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**“Classifiers”**

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## **Introduction**

Classifiers and noun classes are basic kinds of noun categorization devices. They fall into several subtypes depending on the morphosyntactic context of their

realization; for instance, numeral classifiers appear in numerical expressions, possessive classifiers in possessive constructions, noun classifiers within a noun phrase, verbal classifiers on a verb or a predicate, and locative classifiers within a locative expression. They are restricted to constructions that require the presence of a particular kind of classifier morpheme whose choice is dictated by the semantic characteristics of the referent. The continuum of noun categorization devices is broad: from large sets of lexical numeral classifiers in the languages of Southeast Asia to the highly grammaticalized systems of noun classes in Bantu languages and of genders in Indo-European (see Genders and Noun Classes). They have a similar semantic basis, and one can develop from the other. There has been a considerable amount of literature over the years on individual classifier types, especially numeral classifiers, with a focus on languages of Southeast Asia, and on noun classes, with less attention paid to other types.

## Monographs

Aikhenvald 2003 is the only book-length comprehensive analysis of all types of classifiers worldwide, focusing on their semantics, use, discourse functions, history, acquisition, and dissolution. Corbett 1991 addresses genders and noun classes, focusing on European, Caucasian, and some African languages. Royen 1929 is a pioneering attempt at a cross-linguistic study of noun categorization devices. Kilarski 2013 offers a comprehensive history of studies of classifiers in Western linguistics.

Aikhenvald, Alexandra Y. 2003. *Classifiers: A typology of noun categorization devices*. Oxford: Oxford Univ. Press.

A comprehensive analysis of noun categorization worldwide, covering noun classes, noun classifiers, numeral classifiers and verbal classifiers, and classifiers in possessive constructions. Based on investigation of five hundred languages from every part of the world, it also focuses on several classifier types and multiple-classifier languages (where the same morpheme occurs in several classifier contexts). Originally published in 2000.

Corbett, Greville. 1991. *Gender*. Cambridge, UK: Cambridge Univ. Press.

A comprehensive investigation of gender and noun class systems, largely limited to languages of Europe, the Caucasus, and Bantu languages of Africa.

Kilarski, Marcin. 2013. *Nominal classification: A history of its study from the classical period to the present*. Amsterdam: John Benjamins.

A comprehensive survey of the study of noun categorization devices (covering genders and classifiers of numerous types) throughout the history of Western linguistics, starting with Ancient Greeks. The study addresses types of noun

categorization devices in selected language families (such as Algonquian), and the forms and functions of classification devices, drawing on the existing literature.

Royen, Gerlach. 1929. *Die nominalen Klassifikations-Systeme in den Sprachen der Erde: Historisch-kritische Studie, mit besonderer Berücksichtigung des Indogermanischen*. Anthropos Linguistische Bibliothek 4. Vienna: Anthropos.

A curious, now outdated attempt at a cross-linguistic examination of noun classification, with a bias toward genders and noun classes and largely focusing on Indo-European languages.

## Edited Collections

Noun categorization devices have been addressed in a number of edited volumes, starting with Craig 1986, which covers devices from numerous parts of the world. Senft 2000 further expands the discussion of classifiers to cover Amazonian (Tariana), Meso-American (Akatek), and Australian (Arrernte) languages. Aikhenvald 2004 addresses classifiers in languages previously undescribed in this respect. Unterbeck and Riisanen 1999 focuses on gender and some systems of noun classes and classifiers. Corbett 2014 discusses various issues to do with typological and semantic features of selected gender systems.

Aikhenvald, Alexandra Y., ed. 2004. *Special issue: Nominal classification*. Nominal classification. *Language Typology and Universals* 57.

This special issue starts with a typological introduction by Aikhenvald, the issue editor. The papers in the issue cover multiple-classifier systems in Lao and Miraña (a Witotoan language from Peru); several types of verbal classifiers in Chimila (a Chibchan language from Colombia); numeral classifiers in Salish, Totonac, and also Nivkh, a Siberian isolate; and deictic classifiers in Siouan languages.

Corbett, Greville, ed. 2014. *The expression of gender*. Berlin: De Gruyter Mouton.

The volume consists of eight contributions, dealing with the relationship between the notion of “gender” and the notion of “sex,” typological features of genders (especially in familiar Indo-European languages, updating Corbett 1991, cited under Monographs), gender and culture (focusing on Iroquoian languages), psycholinguistic approaches to grammatical gender, genderlects, and the role of number in gender classification.

Craig, Colette G., ed. 1986. *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Amsterdam: John Benjamins.

A seminal collection of papers focusing on classifiers in languages from various parts of the world, with a classic typological summary by Dixon (see Genders and Noun Classes).

Senft, Gunter, ed. 2000. *Systems of nominal classification*. New York: Oxford Univ. Press.

This important collection contains a typological survey by Grinevald and discussions of multiple-classifier systems in Tariana (Arawak) and Akatek (Mayan), in addition to classifier constructions in Arrernte (Australian) and acquisition of Bantu noun class systems.

Unterbeck, Barbara, and Matti Riisanen. 1999. *Gender in grammar and cognition*. 2 vols. Berlin: Mouton de Gruyter.

Vol. 1, Approaches to Gender; Vol. 2, Manifestations of Gender. This collection largely focuses on small gender systems in Indo-European languages, in addition to a discussion of classificatory verbs in Navajo (Athabaskan), classifiers in Vietnamese, and Bantu noun classes.

## **Genders and Noun Classes**

Dixon 1968 outlines typological features of noun classes and their possible semantic motivation. Greenberg 1978 focuses on typological issues and historical development of noun classes, in particular small gender systems. Aikhenvald 2004 discusses gender and noun classes realized through agreement in the context of other noun categorization devices.

Aikhenvald, Alexandra Y. 2004. Gender. In *Morfologie: Ein Handbuch zur Flexion und Wortbildung. Morphology: A handbook on inflection and word formation*. Vol. 2, *Halbband*. Edited by Geert E. Booij, Christian Lehmann, Joachim Mugdan, and Stavros Skopetas, 1031–1045. Berlin: Walter de Gruyter.

This survey article discusses cross-linguistic features of genders and noun classes, placing them in the context of other noun categorization devices known as classifiers.

Dixon, R. M. W. 1968. Noun classes. *Lingua* 21:104–125.

A seminal article dealing with criteria for recognizing a system of noun classes in a language and their grammatical properties. Includes the canonical study of the four-term noun class system in Dyrirbal.

Greenberg, Joseph H. 1978. How does language acquire gender markers? In *Universals of human languages*. Vol. 3, *Word structure*. Edited by Joseph H. Greenberg, Charles A. Ferguson, and Edith A. Moravcsik, 241–270. Stanford, CA: Stanford Univ. Press.

A pioneering account of origins for noun class and gender systems.

## General Typological Issues

Dixon 1986 introduces a continuum approach to the typology of classifiers of different morphosyntactic types, setting apart classifiers as independent lexemes and agreement classes. Dixon 1982 provides an in-depth analysis of noun classes and introduces a new type of classifiers: noun classifiers (as in Australian languages). Morphosyntactic typology of classifier types (numeral classifiers, noun classifiers, and verbal classifiers) is argued for by Craig 1992 and in a more concise form by Craig 2004. Grinevald 2007 expands the notion of classifier. A morphosyntactic typology is developed and new types—locative, deictic, and verbal classifiers—are argued for by Aikhenvald 2004. Allan 1977 presents a survey of a limited range of classifier types. Functions of classifiers (with a focus on numeral classifiers) are in Denny 1976. Bisang 2002 adds an evolutionary perspective. Contini-Morava and Kilarski 2013 addresses a morphosyntactically oriented typology of classifiers focusing on its pragmatic and other functions.

Aikhenvald, Alexandra Y. 2004. Nominal classification: Towards a comprehensive typology. *Language Typology and Universals* 57:105–116.

A survey article in a special issue on nominal classification, focusing on multiple classifier systems and minor types of noun categorization devices, such as locative and deictic classifiers, and the possibility of one language having several types of verbal classifier.

Allan, Keith. 1977. Classifiers. *Language* 53:284–310.

An oft-quoted but simplified account of some classifier types, with factual inaccuracies in the information on Thai and on Dyrirbal.

Bisang, Walter. 2002. Classification and the evolution of grammatical structures: A universal perspective. *Language Typology and Universals* 55:289–308.

An attempt at providing a pragmatic motivation for the development and grammaticalization of the gamut of noun categorization devices, from numeral classifiers to gender systems.

Contini-Morava, Ellen, and Marcin Kilarski. 2013. Functions of nominal classification. *Language Sciences* 40:263–299.

An account of a morphosyntactically oriented typology of classifiers (based on previous typologies and secondary sources) with a focus on pragmatic and discourse functions of classifiers, and the ways in which classifiers can be used to enlarge the lexicon and help foreground a referent.

Craig, Colette G. 1992. Classifiers in a functional perspective. In *Layered structure and reference in a functional perspective*. Edited by Michael Fortescue, Peter Harder, and Lars Kristoffersen, 277–301. Amsterdam: John Benjamins.

A comprehensive exposé of a typology of noun categorization devices based on the morphosyntactic context in which a classifier morpheme is required. The basis for the modern typology of classifiers.

Craig, Colette G. 2004. Classifiers. In *Morfologie: Ein Handbuch zur Flexion und Wortbildung. Morphology: A Handbook on Inflection and Word Formation*. Vol. 2, *Halbband*. Edited by Geert E. Booij, Christian Lehmann, Joachim Mugdan, and Stavros Skopetas, 1016–1030. Berlin: Walter de Gruyter.

A brief synopsis of functional typology of classifiers as noun categorization devices, based on the morphosyntactic context of occurrence of classifier morphemes, with a special focus on the grammaticalization of the system.

Denny, J. Peter. 1976. What are noun classifiers good for? In *Papers from the twelfth regional meeting of the Chicago Linguistic Society, April 23–25, 1976*. 122–132. Chicago: Chicago Linguistic Society.

A seminal paper addressing major functions and meanings of noun categorization devices across the languages of the world.

Dixon, R. M. W. 1982. *Where have all the adjectives gone? And other essays in syntax and semantics*. Berlin: Mouton de Gruyter.

Includes a revision of Dixon's 1968 paper on noun classes (see Dixon 1986) in addition to a full account of the set of noun classifiers in Yidiny, an Australian language, plus a general theoretical study of noun classifiers and noun classes.

Dixon, R. M. W. 1986. Noun classes and noun classification in typological perspective. In *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Edited by Colette G. Craig, 105–112. Amsterdam: John Benjamins.

This classic paper contrasts the grammatical and semantic properties of prototypical noun class systems and sets of lexical classifiers.

Grinevald, Colette. 2007. The linguistic characterization of spatial entities: Classifiers and other nominal classification systems. In *The categorization of spatial entities in language and cognition*. Edited by Michel Aurnague, Maya Hickmann, Laure Vieu, 101–153. Amsterdam: John Benjamins.

A comprehensive approach to the typology of noun categorization devices as a continuum. (The author's earlier publications appeared under the name Colette G. Craig.)

## Specific Issues

Most issues to do with classifier types, their semantics, and realization are discussed in the language-specific literature. Semantics of classifiers is often treated separately. There are a number of general articles dealing with Numeral Classifiers, Verbal Classifiers, and classifiers in Possessive Classifiers.

## Semantics

Adams and Conklin 1973 introduces shape, form, consistency, animacy, and sex as major semantic parameters in noun categorization devices. Aikhenvald 2006 addresses the ways in which morphosyntactic types of classifiers can be correlated with specific semantic preferences. Kiyomi 1992 discusses animacy as a major parameter in noun categorization through classifiers. Plungian and Romanova 1990 focuses on classification of humans. Denny 1979 argues for environmental motivation of “extendedness.” Several meanings of general classifiers are unveiled by Zubin and Shimojo 1993. Semantics and cognitive impact of gender are addressed by Alvanoudi 2014.

Adams, K. L., and N. F. Conklin. 1973. Towards a theory of natural classification. In *Papers from the ninth regional meeting of the Chicago Linguistic Society, April 13–15, 1973*. 1–10. Chicago: Chicago Linguistic Society.

A brief summary of semantic parameters in classifiers (such as shape and form), with a focus on numeral classifiers in languages of Southeast Asia.

Aikhenvald, Alexandra Y. 2006. Classifiers and noun classes, semantics. In *Encyclopedia of language and linguistics*. 2d ed. Vol. 1. Edited by Keith Brown, 463–470. Oxford: Elsevier.

A summary of classifier types, with a focus on semantic parameters typical for each of the types (e.g., shape in numeral classifiers, function in noun classifiers, and position in verbal classifiers).

Alvanoudi, Angeliki. 2014. *Grammatical gender in interaction: Cultural and cognitive aspects*. Leiden, The Netherlands: Brill.



A thorough investigation of the relation between grammatical gender, its semantics, and its role in cognition and culture, with special reference to Modern Greek, drawing on feminist sociolinguistic and non-linguistic approaches, cognitive linguistics, conversation analysis, and linguistic relativity.

Denny, J. Peter. 1979. The “extendedness” variable in classifier semantics: Universal semantic features and cultural variation. In *Ethnolinguistics: Boas, Sapir and Whorf revisited*. Edited by Madeleine Mathiot, 97–119. The Hague: Mouton.

An incisive analysis of the parameter of “extendedness” and the semantics of shape in classifiers, with a focus on North American Indian languages. An interesting attempt at providing an environmental and cultural motivation for the meaning of classifiers.

Kiyomi, Setsuko. 1992. Animateness and shape in classifiers. *Word* 43:15–36.

An insightful analysis of the correlation between shape and animacy in classifier systems, with special focus on numeral classifiers.

Plungian, V. A., and O. I. Romanova. 1990. Imennaja klassifikacija: Grammatičeskij aspekt. *Izvestija Akademii Nauk, Serija literatury i jazyka* 493:231–246.

A partial account of some systems of noun classes and classifiers with a focus on Indo-European, Bantu, and some Caucasian languages. Contains factual errors and misinterpretations.

Zubin, D., and M. Shimojo. 1993. How “general” are general classifiers? With special reference to *ko* and *tsu* in Japanese. In *Proceedings of the Berkeley Linguistics Society: Proceedings of the 19th Annual Meeting*. Edited by Joshua S. Guenter, Barbara A. Kaiser, and Cheryl C. Zoll, 490–502. Berkeley, CA: Berkeley Linguistics Society.

This seminal paper introduces several major subcategories covered by the notion of a “general classifier”: the default classifier, the residue classifier, and a classifier covering an unspecified referent.

## **Numeral Classifiers**

Numeral classifiers are a feature of languages of Southeast and South Asia and are also found in Austronesian, some North American, and some South American languages and in languages of the Far East (Korean and Japanese). The major body of literature on numeral classifiers is discussed under each individual language area. Hypotheses concerning lack of number in numeral classifier languages are discussed by Greenberg 1972 and Sanches and Slobin 1973 (also see Aikhenvald 2003 in

Monographs). Numeral classifiers as a focal point in the continuum of classification devices are covered in Serzisko 1982.

Greenberg, Joseph H. 1972. Numeral classifiers and substantival number: Problems in the genesis type. *Working Papers on Language Universals* 9:1–39.

A seminal paper based on a sample of one hundred languages with numeral classifiers. The major conclusion is that languages with numeral classifiers do not have nominal numbers. This has since proved wrong as more data have become available.

Sanches, Mary, and Linda Slobin. 1973. Numeral classifiers and plural marking: An implicational universal. *Working Papers on Language Universals* 11:1–22.

The authors try to demonstrate that numeral classifiers and nominal number marking are mutually exclusive. Recent data have shown that this statement represents a tendency and not a linguistic universal.

Serzisko, Fritz. 1982. Gender, noun class and numeral classification: A scale of classificatory techniques. In *Issues in the theory of universal grammar*. Edited by René Dirven and Günter Radden, 95–123. Tübingen, Germany: Gunter Narr Verlag.

A comparison of noun classes, genders, and numeral classifiers as part of a continuum of noun classification devices; based on a limited typological sample.

## **Verbal Classifiers**

Verbal classifiers and classificatory verbs are found in North American and South American languages, while languages of New Guinea and some Tibeto-Burman languages tend to have classificatory existential verbs. Ahland 2012 addresses an unusual system of verbal classifiers in Gumuz. Silverstein 1986 discusses verbal classifiers and generic verbs in the context of other categories. Seiler 1989 demonstrates the verbal origin of classifiers in the context of Papua New Guinea languages. Also see Aikhenvald 2003 (cited under Monographs), pp. 149–183, for a detailed overview.

Ahland, Colleen Anne. 2012. A grammar of northern and southern Gumuz. PhD diss., University of Oregon.

Gumuz, a dialect chain across the border between Ethiopia and the Sudan (tentatively classified as Nilo-Saharan), has a complex system of verbal classifiers which categorize the arguments in S/O functions and also obliques. This comprehensive grammar of Gumuz shows how classifiers may have developed out of independent nouns.

Seiler, Wolf. 1989. Noun-classificatory verbal prefixes as reanalysed serial verbs. *Lingua* 68:189–206.

A pioneering account of how verbal classifiers developed from serial verb constructions (using the example of Imonda, from the Border family in New Guinea), with a brief survey of verbal classifiers and classificatory verbs in New Guinea.

Silverstein, Michael. 1986. Classifiers, verb classifiers, and verbal categories. In *Proceedings of the 12th annual meeting of the Berkeley Linguistics Society*. 497–514. Berkeley, CA: Berkeley Linguistics Society.

An insightful appraisal of verbal and other classifiers (focused on Australian languages) and their interrelations with other categories of the grammar.

### **Possessive Classifiers**

A special set of classifiers categorizing the manner in which the possessee can be manipulated (e.g., “drunk,” “eaten”) and also the possessee’s inherent properties is a feature of Oceanic languages (see Austronesian Languages) and of a few languages of South America (see South American Indian Languages). The first systematic appraisal of classifiers in possessive constructions is in Lichtenberk 1983, discovered by Codrington 1974 (originally published 1885) (also see Aikhenvald 2003 in Monographs). Chappell and McGregor 1989 formulates the putative link between alienability and classifier choice. Aikhenvald 2013 offers an overview of classifiers in possessive constructions.

Aikhenvald, Alexandra Y. 2013. Possession and ownership in cross-linguistic perspective. In *Possession and ownership: A cross-linguistic typology*. Edited by A. Y. Aikhenvald and R. M. W. Dixon, 1–64. Oxford: Oxford Univ. Press.

A cross-linguistic analysis of possession with special attention to different types of noun categorization within possessive constructions, covering relational classifiers and generic possessive classifiers, and also addressing their interactions with alienability in possessive structures.

Chappell, Hilary, and William McGregor. 1989. Alienability, inalienability and nominal classification. In *Proceedings of the 15th annual meeting of the Berkeley Linguistics Society*. 24–36. Berkeley, CA: Berkeley Linguistics Society.

A general discussion of possessive patterns, with a mention of classifiers in possessive constructions, and their interaction with alienable possession.

Codrington, Robert H. 1974. *The Melanesian languages*. Amsterdam: Philo.

Originally published in 1885 (Oxford: Clarendon Press). The first ever general study of Oceanic languages; discusses classifiers in possessive constructions on the basis of the limited selection of languages available at that stage.

Lichtenberk, Frank. 1983. Relational classifiers. *Lingua* 60:147–176.

A seminal paper laying the foundations for the scientific analysis of classifiers in possessive constructions as a noun categorization device distinct from classifiers of other types. Focuses on classifiers that categorize the nature of a relationship between the possessor and the possessee, based on material from a substantial selection of Oceanic languages.

### **Child Language Acquisition**

The study of the processes at work in children's acquisition of noun classification devices is in its infancy. There has been a goodly amount of work on acquisition of genders (see also Genders and Noun Classes) and noun classes in a few Bantu languages, among them Tsonope 1988 and also Herbert 1991 (cited under Language Dissolution) and Aikhenvald 2003 (cited under Monographs). Acquisition of numeral classifiers in Mandarin Chinese is studied by Hu 1993 and is correlated with historical development by Erbaugh 1986. Ng 1989 addresses acquisition of numeral classifiers in Hokkien. Matsumoto 1985 discusses acquisition of Japanese numeral classifiers; semantic and cognitive aspects are focused on by Yamamoto 2000. Gandour, et al. 1984 is a first attempt at discussing the acquisition of Thai classifiers. Carpenter 1987 addresses late acquisition of classifiers in Thai. Carpenter 1991 offers a sociolinguistic and cultural explanation.

Carpenter, Kathy. 1987. How children learn to classify nouns in Thai. PhD diss., Stanford Univ.

A seminal piece of work on children's early acquisition of classifiers in Thai depending on their frequency.

Carpenter, Kathy. 1991. Later rather than sooner: Children's use of extralinguistic information in the acquisition of Thai classifiers. *Journal of Child Language* 18:93–113.

In this pioneering paper, the author discusses relatively late acquisition of the full system of classifiers in Thai, arguing that cultural embeddedness of classifiers determines their development in children.

Erbaugh, Mary S. 1986. Taking stock: The development of Chinese noun classifiers historically and in young children. In *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Edited by Colette G. Craig, 399–436. Amsterdam: John Benjamins.

A classic investigation of acquisition of classifiers in Mandarin Chinese (with a focus on the overuse of the general classifier), and of how the processes of acquisition are mirrored by the documented historical development of classifiers.

Gandour, Jack, Soranee H. Petty, Rochana Dardarananda, Sumalee Dechongkit, and Sunee Munkngo. 1984. Acquisition of numeral classifiers in Thai. *Linguistics* 22:455–479.

A classic study of child language acquisition of numeral classifiers in Thai, focusing on the overgeneralization of the general classifier and on semantic extensions.

Hu, Qian. 1993. The acquisition of Chinese classifiers by young Mandarin speaking children. PhD diss., Boston University.

A comprehensive analysis of acquisition of Mandarin Chinese classifiers with numerical expressions.

Matsumoto, Yu. 1985. Acquisition of some Japanese numeral classifiers: The search for convention. *Stanford Papers and Reports in Child Language Development* 24:79–86.

A pioneering study of the acquisition of numeral classifiers in Japanese, with a focus on overuse of the general classifier.

Ng, Bee Chin. 1989. The acquisition of numeral classifiers in Hokkien, a Southern Min language. PhD diss., La Trobe University.

The first investigation of acquisition of numeral classifiers in a Sinitic language other than Mandarin Chinese.

Tsonope, Joseph. 1988. The acquisition of Setswana noun class and agreement morphology: With special reference to demonstratives and possessives. PhD diss., State University of New York at Buffalo.

A fundamental investigation of children's acquisition of noun class markers and agreement in Setswana, a Bantu language.

Yamamoto, Kasumi. 2000. The acquisition of Japanese numeral classifiers: Linkage between grammatical forms and conceptual categories. *Journal of East Asian Linguistics* 9:379–409.

A study of acquisition of Japanese numeral classifiers by preschool children, with special focus on comprehension of classifiers.

## Language Dissolution

When speakers suffer from aphasia (and thus from language dissolution), noun categorization devices in their language undergo loss and simplification. These issues have been discussed for noun classes and classifiers in only a limited selection of languages, partly because of difficulty in obtaining reliable and consistent data. Herbert 1991 contrasts acquisition and dissolution of noun classification devices with historical processes. Gandour, et al. 1985 focuses on dissolution of Thai classifiers in aphasia. Tzeng, et al. 1991 addresses loss of classifiers in Chinese-speaking aphasics. Kathleen Ahrens criticizes her predecessors in Ahrens 1994, pointing out flawed attempts to correlate types of aphasia and types of classifier dissolution.

Ahrens, Kathleen. 1994. Classifier production in normals and aphasics. *Journal of Chinese Linguistics* 22:203–246.

A seminal paper comparing the use of classifiers by normal speakers of Mandarin Chinese with those affected by aphasia, with a focus on the use of the general classifier.

Gandour, Jack, Hugh Buckingham, and Rochana Dardarananda. 1985. The dissolution of numeral classifiers in Thai. *Linguistics* 23:547–566.

A unique comprehensive investigation of the loss of numeral classifiers in Thai by aphasics, whose features mirror child language acquisition patterns of classifiers (this includes overuse of the general classifier).

Herbert, Robert K. 1991. Patterns in language change, acquisition and dissolution: Noun prefixes and concords in Bantu. *Anthropological Linguistics* 33:103–134.

A pioneering study of the fate of noun classes in language dissolution in a selection of Bantu languages, showing that paths of language dissolution only partly mirror (in reverse) the paths of language acquisition by children.

Tzeng, Ovid J. L., Sylvia Chen, and Daisy L. Hung. 1991. The classifier problem in Chinese aphasia. *Brain and Language* 41:184–202.

A fundamental study of the use of classifiers by aphasic speakers of Mandarin Chinese, comparing speakers suffering from Broca's aphasia with those suffering from Wernicke's aphasia.

## Descriptions of Individual Areas, Languages, and Families

Classifiers of different types are distributed differently across major families and major areas of the world. While noun classes and genders are a property of Indo-

European languages, verbal classifiers are more prominent in the languages of North and South America, and numeral classifiers are a property of languages of Southeast Asia.

### **Indo-European Languages**

Indo-European languages typically have a system of two or three genders. Bechert 1982 provides a useful survey. The extent of the semantic basis for gender choice varies, as shown in the seminal paper Zubin and Koepcke 1986. Baron 1986 explores the differences between male and female language, and the historical development of gender-marked forms in Modern English. Mathiot and Roberts 1979 reveals social stereotypes behind gender use. Correlations between gender and shape in Spanish are discussed by Holmquist 1991. Whether English can be said to have classifiers is explored by Lehrer 1968. Kilarski 2007 contrasts systems of semantically opaque genders. Also see *Genders and Noun Classes*. Matasović 2004 offers a snapshot of genders across Indo-European. Luraghi 2011 focuses in the origins of feminine and other genders, especially in Indo-European. Neri and Schuhmann 2014 elaborates on the issue of feminine gender.

Baron, Dennis. 1986. *Grammar and gender*. New Haven, CT: Yale Univ. Press.

A concise and entertaining description of the semantics of English gender, the development of male and female speech, the emergence of a gender-neutral pronoun, and gender-sensitive formations in English.

Bechert, Johannes. 1982. Grammatical gender in Europe: An areal study of a linguistic category. *Papier zur Linguistik* 26:23–34.

An informative overview of the distribution and semantics of genders and noun classes in European languages.

Holmquist, Jonathan C. 1991. Semantic features and gender dynamics in Cantabrian Spanish. *Anthropological Linguistics* 33:57–81.

An insightful analysis of the meanings of genders in Cantabrian Spanish, associated with semantic features of shape, size, and value.

Kilarski, Marcin. 2007. Algonquian and Indo-European gender in a historiographic perspective. *Historiographia Linguistica* 34:333–349.

A discussion of the semantic principles of gender choice in Indo-European languages and a selection of Algonquian languages, with a focus on semantically opaque gender.

Lehrer, Adrienne. 1968. English classifier constructions. *Lingua* 68:109–148.

An incisive and original attempt to analyze English quantification constructions such as *one head of lettuce* and attributive constructions such as *a slip of a girl* as classifier constructions, with convincing argumentation against this analysis.

Luraghi, Silvia. 2011. The origin of Proto-Indo-European gender system: Typological considerations. *Folia Linguistica* 45:435–464.

An analysis of origin of gender system out of reinterpretation of other categories, with special attention to the development of feminine gender in Proto-Indo-European (as a result of reinterpretation of abstract nouns).

Matasović, Ranko. 2004. *Gender in Indo-European*. Heidelberg, Germany: Winter.

A detailed and workmanlike account of distribution of genders among Indo-European languages and their origin (with a special attention to the issue of a comparatively late development of the feminine gender). A useful sourcebook for the category of gender in Indo-European (though fragmentary in its references to other areas and families).

Mathiot, Madeleine, and M. Roberts. 1979. Sex roles as revealed through referential gender in American English. In *Ethnolinguistics: Boas, Sapir and Whorf revisited*. Edited by Madeleine Mathiot, 1–47. The Hague: Mouton.

A corpus-based original analysis of attitudes to males and females as realized through the use of gendered pronouns in American English.

Neri, Sergio, and Roland Shuhmann, eds. 2014. *Studies on the collective and feminine in Indo-European from a diachronic and typological perspective*. Leiden, The Netherlands: Brill.

This volume contains thirteen contributions on the origin of the feminine gender and how it can be linked to the collective and other derivations in the proto-language. Most Indo-European languages have a system of three genders; the absence of feminine gender in Anatolian languages points toward its later origins. The origin of feminine and neuter plural is the focus of the volume.

Zubin, David A., and Klaus-Michael Köpcke. 1986. Gender and folk taxonomy: The Indexical relation between grammatical and lexical categorization. In *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Edited by Colette G. Craig, 139–180. Amsterdam: John Benjamins.

This seminal paper makes a convincing argument in favor of a partial semantic basis for the choice of genders in German.



## **Turkic and Finno-Ugric Languages**

Turkic and Finno-Ugric languages typically have no noun classes or other noun categorization devices. Beckwith 1992 argues for the existence of numeral classifiers in Hungarian; Beckwith 1988 and Waterson 1966 argue for their existence in Uzbek. A comprehensive picture of numeral classifiers and other devices in Japanese, Korean, and a few Turkic languages is in Vietze 1979.

Beckwith, Christopher I. 1988. Noun specification and classification in Uzbek. *Anthropological Linguistics* 40:124–140.

Provides a survey of approaches to numeral classifiers in Asian languages and argues in favor of an incipient system of numeral classifiers (sortal and mensural) in Uzbek, a Turkic language.

Beckwith, Christopher I. 1992. Classifiers in Hungarian. In *Approaches to Hungarian*. Vol. 4, *The structure of Hungarian*. Edited by István Kenesei and Csaba S. Pléh, 197–206. Szeged, Hungary: JATE.

Presents a convincing argument in favor of the status of quantifying forms such as “drop” in “one drop of honey” as mensural numeral classifiers in Hungarian.

Vietze, Hans-Peter. 1979. Nominalklassen in altaischen Sprachen. *Zeitschrift zur Phonetik, Sprachwissenschaft und Kommunikationsforschung* 32:745–751.

A pioneering investigation of noun categorization in Turkic, Buryat-Mongolian, and Tungusic languages, in addition to the languages of the Far East, mentioning the existence of numeral classifiers across the area.

Waterson, Natalie. 1966. Numeratives in Uzbek: A study in colligation and collocation. In *memory of J. R. Firth*. Edited by C. E. Bazell, 454–474. London: Longmans.

This seminal paper is the first attempt at presenting a scientific argument in favor of a category of classifiers in Uzbek, a Turkic language.

## **Languages of the Caucasus**

East Caucasian languages have systems of noun classes whose size varies from two to five or six. A general overview is in Drossard 1982. Khaidakov 1980 is a comprehensive study of noun classes and their meanings in Daghestanian languages (Northeast Caucasian). Also see Corbett 1991 and Aikhenvald 2003 in *Monographs*.

Drossard, Werner. 1982. Nominalklassifikation in ostkaukasischen Sprachen. In *Apprehension: Das sprachliche Erfassen von Gegenständen, Teil II: Die Techniken*

*und ihr Zusammenhang in Einzelsprachen*. Edited by Hansjakob Seiler and Franz Josef Stachowiak, 155–178. Language Universals Series 1–2. Tübingen, Germany: Narr.

An incisive snapshot of a variety of noun classification systems in East Caucasian languages (including Nakh-Daghestanian).

Khaidakov, S. M. 1980. *Principy imennoj klassifikacii v dagestanskih jazykah*. Moscow: Nauka.

A comprehensive monograph with impressive coverage of Daghestanian (Northeast Caucasian) languages, combining a synchronic and a diachronic approach, well ahead of its time.

### **Sino-Tibetan Languages**

Most Sino-Tibetan languages have numeral classifiers. Some also have classifiers in other environments. General issues concerning classifiers in Sino-Tibetan languages are also discussed in general papers on classifiers across Southeast Asia. Goral 1978 is a general survey focusing on numeral classifiers, complementary to Jones 1970. Zhang 2014 addresses a complex system of numeral classifiers in Ersu within the context of Tibeto-Burman languages. Hashimoto 1977 discusses the historical development of classifiers from nouns. Bisang 1999 argues in favor of the numeral classifiers as a major type in the area.

Bisang, Walter. 1999. Classifiers in East and Southeast Asian languages: Counting and beyond. In *Numeral types and changes worldwide*. Edited by Jadranka Gvozdanovic, 113–185. Berlin: Mouton de Gruyter.

An overview of functions of numeral classifiers in Sino-Tibetan languages and other languages in Southeast Asia (including Thai, Vietnamese, and Hmong), extending the discussion to classifiers in other contexts and suggesting that the counting context of classifiers' use is primary.

Goral, Donald R. 1978. Numeral classifier systems: A Southeast Asian cross linguistic analysis. *Linguistics of the Tibeto-Burman Area* 4:1–72.

A fundamental investigation of numeral classifiers across every family in Southeast Asia, including Sino-Tibetan. A classic in the field.

Hashimoto, Mantaro J. 1977. The genealogy and the role of the classifier in Sino-Tibetan. *Computational Analyses of Asian and African Languages* 7:69–78.

This pioneering paper surveys the functions and the development of numeral classifiers across Sino-Tibetan languages.

Jones, Robert B. 1970. Classifier constructions in Southeast Asia. *Journal of the American Oriental Society* 90:1–12.

The first survey of classifiers as a feature of the area, focusing on numeral classifiers.

Zhang, Sihong. 2014. Numeral classifiers in Ersu. *Language and Linguistics* 15:883–915.

Ersu, an endangered Tibeto-Burman language of Sichuan Province (China), has an unusually large system of numeral classifiers (which include sortal and mensural classifiers, in addition to repeaters and time classifiers). This in-depth investigation addresses the functions of classifiers in discourse, their semantics, and unusual “doubling.”

### **Sinitic Languages**

Most of the studies of classifiers in Sinitic languages (or “Chinese dialects”) focus on Mandarin Chinese numeral classifiers (also called “measure words”). Pacioni 1997, Peyraube 1991, and Tai 1992 are notable exceptions. Some aspects of numeral classifiers in Chinese are considered in literature on their acquisition by children (especially Erbaugh 1986, cited under Child Language Acquisition). Exhaustive lists are in Fang, et al. 2008. Issues of semantics are addressed in He 2001 and Zhang 2007. Li 2000 and Sun 1988 focus on the pragmatics of classifier use; Wang 1994 focuses on history.

Fang, Jiqing, and Michael Connelly. 2008. *Chinese measure word dictionary*. Boston: Cheng & Tsui.

A comprehensive dictionary of classifiers in Mandarin Chinese, with contexts of use and examples.

He, Jie (何杰). 2001. *Xian dai Han yu liang ci yan jiu* 现代汉语量词研究. 2d ed. Beijing: Nationalities Publishing House.

In Chinese. A highly informative source on semantics and use of classifiers, with a focus on Mandarin Chinese.

Li, Wendan. 2000. The pragmatic function of numeral-classifiers in Mandarin Chinese. *Journal of Pragmatics* 32:1113–1133.

A pioneering discussion of pragmatic variation and discourse-based use of classifiers in Mandarin Chinese.

Pacioni, Patrizia 1997. Possessive constructions, classifiers and plurality in Cantonese and some other Chinese dialects. In *Studies in possessive expressions: A report of the joint research project, analysis and description of individual languages and linguistic typology*. Edited by Tooru Hayasi and Peri Bhaskararao, 199–222. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa.

An innovative analysis of classifiers in possessive constructions in Cantonese, with comparison with other Sinitic languages.

Peyraube, Alain. 1991. Some remarks on the history of Chinese classifiers. In *Asian discourse and grammar*. Edited by Patricia M. Clancy, 106–126. Santa Barbara Papers in Linguistics 3, part C. Santa Barbara: Linguistics Dept., Univ. of California.

A comparative-historical analysis of the development of numeral classifiers across Sinitic languages.

Sun, Chaofen. 1988. The discourse function of numeral classifiers in Mandarin Chinese. *Journal of Chinese Linguistics* 2:298–322.

A reappraisal of the use of numeral classifiers in Mandarin Chinese depending on the discourse status of the referent.

Tai, James H. Y. 1992. Variation in classifier systems across Chinese dialects: Towards a cognition-based semantic approach. In *Chinese languages and linguistics: Chinese dialects*. 587–608. Symposium Series of the Institute of History and Philology, Academia Sinica 2. Taipei: Republic of China.

A comprehensive study of numeral classifiers in a variety of Sinitic languages with special focus on a cognitive foundation for categorization of noun referents through classifiers.

Wang, Lianqing. 1994. Origin and development of classifiers in Chinese. PhD diss., Ohio State University.

A comprehensive study of the etymology and semantics of classifiers, mostly focusing on Mandarin Chinese.

Zhang, Hong. 2007. Numeral classifiers in Mandarin Chinese. *Journal of East Asian Linguistics* 16:43–59.

A brief reappraisal of the system of numeral classifiers in Mandarin Chinese, their semantics, and assignment.

Numeral classifiers are a pervasive feature of Tibeto-Burman languages. Becker 1975 is a classic study of numeral classifiers in Burmese and of noun reclassification. Burling 1965 is another classic. Bharsakaro and Joshi 1985 is a comprehensive study of numeral classifiers in Newari. The issue is reassessed by Hale and Shresthacarya 1973. Weidert 1984 provides historical background. Bradley 2001 introduces the notion of kinship classifiers (in Yi languages). Honorific nouns and classifiers are discussed by DeLancey 1998. Peterson 2008 argues for the existence of verbal classifiers in a variety of Tibeto-Burman languages. (See Aikhenvald 2003 in *Monographs* for further references on classificatory existential verbs in Tibeto-Burman.)

Becker, Alton L. 1975. A linguistic image of nature: The Burmese numerative classifier system. *Linguistics* 165:109–121.

A classic paper with a focus on highlighting distinct meanings of noun referents using different classifiers.

Bhaskararao, Peri, and S. K. Joshi. 1985. A study of Newari classifiers. *Bulletin of the Deccan College Research Institute* 44:17–31.

A pioneering study of numeral classifiers in Newari, with an incisive semantic analysis.

Bradley, David. 2001. Counting the family: Family group classifiers in Yi (Tibeto-Burman) languages. *Anthropological Linguistics* 43:1–17.

This seminal paper addresses kinship-based numeral classifiers in a poorly described subgroup of Tibeto-Burman languages.

Burling, Robbins. 1965. How to choose a Burmese numeral classifier. In *Context and meaning in cultural anthropology: In honor of A. Irving Hallowell*. Edited by Melford E. Spiro, 243–264. New York: Free Press.

A classic account of the intricate semantics, pragmatics, and variability of use of numeral classifiers in Burmese.

DeLancey, Scott. 1998. Semantic categorization in Tibetan honorific nouns. *Anthropological Linguistics* 40:109–123.

A highly important analysis of classifiers and class terms in Tibetan, based on classification of honorifics.

Hale, Austin, and Iswaranda Shresthacarya. 1973. Is Newari a classifier language? *Contributions to Nepalese Studies* 1.1: 1–21.

A classic reappraisal of numeral classifier constructions in Newari dialects.

Peterson, David A. 2008. Bangladesh Khumi verbal classifiers and Kuki-Chin chiming. *Linguistics of the Tibeto-Burman Area* 31.1: 109–138.

A comprehensive and well-argued analysis of verbal classifiers in a selection of Tibeto-Burman languages. This pioneering work demonstrates the existence of verbal classifiers in the family.

Weidert, Alfons K. 1984. The classifier construction of Newari and its historical Southeast Asian background. *Kailash* 11.3–4: 185–210.

A classic investigation of numeral classifiers in Newari in the context of other Southeast Asian languages, with a focus on their history and the role of language contact.

### **Languages of Southeast Asia**

Numeral classifiers, and classifiers in multiple environments, are a pervasive feature of languages of Southeast Asia. Kölver 1982 offers a comparative perspective. Barz and Diller 1985 introduces the issue of cultural stereotypes as reflected in classifiers. Lu 2012 addresses multiple classifier systems in Tai-Kadai languages. Some general issues are addressed by Weidert 1984 (cited under Tibeto-Burman Languages); see also the general literature on Sino-Tibetan languages (see Sino-Tibetan Languages, especially Bisang 1999).

Barz, R. K., and A. V. N. Diller. 1985. Classifiers and standardisation: Some South and South-East Asian comparisons. In *Papers in South-East Asian linguistics*. Vol. 9, *Language policy, language planning and sociolinguistics in South-East Asia*. Edited by David Bradley, 155–184. Canberra, Australia: Pacific Linguistics.

A classic paper dealing with semantics and use of classifiers across Southeast Asia (with a special focus on Tai languages) in comparison with Indo-Aryan languages of South Asia.

Kölver, Ulrike. 1982. Klassifikatorkonstruktionen in Thai, Vietnamesisch und Chinesisch. In *Apprehension: Das sprachliche Erfassen von Gegenständen, Teil I: Bereich und Ordnung der Phänomene*. Edited by Hansjakob Seiler and Christian Lehmann, 160–185. Language Universals Series 1.1. Tübingen, Germany: Narr.

An informative and cohesive structural comparison of numeral classifiers in Thai, Vietnamese, and Chinese (focusing on Mandarin Chinese) in an areal perspective.

Lu, Tian-Qiao. 2012. *Classifiers in Kam-Tai languages: A cognitive and cultural perspective*. New York: Universal.

This monograph describes multiple classifier systems (including numeral and noun classifiers, and also classifiers with demonstratives) in more than twenty major Tai-Kadai languages of southern China and Southeast Asia. Attention is paid to culture-specific semantics of classifier and their syntactic features.

### **Miao-Yao Languages**

All Miao-Yao languages have multiple classifier systems, with classifiers employed with numerals, in possessive constructions, and with nouns as noun classifiers. A typical system is described for Hmong by Bisang 1993. Jaisser 1987 focuses on numeral classifiers in Hmong. Wang 1972 describes numeral classifiers in a Miao variety.

Bisang, Walter. 1993. Classifiers, quantifiers and class nouns in Hmong. *Studies in Language* 17:1–51.

An incisive analysis of classifiers in multiple environments in Hmong varieties. Focuses on the correlations between the functions of classifiers and of quantifiers, and, inter alia, on the interaction between possession types (alienable versus inalienable) and classifier use.

Jaisser, Annie. 1987. Hmong classifiers. *Linguistics of the Tibeto-Burman Area* 10.2: 169–175.

A pioneering account of classifiers in White Hmong, with a focus on numeral classifiers.

Wang, Fu-shih. 1972. The classifier in the Wei Ning dialect of the Miao language in Kweichow. In *Miao and Yao linguistic studies: Selected articles in Chinese*. Translated by Chang Yü-Hung and Cho Kwo-ray; edited by H. C. Purnell, 111–185. Ithaca, NY: Southeast Asia Program, Cornell Univ.

A comprehensive account of numeral classifiers in a Miao dialect from southern China.

### **Austroasiatic Languages**

All Austroasiatic languages have numeral classifiers. The best-described classifier system is that of Vietnamese (Löbel 2000). Adams 1989 is a classic study of classifiers across Austroasiatic languages. Adams 1992 focuses on human classification. Daley 1996 is a pioneering analysis of how Vietnamese classifiers are used in discourse. Wajanarat 1979 focuses numeral classifiers in a Mon-Khmer language.

Adams, Karen Lee. 1989. *Systems of numeral classification in the Mon-Khmer, Nicobarese and Aslian subfamilies of Austroasiatic*. Canberra, Australia: Pacific Linguistics.

A comprehensive investigation of numeral classifiers, their semantics, use, and extensions across Mon-Khmer, Nicobarese, and Aslian languages.

Adams, Karen Lee. 1992. A comparison of the numeral classification of humans in Mon-Khmer. *Mon-Khmer Studies* 21:107–129.

An incisive analysis of the semantics and form of numeral classifiers for human referents across the Mon-Khmer family.

Daley, K. A. C. 1996. The use of classifiers in Vietnamese narrative texts. M.A. thesis, University of Texas at Arlington.

An extensive discourse-based, state-of-the-art analysis of classifiers in Vietnamese, their semantics, and pragmatics.

Löbel, Elisabeth. 2000. Classifiers vs. genders and noun classes: A case study in Vietnamese. In *Gender in grammar and cognition*. Edited by Barbara Unterbeck and Matti Rissanen, 259–319. Berlin: Mouton de Gruyter.

A competent survey of classifiers in Vietnamese and a comparison with other noun classification devices (such as genders).

Wajanarat, Sujaritlak. 1979. Classifiers in Mal Thin. *Mon-Khmer Studies* 8:295–303.

An exemplary study of numeral classifiers in a previously undescribed Mon-Khmer language.

### **Tai-Kadai Languages**

All Tai-Kadai languages have numeral classifiers, and many also have multiple classifiers. Enfield 2004 outlines the use of classifiers with demonstratives and adjectives in Lao, showing how these are different from classifiers with numerals. Chapters in Diller, et al. 2008 focus on classifiers in a variety of languages across the family. Haas 1942 is a pioneering study. Hundius and Kölver 1983 introduces other types of classifiers in Thai, such as those used with demonstratives and adjectives. Pragmatic analysis is in Carpenter 1986. Conklin 1981 compares the use and the meanings of numeral classifiers in Tai and in Austronesian languages. Juntanamalaga 1988 turns to the ways classifiers reflect social change and cultural stereotypes. A historical approach is taken in Gerner 2006. Also see Child Language



Acquisition for the analysis of the semantics of classifiers in Thai in light of their relatively late acquisition by children.

Carpenter, Kathy. 1986. Productivity and pragmatics of Thai classifiers. In *Proceedings of the 12th annual meeting of the Berkeley Linguistics Society*. 14–25. Berkeley, CA: Berkeley Linguistics Society.

An incisive reappraisal of the semantics, pragmatic contexts, and frequency of use of several Thai classifiers.

Conklin, Nancy Faires. 1981. The semantics and syntax in numeral classification in Tai and Austronesian. PhD diss., University of Michigan.

A seminal piece of work focusing on numeral classifier constructions in a number of Tai languages (especially Thai) and a few Austronesian languages.

Diller, Anthony V. N., Jerold A. Edmondson, and Yongxian Luo, eds. 2008. *The Tai-Kadai languages*. London: Routledge.

A comprehensive overview of the Tai-Kadai family, with most chapters focusing on numeral classifier systems.

Enfield, N. J. 2004. Nominal classification in Lao: A sketch. *Language Typology and Universals* 57.2–3: 117–143.

A seminal paper dealing with various aspects of classifiers in Lao, with a special focus on their use with adjectives and modifiers other than numbers.

Gerner, Matthias. 2006. Noun classifiers in Kam and Chinese Kam-Tai languages: Their morphosyntax, semantics and history. *Journal of Chinese Linguistics* 34:237–305.

A comprehensive discussion of noun classifiers and numeral and verbal classifiers in the Kam-Tai subgroup of the Tai-Kadai family.

Haas, Mary R. 1942. The use of numeral classifier in Thai. *Language* 18:201–205.

A pioneering outline of classifiers in Thai by a major figure in the field of linguistics.

Hundius, Harald, and Ulrike Kölver. 1983. Syntax and semantics of numeral classifiers in Thai. *Studies in Language* 7:165–214.

A seminal paper on the semantics and pragmatics of numeral classifiers in Thai, with a brief discussion of Thai classifiers on modifiers such as demonstratives and adjectives and their special features.

Juntanamalaga, Preecha. 1988. Social issues in Thai classifier usage. *Language Sciences* 10:313–330.

An important contribution dealing with how the use of Thai classifiers changed depending on sociocultural environment (including royal decrees that prohibited the use of the generic classifier *tua* to refer to a noble elephant).

### **Languages of South Asia**

Numeral classifiers are known to be an areal feature of India, as pointed out by Emeneau 1964, and are found in Indo-Aryan, Dravidian, Tibeto-Burman, and Munda languages. Classifiers and absence of genders in Bengali are discussed by Kölver 1982. Noun classification devices and their history in Dravidian are in Krishnamurti 2003. Mahapatra 1979 introduces a Dravidian language with obligatory number and gender and numeral classifiers.

Emeneau, Murray B. 1964. India as a linguistic area. *Language* 32:3–16.

A seminal paper establishing India as a linguistic area, with numeral classifiers as one of the key defining features.

Kölver, Ulrike. 1982. Interaktion von nominalen Kategorien am Beispiel der Entwicklung des modernen Bengali. In *Apprehension: Das sprachliche Erfassen von Gegenständen, Teil I: Bereich und Ordnung der Phänomene*. Edited by Hansjakob Seiler and Christian Lehmann, 244–251. Language Universals Series 1.1. Tübingen, Germany: Narr.

Incisive discussion of numeral classifiers in Bengali, an Indo-Aryan language, and their history.

Krishnamurti, Bhadhiraju. 2003. *The Dravidian languages*. Cambridge, UK: Cambridge Univ. Press.

A fundamental investigation of synchronic and historical aspects of all the Dravidian languages, with special attention to the status and development of noun categorization devices.

Mahapatra, B. P. 1979. *Malto: An ethnosemantic study*. Manasagangotro, India: Central Institute of Indian Languages.

A comprehensive grammar of a Dravidian language that combines a system of genders with several numeral classifiers.

## **Japanese**

Japanese has a complex system of numeral classifiers. The semantics and usage of numeral classifiers in Japanese have been described in considerable detail by Denny 1979, Martin 1975, and Downing 1996. Classifiers and individuation are discussed in Kobuchi-Philip 2007 and semantics of classifiers by Matsumoto 1993. Also see Child Language Acquisition for papers addressing semantics and form of Japanese classifiers as acquired by children.

Denny, J. Peter. 1979. Semantic analysis of selected Japanese numeral classifiers for units. *Linguistics* 17:317–335.

An incisive analysis of sortal classifiers in Japanese and the basis of their assignment.

Downing, Pamela. 1996. *Numeral classifier systems: The case of Japanese*. Amsterdam: John Benjamins.

A comprehensive investigation dealing with every aspect of numeral classifiers in Japanese.

Kobuchi-Philip, Mana. 2007. Individual-denoting classifiers. *Natural Language Semantics* 15:95–130.

Analysis of morphologically complex numeral classifiers in Japanese and their interactions with quantifiers.

Martin, Samuel E. 1975. *A reference grammar of Japanese*. New Haven, CT: Yale Univ. Press.

The most comprehensive reference grammar of Japanese to date, with an in-depth analysis of classifiers and their use.

Matsumoto, Yu. 1993. Japanese numeral classifiers: A study on semantic categories and lexical organization. *Linguistics* 31:667–713.

A detailed investigation of semantic principles of assignment of numeral classifiers in Japanese.

## **Korean**

Korean has a complex system of numeral classifiers, typologically similar to that in Japanese. Major categories are addressed by Sohn 2001, and shape and other semantic parameters are addressed in Bugaeva 1970 and Bugaeva 1979. Unlike Japanese, Korean has special honorific forms of classifiers, focused on by Lee 1997. Semantics and usage of numeral classifiers in Korean are still awaiting a full analysis.

Bugaeva, T. G. 1970. Klassifikatory v korejskom jazyke. In *Lingvisticheskie issledovanija*. Edited by S. D. Katsneljson, 337–369. Leningrad: Academy of Sciences.

A pioneering account of the semantics of classifiers in Korean, richly illustrated with examples from literary sources.

Bugaeva, T. G. 1979. Numerativy v korejskom jazyke. In *Issledovanija v oblasti etimologii altajskikh jazykov*. 206–254. Leningrad: Nauka.

A seminal paper dealing with form and semantics of numeral classifiers in Korean, depending on the origin of the numeral, with a discussion of the history of approaches to classifiers in Korean grammars and dictionaries.

Lee, Yunseok. 1997. *Classifiers in Korean*. Honours thesis, Australian National Univ.

A study of the semantics and form of numerals classifiers in Korean (with a special focus on the discussion of Sino-Korean and native classifiers) and of their use among young Koreans in Australia.

Sohn, Ho-Min. 2001. *The Korean language*. Cambridge, UK: Cambridge Univ. Press.

The most comprehensive grammar of the Korean language to date, with a detailed analysis of the classifier system in the standard language.

### **North American Indian Languages**

North American Indian languages (especially Athabaskan languages, first detailed by Hoijer 1945 and then elaborated on by Carter 1976, Rushforth 1991, and Krauss 1968), have noun classes (or genders) and complicated systems of classificatory verbs and verbal classifiers. Cherokee (Blankenship 1997) and Muskogean languages also have classificatory verbs (Haas 1948). Various types are identified in Algonquian by Conathan 2004. Drapeau and Lambert-Brétière 2011 discusses specific verbal classifiers in an Algonquian language. Some Siouan languages have rare types of locative and deictic classifiers which come from verbs (Rankin 2004). An up-to-date survey is in Mithun 1999.

Blankenship, Barbara. 1997. Classificatory verbs in Cherokee. *Anthropological Linguistics* 39:92–110.

An incisive analysis of classificatory verbs in an Iroquoian language.

Carter, Robin M. 1976. Chipewyan classificatory verbs. *International Journal of American Linguistics* 42:24–30.

A classic analysis of classificatory verbs in an Athabaskan language.

Conathan, Lisa. 2004. Classifiers in Yurok, Wiyot, and Algonquian. In *Proceedings of the 30th annual meeting of the Berkeley Linguistics Society*. 22–33. Berkeley, CA: Berkeley Linguistics Society.

Analysis of a complex system of classifiers used with numerals and verbs in Wiyot and Yurok (Algic) and a comparison with distantly related Algonquian languages.

Drapeau, Lynn, and Renée Lambert-Brétière. 2011. Verbal classifiers in Innu. *Anthropological Linguistics* 53:293–322.

A comprehensive analysis of verbal classifiers in Innu, an Algonquian language, with special focus on their reference to core and oblique arguments, and functions in natural discourse.

Haas, Mary R. 1948. Classificatory verbs in Muskogee. *International Journal of American Linguistics* 14:244–246.

A fundamental paper on classificatory verbs and their correlations with the category of number in a Muskogean language. Reprinted in A. S. Dil, ed., *Language, culture, and history. Essays by Mary R. Haas*, (Stanford, CA: Stanford Univ. Press, 1978), pp. 302–307.

Hoijer, Harry. 1945. Classificatory verb stems in the Apachean languages. *International Journal of American Linguistics* 11:13–23.

A seminal contribution introducing the notion of classificatory verbs, using the material of a subgroup of Athabaskan languages.

Krauss, Michael E. 1968. Noun classification systems in Athabaskan, Eyak, Tlingit and Haida verbs. *International Journal of American Linguistics* 34:194–203.

A classic comparison of classificatory verbs and noun categorization devices in Athabaskan languages with those in related Eyak (based on original fieldwork with last speakers) and in Tlingit and Haida.

Mithun, Marianne. 1999. *The languages of native North America*. Cambridge, UK: Cambridge Univ. Press.

A state-of-the-art monograph dealing with every aspect of indigenous languages of North America, with special focus on classificatory verbs and noun classification devices and their genetic and areal distribution.

Rankin, Robert. 2004. The history and development of Siouan positionals with special attention to polygrammaticalization in Dhegiha. *Language Typology and Universals* 57.2–3: 202–227.

A classic paper (the revision of an earlier version in 1976) outlining the systems and the histories of unusual locative and deictic classifiers in Siouan languages.

Rushforth, Scott. 1991. Uses of Bearlake and Mescalero (Athapaskan) classificatory verbs. *International Journal of American Linguistics* 57:251–266.

An in-depth account of semantics and use of classificatory verbs in two Athabaskan languages and their variability.

## **Mesoamerican Languages**

Mesoamerican languages have a variety of noun classification devices: Suárez 1983 provides a general picture. Numeral classifiers as salient feature of Mayan languages are identified and described in ethnographic context by Berlin 1968 and also in Hopkins 1970. Miram 1983 investigates many aspects of numeral classifiers in Yucatec Mayan. Numeral classifiers are analyzed in a general perspective by Vapnarsky 1993. Craig 1986 identifies noun classifiers in Jacaltec and other Q'anjobalan Mayan languages. De Leon 1987 compares noun classifiers with numeral classifiers in Mixtec and Tzotzil. Chinantec languages combine noun classifiers, numeral classifiers, and noun classes (Foris 2000).

Berlin, Brent. 1968. *Tzeltal numeral classifiers: A study in ethnographic semantics*. The Hague: Mouton.

A classic investigation of the semantics and variability of choice of numeral classifiers in a Mayan language.

Craig, Colette G. 1986. Jacaltec noun classifiers. *Lingua* 70:241–284.

A seminal study of noun classifiers in a Q'anjobalan Mayan language, their semantics, and development.

de Leon, Maria de Lourdes Pasquel. 1987. Noun and numeral classifiers in Mixtec and Tzotzil: A referential view. PhD diss., University of Sussex.

A detailed and comprehensive comparative study of classifiers of two kinds, and their referential properties, based on Tzotzil and Mixtec.

Foris, David P. 2000. *A grammar of Sochiapan Chinantec*. Dallas: SIL International.

A comprehensive grammar of a previously undescribed Chinantec language, with a special focus on numeral classifiers, noun classifiers, and noun classes as independent categories.

Hopkins, Nicholas A. 1970. Numeral classifiers in Tzeltal, Jacalteco and Chuj (Mayan). In *Papers from the sixth regional meeting of the Chicago Linguistic Society, April 16–18, 1970*. 23–35. Chicago: Chicago Linguistic Society.

A pioneering survey of numeral classifiers and their different principles of assignment in three Mayan languages.

Miram, Helga-Maria. 1983. *Numeral classifiers in Yucatec Maya*. Hannover, Germany: Verlag für Ethnologie.

A comprehensive account at that date for numeral classifiers in Yucatec, one of the largest Mayan languages.

Suárez, Jorge A. 1983. *The Mesoamerican Indian languages*. Cambridge, UK: Cambridge Univ. Press.

A comprehensive but somewhat outdated overview of languages of Mesoamerica, with special focus on numeral classifiers and possible classificatory verbs.

Vapnarsky, Valentina. 1993. *De quelques procédés de classification en Maya-itza: Les classificateurs numériques*. Chantiers Amerindia, supplément 1 au n° 18 d' *Amerindia*. Paris: Association d'Ethnolinguistique Amérindienne.

A typologically oriented investigation of numeral classifiers in Mayan languages.

### **South American Indian Languages**

Amazonian languages, especially those of western Amazonia (see Aikhenvald 2003 cited under Monographs), have complicated systems of classifiers used in multiple environments (on adjectives, numerals, nouns themselves, and often also verbs and demonstratives and in possessive constructions). These are typical of Arawak, Tucanoan, Guahibo, Witotoan, and Peba-Yagua languages, and also Mndurukú, a Tupí language. Small gender systems are found in Arawá and Chapacura languages. Some Tupí-Guaraní and many Carib languages have possessive classifiers. Languages of the Andes have no classifiers, while some languages of the Pacific coast (e.g., Mochica and Chocoma) have numeral classifiers.

## General Studies

Adelaar 2004 is a survey of languages of the Andes and adjacent areas and introduces some of the classifier systems. Derbyshire and Payne 1990 is a good example of a survey of classifiers in Amazonian languages. An up-to-date approach is in the papers in Dixon and Aikhenvald 1999. Aikhenvald 1996 reviews classifier systems across the Arawak family (the largest in South America). Aikhenvald 2007 analyzes classifier systems in languages of the Pacific coast of South America. Aikhenvald 2012 offers a comprehensive analysis of genders and classifier types in Amazonian languages. Aikhenvald 2014 explores correlations between classifiers and number.

Adelaar, Willem F. H. 2004. *The languages of the Andes*. Cambridge, UK: Cambridge Univ. Press.

A comprehensive account of languages of the Andean area and neighboring regions, with a brief coverage of systems of classifiers and noun classes in most families in Lowland Amazonia and areas adjacent to the Andes.

Aikhenvald, Alexandra Y. 1996. Classe nominal e gênero nas línguas Aruák. *Boletim do museu Goeldi* 10:137–259.

A detailed discussion of systems of noun classification with a special focus on numeral classifiers and classifiers used in multiple environments in about sixty Arawak languages, with a tentative reconstruction of some forms.

Aikhenvald, Alexandra Y. 2007. Languages of the Pacific coast of South America. In *The vanishing languages of the Pacific Rim*. Edited by Osahito Miyaoka, Osamu Sakiyama, and Michael Krauss, 183–205. Oxford: Oxford Univ. Press.

A brief survey of languages of the Pacific coast of South America (including Mochica, Barbacoan, Chocoan, and others), with an overview of their classifier systems.

Aikhenvald, Alexandra Y. 2012. *The languages of the Amazon*. Oxford: Oxford Univ. Press.

An account of grammar of 350 languages of Lowland Amazonia: Chapter 10, “Reflecting the world around us: Genders, noun classes, and classifiers,” focuses on different types of classifiers and genders in Amazonian languages, their functions, genetic and areal distribution, and also functions in discourse and lexicon.

Aikhenvald, Alexandra Y. 2014. Number and noun categorization: A view from north-west Amazonia. In *Number—Constructions and semantics: Case studies from*



*Africa, Amazonia, India and Oceania*. Edited by Gerrit J. Dimmendaal and Anne Storch, 33–55. Amsterdam: John Benjamins.

Number marking, genders, animacy, and additional semantic parameters in multiple classifier systems account for intricate semantic subcategorization of noun referents in languages of northwest Amazonia (belonging to Arawak, Tucanoan, and Guahibo families). Contact-induced change is shown to have played a role in development of these systems.

Derbyshire, Desmond C., and Doris L. Payne. 1990. Noun classification systems of Amazonian languages. In *Amazonian linguistics: Studies in Lowland South American Indian languages*. Edited by Doris L. Payne, 243–272. Austin: Univ. of Texas Press.

A pioneering overview of classifier systems in a selection of Lowland Amazonian languages (mostly outdated now).

Dixon, R. M. W., and Alexandra Y. Aikhenvald, eds. 1999. *The Amazonian languages*. Cambridge, UK: Cambridge Univ. Press.

A collection of state-of-the-art contributions on major and minor language families of Lowland Amazonian languages, with special focus on classifier systems.

#### **Languages with Classifiers in One Environment**

A few South American languages have classifiers or other noun categorization devices in just one morphosyntactic environment. Dixon 1996 is a paradigmatic example of historical analysis of a noun class system in Arawá languages. Dixon 2004 is a comprehensive analysis of a small noun class (gender) system in Jarawara and other Arawá languages. Deictic classifiers in Toba, a Guaicuruan language from Argentina, are argued for by Klein 1979. Deictic classifiers originating in positional verbs and used in several constructions in Pilagá, also Guaicuruan, are discussed by Vidal 1997. Generic nouns as possessive classifiers in a Carib language are introduced by Koehn 1994. An unusual set of oppositions in possessive classifiers in Kariri, an extinct Macro-Jê language, is described by Rodrigues 1997.

Dixon, R. M. W. 1996. Fusional development of gender marking in Jarawara possessed nouns. *International Journal of American Linguistics* 61:263–294.

A fundamental study of a system of two genders with semantically opaque assignment and the development of gender marking in Jarawara, an Arawá language.

Dixon, R. M. W. 2004. *The Jarawara language of southern Amazonia*. Oxford: Oxford Univ. Press.

A comprehensive grammar of a language from the Arawá family, focusing on the semantics, usage, and history of its gender system.

Klein, Harriet E. M. 1979. Noun classifiers in Toba. In *Ethnolinguistics: Boas, Sapir and Whorf revisited*. Edited by Madeleine Mathiot, 85–95. The Hague: Mouton.

The first attempt at analyzing noun classifiers in Toba, a Guaicuruan language, with an unusual system of deictic classifiers categorizing the noun referent in terms of its position in space.

Koehn, Sally. 1994. The use of generic terms in Apalaí genitive constructions. *Revista latinoamericana de estudios etnolingüísticos* 8:39–48.

An incisive account of generic classifiers in constructions with alienable possession in Apalaí, a Carib language from Brazil, in the context of other Carib languages.

Rodrigues, Aryon D. 1997. Nominal classification in Kariri. *Opción* 13:65–79.

A pioneering discussion of a highly unusual system of twelve possessive classifiers in Kipeá-Karirí, an extinct Macro-Jê language (based on old sources).

Vidal, Alejandra. 1997. Noun classification in Pilagá: Guaykuran. *Journal of Amazonian Languages* 1:60–111.

A comprehensive analysis of deictic classifiers in the context of other noun classification devices in Pilagá, a Guaicuruan language, with a discussion of how classifiers originate in positional verbs.

### **Languages with Classifiers in Multiple Environments**

Classifiers used in multiple environments (on adjectives, numerals, and nouns themselves, and often also verbs and demonstratives and in possessive constructions) are a feature of several subgroups of Arawak languages discussed in Aikhenvald 2007, from a language contact perspective. Palikur, also Arawak, has the largest number of classifier types in the world (Aikhenvald and Green 1998). Tuyuca has numerous contexts of classifier use, as do most other Tucanoan languages (Barnes 1990). These vary in form and meaning and change in language contact situations, as shown in Gomez-Imbert 1996. Mundurukú, a Tupí language, has multiple classifiers, many of which go back to nouns (Gonçalves 1987). A typologically similar system in Witotoan languages is discussed by Seifart 2006. Unusual types of verbal classifiers are discovered by Malone 2004. Correlations

between classifier semantics and ethnozoological classification are the subject of Shepard 1997.

Aikhenvald, Alexandra Y. 2007. Classifiers in multiple environments: Baniwa of Içana/Kurripako, a North Arawak perspective. *International Journal of American Linguistics* 27:475–500.

A detailed analysis of systems of classifiers in multiple environments (with numerals, demonstratives, adjectives, and verbs and in possessive constructions) in Baniwa of Içana/Kurripako and Tariana, two related languages from the Arawak family, from northwest Amazonia, with a historical scenario of development.

Aikhenvald, Alexandra Y., and Diana Green. 1998. Palikur and the typology of classifiers. *Anthropological Linguistics* 40:429–480.

A detailed analysis of the most complicated system of classifiers (with three genders, numeral classifiers, verbal classifiers, locative classifiers, and possessive classifiers, different in form and meaning) in Palikur, an Arawak language spoken in Brazil and in adjacent areas of French Guiana.

Barnes, Janet. 1990. Classifiers in Tuyuca. In *Amazonian linguistics: Studies in Lowland South American Indian languages*. Edited by Doris L. Payne, 273–292. Austin: Univ. of Texas Press.

A seminal study of a complex classifier system in an East Tucanoan language, where classifiers appear on demonstratives, nouns, verbs, and adjectives, and also in possessive constructions, with an additional discussion of classifiers that have the same form as the nouns, and the semantics of classifier choice.

Gomez-Imbert, Elsa. 1996. When animals become “rounded” and “feminine”: Conceptual categories and linguistic classification in a multilingual setting. In *Rethinking linguistic relativity*. Edited by John J. Gumperz and Stephen C. Levinson, 438–469. Cambridge, UK: Cambridge Univ. Press.

An investigation of contact-induced change in Cubeo, an East Tucanoan language from Colombia, whose assignment of classifiers to animates underwent restructuring under the influence of Kurripako, an Arawak language.

Gonçalves, Cristina H. R. C. 1987. *Concordância em Munduruku*. Campinas, Brazil: Editora da Unicamp.

A pioneering analysis of classifiers in Munduruku, a Tupí language, with numerous classifiers used with demonstratives, numerals, and verbs, and on nouns

themselves, with an attempt at tracing a historical development for the classifier forms.

Malone, Terrell. 2004. Classifiers in Chimila (Chibchan). *Language Typology and Universals* 57.2–3: 117–143.

A seminal contribution to the study of verbal classifiers, addressing the coexisting systems of several classifier systems encoded in verbs in Chimila, a poorly described Chibchan language.

Seifart, Frank. 2006. The structure and use of shape-based noun classes of Miraña. PhD diss., Radboud Universiteit Nijmegen.

A description of noun classes and classifiers used with numerals, demonstratives, and verbs in an obsolescent dialect of Bora, from the Witotoan family. Earlier versions appeared in *El sistema de clasificación nominal del miraña* (Bogotá, Colombia: CCELA, 2002) and in *Language Typology and Universals* 57 (2004).2–3: 228–246.

Shepard, Glenn H., Jr. 1997. Noun classification and ethnozoological classification in Machiguenga, an Arawakan language of the Peruvian Amazon. *Journal of Amazonian Languages* 1:29–57.

An in-depth study of a multiple classifier system in a Campa language, from the Arawak language family, with special focus on the correlations between linguistic and ethnozoological categorization of entities.

### **Australian Aboriginal Languages**

Australian Aboriginal languages display a variety of systems of noun classes and noun classifiers (Dixon 1968, cited under Genders and Noun Classes; see also Dixon 1982, cited under General Typological Issues). Verbal classifiers are attested in a few languages in northern Australia, while numeral classifiers are found exclusively in Anindilyakwa. Dixon 2002 is the state-of-the-art work on all issues in Australian languages. Nominal classification is specifically addressed in Harvey and Reid 1997. Sands 1995 introduces new classifier types (e.g., deictic classifiers). Noun classes are addressed by Harvey 1997. An in-depth analysis of noun classifiers appears in Dixon 1977, and a somewhat different system is in Reid 1990. Verbal classifiers are shown to relate to incorporated nouns by Evans 1996. Heath 1978 shows how noun classification can undergo restructuring in language contact.

Dixon, R. M. W. 1977. *A grammar of Yidiny*. Cambridge, UK: Cambridge Univ. Press.

A comprehensive grammar of an endangered Australian language with an elaborate system of noun classifiers. The most thorough investigation of noun classifiers in an Australian language to this date.

Dixon, R. M. W. 2002. *Australian languages: Their nature and development*. Cambridge, UK: Cambridge Univ. Press.

A state-of-the-art exhaustive study with a comprehensive discussion of noun classes, generic noun classifiers, and classifiers on verbs, and their historical development.

Dixon, R. M. W. 2015. *Edible gender, mother-in-law style, & other grammatical wonders: Studies in Dyirbal, Yidiñ, and Warrgamay*. Oxford: Oxford Univ. Press.

A comprehensive account and reappraisal of various grammatical phenomena in key Aboriginal languages of North Queensland, with special focus on a thorough examination of, and comparison between, the gender system in Dyirbal (one of whose members refers to “edible vegetables”) and the set of noun classifiers in Yidiñ, cast in an Australian and in a typological perspective.

Evans, Nicholas. 1996. The syntax and semantics of body part incorporation in Mayali. In *The grammar of inalienability: A typological perspective on body part terms and the part-whole relation*. Edited by Hilary Chap`pell and W. McGregor, 69–109. Berlin: Mouton de Gruyter.

This incisive paper investigates syntactic properties of generic verbal classifiers and their historical relationships with incorporated body part nouns.

Harvey, Mark. 1997. Nominal classification and gender in Aboriginal Australia. In *Nominal classification in Aboriginal Australia*. Edited by Mark Harvey and Nicholas Reid, 17–62. Amsterdam: John Benjamins.

An introduction to Harvey and Reid 1997, with a survey of semantics and forms of noun class markers in a selection of Australian languages.

Harvey, Mark, and Nicholas Reid, eds. 1997. *Nominal classification in Aboriginal Australia*. Amsterdam: John Benjamins.

A collection of papers with a partial focus on noun classes and their areal distribution in Australian languages, and also on noun classifiers and generic classifier constructions, covering a number of poorly described languages of the Daly River area (Marrithiyel, Ngan’gityemmerri and Murrinhpatha).

Heath, Jeffrey. 1978. *Linguistic diffusion in Arnhem Land*. Australian Aboriginal Studies: Research and Regional Studies 13. Canberra: Australian Institute of Aboriginal Studies.

A seminal study of areal diffusion and contact-induced change between languages in northern Australia, with a focus on diffusion of noun classes and their exponents.

Reid, Nicholas. 1990. Ngan'gityemerri. A language of the Daly river region, Northern Territory of Australia. PhD diss., Australian National University.

A comprehensive grammar of a northern Australian language from the Daly River area with an unusual system of noun classifiers and noun classes, which can be shown to have developed from classifiers.

Sands, A. Kristina. 1995. Nominal classification in Australia. *Anthropological Linguistics* 37:247–346.

A comprehensive and pioneering survey of noun classes, noun classifiers, and verbal classifiers in Australian languages.

## **Austronesian Languages**

Many Austronesian languages (including Formosan languages) have numeral classifiers. In addition to these, most languages of the Oceanic subgroup have classifiers in possessive constructions. Most grammars of Oceanic languages address possessive classifiers (usually in a separate chapter).

### **Possessive Classifiers**

A typical feature of Oceanic languages is classifiers in possessive constructions. These categorize the possessed noun in terms of whether the referent can be eaten, drunk, and so on, and also in terms of its shape and other physical properties. (See Lichtenberk 1983 in *Specific Issues: Possessive Classifiers* and Conklin 1981 cited under *Languages of Southeast Asia: Tai-Kadai Languages*. See also *Tai-Kadai Languages* and Aikhenvald 2003 cited under *Monographs*.) Dixon 1988 discusses a previously undescribed system in Boumaa Fijian, and how new notions undergo reclassification. A historical scenario is in Harrison 1988, and a general picture is given in Lynch, et al. 2002. Elbert 1974 describes the largest system of possessive classifiers in the world. Correlations with social structures are revealed by Keating 1997. Lichtenberk 1985 places classifiers in the context of possessive constructions, and Song 2005 discusses their reinterpretation as benefactives.

Dixon, R. M. W. 1988. *A grammar of Boumaa Fijian*. Chicago: Univ. of Chicago Press.

A comprehensive grammar of a dialect of Fijian, with a special focus on the system of possessive classifiers.

Elbert, Samuel H. 1974. *Puluwat grammar*. Canberra, Australia: Pacific Linguistics.

A comprehensive grammar of an Oceanic language with an unusually large system of possessive classifiers.

Harrison, Shelley P. 1988. A plausible history for Micronesian possessive classifiers. *Oceanic Linguistics* 27:63–78.

A state-of-the-art discussion of the verbal origins of possessive classifiers in Micronesian languages, with special focus on Mokilese.

Keating, Elisabeth. 1997. Honorific possession: Power and language in Pohnpei, Micronesia. *Language and Society* 26:247–268.

A seminal discussion of possessive classifiers in Pohnpeian, which distinguish three levels of honorific forms, and of the ways they reflect power relationships and attitudes to ownership, including those of food and of land.

Lichtenberk, Frank. 1985. Possessive constructions in Oceanic languages and in Proto-Oceanic. In *Austronesian linguistics at the 15th Pacific Science Congress*. Edited by A. P. Pawley and L. Carrington, 93–140. Canberra, Australia: Pacific Linguistics.

A comprehensive discussion of the etymology and the development of possessive classifiers from Proto-Oceanic to modern languages.

Lynch, John, Malcolm Ross, and Terry Crowley. 2002. *The Oceanic languages*. London: Curzon.

This collection of papers contains an introductory chapter with some discussion of possessive classifiers and of numeral classifiers in Proto-Oceanic, and a number of grammatical sketches of Oceanic languages, most of which have classifiers.

Song, Jae Jung. 2005. Grammaticalization and structural scope increase: Possessive-classifier-based benefactive marking in Oceanic languages. *Linguistics* 43:795–838.

A useful survey article summarizing the properties of possessive classifiers in Oceanic languages and their grammaticalization paths as benefactive markers.

#### **Other Contexts**

A few Austronesian languages have numeral classifiers. A pioneering study is in Silverman 1962. Lynch, et al. 2002 provides a survey. The combination of numeral and adjectival classifiers in Truquese is addressed by Benton 1968. Kilivila (Senft 1996) has an unusually large system of classifiers used in multiple environments (numerals, demonstratives, and adjectives). Malinowski 1920 is the pioneering study. Further aspects of classifier use are discovered by Lawton 1993. Minangkabau (Western Austronesian) combines noun classifiers with numeral classifiers, which, according to Marnita 1996, undergo attrition at different rates. Tang 2004 is a pioneering study of unusual semantics of numeral classifiers in a Formosan language.

Benton, R. A. 1968. Numeral and attributive classifiers in Truquese. *Oceanic Linguistics* 7:104–146.

A pioneering discussion of numeral classifiers, possessive classifiers, and classifiers used with modifiers in an Oceanic language. There is a large set of classifiers, and some of them have the same form as the noun they classify (this is known as “repeater” or “auto-classifier”).

Lawton, Ralph S. 1993. *Topics in the description of Kiriwina*. Canberra, Australia: Pacific Linguistics.

A comprehensive fieldwork-based investigation of classifiers used in multiple contexts in Kiriwina (or Kilivila), an Oceanic language of the Trobriand Islands.

Lynch, John, Malcolm Ross, and Terry Crowley. 2002. *The Oceanic languages*. London: Curzon.

This collection of papers contains an introductory chapter with some discussion of possessive classifiers and of numeral classifiers in Proto-Oceanic, and a number of grammatical sketches of Oceanic languages, most of which have classifiers.

Malinowski, Bronislaw. 1920. Classificatory particles in the language of Kiriwina. *Bulletin of the School of Oriental Studies* 1.4: 33–78.

This pioneering study was the first one to describe the phenomenon of multiple classifiers in Kilivila, the Oceanic language of the Trobriand Islands.

Marnita, Rina A. S. 1996. Classifiers in Minangkabau. M.A. thesis, Australian National University.

An in-depth study of numeral classifiers and noun classifiers in Minangkabau, a Western Austronesian language, and their reduced usage by younger speakers of the language.



Senft, Gunter. 1996. *Classificatory particles in Kilivila*. New York: Oxford Univ. Press.

A comprehensive investigation of multiple classifiers in Kilivila, with information on statistics of classifier usage and remarks on child language acquisition.

Silverman, M. G. 1962. Numeral classifiers in the Gilbertese language. *Anthropology Tomorrow* 8:41–56.

A pioneering study of a large system of numeral classifiers in an Oceanic language.

Tang, Chih-Chen Jane. 2004. Two types of classifier languages: A typological study of classification markers in Paiwan noun phrases. *Language and Linguistics* 5:377–407.

A typological analysis of numeral classifiers in Paiwan, a Formosan language, in comparison with Chinese.

### **Non-Austronesian (Papuan) Languages of New Guinea**

Non-Austronesian (or Papuan) languages of the New Guinea area display complex systems of noun categorization devices, including noun classes, classificatory verbs, and classifiers in multiple environments.

#### **General Surveys**

Unusual noun class agreement systems in Papuan languages were first outlined by Foley 1986. Lang 1975 is the first comprehensive study of classificatory verbs in the languages of the New Guinea Highlands. Merlan, et al. 1997 shows similarities between the semantics of classificatory verbs and noun class systems (in Australian languages). Noun classes and additional classifier types are summarized in Aikhenvald and Stebbins 2007.

Aikhenvald, Alexandra Y., and Tonya N. Stebbins. 2007. Languages of New Guinea. In *The vanishing languages of the Pacific Rim*. Edited by Osahito Miyaoka, Osamu Sakiyama, and Michael Krauss, 239–266. Oxford: Oxford Univ. Press.

A survey article on languages of New Guinea with a brief state-of-the-art summary of noun class and classifier systems across the area.

Foley, William A. 1986. *The Papuan languages of New Guinea*. Cambridge, UK: Cambridge Univ. Press.

An overview of non-Austronesian languages of New Guinea, with a survey of noun classification devices (state-of-the-art at the time).

Lang, Adrienne. 1975. *The semantics of classificatory verbs in Enga and other Papua New Guinea languages*. Canberra, Australia: Pacific Linguistics.

An in-depth analysis of classificatory existential verbs in Enga (Engan family), from the Highlands of New Guinea.

Merlan, Francesca, Steven Powell Roberts, and Alan Rumsey. 1997. New Guinea “classificatory verbs” and Australian noun classification: A typological comparison. In *Nominal classification in Aboriginal Australia*. Edited by Mark Harvey and Nicholas Reid, 63–103. Amsterdam: John Benjamins.

A seminal paper with a potted description of classificatory existential verbs and verbal classifiers in the languages of Papua New Guinea, and how their semantics compares to noun classes in languages of northern Australia.

#### Various Types

Languages of the Highlands of New Guinea and also of the Sepik area display complex systems of classificatory existential verbs (Brown 1981). Languages of the Sepik area also have noun class systems of varying complexity (Foley 1991, Aronoff 1992, Dobrin 2012, Fortune 1942). The assignment of genders in the Sepik area can be based on the shape and size of a referent, as shown in Aikhenvald 2008. Aikhenvald 2012 offers a broader Papuan and cross-linguistic perspective on these semantic features. Baining languages (Stebbins 2005) have pervasive and complex noun class agreement. Complex systems of classifiers in multiple environments have been discovered in languages of Madang and Morobe provinces and in the Bougainville area (Ingram 2003, Hurd 1977). Klamer 2014 addresses numeral classifiers in Teiwa, a Papuan language of Pantar.

Aikhenvald, Alexandra Y. 2008. *The Manambu language, from East Sepik, Papua New Guinea*. Oxford: Oxford Univ. Press.

A comprehensive grammar of a previously undescribed language from the Ndu family, with a focus on its small gender system correlated with shape of the referent; provides a perspective on languages of the Sepik area.

Aikhenvald, Alexandra Y. 2012. Round women and long men: Shape and size in gender choice in Papua New Guinea and beyond. *Anthropological Linguistics* 54.1: 33–86.

A comprehensive analysis of the semantics of shape and size in variable gender assignment in languages of the Sepik and other regions of Papua New Guinea, in a typological perspective (covering Afroasiatic and other languages).

Aronoff, Mark. 1992. Noun classes in Arapesh. In *Yearbook of morphology 1991*. Edited by Geert Booij and Jaap van Marle, 21–32. Dordrecht, The Netherlands: Kluwer.

A comprehensive reappraisal of unusual and complex system of noun classes in Arapesh, based on information in Fortune 1942.

Brown, Robert. 1981. Semantic aspects of some Waris predications. In *Syntax and semantics in Papua New Guinea languages*. Edited by Karl J. Franklin, 93–123. Ukarumpa, Papua New Guinea: Summer Institute of Linguistics.

A comprehensive account of classificatory existential verbs in Waris (Border family).

Dobrin, Lise Miriam. 2012. *Concreteness in grammar: The noun class systems of the Arapesh languages*. Stanford, CA: CSLI.

Based on an exhaustive search of published sources and the author's firsthand fieldwork, this book explores the role of phonological form in the noun class systems of the Arapesh languages. In Arapesh, virtually every possible final ending of a noun is represented in the paradigm of noun class and agreement markers, reflecting an interpenetration of sound structure and grammar. The analysis is cast in a cross-linguistic perspective and offers insight into neighboring languages.

Foley, William A. 1991. *The Yimas language of New Guinea*. Stanford, CA: Stanford Univ. Press.

A comprehensive grammar of a previously undescribed language from the Lower Sepik family, with a complex system of noun classes (with noun class agreement based partially on the semantics of the referent and partially on phonological makeup of the noun).

Fortune, Reo. 1942. *Arapesh*. Publications of the American Ethnological Society 19. New York: J. J. Augustin.

Pioneering description of noun class system and agreement in Arapesh.

Hurd, Conrad. 1977. Nasioi projectives. *Oceanic Linguistics* 16:111–178.

Comprehensive discussion of classifiers in multiple environments in Nasioi, a previously undescribed language from Bougainville.

Ingram, Andrew. 2003. The morphosyntax of classifiers in Anamuxra: Details of a multiple classifier system. *Anthropological Linguistics* 45:129–168.

A first account of the form and the meaning of classifiers and repeaters in multiple environments (with nouns, numerals, demonstratives, and verbs) in Anamuxra, a previously undescribed language from Madang province.

Klamer, Marian. 2014. The history of numeral classifiers in Teiwa (Papuan). In *Number—Constructions and semantics. Case studies from Africa, Amazonia, India and Oceania*. Edited by Gerrit J. Dimmendaal and Anne Storch, 135–166. Amsterdam: John Benjamins.

An insightful analysis of a small system of numeral classifiers in Teiwa, a Papuan language of Pantar which developed as a result of reanalysis and which is also under areal pressure from surrounding Austronesian languages.

Stebbins, Tonya N. 2005. Nominal classification in Mali. *Anthropological Linguistics* 47:77–131.

A comprehensive fieldwork-based analysis of noun class semantics and agreement in Mali, a Baining language from East New Britain.

## **Sign Languages**

Most if not all sign languages have verbal classifiers realized as handshapes. There is a growing body of literature addressing noun categorization devices in sign languages, including edited collections (Emmorey 2003 and Morgan and Woll 2007). The first ever analysis of classifiers in a sign language is Supalla 1986. Zwitserlood 2003 investigates handshapes as classifiers in the sign language of the Netherlands. Aikhenvald 2003 puts classifiers in sign languages in typological perspective.

Aikhenvald, Alexandra Y. 2003. Classifiers in spoken and signed languages: How to know more. In *Perspectives on classifier constructions in sign language*. Edited by Karen Emmorey, 87–90. Mahwah, NJ: Lawrence Erlbaum.

This source puts classifiers in sign languages in typological perspective.

Emmorey, Karen, ed. 2003. *Perspectives on classifier constructions in sign language*. Mahwah, NJ: Lawrence Erlbaum.

A state-of-the art collection of papers on classifiers in a selection of sign languages.

Morgan, Gary, and Bencie Woll, eds. 2007. *Special Issue: The linguistics of sign language classifiers: Phonology, morpho-syntax, semantics and discourse*. *Lingua* 117.7: 1159–1354.

A collection of papers on various issues in the use and interpretation of classifiers in a selection of sign languages (including telicity, causation, and body part classifiers). Covers contributions on German Sign Language, American Sign Language, and Hong Kong Sign Language.

Supalla, Ted. 1986. The classifier system in American Sign Language. In *Noun classes and categorization: Proceedings of a symposium on categorization and noun classification, Eugene, Oregon, October 1983*. Edited by Colette G. Craig, 181–214. Amsterdam: John Benjamins.

A pioneering paper on classifiers in a sign language, laying the foundation for the analysis of handshapes on par with classifiers in spoken languages.

Zwitserslood, Inge. 2003. *Classifying hand configurations in Nederlandse Gebarentaal (Sign Language of the Netherlands)*. Amsterdam: LOT.

A comprehensive analysis of noun categorization devices in Sign Language of the Netherlands and their use in natural discourse.