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The world through the prism of language: social context and cognitive patterns in gender and classifiers

O mundo através do prisma da linguagem: contexto social e padrões cognitivos em gênero e classificadores

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Abstract

Semantic categorization of nouns — which is reflected in gender and classifiers — relates to cultural conventions and environment. We also address the correlations between the use of classifiers and newly introduced cultural practices. The meanings of gender may have additional overtones of social value. Gender — particularly as it is assigned to humans — is prone to reflect the stereotypes associated with social gender — the societal implications and norms associated with being a man, or a woman, or a representative of further, gay, transgender, and other groups. Similarly, the use of a numeral classifier referring to humans may correlate with social gender, mirroring the woman's place in society and social changes. Numeral classifiers for humans in languages of East and South-east Asia reflect the societal organization. Highly specific classifiers reflect environmental traits and people's ways of life. Semantic features encoded in gender and classifiers offer a unique insight into the human mind, and reflect perceptual and cognitive mechanisms shared by humans.

Keywords: classifiers; gender; meanings; categorization; cognition.

Resumo

A categorização semântica de nomes — que se reflete no gênero e nos classificadores — relaciona-se com convenções culturais e o ambiente. Nesse artigo, abordamos as correlações entre o uso de classificadores e práticas culturais recentemente introduzidas. Os significados de

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gênero podem ter conotações adicionais de valor social. O gênero — particularmente quando atribuído a seres humanos — tende a refletir os estereótipos associados ao gênero social — as implicações e normas sociais associadas a ser homem, mulher ou representante de outros grupos, como gays, transgêneros e outros. Da mesma forma, o uso de um classificador numeral referente a seres humanos pode estar correlacionado com o gênero social, como reflexão do poscionamento da mulher na sociedade e as mudanças sociais. Classificadores numerais para seres humanos em línguas do Leste e Sudeste Asiático refletem a organização social. Classificadores altamente específicos refletem características ambientais e os modos de vida das pessoas. As características semânticas codificadas no gênero e nos classificadores oferecem uma visão única da mente humana e refletem mecanismos perceptivos e cognitivos compartilhados pelos seres humanos.
Palavras-chave: classificadores; gênero; semântica; categorização; cognição.

1 Noun categorization devices: a preamble

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 South-East 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.[2]

[2] For the typological framework adopted here and a summary of previous work on classifiers and gender, see Aikhenvald (2003, 2019, 2025, forthcoming).

2 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 realised 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) and (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.

(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.

(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 involves 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 categorising 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 (3) – (5) illustrate numeral classifiers in Indonesian (Sneddon 1996: 134-8). In (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'.

(3)	dua	**orang**	guru	*Indonesian*
	two	NUM.CL:HUMAN	teacher	
	'two teachers'			

In (4), the noun *ikan* 'fish' refers to an animate non-human entity. The classifier *ekor* for non-human animates has to be used.

(4)	dua	**ekor**	ikan	*Indonesian*
	two	NUM.CL:ANIMATE	fish	
	'two fishes'			

In (5), the noun *pena* 'pen' refers to an inanimate object. The classifier *buah* for inanimates is used here.

(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 south-east Asia, Japanese and Korean, and numerous languages of Oceania, North and South America, and India (see Aikhenvald 2025 on their distributions, and references there).

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 (6) (Dixon 1982: 192, 2015: 44-60).

(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.

A CLASSIFIER IN A POSSESSIVE CONSTRUCTION will categorise the way in which the referent of a possessed noun will relate to the possessor. In (7), from Standard Fijian, an Austronesian language, the classifier *me-* categorises 'kava' (a local fermented beverage) as a drinkable item. Example (7) describes kava as a drink (Lichtenberk 1983: 157-8).

(7)	na	**me**-qu	yaqona	*Standard Fijian*
	ART	POSS.CL:DRINKABLE-1sg	kava	
	'my kava' (kava for me to drink)			

In (8), the classifier *no-* categorises 'kava' as general possession — something I grew or intend to sell.

(8)	na	**no**-qu	yaqona	*Standard Fijian*
	ART	POSS.CL:GENERAL-1sg	kava	
	'my kava' (kava for me to grow or to sell)			

Classifiers in possessive constructions typically form a closed class of bound morphemes. They are a feature of numerous Austronesian languages, and a few languages of South America. Further classifier types include verbal classifiers which occur on the verb and categorise its core argument and sometimes also an instrument or a location, in terms of its shape, consistency, or animacy, and can be fused with the verbal root, yielding 'classificatory verbs' — a feature of Athabaskan and other languages of North and South America, and also of New Guinea, and also rare types deictic and locative 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 §2. 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 §3. The final section contais a brief summary.

2 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.[3]

[3] Gender and classifiers are indicative of integration points between language and society (within a general framework and further examples in Aikhenvald et al. 2021: 8-10), and can be considered tokens of language ecology (along the lines of Haugen 1972).

2.1 Social environment in gender and classifiers

Elaborate systems of classifiers for humans reflect social categories and social hierarchies. 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, an Indo-Aryan language, are shown in Table 1 (Borah 2013: 301).

Table 1 Numeral classifiers for humans in Assamese

Classifiers	Meaning
zanā	deities/saints (female/male)
garāki	humans highly respected by society (female/male)
zan	humans respected by society (male)
zani	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 categorises 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 2019).[4] Further examples come from the numeral classifier system in Korean (Lee 2014), and of noun classifiers in Akatek and in Jacaltec, Mayan languages (Zavala 2000, Craig 1986: 266-7; Hopkins 2012).

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 classifiers were given in a descending hierarchical order shown in (9) (see also Diller 1985: 64, 72).

[4] See Becker (1975: 116-117) on traditional belifs and scial 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.

(9)	classifier	example referents
	ʔ*oŋ*	high royalty, monks
	Thairûup	monks
	thân	lower royalty, high officials
	naay	individuals slightly above the common people in rank or position
	khon	ordinary people

A further classifier, *phráʔo*ŋ (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 (9) 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 2007: 113-115). 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 *khon2* '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 *nãay* is used for policemen (Lu 2012: 111-112, and Enfield 2004).

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: 112-114). Humans in Zhuang are classified by their age and gender. The set of classifiers for human referents in Zhuang is in Table 2.

Table 2 Classifiers for humans in Zhuang

meaning		classifier	example referents
ordinary human		*pou*^{4}	doctor, blacksmith, officer, general, student, teacher, etc.
male	young	*tak*^{8}	boy, young man, son, unmarried male
	old	*kɔŋ*^{1}	(male) policeman, (male) officer, (male) law court judge, (male) professor, elderly male
female	young	*ta*^{6}	girl, daughter, female singer, unmarried female
	old	*me*^{6}	(female) fortune teller, (female) vendor, (female) tailor, married female
unpleasant		*ʔdak*^{7}	unpleasant male
despicable		*ʔai*^{1}	despicable person
affectionate		*tu*^{2}	lovely child

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).

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 *chuâak.* This comes from the noun 'rope', going back to a nineteenth century expression for 'elephant lasso' (Juntanamalaga 1988: 320). Wild elephants are categorised with the classifier *tua* which subsumes animals, ghosts and, by extension, clothes, furniture and other items. An example is in (10).

(10) 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 autoclassifier), as *cháa*ŋ 'CL.REP:ELEPHANT' in (11) (Burusphat 2007: 122, Diller 1985: 65 and p.c., Juntanamalaga 1988).

(11) cháaŋ sǎam **cháa**ŋ *Thai*
elephant three CL.REP:ELEPHANT
'three (royal) elephants'

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 (see Carpenter 1987: 47). Without the knowledge of the shape of traditional Thai manuscripts, the assignment of the classifier *lem* in Thai would be incomprehensible. As Carpenter (1987: 47) put it, 'the missing link [between the two groups of meanins] is the traditional Thai book which was written on long strips of palm fiber, shaped much like a knife blade'. 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 creatrure. 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 (1603-1673), 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. The classifier use reflects the history of the attitudes to performing arts, and thus social environment.

Classifiers in possessive construction often encode kinship relationships, Classifiers in Pohnpeian also reflect the social status of the speaker and of the addressee (see 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.chieftess)'. In contrast, 'humiliative' or status lowering speech is characterised by neutralisation 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. 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 (for more on this, see Aikhenvald 2012).

Meanings of linguistic genders reflect the social aspects of gender roles (see Aikhenvald 2019: 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'.[5]

[5] Further discussion and examples of social inequality reflected in gender choice, and

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. Feminisation 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 recognised 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 (for more on this, see Voelkel and Aikhenvald forthcoming).

2.2 Reflecting the world of the speakers

Every type of classifiers 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 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 3 (Gruzdeva 2004).

language planning efforts counteracting sexism in language, across European languages are in Aikhenvald (2019: 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 2019: 185-205).

Table 3 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 fishspears	
-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 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 4.

Table 4 Specific mensural classifiers in Traditional Nivkh: a selection

Classifier	Referents covered
*-qos/-ğos/-*ğyš	special twigs with smelt (a type of small fish) strung on them
-ŋaq/-ŋyq	twigs with smelt strung on them
-r/ar/-arʈ	bundles of slices of dry salmon
-ŋaq*/rŋaq*	bundles of dried smelt
-fat/-fyt	cords of hooks

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. 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,

Murinhpatha (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 1986: 267) and Akatek (Zavala 1992: 152). In each case, specific classifiers assigned to to a narrow class of referents, and unique classifiers assigned to just one highlight what is important for the culture of the speakers' community.

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).

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 (see also Ciucci and Bertinetto 2019, on similar distinctions in the languages of the Chaco area in Bolivia and Paraguay). Classifiers in possessive constructions in Nêlêmwa reflect what is important for the people in their interactions with the outside world — singling out pets, seedlings, and prey (see Bril 2014: 70; 2002: 365-7).

Traditionally, the Murui lived along small rivers and streams separated by the mixed terrain of the rainforest (Wojtylak 2021: 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', *ri̵* '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 2021).

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 2019: 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 2012).[6] The awareness of gender and classifiers, and their indexicality in determining speakers' identity, status and proficiency, correlate with the role of gender and

[6] A fascinating example of socio-cultural motivation behind deliberate 'errors' in noun class choice in from Wolof, a West Atlantic language further underscores speakers' awareness of noun class and their conscious manipulation (Irvine 1978, Aikhenvald 2003: 348).

classifiers in conscious language manipulation, language engineering, and prescriptive tendencies.

We now turn to more general aspects of noun categorization — how they reflect universal perceptual and cognitive categories and mechanisms shared by humans.

3 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 1992: 201-7). These are the parameters always present in noun categorization. Humanness, animacy and sex are essential for gender choice (Aikhenvald 2025: 231). Shape and dimensionality is basic for numeral classifiers: the presence of parameters such as size, boundedness, interioricity, consistenency, composition and constitution, and also arrangement is contingent on the existence of classifiers whose choice is determined by shape (see Aikhenvald 2025: 255-6)

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 categorisation 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 Aikhenvald 2025: 228).

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: 460-461). 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 categorisation via classifiers.[7] According to Rosch (1975a), colour is not predictive of other attributes, and thus is a relatively inconsequential attribute for categorisation 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 categorisation. 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 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

[7] 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: 134-135). For the psycholinguistic reality of noun categorisation in cognition see Carroll and Casagrande (1958) and the discussion of experimental results in Lucy (1992: 201-207), and Rosch (1987).

categorisation systems — especially the ones in noun classifiers in Mayan, Austronesian, and Australian languages — reflect cognitive mechanisms behind human categorisation and classification of the world. They result from setting up classes of objects, or persons, subsuming the relevant categories.

Basic level of categorisation 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 categorisation where social status is a kind of functional categorisation. 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 conventionalised 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 to 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 §2.2) 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 explaning why human languages categorise 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'.

4 To conclude

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 the general tendency across languages — that no language will have specific classifiers without classifiers based on more general semantic features (Aikhenvald 2025: 246).

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.

Abbreviations

art	article	masc	masculine
art.def	definite article	NOUN.CL	noun classifier
cl	classifier	NUM.CL	numeral classifier
cl:rep	repeater classifier	POSS.CL	possessive classifier
fem	feminine	sg	singular

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