles operate the world over. Chinook Jargon was a Pidgin based on a number of indigenous languages of the American Northwest (especially Lower Chinook, Nootka, and Chehalis), with elements of English, French, Hawaiian, and Chinese. Chinookan languages have three genders in the singular (masculine, feminine, and neuter). Chinook Jargon is genderless (Silverstein 1972: 397–8, 618).

A few Creole languages have elements of derivational gender. In the Eastern Maroon Creole of Suriname (also known as Ndyuka), with English as lexifier, personal nouns can be marked as masculine (with *man* ‘man’) or as feminine (with *uman* ‘woman’). Nouns marked with *uman* may simply denote the functions performed by women, and by men in a particular setting. *Olo-man* (grave-man) is a grave digger; *olo-uman* is the one who prepares, brings, and distributes food to the *olo-man* (Migge 2001: 99). Or a male counterpart may have a generic meaning. The noun *waka-man* means ‘traveller’. Its female counterpart, *waka-uman*, has negative and over-sexualized overtones, of a woman of easy virtue (see also Baxter 2012, on Malacca Creole Portuguese).

It would, however, be a simplification to claim that Creole languages have no noun categorization in their grammars. Kituba is a Creole language of Bantu origin, spoken by more than five million first-language learners in Central Africa in the southern part of the Republic of Congo, the southwestern part of the Democratic Republic of Congo, and the northern areas of Angola (Mufwene 1997, 2013, Stucky 1978). Kituba came about as a result of population movements in the colonial period (starting in the end of the nineteenth century). Its lexifier is Kimanyanga, a Kikongo language. In contrast to Bantu languages, Kituba has completely lost noun class agreement. A small set of erstwhile noun class prefixes survives as derivational markers on singular nouns, e.g. *mw-ána* (NCL.1.HUMAN-child) ‘a child’, *k-íma* (NCL.7.INANIM-thing) ‘a thing’ (Mufwene 1997: 177–8). Plural nouns are uniformly marked with *ba-*, the original marker of the human noun class (referred to as 1/2) (see also Good 2012: 320–1, 323). The language preserves elements of anaphoric

gender in pronouns, with a distinction between the animate *yandi* ‘she, he, it’ and *bo* ‘they’, and the inanimate *yo* for both singular and plural. This distinction follows the principles behind the Animacy Hierarchy (see Diagram 5.3, p. 123), and is a feature shared with its lexifier (Stucky 1978: 229).

Lingala, the main language of Kinshasa and other urban centres in the Democratic Republic of the Congo and adjacent regions, is native to at least twenty million people and widely used as a lingua franca by speakers of other Bantu languages. Lingala developed as a trade language (mostly on the basis of Lobangi, a Bantu language) and spread as a result of French and Belgian colonization starting from 1879 (Meeuwis 1998: 4–7). Similar to Kituba, Lingala preserves noun class marking on nouns, but lacks agreement in noun class on demonstratives and has animacy distinction in personal pronouns, similar to Kituba (Meeuwis 1998: 17–19).⁷

Classifiers in Pidgins and Creoles fare even less well than gender (and noun classes). Numerous Chinese-based Pidgins have no classifiers (including Chinese-Russian Pidgin). The China Coast Pidgin (with English as its main lexifier) is reported to have a limited number of numeral classifiers including *pisi* ‘CL:HEAD’, from English *piece*. The classifiers appear to be optional (especially with demonstratives: see Ansaldo, Matthews, and Smith 2012: 77, and the discussion in Aikhenvald 2024).

What used to be a classifier in a lexifier language can make its way into a Pidgin, but without its classificatory function. The Mandarin generic classifier *gè* is used in the common expression *nà gè* ‘that one’ (pronounced without tones, as [na ge]) in the Chinese-English-Tok Pisin Pidgin currently used at the cobalt refinery of Basamuk in Madang Province in Papua New Guinea. The Basamuk Chinese Pidgin preserves just this one Mandarin classifier form, extended to all referents (Aikhenvald 2024 and references there). Synchronically, the form *gè* in the Chinese Pidgin of Basamuk cannot be considered a classifier.

If non-native learners acquire a language for the purposes of trade and interethnic communication, the classifier system may undergo reduction. Ambon Malay, a variety of Malay spoken across the Moluccas in Indonesia, is a case in point. The language is not native to any of the indigenous population. Ambon Malay has just three numeral classifiers—*orang* ‘NUM.CL:HUMAN’, *ekor* ‘NUM.CL:ANIMAL’, and *bua* ‘NUM.CL:INANIMATE’, also applied to lower animates

⁷ See also Pasch (1997: 211, 241) on animacy in Sango, a contact language of the Central African Republic; Bokamba (1977: 184–92) and Herbert (1991: 109) on Lingala.

(van Minde 1997: 152–4). The system is drastically reduced in comparison with Standard Malay, which has several score numeral classifiers.

16.2 On the wane: Noun categorization in language obsolescence

All over the world, languages of minority groups are losing ground to dominant languages believed to carry advantage and prestige. Speakers of an endangered language will gradually lose the capacity to fully communicate in the language. Under pressure from the dominant language, the endangered language will become obsolescent, leading to language attrition, obsolescence, and ultimately language shift. These processes inevitably affect gender and classifiers.

Language change in healthy languages, which are transmitted from one generation to the next in their full form, and in endangered and obsolescent languages, which are no longer fully transmitted, tends to be similar. The difference lies in the quantity of change and its speed. The principle of accelerated change under language obsolescence was formulated by Schmidt (1985: 213) in her study of language obsolescence in Dyirbal: ‘vast amounts of change are compressed into a short timespan of about 25 years’.

Obsolescent languages are typically known by a few remaining people who hardly use them on a day-to-day basis, and are not learnt by the next generation of learners in their full form. There is no longer a speech community with established norms. As a consequence, we find a high amount of individual variation, depending on the knowledge and the attitude of speakers.

If the dominant language has no gender distinctions, gender in the obsolescent minority language is likely to be lost. The last speaker of Baré, a North Arawak language, used *Língua Geral Amazônica*, a creolized Tupí-Guaraní language with no grammatical gender, in his day-to-day life. The gender agreement on adjectives and number words in his Baré was variable and sporadic. He generalized the masculine form for all the contexts, including the personal pronoun and modifiers of all classes (Aikhenvald 2020a).

An obsolescent language will tend to lose the features absent from the one to which it is losing ground. Dyirbal, spoken by about 100 people or so in the 1960s, is now declining. Traditional Dyirbal had four agreement genders, as we saw in §2.2.2 and Table 2.1 (p. 32). Young people’s Dyirbal has gradually adjusted its gender system towards that of anaphoric gender in English, mirroring ‘he’ for males, ‘she’ for females, and ‘it’ for everything else. Dyirbal’s

'typical' Australian gender for edible non-flesh food disappeared. The speakers of Young People's Dyirbal (now in their sixties and seventies) no longer used it, in all likelihood because they no longer got their plant-based food from the rainforest, and there was now nothing special to that class. Instead, they would use the residual Gender IV to cover all plants (just like English would use 'it'). The scope of 'feminine' Gender II came to be used only for females, like English 'she'. As we saw in Table 2.1 (p. 32), it used to cover water, fire, and things associated with fighting. Mythological association as a basis for class membership was also lost. In traditional times, birds were believed to be spirits of dead human females, and consequently assigned to Gender II, 'feminine'. With the loss of this belief, speakers of Young People's Dyirbal treat birds as members of Gender I (based on animacy) ([Schmidt 1985](#): 156–7; [Dixon 2015](#): 328).⁸

If the dominant language has a gender system, gender in the obsolescent language may survive. Arvanitika is an endangered Albanian variety spoken by those Albanians who immigrated to Greece between the eleventh and the fifteenth centuries. Here, the three genders (feminine, masculine, and neuter) remain distinct (with intra-speaker variation, typical of language attrition). The three-way gender distinctions in Arvanitika and in the dominant Greek are structurally similar (see [Trudgill 1977](#): 35, [Sasse 1985](#)). This is what accounts for the survival of genders.

Paumarí, an Arawá language of southern Amazonia in Brazil, has an unusual system of two genders, feminine and masculine, and the *ka-* noun class whose choice correlates with the shape of an entity (as we saw in §4.1.4, and Table 4.3, p. 88). The shape-based *ka-* noun class is being lost by younger people who speak Portuguese in their daily life. In contrast, the feminine-masculine gender distinction is robust, due to the impact of Portuguese, a language with two genders ([Aikhenvald 2003a](#): 71–5, 381, 400, 2010). The different fates of gender and of the *ka-* noun class in Paumarí constitutes further evidence in favour of their status as distinct categories in the language (pace [Corbett 2005](#)).

An obsolescent language is likely to lose classifiers if they are absent from the dominant language. Nivkh, a Paleosiberian isolate, is currently under pressure from the dominant Russian. The traditional language had over thirty numeral classifiers fused with number words, with special forms used to count bundles of firewood, fishnets, sledges, twigs with smelt strung on them, bundles of dried smelt, bundles of dried fish, and so on (see [Gruzdeva 2004](#):

⁸ See also [Dorian \(1981](#): 124–9, 147–8) on the survival and loss of genders in Eastern Sutherland Gaelic; [Pensalfini \(2003\)](#) on the restructuring of the system of genders in Jingulu, an obsolescent Australian language.

302–25 and examples in Tables 14.2 and 14.3 (p. 285) in §14.1.2). By the 1990s, most classifiers had fallen into disuse. The only classifiers used by obsolescent speakers were those for humans, for non-humans, for one-dimensional and three-dimensional objects, and a generic classifier. The radical reduction in the system of numeral classifiers in this language can be partially accounted for by changes in the material culture. Objects that used to be part of people's day-to-day life, including fish spears and snow sledges, are all but gone. So are the classifiers for these objects (Gruzdeva 2004: 326).

When a cultural practice or a set of objects fall into disuse, so do the corresponding classifiers. This is the case across all languages, including those spoken by millions of people and considered healthy. Specific classifiers are particularly sensitive to changes in social and cultural environment (as we saw §14.1). A number of specific classifiers in Japanese which refer to 'obsolete or obsolescent artefacts or religious objects' are used rarely, if at all (Downing 1996: 78–9). In the past, the Cahuilla society was divided into two moieties—one associated with the Coyote, and the other one with the Wildcat. Cahuilla used to have a possessive classifier for 'moiety animals' associated with each of the two Cahuilla traditional groups (Seiler 1977: 299–305). The two moieties were in an exogamous relationship: marrying someone from the same moiety as oneself was considered incest. The disintegration and loss of marriage practices and the obsolescence of the moiety system has led to the loss of the classifier for moiety animals (see also §7.2 on the obsolescence of possessive classifiers reflective of traditional practices lost in Iaa, a relatively healthy Oceanic language from New Caledonia: Dotte 2013: 301).

In their day-to-day lives, young speakers of Minangkabau tend to use Indonesian, the national language. As a consequence, they employ just a few numeral classifiers shared with Indonesian and tend to overgeneralize the general classifier *buah*, shared by both languages (Marnita 2016). The increase in loan measure terms—metre, litre, kilogram—has contributed to the loss of traditional mensural classifiers in Minangkabau. A number of culture-specific numeral classifiers are no longer part of the younger people's linguistic repertoire. For instance, young people are no longer familiar with the practice of chewing betelnut. And this explains the demise of classifiers *cuie* 'betelnut' and *cabiek* 'piece of a betel leaf' (for more examples, see Marnita 2016: 118–27).

The sensitivity of gender and classifiers to the dynamics of cultural and social environment goes together with the ways in which they can be affected by language attitudes and language planning.

16.3 The human factor: Language engineering and prescriptive efforts

Gender and classifiers reflect societal stereotypes, attitudes, values, and environment (as we saw in §14.1). Not surprisingly, language planners feel the need to regulate them. The impact of language planning and prescriptivist efforts mostly concerns gender and classifiers which subsume humans, their status, and their attributes. This correlates with metalinguistic awareness of the importance and indexical value of genders and of classifiers.

The use of classifiers referring to humans may change as the society evolves. Men in Maonan, a Tai-Kadai language of China, used to be categorized with the classifier *ʔai*¹ ‘CL:HUMAN’. Other living beings including animals, infants, children, and women required the classifier *tɔ*² ‘CL:NON.HUMAN’. As women are now becoming more integrated into the professional society, the human classifier in Maonan has been extended to subsume women of professions and ranks which they had never occupied before. The ‘human’ classifier is a mark of women’s professional status, and also respect (Lu 2012: 83–4, 115, 120–1).

Language planning and prescriptivism have affected classifiers in Thai. The use of classifiers in the ‘royal linguistic register’ is a case in point. King Mongkut (Rama IV, reigned 1851–68) was particularly concerned with proper use of classifiers in the royal vocabulary (Rachasap) and the related ‘polite’ language, especially with regard to noble animals (Diller 1985: 65). The decree issued in 1854 explicitly states: ‘Elephants and horses are animals with a noble lineage. They should not be referred with *tua*, a usual classifier for animals (see Diagram 15.5, p. 317, in §15.4.2). The noble elephants were to be counted with a repeater classifier (as illustrated in 14.3). This usage has been generally accepted for elephants but not for horses (see Juntanamalaga 1988: 319–21 for these and further examples, and Diller 1985: 65).

Gender has been the target of language reform in the history of a number of European languages. Until the early twentieth century, literary Norwegian had a system of two genders: a ‘common’ gender and a neuter gender, as in Danish and in Swedish, rather than the original Old Norse three genders (masculine, feminine, and neuter). The feminine gender was restored with the evolution of Nynorsk, a language largely created by Ivar Aasen, in the context of the rise of Norwegian nationalism. The reform drew on south-west dialects of Norwegian, where the feminine gender remained in use. The 1938 language reform made the feminine form obligatory for about 1,000 nouns. As Gregersen (1979: 11) remarks, ‘nationalism rather than feminism was the motivation for the

change: the feminine gender was felt to be a particularly Norwegian trait.' At present Nynorsk is one of the two official languages of Norway.

Gender—particularly as assigned to humans—is prone to reflecting the stereotypes associated with social gender, that is, the social implications and norms associated with being a man, or a woman, or a representative of gay, transgender, and other groups. Growing equality of women in many Western societies has brought about an increase in derivational forms with female reference. Language reforms have targeted 'sexist' language and the predominance of masculine forms with generic reference, ensuring the visibility of women, and avoiding the overuse of masculine pronouns and terms for 'man'. Social motivations for change in genders highlight its functionality and indexicality (along the lines of [Silverstein 1985](#)).

16.3.1 Gender asymmetries and the meanings of gender

Asymmetries in the expression and meanings of gender in many European languages, including English and French, are indicative of inequalities between women and men, as we saw in §14.1.1. The positive overtones of 'malehood' in contrast to negative overtones of 'femalehood' are reflected in the lexicon and derivations in many languages. In Ndyuka, a feminine derivation from 'traveller' will have pejorative overtones of a prostitute (see §16.1.3). Similar examples abound across the world. In Modern Hebrew, talking to, or about, a woman, as if she were a man may have positive connotations ([Tobin 2001](#): 191). Golda Meir, during her time in various governments and as Prime Minister of Israel, was often complimented with male-oriented idioms—such as *yesh lah beitsim* (exist to.her balls) 'she has balls'—and praised as *ha-gever ha-yexid ba-memshala* (the-man the-only in.the-government) 'the only man in the government'. This is reminiscent of the use of the verb *Man up!* in colloquial English when said to a woman, urging her to pull her act together. The meaning of *man up* is given in *The Oxford English Dictionary online* as 'to demonstrate manliness, toughness, or courage when faced with a difficult situation; to take responsibility; to own up'.

Inherently sexist associations between 'man' and 'positive properties' are embedded in a few derivations. Examples of derivations referring to positive properties of valour and courage associated with 'man' include Estonian *mehisus* (from *mees*, *mehe* 'man'), German *Mannhaftigkeit*, Hungarian *ferfiás*, all of which mean 'courage, valour', literally, 'manhood'. An Estonian woman-politician can be complimented as someone who displays 'statesmanlike' (*riigi-mehe-lik* (state-man-AFFIX)) behaviour. In contrast, the term 'effeminate'

has a distinctly negative feel to it—as if someone were coming down in the world, from a status of a ‘manly’ and worthy being to a decadent one. To what extent speakers are conscious of the inherently sexist character of the positive overtones of ‘man’ within established derivations is an issue which requires further study.

‘The relative liberation of women’—a consequence of the Bolshevik Revolution in Russia in 1917—‘produced a need for new terminology to refer to women occupying certain jobs or positions’ (Rothstein 1973: 460), for example, *syrovarka* ‘female cheesemaker’ (a female equivalent of *syrovar*). Similarly, women of minority groups within Russia acquired access to the formerly reserved for men. In Lak, a northeast Caucasian language from Daghestan, agent nouns such as *xlakin* ‘doctor’ used to belong exclusively to the masculine gender, marked through agreement on the verb, e.g. *xlakin ur* (doctor masc.sg+exist) ‘there is a (male) doctor’. They can now be used to refer to women, and trigger feminine agreement, e.g. *xlakin dur* (doctor fem.sg+exist) ‘there is a (female) doctor’ (Khaidakov 1963: 50). Current feminization of titles and professions across European languages is a testimony to the efforts of language planners to overcome the gender gap, thwarting the ‘sexist’ language.

Using the masculine agreement form and a masculine pronoun as a generic term is part and parcel of the ‘sexist’ language. Masculine gender is often the functionally unmarked choice, as it used to be in English. This is what we turn to now.

16.3.2 Thwarting sexist language in English: A potted history

Personal pronouns in English (*she, he, it*) are the major means for expressing anaphoric gender. English lacks a general indefinite form which could refer to both men and women without specifying their sex. A generic non-gender specific pronoun *monn, man, mann, mane, manne, monne* (all derived from an unstressed form of the noun *man*) did exist in Old English and in Middle English; its latest occurrence goes back to 1500 (cognate to the German generic pronoun *man* ‘one, person’). In earlier stages of English, the generic use of masculine singular pronoun *he* was an alternative to *they* covering ‘man’ and ‘woman’ (Curzan 2003: 71; see also Baron 1986: 191–7). The generic use of *he* can be accounted for by a linguistic reason: the general word for person *mann* in Old English belonged to the masculine gender. The early spread of the generic masculine form in Old English and then in Middle English may

have had another, social, reason: men, more than women, were literate in their majority, and thus were the targets of the written texts.

The ‘masculinization’ of language had its roots in the grammatical system of the language where the masculine form is functionally unmarked. This is a feature English shares with a number of other languages, including many ancient members of the Indo-European family (see also [Baron 1981: 84](#)). The lack of a dedicated generic pronoun continued to be felt as a ‘gap’, as the generic ‘he’ was seen as mostly ‘masculine’. Attempts at trying to introduce a new epicene pronoun into English started in earnest in the early nineteenth century. In 1884, Charles Converse, an American lawyer and hymn-writer, created perhaps the widest known epicene pronoun *thon* (and possessive *thons*) as a contraction, or a blend, of ‘that one’. The form never got to be widely used—though it did make its way into a number of dictionaries, among them *Webster’s Second New International Dictionary* (1934, omitted in a later edition, 1961).

Feminists were not the first to feel that the generic use of *he* reflected sexual bias within the language. Otto Jespersen (1894: 27–9) believed that introducing a common gender pronoun would make sexual bias less prominent. In his own words, ‘ladies would be spared the disparaging implication that the leading poets are men’, if *thon* as a generic third person pronoun replaced *he* in the sentence *It would be interesting if each of the leading poets would tell us what he considers his best work*. He saw no future for *thon*, instead favouring the singular *they*. Many other alternatives sprang up, among them borrowings (French *on*, *le*, and *en*), blends (*he’er*, *shem*), clippings (*e*, *per*) and new creations (*na*, *ae*, *ip*). Most of them attracted criticism or were neglected, and none of them made its way into the language used by any of the English-speaking communities. The title of [Baron’s \(1981\)](#) extensive account of epicene pronouns which would cover females and males is ‘The word that failed’. This captures the sad fate of many new coinages.

The generic use of *he* came under attack as a direct reflection of male dominance in the second half of the twentieth century with the rise of the feminist movement. Were women to be included in the scope of *he* as a generic pronoun or excluded from it? Could *he* be seen as a ‘pseudo-generic’? Experimental studies showed a tendency to identify ‘he’ as a male.

Robin Lakoff, the doyenne of feminist linguistics, was pessimistic about changing people’s attitudes to the pseudo-generic *he* which she used throughout her 1975 classic. But nowadays we can confidently say that the trend against the generic, or pseudo-generic, *he*, and its sexist overtones, is winning. More than forty years on, *he* as a generic is on the wane (see the discussion in [Aikhenvald 2016: 196–200](#); see also [Pauwels 1998](#)).

Any person starting on a new job in a university in an English-speaking country is given a set of instructions to use ‘gender-neutral’, or ‘gender-inclusive’ language. Staff and students across Australian universities are encouraged to use a gender neutral pronoun *they* (and not *he*), or reword a sentence to avoid personal pronouns, or replace *he* with *s/he*, *she/he*, *he/she*, or *he* or *she*. A dispreferred alternative in 16.1 (starred) is rephrased as 16.2.

16.1 *The student must present **his** research to the examiner—*dispreferred*

16.2 The student must present **their** research to the examiner—*recommended*

The guidelines for European international organizations (such as the Council of Europe) follow similar principles. And so do most publishers. In *The Cambridge Australian English Style Guide*, Peters (1995: 332) states that ‘in ordinary usage he/his/him seems to be losing its capacity to be common and generic’. The generic ‘unsex’ *they* is becoming the preferred option (with the singular reflexive *themselves* no longer rejected as ‘incorrect’). In her analysis of a variety of sources in British English, Wales (1996: 125–33) shows how *they* comes to be used more and more frequently to refer to nouns whose gender is not specified, in current usage by native speakers (see also Cheshire 2008: 9–10).

16.3.3 Thwarting sexist language: Looking further afield

The generic masculine is on the wane. Guidelines for ‘non-discriminatory language use’ targeting the generic masculine are at work for job advertisements in Welsh. If an advertisement is phrased in the singular, masculine and feminine pronouns are used together (e.g. *iddo ef/iddi hi* (for.3sg.masc him/for.3.fem her) ‘for him/for her’), or a plural form ‘they’ (which does not distinguish genders) is used (see Teso and Crolley 2013: 144–5 for details on institutional guidelines, and Awbery et al. 2002: 326–7 for Welsh).

Over the last decades we, as linguists, have witnessed a remarkable change in the grammar of English which has affected the closed class of pronouns. The sphere of use of the generic *he* is now drastically diminished. But this is not to say that the generic *he* is fully obsolete; one hears this use in casual conversations, and in the literature. In Cheshire’s experience (2008: 10), ‘several students still write *he* in their written work’, so much so that ‘there is

no guarantee that, if change has occurred amongst some people, it will persist'. For some, this is still an ideological issue: as [Silverstein \(1985: 253\)](#) put it, the use of generic *he* (or lack thereof) 'is turned into an index of a certain absence or presence of ideological solidarity with the reformers'. The indexicality of gender goes together with speakers' awareness of it.

The masculine gender forms in English have not lost their functionally unmarked status. This can be seen in the new plural form for second person in English *you guys* which contains the form *guy* with an erstwhile male reference. *You guys* can be directed to men, women, or to a mixed group, and is used by women and by men. (I first heard it used by a high-profile female financial analyst talking to her teenage daughters.) *You guys* can hardly be considered 'sexist language'. The use of *guys* as a plural follows the general principle of functional markedness. There are certain limits beyond which even the most ardent reformers cannot go.

The special status of gender is reflected in its malleability and reactivity to further change. The recognition of non-binary gender distinctions has been an important factor in the emergence of gender-neutral agreement forms in *-e* in Spanish (as an alternative to the feminine *-a* and masculine *-o* in Spanish) ([Negroni and Hall 2022](#), [Menegotto 2021](#)), and a newly proposed gender-neutral pronoun *iel* in French. Whatever the future of these new practices and coinages, their existence reflects one simple fact—the importance of gender and gendered expressions for the social life of each language, and for the speakers. The ways gender and classifiers are conceptualized and manipulated throughout language history is a testimony to the language as a guide to social reality, stereotypes, and human perception.

Strong correlations between gender, classifiers, and social and cultural categories—especially reflected in debates on gender in pronouns—confirm the functionality of gender. Speakers of languages with genders or with classifiers are typically aware of these salient features, and are often prepared to discuss them. This is what [Carpenter \(1987\)](#) reported for Thai. Speakers of Manambu, a Papuan language of New Guinea, speak with pride about their two genders. Such metalinguistic awareness corroborates communicative and cognitive importance of noun categorization through gender and classifiers.

16.4 To conclude

Noun categorization devices—gender and classifiers—are sensitive to language contact, language obsolescence, engineering, and prescriptive efforts.

- I. When languages are in contact, features important for cognition and communication converge. Gender and classifier systems adjust to one another, as a consequence of language contact. Gender and classifiers are often shared by languages within a linguistic area. Pidgins and Creoles, languages which come about due to interethnic contact, have no agreement gender and hardly any classifiers. Some do preserve animacy distinctions and gender-based derivations.
- II. As a language becomes obsolescent and gradually fades into disuse under the pressure of another's dominance, gender and classifiers undergo restructuring and loss. Or they may survive, if the dominant language has matching categories. As a language is used less and less and in fewer and fewer situations, the inventory of classifiers may get reduced.
- III. Gender and classifiers reflect the social and cultural environment and the attitudes of their speakers. They are easily subject to language planning and reforms, especially so when it concerns the ways of referring to humans. A remarkable success story is that of a gradual demise of generic *man* and generic *he* in English, removing the masculine bias. A number of earlier attempts to create a generic sex-neutral (or 'epicene') pronoun, variation in anaphoric agreement and other options—such as a generic *they*, with singular reference—prepared a fertile ground for this change. The demise of generic *he* involved an engineered enhancement of a pre-existing tendency.

How gender and classifiers are acquired, and how they are lost

How do children learn gender and classifiers when they acquire their first language? How do gender and classifiers fare if speakers suffer brain damage as a result of a disease or an accident, and their language skills are affected? In §17.1, we start with the acquisition of gender and of noun classes, and then turn to acquisition of classifiers in §17.2. Tendencies in second language acquisition of gender and classifiers are outlined in §17.3. The fate of gender and classifiers in language dissolution is the topic of §17.4. The last section contains a brief summary.

17.1 How children acquire gender and noun classes

The studies of child language acquisition of gender and noun class systems continue to be limited to a selection of Indo-European and Semitic languages, and to agreement noun classes in a few Bantu languages (see also [Aikhenvald 2003a](#): 413–17). The lack of similar studies for other languages with gender or noun class systems, including Caucasian, other African, Amazonian, and Papuan languages for which in-depth descriptions are available, is a gap. We start with the acquisition of small gender systems in §17.1.1, and then turn to the acquisition of larger noun class agreement systems in Bantu languages in §17.1.2.

17.1.1 How children acquire gender

When children acquire a language, gender is among the first features they master. This is what transpires in the studies of Indo-European and Semitic languages with small gender systems. Acquisition of genders goes together with the acquisition of agreement, a major means of expressing grammatical gender (as we saw in §2.1). Choosing a gender always involves meaning. Formal clues—phonological and morphological make up of a noun—may

also play a role (as we saw in §2.3). In systems where gender choice is based on mixed principles (involving morphological and phonological form of the noun), formal characteristics and contexts of gender agreement are mastered first. By the age of three, most Hebrew-speaking children will have gained full command of gender agreement,¹ and regularly produce correct forms for human nouns with female and male reference. Some mistakes in gender choice for inanimates are telling.

Every noun in Hebrew is assigned to masculine or feminine gender. The two genders are distinguished in the singular and in the plural. The assignment is mixed, that is, it involves the meaning and also form of the noun, as we saw in §2.3.3. Most feminine nouns in Hebrew have their singular form ending in *-a* and take the plural suffix *-ot*. But there are exceptions, and these—especially the ones with inanimate reference—are a stumbling stone for young children. They make errors in assigning correct gender to nouns whose gender differs from the one inferred based on their form (Berman 1985: 299–301). For instance, the noun *esh* ‘fire’ is feminine despite its masculine-like form. Young children would say **esh xazaq* instead of the requisite *esh xazak-a* (fire:fem.sg strong-fem.sg) ‘a big fire’. Once the mistakes are corrected, the nouns are learnt as isolated exceptions on the basis of their frequency. Children hardly ever make mistakes with familiar and ‘very common, almost formulaic noun-adjective collocations’, e.g. *dérex aruk-a* (road:fem.sg long-fem.sg) ‘a long road’, or *ir gdol-a* (city:fem.sg big-fem.sg) ‘a big city’. The importance of frequency of input and the familiarity effect is reminiscent of what we see in the acquisition of numeral classifiers (A in §17.2.3, pp. 359–60).²

Children can handle numerous intralinguistic cues at a time. In a comprehensive study of the acquisition of genders in Spanish, Pérez-Pereira (1991) showed that the greater the number of converging cues the more easily the children acquire gender assignment. Children aged from four to eleven paid far more attention to morphological and syntactic cues than to meaning.

¹ Similarly, in German and in Icelandic (Böhme and Levelt 1979, Mulford 1983) gender agreement was mastered by the age of about three.

² Longitudinal and cross-sectional studies by Levy (1983a, b) and Berman (1985) show the importance of phonological features for acquisition of portmanteau gender and number marking in Hebrew; see a summary in Franceschina (2005: 107–15). Pérez-Pereira (1991: 585–8) notes a slightly later acquisition of genders whose marking is ‘ambiguous, barely transparent, and scarcely predictable’ in German, Czech, Serbo-Croatian, and Russian.

Much of the literature on child language acquisition of gender focuses on production rather than on comprehension. Lew-Williams and Fernald (2007) show that gender (marked on articles) was an important clue in word recognition for Spanish-speaking infants between the age of 34 to 42 months: having the gender information available was an advantage for quicker language processing. There is now a substantial amount of literature on cross-linguistic influence in child language acquisition by bilinguals (e.g. Egger, Hulk, and Tsimpli 2018).

The relative markedness of genders was another important clue. Spanish children tended to attribute masculine gender to nouns most often because it is unmarked, and therefore easier to acquire (Pérez-Pereira 1991: 584).

The tendency towards earlier acquisition of formally unmarked gender was also observed for French (Karmiloff-Smith 1979) and for Hebrew (Levy 1983a, b, Berman 1985). Anecdotal evidence with gender use by Manambu-speaking children from my own fieldwork points in the same direction. Three- to four-year-old children would consistently overuse the feminine singular form which is both formally and functionally unmarked (§4.2). This confirms the psycholinguistic reality of markedness in language.

The importance of formal clues in gender assignment and the frequency of forms in carers' speech have been noted in child language acquisition of Czech, a Western Slavic language with three genders (masculine, feminine, and neuter) (Lehečková 2000: 763–4). Young children tended to overgeneralize the feminine forms of modifiers and use them with nouns of all three genders, as a reflection of the speech of their mothers and female carers characterized by high frequency of nouns ending in *-a* (a tell-tale marker of feminine singular in Czech). Older children tended to overgeneralize all nouns ending in *-a* as feminine, all nouns ending in *-o* as neuter, and all nouns ending in a consonant as masculine, tending to produce correct agreement forms.

Across Romance and Germanic languages, gender agreement between the article and the noun is mastered before the agreement between the noun and the adjective. The agreement with the definite article appears to be learnt before that on the indefinite article, possibly due to frequency of adult input (see a summary in Franceschina 2005: 113).

17.1.2 How children acquire noun classes in Bantu languages

Large agreement systems known as 'noun classes' are a typical feature of Bantu languages (as we saw in Box 2.1, p. 28, under D in §2.2.3, pp. 37–8). Table 2.2 (p. 37) offers a summary of the common terms in the noun class systems common to Bantu languages. The choice of noun class (fused with number) across Bantu is semantically opaque, though a certain semantic core is associated with almost every class (as we saw in §2.1 and §3.1). A further feature of many Bantu languages is alliterative agreement on multiple targets, as shown in §3.1.2.

Similar to small gender systems, Bantu-speaking children acquire the principles of agreement and use them correctly at an early age. This transpires

from the studies of Sesotho, Setswana, and Zulu (Demuth 1988, Demuth and Weschler 2012, and an assessment and further study in Herbert 1991). Sesotho children as young as two–three years old apply agreement principles in all of the multiple contexts without major problems. By the age of about 2.6, children displayed a high command of correct agreement. Noun class on the nouns themselves was learnt later. Similar results were documented by Tsonope (1988), for Setswana. A noun class is first acquired as a feature of a phrase, rather than a feature of an individual noun. This is accounted for by the fact that the Bantu noun class agreement system is phonologically transparent and involves numerous targets within a noun phrase and within a clause. Along the lines of what we have seen for gender in §17.1.1, formal regularity helps correct acquisition of agreement.

In some Bantu languages, the earliest manifestations of noun-class prefixes in agreement are general ‘prefix-holders’ in agreement, realized either as variable prefixes or as an undifferentiated *a* preceding the noun stem (Herbert 1991: 110, based on Swati, Southern Sotho, and Setswana). This is similar to the overuse of generic, place-holder-like, numeral classifiers by children, as we will see in §17.2.1.

Importantly, noun class agreement is mastered before overt prefixes on nouns. The semantic side of noun classes does not seem to play an important role in noun class acquisition for Bantu languages; the acquisition of form precedes the acquisition of meanings. Tsonope (1988) shows that children begin to consolidate semantically-based noun classes, such as human nouns, only later, after the agreement system has been acquired. In some cases, semantic clues may have played a limited role. The acquisition of demonstratives by Setswana children seemed to suggest that they are able to make a distinction between human and non-human nouns very early. Learners of other Bantu languages also tend to acquire the human/non-human distinction before other underlying semantic contrasts. This is why all nouns denoting humans are occasionally treated as members of Class 1/2 (predominantly human) (cf. Suzman 1980, for Zulu, and also Herbert 1991: 110–11). Overgeneralization of the human noun class turned out to be particularly salient in experiments of noun class assignment to novel nouns (for more on this, see Demuth et al. 1986: 466).

Demonstratives and possessives were the first targets to show agreement in Sesotho (Demuth 1988: 319, Demuth and Weschler 2012: 79, Herbert 1991: 111). In contrast, the first concordial subsystem consistently employed in Zulu was subject marking on verbs (Suzman 1982: 57). The fact that the first signs of subject/verb agreement to appear in children’s discourse are

anaphoric (Suzman 1982, Herbert 1991: 111–12) supports anaphoric origins of agreement (cf. §15.1.2).

The rate of acquisition of individual noun classes may correlate with sociolinguistic parameters. In her pioneering investigation of the acquisition of noun classes in Zulu, subjects with urban backgrounds acquired nouns from the class 5/6—which includes most borrowings from English and Afrikaans—faster than rural children (Suzman 1980: 52). This alerts us to the importance of the extralinguistic factors in learning noun categorization devices.

17.2 How children acquire classifiers

Recent decades have seen an upsurge in experimental psycholinguistic studies in general, and specifically in issues to do with language processing and acquisition. Studies of child language acquisition remain limited to a few languages from Asia (see also Aikhenvald 2003a: 417–23). Most studies of child language acquisition of classifiers in multiple contexts continue to display an exclusive bias towards numeral classifiers and classifiers with number words (with the exception of Erbaugh 1986, Carpenter 1991, and Senft 1996). Much-needed studies of child language acquisition of noun classifiers, classifiers in possessive constructions, verbal classifiers, and classifiers of other types remain a gap.³

Children start using classifiers with number words in the relevant constructions at a young age, before they turn two. This was documented for Korean, Mandarin, Cantonese, Vietnamese, and Japanese-speaking children (Lee 1997, Erbaugh 1986: 415, 2006, Tran 2011, 2013, Sumiya 2008: 54–6, and Tse et al. 2007: 509). Similar to the early acquisition of gender agreement, the machinery of grammatical constructions is mastered at an early stage.

Young children tend to make few if any mistakes in the order of classifiers and nouns, and do not omit classifiers. Mandarin-speaking infants use the general classifier correctly with demonstratives and the number word ‘one, a’ at a very early stage, e.g. *yao zhe ge/yi ge* ‘want this/want one’ (Erbaugh 2006: 47). Similarly, Thai-speaking infants learn that a classifier belongs to the post-number word position at an early age. Then, ‘they figure out its identity bit by

³ Most studies of child language acquisition of classifiers focus on their production rather than on their comprehension (see a useful overview in Sumiya 2008). Comprehension of numeral classifiers by Japanese children preceded their correct production (Yamamoto 2005, Sumiya 2008: 53–4), in agreement with Clark (2009: 385). By the age of six, the children under investigation had achieved adult-like comprehension of the eleven classifiers tested, but made mistakes in their use. Interestingly, children tended to produce generic classifiers, but could understand specific ones (see also Salehuddin 2013 on Malay).

bit, starting with the information that it must come from a closed set of words that conventionally appear' in this position (Carpenter 1991: 109). No child used a non-classifier form in the conventional position reserved for a classifier.

The rate of acquisition is what differentiates gender and classifiers. Children acquire the principle of having a classifier or a gender very early. Their ability to use the appropriate form within a large system of classifiers that develops gradually and proceeds relatively slowly (see also Gandour et al. 1984 on Thai and Ng 1989: 92 on Hokkien). We now turn to the tendencies in the evolution of children's competence in classifiers.

17.2.1 Learning to use the correct classifier: Generic before specific

Extensive use of A GENERAL OR A DEFAULT CLASSIFIER is a common feature in classifier acquisition. Young children acquire classifiers with a general meaning before they can produce, or comprehend, more specific classifiers. Mandarin-speaking children were 'almost as reliable as the adults in using classifiers wherever one was required'. However, they 'overwhelmingly preferred' the general classifier *gè* (Erbaugh 1986: 413, and also Erbaugh 1992: 413, 2006: 47). A similar tendency was documented for the general classifier *go3* in Cantonese (Li and Wong 2014: 93–4, and Tse et al. 2007: 514–15).

Young learners of Thai who had not yet developed proficiency in specific classifiers followed two strategies. OVERGENERALIZATION involved replacing specific classifiers with the general default classifier *ʔan* for inanimate objects. In adult language, the classifier *ʔan* often does a similar job for inanimates, a feature of informal speech which some speakers call 'child-like'. The mean percentage of children's use of the generic classifier where a specific classifier will be deemed appropriate ranged from 77.6% to 64.6%, especially for five- and six-year-olds.

OVERSPECIFICATION involved using each noun as its own classifier (or a part of a compound) as a repeater strategy. We saw in §12.7.2 (and example 12.1) that the repeater strategy in Thai is used as a default option, if no other classifier is available (Gandour et al. 1984: 472–3, Hundius and Kölver 1983: 184). A general classifier and a default strategy are the easiest to learn (see Gandour et al. 1984: 472, Carpenter 1991, 1992). Both strategies—overgeneralization and overspecialization—make classifier choice less dependent on the semantic features of the noun and on the child's knowledge of the outside world. The overuse of the general classifier *ʔan* starting from a young age in Thai indicates that children have learnt what slot in a noun phrase has to be occupied,

but perhaps have not yet learnt that the classifier choice is determined by the head noun, and not by the presence of a number word. In their overuse of repeaters, children ‘signal their awareness that it is the head noun that determines classifier choice’, but if they are unsure which classifier to use, they use the noun itself in the classifier slot ‘to cover all bases’ (Carpenter 1991: 109). Both strategies help reduce the semantic load associated with learning the full classifier system.⁴ The overextension of default numeral classifiers by children is not unlike children’s overextension of lexical terms—for example, using the word ‘dog’ to cover all four-legged animals (see also Clark 2009).

17.2.2 What comes first: Learning to use classifiers with specific meanings

Specific classifiers are acquired relatively slowly and at a later age than the general one (approximately between 2.6 and 3 years of age for Mandarin: see Erbaugh 1986, Hu 1993). Japanese-speaking children overused general classifiers until the age of six to seven, and did not reach the level of adult proficiency until the age of twelve or thirteen (Sumiya 2008: 66–8), similarly to learners of Thai (Carpenter 1991).

THE ORDER OF ACQUISITION of classifiers with specialized meanings follows the basic semantic parameters, with classifiers for ANIMATES and HUMANS coming first. This is reminiscent of what we saw for some Bantu languages in §17.1.2. The earliest classifier used by Vietnamese learners (at the age of one year and nine months) was the classifier *con* for animals (Tran 2013). The earliest specific classifiers acquired by Japanese children were classifiers for human referents—*-ri* for one or two people and its equivalent *-nin* for more than two people—and the classifier *-hiki* for small animals and insects (Sumiya 2008: 14, 125). The acquisition of numeral classifiers with a broader meaning preceded the acquisition of more specific terms. The Japanese classifier *-hiki* was acquired before classifiers *-wa* for ‘birds’ and *-tou* for ‘large animals’ (Matsumoto 1985, 1987).⁵

⁴ See also Yip and Matthews (2007: 166, 187, 2010) for Cantonese; Matsumoto (1985, 1987) and especially Sumiya (2008) on Japanese; Lee (1997) on Korean; Tran (2013: 87) on Vietnamese; and Sangkaram and Indrambarya (2018) on Thai. However, Thai children figure out that the choice of classifiers (especially with number words) is based on the meaning of the noun itself at an early age (as shown by Carpenter 1991), contrary to Bale and Coon’s (2014) claim that numeral classifiers are chosen based on ‘numerals’ rather than by the meaning of nouns.

⁵ Kilivila-speaking children acquired classifiers for animates before any other terms (Senft 1996: 192). In Malay, numeral classifiers for animates were acquired earlier than shape-based classifiers for inanimates (Salehuddin 2013). Similar results were obtained for Hokkien (Ng 1989: 123), and also

Acquisition of classifiers for animates and humans is usually followed by that of SHAPE-BASED classifiers for inanimate referents. The earliest classifiers for inanimates to be acquired in Vietnamese included classifiers with shape reference—*cây* for one-dimensional and long, straight, and rigid objects, followed by *cục* for three-dimensional and small and roundish ones, and then by *quả/trái* for fruit and three-dimensional objects (Tran 2013; see also Ng 1991: 75–6 on earlier acquisition of one-dimensional classifiers in Hokkien compared with two-dimensional ones, and the primacy of shape in early classifiers).

In Malay, the first numeral classifiers for inanimates to be acquired were the two terms for one-dimensional items: *batang*, for rigid vertical one-dimensional things, such as trees and sticks, and *helai*, a numeral classifier for non-rigid two-dimensional objects, such as sheets of paper (Salehuddin 2013). The two classifiers for three-dimensional objects, *buah*, three-dimensional large objects, such as balls and fruit, also used as a generic classifier, and *biji*, for small three-dimensional things, followed. Other shape-related classifiers, including *utas*, for one-dimensional non-rigid objects, and *keping*, for two-dimensional rigid ones, were produced only after *buah* and *biji*. This order of the acquisition of classifiers was also influenced by the input from care-givers: both *buah* and *biji* were far more frequent than other shape-based forms. The frequency of classifier use is one of the factors in their acquisition, as we will see in §17.2.3.

Acquisition of shape categories mirrors the preferred meanings in numeral classifiers in general. The children's early preference for one-dimensional classifier categories correlates with the primacy of one-dimensional terms in numeral classifier systems. We saw in Diagram 12.1, p. 232, that we do not expect to encounter a system with a classifier for round three-dimensional objects without having one for one-dimensional long things, nor a classifier for two-dimensional objects without a term for a one- and a three-dimensional entity.

Shape-based numeral classifiers tend to be acquired before function-based ones (shown by Tran 2013 for Vietnamese, Hu 1993 and Erbaugh 1986, 2006 for Mandarin Chinese; a summary is in Sumiya 2008: 75–6). In the experiments, children mistakenly used shape-based classifiers where a function-based one would be appropriate in adult usage. For instance, the Mandarin

Mandarin and Cantonese (Loke and Harrison 1986), and also Garo (Burling 1973: 81). When young children start acquiring classifiers, they tend to use a classifier with just one item, before generalizing them to a set. Classifiers for concrete objects tend to be acquired earlier than classifiers covering activities and abstract notions (Erbaugh 1986: 399, 1992: 413–14).

classifier *tiáo* ‘CL:EXTENDED.OBJECTS’ was incorrectly applied to a sword and a stepladder (which require the function-based form classifier *bǎ* ‘CL:HANDLE’ in adult speech: Erbaugh 1992: 413–14, 2006: 47–8). The early preference of shape over function could be due to the fact that ‘shape is more stable and visible than function, which can be unknown or conventional’ (Erbaugh 2006: 48). We will see in (D) in §17.2.3 that culturally-based conventions in classifier use are learnt relatively late.

Child-language acquisition of shape-based classifiers before function-based ones is consistent with the generalization in Diagram 12.2 (p. 235). This generalization states that if the language has function in numeral classifiers it will also have classifiers whose choice is based on shape. Importantly, the order of classifier acquisition correlates with the basic semantic preferences across the world’s languages. But note that function-based classifiers can be acquired relatively early, if frequently used by carers (see Sumiya 2008: 125–6). We return to the contributing factors in the acquisition of classifiers in §17.2.3.

In their production of classifiers, children proceed from applying them to individual lexical items before generalizing them to cover categories. In their first uses, classifiers refer to unique items before being extended to prototypical members of a newly acquired class (Erbaugh 1986: 431). This is similar to a historically attested pathway of development of classifiers, from a unique item to a class defined by a shared feature (as we saw in §15.4.1).

In the same vein, Japanese children acquire central, or prototypical, members of a classifier category such as *-hon* earlier than non-prototypical extended ones (Matsumoto 1985, Sumiya 2008: 76–7, and Sanches 1977: 61). Prototypicality of a referent is among the semantic factors which contribute to the acquisition of classifiers and their production. This is what we turn to now.

17.2.3 What helps to learn the correct classifier: Contributing factors

Factors which contribute to learning to use a specific classifier and the range of referents it subsumes are (A) frequency of input and familiarity effect, (B) prototypicality of the referent, (C) clear semantic cues and semantic complexity, and (D) cultural conventions and extralinguistic knowledge.

A. FREQUENCY OF INPUT AND FAMILIARITY EFFECT. Frequency of input from carers and adults is a strong stimulus in early acquisition of gender and noun classes (in agreement with Clark 2009 and other studies). Classifiers frequently

used by adult carers are learned early. The frequency of shape-based numeral classifiers in carers' speech was a major factor in their early and pervasive use by Malay-speaking children (Salehuddin and Winskel 2012, Atagi and Sandhofer 2015). Classifiers which do not relate to objects familiar to children tend to be acquired later by Mandarin-speaking children. For instance, the honorific classifier *wèi* and the classifier *tài* for machines do not occur in children's speech until the age of six (Hu 1993: 125). Similarly, Thai children do not produce appropriate honorific classifiers until relatively late. A seven-year-old Thai-speaking child used the human classifier *khon* for ordinary human beings instead of other rank-based classifiers, incorrectly overgeneralizing this form to monks (see example 14.1, and Gandour et al. 1984: 463, 470).

Specific classifiers tend to be used less frequently than those classifiers whose assignment is based on animacy and other general properties, such as animacy and shape. Japanese has a large number of classifiers, but only a fraction of those are in common use (as demonstrated by Downing 1996: 21–3, 57–62, and Jarkey and Komatsu 2019: 261–2). Comparatively low frequency of specific classifiers and their connectedness with topics which do not come up in everyday conversations between children and their carers explain their relatively late acquisition.

B. PROTOTYPICALITY OF THE REFERENT. Children acquire central, or prototypical, members of this category earlier than non-prototypical extended ones. As a telling example, Matsumoto (1985) noted that his five- to seven-year-old Japanese-speaking subjects had no difficulty in applying *-hon* to novel objects with a perceptually salient thin, long shape. It was difficult for them to apply it spontaneously to non-central, conventionalized members of the *-hon* category obtained by metonymical extension. Japanese children investigated by Sumiya (2008: 125–6) acquired shape- and dimensionality-related uses of *-hon* by the age of 5.4. In adult usage, *-hon* covers further items, such as pants and cassette tapes. Children between the age of five and seven referred to them with *-mai* 'flat items' or with one of the general classifiers, either *-tsu* or *-ko* (Matsumoto 1985, Sumiya 2008: 47). As Matsumoto (1985: 168) put it, children have to 'learn the use of *hon* for atypical cases in an item-by-item fashion, for the acquisition of knowledge of the membership of atypical members of a classifier category seem to depend heavily on the actual exposure to these uses in the input'.

The polysemous classifier *tua* in Thai is another case in point. Diagram 15.5 (p. 317) features its multiple uses and extensions. Typical members of a classifier category are assigned correct classifiers first. Young children start using *tua* with animals in its most prototypical meaning, earlier than with inanimate

objects (Carpenter 1991: 106–7). The inanimate object most frequently used with *tua* was ‘shirt’, probably because of its body-like form. ‘Elephant’, as a typical animal, was used with *tua* more frequently than a snake (a limbless animal).

Further evidence for the importance of typicality of a referent in Thai comes from the categorization of ‘elephant’. Children of school age (starting from the age of six) were exposed to the specific numeral classifier *chûak* for domestic elephants, from the noun ‘rope’ (see §14.1.2), rather than *tua* (used for wild elephants in adult speech, as we saw in examples 14.2–3). Of several dozen children investigated by Carpenter (1991: 107), only one used the specific classifier for ‘elephants’, while all the rest consistently used *tua*. Children did know the form *chûak* in its meaning ‘rope’, but ‘evidently they did not think that its lexical meaning of “rope” was closely enough related to “elephant” to be used as a classifier. Those who used it as a classifier at all collocated it with nouns referring to long thin flexible things, that is, compatible with its lexical meaning—“tube”, “spaghetti”, and “belt”’.

C. CLEAR SEMANTIC CUES AND SEMANTIC COMPLEXITY. The rate of acquisition of classifiers tends to correlate with the complexity of their meaning, transparency of their choice, and the clarity of semantic cues. Hokkien-speaking children acquire shape-based classifiers in all their uses earlier than Thai children (Ng 1991: 81–2). Shape related classifiers in Thai are semantically complex and cover networks of related objects. Children tend to learn how to use classifiers with prototypical referents first (as we saw for the polysemous classifier *tua* in B above), and continue making mistakes with less prototypical ones until the age of ten to twelve. Hokkien classifiers are semantically straightforward and shape-focused, and this explains the consistency of adult-like usage by the age of six. The number of shape-based classifier forms in the language also plays a role. Thai has at least six classifiers for one-dimensional items, four for two-dimensional, and further four for three-dimensional ones. In contrast, Hokkien has only five shape-based classifiers. Hokkien children have less to learn than do Thai children, and so they learn quicker (similar examples from Japanese are in Sumiya 2008: 130–8, 153).

D. CULTURAL CONVENTIONS AND EXTRALINGUISTIC KNOWLEDGE. The choice of some classifiers involves deeper knowledge of usage and conventions than others. To get a good grasp of the full system, children must learn cultural conventions and extralinguistic categories reflected in classifier. This is why specific classifiers are acquired at a slow rate. The classifiers whose use hinges

on extralinguistic knowledge are acquired 'later rather than sooner' (the title of Carpenter 1991). Gandour et al. (1984) reported that 'errors' in classifiers were made by Thai-speaking children as old as ten.

The gaps in children's proficiency in Thai classifiers involved 'relatively idiosyncratic classifiers' (Juntanamalaga 1988: 322) which involve learning interactions between extralinguistic and intralinguistic features, and a substantial amount of cultural knowledge. Children as old as ten failed to use the conventional specific classifiers *dò:k* 'arrows, joss-sticks' and *mét* 'pearls'. The basic core classifiers which reflect preferred semantic parameters (outlined in Table 12.7, p. 255) were acquired early. Others have to be explicitly taught.

Those classifiers in Thai which belong to the 'polite vocabulary' as part of a formal register, in Juntanamalaga's (1988) words, are 'in a sense "unnatural" and difficult for many Thai speakers, especially those from less-educated social background ... Unusual idiosyncratic forms, such as *pû:n* as the classifier for saws or *law* as the classifier for musical wind instruments, might need to be explicitly learned or memorized. Their acquisition would depend partly on formal education and even speakers who had learned such classifiers in a formal way at school might not necessarily use them in real life situations'.

Late acquisition of specific classifiers compared with classifiers based on shape and dimensionality goes together with Generalization 12.5 (p. 246), stating that the presence of specific or unique classifiers in any system is contingent on the presence of classifiers based on shape and dimensionality and other physical properties.

The four groups of factors (A–D) are at work in facilitating, or hindering, child language acquisition of classifiers. These factors interact with each other. The general classifier for humans *-ri/-nin* in Japanese is frequently used by adults and carers. Frequency coupled with semantic transparency is responsible for its early acquisition. In contrast, honorific human classifiers *-mei* and *-kata* restricted to formal contexts are not used by young children, as they do not get exposure to them. Semantic complexity of shape-related classifiers in Japanese slows down their acquisition (Sumiya 2008: 134–5).

A further question arises. When children learn classifiers in multiple contexts, which classifier context is acquired first? Acquisition of classifiers with number words continues to be the main focus for the studies of languages with classifiers in multiple contexts. Carpenter (1992: 140, 148) was the first scholar to signal this gap. The few studies available indicate that the acquisition of classifiers with modifiers predates that with number words. According to Carpenter (1992: 140), Thai children master classifier use with modifier first, and 'later extend their use to quantifying contexts'. Sometimes, children

use a correct classifier with a modifier, and an incorrect one with a number word (p. 141). Fifty-nine percent of the two-year-olds' responses were better in non-number word than in number word contexts. 'The youngest child tested (1.8 of age) was unable to respond to any of the probes in the quantifier context, but he spontaneously used two classifiers with demonstratives' (p. 140). Similarly, Mandarin-speaking infants used the general classifier correctly with demonstratives before using them with number words (Erbaugh 2006: 47).⁶

17.2.4 Interim conclusions: Child language acquisition and the evolution of classifiers

The order in which classifiers are acquired reflects what Carpenter (1991: 108–9) called 'stages of organizing knowledge'. Similar to gender systems, grammatical contexts of classifier use are acquired very early: children learn that a classifier has to be in a classifier slot and that its choice is determined by the referent of the noun. Learning the conventional use of classifiers takes time and proceeds slowly. As children receive the input, from their carers, teachers, and other adults, they keep revising and refining their knowledge about the extent of the use of a numeral classifier and its extended meanings, conforming to the linguistic conventions they are exposed to. Both classifier acquisition and the historical evolution of classifiers reflect the properties of noun referents in the first place (rather than the nature of a number word: see the discussion of §5.6).

Child language acquisition of classifiers parallels some of the historical processes in their evolution and typological tendencies in the meanings in classifier systems, along the following lines.

- I. The acquisition of individual classifiers by children proceeds by extending a unique item to a more general class, as we saw in §17.2.1. This mirrors the historical development of classifiers, shown in §§15.4.1–15.4.2.
- II. A prototypical referent of a classifier is acquired first (see (B) in §17.2.3, especially with regard to the acquisition of the Japanese classifier *-hon* for thin and slender items). This mirrors the history of documented

⁶ The only study of child language acquisition of a multiple classifier system available so far is Senft (1996: 180–95), for Kilivila. Classifiers are used with adjectives, demonstratives, and number words (see example 11.6). The order of the acquisition of classifier contexts showed that the most frequent classifier context for children of the youngest age group (four to seven years old) were adjectives. The second in frequency were classifiers with number words, and the third were classifiers with demonstratives.

classifiers (§15.4.2) and the development of meanings from prototypical to less prototypical extended members (see §15.4.1).

Child language acquisition reflects the following typological tendencies established for numeral classifier systems.

1. The primacy of basic categories: animacy and shape corroborated by cross-linguistic tendencies in the semantics of classifiers (Diagram 12.1, p. 232).
2. The acquisition of shape categories and the preferential parameters in the semantics of numeral classifiers cross-linguistically (Diagram 12.2, and Generalization 12.5, p. 246).

Child language acquisition of classifiers stands apart from their historical development in a number of ways.

FIRST, child language development is teleological, that is, oriented towards the mastery of adult-like proficiency. Historical change does not have a defined goal. Historical changes are based on extensions and innovations. Child language acquisition relies on the existing input, and the frequency and familiarity of the items categorised ((A) in §17.2.3).

SECONDLY, the prevalence of general and default classifiers in young children is indicative of their learning strategy, and ways of reducing cognitive load as they acquire complexities of the systems step by step. This is unlike established patterns of historical development of numeral classifiers.

THIRDLY, child language acquisition of classifiers strongly correlates with the knowledge of the outside world and the existing conventions in classifier use. We saw in §17.2.3, under (D), that acquisition of classifier for unfamiliar items and special uses proceeds slowly, and oftentimes children have to be taught the correct usage in the formal educational environment (as is the case in Thai).⁷

The acquisition of classifiers mirrors the general tendencies of cognitive categorization, e.g. unique reference before prototypic members and extensions, and more concrete items and categories before more abstract ones (Erbaugh 1986, Lee 1988, and also Clark 1977: 460). Preferred semantic parameters in classifiers, with shape as the primary foundation for the basic categorization, play an important role.

⁷ See also Erbaugh (1986) and Carpenter (1992) for parallels and differences between historical development and acquisition of classifiers.

17.3 Non-native learners: Gender and classifiers in second language acquisition

In second language acquisition, learners of a foreign language tend to project the gender of the language they know best onto the system they are trying to master. Speakers of Russian who learn Hebrew tend to transfer the gender of their native language to Hebrew. For instance, the Hebrew noun *ir* 'city' (feminine) is often assigned masculine gender because its Russian translation is masculine. Speakers of English (which only has anaphoric gender) rely on the meaning of nouns, and largely disregard the formal aspects of gender choice (Armon-Lotem and Amiram 2014; see also Oliphant 1998).

Along similar lines, those subjects whose first language has agreement gender performed best in acquiring gender in their second language, on the basis of a study of a selection of Romance languages (Franceschina 2005: 193). Those whose first language has no agreement gender struggle to use the correct forms, and generalize the most frequent ones. Lehečková (2000: 765) offers a number of examples of Finnish learners of Czech using the formally unmarked masculine pronouns and agreement forms with feminine nouns. As a matter of hypercorrection, a male student used the feminine form to refer to himself.

Similarly, second language learners find it hard to learn classifiers, if their languages do not have any. As a fall-back option, some students overused the default generic classifier *gè* in Mandarin (Polio 1994, Rosmawati 2015), not unlike young children (see also Gao 2010). For L2 learners whose first language did have numeral classifiers, the picture was different. Korean learners of classifiers in Mandarin Chinese generally outperformed native speakers of English (Liang 2009: 164, 182–4).

17.4 Gender and classifiers in aphasia and language depletion

The human brain can be damaged as a result of a stroke, a disease, or an accident. Language skills may then be impaired or lost. Those affected by the resulting condition, known as aphasia, may produce ungrammatical forms and have difficulties understanding language. In language production, some gender-marked forms suffer more than others. Patients produce wrong gendered forms of nouns, make mistakes in gender-sensitive articles, agreement forms, and gendered pronouns (Menn et al. 1995: 113).

Patterns of language dissolution of gender and classifiers in aphasia are believed to offer a mirror image of their acquisition by children, as suggested

in the seminal work by Jakobson (1941). Features acquired early are expected to be most resistant to loss in aphasia, and in other situations of language dissolution (Herbert 1991: 125). This is known as the ‘regression hypothesis’. In its weaker form, the hypothesis claims significant parallels between language acquisition and language dissolution (Gandour et al. 1985).

A study of aphasic Czech-speaking patients by Lehečková (2000: 761–2, 2001) shows that the forms which are acquired by children at an early stage are among the most resistant to loss in language dissolution. Patients maintained gender agreement (acquired early by children), with one proviso. Children acquired the feminine singular form earlier than the masculine singular one (possibly due to them imitating the speech of their female carers). In contrast, aphasic patients tended to overuse the least marked masculine singular form which is highly frequent in the adult language. Formal markedness and frequency of input and formal markedness appear to be the driving factors in the retention of gender by aphasic speakers of Czech. Frequency and familiarity effect was at work when German-speaking aphasics were asked to provide correct gender-sensitive determiners for compounds. The patients performed better with the existing forms than with novel ones (Lourenz and Zwitterlood 2014: 66–7).

In some instances of language dissolution and loss, the retention of gender distinctions follows the basics of gender choice, especially sex, or natural gender. Broca aphasics appear to be less impaired in their production and processing of correct pronouns in French when their choice is based on natural gender for humans and animates than for inanimates (Jarema and Frederici 1994: 690). The fact that the patients performed better in processing articles than processing pronouns points towards the validity of the regression hypothesis—that regular agreement patterns (acquired early by children) are more resistant than anaphoric agreement.

In his pioneering study, Herbert (1991: 118–19) shows how noun class prefixes and principles of agreement fare with a number of speakers of Zulu affected by Broca aphasia, and how this is different from child language acquisition. We saw in §17.1.2 that children start with acquiring agreement and end up with acquiring overt noun class marking for nouns. In contrast, production of nouns with an overt prefix is regular in aphasic speech. There was no systematic reduction in the inventory of prefixes, and the agreement system tended to be preserved. The most common errors involved the correct noun class prefix on the noun and wrong concords, that is, nouns were often assigned to ‘wrong’ agreement classes. Wrong concords appear more rarely in head-modifier noun phrases than between subject and object. Aphasics

displayed more difficulties in producing forms involving anaphoric agreement than regular agreement. This may well reflect a general feature of agrammatic aphasia and difficulties in producing and understanding pronouns. Similar to Zulu-speaking children, Zulu aphasics do not use alliterative agreement as a default strategy (Herbert 1991: 120, 124–5), unlike Thai patients and Thai children who overused the repeater strategy, in their ‘overspecialization’ (see §17.2.1).

What child language acquisition shares with the aphasic data is the prominence of a human/non-human distinction. In aphasics, many concord errors involved transfer of nouns with human referents to Class 1/2 (Herbert 1991: 126). Aphasics preserved the ‘outline skeleton’ of the agreement system—which children capture early (Herbert 1991: 126–7).

In contrast to aphasics, children mastered the principles of agreement before noun class markers on the nouns themselves. Aphasic patients made few mistakes with noun class marking on nouns, and displayed mistakes in agreement (typical for agrammatic speech in language disruption). Children produced correct concords and prefixless nouns regularly. Aphasics did the opposite: the classes on nouns were remarkably robust.

Common elements between historical change, child language acquisition, and dissolution of Bantu noun classes included (a) the predominance of animacy and humanness, and (b) ‘the stability and tenacity’ of agreement and noun class system in its various forms.

The fate of classifiers with number words by Thai aphasics mirrored their acquisition by children. Errors in Thai numeral classifiers made by a selection of aphasic patients with left hemisphere brain damage were similar to the errors made by young children, both in quantity and quality. Classifiers whose assignment was based on salient perceptual characteristics were less resistant to aphasic disruption than classifiers whose assignment was based on more abstract properties. Errors in animate classifiers typically involved substitution of honorific terms by classifiers referring to ordinary persons, or by overusing the generic classifier *tua* ‘animal, thing’ (similar to what was observed in child language acquisition: Gandour et al. 1984). Classifiers based on configuration, e.g. groups, appeared to be the least stable in language dissolution. Similar to children at the early stages of acquisition (§17.2.1), aphasics tended to overuse the general classifier *?an*, and to use repeaters, a default classifier technique, instead of appropriate classifiers (Gandour et al. 1985: 552–3). These techniques reflected the aphasics’ diminishing capacity of adequately understanding and manipulating varying styles and registers of discourse and their general disfluency (Gandour et al. 1985: 552).

Aphasic speakers of Mandarin Chinese tended to overuse of the general classifier *gè* as a substitute for specific classifiers they could not remember or produce. Tseng, Chen, and Hung (1991) compared two types of aphasic speakers of Mandarin Chinese and Taiwanese: those with ‘Broca’s’ aphasia, resulting in agrammatism (defined as ‘dropping out of connective words, auxiliaries’ and ‘general loss of obligatory grammar’) and those with ‘Wernicke’s’ aphasia resulting in paragrammatism (defined as ‘the substitution of an inappropriate grammatical form for the correct target’: p. 185). The general tendency in both types was to substitute a more specific classifier with a general (‘neutral’) one. It has also been observed that Broca’s aphasics tended to avoid classifier constructions, while the Wernicke’s patients showed more instances of substitution of a ‘correct’ classifier with an incorrect one (often the general classifier).

A similar tendency to overuse the general classifier was observed in a sample of older speakers of Southwestern Mandarin, especially those affected by Alzheimer’s disease (Feng et al. 2021). The decline in the use and the comprehension of specific classifiers correlated with the decline of general cognitive abilities of the subjects. Older and cognitively impaired subjects had difficulties accessing the pool of specific classifiers and could no longer establish the links between different objects and the classifiers they subsumed, as a result of memory loss and deficiencies in semantic storage of concepts and names.

Using a generic classifier in lieu of specific forms is a feature of obsolescent speakers and those who no longer have access to the full extent of the traditional culture (as we saw in §16.2). In other words, the less speakers know, or remember, the more likely they are to resort to a general classifier as a fall-back choice.

17.5 To conclude

The way children learn to use genders and noun classes on the one hand, and classifiers on the other hand share the following features.

- I. FORM BEFORE MEANING. Syntagmatic rules—the principles of agreement in gender and noun class, and the necessity of having a classifier with number words (and other contexts)—are acquired early, as we saw in §17.1 and §17.2). As Carpenter (1991: 112) put it, the syntax of classifiers ‘is relatively easy, and children learn it early and in a fairly error-free manner, but it is the semantics that provides both a

challenge to the children and the really interesting phenomenon for the psycholinguist’.

- II. ANIMACY AND HUMANNES FIRST. The basic distinction of animate versus inanimate, and/or human versus non-human entities in gender, noun classes, and in classifiers is acquired early, as we saw in §17.1 and §17.2.2. The principle ‘animacy first’ goes together with the fundamentally basic character of animacy in the choice of most noun categorization devices.
- III. GENERIC BEFORE SPECIFIC. One of the most common principles in the acquisition of numeral classifiers is overuse of classifiers with general or default function before numeral classifiers with shape-related and other, more specific meanings. Extensive use of generic and default classifiers by children who have not yet mastered the gamut of specific classifiers is a fallback strategy which serves to lighten the cognitive load of the large classifier system, as we saw in §17.2.1. This ‘overgeneralization’ technique is echoed by a tendency to overextend a default or formally unmarked gender (§17.1.1). The opposite tendency described for the acquisition of Thai classifiers involves ‘overspecialization’—overuse of the repeater technique (§17.2.1). So far, no equivalent has been found in gender or noun class acquisition.

The major factors which contribute to the acquisition of both gender and classifiers involve frequency of input and familiarity with the referent. The rate of classifier acquisition is relatively slow compared to that of genders, so much so that Japanese and Thai children do not acquire the full system until puberty. Prototypical referents are learnt earlier than non-prototypical ones. Semantic complexities in classifiers are acquired slowly, while transparent semantic cues favour early acquisition. Some classifiers involve the knowledge of the cultural conventions and numerous extralinguistic facts. The intricacies of the choice of classifiers and their embeddedness in the extralinguistic knowledge—learnt gradually—account for children’s relatively late mastery of the whole system.

In contrast, children learning a language with genders appear to mostly rely on intralinguistic parameters. The exposure of urban Zulu children to a large number of borrowings from English and Afrikaans accounted for their better knowledge of the corresponding noun class compared to rural children (Suzman 1980: 52), adding a further, sociolinguistic dimension to the acquisition of gender and classifiers.

The principles of classifier choice and their acquisition reflect the basic semantic parameters in classifier systems. The shape categories—*de rigueur* in classifier systems (as we saw in §12.2.2)—are acquired first, followed by function and material, and then by specific classifiers (shown in §17.2.4). This is in agreement with Generalizations 12.1–12.3, pp. 231 and 234 and 12.5, p. 246). We have no information on how shape-related meanings of gender are acquired by children—an issue for further study.

Child language acquisition of classifiers shows some similarities to their evolution in language history (§17.2.4). The evolution from a classifier for a unique, or a prototypical term, to its application to a more extended range of referent, mirrors the way children acquire classifiers for prototypical referents before they grasp their extensions. Early acquisition of anaphoric gender and noun class agreement by some children mirrors the putative anaphoric origin of some regular agreement systems (§17.1.2, based on [Suzman 1982](#) and [Herbert 1991](#): 111–12). Child language acquisition of gender and classifiers is oriented towards reaching adult-like proficiency, in contrast to the historical development of these categories which is not teleological. The prevalence of generic and default classifiers, and the importance of default gender, in child language acquisition has no correlate in their historical development.

Studies of language dissolution offer a mixed picture. Studies which looked at the behaviour of gender agreement forms in German, Italian, and Polish found that sufferers of ‘agrammatic’ aphasia often use the wrong gender form—typically, formally less marked masculine for feminine. But no matter how serious the condition, gender, noun classes, and classifiers survive in some form even in those patients who are most severely affected.

Studies of the fate of classifiers and gender in language dissolution show some similarities with their acquisition by children, in their tendency to overuse the general classifier or formally unmarked gender. Similar to child language acquisition, the frequency of input and familiarity with the objects play a role in the survival of gender, noun classes, and classifiers. Dissolution of gender in Indo-European languages and noun classes in Bantu points towards the retention of the agreement principles acquired early.

The acquisition of gender and classifiers mirrors the universal cognitive principles of noun categorization reflected in the meanings of the categorization devices. The sequence in which classifiers are acquired reflects the general processes of conceptualization, and the semantic cues as the basis for classifier choice. The order of acquisition of semantic categories in classifiers points

towards primacy of shape. Studies of language acquisition and dissolution of classifiers and gender point towards the psycholinguistic reality of

- (a) a general, or default term in the system,
- (b) the importance of the grammatical mechanisms—including agreement and the presence of a classifier in a classifier slot, and
- (c) the importance of learning cultural conventions and acquiring extralinguistic knowledge to master noun categorization.

Many questions remain unanswered. What is the rate of child language acquisition of shape-related meanings in gender and noun classes? How do children acquire forms in different contexts in multiple classifier systems? And how do they acquire other classifier types—noun classifiers, classifiers in possessive constructions, verbal classifiers, and locative and deictic classifiers? And how do these fare in language dissolution? Without these studies, the picture is bound to remain partial.

Gender and classifiers

The heart of the matter

We have now come to the conclusion of our expedition across the multifaceted world of noun categorization devices—gender and classifiers. This final chapter recapitulates the main themes and generalizations which have emerged from our cross-linguistic study. The following clusters of parameters outlined in §1.2 and addressed within each individual chapter form the basis for the analysis and differentiation of gender and classifiers in their CORE contexts:

- (A) MORPHOSYNTACTIC LOCUS OF CODING;
- (B) DOMAIN OF CATEGORIZATION;
- (C) PRINCIPLES OF CHOICE, OR ‘ASSIGNMENT’, OF A NOUN CATEGORIZATION DEVICE;
- (D) SCOPE AND APPLICABILITY OF A NOUN CATEGORIZATION DEVICE;
- (E) SURFACE REALIZATION;
- (F) AGREEMENT;
- (G) MARKEDNESS RELATIONS; and
- (H) INTERACTIONS WITH OTHER GRAMMATICAL CATEGORIES.

These are summarized in §18.1. Two further clusters of parameters, addressed in §18.2, build on these, expanding our view of the diversity of noun categorization:

- (I) COEXISTENCE OF DIFFERENT SUBTYPES OF ONE NOUN CATEGORIZATION DEVICE IN ONE LANGUAGE; and
- (J) COEXISTENCE OF SEVERAL KINDS OF NOUN CATEGORIZATION DEVICES IN ONE LANGUAGE.

We then move beyond the core contexts of classifiers, and turn to (κ) MULTIPLE CONTEXTS FOR NOUN CATEGORIZATION DEVICES, in §18.3.

Meanings, functions, and evolution of noun categorization devices further underlie their unity and diversity. This is reflected in the clusters of parameters addressed in §18.4:

- (L) SEMANTIC ORGANIZATION AND FUNCTIONS OF THE SYSTEMS;
- (M) HISTORICAL DEVELOPMENT; and
- (N) LANGUAGE ACQUISITION AND DISSOLUTION.

Essential features of our typology of gender and classifiers are addressed in §18.5. The last section outlines priorities and prospects for further work.

18.1 Gender and classifiers in contrast: The core contexts

The clusters of parameters (A)–(H) set apart gender and classifiers in their core contexts. These are discussed here in turn.

- (A) MORPHOSYNTACTIC LOCUS OF CODING.

GENDER (and NOUN CLASSES) are closed, highly grammaticalized obligatory systems, realized through obligatory affixal agreement within and sometimes outside a noun phrase, including the verb, and the noun itself (§2.1, §3.1–§3.3, and (F) below; see Box 2.1, p. 28 on the terminological distinctions between gender and noun classes). If a language has any overt gender marking, it will have it on human referents, which may include personal names. If there is overt gender marking on nouns with inanimate reference, we expect to also have it on nouns which refer to sex-differentiable animates (see Generalization 3.2, p. 63, in §3.2.1).

NUMERAL CLASSIFIERS occur in noun phrases containing number words and sometimes also other quantifiers (§5.1). Having numeral classifiers with number words is a prerequisite for the presence of classifiers with quantifiers (see Generalization 5.1, p. 97, in §5).

NOUN CLASSIFIERS characterize the noun itself and appear independently of any other element in a noun phrase (§6.1). CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS are associated with possessive noun phrases (§7.1). VERBAL CLASSIFIERS occur on verbs as clausal predicates (§8.1). LOCATIVE CLASSIFIERS occur on adpositions and locational expressions; and DEICTIC CLASSIFIERS are limited to demonstratives (§§9.1–9.2) (see also Table 1.1, p. 6).

(B) DOMAIN OF CATEGORIZATION.

GENDER characterizes noun referents in noun phrases of different kinds and also in clauses. NUMERAL CLASSIFIERS cover referents in noun phrases involving quantification (in agreement with Generalization 5.1, p. 97). NOUN CLASSIFIERS refer just to nouns within noun phrases. VERBAL CLASSIFIERS categorize arguments and sometimes also obliques within a clause. The most likely argument to be categorized by a verbal classifier is S (intransitive subject), and then O (transitive object). If a verbal classifier can categorize S and O, it may also refer to a location or an instrument (as an oblique), in agreement with Generalization 8.1 (p. 170). Verbal classifiers used in their core contexts never categorize A (transitive subject), in contrast to classifiers on verbs as one of multiple classifier contexts (see III in §11.5, pp. 218–19). The domain of LOCATIVE CLASSIFIERS is an adpositional noun phrase. That of DEICTIC CLASSIFIERS is a noun phrase with a demonstrative modifier.

(C) PRINCIPLES OF CHOICE, OR ‘ASSIGNMENT’, OF A NOUN CATEGORIZATION DEVICE.

The choice of GENDER always involves meaning, and can also involve morphological structure of a noun and its phonological make-up. CLASSIFIERS of all sorts are chosen based on the meaning of the noun. Their semantic choices may be more, or less, transparent or opaque, and involve various kinds of extensions.

(D) SCOPE AND APPLICABILITY OF A NOUN CATEGORIZATION DEVICE.

Every noun in a language with GENDER will be assigned to a gender (with minimal exceptions: see §2.1 and §3.1.6). In contrast, classifiers can be limited to just some groups of referents.

NUMERAL CLASSIFIERS can be restricted to nouns denoting humans. Abstract concepts may not be covered by a classifier (some examples are in §12.7.2). NOUN CLASSIFIERS can be limited to particular domains (such as food or drink, or plants and animals: see §6.1). CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS can also be limited to specific items, usually optionally possessed (e.g. animals, or plants: see §7.1). VERBAL CLASSIFIERS may cover just animates and objects of a particular shape (see §8.1). LOCATIVE AND DEICTIC CLASSIFIERS are not widely enough represented for any generalizations.

(E) SURFACE REALIZATION.

GENDER is always expressed with affixes, that is, bound morphemes. Classifiers vary. NUMERAL CLASSIFIERS can be free morphemes or affixes. Or they can be fused with the number word (see §5.1–§5.4). NOUN CLASSIFIERS can be realized as free morphemes, or as affixes (or clitics) to the noun. CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS as a core context are always bound morphemes (in contrast to classifiers in possessive constructions as one of the contexts in multiple classifier systems: see I in §11.5, p. 217). VERBAL CLASSIFIERS can be affixes to verbs. Alternatively, they can be fused with verbs, and be expressed through suppletive verbal stems (referred to as classificatory verbs). LOCATIVE CLASSIFIERS can be affixes or they can be fused with an adposition. DEICTIC CLASSIFIERS are affixes to demonstratives.

(F) AGREEMENT.

Gender involves agreement, defined as formal covariance between grammatical meanings and markings of grammatical morphemes (Steele 1978: 610). Agreement is a key feature for recognizing gender in a language (the differences between anaphoric and regular agreement, and semantic and formal principles of agreement, are the topics of §3.1.1–§3.1.5). Following Generalization 3.1 (§3.1.2, p. 97), agreement on modifiers from closed classes is a prerequisite to that on open classes. If a language has agreement in gender in possessive constructions, it will also have agreement on other modifiers in a noun phrase, such as demonstratives. The principles of gender agreement—whether based on meaning (semantic) or on formal parameters (syntactic)—are reflected in the Agreement Hierarchy in Diagram 3.1 (p. 54). The choice of a personal pronoun which involves anaphoric agreement is more likely to be meaning-based. In contrast, the choice of gender on agreeing modifiers may be also based on formal parameters. In contrast, classifiers do not involve agreement.

(G) MARKEDNESS RELATIONS.

GENDER systems tend to have functionally and/or formally unmarked term(s), often linked to agreement choices (as shown in §4.2 and §12.7.3). Classifiers may or may not have a functionally unmarked fall-back residue or default option (see §12.7.1–12.7.2).

(H) INTERACTION WITH OTHER GRAMMATICAL CATEGORIES.

GENDER interacts with grammatical categories associated with the loci of its expression: nominal categories including number, case, declension type, and person (as we saw in §4.1 and §4.3). Gender can be fused with these categories, and the choice of genders may depend on the choices made in them. For instance, there can be fewer gender choices in non-singular numbers or in non-third person; see Diagrams 4.2–4.6 (§4.3, pp. 86, 87, 89, 90).

The choice and the sets of NUMERAL CLASSIFIERS may correlate with the value of number words, and also with choices made in the nominal number. In no language will classifiers be used with higher numbers and not with lower numbers (Generalization 5.4, p. 117, in §5.6). In no language will a larger set of classifiers be used with higher numbers than with lower numbers (Generalization 5.5, p. 117, in §5.6). The term for ‘one’ is versatile. It can be used as a number word ‘one’ and as an indefinite determiner. Accordingly, it may display special properties in the ways it is used with classifiers (§5.6).

The use of NOUN CLASSIFIERS reflects the organization of discourse, as we saw in §6.3. There are no known correlations between noun classifiers and any of the nominal categories.

CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS correlate with the ways in which the entity they categorize can be possessed or handled. They are often restricted to referents which are alienably, or optionally, possessed (as we saw in §7.3). Function-based possessive classifiers are always limited to optionally or alienably possessed nouns. Possessive classifiers whose choice is based on intrinsic properties of the possessed entity, in addition to its function, do not have to be restricted to constructions with optional or alienable possession (see Generalization 7.1, p. 152, §7.3).

VERBAL CLASSIFIERS interact with the semantic group of the verb they occur on. They may be restricted to verbs of handling, motion, location, and existence (as we saw in §8.4). A verbal classifier may be used to mark complete involvement of the transitive object and of the intransitive subject, as in Palikur (see §13.5.1). Correlations between LOCATIVE CLASSIFIERS and DEICTIC CLASSIFIERS and other categories remain an open question, due to the rarity of these two types.

THE SIZE OF THE INVENTORY tends to further differentiate gender and core classifier types. The number of GENDERS in most languages is smallish (below ten). Systems of NUMERAL CLASSIFIERS range from two (as in some Austronesian languages of Taiwan and in Ainu) to over a hundred (as in Japanese or

Korean). NOUN CLASSIFIERS can be a small closed set of two or three items (as in Emmi, an Australian language). In some languages, most nouns with generic meaning can be used as noun classifiers, as in Minangkabau. CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS range from two in the languages of the Chaco region to a few dozen in Puluwat, a Micronesian language, or to any generic noun, as in Macushi and Apalaí, two North Carib languages. VERBAL CLASSIFIERS typically form a closed set, from two, as in Nevome, a Uto-Aztecan language, to at least a dozen, as in a few Papuan languages. The sets of LOCATIVE and DEICTIC CLASSIFIERS vary in their size; they appear to always exceed two.

Many languages with NUMERAL CLASSIFIERS and CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS have an option of using the noun itself, or part thereof, in the classifier slot within a classifier construction. The phenomenon is known as repeater, or autclassifier, technique addressed in §5.1.6, §7.2, and §12.7.2, and is also a feature of languages with classifiers in multiple contexts (see II in §11.4).

Table 18.1 summarizes the features of noun categorization devices—gender and classifiers (each in their core context)—which set them apart. The general features of each type are briefly summarized in Box 2.2 (p. 22), Box 5.1 (p. 97), Box 6.1 (p. 128), Box 7.1 (p. 142), and Box 8.1 (p. 158) for each gender, numeral classifiers, noun classifiers, classifiers in possessive constructions, and verbal classifiers.

That gender stands apart from other noun categorization devices in the ways summarized in Table 18.1 does not imply a simple dichotomy between gender and the rest. This signals the special status of gender within the gamut of grammatical means of noun categorization. As we will see in §18.4.3, all the noun categorization devices are interconnected historically (see also Chapter 15).

18.2 More than one of each: Coexistent systems of noun categorization

One language may have several subtypes of gender or of classifiers (§18.2.1), under (I) COEXISTENCE OF DIFFERENT SUBTYPES OF ONE NOUN CATEGORIZATION DEVICE IN ONE LANGUAGE. Or there can be gender and/or different types of classifier in one language (§18.2.2), under (J) COEXISTENCE OF SEVERAL NOUN CATEGORIZATION DEVICES IN ONE LANGUAGE.

Table 18.1 Differentiating gender and classifier types in core contexts

Parameters	Gender/noun class: Box 2.1, p. 28	Noun classifiers: Box 6.1, p. 128	Numeral classifiers: Box 5.1, p. 97	Classifiers in possessive constructions: Box 7.1, p. 142	Verbal classifiers: Box 8.1, p. 158	Locative classifiers	Deictic classifiers
A. Locus of coding	modifiers in noun phrase; noun itself; predicate	noun phrase	number words and also quantifiers	possessive constructions	verbs as predicates	adpositions, locational expressions	demonstratives
B. Domain of categorization	noun phrases, clauses	noun phrase	noun phrase involving quantification	possessive noun phrase	arguments and also obliques	adpositional noun phrase	noun phrase with a demonstrative modifier
C. Assignment based on	based on semantics, morphology, phonology				always based on semantics		
D. Scope and applicability	all nouns				not all nouns may be assigned to a classifier		
E. Surface realization	generally affixes	free morphemes or affixes	free morphemes, affixes, or fused with number	affixes	affixes, fused with verbs, suppletive 'classificatory' stems	affixes or fused with adpositions	affixes or fused with demonstratives
F. Agreement	yes				no		
G. Markedness	generally with an unmarked choice				may or may not have an unmarked choice		
H. Interaction with other categories	number, person, case, discourse	discourse features	value of number word	possession type	type of verb. involvement of O	?	?

18.2.1 Different subtypes of noun categorization in one language

One language may have several subtypes of one noun categorization device, either in different contexts (complementary distribution) or in overlapping environments.

The most choices are attested in GENDER systems. The three recurrent options (A–C) include different gender choices in different agreement domains referred to as SPLIT GENDER (discussed in §4.1.3).

- A. SPLIT GENDER IN REGULAR AGREEMENT involves different sets of agreement genders in complementary distribution, that is, in different environments. For instance, Palikur has three genders—feminine, masculine, and neuter—in demonstratives and two genders feminine and masculine/neuter in verbal aspectual forms (examples 4.7–4.12 and Diagram 4.1, p. 74).
- B. Alternatively, SPLIT GENDER may involve different distinctions in anaphoric agreement and in regular agreement. For instance, Spanish has two agreement genders—feminine and masculine. An additional neuter form survives in anaphoric agreement (examples 4.13–4.15).
- C. A further kind of split gender may involve
 - (a) a smallish system of gender typically restricted to pronouns and verbal cross-referencing of pronominal origin, or
 - (b) a larger system of gender with adjectives and sometimes other modifiers including number words and possessives.

A summary is in Table 4.2, p. 77 (see also [Heine 1982](#), and [Aikhenvald 2003a: 68–70](#)).

Alternatively, a language can have gender and agreement noun class as independent grammatical systems, in partly overlapping environments. This is a feature of Paumari, and also Dení-Kulina, from the Arawá family in southern Amazonia (§4.1.4). Here, two genders—feminine and masculine—are marked on demonstratives and adjectives, and in possessive constructions, and on some predicates. Gender choice for inanimates is semantically opaque. The *ka*- noun class is marked on adjectives and stative verbs as modifiers, and on some predicates. Referents included in the *ka*- class tend to be extended and may consist of numerous parts, but the assignment is generally opaque (Table 4.3, p. 78). The two systems—gender and *ka*- noun class—have different correlations with number and a different fate in language obsolescence (§16.2).

One language can have two systems of NUMERAL CLASSIFIERS. Free and bound numeral classifiers covering the same meanings can coexist in one language, in complementary distribution depending on number value, as we saw in §5.1.5 for Malto, a Dravidian language. Two sets of numeral classifiers with different meanings have been described for Akatek and a few other Q'anjob'alan Mayan languages. Bound classifiers occur with all numbers except 'one', and free classifiers occur with any number (examples 5.22–5.23, and Table 5.3, p. 108).

In addition, the number word 'one' (see §5.6) may have special features in terms of

- its morphological status as in a number of Austronesian languages, including Indonesian and Minangkabau,
- the order of components in a noun phrase, as in some Tai-Kadai languages, and
- the principles of its omission.

Special behaviour of classifiers with 'one' may be due to its double nature, as a number word in counting and as an indefinite modifier.

Two coexisting systems of VERBAL CLASSIFIERS—attested in a few languages—involve classifiers as bound morphemes and suppletive classificatory verb stems. This is a feature of some Papuan languages, including Waris (Tables 8.5–8.6, pp. 166–7), and some Northern Athabaskan languages (examples from Carrier are in 8.16–8.19; see §8.1.4). No coexistent systems of noun classifiers, or classifiers in possessive constructions are known.

Coexistence of several noun categorization devices of one type—be it gender, numeral classifiers, or verbal classifiers—reveals different diachronic processes at work in each language. For instance, the neuter gender in anaphoric agreement in Spanish and a few other Western Romance languages is an archaic feature, from Proto-Romance. In contrast, the emergence of the third gender (the neuter) in Palikur is an innovation. The existence of different subtypes of established kinds of gender and of classifiers points towards potential seeds of change and possible evolution of further noun categorization devices.

18.2.2 Gender and classifiers in one language

One language can combine up to five distinct noun categorization devices in different, or partly overlapping, environments. Examples are in Table 10.5 (p. 200).

GENDER can co-occur with classifiers of any type. Most frequently, it coexists with numeral classifiers (the most widely represented classifier type world-wide). Numeral classifiers can be independent of gender systems (as we saw for Malto in §10.1). Alternatively, gender distinctions can be partly integrated into numeral classifiers (the case of Achagua, also in §10.1). We find similar features in coexistent systems of gender and classifiers in possessive constructions. In Uto-Aztecan languages and a few languages from the Chaco area (in Bolivia and Paraguay), gender is expressed independently of possessive classifiers. In Maká and a few other languages from the Chaco, possessive classifiers distinguish feminine and masculine genders (§10.3). Gender is the only noun categorization device which can be integrated with other devices in the same environment (in agreement with Generalization 10.1, p. 201).

NUMERAL CLASSIFIERS coexist with NOUN CLASSIFIERS in some Western Austronesian and Qanjobalan Mayan languages. Having CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS and NUMERAL CLASSIFIERS is a recurrent feature of many Oceanic languages. A few Tibeto-Burman languages combine NUMERAL CLASSIFIERS and VERBAL CLASSIFIERS (see §10.5). Combinations of VERBAL CLASSIFIERS and CLASSIFIERS IN POSSESSIVE CONSTRUCTIONS, or of NOUN CLASSIFIERS and LOCATIVE CLASSIFIERS appear to be limited to one instance each (see the end of §10.6).

Palikur has the largest number of coexisting types of categorization devices attested so far. This language has a split gender system (§4.1.1), numeral classifiers, classifiers in possessive constructions, plus verbal classifiers, and locative classifiers. The sets of numeral, verbal, and locative classifiers show some overlap (Table 10.3, p. 195). Classifiers in possessive constructions (Table 7.1, p. 146) are completely different in their form, function, and origins. In all likelihood, Palikur is so rich in noun categorization devices of distinct kinds because of the ethnic history of the people, said to have been formed out of a conglomerate of at least eight groups of unknown origins ([Aikhenvald 2012a: 26](#), and references there).

One noun categorization device can be demonstrably older or younger than another. Possessive classifiers in Palikur may have developed under the influence of North Carib languages (see examples 7.8–7.9 from Macushi). Numeral classifiers in Tibeto-Burman languages appear to be younger than suppletive classificatory verbs (Yang Huang, p.c.). In contrast, the question of the comparative age of possessive and numeral classifiers in Oceanic languages remains inconclusive.

Having several kinds of noun categorization devices, each in its own context, is advantageous. Categorization of referents via gender and via classifiers

of attested types follows the preferred semantic parameters for each device summarized in Table 12.7 (p. 255). Gender categorizes referents in terms of their sex, animacy, and inherent nature. Classifiers involve generic-specific relations, shape, and further inherent properties. Having several options of noun categorization devices avails the speaker of opportunity to highlight distinct facets of the same entity, and deploy the versatility of noun categorization to its full extent.

In summary: coexistence of different kinds of noun categorization in their core contexts in one language underscores the independent status of each type. We now turn to classifiers in multiple contexts—further evidence for the fundamental unity of all noun categorization devices.

18.3 Beyond the core contexts: Multiple classifier languages

In quite a few languages, the same set of morphemes occurs in several classifier environments, spanning most core contexts we have identified, reflecting (K) MULTIPLE CONTEXTS FOR NOUN CATEGORIZATION DEVICES. The contexts for the occurrence of the same set of classifiers cover:

- (i) number words—the core context for numeral classifiers (Chapter 5);
- (ii) nouns themselves—the core context for noun classifiers (Chapter 6);
- (iii) demonstratives—the core context for deictic classifiers (Chapter 9);
- (iv) possessive constructions—the core context for possessive classifiers (Chapter 7);
- (v) verbs—the core context for verbal classifiers (Chapter 8); and also adjectival modifiers (not represented as a core classifier context).

Classifiers in multiple contexts are hardly an exotic rarity—we find them across Southeast Asia, the Americas, the Pacific, and New Guinea. Box 11.1 (p. 203) sums up major features of multiple classifier languages. Table 11.1 (p. 207 in §11.1) summarizes the attested sets of options for co-occurring classifier contexts. The number of options range from three—with number words, demonstratives, and nouns themselves in Mandarin, Vietnamese, or Kilivila—to six, with number words, demonstratives, nouns themselves, in possessive constructions, on verbs, and on adjectives in Kubeo or Motuna. No instances of multiple classifiers in two or in more than six contexts have been attested so far. Each well-attested set of options includes number words as a context. Other options may have been available in languages which are no longer spoken. The same set of classifiers with deictics, interrogatives, and locative

expressions may have existed in Omaha-Ponca, a Siouan language (Rankin 2004, and note 7 in Chapter 11).

Classifiers in multiple contexts may be bound morphemes, or free morphemes. If a classifier is a free morpheme and can occur on its own, it will tend to be used once within a complex noun phrase (as we saw in 11.5, from Zhuang). If a classifier is a bound morpheme, it will tend to be repeated in each environment within a complex noun phrase (as we saw in 11.6, from Kilivila). This is the essence of Generalization 11.1 (p. 205).

Classifiers in multiple contexts share most features with each of the core types, especially the clusters of parameters (A) MORPHOSYNTACTIC LOCUS OF CODING, (B) DOMAIN OF CATEGORIZATION, (C) PRINCIPLES OF CHOICE, OR 'ASSIGNMENT', OF A NOUN CATEGORIZATION DEVICE, and (D) SCOPE AND APPLICABILITY OF A NOUN CATEGORIZATION DEVICE (see §1.2 and §18.1). Multiple classifiers conform to a few generalizations valid for classifiers in core contexts (as shown in §11.3). For instance, in no language with classifiers in multiple contexts used with number words will classifiers be used with higher numbers and not with lower numbers. And a larger set of classifiers will not be used with higher numbers than with lower numbers (in agreement with Generalizations 5.4 and 5.5, p. 117). Classifiers with nouns as one of the multiple contexts share discourse functions with noun classifiers as a core type.

Classifiers in multiple contexts stand apart from those in corresponding core contexts. These differences, summarized in I–V below, relate to their surface realization, the existence of EXTENDED CONTEXTS (§11.4), functions, and meanings (§11.5), and Table 11.3 (p. 223). To summarize:

- I. Classifiers in multiple contexts are always segmentable. This is in contrast to numeral classifiers which can be expressed via reduplication or suppletion, and verbal classifiers expressed via suppletive classificatory verbs.
- II. Classifiers in multiple contexts can be free or bound morphemes. They thus contrast to classifiers in possessive constructions as a core context (which are always bound morphemes).
- III. Classifiers in multiple contexts never have generic meanings. This is in contrast to noun classifiers and for classifiers in possessive constructions in their core contexts.
- IV. Classifiers in multiple contexts used on verbs can refer to the transitive subject (A). In contrast, verbal classifiers in this core context never do.
- V. Classifiers in multiple contexts can occur in extended contexts if used with nouns, such as relativizers and nominalizers.

Synchronically, no classifier context in a multiple classifier language can be considered more primary than others. Historically, the picture may be different. The emergence of classifiers in possessive constructions in Cantonese as one of their multiple contexts is attributed to the Hmong-Mien influence. Additional classifier contexts may develop as a consequence of language contact (as mentioned in §15.5, for Tariana and Resígaro, two North Arawak languages from Northwest Amazonia). Or a classifier context can be lost, as was the case in Murui, a Witotoan language from the same region. Classifiers in multiple contexts share their meanings with classifiers of other types, especially physical properties (Table 12.7, p. 255).

The phenomenon of classifiers in multiple contexts is instructive in three aspects.

FIRST, the fact that the same set of morphemes occurs in a variety of classifier contexts supports the unity of noun categorization in its different environments and guises, and their single conceptual basis.

SECONDLY, specific properties of classifiers in multiple contexts as compared to core contexts (summarized in Table 11.3, p. 223) highlight special status of multiple classifier languages compared with languages which have classifiers in just one, core context.

THIRDLY, special features and extended contexts in multiple classifier languages alert us to the potential existence (or future development) of further classifier contexts, beyond those identified so far.

18.4 Meanings, functions, and evolution: Noun categorization as a unified phenomenon

Shared meanings, functions, and pathways of historical development (underlie the unity of noun categorization devices.

18.4.1 Meanings of noun categorization devices

All noun categorization devices are heterogeneous non-hierarchically organized systems based on universal and on culture-specific parameters (see §12.9). This reflects the cluster of parameters (L) SEMANTIC ORGANIZATION AND FUNCTIONS OF THE SYSTEMS. Table 12.7 (p. 255) outlines preferred semantic parameters for gender and classifiers of different types. We now summarize the meanings and their distribution one by one.

- I. ANIMACY and HUMANNESS, and also sex (or natural gender) are predominant in gender systems.
- II. SHAPE and DIMENSIONALITY in gender systems are typically contingent on the presence of animacy and humanness (as we saw in §12.2.1 and Generalization 12.1, p. 231).
- III. Numeral classifiers involve ANIMACY and HUMANNESS and DIMENSIONALITY and SHAPE. Other physical properties, including size, boundedness, interiority, consistency, composition, function, and arrangement of the entity are contingent on dimensionality and shape, as stated in Generalizations 12.2 and 12.3, and Diagram 12.2 (pp. 234 and 235 respectively).
- IV. ARRANGEMENT as a semantic parameter in numeral classifiers is contingent on the presence of shape, dimensionality, and further parameters based on physical properties (as reflected in Generalization 5.2, p. 112, and Diagrams 5.2 and 12.2, pp. 113 and 235).

Numeral classifiers divide into sortal and mensural. Sortal classifiers are based on humanness, animacy, and/or physical properties of the entity (whether round, elongated, or vertical, etc.). Mensural classifiers are based on the arrangement of the entity (e.g. in groups or bunches). Since no language has numeral classifiers whose choice is based on arrangement unless there are numeral classifiers based on humanness, animacy, and/or physical properties (Generalization 5.2, p. 112), no language will have mensural classifiers unless it has sortal classifiers (Generalization 5.3, p. 113).

- V. The distribution of the values of DIMENSIONALITY in numeral classifier systems is not random. A language with numeral classifiers for three-dimensional items will have classifier(s) for one-dimensional ones. The presence of classifiers for two-dimensional items is contingent on terms for one- and three-dimensional items, as shown in Diagram 12.1, p. 232 (and Generalizations 12.2–12.3, p. 234). This is mirrored by the child language acquisition of classifiers. An explanation is still wanting.
- VI. FUNCTION and functional interaction are typical of classifiers in possessive constructions.
- VII. SOCIAL FUNCTIONS reflected in human categorization are prominent in some numeral classifier and noun classifier systems, where they mirror the existing social hierarchies. Classifiers in possessive constructions reflect kinship relationships between people and

just occasionally social hierarchies, mirroring the social structures reflected in language.

- VIII. SHAPE, DIMENSIONALITY, DIRECTIONALITY, and ORIENTATION are common features of verbal classifier systems and of deictic classifiers. Neither have to involve animacy or humanness as a parameter.
- IX. VALUE as a semantic parameter is a distinctive feature of function-based classifiers in possessive constructions in some Oceanic languages. If a language has a possessive classifier for valuable objects, it will also have possessive classifiers reflecting ways of handling the referent (eating, drinking, and so on), as stated in Generalization 12.4 (p. 243). VALUE and IMPORTANCE are an additional feature of gender and some terms in multiple classifier systems.
- X. The presence of classifiers limited to a few items or just to one, that is, SPECIFIC or UNIQUE terms, is contingent on the existence of classifiers whose choice is based on physical properties following Generalization 12.5 (p. 246). Specific and unique terms are not generally attested in verbal classifiers.
- XI. Classifiers in multiple contexts cover all the groups of semantic parameters identified for gender and classifiers. Inventories of classifiers in multiple contexts are always relatively large (with at least ten terms) and always involve shape and dimensionality (but not necessarily animacy or sex). Following Generalization 12.5 (p. 246), the presence of unique and specific classifiers in multiple classifier systems is contingent on the presence of classifiers based on shape, dimensionality, and other physical properties. This dependency points towards the primacy of physical properties in classifier assignment.
- XII. Generic-specific relations are a feature of some noun classifiers and some verbal classifiers (as separate morphemes), but not of multiple classifier languages (see §11.4).

Not every item in a language may fall within the semantic range of a classifier. A RESIDUE term will cover referents outside the semantic domain of other items. A DEFAULT term with a general meaning may subsume more specific markers. For instance, a tree can be classified as a member of a general class of trees, or as a member of its species. If we do not know what is being talked about, there may be a further term for an UNSPECIFIED referent. The three facets of a general classifier are captured in Box 12.1 (p. 248). A general classifier in each of these three functions may have a core meaning of its own.

Alternatively, a repeater technique can be used as the residue option (as shown for Thai in §12.7.2). Or entities which do fall within the semantic scope of existing classifiers may be used without one. Omission of a classifier is then the residue option. Gender systems generally contain a functionally unmarked residue, a default, or an unspecified term, but never use the repeater technique (as we saw in §12.7.3).

An individual gender or a classifier may vary in its semantic complexity, and in how straightforward their choice is. The semantic predictability of gender choice correlates with humanness and animacy of the referent. As stated in Generalization 2.1 (p. 39), gender choice tends to be most predictable for humans; then for higher animates, and least predictable for lower animates and inanimates. Gender may undergo semantic extensions and transfers based on myth and belief, physical association, and important property (as we saw in §2.2.1 and then in §12.8). The semantic range of a gender or a classifier can be presented in the form of a network of extensions, from a prototypical referent to further, less prototypical ones.

The classifier *khan* in Thai shown in Diagram 12.3 (p. 253) covers vehicles, on the one hand, and objects with handles (such as spoons) on the other. Historically, the association between the two groups began with applying the classifier to rickshaws, whose long handles were the basis of a functional extension to bicycles and then to all vehicles (§12.8; [Carpenter 1987: 47](#)). In order to account for seemingly disconnected sets of items covered by a classifier, or a gender, one needs to have some knowledge of the people, their environment and culture. A telling example of the classifier *lem* in Thai was given in Diagram 12.4 (p. 254).

Creating links between what looks like a fairly heterogeneous set of items subsumed under a classifier, as in Thai, or a gender, as in Dyirbal (Table 2.1, p. 32), involves a substantial amount of socio-cultural knowledge. If this knowledge is lost, and the pathways of semantic extensions no longer recoverable, the opaque meanings of a gender or of a classifier may be hard to explain.

18.4.2 What noun categorization devices are good for

Gender and classifiers share multiple functions. They account for efficient communication, and are never useless or redundant.

FIRST, all noun categorization devices help refine meanings of polysemous nouns and disambiguate referents. They play a role in expanding the lexicon

and relate to the composition of major word classes, especially adjectives, as we saw in §§13.1–13.2.

SECONDLY, noun categorization devices help individuate referents, and may correlate with specificity and also definiteness. This is especially salient for noun classifier contexts (as we saw in §§13.3–13.4). Classifiers and gender can signal the role of an entity in discourse—whether it is backgrounded or important. An item may be introduced with a specific classifier, and then followed through with a general one (see §13.5).

THIRDLY, all classifiers and genders can be used anaphorically, to refer to a previously mentioned entity and as a means of reference tracking, following through who did what to whom, and ensuring textual coherence. The nature of an entity can be understood from the context, or shared experience and background. Then, the overt noun categorized with a classifying device will be absent from the clause, and referred to with a classifier only. Such ‘stand-alone’ uses of classifiers make the discourse compact and coherent (see §§13.6–13.7).

AND LAST BUT NOT LEAST: all noun categorization systems reflect what is important for the speakers of a language within its cultural context, and are typical tokens of language ecology. Grammatical gender—particularly as it is assigned to humans—is special in that it reflects the stereotypes associated with the other face of ‘gender’, a social gender, that is, the social implications and norms associated with being a man, or a woman, or a representative of further, gay, transgender, and other groups.

Classifiers of most types reflect social interactions and hierarchies, physical environment and means of subsistence as points of integration between languages and societies in which they are spoken. Classifiers with specific and unique referents and semantic extensions within noun categorization devices reflect cultural concerns and practices of the speakers and the societies (as we saw in §§14.1.1–14.1.2).

At the same time, the basic meanings which underlie all noun categorization devices—animacy, humanness, shape, and dimensionality—reflect cognitively salient features common to all humans. They are indicative of shared perceptual and cognitive mechanisms as a window to the human mind, and can be considered primary and most important in noun categorization (§14.2). No language has specific classifiers without having those involving the basic principles.

In their functions, and their usage, all noun categorization devices serve two masters. On the one hand, they reflect the workings of the human mind and the parameters relevant for human categorization in general. On the other hand, they are reflective of the salient features of the cultural and social environment.

This is seen in the specific and unique classifiers which serve as beacons of what is important for the society of the speakers. One cannot be understood, or effectively studied, without the other. The patterns of historical development of gender and classifiers further reflect the interrelationship between the two aspects of noun categorization—the basic parameters of human cognition and the specifics of each community.

18.4.3 Historical development of noun categorization

The cluster of parameters under (M) HISTORICAL DEVELOPMENT demonstrates a set of interconnected paths in the evolution of gender and classifiers of all kinds. All noun categorization devices—gender and classifiers of all kinds—come about via grammaticalization, from open classes of nouns. In agreement with Generalization 15.1 (p. 302, in §15.2.2), if a language has numeral classifiers and/or classifiers in possessive constructions which come from verbs, it will also have classifiers which come from nouns. This does not apply to verbal classifiers. As we saw in §15.3.5, the full system of verbal classifiers, be it bound morphemes or suppletive forms, often comes from verbs. Table 15.3 (p. 311 in §15.2.4) summarizes our expectations as to historical development classifiers of different types (see also Table 15.1, p. 297).

Evolution of gender stands apart from that of all kinds of classifiers in several ways.

FIRST, gender can develop as a consequence of reinterpretation of members of closed classes—third person pronouns or demonstratives. As a sequel to this process, anaphoric gender and derivational gender may further develop into agreement gender. Classifiers never follow this path.

SECONDLY, gender can evolve as a result of reinterpretation of other nominal categories with which it interrelates, following the cluster of parameters (H) (see §18.1 and the last row in Table 18.1, p. 378). These include number and case (as we saw in §15.1.4).

Gender can also develop from reinterpretation and reanalysis of generic-specific pairings of nouns, a feature it shares with noun classifiers (§15.1.1 and §15.2). Genders can stem from reanalysis of noun classifiers. This was described in §15.3.1 for Ngan.gityemerri, an Australian language.

Pathways of semantic change from a member of an open class (a noun, or a verb) to a classifier follow the commonly attested routes of extensions based on metaphor and metonymy, important properties and beliefs, in agreement with the preferred semantic parameters (outlined in Table 12.7, p. 255, and followed

up in §15.4.1). Such semantic developments of classifiers are attested for those languages for which we have historical records based on a long-standing written tradition (as shown in §15.4.2, with an example from the polysemous classifier *tua* in Thai (see Diagram 15.5, p. 317)). Unique and highly specific classifiers may give rise to classifiers with a more restricted meaning accompanying the changes in cultural environment, within the lifetime of extant speakers. We mentioned, in §15.4.2, how in Tariana what used to be a unique classifier for ‘canoe’ now covers a broader category of means of transportation, as new ways of locomotion, such as cars and aeroplanes, were introduced.

Changes in the choice of genders may involve principles of assignment (from morphological to phonological). Loss of one gender may trigger regrouping of the rest. Western Romance languages gradually lost their neuter gender, and some erstwhile Latin neuter plural nouns ending in *-a* were reinterpreted as feminine, thanks to their feminine-like ending in *-a*. (see D, pp. 321–2, in §15.4.3 for this, and further instances). The history of gender in English is rather instructive. It involved loss of agreement gender and gender distinctions in noun declensions due to the decay of case and agreement endings. The anaphoric gender survived, and underwent reinterpretation, becoming more meaning-based and more straightforward. In some ways, it is still in flux. The changing status of social genders and the necessity to reflect gender equality in pronouns and throughout the language have triggered further changes and the emergence of newly coined pronouns.

When languages come into contact with each other, gender and classifiers are among the first features to adjust. This confirms their importance for cognition and communication, so as to reduce cognitive overload—learning similar converging systems rather than disparate different ones. Gender and classifiers develop or get lost in many instances of one-to-one language interaction, and in many linguistic areas (as we saw in §§16.1.1–16.1.2). Pidgins and Creoles—typical instances of contact languages—are usually poor in gender and in classifiers. Just a few instances of anaphoric gender and derivational gender have been attested across the world of Creoles (including Kituba in Central Africa, as we saw in §16.1.3). Each reflect the basic parameters of humanness and animacy.

When a language becomes obsolescent and gradually drops out of active use, gender and classifiers change, depending on the patterns in the dominant language. If a language has separate systems of gender and of shape-based noun classes, as does Paumarí, their obsolescence occurs at different rates mirroring the existing categories (gender) and lack thereof (noun classes) in the dominant Portuguese (as we saw in §16.2).

Gender and classifiers reflect, and react to, changes in social and cultural environment and speakers' preoccupations and attitudes. The remarkable success story for language reformers is gradual demise of the generic masculine in English, and many other European languages, as a way of establishing gender equality through language and removing the male bias. The role of language engineering in the evolution of gender and classifiers further underscores their status as tokens of language ecology (as we saw in §16.3). Once again, gender holds a special place in the history and the ongoing evolution of many languages in its inevitable correlations with many societal facets.

18.4.4 Language acquisition and dissolution of noun categorization

In terms of the cluster of parameters under (N) LANGUAGE ACQUISITION AND DISSOLUTION, gender and classifiers share a number of tendencies. Syntactic rules as to where to include a classifier and where to express gender agreement are always acquired at an early stage (as we saw in §§17.1–17.2).

Acquisition of meanings of gender and of classifiers proceeds in agreement with their primary meanings. Semantic features of humanness and animacy are acquired before others (following Generalization 2.1 concerning semantic predictability of gender choice, p. 39). Acquisition of classifiers follows the basic semantic parameters in classifier choice—those based on shape and dimensionality (following Generalizations 12.2 and 12.3, p. 234, and Diagram 12.1, p. 232). There is no information on how and when children acquire shape-related meanings of gender (concomitant to humanness and animacy, as per Generalization 12.1, p. 231)—a gap to be filled by further studies.

Terms with generic and default meanings are learnt at a young age. Usually, a child has learnt that there is a slot in a noun phrase which has to be filled by a classifier, but is not quite sure which classifier to use. So, to be on the safe side, the child will overuse the general classifier, as is the case in Mandarin, Cantonese, Japanese, and also Thai. Similarly, young children tend to overextend a default, or a formally unmarked gender. Thai offers a different option, not available for gender systems. Children who have not yet acquired the classifier systems may overextend the repeater (or autotransformer) technique whereby each noun will be used to categorize itself.

Classifiers are always assigned based on meaning. In contrast, the choice of gender may correlate with morphological and phonological features, in addition to semantic cues. Mismatches between these principles of choice create difficulties for children (as we saw in §17.1.1 for Hebrew).

Learning how to use classifiers is a protracted process. Children do not master large systems—including Chinese, Japanese, Korean, and Thai—until puberty. Prototypical members of a classifier category are acquired earlier than less prototypical ones. The more complex the meaning of a classifier, the later its full acquisition. Some classifiers require extensive knowledge of linguistic conventions and extralinguistic facts. Many classifiers have to be taught at school. In [Diller's \(1985: 66\)](#) words, the elaborate system in Thai is 'not generally acquired by young children in the natural course of language acquisition; rather it tends to be taught explicitly by parents and later by teachers at school'. Younger speakers who fail to learn the intricacies of the traditional system may use a reduced set of forms—this was noticed for younger speakers of Minangkabau in their native land, and of Korean in Australia ([Marnita 2016](#), [Lee 2014](#)).

The relatively late acquisition of specific (and unique) classifiers compared to classifiers based on shape, dimensionality and other physical properties follows Generalization 12.5 (p. 246), which reflects our expectations of the semantic organization of classifier systems. The order of classifier acquisition may also reflect the order of their historical development (as shown for Mandarin by [Erbaugh 1986](#); see also §17.2.4).

To what extent extralinguistic knowledge and education play a role in the correct gender choice remains an open question. Indications are that they do; however, more studies are needed.

Dissolution of gender and classifiers in aphasia and brain damage show some similarities with their acquisition by children, especially in the prevalence of a general classifier for those who can no longer remember a specific one, and in overusing the formally unmarked gender. Gender and classifiers persist in some form, depending on the degree of damage, and also the frequency of input received from the carers.

Acquisition and also dissolution of gender and of classifiers point towards the reality—and the importance—of shared cognitive mechanisms at work—in particular, gender agreement and the presence of a classifier in the classifier slot determined by the noun referent. Learning cultural conventions is paramount for a full acquisition of each system.

18.5 Gender and classifiers: The essence of the typology

Gender and classifiers of distinct types represent a unitary phenomenon of noun categorization, notwithstanding the morphosyntactic differences

between them. This is corroborated by the fact that all share (a) the same semantic features and functions and (b) the etymological sources and pathways of evolution, decay, acquisition, and dissolution.

One kind of noun categorization device can be reanalysed as another one (as we saw in Chapter 15). A language can have more than one kind of noun categorization device (the topic of Chapter 10). The option of having several classifiers in multiple environments (seen in Chapter 11) offers further support for the unity of the phenomenon. Special features of multiple classifier languages and extended contexts of classifier use may point towards potential existence of other, emergent, classifier contexts and types.

Gender and classifiers are the grammatical means languages use for structuring and organizing concepts without multiplying lexical vocabulary. This organization is founded on the basic-level categorization which involves perceptually salient parameters important for physical, functional, and social interaction of human beings with their environment. All noun categorization systems correlate with non-linguistic factors, and are reflective of language ecology. Gender systems tend to mirror social environment and its changes. Large systems of classifiers show strong correlations with what is focal for speakers' livelihoods.

Gender and classifiers in each morphosyntactic environment and in multiple contexts are well-defined discrete categories, each with its own meaning and marking. In this way, they are not unlike other nominal categories such as case and possession. The values of each noun categorization device are always categorical, presupposing a clearly defined choice. For instance, in a two-term gender system, a noun is assigned to either feminine or masculine gender. Gender variation is determined by language specific rules (as we saw in §4.4 and throughout Chapters 2–4). This is unlike some other nominal categories which may have gradient values determined relatively to one another within the system. For instance, in a many-term number system, a noun can be marked for paucal (small number) or for plural, or greater plural, depending on the context, rather than the exact number of objects or people.

In many ways, gender stands apart from other noun categorization devices (as we saw in Table 18.1). **TO REITERATE:** this does not imply a simplistic dichotomy of one versus the other within noun categorization. All this indicates is the special status of gender in language structure and language history, as part and parcel of noun categorization as a unified phenomenon.

There is no reason to believe that noun categorization devices—gender and classifiers—are in a continuum relationship and that the types identified here represent 'focal points'. Two factors account for creating an impression

of fluidity between classifier types, and classifiers and other categories. First, as a consequence of the gradual character of grammaticalization and incomplete grammaticalization, it may sometimes be hard to draw the line between a generic noun and a noun classifier. Examples come from a few South American, Austronesian, and Australian languages (see §6.4). Secondly, the lack of analytic clarity may be at play. The absence of consistent distinctions between mensural numeral classifiers or measure terms is generally due to the lack of clear and consistent analysis in the relevant sources. None of these take away the fact that each noun categorization is a device in its own right.

The proposed typology is open-ended in one way. Further information about new systems and further empirically adequate analysis of previously described ones may help discover new types and new options. A glimpse into complex systems—such as Carrier, a Northern Athabaskan language, and Siouan languages—points towards the potentiality of interrogative classifiers as a separate type, as we saw in §9.3. Further extended contexts can be discovered in multiple classifier languages. And then comes the question ‘why’. Why is it the case that deictic and locative classifiers are so rare—or is this just a consequence of gaps in our knowledge? And why do some languages develop verbal classifiers, and others do not? It is my hope that one day these questions will be answered.

What are languages with noun categorization devices like? If a language has gender (or noun class), it is expected to be synthetic and fusional. Languages with verbal classifiers are synthetic (we saw in Chapter 8 that verbal classifiers as a core context are always bound morphemes). There is no direct and simple correlation between the overall typological profile of a language and the presence of other kinds of classifiers. It is not the case that languages with numeral classifiers necessarily belonging to the isolating—or analytic—type, as evidenced through the presence of classifiers in synthetic, analytic, and fusional languages (including those from the Americas, Africa, and South Asia). Saying that a language is a ‘classifier’ language tells us nothing about the language other than that it has classifiers of some sort.

18.6 How to know more: Priorities and prospects

A number of areas require further work in order to refine our understanding of noun categorization systems. In spite of growing interest in noun categorization devices all over the world, there is an urgent need to provide more in-depth analytic studies of individual systems, especially in areas of little

known and highly endangered languages, including Amazonia, New Guinea, and South and Southeast Asia. In many cases, for languages with some documentation the analysis of noun categorization devices requires additional study. For instance, coexisting gender and noun class systems in languages such as Dení-Kulina (Arawá) are still in need of further professional investigation. Multiple classifier languages, from Amazonia to Southeast Asia, are most in need of detailed study. These include numerous South Arawak languages (e.g. Paresi-Haliti, Waurá (or Waujá), Yawalapiti, and various Kampa languages), and Southeast Asian languages, especially Hmong-Mien and Tai-Kadai. Multiple classifier systems in languages of the South Pacific are in need of urgent systematic study; these still include Reef-Santa Cruzan languages from the Solomons, Papuan languages from Central and South Bougainville, and multiple classifier languages from New Guinea, such as Awará and Wantoat, from Morobe province. Even for well-described languages, there is often a need for more detailed study, especially a text-based one, in order to establish relationships between discourse and noun categorization devices. Further studies are sorely needed on the origins of noun categorization devices across the world, and their spread and demise in language contact situations. The acquisition and dissolution of gender and classifiers of different types, especially in multiple classifier systems, remain a notable gap.

Additional studies of child language acquisition of gender and classifiers remain wanting. As mentioned in Chapter 17, such studies continue to focus on a selection of major languages. Notable gaps include the acquisition of gender and classifiers (especially in multiple contexts) in indigenous languages of the Americas, New Guinea, Australia, and the Tibeto-Burman family. There remain a major priority for further studies.

Noun categorization devices offer a rich ground for collaborative research by descriptive linguists, typologists, sociolinguists, and psycholinguists, together with sociologists, philosophers, psychologists, and cognitive scientists at large. There are numerous possibilities for important projects, in core areas of linguistics, as well as in a wide range of cross-disciplinary fields. The most important task, however, is first to pursue descriptive and analytic work, in order to collect additional materials which may then assist us in rethinking what languages have on offer.

It is important to reiterate that, in spite of differences along a number of parameters, all genders and classifiers reflect a single phenomenon—the categorization of nominals by humans, through human language. They reflect common cognitive mechanisms, and common semantic features, such as humanness and animacy, and at the same time serve as beacons of language

ecology—features of society and environment relevant for each group. This book includes materials from about 2,550 languages, but these cover just a fraction of the world's languages; further studies of noun categorization devices in previously undocumented or scarcely documented languages will help deepen our understanding of the mechanisms of human cognition, and the balance of universal and culture-specific parameters in each instance.

Human languages are ‘inseparably intertwined with and embedded in their respective historical, social, political, and cultural contexts’ and the ways of interaction (Haugen 1987: 27, and also Eliasson 2015: 90). As Storch (2021: 355) puts it, language ‘is meaningful and significant with respect to the society in which it is used, to an extent that its structure may reflect its speakers’ social organisation and cultural practices.’ Some linguistic categories are markedly reflective of what the outside world and the social environment are like. Gender and classifiers offer a particularly illustrative example.

How to learn more about noun categorization? The Fieldworker’s guide in the Appendix offers a checklist of points for language analysts, who are interested in a detailed—and empirically based—study of the phenomenon. This will provide a basis for further detailed fact-based studies and inductive generalizations—the only way to advance our understanding of how human cognition and communication work.

Fieldworker's guide: How to know more about genders and classifiers

This brief guide offers a checklist of points for linguists working on a comprehensive analysis of gender and of classifiers in languages of different typological structures. It is intended for field linguists writing grammars of previously undescribed or insufficiently described languages. This guide will also be useful for linguists who work on better known languages, concentrating on details of gender and classifiers not accounted for before.

This guide is not a questionnaire. It is a checklist of what kind of features need to be uncovered, analysed, and illustrated, so as to obtain a comprehensive analysis of gender and classifiers in a given language. The guide is based on the author's own field experience in different parts of the world, student supervision in Brazil, Australia, and other countries, reading grammars, and talking to other linguists about their experience in language analysis (a previous version of this Guide is in [Aikhenvald 2003a](#): 447–51).

I. Preliminary information on the language

To provide a comprehensive analysis of noun categorization devices, one needs to have a good idea of the overall structure of the grammar of the language as a whole. This applies to a study of any grammatical category and any semantic distinction, not just to noun categorization. Further guidelines are in [Aikhenvald \(2015b\)](#), and [Dixon \(2010a, 2010b, 2012\)](#). Preliminary information on the language will include:

- (i) Morphological type: e.g. isolating, agglutinating, or fusional; and analytic or synthetic.
- (ii) Word classes: open classes (e.g. nouns, verbs, and adjectives) and closed classes (e.g. demonstratives and personal pronouns).
- (iii) Grammatical categories for the open classes (e.g. number for nouns, tense for verbs) and for closed classes (e.g. degrees of distance for demonstratives).
- (iv) Transitivity classes of verbs, including:
 - Whether the language has ambitransitive (or labile) verbs, and if so, whether there are S = A and S = O ambitransitive types.
 - Marking of syntactic arguments: A (transitive subject), S (intransitive subject), and O (transitive object), and the marking of obliques (locations, instruments, etc.).
- (v) Expression of grammatical relations.
- (vi) Clause types.

II. The nature of sources and fieldwork methodology

If the analysis is based on original fieldwork, it is important to avoid too much straight elicitation from a lingua franca or a majority language. Ideally, fieldwork on a language

should be mostly based on participant-observation in the speech community and on natural narratives. At the early stages of fieldwork, some elicitation may be necessary to work out the basic principles of the meanings of noun categorization devices and how they are chosen, or assigned, so as to establish paradigmatic relations between them. One may also employ a limited amount of elicitation, to confirm the patterns of gender and classifier use (ideally, using the language itself, with as little translation from a majority language or a lingua franca as possible, to minimize their interference). Any artificial stimuli—such as video clips, especially in traditional communities—should be employed with great care, if at all. Aikhenvald (2015b: 26–9) and Dixon (2010a: 57–89) offer further suggestions on how to do fieldwork, and how to provide scientific documentation of languages.

To understand how noun categorization devices are used under various circumstances in day-to-day life one needs to observe the language in its spontaneous use. Gossip, casual remarks, or overheard conversations often provide enlightening clues not found in narratives. That is, if the language has a complex system of gender and/or classifiers (which interrelate with discourse organization) and the grammar is based only on the analysis of traditional texts, some of the complexities and subtleties are likely to be missed. The same applies to corpora—even a well-constructed corpus will not cover everything one may need to know for a comprehensive view and complete analysis. Native speakers' intuition and cultural knowledge will be the key to unravelling the links between seemingly opaque meanings of a gender or of a classifier (as we saw in §12.8, for Thai). For those languages which are no longer spoken, we have no choice other than a closed corpus.

Noun categorization devices in a language which has a speech community can only be properly studied within this community, and not outside it. Analysis of any part of grammar based on work with one or two speakers of a 'healthy' language in an expatriate environment is likely to contain limited insights into the use and the meanings of that category in the language. Working with immigrant communities is also hardly advisable. The ways in which patterns and forms are used by an immigrant community, the impact of the majority language are a fascinating issue from the point of view of how noun categorization may get affected by language contact. However, this can only be achieved if a preliminary analysis of language as it is spoken in the original community had already been accomplished. The aim of such, essentially secondary, study has to be stated clearly.

Gender and classifiers may be used somewhat differently in traditional stories, in public speeches, and—for languages with a written tradition—in newspapers and other media. For any language, the more genres one can analyse, the better and the more comprehensive the study will be.

In a nutshell: we endeavour to understand the language as it is spoken in its own environment. Let the language and the culture talk to you rather than you making them say what you want them to say! A linguist must do a fair amount of anthropological work and have some idea of the cultural environment in order to understand and explain features of the language. And, contrariwise, an anthropologist will miss a good deal if they do not acquire a good knowledge of the grammar of the language spoken in the society they work in.

We now look at the points to address when describing and analysing noun categorization devices of all kinds. Each point is accompanied by the number of the corresponding section which can be consulted. Ideally, it is good to check if the facts of the language under investigation conform to any of the Generalizations in each section.

1 Gender and its properties (Chapters 2–4)

- Does the language display agreement, that is, co-variance between modifiers (a) within a noun phrase (demonstratives, articles, adjectives, and in possessive constructions) and/or (b) on verbs, and nouns? In other words, do nouns divide into agreement classes? (§2.1, §3.1).
- How many genders/noun classes can be identified? How is gender chosen? Do phonological and morphological features of a noun play a role in gender choice? What is the semantic basis for the division of nouns—referring to humans, animates, lower animates, and inanimates—into gender agreement classes? If gender assignment (or choice) is not fully semantically transparent, can you identify any principles of gender transfer? (§§2.2–2.3).
- How are genders assigned to loan words? (§2.4).
- Where is agreement marked (that is, what are the loci of agreement)? Is gender marked on nouns (overt marking), and if so, which semantic groups of nouns? Or is it marked exclusively on agreeing forms (covert marking)? Does the language have regular agreement and also anaphoric agreement? How obligatory is agreement? Are there any nouns with no inherent gender? (§§3.1–3.2).
- Does the language have different gender distinctions in different numbers? Are there different choices of gender available for different modifier types (for instance, demonstratives and adjectives)? If a gender marker can occur on the noun itself and on a modifier, are there any differences in (i) its form, (ii) its meaning, and (iii) its syntactic behaviour? In other words, are there any instances of superclassing and/or of split gender marking? (§4.1).
- Can markedness relationships be established between existing genders? Describe the principles of gender resolution and of gender assignment to mixed groups (§4.2).
- How does gender interrelate with other nominal categories (including number, case, and definiteness)? (§4.3).

2 Classifiers in their core contexts (Chapters 5–9)

2a Numeral classifiers (Chapter 5)

- Does the language have numeral classifiers? If so, are they free or bound morphemes? Are all nouns assigned a classifier, or are there exceptions? What are the properties of a numeral classifier construction (including the order of components and constituency)? Do numeral classifiers occur on quantifiers (including interrogatives)? (§§5.1–5.2).
- What meanings are covered by numeral classifiers? How do numeral classifiers correlate with terms for mass and for units, and countability of referents? Are there any default classifiers? Does the language have repeater classifiers? (§5.3).
- Does the choice of a numeral classifier correlate with the value of a number word? Does the number word ‘one’ have any special features in the use of numeral classifiers? (§5.6).
- How do numeral classifiers differ from measure terms and quantifiers? (§5.7).
- Does the language have number as a grammatical category of nouns, and if so, how do numeral classifiers interrelate with the category of ‘number’? (§5.8).

- Does the language have event counters which would refer to the number of times an event has occurred ('how many times?')? Does the set of event counters show any overlap with numeral classifiers? (§5.9).

2b Noun classifiers (Chapter 6)

- Does the language have noun classifiers—special morphemes which accompany a noun in a noun phrase? If so, what are their meanings and principles of choice? Are all nouns assigned a classifier, or are there exceptions? Are noun classifiers free or bound morphemes? If they are bound morphemes, are they affixes or clitics? (§§6.1–6.2).
- What are the semantic, syntactic, and discourse functions of noun classifiers? (§6.3).
- Can noun classifiers be differentiated from generic-specific combinations of nouns and any further superficially similar phenomena? (§6.4).

2c Classifiers in possessive constructions (Chapter 7)

- Does the language use classifiers in possessive constructions—special morphemes used in a possessive construction to categorize the possessed noun and/or the relationship between the possessed noun and the possessor? What are the distinctions expressed? Are all nouns assigned a classifier, or are there exceptions? What are the formal properties of possessive classifiers? Do they show any correlations with discourse organization? (§§7.1–7.2).
- Do classifiers in possessive constructions interrelate with possessive relationships—that is, are they restricted to optionally or alienably possessed nouns? (§7.3).
- Are there any means of categorizing the possessor in possessive constructions? (§7.4).

2d Verbal classifiers (Chapter 8)

- Does the language have verbal classifiers—morphemes used on verbs to categorize the argument and sometimes also an oblique within the clause? If so, are verbal classifiers affixes to verbs, or incorporated generic nouns, or are they fused with the verb stem, forming a classificatory verb? Are all nouns assigned a verbal classifier, or are there exceptions? (§8.1).
- How are verbal classifiers chosen—that is, what semantic categories of nouns do they reflect? What are the syntactic functions of the referent categorized by a verbal classifier—transitive object, intransitive subject, oblique? (§8.2).
- We saw in §8.3 that some languages have both noun incorporation and verbal classifiers as distinct phenomena. If the language has both, how does noun incorporation compare with verbal classifiers? Are there any restrictions on the semantic types of verbs which occur with verbal classifiers or with incorporated nouns? (§§8.3–8.4).

2e Classifiers of further kinds (Chapter 9)

- Does the language have locative classifiers—morphemes which occur on adpositions (prepositions and postpositions) and locational expressions? If so, what are their meanings? Are all nouns assigned a classifier? (§9.1).
- Does the language have deictic classifiers—morphemes which occur on demonstratives and articles? If so, what are their meanings? Are all nouns assigned a classifier? (§9.2).
- Are there any other classifiers used in other contexts (for instance, interrogatives)? (§9.3).

3 Gender and classifiers in one language (Chapter 10)

- Does the language have several noun categorization devices? If there is gender and numeral classifiers, are they independent systems, or are gender distinctions integrated into the numeral classifier system? (§10.1).
- If a language has gender and noun classifiers, how do they interrelate? (§10.2).
- If a language has gender and classifiers in possessive constructions, are they independent systems or are they integrated? (§10.3).
- If a language has gender and verbal classifiers, and/or gender and rare classifier types (locative or deictic classifiers), how do they interrelate? (§10.4).
- If a language has gender and two or more classifier types, or if it combines several types of classifiers, how do they interrelate and compare with regard to their functions and uses? (§10.5).

4 Multiple classifier languages (Chapter 11)

- Does the language have identical, or almost identical, sets of classifiers in two or more core contexts identified in Chapters 5–9? Describe the contexts and, if applicable, the differences in classifier use and form in each context (§§11.1–11.2). If a classifier occurs in multiple contexts, will it be repeated in each context within a complex noun phrase (as suggested in Generalization 11.1, p. 205)?
- Do classifiers in multiple contexts in the language share features with classifiers in core context and also occur in extended environments as outlined in §§11.3–4? Do they display any of the special features which set them apart from classifiers in core context (§11.5) (see also Table 11.3, p. 223).

5 The meanings of gender and of classifiers (Chapter 12)

- What are the meanings of the noun categorization devices identified in the language summarized in Table 12.7 (p. 225)? How are classifiers assigned to humans, non-human animates, and inanimate concrete objects? How are higher animates (mammals) distinguished from lower animates? How are classifiers assigned to body parts, to abstract nouns and natural phenomena, and to loans? Check the applicability of Generalizations 12.1–12.4 (pp. 231, 234, 243) to gender and classifiers in the language (§§12.1–12.5).
- If the language has classifiers, are there highly specific terms (limited to a small set of concepts) and unique terms? Do their meanings reflect special features of the social and physical environment? (§12.6).
- Does the language have a default or general classifier? If so, how is it used: (i) for otherwise unclassifiable items ('residue' classifier); (ii) for unspecified or unknown referents ('unspecified referent' classifier); (iii) can it be substituted for other classifiers under special pragmatic conditions ('default' classifier)? If the language has gender, what are the options for residual, default, and unspecified referents? (§12.7).
- If a gender, or a classifier is semantically complex and its meaning opaque and hard to predict, can any transfers and extensions of meaning be suggested? Are any of them reflective of the social and cultural environment, e.g. the world-view and/or mythological concepts of the speakers? Do social factors affect the composition of each class? (§12.8).

6 What are gender and classifiers good for? (Chapter 13)

- Do gender and classifiers play a role in disambiguating polysemous referents? (§13.1).
- Are there any correlations between the presence of classifiers and the organization of the lexicon, including adjective classes with shape reference? (§13.2).
- Are classifiers obligatory? Does their use correlate with individuation and unitization, and specificity and also definiteness of the referent? (§§13.3–13.4).
- How do gender and classifiers interrelate with the discourse status of participants they refer to? (§§13.5.1–13.5.2).
- Do gender and classifiers have anaphoric functions? Are there ‘stand-alone’ classifiers employed for long-distance anaphora whereby a noun may not be mentioned overtly, if understood from the context? (§13.7).

7 Social context and cognitive patterns in gender and classifiers (Chapter 14)

- Are there any specific ways in which gender and/or classifiers in the language reflect social, cultural, and physical environment? (§14.1).
- Is there any information on language processing of gender and classifiers, and observations on their role in human cognition exemplified by the facts of the language described? (§14.2).

8 Origins and histories of gender and classifiers (Chapter 15)

- If the language has gender, is there any information about its origin? Is there any evidence for the development from anaphoric gender to agreement gender, from derivational gender to agreement gender, and/or from other nominal categories—such as number and case—to gender? (§15.1).
- If the language has classifiers, where do they come from—for instance, nouns, verbs, and deverbal nominalizations? If the language has numeral classifiers and/or classifiers in possessive constructions which come from verbs, does it also have classifiers which come from nouns? That is, does Generalization 15.1 (p. 302) apply? What are the mechanisms for developing noun categorization devices? Do they involve grammaticalization and reinterpretation? (§§15.2–15.3).
- If there is any information about historical attestation of the language, what are the histories of the attested evolution of gender and of classifiers? Can anything be said about the relative age of different noun categorization devices? (§§15.4–15.5). What are the patterns of reduction and loss of noun categorization devices (if applicable)? (§15.6).

9 Contact, obsolescence, and social change in gender and classifiers (Chapter 16)

- Have gender and classifiers been influenced by neighbouring languages? Are there any instances of borrowed patterns and of borrowed forms? (§§16.1.1–16.1.3).

- If the language is endangered or obsolescent, how do gender and classifiers fare, especially in the speech of bilinguals and obsolescent speakers (and also rememberers)? Is there any information on generational differences in the use and production of noun categorization devices? (§16.2).
- Have the patterns of use of gender and classifiers been affected by language engineering and prescriptive efforts? Have any social changes impacted the composition and the use of gender and its realization, and that of classifiers? (§16.3).

10 How gender and classifiers are acquired, and how they are lost (Chapter 17)

- Is there any information about how children acquire gender and classifiers? At what age do they acquire the full system? Do the tendencies formulated in §17.5 apply? If there is any information on the historical development of gender and/or classifiers, how does this compare with the ways in which children acquire these devices? How does the extralinguistic environment affect successful acquisition of gender and classifiers? (§§17.1–17.2).
- Is there any information about second language acquisition of gender and classifiers? (§17.3).
- Is there any information about the fate of gender and of classifiers in aphasia and in language depletion (brain injury, dementia, and cognitive decline)? Do these processes mirror the pathways of child language acquisition? (§17.4).

Further questions potentially relevant for noun categorization involve the expression of ANIMACY AND HUMANNESS THROUGH CATEGORIES OTHER THAN NOUN CATEGORIZATION DEVICES, along the following lines:

- (a) Does number marking or number agreement depend on whether the referent of a noun is human, or animate?
- (b) Does the way in which grammatical relations are marked (by case or cross-referencing) depend on the animacy or humanness of the core argument (A, S, or O) (the phenomenon known as differential case marking)?
- (c) Are there any derivational devices used just for animate or for human nouns?
- (d) Are there any differences in the ways personal pronouns are used with nouns with human and with non-human referents?
- (e) Are there any humanness or animacy distinctions in interrogatives?
- (f) Are there any further animacy or humanness distinctions in other contexts?

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