Genders and Classifiers

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Genders and Classifiers

A Cross-Linguistic Typology

Edited by
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Preface

Every language has some means of categorizing objects into humans, or animates, or by their shape, form, size, and function. The most wide-spread are linguistic genders—grammatical classes of nouns based on core semantic properties such as sex (female and male), animacy, humanness, and also shape and size. Classifiers of several types also serve to categorize entities. Numeral classifiers occur with number words, possessive classifiers appear in the expressions of possession, and verbal classifiers are used on a verb, categorizing its argument. Genders and classifiers of varied types can occur together. Their meanings reflect beliefs and traditions, and in many respects mirror the ways in which speakers view the ever-changing reality. This volume elaborates on the expression, usage, history, and meanings of noun categorization devices of different kinds, exploring their various facets across the languages of South America and Asia, known for the diversity of their noun categorization.

The volume starts with a typological introduction outlining the types of noun categorization devices, their expression, scope, and functions, in addition to the sociocultural aspects of their use, and their development. It is followed by revised versions of papers originally presented at the International Workshop 'Genders and classifiers in Amazonia and beyond' organized by the editors and held at the Language and Culture Research Centre, James Cook University, 9–10 August 2017. An earlier version of Chapter 1 was circulated to the contributors, with a list of issues to be addressed, so as to ensure that the studies of individual languages within this volume were cast in terms of a common set of parameters. This is the ninth monograph in the series *Explorations in Linguistic Typology*, devoted to volumes from International Workshops organized by the Language and Culture Research Centre and its predecessors.

The Workshop, and subsequent discussions between the editors and the authors, were intellectually stimulating, with cross-fertilization of ideas and scholarly debates. Each author has undertaken intensive fieldwork and has firsthand in-depth knowledge of their languages, in addition to experience of working on linguistic typology, historical and comparative linguistics, and language contact and areal diffusion. The analysis is uniformly cast in terms of basic linguistic theory—the cumulative typological framework which provides the foundation for sound empirically-based descriptive and analytic works. We avoid formalisms (which provide reinterpretations rather than explanations, and come and go with such frequency that any statement made in terms of them is likely to soon become inaccessible).

It is our hope that this volume will further contribute to a consolidated conceptual and analytic framework, primarily established in the previous work by Aikhenvald. Our aim is to cover, and explain, the newly established parameters of variation in

noun categorization devices in a synchronic and in a diachronic perspective, opening new perspectives on classifiers of different kinds.

We are grateful to all the participants in the Workshop and colleagues who took part in the discussion, providing feedback on presentations at various stages, particularly R. M. W. Dixon, Pema Wangdi, and Sihong Zhang. We owe a special debt of gratitude to Jolene Overall and Brigitta Flick, for helping us organize the Workshop in a most efficient manner. Brigitta and Jolene's support and editorial assistance in preparing the volume were invaluable.

The Workshop was made possible through the Australian Research Council Laureate Fellowship Project 'How gender shapes the world: a linguistic perspective' (to Alexandra Aikhenvald). We gratefully acknowledge the financial assistance from the Division of Research and Innovation at James Cook University.

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Abbreviations

1	first person
1D	one-dimensional
1PL.E	first person plural exclusive
1PL.I	first person plural inclusive
1SG.I	first person singular inclusive (also impersonal passive)
2	second person
2D	two-dimensional
3	third person
3D	three-dimensional
A	subject of transitive verb; active pronominal marker
ABL	ablative
ABS	absent
ABSL	absolutive
ABST	abstract
ACC	accusative
ADD	additive
ADJ	adjective
ADJ.CL	adjectival classifier
ADJZ	adjectivizer
ADP	adposition
ADV	adverb(ial)
ADVL	adverbializer
AFFECT	affective
AGT	agent, agentive case
AM	adverbial marker
AN	animate
ANA	anaphoric
ANDTV	andative
ANIM	animate
APPL	applicative
APPROX	approximative

Apu	Apurucayali Ajyninka
ART	article
Asha	Ashaninka
Ashe	Ashéninka
ASSIST	assistive
AT	postposition *dine* in Murui
ATT	attainment marker
ATTR	attributive
AUX	auxiliary
BECOME_{1-3}	'become' markers
BEN	benefactive
BF	base form
Ca	Caquinte
CAUS	causative
CAV	cavity (classifier)
CC	copula complement
CERT	certainty
CL	classifier
CL.DAY	numeral classifier for day
CL.DROP	numeral classifier for drop
CL.G	general classifier
CL.GEN	generic classifier
CL.HIT	verbal action classifier for hitting
CL.MONTH	numeral classifier for months
CL.PERFORM	numeral classifier for performance
CL.PLACE	numeral classifier for place
CL.REP	classifier-repeater
CL.YEAR	numeral classifier for years
CM	change of state marker
CN	class noun
COCL	complement clause
COM	command
COMIT	comitative
COMP	complementizer
COMPL	completive

COND	conditional
CONJ	conjunction
CONN	connective
CONT	continuative
CONTRST	contrast
COP	copula
CP	completive marker
CS	copula subject
CTS	close to speaker
D	possessed
DAT	dative case
DC	deictic classifier
DCLF	deictic classifier
DEF	definite
DEL	delimitative
DEM	demonstrative
DEM:INAN	inanimate demonstrative
DEM.ID	demonstrative identifier
DEPREC	deprecatory
DES	desiderative
DIM	diminutive
DIR	directional
DIR.AS	away-from-speaker direction
DIR.DOWN	downward direction
DIR.DS	downstream direction
DIR.NONS	nonspecific direction
DIR.UP	upward direction
DIST	distal
DISTR	distributive
DM	discourse marker
DP	discourse particle
DR	'derivational'
DUR	durative
E	event nominalizer
EGO	egophoric

EMPH	emphatic
EP	epenthetic
ERG	ergative case
EV	evidential
EVI.DIR	direct evidential marker
EVI.VIS	evidential marker, visual
EVID	evidential
EX	existential
EXC, excl	exclusive
EXH	exhaustive
EXIST	existential
EXP	experiential case
F, f	feminine
FEM, fem	feminine
FF	full form
FOC	focus
FP	feminine plural
FRUST	frustrative
FS	feminine singular
FUT	future
G	generic (classifier)
GEN	genitive
GENER	general (classifier)
GER	gerund
GF	generic form
GNRL	general
GR	group
HAB	habitual
HONOR	honorific
HOR, hor	horizontal
HSY	hearsay
HUM	human
ICPL	incompletive
IF	indeterminate form
IMP	imperative

IMPER	imperative
IMPERS	impersonal
IMPF	imperfective
INAN	inanimate
INCL	inclusive
INCP	inceptive
INFIN	infinitive
INS	instrumental
INST	instrumental
INT	intent
INTER	interrogative
INTERJ	interjection
INTJ	interjection
INTNS	intensifier
INTR	intransitive
IP	illocutionary particle
IPFV	imperfective
IRR	irrealis
KIN	kinship (plural)
LIM	limitative
LK	linker
LOC	locative
LOCL	localizer
LOG	logophoric
M, m	masculine
M	middle pronominal marker
Ma	Matsigenka
MASC, masc	masculine
MOD	modality
MP	masculine plural
MS	masculine singular
N.CL	noun class marker
N.CONTR	non-contrastive
N.S/A.TOP	topical non-S/A subject
Na	Nanti

NEG	negative
NEG.EXIST	negative existential
neuter	neuter gender (no abbreviation)
NEUT	neutral (classifier)
nf	non-feminine
nfem	non-feminine
NFI	non-future indicative
NHUM	non-human
NJ	Native Japanese
NK	Northern Kampa
NM	non-masculine
NMLZ	nominalization
NMZ	nominalizer
No	Nomatsiguenga
NOM	nominative
NONFEM	non-feminine
NOUNCL	noun classifier
NP	noun phrase
NPAST	non-past
NSG	nonsingular
NSP	non-specific
NUM.CL	numeral classifier
O	object of transitive verb
OBJ	object
P	patient
Paj	Pajonal Ashéninka
PASS	passive
PAST	past (no abbreviation)
PAU	paucal
PCLF	possessive classifier
Pe	Perené Alto
PFV	perfective
Pi	Pichis Ashéninka
PL, pl	plural
PL.EXC	plural exclusive

PL.INC	plural inclusive
PN	personal name
POL	polite
POS.POL	positive polarity
POSS	possessive, possessor
POTEN	potential
PP	plural participants
PR	'pronominal'
PRED	predicative
PREP	preposition
PRES	presential
PRES.VIS	present visual
PROG	progressive
PRON	personal pronoun
PROX	proximal
PTC	participle
PURP	purposive
Q	question marker
QUANT	quantifier
R	possessor
RC	relative clause
REAL	realis
REC	recipient
RECIP	associative-reciprocal marker
RED	reduplicated verb
REDUP	reduplication
REF	reflexive
REL	relative clause marker
REM.P.REP	remote past reported
REP	repetitive
REQ	request
RETR	retrospective
RFL	reflexive
RSLT	resultative
S	subject of intransitive verb

S/A.TOP	topical S/A subject
SEQ	sequential
SFP	sentence-final particle
SG, sg	singular
sgf	singular feminine
sgnf	singular non-feminine
SIMIL	similative
SJ	Sino-Japanese
SK	Southern Kampa
SHON	subject honorific
SP	specific
Sp	Spanish
SS	same subject
STAT	stative
SUB	subordinator
SUBJ	subjunctive
SUBS	substance (classifier)
T	Theme
TERM	terminative
TH	thematic
TOP	topic
trid	tridimensional
TTL	title
UNCERT	uncertainty
VCC	verbless clause complement
VCL	verbal classifier; verbal action classifier in Chapter 10
VCS	verbless clause subject
VERB.CL	verbal classifier
VERT	vertical
VM	valency modifier

1

Noun categorization devices
A cross-linguistic perspective

ALEXANDRA Y. AIKHENVALD

A noun may refer to a man, a woman, an animal, or an inanimate object of varied shape, size, and function, or have abstract reference. Noun categorization devices vary in their expression, and the contexts in which they occur. Large sets of numeral classifiers in South-East Asian languages occur with number words and quantifying expressions. Small highly grammaticalized noun classes and gender systems in Indo-European and African languages, and the languages of the Americas are expressed with agreement markers on adjectives, demonstratives, and also on the noun itself. Further means include noun classifiers, classifiers in possessive constructions, verbal classifiers, and two lesser-known types: locative and deictic classifiers.

All noun categorization devices are based on the universal semantic parameters of humanness, animacy, sex, shape, form, consistency, orientation in space, and function. They may reflect the value of the object, and the speaker's attitude to it. Their meanings 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.

Each contribution to this volume offers a novel study of noun categorization devices in regions known for their elaborate classifier systems. This introduction offers a general typological background, focusing on the issues particularly relevant for the languages discussed within the volume. We start with a brief overview of noun categorization devices in their various contexts.

1 Noun categorization devices in their various guises

We distinguish the following seven types of noun categorization devices. This classification is primarily based on the contexts in which each device occurs.[1]

[1] This typology of noun categorization devices is based on the general framework in Aikhenvald (2000), Aikhenvald (2012: 279–303) which is focused on Amazonian languages, and Aikhenvald (2004, 2016), with

Genders and Classifiers. First edition. Alexandra Y. Aikhenvald and Elena I. Mihas (eds)

I. Gender systems—frequently, masculine and feminine—are realized through agreement within a noun phrase (on an adjective or a member of a closed class of determiners) or within a clause (e.g. on the predicate). (An alternative term for such agreement systems is 'noun classes'.)

Gender can be expressed covertly, as an obligatory marker on the agreeing constituent, and also overtly, on a noun itself. As a rule, every noun in the language belongs to a gender. There is always some semantic basis to the assignment of genders; but genders can also be assigned based on morphological and on phonological make-up of the noun (see Aikhenvald 2016, and references there).

Warekena of Xié, a North Arawak language, has two genders—feminine and non-feminine—marked on third person pronouns, and through agreement on demonstratives, adjectives, and verbs. Gender is 'covert' (that is, not marked on the noun itself). In (1a) and (1b), the gender-sensitive agreement forms of demonstratives are in bold.

(1) a. **ayuta** neyawa **yu**-tapa-pa *Warekena*
DEM.DIST.FEM.SG woman 3sgfem-come-REDUP
'That woman is coming.'

b. **eta** enami **i**-tapa-pa *Warekena*
DEM.DIST.NONFEM.SG man 3sgnf-come-REDUP
'That man is coming.'

Small agreement gender systems are a common feature of Arawak languages (see Chapter 2 on genders in the Kampa subgroup of Arawak, and Chapter 4 on the Arawak languages of north-west Amazonia). Two genders are distinguished in Zamucoan languages of Bolivia and Paraguay (Chapter 5), and in Toba, a Guaycuruan language (Chapter 7).

Genders typically interrelate with other nominal and verbal categories—in many languages, fewer genders are expressed in plural than in singular. This is what we find in Warekena of Xié and all other Arawak languages (see also Chapters 2 and 4), and in Toba (Chapter 7). Dependencies between gender and other grammatical systems are discussed in Aikhenvald and Dixon (2011).

II. Numeral classifiers occur with number words and quantifiers, categorizing the noun in terms of its shape, animacy, and other inherent properties. Not every noun has to be assigned a classifier. In most Amazonian languages, they are expressed

special focus on gender systems; an up-to-date summary with reference to other sources and approaches is in Aikhenvald (2017). See also Kilarski (2013) on the history of studies; some functions of classifiers are recapitulated by Contini-Morava and Kilarski (2013) (with more detail in Aikhenvald 2000: 307–36). See also Aikhenvald (2015) for an up-to-date bibliography on noun categorization devices. Additional issues in classifiers and conceptualization of linguistic entities are addressed in Bisang (2017); Jiang (2017) explores the ways in which classifiers in Chinese reflect speakers' worldview.

through bound morphemes attached to a number word, and are used just with low numbers.

Palikur, a North Arawak language, has nineteen numeral classifiers—see (2a) and (2b) (Aikhenvald and Green 2011: 411–12). Classifiers are in bold face.

(2) a. paha-**tra** ahin *Palikur*
one-NUM.CL:EXTENDED path
'one path' (extended)

b. paha-**t** ah *Palikur*
one-NUM.CL:VERTICAL stick
'one stick' (vertical)

Besides number words, numeral classifiers can be used with the interrogative quantifier 'how many', as in Munya, a Tibeto-Burman language, Bahuana, an Arawak language of north-west Amazonia, White Hmong, and Japanese (Chapters 4, 8, 9, and 10). In Japanese, they also occur with approximate expressions of number such as *suu-* 'several' (§2.4 of Chapter 9; see also Aikhenvald 2017, and 2000: 98–124).

Not every noun in a language has to be associated with a numeral classifier. In Japanese, numeral classifiers are obligatory for all nouns except those which 'tend to denote abstract referents such as units of time, colours, kinds, grades, classes, geographical areas, social units' (Downing 1996: 15), and also some nouns denoting events, particularly in loanwords (see §2.4 of Chapter 9).

III. Noun classifiers are associated with the noun itself and are independent of any other element within a noun phrase or in a clause. They categorize the entity in terms of the generic type or class it belongs to. Not every noun in a language will have a noun classifier (see Dixon 1982, 2015). Classifiers may be independent words. Dâw, from north-west Amazonia, has a dozen noun classifiers; an example is at (3) (Martins 1994: 51) (see also (18), from Yidiny, an Australian language).

(3) **dâw** tog *Dâw*
NOUN.CL.HUMAN girl
'a girl' (lit. human girl)

In Witotoan, Kawapanan, and Arawak languages, noun classifiers are attached to the noun itself, and can be deployed as productive derivational devices (see §3.3.1 and §4.1 of Chapter 3, on Shiwilu, a Kawapanan language; Chapter 6 on Murui (Witotoan); Chapter 2 on Kampa; Chapter 4, on North Arawak languages). They maintain their classificatory functions, categorizing the noun or its root in terms of relevant semantic features.

IV. Possessive classifiers occur in possessive constructions, characterizing the Possessee in terms of its inherent properties. Many Tupí-Guaraní languages of South

America have two possessive classifiers—one for pets and one for game animals (see Rodrigues 1997: 72–3, and also Kakumasu 1986: 371). Kadiwéu, a Guaycuruan language, has three classifier forms—two for domestic animals (one for males and one for females), and a further one for all other nouns (Sandalo 1995: 57; further examples in Aikhenvald 2000: 126–9). These are illustrated in (4), (5), and (6).

(4) l-**wiGadi** apolokGanGa *Kadiwéu*
3POSS-CL:NON.FEMALE.ANIMAL horse
'his male horse'

(5) l-**wiqate** apolokGanGa *Kadiwéu*
3POSS-CL:FEMALE.ANIMAL horse
'his female horse'

(6) Gad:-**neb:i** aqi:di *Kadiwéu*
2POSS-CL:GENERAL river
'your river'

Palikur, a North Arawak language, has five possessive classifiers—see Table 1 (Aikhenvald and Green 2011: 436).

Possessive classifiers tend to correlate with the type of noun: in many languages, including Palikur and Kadiwéu, possessive classifiers are only used with optionally, or alienably, possessed nouns.[2] In Zamucoan and Mataguayan languages of the Chaco region, possessive classifiers show gender agreement with the possessed noun.

TABLE 1. Possessive classifiers in Palikur

FORM	SEMANTICS	EXAMPLES
-pig	'pet' (used with domesticated animals)	*gi-**pig** pewru* (3masc-pet dog) 'his dog'; *gi-pig mutom* 'his sheep'
-mana	'food' (used with fruit and vegetables)	*pi-**mana** uwas* (2sg-food orange) 'your orange'
-mutra	'plant'	*n-**amutra** pilatno* (1sg-plant banana) 'my plant-banana' (the one I planted)
-win	'catch; animal caught to eat'	*nu-**win** arudiki* (1sg-catch tapir) 'my catch-tapir' (the tapir I caught)
-kamkayh	'child'	*nu-**kamkayh** awayg* (1sg-child boy) 'my son'

[2] Relational classifiers are an additional type. They categorize the relationship between the possessor and the possessee and reflect the ways in which the possessor can be manipulated by the possessee—eat it, drink it, wear it, sell it, and so on (see Lichtenberk 1983, and a summary in Aikhenvald 2017: 375–7). This is an almost exclusive feature of Oceanic languages (see Guérin 2017).

Here, gender is integrated within the system of possessive classifiers (see further discussion in §8 of Chapter 5).

V. Verbal classifiers occur as bound morphemes on verbs and characterize the S (intransitive subject) or O (transitive object) in terms of shape, dimensionality, and function. Palikur has eleven verbal morphemes whose use is obligatory.[3] In (7), a piece of cotton string in the object function is referred to with a verbal classifier for linear objects (Aikhenvald 2012: 293).

(7) nah watak-**buk**-e ini mawru *Palikur*
1sg untie-VERB.CL:LINEAR-COMPLETIVE this:neuter cotton
'I untied the string completely.'

Verbal classifiers can also categorize obliques: this is the case in Mɨka, a Witotoan language ((22)–(23) in Chapter 6). Along similar lines, verbal classifiers in Innu, an Algonquian language, may categorize the S (intransitive subject), the O (transitive object), and an oblique argument, instrument, or location (Drapeau and Lambert-Brétière 2011: 302–4) (similar examples from Motuna and Tarascan are mentioned in Aikhenvald 2000: 162–3). Just occasionally a verbal classifier can categorize the subject of a transitive verb (A): examples of this unusual phenomenon come from Shiwilu, a Kawapanan language (Valenzuela 2016: 368; §5.1 of Chapter 3, this volume).

The object of a transitive verb or the subject of an intransitive verb can be categorized through using different classificatory verbs. Different verb stems are then regularly used to express handling, location, and existence of objects of different shapes and different arrangements. This is a feature of numerous languages of North and South America (see, for instance, Rushforth 1991 on Mescalero Apache, Fortescue 2006 on Wakashan languages, and also Frank 1990, on Ika, and Malone 2004 on Chimila, both Chibchan; and a summary in Aikhenvald 2017: 378–80).

VI. Locative classifiers occur with adpositions or location markers, and are chosen based on the inherent physical properties of a noun which refers to a location. Palikur has twelve locative classifiers (Aikhenvald and Green 2011: 430–5). In (8), the choice of the locative classifier *-hakwa-* 'into liquid' is based on the physical property of the location—the noun *un* 'water, waterway'.

(8) wis-uh tarak-e-gu a-**hakwa**-t un *Palikur*
1pl-excl push-COMPLETIVE-3fem 3neuter-into.liquid-DIR waterway
'We push it (the canoe) into the water.'

[3] Based on partial analysis of secondary data of about a dozen languages with verbal classifiers, Passer (2016) erroneously claims that verbal classifiers do not categorize the noun they refer to. He suggests, inter alia, that verbal classifiers do not occur with overt nouns (a statement easily shown to be incorrect for many languages, including Palikur in (7)).

Locative classifiers have been described for a number of languages of South America—including Palikur and Lokono, from the Arawak language family, and also Carib languages (see an overview in Aikhenvald 2017: 281). This type appears to be comparatively rare. Similar to numeral, possessive, verbal, and noun classifiers, locative classifiers do not have to subsume the whole nominal lexicon.

VII. Deictic classifiers are a further, less frequently attested type of noun categorization devices. Deictic classifiers are obligatory with demonstratives, and typically refer to the position of the entity, including horizontal—or 'lying', and vertical—or 'standing'. In Siouan languages of North America, they occur on demonstratives and definite articles (Rankin 2004, and references there). Classifiers with demonstratives in Mandan, an extinct Siouan language, are illustrated in (9) (Rankin 2004: 206).

(9) a. re-wąk *Mandan*
this-CL:HOR
'this (lying)'

b. re-rąk *Mandan*
this-CL:SITTING
'this (sitting)'

Deictic classifiers are a salient feature of Toba and other Guaycuruan languages (see Table 1 in §2.1 of Chapter 7).

One language can have several noun categorization devices—this is what we turn to next.

2 Several noun categorization devices in one language

A language can combine more than one kind of noun categorization device. A small gender system may be used with demonstratives and other modifiers, alongside numeral classifiers with quantifying expressions and number words. This is a feature of numerous Indic and Dravidian languages (see, for instance, Rastorgueva et al. 1978 and Emeneau 1964), and a number of North Arawak languages (Chapter 4). Noun classifiers coexist with gender systems in a number of languages from Northern Australia (see, for instance, Reid 1997, on Ngan.gityemerri; Sands 1995: 281–2; Dixon 2002: 454–507).

A number of Micronesian languages (e.g. Truquese: Benton 1968) have numeral classifiers as well as possessive classifiers. Noun classifiers and numeral classifiers as independent systems are attested in Akatek, a Mayan language (Zavala 2000), and Minangkabau, a Western Austronesian language (Marnita 2016). Two genders (feminine and non-feminine) are distinguished within the system of numeral classifiers in a number of North Arawak languages of the Upper Rio Negro region (see Chapter 4).

Possessive classifiers in Zamucoan languages occur together with the markers of two genders—feminine and masculine (Chapter 5).

Three kinds of noun categorization devices—numeral classifiers, genders, and noun classifiers—have been described for Chinantec languages of Mexico (Foris 1993). In 'Dongo-ko, a Mba language from the Ubangi branch of Niger-Congo, possessive classifiers coexist with genders and with noun classifiers (Pasch 1985). Kadiwéu, a Guaycuruan language from Brazil, combines possessive classifiers, genders, and deictic classifiers as independent systems (see Sandalo and Micheloudakis 2016; and more on the co-occurrence of different means of noun categorization in one language in Aikhenvald 2000: 184–92).

Palikur has as many as five independent systems of noun categorization devices. The language distinguishes:

(I) three genders (feminine, masculine, and neuter) marked on demonstratives, free and bound personal pronouns, and two genders (feminine and masculine) marked on verbs;
(II) nineteen numeral classifiers with number words;
(III) eleven verbal classifiers;
(IV) five possessive classifiers (listed in Table 1); and
(V) twelve locative classifiers.

In addition, a two-fold gender distinction—feminine and masculine—in Palikur is integrated within the system of numeral classifiers just for the number word 'one'. The feminine and masculine gender markers obligatorily co-occur with the animate classifier *-p-*, e.g. *paha-p-ru tino* (one-NUM.CL:ANIM-fem woman) 'one woman', *paha-p-ri awayg* (one-NUM.CL:ANIM-masc man) 'one man' (see the discussion in Aikhenvald and Green 2011). This is reminiscent of the gender distinctions made within numeral classifiers in a number of related North Arawak languages—including Achagua (Chapter 4).

Different kinds of noun categorization devices allow the speaker to highlight distinct facets of an object. In (10), from Minangkabau (Marnita 2016: 64), three pieces of *Toona Sinensis* (also known as Chinese mahogany) are categorized as long rigid objects through the numeral classifier *batang*. The noun classifier *surian* with a generic meaning 'wood' indicates that we are dealing with wood as material (and not with a tree). The noun classifier *surian* 'wood' helps disambiguate the two meanings of the noun *surian* 'Toona Sinensis wood or tree'. The classifier itself comes from this same noun.

(10) tigo **batang** **surian** surian *Minangkabau*
three NUM.CL:LONG.RIGID NOUN.CL:WOOD Toona.sinensis
'three (pieces) of Chinese mahogany wood'

In (11) and (12), from Palikur, the numeral classifier *-tra* categorizes the noun *akati* 'cord' as a linear extended object (also shown in (2a)). The cord is inanimate, and belongs to the neuter gender: this is shown by the third person neuter cross-referencing prefix

a- on the locative classifier. The locative classifier in (11), *-buhkumna* 'on.LINEAR', reflects the horizontal, or linear orientation of the cord along which the birds are sitting. The position of the referents 'along' the cord in (11) implies a plural reading for the subject, 'crow'.

(11) yu bat **a-buhkumna** paha-**tra** akati *Palikur*
crow sit 3neuter-on.LINEAR one-NUM.CL:LINEAR cord
'Crows sat on/along a (horizontal) cord.'

The locative classifier *-min* 'on.VERTICAL' in (12) indicates that the cord is positioned vertically; it is understood that 'crow' has a singular referent.

(12) yu bat **a-min** paha-**tra** akati *Palikur*
crow sit 3neuter-on.VERT one-NUM.CL:LINEAR cord
'A crow sat on a (vertical) cord.'

The gender prefix reflects the animacy of the object. The choice of a numeral classifier is based on its dimensionality. The locative classifier shows its position and orientation, and the number of entities involved.

Noun categorization devices vary in size. Gender systems range from two in Semitic languages, or Portuguese and French, to ten, as in Bantu, or even to several dozen, as in some languages of South America. Systems of numeral classifiers can be small: for instance, Telugu has two (Krishnamurti and Gwynn 1985: 106–7), and Warekena of Xié has six (Chapter 4), while Munya has over fifteen (Chapter 10). Korean and Japanese have more than 150 classifiers (Lee 2014; Downing 1996; §2.5 of Chapter 9 of this volume). Having a large set of numeral classifiers is a feature of the languages of mainland South-East Asia (see, for instance, Enfield 2017).

The number of possessive classifiers ranges from two or three, as in Kadiwéu, Chamacoco (§6 of Chapter 5), and many Tupí-Guaraní languages, to five as in Palikur (Table 1), and twenty in Panare, a Carib language (Mattéi-Müller 1974; Carlson and Payne 1989; Payne and Payne 2013: 82–6). The number of verbal classifiers is typically small, e.g. eight in Innu, or eleven in Palikur; and so is the number of locative and deictic classifiers (see the discussion of Toba in Chapter 7).

The set of noun categorization devices can be open. In Macushi and Apalaí, two Carib languages, any noun with generic reference can be used as possessive classifier (Koehn 1994; Koehn and Koehn 1986: 85; Abbott 1991: 85–6). This is reminiscent of Ayoreo where many generic nouns can be used as possessive classifiers (§5 of Chapter 5), making it hard to name the exact number of classifiers. In Hmong, a wide range of nouns can be used as classifiers, making them an open class (§3.2 of Chapter 8).

In many South-East Asian languages, including Thai and Lao, a noun itself can be fully or partially repeated in the numeral classifier slot to refer to it being counted (a similar principle has been described for Truquese, a Micronesian language, by

Benton 1968). Such 'repeaters' are typically used if a noun cannot be subsumed under any of the existing classifiers. The presence of repeaters (sometimes also called auto-classifiers or self-classifiers) makes the set of classifier morphemes almost open-ended.[4] Grammaticalized repeaters often give rise to classifiers as a closed or semi-closed class of affixes to a numeral. Repeater technique is usually restricted to numeral classifiers and classifiers in multiple environments (see, for instance, the discussion of Murui in Chapter 6).

3 How noun categorization devices differ and what they have in common

Each of the noun categorization devices have their special properties, challenging the idea of a putative binary division between genders on the one hand (I in §1) and classifiers on the other (II–VII in §1).

Noun categorization devices differ in terms of their scope and the nominal constituent which they classify. Gender categorizes the noun within an attributive noun phrase or a clause. A numeral classifier categorizes the noun within a noun phrase which contains a number word or a quantifier. A noun classifier categorizes a noun on its own. A possessive classifier categorizes the possessed noun within a possessive noun phrase. A locative classifier categorizes the argument of an adposition, and a deictic classifier categorizes the head of a noun phrase modified by a deictic. These differences are summarized in Table 2.

We now turn to a few further special features of each type.

Table 2. Noun categorization devices and their scope

Type	Scope	What is categorized
I Gender	Attributive NP or clause	Head noun, A/S or S/O; oblique
II Numeral classifiers	Numeral/quantifier NP	Head noun
III Noun classifiers	Noun	Head noun
IV Possessive classifiers	Possessive NP	Possessed noun
V Verbal classifiers	Clause	S/O or oblique
VI Locative classifiers	Adpositional NP	Noun referring to a location
VII Deictic classifiers	Attributive NP	Head noun

[4] This is similar to alliterative agreement described as one of the agreement techniques for a number of varieties of Baïnounk, a West Atlantic language spoken in Senegal and Guinea-Bissau (Sauvageot 1967; Cobbinah 2010). For a number of nouns, agreement is marked by repeating the first CV sequence of the stem on the agreeing constituent, making the number of agreement classes virtually open.

3.1 Interaction with other grammatical categories

Noun categorization devices differ in how they interact with other grammatical categories within the language (see Aikhenvald 2000: 242–70, and Table 10.7 there). A marker of GENDER can be fused with that of number. Genders can be neutralized in plural number, as we saw at I in §1 (further discussion of dependencies between gender, number, person, and case is in Aikhenvald and Dixon 2011 and Aikhenvald 2000: 252–7).

The use of POSSESSIVE CLASSIFIERS often correlate with whether or not the object has to be possessed. Some nouns are obligatorily, or 'inalienably' possessed: they can never occur without a possessor. These typically include body parts, kinship terms, and culturally important items (including 'name' or 'house') (see, for instance, Chapter 2 for a discussion of possession classes of nouns in the Kampa languages of Peru). Other, alienably possessed, nouns can occur on their own. They are optionally, or alienably possessed. Possessive classifiers typically occur just with alienably possessed nouns. We saw in (IV) in §1 that this is the case in Palikur, Zamucoan languages, and Kadiwéu. In White Hmong, classifiers in possessive constructions are obligatory just for alienably possessed nouns (§2.1 of Chapter 8; Bisang 1993: 30).

3.2 Differences in use depending on contexts

Noun categorization devices can be used differently depending on semantic or other properties of the forms they occur with.

The use of NUMERAL CLASSIFIERS may correlate with the origin of the classifier, and of the number word. In Kolami, a Dravidian language, all number words above five are borrowed from Marathi, an Indic language; they require a classifier (also borrowed), while number words from one to four distinguish three genders (Subrahmanyam 2006: 306–7). The Native Japanese generic classifier *-tsu* is used with the native number words below ten. No classifier is used for counting the same referents above ten with Sino-Japanese number words (§2.4 of Chapter 9). Only native number words in Munya require a numeral classifier (Chapter 10).

NUMERAL CLASSIFIERS may be restricted to small numbers. In Nung, a Tai language, classifiers are optional with multiples of ten (Saul and Wilson 1980: 27; see also Marnita 2016: 68–9, on numeral classifiers in Minangkabau; and Haas 1978: 73 and Bhaskararao and Joshi 1985: 20 on Burmese and Newari). In Warekena of Xié, classifiers are only used with number words 'one' and 'two'. When counting large numbers in casual speech in Japanese, classifiers can be omitted (§2.4 of Chapter 9).

The correlation between the value of number word and the use of classifier may have to do with the size of the number word system. In Munya (Chapter 10), native number words which have to be used with a classifier cover the values from one to twenty only. Loanwords from Tibetan—which optionally occur with classifiers—are used to count beyond twenty.

Verbal classifiers are typically used on verbs of selected semantic types. In many languages, classificatory verbs and verbal classifiers tend to cover the semantic groups of handling, motion, location, and existence. This is the case in Athabaskan and in Wakashan languages, and also Ika and Chimila, Chibchan languages from Colombia.[5] Verbal classifiers in Palikur are used just with transitive verbs of affect and handling, and stative verbs of dimension, physical property, and colour (Aikhenvald and Green 2011: 420–2).

Cherokee, a Southern Iroquoian language, has five verbal classifiers, covering objects with the meanings of animate, liquid, flexible, long and rigid, and neutral/compact (see Blankenship 1997: 92; Mithun 2017: 767–8, and references there). Examples from Oklahoma Cherokee are in (13)–(17) (Blankenship 1997: 92).

(13) Wèésa gà-**káà**-nèè'a *Oklahoma Cherokee*
cat 3sg>3sg-**animate**-give.pres.prog
'She is giving him a cat.'

(14) Àma gà-**nèèh**-néé'a *Oklahoma Cherokee*
water 3sg>3sg-**liquid**-give.pres.prog
'She is giving him water.'

(15) Àhnàwo gà-**nvv́**-nèè'a *Oklahoma Cherokee*
shirt 3sg>3sg-**flexible**-give.pres.prog
'She is giving him a shirt.'

(16) Gànsda àa-**d**-éé'a *Oklahoma Cherokee*
stick 3sg>3sg-**long**-give.pres.prog
'She is giving him a stick.'

(17) Kwàna àa-**h**-nèè'a *Oklahoma Cherokee*
peach 3sg>3sg-**compact**-give.pres.prog
'She is giving him a peach.'

Classifiers in Cherokee are employed with transitive verbs involving handling of physical objects, such as 'hold', 'handle', 'break', 'drop', 'carry', and also with the verb of transfer, 'give' (categorizing the 'gift'). Classifiers also occur with intransitive verbs of motion or position. Along similar lines, verbal classifiers in Mika, a Witotoan language (§5 of Chapter 6), are used just with verbs which imply direct physical contact with the object, e.g. 'cut', 'throw away', and 'pick, pluck'.

Classifiers which frequently occur with a verb may form conventionalized combinations with it. The form may then get lexicalized. This has been documented for a number of verbs of motion, transportation, and affect in Innu, an Algonquian

[5] See Fortescue (2006) on Wakashan languages, Poser (2005), Krauss (1968), Rice and de Reuse (2017) on Athabaskan, Frank (1990) on Ika, and Malone (2004) on Chimila.

language with a large set of verbal classifiers categorizing S, O, or obliques (see V in §1). High-frequency combinations of a verb stem with a classifier referring to the typical object or a typical location can now be treated as one lexical item, e.g. *matâpê-* 'arrive at the shore' (*matâ-* 'arrive at', *-pê-* 'classifier:free-flowing liquid') (Drapeau and Lambert-Brétière 2011: 301). In Chapter 6, Wojtylak describes a similar process in Murui, a Witotoan language closely related to Mika. We return to this in §6.

3.3 Special semantic properties

Numeral classifiers stand apart from other noun categorization devices in that they fall into two categories—sortal and mensural. Sortal classifiers characterize a referent in terms of its features, which include humanness, animacy, shape, and function. Mensural classifiers provide information about the properties of the referent and combine reference to the 'natural or inherent quantum, configuration, or boundary of the referent' (as put by Jarkey and Komatsu, Chapter 9). Examples from Japanese are in (1) in Chapter 9; Table 2 in Chapter 10 contains a list of sortal and mensural classifiers in Munya.

Sortal and mensural classifiers may differ in their properties. In Korean, a sortal classifier may occasionally be omitted with the number word 'one' in its indefinite meaning (Lee 2014: 38). A mensural classifier can never be omitted. Only sortal classifiers in Japanese can be used in counting events (§2.3 of Chapter 9)—we return to this in §5.

Numeral classifiers of mensural type tend to share similarities with measure terms. The choice of numeral classifier always correlates with the properties of a referent, while the choice of a measure does not have to do so (see the discussion in §2.2 of Chapter 9, on Japanese, and Chapter 10, on Munya). The marker of arrangement, *-tsa* 'storey (of a house)', in Munya occurs in the same slot as a classifier, but does not have the same syntactic properties as classifier morphemes: it is described as a 'pseudo-classifier' in §2.3 of Chapter 10.

Two consecutive number words can occur together accompanied by one numeral classifier, with an approximate reading, e.g. Mandarin Chinese *liang-san-ge ren* (two-three-cl:gen person) 'several people' (the discussion of this phenomenon in Chinese and in Munya is in §3.2 of Chapter 10; see also §2.4 of Chapter 9, for similar examples in Japanese, and Haas 1978: 72–3 on similar constructions in Burmese).

3.4 Using more than one noun categorization device

Some noun categorization devices can occur more than once. Several noun classifiers can be used within one noun phrase. Two classifiers referring to humans can occur together in one noun phrase in Yidiny, an Australian language. In (18), the classifier *bama* 'cl:person' co-occurs with *waguuja* 'cl:man', which form one noun phrase with the noun *wurgun* 'a teenage boy', forming a noun phrase which translates, literally, as cl:person cl:man boy. The classifiers are in a generic-specific relationship to each other and to the noun to which they refer (Dixon 1977: 484; 2015: 49).

(18)	ŋanyji	**bama**	**waguuja**	*Yidiny*
	we+nom	cl:person+abs	cl:man+abs	
	wurgun	muyŋga	gunda-alna	
	pubescent.boy+abs	cicatrice+abs	cut-purp	

'We must cut tribal marks [on] the teenage boy.' (lit. person man pubescent boy)

Several noun classifiers can occur on the same root in Shiwilu, e.g. *dadapu-dek-lu'* (white-cl:liquid-cl:soil) 'white clay (obtained from white/clear waters and used to paint ceramic' ((47), Chapter 3). In Kampa languages, several classifiers can occur on one noun to achieve precision in the description of the object, e.g. Satipo Ashaninka *no-ma-kamara-peta* (1sg.poss-robe-cl:cinnamon.colour-cl:devalued) 'my dirty useless robe'. The classifier *-kamara* usually refers to a dirty and stinky piece of clothing. The shape classifier *-peta* 'flattened flaccid fruit; deflated hanging pouch' adds a negative value to the noun (§4.1 of Chapter 2).

A noun in Tariana can contain up to three classifiers, in a part-whole relationship to each other, e.g. *kara-ka-whya-puna-kha* (rel+fly-th-cl:canoe-cl:road-cl:curved) 'curved part of an airstrip' (lit. curved of road of canoe-like flyer) (see (15a-c)-(16a,b) of Chapter 4). This is similar to the instances of double marking of genders (or 'noun classes') on the noun itself, and on agreeing constituents, in Kikiyu, Ndali, and Nyanja, all Bantu languages (Vail 1974: 42; Stump 1993: 173–5), and a few languages of Northern Australia, including Nungali (Bolt et al. 1971: 70) and Yanyuwa (Kirton 1971; Evans 1994).[6]

The occurrence of more than one noun categorization device of other kinds within the same context is uncommon (see (36a-b) from White Hmong in Chapter 8, which illustrate this point). Kadiwéu appears to be unique in allowing its two possessive classifiers to occur with the same noun (Sandalo 1995: 57), as shown in (19).

(19)	i-**wiGadi**	i-**neb:i**	apolikGanGa	*Kadiwéu*
	1poss-cl:animal	1poss-cl:generic	horse	
	w-akipe	niy:Godi		
	3sg.subject-drink	water		

'The horse of mine drinks water.'

Two possessive classifiers in one noun phrase are said to express 'emphasis'.

3.5 Principles of assignment

Noun categorization devices differ in how they are assigned to a noun.

Gender systems stand apart from the rest. Gender assignment can be based on semantic principles. A semantically based division of nouns into feminine and masculine,

[6] A modifier in a noun phrase in Tariana can contain up to three classifiers marking agreement with multiple targets (Aikhenvald 2003: 99–100).

or non-feminine, is a feature of North Arawak and Witotoan languages (Chapters 4 and 6). Gender choice in Kampa languages and in Ayoreo (§3.3 of Chapter 2 and §3 of Chapter 5) can be partly accounted for by mythological associations, along the lines of the Myth-and-Belief principle put forward by Dixon (2015: 29) in his discussion of gender choice in Dyirbal, an Australian language. Celestial bodies in Kampa are believed to be mythical people, and are assigned to masculine or feminine gender according to the sex of the entity. For instance, *kashiri* 'moon' in Perené is a mythical man, and the word belongs to masculine gender. Alternatively, gender can be assigned on the basis of morphological and phonological features of the noun, and only partly its semantics (see Aikhenvald 2004, and an earlier study in Corbett 1991, for examples from German and other European languages).

The degree of semantic motivation for gender choice varies. In quite a few Indo-European and Bantu languages, gender choice is semantically opaque, leading some scholars to claim that there is no semantic basis to it at all (cf. Meillet 1964, Trudgill 2007). The choice of gender in German is frequently cited as an example of a gender system where semantics plays no role. In a classic study, Zubin and Köpcke (1986) showed that this is not the case. There is indeed a complex semantic rationale for gender choice which depends on the semantic field the noun belongs to. Male and female adults of domestic and game animals are assigned masculine and feminine gender respectively—this demonstrates the correlation between the natural gender, or sex, and linguistic gender. Neuter gender is assigned to juvenile terms, and those not specified for sex. Masculine gender includes types of cloth, precipitation, and minerals. Disciplines and types of knowledge are assigned feminine genders; metals (except alloys) are neuter (further discussion is in Zubin and Köpcke 2009).

Semantic opacity is not an exclusive feature of gender. The choice of classifiers of other kinds can also be far from straightforward. The choice of most verbal classifiers in Cherokee is straightforward. The verbal classifier for 'compact items' is an exception: it subsumes abstract nouns and items not covered by other classes (Blankenship 1997: 93).

The choice of deictic classifier in Toba is largely transparent. It is determined by typical posture or orientation of the object (§2.2 of Chapter 7): humans and trees are classified as 'vertical', beds and snakes as 'horizontal', and smaller animals (such as capybara) and pots as 'sitting'. Stars, houses, and internal body parts are also categorized as 'sitting', possibly, based on an extension from 'sitting' position to permanence of the entity. Elements of the natural environment—forest or lake—are categorized as extended in space and thus 'horizontal'. The choice of a classifier can be partially explained—but is not fully predictable.

The classifier *-hon* in Japanese is another case in point (Matsumoto 1993: 676–8; §2.3 of Chapter 9, this volume). In its most common use, it covers saliently one-dimensional objects, e.g. long, thin, rigid objects such as sticks, canes, pencils, candles, trees, and processed fish. It also covers martial arts contests with swords (which

are long and rigid), hits in baseball, shots in basketball, judo matches, rolls of tape, telephone calls, radio and TV programmes, letters, movies, medical injections, bananas, carrots, pants, guitars, and teeth. It is never used with terms for snakes and worms. They are referred to with the classifier *-hiki* for living animates (§5.2–3 of Chapter 9). Such heterogeneity of meanings comes about through various processes of semantic extension and metonymy, possible to explain, but hard to predict.

Differences in the specific features of noun categorization devices point towards the fact that genders, on the one hand, and classifiers, on the other, do not form a dichotomy. This was previously demonstrated, and argued for, in Aikhenvald (2000, 2015, 2017). Gender is just one of seven types of categorization devices established so far, on an equal footing with each of the other six—numeral classifiers, noun classifiers, possessive classifiers, verbal classifiers, locative classifiers, and deictic classifiers.

3.6 Semantic parameters in noun categorization devices

What all the noun categorization devices share is their semantic basis. The universal parameters include humanness, animacy, shape, dimensionality, consistency, and directionality. At the same time, different devices have their semantic preferences.

Gender systems typically have sex, humanness, and animacy as their major semantic features. Noun classifiers tend to have generic meanings categorizing the referent in terms of its social status and function. Numeral and verbal classifiers tend to categorize the referent by shape and directionality. Possessive classifiers tend to reflect generic-specific relations and are chosen based on the nature of the possessed noun. Locative classifiers combine reference to physical properties and orientation of the referent (and may include animacy). Deictic classifiers tend to be chosen based on orientation, directionality, and shape, and also animacy of the referent. These preferences are summarized in Table 3 (adapted from Table 11.4 in Aikhenvald 2017).

Table 3. Preferred semantic parameters in noun categorization devices

Device	Typical semantics
genders	animacy, humanness, physical properties, rarely nature or function
noun classifiers	social status, functional properties, nature
numeral classifiers	animacy, humanness, physical properties, nature, rarely functional properties
verbal classifiers	physical properties, orientation, rarely animacy, nature
possessive classifiers	physical properties, nature, animacy, functional properties
locative classifiers	physical properties, orientation, rarely animacy
deictic classifiers	orientation, dimensionality, shape, animacy

Physical properties recurrent in noun categorization devices cover shape, size, consistency, and dimensionality. Temperature as a physical property is never used as a parameter in noun categorization. Categorization by colour appears to be extremely rare. A possible exception is a colour-based classifier in Satipo Ashaninka *-kamara* 'classifier for cinnamon-coloured objects' ((23) in Chapter 2).

Value is rarely encoded within the system of noun categorization devices. Northern Kampa languages are unusual in having a classifier with purely evaluative meanings (used in multiple contexts: see §4), e.g. the classifier *-shiteki* 'devalued, rag-like' in Alto Perené (in (22) of Chapter 2). Some Oceanic languages have a relational or a possessive classifier with the meaning of 'valuable possession' (e.g. Raga: Lichtenberk 1983: 154). The Lolovoli dialect of the Northeast Ambae has a special possessive classifier *bula-*, covering animals, crops, and especially valuable possessions, e.g. objects of adornment (Hyslop 2001: 178–80).

Shape-based classifiers can develop negative overtones. For instance, the shape classifier *-peta* 'flattened, flaccid fruit', 'deflated hanging pouch' in Satipo Ashaninka has a negative meaning of 'devalued, useless' ((23) and (25) in Chapter 2). The classifier *-tek* 'skin' in Shiwilu has developed deprecatory meaning and can refer to something ugly and bad in quality (§3.3.4 of Chapter 3).

Similarly, value, speaker's attitude, and importance can be encoded through linguistic gender. In Palikur, males belong to the masculine gender and females to the feminine gender. In addition, masculine gender is associated with ugly things, and feminine gender with small and cute ones. Rats are assigned to the masculine gender because they are looked upon as dirty and harmful. But a cute little baby rat will be referred to as feminine (Diana Green, p.c.; further examples in Aikhenvald 2016: 44–51).

In its standard use, the Japanese numeral classifier *-hiki* refers to small animate beings, including fish, insects, and worms (see Jarkey and Komatsu, §5.2 of Chapter 9). The classifier was metaphorically applied to actors performing the traditional Japanese art of *kabuki* in the early Edo period (1603–73). Referring to a member of the profession as *yakusha ip-piki* (actor one-NUM.CL:SMALL.ANIMATE) reflected the lowly status of *kabuki* actors, and became standard usage in official documents at the time. This use of *-hiki* is now standard. In the modern language, this classifier can be used in non-standard ways with reference to humans, giving the impression of disdain and lack of value ((31)–(32) in Chapter 9): three people who do not live up to the expectations of adult behaviour are referred to with *-hiki*. The classifier effectively downgrades people to the status of non-human animates, and has overtones of 'not intelligent', 'small' and 'not civilized'. Depending on the context, however, the same classifier may have an opposite meaning of endearment, pride, and affection. This is what we see in a description of three delightful croissants rising together in the oven ((30) in Chapter 9). The exact overtones can only be understood within the context—this is what makes classifiers a flexible and creative device.

All noun categorization devices can be used creatively, to highlight special features of a referent, and the speaker's attitude to it. We return to this in §5.

4 Multiple classifier languages

The same set of forms for noun categorization devices may appear in several contexts, creating a MULTIPLE CLASSIFIER system. In Tariana, a North Arawak language, we find the same classifier morpheme used with (i) a demonstrative modifier, (ii) a number word, (iii) an adjective, (iv) a noun itself, and (v) on a possessive modifier.

Example (20) illustrates all these contexts. It comes from literacy materials compiled by speakers of Tariana (see also Table 3 in Chapter 4).

(20) ha-**dapana** pa-**dapana** di-tape-**dapana** *Tariana*
that-CL:HOUSE one-CL:HOUSE 3sgnf-medicine-CL:HOUSE
hanu-**dapana** wa-ya-**dapana**-nuka
big-CL:HOUSE 1pl-POSS-CL:HOUSE-PRESENT.VISUAL
'That one hospital (lit. medicine house) is ours.'

Multiple classifier systems vary in the contexts where classifiers are required. Many Kampa (Arawak) languages of Peru employ the same classifier forms with number words, verbs, adjectives, and on nouns themselves, as noun classifiers (Chapter 2 of this volume, Mihas 2017, and also Michael 2008: 332, on Nanti). In White Hmong, classifiers are used with demonstratives, number words, and in possessive constructions (Chapter 8). In Shiwilu, the same set of classifiers is used with number words, demonstratives, nouns, adjectives, and verbs (§3 of Chapter 3). In Murui, a Witotoan language, classifiers are used on number words, adjectives, nouns, pronominal possessives, and demonstratives; Mika, from the same family, also uses classifiers on verbs (§3 of Chapter 6). One classifier environment in a multiple classifier system can be historically older than another one—we return to this in §6.

Multiple classifier systems can involve further contexts. In Murui, Tariana, Baniwa of Icana, and a few other languages (e.g. Anamuxra: Ingram 2003, and Omaha-Ponca: Rankin 2004: 216–17) classifiers also occur on interrogative modifiers. Classifiers in Shiwilu can occur with personal pronouns ((26)–(28) in Chapter 3; and similar examples from Tariana there). However, no language has been found so far with a special kind of noun categorization restricted to just interrogatives, or just personal pronouns.

The existence of languages with 'multiple' classifiers in many contexts points towards the intrinsic unity of noun categorization devices as a linguistic phenomenon.

5 The utility of noun categorization devices

Noun categorization devices are never semantically redundant. They often serve to tease apart distinct meanings of a polysemous noun. Anything to do with water, or a waterway, in Tariana is referred to with the polysemous word *uni* 'water, waterway'.

Classifiers help distinguish a lake, *uni hanu-nai* (water big-CL:LAKE) 'big lake', from a bay, *uni hanu-dawa* (water big-CL:CORNER) 'big bay' (see Table 7 in Chapter 4). Along similar lines, 'river' in Burmese can be viewed as a place, as a line on a map, or a sacred object: each of these meanings is expressed through using different classifiers on a number word (see Becker 1975).

Deictic classifiers in Toba also help distinguish different meanings of the same form. The noun *waGayaGa* 'fox' occurs with the deictic classifier *ñi* 'tridimensional' used to refer to animals. The same form *waGayGa* is applied to the kind of fish *Charex leticiae* whose mouth is similar to that of a fox. But, unlike the fox, the fish is referred to with the deictic classifier *zi* 'horizontal' ((27a-b) of Chapter 7; similar examples from Baniwa of Içana are in (11)-(12) in Chapter 4, and §3.3.5 of Chapter 3).

Using different numeral classifiers in Munya helps highlight different features of the noun, and thus has a pragmatic effect. Crops can be referred to with the classifier for plants—the connotation then is that the crops are growing fine. Or they can be referred to with the classifier for long objects—the connotation is that they are not growing as well as expected and may not yield a good harvest (§2.2.1 of Chapter 10). Classifiers do not necessarily provide information additional to the noun (contrary to Bisang 2017: 224). Rather, they may foreground a property of the object.

A classifier can be used creatively, to highlight a property of a person or an object. This is how the classifier *-hiki* 'small living animates' can be used in Japanese to refer, in a somewhat jocular way, to people who do not live up to the normal expectations (§5.1–2 of Chapter 9, and §3.6).

Noun classifiers help expand the lexicon. The noun *yera* 'tobacco' in Murui can combine with a dozen classifiers, creating terms for various items associated with tobacco. So, *yera-fo* (tobacco-CL:CAVITY) means 'tobacco container with a hole', *yera-ko* (tobacco-CL:COVER) means 'round tobacco container', and *yera-rui* (tobacco-CL:DAY) means 'the day when tobacco is sent out' (see (9) in Chapter 6, and similar examples in §4.3 of Chapter 2, §3.3.1 of Chapter 3, and §6 of Chapter 4).

The presence of classifiers may correlate with the lack of a semantic subclass of adjectives. Tariana and Baniwa of Içana have multiple classifiers many of which are based on shape and form. There are no adjectives referring to shape: classifiers do the job. Tariana has no adjective meaning 'long': instead, one uses the classifier *-pi* 'long object', e.g. *panisi hanu-pi* (house big-CL:LONG) 'a big long house' (§6 of Chapter 4). Classifiers in Shiwilu encode shape and size; for instance, the classifier *-la* 'seed' can indicate small roundish shape (further examples of such 'adjective-like' functions of classifiers are in §3.3.4 of Chapter 3).

Classifiers can individuate parts of an object. In (24), from Alto Perené, the classifier *-tsa* 'curvilinear objects' refers to individual threads of a piece of nylon material (§4.1 of Chapter 2). Similar examples are in §6 of Chapter §4.

All noun categorization devices can be used anaphorically, to refer to something or someone mentioned previously, or obvious from the context. This has been described

for numeral classifiers in Vietnamese (e.g. Daley 1998: 60–3) and Japanese (Downing 1996: 159–91 and Chapter 9 of this volume), and many other languages with other systems of classifiers (see (28), from Ashaninka, in Chapter 2; §3.3.3 of Chapter 3, on Shiwilu; §6 of Chapter 4 on Tariana and Baniwa of Içana; §7.2 of Chapter 5, on Old Zamuco; §5 of Chapter 6, on verbal classifiers in Mika, and §3 of Chapter 7, on Toba).

If the context is clear enough, there may be no need to mention the noun at all: a classifier will help keep track of what is being talked about. Verbal classifiers in Innu can replace an argument or an oblique which is recoverable from the context (see Drapeau and Lambert-Brétière 2011: 306–11; see also §2.2 of Chapter 2, and §3.3.3 of Chapter 3). Classifiers in Murui often occur on their own, without the mention of an overt noun (§2 of Chapter 6; a similar usage in White Hmong is described in §1.4 of Chapter 8). Boat journeys to the Tariana-speaking villages used to last for several days. In our discussions of placenames and names for landmarks, encountered classifiers outnumbered full nouns in a ratio of about twenty to one.

Classifiers can have further pragmatic overtones. In White Hmong, and also in Vietnamese they correlate with definiteness and referential salience of an object (see Chapter 8). In Vietnamese, if a referent is to be further deployed in the narrative, it has to occur with a classifier at its first mention (Daley 1998; Thurgood 2001).

The utility of classifiers goes hand in hand with their frequency in discourse. Thiesen and Weber (2012: 163) state that, in Bora, approximately four out of every ten words bear a classifier. According to Mihas (Chapter 2), on average there is a classifier every 4.72 sentences in Matsigenka, and one every 8.5 sentences in Alto Perené Ashéninka, both from the Kampa subgroup of Arawak. The ratio 1/10 in terms of token frequency for nouns compared with classifiers has been calculated for a corpus of narratives in Tariana and Baniwa of Içana.

Noun categorization devices are amenable to language engineering, and may reflect social changes and attitudes. Following an order of King Mongkut issued in 1854 with regard to classifiers in Thai, 'noble' animals such as elephants and horses should be counted without any classifier; the classifier *tua* could only be used for animals of a 'lower' status (Juntanamalaga 1988).

The choice of numeral classifiers in Maonan, a Tai-Kadai language spoken in China, reflects the changing place of women within the society. Similarly to a number of languages of South-east Asia, women used to be counted with the classifier *tɔ²,* which also subsumes animals and children. Respected women were typically counted using the human classifier *ʔai¹* (NUM.CL:HUMAN). At present, all women who have a professional status are referred to with the 'human classifier'. The choice of the human classifier can also be used as a token of a person's status, and their maturity. Children are typically referred to with the animal classifier *tɔ²*. This applies to primary school pupils, as in *sa:m tɔ² la:k⁸fia:k⁸* (three NUM.CL:ANIMAL pupil) 'three pupils'. But college students will be referred to with *ʔai¹*, e.g. *ŋɔ⁴ ʔai¹*

ta^{4}*jɔŋ*^{5} (five NUM.CL:HUMAN college.student) 'five college students' (Lu 2012: 83–4, 101–2, 119–21).

Classifiers can reflect the ways in which people live, and how they relate to each other. River-dwelling peoples, such as the Tariana and Baniwa of north-west Amazonia, have classifiers for canoes. Classifiers in Korean and many South-East Asian languages reflect kinship relationships and social hierarchies. The meanings, and the uses, of nominal classification systems provide a unique insight into how the world is categorized through language.

All classifiers discussed above relate to a property of nouns. Verbal action markers—sometimes referred to as verbal action classifiers or even verbal classifiers—are rather different phenomena.

In a number of Tibeto-Burman and South-East Asian languages, verbal action markers occur with number words and categorize the action in terms of its frequency, time duration, and manner. Verbal action markers in Newari, a Tibeto-Burman language, appear on a number word in the same slot as classifiers used to categorize nouns (Bhaskararao and Joshi 1985: 18). In (21), the number word *ni-* 'two' is used with the numeral classifier *-pu* 'thin and long object' (Bhaskararao and Joshi 1985: 18; 25).

(21) **ni-pu** peti *Newari*
two-CL:LONG.THIN belt
'two belts'

In (22), the verbal action marker *dhu:* 'times' occurs with the same number word, indicating the number of times the event has occurred.

(22) ni-dhu: wAlA *Newari*
two-VERBAL.ACTION.MARKER:TIMES came
'(Somebody) came twice.'

Along similar lines, verbal action markers in Munya occur in the same slot on a number word as a classifier would. But rather than categorizing a noun, they refer to the number of times the activity is performed (§4 of Chapter 10). Verbal action markers in Ersu, a Tibeto-Burman language from China, cover frequency, degree, and duration; they occupy the same slot as a numeral classifier (Zhang 2016: 408–44; see also Wang and Zheng 1993: 49–50 on Mulao, a Tai-Kadai language, and Haas 1942: 205 on Thai, and §3.3.2 of Chapter 8 of this volume, on White Hmong).[7]

[7] An overview of the phenomenon in a selection of languages from East Asia is in Gerner (2014). Gerner makes a distinction between verbal action markers (which he calls 'verb classifiers') and classifiers used on verbs to categorize nominal arguments which he misleadingly confuses with noun incorporation. Incorporated nouns can historically develop into verbal classifiers, but not all verbal classifiers come from incorporated nouns (as has been demonstrated in Aikhenvald 2000: 149–71, Aikhenvald and Green 2011, and Chapters 2 and 4 of this volume).

The number words *da-* 'one' and *mena-* 'two' in Murui, a language with classifiers in multiple contexts, occur with the frequency marker *-kaño* 'times' in the classifier slot, forming *da-kaño* 'once' and *mena-kaño* 'twice' (Wojtylak 2017: 148–9). The form *-piu* 'times' in Tariana and *-pia* in Kurripako (Bezerra 2012: 57) behave in a similar fashion: they accompany a number word or a quantifier in the slot normally occupied by a classifier. Examples from Kurripako are *apa-pia* (one-TIME) 'once', *yama-pia* (two-TIME) 'twice', *madali-pia* (three-TIME) 'thrice', *kadali-pia*? (how.many-TIME) 'how many times?'. A classifier in the same slot with the quantifier 'how many' is illustrated by *kadali-ma inaithepe* (how.many-CL:FEM women) 'how many women?' (Bezerra 2012: 31; examples of classifiers in Baniwa of Içana-Kurripako are in §3 of Appendix 2 to Chapter 4, this volume).

'Event counters' in Japanese, such as *-kai* 'times' in *san-kai* 'three-times', are similar to verbal action markers: they supply information about the number of actions and occur in the same slot as a numeral classifier. And numeral classifiers in Japanese can go beyond categorizing nouns. The classifiers *-hon* 'long thin things or events that involve a trajectory (such as baseball hits, telephone calls, and movies)' and *-hatsu* 'explosive events, bullets, or bombs' categorize both objects and actions (§2.3 of Chapter 9). Classifiers such as *-ken* 'incidents and cases', *-rei* 'bows (involving bowing during worship at a shrine)', and *-han* 'crimes' are used to categorize just actions or events (§2.3 of Chapter 9).

The overlap between numeral classifiers for actions and for objects points towards a common basis for categorization across word classes. It appears, however, that this overlap is limited just to numeral classifiers in large systems (such as Japanese). So far, no system has been described in which noun classifiers or possessive classifiers would categorize a noun and an action within the same language.

6 The origins and development of noun categorization devices

Noun categorization devices may be archaic, or may have developed relatively recently. The two genders, masculine and feminine, in Arawak languages are of fair antiquity and can be reconstructed to the proto-language (see Chapters 2 and 4). In some subgroups of North Arawak languages, classifiers developed independently; in others they did not develop at all. Low frequency of classifiers in Shiwilu texts points towards their relatively recent origin (§6 of Chapter 3).

Some numeral classifiers in Munya (Chapter 10) originate in nouns. So do classifiers in multiple functions in Murui, Shiwilu, and North Arawak languages (see also (10), for a noun classifier with an obviously nominal origin in Minangkabau). However, nouns are not the only source of classifiers (see Aikhenvald 2000: 362–3). Deictic classifiers in Guaycuruan languages, including Toba (Chapter 7), come from positional verbs (Ceria and Sandalo 1995). Classifiers in multiple functions in Kampa languages come from a variety of bound nominal and verbal roots (§4.1 of Chapter 2). This qualifies Mithun's (1986: 388) suggestion that 'all classificatory stems begin life as nouns'.

Genders stand apart from other noun categorization devices in that their exponents can originate from pronouns (see Aikhenvald 2016: 76–82, and further references there). Bound noun roots—used as agreement markers within a noun phrase or incorporated into the verb—appear to have given rise to classifiers in Arawak languages (including North Arawak and Kampa, discussed within this volume) and also in Shiwilu.

If a language utilizes the same set of classifiers in more than one environment, one classifier environment can be historically older than another. Classifiers in possessive constructions in Cantonese may be considered a later development as a result of Hmong-Mien influence (Matthews 2006: 231–2). Classifiers with demonstratives in Tariana developed relatively recently due to Tucanoan influence as the people moved to the Vaupés River Basin linguistic area. This environment is absent from closely related North Arawak languages (Aikhenvald 2007, Chapter 4 of this volume).

In the history of languages, a frequently used combination of a classifier with a noun can acquire a conventionalized meaning. Temporal expressions in Murui often consist of a fixed combination of a demonstrative with a classifier, e.g. *bi-rui* (this-CL:DAY) 'today', *jiai-mona* (other-CL:SEASON) 'next year' (Wojtylak 2017: 149). Noun classifiers in Shiwilu form part of established placenames 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' ((48) in §4.1 of Chapter 3) (similar examples from Tariana are in §6 of Chapter 4).

We can recall from §1 that verbal classifiers of all sorts tend to occur with transitive verbs of affect and induced position, categorizing the noun in S or O function in terms of its shape and other inherent properties. Combinations of a verb stem with a classifier referring to the typical object or a typical location may come to be frequently used, so much so that, over time, they form one lexical items. This process has been described for some verb-classifier combinations in Innu, an Algonquian language (see §1, and Drapeau and Lambert-Brétière 2011: 301). Verbal classifiers in Murui followed a similar path. But in contrast to Innu, all combinations of verbs with classifiers in Murui have become fully conventionalized. As a result, the erstwhile verbal classifiers now occur as optional formatives on a few verbs implying direct effect on the object. Verbal classifiers are still productive in the related Miika—which reflects an earlier stage. None of the neighbouring languages have verbal classifiers. Language contact may have played a role in the demise of verbal classifiers as a productive noun categorization device in Murui.

Numeral classifiers may develop additional, non-classificatory functions. In Munya, the number word 'one' in combination with the general classifier can be used as a degree adverb 'a little' (§3.4 of Chapter 10), or as a complementizer (§3.6 of Chapter 10). Combinations of 'one' with erstwhile classifiers gave rise to indefinite pronouns (§3.5 of Chapter 10).

The spread and development of noun categorization devices is often due to areal diffusion. Classifiers in the languages of Lowland Amazonia are found in

geographically contiguous zones (see Aikhenvald 2012: 300–3). We find languages with complex systems of noun categorization devices in north-west Amazonia spanning adjacent regions of Brazil, Colombia, and adjacent regions of Venezuela, and from north-eastern to central Peru. Many of the languages with multiple classifiers discussed in this volume are spoken within these regions—Murui in Colombia, Tariana in Brazil, Baniwa of Içana-Kurripako in Brazil, Colombia, and Venezuela, Shiwilu and Kampa languages in Peru (see also §5 of Chapter 2). Possessive classifiers are shared by the languages of the Chaco region, among them Zamucoan. Agreement in gender on possessive classifiers is an unusual feature Zamucoan languages share with some of their neighbours (§8 of Chapter 5).

Complex histories of noun categorization devices in various languages reflect the histories of their speakers. The meanings, and the uses, of genders and of classifiers provide a unique insight into how the world is categorized through language.

7 About this volume

The aim of this volume is to learn more about diverse means of noun categorization, their forms, meanings, and development. The nine contributions to the volume address noun categorization devices in the regions of their major concentration and diversity, for languages of different affiliations and different typological profiles.

The first six chapters focus on languages of South America. We start with the languages of Lowland Amazonia, known for their complex systems of genders and classifiers. Chapter 2 'Genders and classifiers in Kampa (Arawak) languages of Peru', by Elena Mihas, provides a comprehensive analysis of noun categorization devices in this subgroup, focusing on the small gender system and a large system of classifiers in multiple contexts. Shiwilu is a member of the small Kawapanan language family, from Peruvian Amazonia. Its closed set of about twenty classifiers is the focus of Chapter 3, 'Classifiers in Shiwilu (Kawapanan): Exploring typologically salient properties', by Pilar Valenzuela. In Chapter 4, 'A view from the north: Genders and classifiers in Arawak languages of north-west Amazonia', Alexandra Aikhenvald discusses co-existing systems of genders and classifiers of various types in a number of Arawak languages from the Upper Rio Negro basin—the major locus of linguistic diversity within the family.

The next three chapters focus on individual types of classifiers. In Chapter 5, 'Possessive classifiers in Zamucoan', Luca Ciucci and Pier Marco Bertinetto analyse a complex system of possessive classifiers and a system of two genders across the three languages of the family—Ayoreo, Chamacoco, and the extinct Old Zamuco. The fate of verbal classifiers in the languages of the 'Witoto' dialect continuum in Colombian Amazonia, with classifiers in multiple contexts, is the topic of Chapter 6, 'The elusive verbal classifiers in "Witoto"', by Katarzyna Wojtylak. In Chapter 7, 'Multifunctionality of deictic classifiers in the Toba language (Guaycuruan)', Cristina Messineo and Paola

Cúneo offer an analysis of semantic and morphosyntactic properties of deictic classifiers in the language and the ways in which they are used in different genres of discourse.

The last three chapters focus on classifier systems in the languages of Asia. In Chapter 8, 'Classifiers in Hmong', Nathan M. White discusses classifiers in multiple environments in White Hmong, exploring the differences in their use with nouns, number words, and in possessive constructions. In Chapter 9, 'Numeral classifiers in Japanese', Nerida Jarkey and Hiroko Komatsu offer a comprehensive overview of numeral classifiers in Japanese, addressing their generally obligatory character, the options for their omission in specified environments, and their metaphorical and creative uses which reflect subjective attitudes and social values. In Chapter 10, 'Numeral Classifiers in Munya, a Tibeto-Burman language', Junwei Bai explores noun categorization in a previously undescribed Tibeto-Burman language spoken in Sichuan province in China, with a special focus on how classifiers can develop other, non classificatory, uses.

All noun categorization devices—despite their differences—reflect a single phenomenon: the ways humans classify objects through language. Noun categorization devices reflect common cognitive mechanisms and common semantic features, mirroring different cultural experience of their speakers. This volume offers new insights into the range of noun categorization devices in their diversity, exploring their historical development, histories, areal diffusion, manipulations in discourse, and creative use. The studies within this volume, all based on extensive firsthand data and analyses, will further refine our understanding of noun categorization devices across the world.

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