

Cultural Linguistics and Shona Noun Classifiers

Gary B. Palmer

1. Introduction¹

In the 1960s and 1970s, most linguists and linguistic anthropologists studied grammar as an innately configured, abstract realm having an almost mathematical precision. In the realm of semantics all categories were taxonomic, with category membership based on the possession of certain necessary and sufficient features. This logician's image of grammar and meaning divorced from everyday life encountered a dramatic challenge in 1980, when George Lakoff and Mark Johnson published *Metaphors We Live By*. Lakoff followed it with *Women, Fire and Dangerous Things* in 1987, and in the same year Ronald Langacker published *Foundations of Cognitive Grammar* I. With these landmark publications, the hermetic seal of idealist grammar was broken and the scientific study of semantics began to look outward to general cognitive processes, encounters with the physical world, communication, and culture. A paradigm change was underway. The new semantics was a semantics of life.

The virtue of the new approach was that it found the source of semantic categories in embodied experience and encyclopedic or world knowledge. This means that linguistic meaning was seen as emergent from physical experiences and as acquired from other people in the course of infant nurturance, growing up among peers and parents, and living in society as an adult. Culture and history could now factor into the semantics of lexemes and grammatical constructions, where in prior theorizing they could only influence

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language performance. For example, Lakoff has argued that metaphorical idioms involve cultural knowledge in the form of conventional images and that links in radial semantic categories are structured by experiential domains, which may be culture-specific (Lakoff 1987:95; 1999:69)². Langacker (1999:13,16), too, has recently reaffirmed that 'language is an essential instrument and component of culture, whose reflection in linguistic structure is pervasive and quite significant'.

I have used such observations as a starting point for *cultural linguistics*, an approach which foregrounds cultural schemata and cultural models in explanations of grammar and semantic patterns (Palmer 1996). In this respect, it contrasts with the typical practice of cognitive linguists, who, in spite of their recognition of the importance of culture, typically foreground universal cognitive phenomena such as figure-ground relations, spatial schemas, force dynamics, prototype categories, and Lakoff's famous *Idealized Cognitive Models*, leaving cultural dimensions of language somewhere in the background, or at least unlabeled as such. Cultural linguistics offers a shift in emphasis. Though it draws on the theory of cognitive linguistics for many essential analytical concepts, it explicitly extends cognitive linguistics into cultural domains and it treats cultural categories as potential semantic categories.

Specifically, I am claiming that many grammatical phenomena are best understood as governed by cultural schemata rather than universal innate or emergent cognitive schemata. The sources of such cultural schemata include mythology, such as the Australian Dyrbal myth of the sun and moon, which Lakoff used to explain membership in Dyrbal noun classes (Lakoff 1987). They also include social structure, repetitive domestic and subsistence activities, salient rituals, and a host of other cultural phenomena. For instance, they include such activities as the pulverizing of maize or mealie with a mortar and pestle, an activity practiced throughout Africa, mainly by women and girls. The daily routine of lifting and dropping the pestle and hearing the thump, time after time, must surely entrench the scenario and embody the schemas of lifting, of the falling pestle, and the crushing, punctuating, reverberating thumps, felt in the hands and feet as well as heard. The emergent categories must also register the femaleness of pounding grain. The experience of pulverizing is culturally structured in at least two ways: first, by

² Lakoff actually used the phrase 'characterized by', rather than 'structured by'.

the assignment of tasks by gender and age; second by the technology of the mortar and pestle, which are cultural artifacts. If such basic embodied cultural experiences structure semantic categories, then we should expect to see their expression in grammar. The example reveals how essential it is that linguists do ethnography or at least read it systematically as a source of semantic categories. Linguists can not rely solely upon their own non-native intuitions about the semantics of complex domains (Mylne 1995). The purpose of this paper is to apply the approach of cultural linguistics to the analysis of the noun classifier system of Shona, a Bantu language of Zimbabwe, with special attention to class 3/4.

2. General Theory of Cognitive and Cultural Linguistics

Unlike postmodern approaches to cultural theory, which posit no fixed points of reference or stable meanings, cultural linguistics sees grammar as an entrenched system of meaning and form. Following Langacker's (1987; 1991a & b; 1999) theory of cognitive linguistics, the minimal units of grammar are verbal symbols, each of which represents a linkage of two kinds of units, one phonological, the other semantic. Semantic units are characterized relative to semantic domains (Langacker 1987:63). Since these may include any concept or knowledge system, linguistic semantics is encyclopedic and therefore cultural in scope. When a class of linguistic expressions is seen as relative to one or more semantic domains of relatively extensive scope with complex category structures and rich details, then cognitive linguistics becomes decidedly cultural. It is this difference in emphasis and elaboration of the cultural dimension, not an underlying difference in theory, which justifies the new label of *cultural linguistics*. The label also differentiates the approach from that of contemporary linguistic anthropology, which is typically discourse-oriented and heavily invested in pragmatism, often displaying scant interest in cultural categories or cognitive processes. In my view, culture and cognition are not separate entities, just two views on the process whereby people with minds, which are embedded in physical bodies situated in social and physical environments, communicate, learn, think, and pursue social goals. Similarly, Edwin Hutchins (1996:354) proposed an integrated view of human cognition, 'in which a major component of culture is a cognitive process ... and cognition is a cultural process'.

Certain types of cultural models merit special attention from linguistic anthropologists and culturally oriented linguists. These are *scenarios* and *polycentric categories*. In the case study of noun classifiers in Shona, I demonstrate that a better understanding of classifiers can be achieved by analyzing each singular/plural classifier pair as a polycentric category. Scenarios are important elements of the polycentric category. The polycentric category is a synthesis of Langacker's (1987) complex category with Lakoff's (1987) radial category. Unlike the radial category, which has a single central prototype, a polycentric category has multiple central categories connected by conceptual metonymies. In the next section I will elaborate on the concepts of scenario and polycentric category. Then, in the following sections, I will apply them to the case studies.

2.1 Scenarios

Scenarios are schematic cultural models of action³. Cultural linguistics is based on the premise that grammar is relative to imagery that derives from cultural models. Cultural models are cognitive entities, but they are often more richly elaborated and further removed from basic physical and cognitive experience than the spatial-mechanical schemas and figure-ground relations typically investigated within cognitive linguistics. Examples of cultural models include the conventional knowledge systems governing kinship, ways of preparing food, navigation, rituals, myths, ceremonies, games, and speech events such as conversations. Imagery arises from construing models at different levels of abstraction or specificity, from different points of view, or at different stages in a process⁴, and from admitting various features of models within the scope of attention (Langacker 1987; Lakoff 1987; Palmer 1996).

Cultural models include some, but perhaps not all, of what Lakoff (1987:113-114) termed *Idealized Cognitive Models*, in which he included propositional, image-schematic, metaphoric, and metonymic models. With

³ Lakoff (1987) treated a scenario as a kind of Idealized Cognitive Model (p. 78) and equivalent to a script (p. 284). He regarded it as metaphorically structured by a SOURCE-PATH-GOAL schema in the time domain (p. 285) and having a 'purpose structure, which specifies the purposes of people in the scenario' (p. 286). My usage is more general.

⁴ The construal of schematic processes at different stages has been termed *image-schema transformation* (Lakoff 1987:440-444; 1988:144-149).

respect to metaphoric and metonymic models, it seems more accurate to speak of metaphoric relations between models or parts of models, or to say that models comprise functional relations, which provide the imagery for verbal metonymy. Universal image-schemas derived solely from the common experience of inhabiting a human body would not in themselves be cultural models. However, universal image-schemas may be incorporated into cultural models, and in fact most physical experience reflects not only universal constraints, but also cultural modifications or culturally specific uses of tools, dwellings, and habitats. Embodied universal categories may simultaneously belong to cultural domains.

It is more precise to recognize the elements of convention and social construction by referring to some kinds of linguistically significant models as cultural, while conceding that all cultural models are also cognitive. Most ICMs are cultural products, and the same may be said for *domains of experience* (Lakoff 1987). Thus, it seems more appropriate and accurate to refer to an approach which examines such cultural constraints on language as *cultural linguistics*. By using the term, we make it obvious that existing ethnographic studies contain a wealth of information of potential immediate use to linguistic theory.

Relatively abstract or decontextualized images are called schemas or image-schemas. Those involving actions and sequences of actions are scenarios. The scenario concept is particularly important in cultural linguistics because the term directs attention to the imagery of social action and discourse, which has largely been overlooked by cognitive linguistics, particularly in the study of non-Indo-European languages. The reason for this neglect may lie in the fact that scenarios are strongly influenced by history and socio-cultural context and therefore relatively independent of more basic cognitive processes of attention, accessibility or saliency of information, and basic concept formation which many linguists regard as the strongest determinants of grammar. It is true that Langacker (1987:63) included as possible semantic domains 'the conception of a social relationship' and 'the speech situation', but at the very least, one can say that social scenarios have not been clearly delineated as a type of imagery having linguistic significance to the same extent as, for example, spatial imagery. And yet, humans probably direct as much verbal attention to orienting in society as they do in space, if not more. Not all of this social orientation can be reduced to metaphors of force and space. The approach pursued here resembles that of Anna Wierzbicka in that her cultural scripts are something like scenarios

(Wierzbicka 1996; 1997; Palmer 2000). However, unlike Wierzbicka, I do not reduce scenarios to statements composed of a small set of semantic primes. I take scenarios to be gestalts or constructions built up from lower-level scenarios and event-schemas.

2.2 Polycentric Categories

Cognitive linguistics presents us with at least two types of complex categories. The first is Langacker's, which he characterizes simply as a *complex category* (Langacker 1987:373; see also Palmer 1996:96-97). It begins with a prototype and a variant. Since these necessarily have something in common, there is also a schema, which is elaborated by both the prototype and the variant (Figure 1). Langacker's complex category appears to have no place for conceptual metonymy.

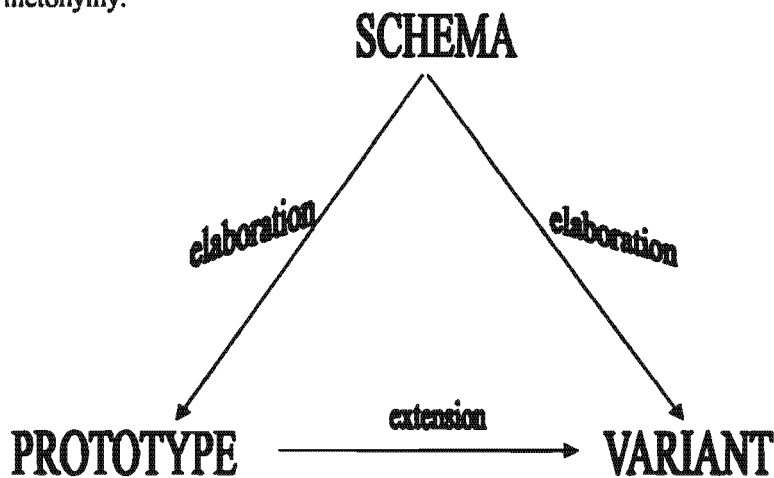


Figure 1: Complex category as envisioned by Langacker (1987).

Another kind of complex category is the radial category as described by Lakoff (1987). A radial category has a central subcategory and non-central extensions or variants. This is very much like Langacker's model, except that Lakoff does not include the schemas which can be abstracted from each extension of the prototype to a variant. In his discussion of Dyirbal noun classes, Lakoff (1987:95) also states that 'complex categories are structured by chaining; central members are linked to other members, which are linked to

other members, and so on'. Some of the links which he describes are conceptual metonymies (the sun causes sunburn); others are by similarity (sunburn is like the sting of the hairy mary grub), or variant to prototype (the sun is a mythical woman). Rather vaguely, he asserted that *Experiential Domains* and *Idealized Cognitive Models* can 'characterize links in category chains' (Lakoff 1987:95). A bit of cultural theory seeps in as well: '*Experiential Domains ... are basic domains of experience, which may be culture-specific*' (bold face added).

I hold that such linguistically significant experiential domains are in most instances actually cultural scenarios that have been given high salience by virtue of occurring in myth, ritual, crisis, social structure, or even the daily drudgery of domestic life. The functional links within domains are what we regard as conceptual metonymies. In a further suggestion of the importance of

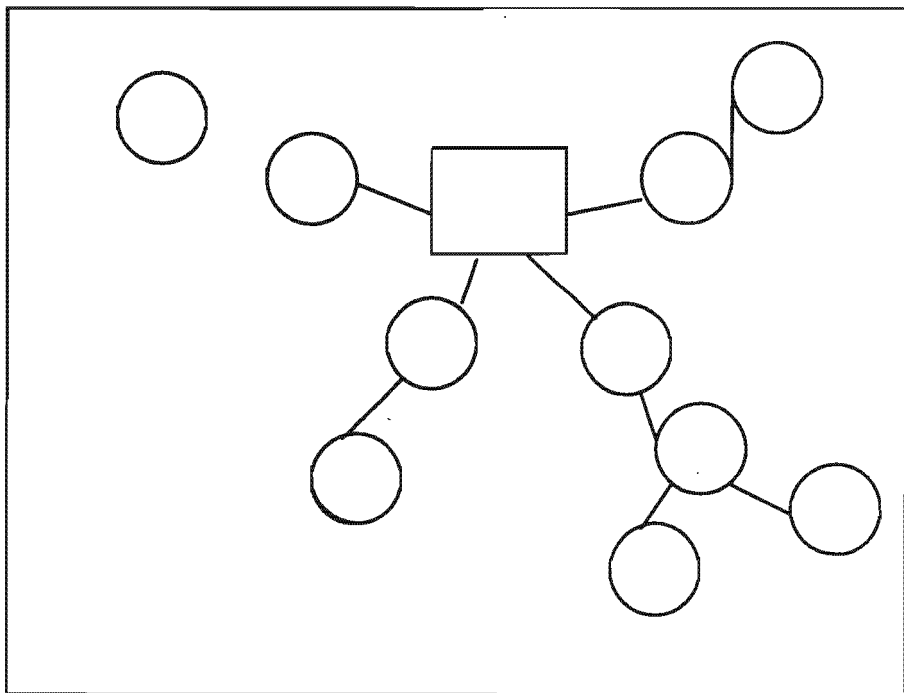


Figure 2: Radial category balance as envisioned by Lakoff (1987)

conceptual metonymy over schematization, Lakoff (1987:96) asserted that 'specific knowledge (for example knowledge of mythology) overrides general knowledge'. We are left with a picture of a category that has a central prototype from which radiate a number of chains based on similarity and conceptual metonymy (Figure 2).

Lakoff used this concept to develop a theory of Dyirbal noun classifiers. Three of the four classifiers were characterized as radial categories (*bayi*, *balan*, *balam*). The fourth (*bala*) was characterized as an 'everything else' category. Noun classifiers represent a common and important kind of grammatical category, which was once thought to be arbitrarily organized. Lakoff (1987) demonstrated that a class may have hundreds of members that share no common features of meaning. In my opinion, this important advance in the theory of linguistic categories depended crucially on understanding the governing role of cultural scenarios.

Tom Mylne (1995) took issue with Lakoff's (1987) analysis of Dyirbal noun classifiers, accusing him of imposing a Western world view on the Dyirbal system because it proposed human males and females as prototypes for the classes *bayi* and *balan*. Mylne proposed instead that the linguist should seek to discover which concepts have particular relevance for the Dyirbal and use these as the basis for the analysis. He proposed that the four classes of *bala*, *balam*, *bayi*, and *balan* could each be defined by combinations of values on the dimensions of *potency* and *harmony*, which have special relevance in Dyirbal culture and society. Thus, Mylne's critique appears to be an argument for an explanation that is more cultural than cognitive, but based on parameters or features, rather than on scenarios or cultural models.

My analysis of classifiers is like Mylne's in two respects: First, I am arguing that the important criteria for classification are concepts that are culturally salient. Second, I am arguing that one finds no single prototype at the center of a typical noun class. But unlike Mylne, I do not try to explain the category by replacing the prototype with one or two abstracted dimensions. (Similar approaches have been attempted in Bantu studies by Contini-Morava 1994; Spitulnik 1987; 1989 with unsatisfactory results, as discussed by Palmer & Arin 1999 and Palmer & Woodman 1999).

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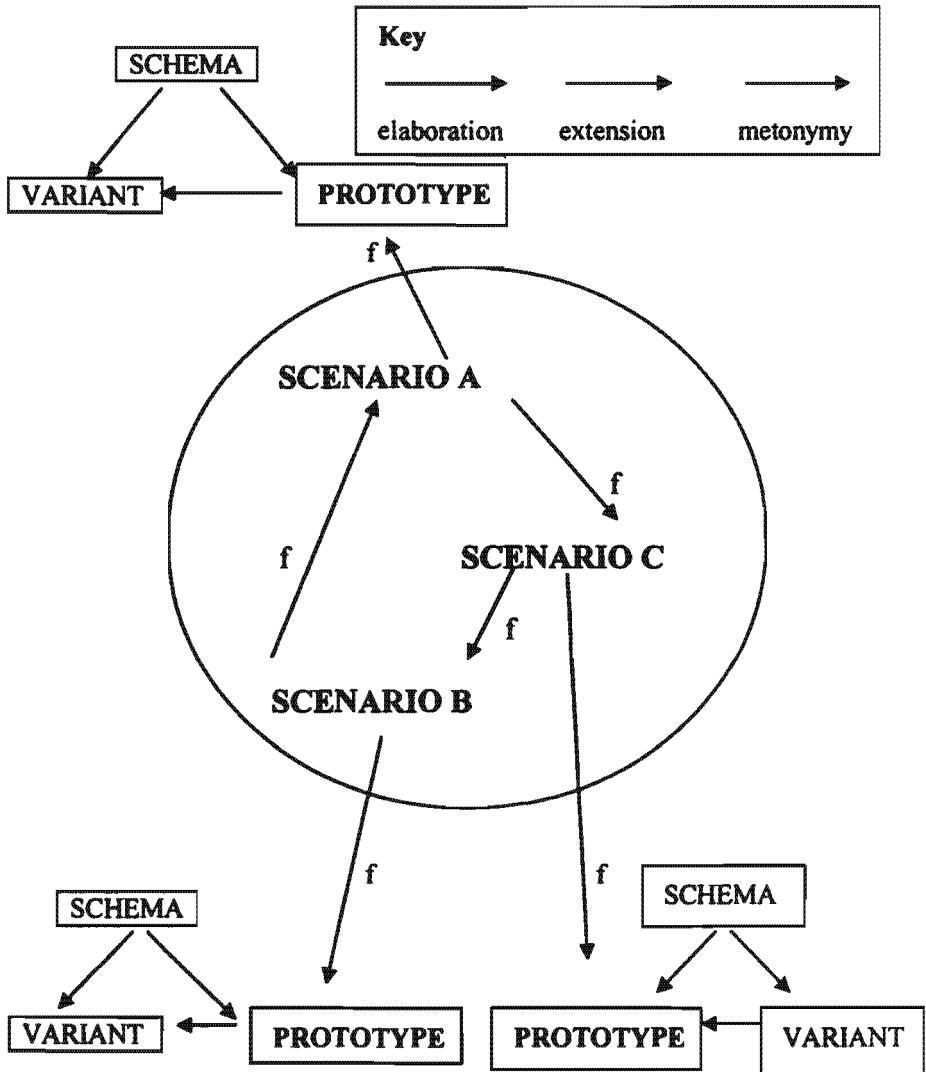


Figure 3: Schematic of polycentric category as proposed by Palmer and Woodman (1999)

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A polycentric category has multiple central categories, each of which may be a scenario or a prototype derived from the scenario (Figure 3). I show only scenarios in the central region of Figure 3. I treat the central categories as a functional complex, rather than as parameters which must have contrasting values across categories, though I would not rule out the possibility of a level of contrast that would apply across classes to subsets of category members. The central categories are related to one another and to more peripheral categories and instances either by function (contiguity, conceptual metonymy), by similarity (prototype to variant, metaphor), or by schematization (schema to instantiation). I call these complexes *polycentric categories*. They consist in part of complex categories as defined by Langacker (1987:373) and of radial categories as defined by Lakoff (1987). Since the cognitive links of polycentric categories are all embedded in cultural scenarios and other sorts of cultural models, the PC is at once both cognitive and cultural.

3. Shona Noun Classifiers as Polycentric Categories

Many languages have gender classifiers that segregate nouns. There are, for example, the genders of German and Romance languages, the numeral classifiers of Chinese, Japanese, and Maya, the verbal classifiers of Navajo, and the 20 or more classifiers of the Bantu languages (if one counts the plurals). Other languages have substantive affixes that can function as classifiers. These would include, for example, the anatomical suffixes of Tarascan and Sñchitsu'umshtsn (Coeur d'Alene) (Friedrich 1979:394-395; Palmer 1996:60,145-146)⁵. Even phonemes can function as classifiers in Khoisan languages (Bernárdez n.d.).

For decades linguists have struggled to make semantic sense of classifiers. Most commonly they have concluded that the assignment of lexemes to classes is arbitrary or that the classes center on such basic physical qualities as shape, texture, number, and animacy. While there is some explanatory value in the physical prototype approach, it has ultimately proven to be limited, leaving unexplained such interesting phenomena as the occurrence in some Bantu languages of the human term *chief* in the same class

⁵ The figure of 20 for the Bantu classes includes singular and plural forms. If these are not counted separately, the figure would be ten. Classes 1 and 2 (or 1/2), for example, labels the singular and plural of the class that includes most terms for humans.

as wild animals (Guthrie's 9/10) (Creider 1975; Guthrie 1967). Another approach was needed.

As early as 1959, the famous paleontologist Louis S.B. Leakey proposed in his Kikuyu lesson book that the noun classes are ranked on a hierarchy of spiritual value. For example, humans appear in Leakey's class I (Guthrie's 1/2), the highest in spiritual value; class II (Guthrie's 3/4) is for 'second class spirits'; and class III (Guthrie's 9/10) is for all other living creatures. Regarding Guthrie's class 5/6, Leakey (1959:13) asserted that 'every single word in this class is an object which is used, or has been used until recently, in connection with religion, magic or ritual or some other form of ceremonial'. To my knowledge, Leakey's proposal was never followed up.

The year 1987 saw a breakthrough in the understanding of classifiers. The key to their explanation was most widely publicized by George Lakoff in the book that drew its title *Women, Fire, and Dangerous Things* from a noun class of the Dyrbal language of Queensland. Lakoff was actually reshaping a middle-level theory proposed by Dixon (1982). Lakoff held that each noun class had a central member and that other members were linked to the central member by category chaining. The basis of the chaining was a common domain of experience, which was culture-specific. The Dyrbal classifier *balan* (one of four) marks a category whose central member is human females. In Dyrbal mythology, the sun was a woman. Other members of the class were birds (mythical females) and plants and animals who either appeared in the myth or were seen as somehow similar to fire (they were hot or they had stingers). Fire belongs to the class because it belongs the same domain of experience as the sun. Thus, with some exceptions, category membership seems neatly explained by this approach. Problems with the approach have been raised by Mylne (1995), whose critique was discussed previously.

In the same year, Debra Spitulnik (1987) published a study of Chewa (Bantu) classifiers⁶. Her approach leaned heavily on highly abstract schemas, which she called 'central notional values', but she also proposed that some nouns belong in their classes by virtue of cultural associations. 'The [ChiBemba] noun *imfumu* 'chief' occurs in the class dominated by nouns for wild animals (Cl. 9/10) because of the cultural association of the chief with the animal world' (Spitulnik 1987:110) [e.a.]. She did emphasize the cultural approach, because in her view, grammatical factors compete for control over the classifiers. At about the same time, Ellen Contini-Morava proposed in a

⁶ See also, Spitulnik (1989).

paper made available on the internet that the Swahili (Bantu) noun classes were dominated by 'superschemas' that were linked by schematicity and extension to spatial, supernatural, and psychological features and schemas (Contini-Morava 1994).

To sum up these approaches to understanding classifiers, Leakey described classification by spiritual hierarchy, Dixon and Lakoff showed clear mythical motivations for Dyirbal classifiers, Spitulnik presented a plausible cultural explanation for the apparently anomalous classification of Chewa chiefs, and Contini-Morava saw supernatural schemas underlying Swahili classes. These observations suggest that it might be worthwhile to apply a cultural approach to the Bantu classifiers with special attention to the supernatural and to apply the approach more systematically than had been previously attempted. That is what I and students Dorthea Neal Arin, Claudia Woodman, and Russell Rader have begun to do for the Shona language of Zimbabwe. But before discussing those findings, I will present a brief description of the classifier system involved:

Bantu noun classifiers are defined by characteristic prefixes on the nouns and concordial affixes on adjectives, verbs, and deictics. The classes are usually designated by numbers from 1 to 22. In classes 1 to 13, odd numbers are singulars, even numbers are plurals. Thus, for Shona singular class 1, *mu-*, the plural is class 2, *va-*, and for singular class 3, *mu-*, the plural is class 4, *mi-*. Of the first 15 classes identified by Guthrie (1967), the only ones to which he attributed clear semantic correlates are 1/2 (persons) and 9/10 (animals). He observed that parts of the body appeared more frequently in 3/4 and 5/6, but otherwise found no definite correlations of meanings to classes. Fortune (1955) observed that 'class 3 contains nouns indicating trees, parts of the body, atmospheric phenomena, things characterized by length, and *miscellanea*' [e.a.]. The only atmospheric phenomena that he listed are *m kando* 'breeze, wet weather' and possibly *m ka* 'air, soul' and *cando* 'cold.' (Palmer and Woodman 1999).

Palmer (1996) and Palmer and Arin (1999) proposed that the semantics of classifiers in Shona and other Bantu systems are governed by salient ritual scenarios that are more culturally specific and richer than the stereotypes and features proposed by Spitulnik (1987; 1989) and Contini-Morava (1994). After reading all available ethnographies of Shona culture and society, they

identified nine specific and two general scenarios that might govern the distribution of Shona noun classes. Scenarios 1, 2, 10, and 11 are listed below. The numbers of these scenarios do not correspond to the numbers used by Bantuists to identify the noun classes.

1. *The spirits of ancestral chiefs live in the bodies of lions (mhondoro).*
2. *The chiefly ancestral spirits (mhondoro) reign over both the things of the wild and human affairs. They are the protectors of the land and the wild animals.*
10. *There is a scenario of protection in which the central participants are dominating protectors, protected ones, and the victims of domination.*
11. *There is ritual danger, stemming mainly from foreign ancestors with grievances or from contact with the paraphernalia of mediums.*

Palmer and Arin (1999) proposed that Guthrie's class 9/10 is governed by scenario 10 (which also subsumes scenarios 1 and 2), and that Guthrie's 5/6 might be governed by scenario 11. Subsequent research by Rader (1998) suggests that 5/6 is more directly governed by the imagery and mythology of fertility⁷. Palmer and Woodman (1999) examined Guthrie's class 3/4, finding that its central members involve an important domestic scenario and an ethno-ecological model as well as mythical and ritual scenarios. Central physical items in this class are those used in ritual and domestic activities. There is a network of salient categories and chains of extension, which justify using the term 'central' for the salient categories. We concluded that a noun class is more than a radial category centering on a prototypical member or a single domain of experience. It is more like a network of radial categories based on a cross-section of the cosmos, including physical experience, domestic scenarios, ritual scenarios, and world view. We proposed that a classifier organized like this be termed a *polycentric category*.

Shona noun class 3/4 grammaticizes and lexicalizes four scenarios and one ethno-ecological model which are salient themes of Shona culture. Scenario 3 was among the 11 previously defined. Three new ones include two new ritual scenarios (12, 14) and a domestic scenario (13). Item 15 is an ethno-ecological model.

⁷ In spite of the earlier date of publication, Rader's paper followed Palmer and Arin (1999).

3. *The spirits of ancestral chiefs bring rain, thunder, and lightning.*
12. *People pray to the ancestors.*
13. *Grain is pounded daily with a mortar and pestle.*
14. *Doctors cure with herbal medicines that are ground in a mortar and pestle.*
15. *Trees, shrubs, and herbs are associated with coolness, moisture, and medicine.*

The conceptual elements provided by these models find lexical expression in many of the members of Shona class 3/4. Those lexemes in the class that do not predicate any of the major elements in the five models are semantically linked in various ways as described in Table 3. The more inclusive cognitive model of a noun class that emerges from inspection of the semantics of the lexical members and their associative links to the ethnographic models is what I refer to as a polycentric category. The general structure of such a category is summarized in Table 3 and diagrammed in Figure 4.

Table 1 The structure of a polycentric category: Shona class 3/4⁸

(1) *Multiple Central Models*: A class may be governed by one, two, or more salient cultural models and/or scenarios that are different from those governing other classes. The central models of Shona class 3/4 are:

- The spirits of ancestral chiefs bring rain, thunder, and lightning.*
People pray to the ancestors.
Grain is pounded daily with a mortar and pestle.
Doctors cure with herbal medicines that are ground in a mortar and pestle.
Trees, shrubs, and herbs are associated with coolness, moisture, and medicine.

⁸ This table is based on the framework presented in Palmer and Woodman (1999). Principle (7) from that listing has been subsumed into principle (6). All examples are from Hannan (1984).

(2) *Multiple Prototypes*: A central model may be sufficiently complex to offer more than one prototype concept. For example, trees provide large poles and sticks, shrubs provide small poles and sticks. All provide medicinal leaves and fruits. The term for tree, *muti*, also means 'medicine.' Any of these items may therefore then serve as prototypes as explained.

The scenario of pounding grain with the pestle and mortar presents pounding, grinding, crushing, and grain as salient elements from which abstractions and extensions can be derived. The grain itself assumes the form of piles of grain, piles of finely ground meal, and scattered grains. These provide additional prototypes for spatial distribution of dry granular or powdery solids.

The ancestral scenarios of curing and rain-making offer component scenarios of propitiation of ancestors and grinding and giving of medicines. They also offer physical models of cool liquids. Lexemes for all these elements appear in Shona class 3/4. Examples: *muhwi* 'pestle', *musi* 'pestle', *mutsi* 'pestle', *muti* 'tree, medicine', *mudzukwa* 'tall, straight object (e.g. tree; skyscraper)', *mudzvurwa*, *mutwiwa* 'meal ground in *duri* (mortar)', *muchaka* 'meal from green mealies', *muchinjwa* 'mealie meal ground by engine-driven grinding mill', *mubvau* 'young, green mealie', *mudede* 'green mealies', *muguri* 'mealie cob (with the grains on it)', *munyuchu* 'mealie-rice', *mubukirwa* 'green maize cob', *mudakunanzva* 'sweet-tasting liquid', *mudzamba* 'porridge made with milk as the liquid' *mujururu* 'any liquid thinner than it should be', *muchenga muchenga* 'abundance of grain', *muchenganherera* 'general rain <-chenga', *munakamwe* 'springtime (beginning of rainy season)', *mutsatsatire* 'gusty rain', *muzhandwa* 'crops, animals or people struck down in large numbers. <-zhandwa; act of crushing (e.g. as heavy object does when it falls)', *muchito* 'sound of footsteps, hoofbeats, etc.'

(3) *Chaining of Central Models by Metonymy*: The themes that provide the backbone of a class are closely related, not by similarity, but by function or metonymy. For example, the pestle, a kind of stick or pole, provides the conceptual link from the originating model of trees, shrubs, and herbs to the scenario of pounding grain with a pestle: Medicines for curing are made from plant leaves and bark. One cures with herbal medicines, but also by appeal to ancestors who bring the rain associated with cool, moist forests and good plant cover. Examples: *mukwerera* 'ceremony to pray for rain', *munamoto* 'prayer (act of praying; words of prayer)', *musumo* 'small pot of beer offered to husband to notify him that beer has been prepared and is now ready; amount of any prepared food or drink brought to head of family so that he may say the polite words of welcome to a guest; opening words of prayer to *mudzimu* [ancestor]', *mukwerera* 'ceremony to pray for rain'.

(4) *Radial Categories*: Non-central terms are linked and chained to central members by metonymy and metaphor. For example, witchcraft, which appears in this class, is a kind of pounding and crushing. Examples: *muzhandwa* 'crops, animals or people struck down in large numbers [as by sickness]; act of crushing (e.g. as heavy object does when it falls)', *mupfuku* 'trampled grain or grass, peaceful place, case of witchcraft, fee for such a case', *muchapo* 'paddle, medicine for killing witches', *mushinhiro* 'spell; act of bewitching'.

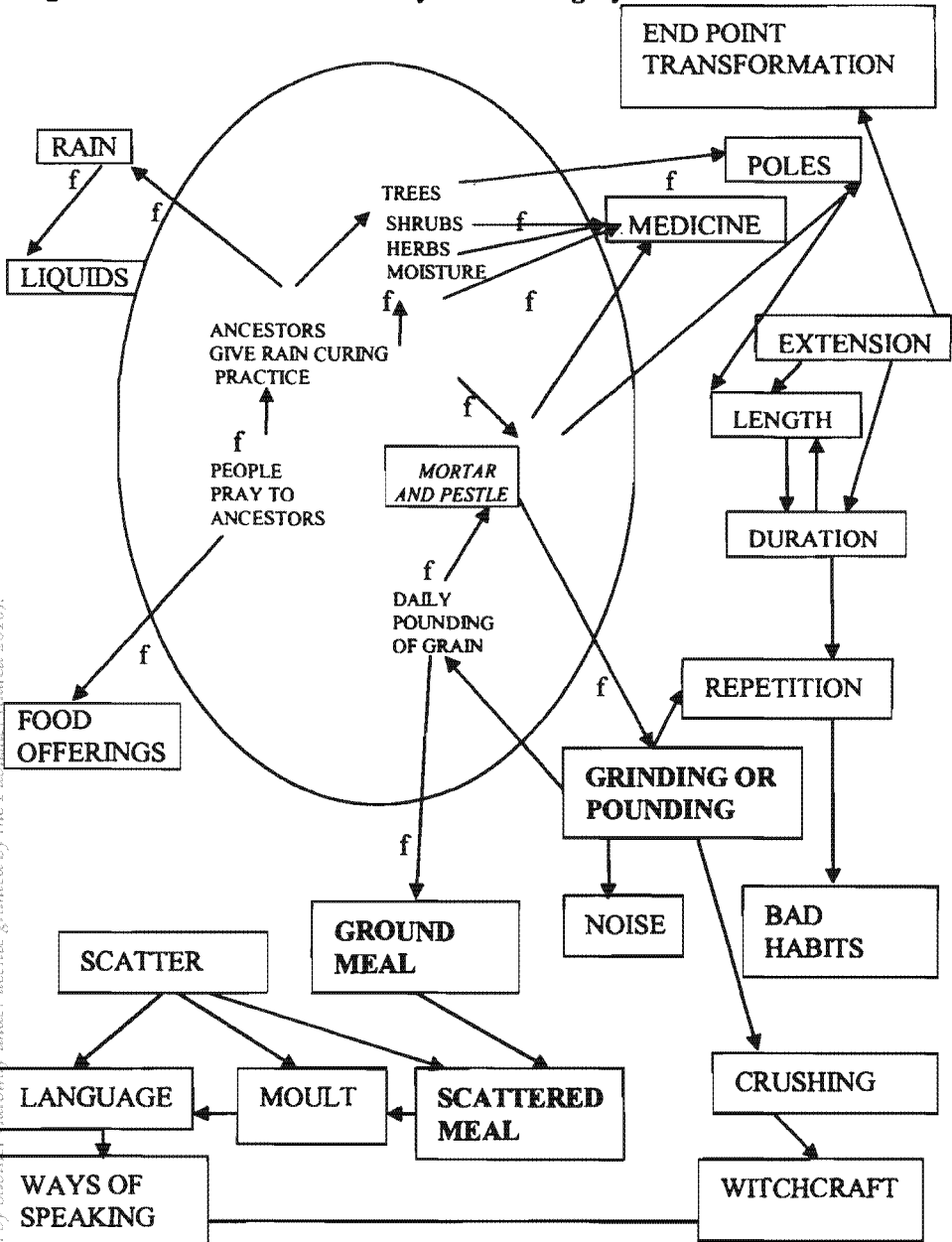
(5) *Primary Schematization*: Spatial and temporal schemas may be abstracted from any substantive concept. The pole or stick provides the abstraction of a solid cylinder or extended solid object. From pounding of the pestle it is an easy step to repetition, and to duration of time. Examples: *mudhadhadha* 'long object (e.g. low building, letter to someone); cursive writing', *mugavhanyu-gavhanyu* 'repetition of an action without interruption', *muchimbo* 'index finger. <-chimba',

mudhidhi 'penis (polite expr)', *mutambwi* 'time since', *musanya* 'period of time (gen the present)', *mukore* 'era, period of history'.

(6) *Secondary Schematization and Extension*: Spatial schemas are subject to various abstractions and extensions. The end-point transformation of an extended spatial object or time is a common extension, yielding ends of paths, beginnings, last times, and worn-out objects. Examples: *muvambo* 'commencement, action of beginning', *mutangiro* 'beginning, way of beginning', *mugumo* 'end (of action, extent, etc)', *mufika* 'tapered end of axe or hoe blade', *mugumegume* 'last time, occasion, etc.', *mudemo* 'useless, worn-out axe'.

(7) *Extension of Concepts to Human Behavior*. The schema of repetition is extended to repetitive behaviors, mostly bad habits and propensities. Spatial and physical are extended. For example, in Shona, theft is a narrow passage between two objects. Language is a metaphorical scattering, the feathers of a moulting bird. Examples: *mubo* 'way of stealing', *mukoto* 'narrow passage between two objects, pass, act of stealing something in order to sell it, object stolen in order to be sold, act of stealing', *mutauro* 'language, discussion of a misdemeanour gen leading to legal case' < *tau* 'speak, molt', *mubwereketero* 'way of speaking', *mukafamwera* 'foolish, thoughtless way of speaking', *mukanya* 'peremptory, emphatic way of speaking', *muriro* 'call; characteristic cry or way of speaking'.

Figure 4: Shona Class 3/4 as a Polycentric Category



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A polycentric category has more complexity than a radial category, but it does not seem to display unnatural or excessive complexity for the semantic system of a natural spoken language. One expects people to have salient ideas based on rituals and daily domestic tasks, and it is essential for them to model their environmental surroundings. It is natural to identify clusters of models that are functionally related and to regard them as a cultural unit. It is natural to abstract schemas from the elements of those models and to discover similarities and metaphors across conceptual domains. And it is natural to recursively apply such thought processes to the derived categories. Finally, it is natural for a lexeme to be polysemous within the sub-domains of a polycentric category. When such a complex is grammaticized, the result is culture-specific and based on models that can be discovered by the methods of ethnography, but also structured by mental processes that have been best described in the literature of cognitive linguistics.

This approach explains the numerous instances of nouns which appear to satisfy the criteria for more than one class but characteristically appear in only one class. The archtypal example in Bantu studies is the classification of chiefs with wild animals, rather than with humans (Creider 1975). Many terms do in fact satisfy the criteria for multiple classes, but they are judged by their speakers to fit one better than another. Each class has multiple criteria, and these may be activated by the context of a discourse. The selection and classification of a term is the product of multiple competing and synergistic activations. In Bantu, some nominal roots have more than one common classification. It is likely that some classifications are well-entrenched, while others are more subject to reassignment.

This approach raises a question of boundaries. Where are the boundaries between classes, if any? If every class has multiple criteria and nominal participants are sufficiently complex in their semantics to satisfy multiple criteria, then classes will necessarily compete for members in an ecology of classification. In fact, there are no fixed boundaries between classes. The overriding criterion is cultural salience, which varies with situations, but how can cultural salience be evaluated by the linguist? How can one predict which classifiers will be used with Bantu nominal roots? Currently, conclusions regarding the motivations for particular classifications are largely a matter of interpretation based on familiarity with the culture gained through participant observation or reading of ethnographies. One could devise tests that would manipulate the salience of criteria and observe the assignments of nominal participants to categories, but such tests may not

reproduce the motivations presented by naturally occurring discourse. Nevertheless, in the event that such tests are undertaken, two hypotheses are suggested:

- (1) Reassignments will be more likely to occur where a domain that is inherent in both the semantics of the nominal root and in an alternative classifier is saliently evoked by the discourse situation.
- (2) It will be more difficult to elicit reassignments to more entrenched category members, where entrenchment is independently measured by frequency of usage or stable assignment in natural discourse.

We must ask also how one can evaluate this analysis in comparison to other possibilities. Are there other analyses that would be just as convincing? Can our analysis predict which nouns will be classified together? There are a number of possible criteria which could be used to evaluate competing analyses. They do not entirely solve the problem of arriving at an analysis that is both replicable by others and true to native-speaker thinking, because they remain subject to judgement and interpretation, but if taken seriously, I think they are better than having no criteria. The criteria are as follows:

- (1) An analysis should be based upon thorough and comprehensive ethnography with attention to salient cultural scenarios.
- (2) Given an adequate description of the cultural scenarios, an analysis should be plausible, that is, it should consist of obvious connections. Non-obvious connections may be adduced only where they are supported by native speaker attestations.
- (3) A plausible analysis that is supported by native speaker attestation and reasoning is to be preferred over one that is not supported.
- (4) A plausible analysis which explains the largest number of terms in a class is to be preferred.
- (5) A plausible analysis of a classifier which excludes terms normally found in other classes is to be preferred, though even in a correct analysis many terms

will not be excluded, only preferred more strongly by their canonical classifier.

Finally, we must ask whether the cultural approach with polycentric categories can predict the emergence and structure of classifier systems cross-linguistically. The theory predicts that some kind of classifier system *can* emerge wherever there are salient and stable cultural practices and institutions. These are the necessary conditions. Certainly, many of the languages around the world have classifier systems, though some are hardly recognized as such. For example, the anatomical suffixes of the Salish languages are usually not regarded as constituting classifier systems, yet they function in much the same way as they take on abstract values of shape (Palmer 1996). Also marginal to our notion of noun classifiers are the click classifiers of the Khoisan and the verbal classifiers of Apache, but they have similar functions (Basso 1990, Bernárdez n.d.). One might even regard a finite paradigm of honorifics, as in Japanese or Korean, as a classifier system in the social domain. The approach does not currently specify the conditions that are *sufficient* to motivate the emergence of classifiers. Further cross-linguistic studies along these lines are needed.

4. Conclusions

Many lexical domains and grammatical constructions link directly or indirectly to significant cultural models, notably including scenarios and polycentric categories. Understanding the grammar and lexicon of a language requires grasp of cultural models and culturally defined imagery. The most appropriate term for this approach is *cultural linguistics*.

The perspective of cultural linguistics shows obvious utility compared to a more narrowly cognitive approach in its application to the problem of Bantu noun classifiers, where the use of ethnographic methods to identify salient cultural models and scenarios is a necessary step in the research. In this application, it was possible to show how cognitive processes of complex category formation and category chaining operate within culturally specific models to create the polycentric categories that we know as Shona noun classifiers. The polycentric category introduced by Palmer and Woodman (1999) has multiple central scenarios and prototypes, from which radiate category chains and complex categories as defined, respectively, by Lakoff

(1987) and Langacker (1987). More research is needed on other classifiers in the Shona system and more work of this kind is needed on other Bantu languages. More research of this kind is also needed on the many and varied classifier systems in other languages. Such work should be undertaken concurrently with ethnographic research on salient cultural scenarios and themes that may influence linguistic categories.

Department of Anthropology & Ethnic Studies
College of Liberal Arts
University of Nevada at Las Vegas

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