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1. *Introduction*

Syntactic manifestation of semantic classificatory systems is a common trait in natural language. Thus, in the familiar languages of the Indo-European family, differences in gender are reflected in concord requirements that exist between ad-nominals and relative pronouns and the nouns. In a three-gender system such as that of Latin and its derivative Romance languages, there is a greater variety of co-occurrence constraints than in a two-gender system such as that of modern Dutch. In the non-Indo-European languages, particularly those in Asia, semantic classification in nominal structures typically takes on a wider domain. The syntactic manifestation may appear either in the nominal structure or in the verbal structure, and the incorrect use of classifiers renders a sentence 'ungrammatical'.

Nominal classifiers are attested among most languages in Asia, including the Sino-Tibetan languages, the Austroasiatic languages, the Malayo-Polynesian languages, even some of the Indo-Aryan languages bordering on these languages,² and the Altaic languages. Their use is generally associated with the quantification of objects or nouns and as a rule they usually occur immediately adjacent to the numeral in a measure phrase or in conjunction with demonstratives. Nominal classifiers were also very much

evidence among the native languages in America, particularly among the Athapaskan languages. In these languages the semantic classification of nouns is manifested in the verbal structure, perhaps reflecting the general tendency of verbal incorporation.³ Benveniste has posed a very interesting and important problem concerning the areal spread of classifiers. It will be important to consider areal linguistics in the light of possible independent phylogenetic developments as opposed to a possible combination of both independent evolution and structural borrowing because of prolonged language contact in contiguous geographical areas. A better understanding of the structure and development of such syntactic traits can aid in tracing genetic relationships, particularly those among Austroasiatic languages, Sino-Tibetan languages, and Malayo-Polynesian languages. This calls for more than exhaustive taxonomic descriptions of classifiers in each language. It will be necessary to devise a formal apparatus by which both the synchronic systems as well as diachronic developments of nominal classifiers may be compared.

Moreover, the study of nominal classifier systems suggests an important hypothesis that the use of nominal classifiers and the use of the plural morpheme are in complementary distribution in natural language. More concretely, it suggests that either a) if a natural language has either nominal classifiers or plural morphemes, or b) if a natural language has both kinds of morphemes, then their use is in complementary distribution.

2. The structure of the ad-nominal classificatory system

Nominal classifiers are the lexical items that usually come between the numeral and the noun in a measure phrase. Under this definition the number of classifiers in a particular language generally ranges from a handful to about two hundred.

The actual range, as we shall show later, is relatively open-ended. I have proposed elsewhere⁴ that a four-way distinction in the kinds of classifiers is justified. They may be characterized by two features: [+ entity] and [+ exactness]. For example, in the case of 'chicken', the Chinese classifiers are (in Mandarin):

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|-------|---|---|---------------------------------------|
| (I) | $\left[\begin{array}{l} + \text{ exact} \\ + \text{ entity} \end{array} \right]$ | : | zhī ('individual', non-human objects) |
| (II) | $\left[\begin{array}{l} + \text{ exact} \\ - \text{ entity} \end{array} \right]$ | : | jīn ('cattie', unit of weight) |
| (III) | $\left[\begin{array}{l} - \text{ exact} \\ + \text{ entity} \end{array} \right]$ | : | qún ('brood') |
| (IV) | $\left[\begin{array}{l} - \text{ exact} \\ - \text{ entity} \end{array} \right]$ | : | zhǒng ('kind/type') |

In (I) the measure refers to an exact quantity and involves discrete physical entities. A parallel case in English would be *sheet* (in *two sheets of paper*), which characterizes certain physical dimensions of 'paper', the mass noun. In (II) the measure is exact but it refers to no discrete physical entity. *Pounds, gallons, and feet* for example, are commonly known as measure words. Their function is to delimit exact amounts of unstructured and non-entity mass. The measure is applied to the unit of measurement and not to entities of the delimited mass. *Two pounds of chicken (or beef)* pre-

nts an exact measure, but it need not be a discrete entity in that more likely than not the 'Shylockian t' could not have been made. In (III) there is a finite sense of a well-defined discrete entity or entities, but the quantity is not exact either by sign or by convention. For example, a *brood of chicks* (or a *plate of chicken*) is not an exact measure but there is a definite sense of physical entity and can be referred to as a unit. This may be contrasted with *two pounds of chicken (legs)* as in *I bought two pounds of chicken (legs) yesterday*. Here reference is made to an exact quantity rather than an object and there is the sense of physical entity lacking. In (IV), which characterizes mainly abstract nouns, the measure is neither exact nor does it refer to a discrete physical entity.

Natural language exhibits all four kinds of measure, but the range of each kind of measure may vary in different languages. Mass nouns in English, in comparison to those in Chinese, may be good examples of range difference. In the case of 'cattle': *two head(s) of cattle*, *head* is a $\left[\begin{array}{l} + \text{ exact} \\ + \text{ entity} \end{array} \right]$ measure; in *two herds of cattle*, *herd* is a $\left[\begin{array}{l} \text{exact} \\ \text{entity} \end{array} \right]$ measure; in *twenty thousand pounds of cattle*, *pound* is a $\left[\begin{array}{l} + \text{ exact} \\ - \text{ entity} \end{array} \right]$ measure; and in *two kinds of cattle*, *kind* refers to $\left[\begin{array}{l} -\text{exact} \\ -\text{entity} \end{array} \right]$ measure. Count nouns in English and other European languages usually require no overt markers for $\left[\begin{array}{l} + \text{ exact} \\ + \text{ entity} \end{array} \right]$ measure, but the contrary is generally true of the languages in Asia, where (I) embodies a rich and complex classificatory system. The number of categories is culture-bound and relatively finite for (I). It depends on the standard measures of weight, volume, length, temporal extent, etc. (IV) univer-