Introduction

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The problem of nominal classification has been discussed in a number of outstanding publications, notably in Gerlach Royen's 1929 classic *Die nominalen Klassifikations-Systeme in den Sprachen der Erde*, in the three volumes on *Apprehension* published by Hansjakob Seiler and the members of his Cologne group (Seiler and Lehmann 1982; Seiler and Stachowiak 1982; Seiler 1986) and more recently, for example, in Colette Craig's volume on *Noun Classes and Categorization* (Craig 1986). In the literature on this topic, the various types of nominal classification like, for example, noun classes, numeral classifiers, classificatory verbs and gender systems are defined, described and differentiated from one another. However, the discussion of nominal classification so far has left open a number of important issues that are approached in this collection from very different angles. The contributions to this volume present new ideas about the problem of classification, and they offer general typological classifications and descriptions of systems of nominal classification of a variety of languages. The volume attempts especially to clarify the interface between anthropological and grammatical work on nominal classification, and all chapters adopt an anthropological linguistic perspective – to a greater or lesser extent. With only two exceptions the contributions in this volume discuss systems of nominal classification that have a conceptual–semantic basis rather than a formal basis. Thus, this collection is biased. However, it reflects and represents with this bias the latest 'mainstream' approaches in nominal classification research.

The volume starts with two contributions on general issues. The first chapter presents basic questions that have to be asked in researching any system of nominal classification, while the second chapter tries to come up with a typology of systems of nominal classification.

In my introductory chapter 'What do we really know about nominal classification systems?' I attempt to summarize and to highlight some of the fundamental questions of nominal classification in language that

are also discussed elsewhere in this collection. The chapter is based on my own research on the rather complex system of classificatory particles in Kilivila, the Austronesian language of the Trobriand Islanders (Senft 1996). Therefore, I first outline the essential problems and questions that arise from so-called 'classifier languages'. However, I also try to show that most of these issues are more general and hold as well for other systems of nominal classification.

Among the questions discussed are the following: What are the semantic bases for the classification of nouns in various languages? What are the basic parameters, and/or the basic semantic distinctions that are expressed in nominal classification? What is actually classified – extralinguistic referents or the kinds of nouns within the language? What functions do the various types of nominal classification fulfill? Especially, how do they function in discourse? To what extent do they presuppose (obligatory) distinctions or to what extent are they creative of categories? What about their creative power in discourse, i.e. how easily can nominal concepts be reclassified and then take over the function of metaphor, and on what semantic and pragmatic parameters is this power based? Do our attempts to describe the systems of nominal classification camouflage what is really going on? It could be argued that we start our descriptions, for example, by characterizing and labelling certain semantic domains, but then treat these domains as if they were static wholes, forgetting that they are actually interacting with each other. How do we get a more dynamic description which is faithful to speaker knowledge and intention? Is it legitimate (as it is often done) to treat different types of nominal classification – e.g. noun classes and numeral classifiers – as if they were similar and lying on some sort of cline?

Many aspects of these questions cannot yet be answered in a satisfactory way, and, as has been clear since Royen (1929: iv), the question of nominal classification raises many distinct issues. Most of these questions, however, have to be addressed before we will be able to answer what is probably the most general and also most important question, namely: how is the perceived world expressed in, and through, various systems of nominal classification that are grammatically encoded in various languages?

In her chapter 'A morphosyntactic typology of classifiers' Colette Grinevald presents a summary of the state of the art with respect to research on classifier systems with the aim of producing a classificatory scheme that might facilitate the identification and the description of

such systems in lesser-known languages. Her typology articulates the diversity of classifier systems along two axes: the first follows the initial morphosyntactic approach to the description of the phenomenon, the second considers what a functional–typological orientation means in terms of an account of the phenomenon. On the basis of her long-term interest in, and research on, classifier languages (see, e.g., Craig 1986, 1994) Grinevald first presents a rationale for proposing a typology of classifier systems, she then presents such a typology, illustrates the types of classifier systems and elaborates on three arguments that support her typology with respect to her distinction of the numeral, noun and genitive classifier types. With her typology she makes two claims: first, she proposes that there 'exists a linguistic category of "classifiers" in some languages . . . which is distinct from other nominal classification systems of more grammatical and more lexical nature and which has a particular function in language', and second, she claims that there exist also 'various types of classifiers which supposedly would have distinct functions from each other'. After discussing similar and different functions of various classifier systems Grinevald finishes her chapter by proposing a typology of classifier systems from a functional–typological perspective 'which takes into account the various dynamics of linguistic systems and the particular types they exhibit, and which appeals to the notion of prototype for its categorization model'.

The following five chapters discuss some of the leading questions addressed in the first two more general contributions on basic issues in nominal classification. They start from different angles and theories on the basis of various systems of so-called 'classifier languages'. Most of the systems represented by these 'classifier languages' are difficult to describe using the traditional frameworks available. Such frameworks attempt to treat the individual techniques of nominal classification as though they have clear-cut boundaries; but the description of most of the languages in this collection shows that this is not the case.

Whereas Grinevald puts the emphasis of her chapter on the major types of classifier systems, Alexandra Aikhenvald discusses a representative of a more 'marginal' type of these systems, namely the multiple classifier system in Tariana, a North-Arawak language. In her chapter 'Unusual classifiers in Tariana' she first gives a brief overview of the Tariana classifier system. This language distinguishes two genders, possessive, verbal, noun and numeral classifiers as well as noun class markers. Moreover, we find classifiers with demonstratives and classifiers with articles. Aikhenvald describes these constructions and compares

them with respect to their semantic and pragmatic properties. After discussing areal properties of this multiple classifier system Aikhenvald finishes her chapter by summarizing the properties of the six classifier types in Tariana (possessive and verb classifier, noun classifier, noun class, numeral classifier, demonstrative classifier, article classifier) and by discussing the status and the functions of demonstrative and article classifiers within this fascinating multiple classifier system.

Tariana is a language with a multiple classifier system in which the same classifier morphemes can be used in distinct morphosyntactic contexts. The Mayan language Akatek is also a language with multiple classifier systems, but in this language we find more than one set of classifier morphemes in different functions. Roberto Zavala describes in his chapter 'Multiple classifier systems in Akatek (Mayan)' four different subsystems of classificatory devices, namely classificatory suffixes, sortal numeral classifiers, plural for humans, and nominal classifiers. With the paradigmatic and morphosyntactic description of these four subsystems of classification Zavala also sketches the process of grammaticalization of the two numeral classifier systems and of the nominal classifier system. He suggests that Akatek nouns are non-individuated morphemes that require classifiers in morphosyntactic contexts where an individuated or specific noun is demanded and he argues for a semantic and morphosyntactic distinction between numeral classifiers and mensuratives. In his chapter Zavala discusses the following questions that are central for the discussion of classifier systems. Why does a language require classifiers? What is the status of nouns in a language that uses classifiers? Where do classifiers come from? What are the patterns of grammaticalization of the classifier morphemes? How do the different classifier systems interact? What is the morphosyntactic and semantic difference between numeral classifiers and mensuratives? How do classifiers interact with other devices that convey definiteness and specificity?

In his chapter 'Ants, ancestors and medicine: a semantic and pragmatic account of classifier constructions in Arrernte (Central Australia)' David Wilkins discusses the generics/noun classifiers of this Pama-Nyungan language and argues – on the basis of a semantic description and an analysis of discourse properties of lexical noun classifiers of the Australian type – 'that a language can have classifier constructions without having classifiers'. Wilkins' analysis of Mparntwe Arrernte texts suggests 'that classifier constructions function . . . to determine which properties of an entity are relevant from the point of view of the current

discourse context'. This contribution proposes a descriptive model with the following characteristics: in this model the meaning of nouns and constructions can be decomposed into a set of knowledge structures. These knowledge structures in turn can be represented as a set of propositions couched in natural language. The model gives a monosemous account for generic nouns and treats the apparent 'classifier effect' as constructional. Moreover, in the model the generic noun in the classifier construction functions to delimit the subset of knowledge structures encoded in the meaning of the specific noun which is relevant to discourse context. And finally the model proposes that the noun phrase containing classifier construction indicates the following: in a given context the speaker wants the addressee to 'frame the referent of the construction from the point of view of its being an entity with some or all of the properties indicated in the specific noun, but whose discourse relevant properties are determined by its being an entity of the kind indicated by the generic noun (and not an entity of another kind)'. In his attempt to better understand nominal classification in Arrernte, Wilkins also takes a comparative perspective, comparing Arrernte with the Australian language Yidiny and the Mayan language Jakaltek, questioning the claim that both Yidiny and Jakaltek have noun classifiers. Moreover, Wilkins discusses an areal distinction in generic usage between central and north-eastern Australia and shows 'that there are at least three different types of classification which different Australian languages manifest through their deployment of generics/classifiers'. The question remains open, however, 'which if any of these "classification" types warrants the designation *noun classifier* (at least in the sense that it applies to Jakaltek)'. Throughout his paper Wilkins highlights and emphasizes the importance of the context of use and of shared cultural knowledge for explaining how and why generic nouns and generic-specific constructions are used in the Arrernte system of nominal classification.

Contextual information and culturally accepted conceptual structures also play an important part in Kyoko Inoue's chapter 'Visualizing ability and nominal classification: evidence of cultural operation in the agreement rules of Japanese numeral classifiers'. Inoue shows that in Japanese numeral classifier choice is highly dependent on 'how speakers can mentally view and manipulate a noun'. Inoue refers to this ability as 'imaginableness, mental visualization' or 'visualizing ability' which she can easily detect in her analysis of how Japanese children acquire the numeral classifier system of their mother tongue. In three case

studies on how Japanese children with different linguistic backgrounds memorize and use classifiers in certain contexts, Inoue points out that different cultural and linguistic backgrounds affect classifier usage. Thus, she shows that the analysis of what determines the agreement between a numeral classifier and a noun requires an integrated analysis involving not only syntax and semantics but also conceptual and cultural perspectives and she emphasizes that 'constellations of cultural and social knowledge . . . over-ride formal and semantic factors'.

In his chapter 'Isolation of units and unification of isolates: the gestalt-functions of classifiers' Jürgen Broschart goes beyond a purely linguistic discussion of the semantics and pragmatics of classifiers, demonstrating that the linguistic function of classifiers follows the principles of 'unification' and 'isolation' that are postulated in the framework of Gestalt Theory. This chapter mainly discusses classifier constructions in languages of Oceania like Trukese, Boumaa Fijian, Hawaiian, Samoan and (most prominently) Tongan. Broschart differentiates 'unitizing classifiers' (i.e. sortal/numeral, mensural, and collective classifiers) and 'non-unitizing classifiers' (i.e. noun, possessive/relational, and locative classifiers), discusses discourse features of classifiers and classifier-like elements and claims that the function of classifiers is to specify the gestalt of their referent. The unitizing classifiers follow the principle of 'isolation of units'; they 'define units of different kinds . . . which are characterized by a high degree of manipulability'. Broschart shows that 'the more grammaticalized the constructions are, the more will the classifying elements be used for the identification of manipulable units of the discourse'. The non-unitizing classifiers follow the principle of 'unification of isolates'; they 'provide information about the standard identity of the referent in question' and 'unify the referent with the class or propositional schema it naturally belongs to in order to inform the hearer about the proper way of interacting with the object of the discourse'. Broschart therefore concludes that 'all types of classifiers are employed with respect to the identifiability and manipulability of . . . "objects" of the discourse' and points out that both these goals 'are achieved by the interplay of the principles of "unification of isolates" and "isolation of units"'. Like a 'contour' or 'gestalt' in visual perception, classifiers in (classifier) languages are needed 'for the discrimination of units and for the possibility of recognizing units of similar kind'.

The next two chapters discuss general questions of nominal classification in noun class/gender systems. Katherine Demuth's chapter 'Bantu

noun class systems: loanword and acquisition evidence of semantic productivity' points out that 'noun class systems are grammatically productive in most Bantu languages, and semantically productive to some degree'. She explores 'the nature of that semantic productivity, drawing specifically on evidence of productive synchronic derivational noun class processes and loanword classification, as well as evidence of noun class used and semantically based overgeneralization by children'. Most of the data Demuth uses for illustrating her arguments come from Sesotho, Setswana, Zulu and Siswati. After presenting the reconstructed Proto-Bantu noun class system and after confronting this reconstructed system with systems in some modern Bantu languages, Demuth shows how Bantu noun class systems are used in conjunction with the concordial agreement system. She then discusses the semantics of the Proto-Bantu noun class system and explores the semantic productivity of the Sesotho noun class system. After a review of some of the results presented in the literature on the acquisition of Bantu noun class prefixes and after considering frequency effects in the discourse use of nouns from different noun classes, Demuth concludes with a discussion of the limited semantic productivity of Bantu noun classes. She points out that in languages like Sesotho derivational word formation processes still show productivity in the human, and in the attribute classes as well as in the abstract noun class and that loanwords in this language show productivity in the human and – to a limited extent – in the attribute classes. She also demonstrates that Siswati- and Isangu-speaking children between 4½ and 6 years of age 'show some propensity to encode human/animacy distinctions in the grammatical choices they make'. Moreover, young Zulu-speaking children produce nouns of the human classes and of the class for non-animates. On the basis of these data Demuth concludes (and summarizes her reasons for this conclusion) that at least some parts of the Bantu noun class will probably persist. She finishes her chapter by attempting to answer the question why nouns should be classified at all, suggesting 'that the classification of nouns can be thought of as a semantic (and grammatical) necessity, just as verbs must semantically (and grammatically) be classified with respect to tense/aspect'. Her chapter clearly emphasizes once more that we need a theory of nominal classification that must contain well-defined semantic features, 'that can account for the conceptual primacy of certain semantic notions like humanness and animacy, and that can capture the discourse contexts in which these forms are obligatorily used'.

Greville G. Corbett and Norman M. Fraser discuss gender systems in their chapter 'Gender assignment: a typology and a model'. Agreement is the defining characteristic for these systems, and thus the term 'gender' covers what is also called 'noun class', of course. The authors develop their 'claim that the assignment of nouns to a particular gender is always possible for the vast majority of nouns, from information which is in any case required in the lexical entry'. There are different types of this information, and on the basis of this difference the authors present a typology of assignment systems. They differ between semantic systems that require only semantic information and formal systems that require besides the core semantic information also morphological and/or phonological information. As an example for semantic assignment the authors present the natural gender system of the Northeast Caucasian language Godoberi. Zande, a Niger-Kordofanian language, has a system of predominantly semantic assignment but it allows small sets of exceptions with respect to its semantic assignment rules. However, there are languages in which many nouns fall outside the semantic assignment rules. Corbett and Fraser discuss Russian as a clear example of a language with a morphological assignment system; it is a formal system that requires 'access to information on the noun's inflectional behaviour'. Quafar (also: Afar) is an East-Cushitic language that has a formal system with phonological assignment rules. Here the prediction of the gender of the noun 'must be from phonological form to gender and not vice versa'. After having illustrated these types of gender assignment, the authors discuss Network Morphology as the formally explicit framework for expressing the illustrated generalizations. They also present the default inheritance formalism called DATR, developed by Evans and Gazdar as the knowledge representation language to encode Network Morphology theories. With this model Corbett and Fraser analyse two examples in which we find complex interacting factors in gender assignment. First, they 'outline an explicit Network Morphology account of the interactions of semantics, gender, declension class and phonology in Russian, again using the lexical knowledge representation language DATR'. In this account they discuss gender assignment and declensional class assignment, they show that declensional class can be predicted for many Russian nouns, they justify 'an account assigning gender to nouns in part on the basis of their morphology', they support their proposed typology and they implement their analysis 'in a way which can make the right predictions as to the gender of Russian nouns'. Second, they discuss gender assignment in

Arapesh, a Papuan language of the Torricelli family. They show that gender assignment rules can be found on the basis of morphological class and that morphological class can be assigned on the basis of phonology. Thus, with most nouns in Arapesh we find a unidirectional implicational relationship between stem phonology and morphological class and between morphological class and gender. Nouns that still fall outside this assignment system are assigned to the default gender. However, as emphasized in the typology of gender assignment systems, there are no purely formal assignment systems and thus Arapesh also has semantic assignment rules which dominate the formal assignment rules, and the authors show how these rules function. They again formalize their analysis in a Network Morphology framework and show that the analysis makes the correct predictions. With both case studies the authors impressively support their typology of gender assignment and both case studies also illustrate the 'potential value of formal approaches in typology'.

The volume ends with a contribution by John Lucy in which he critically discusses and reviews the ideas on, and the approaches to the analysis of, systems of nominal classification.

All these contributions illustrate that the system of nominal classification in language manifests itself in a broad variety of nominal classification systems in various languages. This diversity of nominal classification systems in the languages of the world necessarily requires different approaches for the description and analysis of the various linguistic forms and their functions. This diversity of approaches is mirrored in this collection to such an extent that there are even some inconsistencies between the claims made, and in the terminology used, by different contributors. However, we are still in the heuristic phase with respect to our attempts to get a better understanding of these systems of nominal classification – a theory of nominal classification will finally solve such heuristic inconsistencies. Good descriptions of the systems of nominal classification and a growing understanding of how these systems work should allow us to construct a typology, i.e. a system that itself classifies the various types of nominal classification systems. However, it is not only the typological perspective that promotes our understanding of this linguistic phenomenon. Research on nominal classification also has to give special attention to the speakers' cultural knowledge and background and to the context in which these systems are used by the speakers of these languages. Thus, this research must be interdisciplinary, combining linguistics with anthropology and the cognitive

sciences. The aims of this volume are to contribute to a better under-
standing of systems of nominal classification through improving the
quality of available descriptions, presenting descriptions of so far
unknown and undescribed systems, formulating the essential questions
and outlining tentative typologies of the phenomena. The general and
the more specific theoretical, descriptive and typological contributions
to the research presented in this book may help to come up with a
theory of nominal classification that finally will make it possible to
answer some of the basic and fundamental, but still open, questions
with respect to the fascinating phenomenon of nominal classification
in language.

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