

GENDER AGREEMENT AS MORPHOLOGY*

'Gender is the most puzzling of the grammatical categories.'
Greville Corbett, *Gender* (1991), p. 1.

ABSTRACT

Gender, conceived narrowly as agreement class, is morphosyntactic. While the question of what can agree with what is purely syntactic and universal, the gender categories or features that the actual agreement markers instantiate are not, and the phonological form that agreement takes is purely morphological. Language-particular arbitrary and irregular gender interact with universal agreement through defaults. The final universal default type of agreement morphology is phonological copying, which is a reflection of the underlying universal syntactic mechanism of agreement: complete copying of the controller onto the target. This complete copying is normally disguised by the morphology of the language through its arbitrary system of genders. Actual phonological copying only emerges when it is forced to surface under unusual circumstances, through the rare phenomenon of alliterative agreement, when no gender is otherwise available. The interaction of language-particular and irregular gender systems with the universal mechanism of agreement thus sheds light on the nature of the agreement mechanism.

1. Introduction

I would like to explore the interaction between gender, conceived narrowly as agreement class, and agreement. I have argued elsewhere in some detail (Aronoff 1994) that gender is a morphosyntactic bridge between morphology and syntax: while the question of what can agree with what is purely syntactic, the gender categories or features that the actual agreement markers instantiate are not, and the phonological form that agreement takes is purely morphological. As I have shown in this previous work, although genders must be distinguished from inflectional classes, gender systems are always realized through purely morphological inflectional classes. Morphology, being a kind of phonological realization (Zwicky 1992), necessarily involves Saussurean arbitrariness in the mapping between form and meaning. Indeed, were it not for morphology, arbitrariness might be confined to individual lexical items. It is the fact that morphology intervenes between syntax and phonology that makes languages arbitrarily systematic. Because gender is always routed

* In this presentation, I rely heavily on the work of Lise Dobrin, with whom I have discussed this and related problems for several years, and Fiona McLaughlin, whose work I have only recently discovered. Thanks to Kinyalolo Kasangati for discussion. Thanks also to the organizers of the Mitilini conference for getting me to put this down on paper and to all the participants at the conference for a truly splendid few days.

through morphological categories and their realization, it follows that some element of arbitrariness will also figure in the realization of gender. To take a trivial example, there is no reason why the feminine gender in Spanish is normally realized through the *-a* class and the masculine through the *-o* class. In Hindi, masculine is realized through *-a* and feminine through *-i*, showing that the realization of a gender through any particular form is arbitrary. But gender itself, not merely its morphological realization, is arbitrary. The categorizations that gender systems follow vary quite widely across languages, no matter how regular they may be (though they are not often very regular), unlike those for its sister categories of person and number or even case. Some gender systems are sex-based, some shape-based, some rooted in animacy, and some based almost entirely on phonological form, which is by definition arbitrary. I assume the agreement mechanism, by contrast, to be universal, invariable, and obligatory. What is language-particular is the specific way in which agreement is realized through morphology.

This leads to the heart of the matter: how does language-particular arbitrary gender interact systematically with universal agreement? The first part of the answer is that, even though gender may be arbitrary and often irregular, the grammatical and hence obligatory nature of gender forces the individual languages that exhibit gender distinctions to be systematic in the realization of these distinctions, despite any irregularities. In the case of gender, this does not mean that every noun, what Corbett, in his survey of gender systems (Corbett 1991), calls the *controller*, must bear a gender marker (indeed there are languages in which gender is always covert and is never actually manifested phonologically on nouns themselves). Instead it means that agreement morphology on what Corbett calls the *target* must always be realized (except of course when the morphology provides no actual phonological agreement marker), even when the controller does not provide sufficient information.

The normal way in which systematicity emerges in the face of irregularity or lack of information is through defaults (Zwicky 1986, Fraser and Corbett 1997). I will assume that the final default or unmarked type of agreement morphology is copying and that this copying is a reflection of the underlying universal syntactic mechanism of agreement: complete copying of the controller onto the target.¹ This complete copying, though, is normally disguised by the morphology of the language through its arbitrary system of genders. Furthermore, complete copying violates a basic corollary of the lexicalist or lexical integrity hypothesis that has been elaborated by a number of researchers (Zwicky and Pullum 1988, Anderson 1992), which Zwicky and Pullum call 'the principle of phonology-free syntax' and according to which, in the words of Anderson (1992, 84), 'the syntax neither manipulates nor has access to the internal form of words'. If agreement morphology were to actually copy the

¹ Pollard and Sag (1994) argue that agreement is not done by copying, but rather by indexing. This view has the advantage of being able to unite pronoun/antecedent agreement with verb/argument agreement. For my purposes, whether agreement is done by copying or by indexing is not important. What matters is that there be some way for the target to be sensitive to all the information contained in the controller, whether through indexing or through copying. Pollard and Sag provide a number of arguments against the directionality of the relationship between controller and target, none of which I find persuasive. See Lapointe (1988) for discussion of directionality in agreement.

entire controller lexeme, then it would contravene this generalization, since the lexeme includes its phonological form(s). In this light, one can see gender as a partial solution to the conflict between the principle of phonology-free syntax and the copying nature of agreement: actual agreement morphology is not normally sensitive to the entire controller lexeme; instead it is sensitive to only the grammatical features of the lexeme, including a set of morphosyntactic features. In particular, agreement does not usually need to know the phonological form of the lexeme, so that the principle of phonology-free syntax is preserved in most instances. Actual phonological copying only emerges when it is forced to, through the rare phenomenon of *alliterative agreement*, because for some reason there is no gender available (Dobrin 1997). The interaction of language-particular and irregular gender systems with the universal mechanism of agreement thus sheds light on the nature of the agreement mechanism. Indeed, it is through the idiosyncrasy of individual language systems that we come to appreciate what is universal in language in this domain.

2. Ideology

There are no wholly natural languages or wholly natural grammars. The idea of natural languages or natural grammars is the historical residue of earlier stages in our thinking about human language. Natural language, not natural languages, lies at the base of linguistic theory. By *natural language* I mean Chomsky's U[niversal] G[rammar], or more precisely the species-specific cognitive propensity proposed by Lenneberg on which UG rests:

The appearance of language may be thought to be due to an innately mapped-in program for behavior, the exact realization of the program being dependent upon the peculiarities of the (speech) environment. As long as the child is surrounded at all by a speaking environment, speech will develop in an automatic way, with a rigid developmental history, a highly specific mode for generalization behavior, and a relative dependence upon the maturational history of the child.

(Lenneberg 1964, 600)

Actual human languages are not wholly natural objects but rather partly cultural objects rooted in the interaction of natural language with individual cultures and happenstance. Grammars (I-languages) are not wholly natural objects, unless we attempt to exclude from I-languages everything that is determined by culture and accident. Lenneberg's program does not include a theory of I-languages (what is acquired), but is a set of tools, the universal human capacities that contribute to the construction of I-languages, 'the specific innate abilities that make [language acquisition] possible' (Chomsky 1965, 27). Actually realized human languages are systematic and at least partly unnatural.

Assuming that human languages are not entirely natural, how do we confront the residual but systematic unnatural aspects of languages? One reductionist approach says that this systematic unnatural residue is of no interest. My own preference is to address the residue directly, on the working assumption that actual languages are the product of the interaction of nature and culture. I will attempt to show in this paper that such direct confrontation with residual but systematic aspects of individual languages can in fact lead to a better understanding of the universal mechanisms of the human language program.

3. Reductionism, structuralism and morphology

There are three major types of reductionism in linguistic theory. According to innatist

reductionism, languages can be reduced to innate principles and mechanisms that are specific to the language program, as opposed to other human propensities or behaviors — for example, Chomsky's 'perfect system', which is not realized in any actual language, but which resides in the unrealizable innate language faculty. According to social/cognitive reductionism, non-language-specific principles of cognition, communication, or social structure are the underlying explanatory causes of languages. Finally, one may assume both together and try to account for languages exhaustively in terms of the interaction of natural factors, some of which are specific to language and some of which are traceable to general cognitive and social principles. From any one of these viewpoints, there is no interesting residue in individual languages.

Within the structuralist tradition, the arbitrariness of the linguistic sign dictates that every actual language must be in part a conventional system, what Saussure calls 'a system of pure values' (1959, p. 111), and therefore no individual language can be understood entirely in terms of internal (innate) or external (social) common human factors. The fact that the sign is arbitrary means that there will be systematic unnatural (purely conventional) structural components or subsystems in every individual human language. It is important to realize that acknowledging the arbitrary aspect of individual languages does not commit one to claim, as some structuralists did, that language is entirely arbitrary or unnatural, or that languages may vary among themselves without limit. Instead, one is acknowledging that individual languages always arise through the interplay of universal and arbitrary factors and then allowing for some of the systematicity of individual languages to emerge from this interplay, resulting in unnatural but systematic aspects of languages.

The most likely candidates for partly unnatural subsystems of languages are those that are systematic but not universal and that are close to the arbitrary bond between the signifier and the signified that constitutes the linguistic sign. Inflectional morphology is not universal, but in languages where it exists, it is highly systematic, and morphology lies as close to the arbitrary sign bond as anything does. Certain aspects of inflection can be traced to natural or general social/cognitive functional factors, but full-blown inflectional systems are usually unnatural in part. Inflectional morphology is therefore a good candidate for the sort of system that I have in mind.

4. Gender

'Genders are classes of nouns reflected in the behavior of associated words.' (Hockett 1958, 231). More narrowly, genders are agreement classes:

Def: An agreement class is a set of nouns such that any two members of that set have the property that

whenever	(i)	they stand in the same morphosyntactic form
and	(ii)	they occur in the same agreement domain
and	(iii)	they have the same lexical item as agreement target
then		their targets have the same morphological realization.

(Corbett 1991, 147; following Zaliznjak 1964)

Gender is an excellent candidate for an unnatural grammatical category, first because gender distinction within a language is far from universal and hence most likely not necessary. Gender flourishes in a few areas (Eurasia, Africa, New Guinea) and a few language families

(Indo-European, Afro-Asiatic, Nilo-Saharan, Niger-Congo, North Caucasian, Dravidian).

Genders are also much more highly varied in their structure and motivation than the other categories usually involved in agreement: person, case, and number. These other categories are, by contrast, fairly restricted across languages. Person systems universally distinguish speaker, addressee, and other, with a few distinguishing further among others. Number is not always distinguished in the grammar, but when it is, it follows a simple implicational system: if the languages distinguishes any particular n by means of a special class, then it also distinguishes $n-1$ by means of a special class; if the languages distinguishes any particular n by means of a special class, then it distinguishes $n > 1$ (plural). Case is more variable than number or person, but it obeys a fairly strict hierarchy. But gender systems vary quite widely, not only in the number of genders that a language has, but also in the cognitive basis for these genders (Corbett 1991).

For any language, the set of genders partitions the set of nouns in the language. For most languages, we may say that there is only one gender, or no partitioning of the set of nouns. For languages where the set of nouns is partitioned into more than one gender, even if there is no well-defined criterion for this partitioning, the partitioning is exhaustive.

Gender has been much discussed from a reductionist point of view, with little success. Formal syntax provides no account of gender, though formal syntactic theories have made much progress in our understanding of agreement, which is related to but independent of gender. The mechanism of agreement has been reasonably well explored within a variety of formal theories (G/HPSG, LFG, GB, Minimalism). From a syntactic point of view, the problem of agreement is how and under what syntactic circumstances the agreement takes place, but there is no formal syntactic reason within any theory for a language to have genders, and indeed most actual languages do not. Theories differ on the details of how agreement is accomplished, but in any theory, information about the controller lexeme must somehow get to the target. The simplest possible mechanism for this in any theory is copying some aspect of the controller onto the target. I will therefore make the minimal assumption: that agreement is always done in the syntax by copying the controller lexeme in its entirety onto the target and that this will be true in any theory. This says nothing whatsoever about the morphology of agreement, though.

Social reductionists have had more success with genders, though not with agreement. There is a reasonably successful literature within the Greenbergian typological tradition tying gender systems historically to numerical classifier systems of the sort found in East Asia and elsewhere, though there are few if any real examples of languages moving historically from one type to the other and few examples of intermediate types. One possible intermediate case is Yagua (Payne 1986). Classifier systems are rooted in general cognitive principles, as exemplified by the titles of some of Lakoff's works on the subject: 'Classifiers as a reflection of mind' (1986); *Women, fire, and dangerous things: What categories reveal about the mind* (1987). There is a large literature on functional motivations within individual gender systems, especially explanations of exceptionally classified nouns (Denny and Creider 1976; Lakoff 1986, 1987; Zubin and Köpcke 1984,86).

The major differences between genders and classifiers are rooted in the fact that gender is morphological and grammatical while classifiers are lexical items (Dixon 1982, 1986).

- i. Classifiers are always morphologically free separate lexemes.

- ii. Overt realizations of gender are always morphologically bound.
- iii. Gender is obligatory and normally fixed for any given noun; there is little or no variation among speakers and change in the gender of individual nouns is very slow (e.g. Spanish *mano* is feminine because it was feminine in Latin, even though nouns in *-o* are overwhelmingly masculine).
- iv. Classifiers are variable or optional and often exhibit wide stylistic and age-related variation (Erbaugh 1986). In any language with classifiers, there is usually a class of nouns that admits none.
 - v. There are often large numbers of classifiers (400 in Tzeltal) and they are quite fluid.
 - vi. The number of genders is small (2 - 15) and stable.
 - vii. Gender is always reflected in syntax (by definition of gender as agreement class).
 - viii. Classifiers are realized outside the classified noun's NP only when used anaphorically.

A major concern of research on genders has been their lack of morphosyntactic coherence, the fact that there are normally many diverse linguistic criteria for membership of a noun in a gender. I have argued elsewhere (Aronoff 1994) that what is central is the exhaustive partitioning: membership in the gender itself as realized and evidenced through agreement, not any criteria for membership. The semantic coherence of genders has often been exaggerated (Lakoff 1986, 1987). In fact, semantically incoherent gender systems (in which there are exceptions to the semantic categorization that seems to underlie the system) are usually stable over very long periods of time; witness the gender systems of the languages of the two most widely-studied gender-intensive language families, Niger-Congo and Indo-European, all of which remain irregular as far back as we can reconstruct them. We would not expect such stability if genders were in principle rooted in semantic classification. Semantically mixed gender systems are also fairly common. In one type, the individual genders of the language may be motivated differently. Classic examples of this type are found in parts of Papua New Guinea. Arapesh and Yimas are the best described (Foley 1986, 1991; Fortune 1942). In Arapesh, one gender, male human, is entirely semantic. The eleven remaining genders are entirely phonological, except possibly for one, which contains human females, and another, which is the default. In Yimas, according to Foley, there are four semantic genders (male human, female human, higher animal, and plant), six purely phonological genders, and one default. In the other type of mixed gender system, members of a single gender may be motivated by a variety of factors. Latin is a good example: animates are typically assigned gender by their sex, when sex is differentiated; most names of plants are feminine; most names of rivers and mountains are masculine; stems ending in *Cr* are usually masculine; third-declension nouns with stems ending in certain sequences (e.g. *el, al, os*) are neuter, as are indeclinables. Semantically coherent genders emerge in the breakdown of languages, as in young people's Dyirbal (Schmidt 1983), where the last stage is the most coherent. This has been taken as evidence of the true nature of the robust system, but it may also be understood in the opposite way: robust gender systems do not need to be semantically coherent.

Gender is obligatory inasmuch as every noun in a language must belong to one of its genders, but because gender systems are not usually coherent, it often happens for some subset

of nouns that there will be no regular method for assigning gender to its members.² This subset is therefore placed in the default class (there may also be ordered defaults). One type of default class is partially motivated. While the bulk of its members are assigned by a reasonably well-defined criteria, others are assigned by default. This is fairly common. A more striking type is the 'garbage can', which has no members assigned other than by default.

Yimas gender v may be an example of this type. It is very heterogeneous and seems to be best defined to include all nouns that do not fall under the semantic or phonological criteria set by the other genders.

5. Default agreement

The combined factors of the obligatoriness of genders and their frequent lack of coherence shed light on another phenomenon: default agreement-target gender. If an agreement target must show some gender, because gender is obligatory, but there is no well-defined agreement controller (for whatever reason), then the target shows a default gender, simply because target gender is obligatory. I will give example from default target agreement in Arapesh, which I have discussed at some length in Aronoff 1994. This language has 13 genders. Adjectives, prowords of all sorts, and verbs always agree with their controlling noun phrases. When an element must bear an agreement marker and the proper gender of that marker cannot be determined for whatever reason, then the marker always bears the mark of the default gender.

Default agreement can arise in several ways: the head noun of the controller may be null; there may be gender clash between coordinated noun phrases within the controller, the head noun may not fit into one of the genders for some reason; or the controller may be outside the gender system (first and second person do not agree in gender with targets). See Corbett 1991, §7.2, for many other examples of this sort of phenomenon.

Most languages have a particular gender or set of genders for default target agreement, but in a few languages, default agreement takes the form of what I will call *radical alliterative agreement*, in which the agreement target simply alliterates or rhymes with its controller, which is outside the gender system. Radical alliterative agreement must be distinguished from the apparently alliterative agreement found in Niger-Congo languages and many languages of Papua New Guinea. In these languages, a number of the genders have overt affixes that are identical to the corresponding gender agreement markers. Corbett cites the following example from Welmers:

- 1) ki-kapu ki-kubwa ki-moja ki-lianguka
 7-basket 7-large 7-one 7-fell
 'one large basket fell'

This noun falls into the 7 class in the singular, which has the prefix *ki-*. This prefix then appears on all the targets that agree with this controller. The major difference between the Niger-Congo type of apparently alliterative agreement and true radical alliterative agreement is that what appears to be copied in these Niger-Congo cases is not part of the

² Borrowed nouns, which do not belong entirely to the language, may sometimes lie outside or on the borders of the gender system. They often figure prominently in alliterative agreement.

noun radical, but a segmentable prefix. This can be seen from the fact that some nouns in these languages have no prefix, but still get 'alliterative' gender agreement and from the fact that some nouns have the 'wrong' prefix. Furthermore, in apparently alliterative systems, there is usually a fairly small fixed number of alliterative affixes. In true radical alliterative agreement, there is no limit on the number of possible number of alliterative agreement markers except that imposed by the phonology of the language. Historically, it is likely that apparently alliterative agreement always arises from radical alliterative agreement, but that is a separate issue. I will sketch some examples of radical alliterative agreement, in order to give the reader a taste of how it works.

In Godie (Marchese 1986,88), a Kru (Benue-Congo) language, agreement targets (definite, demonstrative, and adjective) agree with the final vowel of the controller noun in backness (front, central, or back). We may say that there is agreement, expressed in terms of the final vowel, but that there are no genders, since the actual form of agreement is always completely predictable.

2) mɛ-ɛ ɔ nii nə, ɛmɛ pɛ lɔɛ
 animal-DEF he saw NON-FINAL it is elephant

3) nyəkɔ kəd-ɔ nɔ nii mɛ kəd-ɛ
 man big this saw animal big (data from Dobrin 1996)

We see in both examples that the quality of the last vowel of the controller is reflected in that of the target definite marker, demonstrative, or adjective.

Default radical alliterative agreement appears clearly in Bainuk (Sauvageot 1967), an Atlantic (Niger-Congo) language, which has both prefixed and unprefixed nouns. Prefixed nouns fall into eleven genders (each containing a matched pair of singular and plural prefixes) and show agreement through the prefix, which appears on pronouns, demonstratives, and adjectives (as a prefix or suffix, depending on the category of the target). Unprefixed nouns, which are apparently loans, lie outside this gender system; they show no singular marker and a plural suffix (a harmonic nasalized vowel) instead of a plural prefix. The agreement targets of individual nouns of this unprefixed type take one of two sorts of gender agreement in both singular and plural, either a default prefix *a-* or a suffix copy of the first CV of the noun stem (Sauvageot can find no reason for which method a given noun 'chooses'). Some examples are given in the following Table:

<i>Prefixed</i>	
si-dēn-o in-si 'this canoe'	mu-dēn-o um-mu 'these canoes'
si-dēn si-wuri 'long canoe'	mu-dēn mu-wuri 'long canoes'
<i>Unprefixed with copying of CV</i>	
katāma-ŋɔ in-ka	katāma-ŋɔ-nɔ in-ka-ã

river-DEF this-AGR

katāma ka-wayi
river AGR-wide

river-DEF-PL this-AGR-PL

katāma-ā ka-wayi-e
river-PL AGR-wide-PL

Note that the unprefixing nouns trigger the same gender agreement affix in both singular and plural, which is very unusual in Niger-Congo languages, where pairs of singular and plural agreement affixes are hallmarks of the gender system. Note also the co-occurrence of this agreement affix with the plural agreement suffix, again very unusual in Niger-Congo. Finally, these same unprefixing nouns may appear with a prefix in the diminutive or augmentative. For example, the unprefixing noun *saha* 'sheep' may receive the diminutive prefix *ko-* or the augmentative prefix *da-*. In these cases it will 'enter' the normal gender system and show the regular plural prefix for the diminutive or augmentative and no alliterative agreement. Since regular nouns allow only one prefix, the fact that the stem does not lose its initial CV in the diminutive or augmentative shows that it is indeed unprefixing.

In Wolof (McLaughlin 1994, 97), an Atlantic (Niger-Congo) language, there are ten singular noun classes and two plural (one of which has only 4-5 members), although there is no class marker on nouns, only on targets. In some cases, class assignment is alliterative: the class of a noun is determined by its initial consonant: *galaas gi* 'the ice'; *miskit mi* 'the biscuit'; *waliis wi* 'the suitcase'. This is true of many earlier loan words, arguing that the default method of class assignment was alliterative at an earlier period. Recently, the *b-* class has become the default, but the earlier assignments survive (supporting, incidentally, the 'once-only' theory of Aronoff 1976). As the methods of assigning defaults succeed each other historically, the gender system becomes layered.

A final spoken-language example comes from Arapeshan (Dobrin 1997). In Fortune's original grammar (1942), there were some thirteen distinct phonologically-based genders, each with its own set of target agreement markers. These were largely but not entirely alliterative. Fortune shows extensive evidence of a default gender, both for controllers and for targets. In Fortune's time, there were no singular nouns ending in *s*, which is common as the final sound in plural markers. In recent years, however, singular nouns ending in *s* have been borrowed from English and Tok Pisin. These show no plural form and take *-s* as a singular target agreement affix. The following examples are all from Dobrin 1997.

- 4) *ənan-is kes*
PRO.vii-AGR suitcase 'his suitcase'
- 5) *balus sa-bih*
airplane AGR-came.down 'the airplane landed'
- 6) *bas s-afi?i a-nda? pasim-as*
bus AGR-came I-did flag.down-AGR 'When the bus came, I flagged it down'

Dobrin takes this as evidence that alliterative agreement is a default, running in the

background and only surfacing in those instances where there is no gender on the controller and the controller does not fall into the default category either.

In American Sign Language (and most other sign languages), subject and object agreement is deictic. Participants are given locations in the signing space and agreement is encoded in the initial and final locus of agreement verbs. This type of agreement can be interpreted as copying the locus of the subject and object onto the verb as prefix and suffix.

This is the purest example of agreement as copying, since there is no evidence for distinct genders, and shows that sign languages may be closer to the 'natural' state than spoken languages in this regard.

Dobrin (1996, 1997) has pointed out that alliterative agreement is paradoxical. Although it violates the principle of separation of syntax and phonology, it seems prototypical: agreement as copying. But if it is prototypical then why is it true that any form of alliterative agreement is rare, and where it does occur, it has been argued to be late historically:

M. Richardson: Monsieur le Professeur Guthrie, vos remarques concernant l'évolution apparemment plus récente des morphèmes <<allitératifs>> d'accord (cl. 7, 8, 11, 12, 13, 19; 16, 17,18) pourraient conduire à une nouvelle hypothèse, celle du greffage sur le système originel d'une méthode allitérative de classification nominale qui serait plus récente.

M. M. Guthrie: Il semblerait au moins possible que les classes où l'on constate pour les morphèmes d'accord une allitération complète fussent plus tardives, puisqu'une innovation devrait avoir eu pour effet la répétition d'un élément identique plus probablement que les types d'accord quelque peu irréguliers caractéristiques des classes 1, 2, 3, 4, 5, 6, 9, et 10.

(Manessy 1967, 353)³

The answer is that alliterative agreement reflects the universal syntactic nature of agreement as copying, but that this universal does not normally surface, because of the principle of lexical integrity. Only in rare cases where the obligatoriness of agreement meets a gap in the gender system does the copying mechanism surface. Alliterative agreement is therefore a paradigm case of what has been called in optimality theory the emergence of the unmarked (McCarthy and Prince 1995): the unmarked case is a default that emerges just in case nothing else does. Alliterative agreement is gender agreement in the absence of a gender.

³ Mr. I. Richardson: Professor Guthrie, your remarks concerning the apparently more recent evolution of the "alliterative" agreement morphemes (cl. 7, 8, 11, 12, 13, 19,; 16, 17, 18) could lead to a new hypothesis, that of the grafting onto the original system of an alliterative method of nominal classification which would be more recent.

Mr. M. Guthrie: It would seem to be at least possible that those classes where complete alliteration for the agreement morphemes is established were later, since an innovation would have had as its effect the repetition of an identical element more probably than the somewhat irregular types of agreement of types 1, 2, 3, 4, 5, 6, 9, and 10.

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