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Emu Divorce: A Unified Account of Gender and Noun Class Assignment in Mayali*

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1 Introduction

We present an analysis of the gender and noun class systems of Mayali, a non-Pama-Nyungan language of northern Australia, and show that gender (marked on agreement targets) should be separated from noun class.[1] Both are assigned on the basis of semantics, but the semantic assignment systems for gender and noun class differ. These systems overlap, but the exceptional behavior of certain noun types can be accounted for only if the two are treated as separate. In fact, we shall show with examples from the domain of birds that this separation can account for degrees of exceptionality. Crucially, we make use of a particular distinction within the Network Morphology framework: 'normal case default' and 'exceptional case default' (Fraser and Corbett 1997; Brown forthcoming). The normal case default is the outcome we should expect for a given domain. The exceptional case default is what an item may have as a last resort. Different combinations of these for gender and noun class allow us to account for sub-regular patterns, which would not be possible if we failed to distinguish between gender and noun class or the normal case and exceptional case default.

2 An overview of gender and noun class in Mayali

Here we use Mayali as a cover term for a dialect chain with a number of named varieties: Gundjeihmi (Dj), Kunwinjku (W), Kundedjnjenghmi (Nj), Kuninjku (I), Kune (in two subdialects, Narayek (E:N) and Dulerayek (E:D)) and Manyallaluk Mayali (MM). The neuter prefix *Gun* or *Kun* in some of these names (the variation is orthographic only) is one of the noun-class prefixes to be discussed in this paper, language and languages being an important subset of entities assigned to class IV. See Evans (forthcoming) for a fuller discussion of these varieties.

Early investigators, writing on the Kunwinjku dialect (e.g., Oates 1964, Carroll 1976), did not distinguish between gender and noun class, because of the formal overlap between the two. Despite this formal identity of the gender prefixes with four of the noun class prefixes, there are good descriptive reasons to distinguish them, in addition to the general theoretical distinction between an inflectional and a derivational morpheme. Firstly, although all dialects have basically the same system of noun classes (leaving aside the development of a part-class in E), they have significant differences in gender systems (see middle column of Table 1): W has all four genders, Dj has lost the neuter gender, extending vegetable agreement to what in Kunwinjku are neuter nouns, and Kune has extended masculine agreement to all nouns and in the process gotten rid of all gender contrasts, while retaining the formal marker of masculine gender on modifiers, and the full set of class prefixes on nouns.

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	Congruent examples (at least in Kunwinjku)	Examples with ø-class nouns with parallel semantics
Masculine	'good boy'	'good man'
Kunwinjku	*na-rangem na-mak*	*bininj na-mak*
Gun-djeihmi	*na-rangem na-mak*	*bininj na-mak*
Kune	*na-rangem na-mak*	*bininj na-mak*
Feminine (W, Dj only)	'good old.woman'	'good woman'
Kunwinjku	*ngal-kohbanj ngal-mak*	*daluk ngal-mak*
Gun-djeihmi	*al-gohbanj al-mak*	*daluk al-mak*
Kune	*ngal-kohbanj na-mak*	*daluk na-mak*
Vegetable (W, Dj only)	'good food'	'good cheeky.yam'
Kunwinjku	*man-me man-mak*	*kamarn man-mak*
Gun-djeihmi	*an-me an-mak*	*gamarn an-mak*
Kune	*man-me na-mak*	*kamarn na-mak*
Neuter (W only)	'good rock'	'good water'
Kunwinjku	*kun-wardde kun-mak*	*kukku kun-mak*
Gun-djeihmi	*gun-wardde an-mak*	*gukku an-mak*
Kune	*kun-wardde na-mak*	*(kun-ronj na-mak)*

Table 1: Typical gender/noun class correlations in three dialects.

Second, the two systems are logically independent, even though there is a large measure of congruence between them. (We use congruence for the situation exemplified by *manme* and *ngalkohbanj*, in which a noun has a gender of the same form as its (non-zero) class prefix.) A large proportion of animate nouns, and some inanimate nouns, have no overt class prefix (hence belonging to Class V, the 'zero class'); zero class nouns, nonetheless, belong to one of the four genders, as shown by the behavior of their modifiers. See the right hand side of Table 1.

There is another important difference from the speaker's point of view: since nouns will always be heard with the noun-class attached[2], the speaker does not have to learn any principles for class membership, but merely learn the phonological form of the word: noun class is an overt category. Gender, on the other hand, is a covert category, since there may be no clue in the form of the word itself to the gender membership, so that semantic principles (where they exist) are a useful aid.

In addition, partially distinct semantic principles govern the assignment of nouns to genders and to noun classes (e.g., life-form plant names will go into the *kun*-class, but the vegetable (*man*-) gender), and as a result there are a significant number of lexemes where noun-class and gender are non-congruent, e.g., *man-djewk* (W) / *an-djeuk* (Dj) 'rain, rainwater', which always governs masculine agreement.

One of the formal challenges for our analysis, then, is to give semantic rules for class assignment that capture the large measure of congruence between the two systems of gender and noun-class, but can also operate independently in one domain or another.

In line with our analysis, we use separate glossing conventions for gender and noun-class prefixes, as follows:

Affix	Noun class gloss	Gender gloss
na-	I	MASC
ngal-	II	FEM
man- / *ngan-*	III	VEG
kun- /*gun-*	IV	NEUT
ø-	(V) (not usually glossed)	

Table 2: glossing conventions

3 Interactions

There are clear cases of semantic assignment rules for gender. For instance, for sex-differentiables, nouns denoting males are masculine. Noun class can frequently be predicted on the basis of semantics: for instance, nouns denoting animates are typically in noun class V. The first point to note is that the gender and noun class systems are, at least partially, independent. The semantic specifications called on by the two systems are not identical: for instance, the most important distinction in noun class assignment is animacy, whereas on the whole gender assignment makes further distinctions within animates and inanimates, such as biological sex, birds, turtles, swallowing snakes and body-parts. We are thus proposing partially parallel assignment systems:

semantics --> gender
semantics --> noun class

It is then natural to ask whether we should not rather predict noun class from gender or vice versa; this would give two alternative possible systems. The first is to assign gender according to semantics, and then from the gender assign the noun class. The alternative is to assign the noun class according to the semantics, and from the noun class compute the gender. Schematically:

(a) semantics --> gender --> noun class
(b) semantics --> noun class --> gender

Both these alternatives are inadequate. The easier one to prove unworkable is the second. There are large numbers of nouns in class V (the class with no prefix). They can be assigned by several different semantic rules, or indeed by a default for animates. But knowing that a noun is in class V is of little help in predicting its gender. In fact a noun in class V can be of any gender, for instance:

noun	gloss	gender
benuk	plains turkey	masculine
ngarrbek	echidna	feminine
karrbarda	hairy yam	vegetable
kuk	body	neuter

Table 3: Examples of nouns in noun class V

Predicting noun class from gender is a little more successful for reasons we shall see below but is still not adequate. For instance, nouns relating to fire are in the vegetable gender. But this does not itself allow us to predict their noun class, which can be III, IV or V. For example, *(m)an-wurlh* 'fire used to round up kangaroos (vegetable gender, class III), *kun-yerrng* 'firewood' (vegetable gender, class IV) and *medjidj* 'matches' (vegetable gender, class V). Another good example concerns trees. The semantic gender assignment rule assigns these to the vegetable gender. But from that gender we cannot predict their class, which may be III or IV. In fact, we would claim, this results from a parallel semantic rule assigning class as follows: specific species of tree, such as *(m)an-bernbern* 'ghost gum' are in class III, while *kun-dulk* 'tree' being a life-form plant term is assigned to class IV (compare *kun-dalk* 'grass', another life-form plant term). Thus the two schemes proposed are both inadequate: we cannot derive gender directly from noun class, or noun class directly from gender. However, there are obvious overlaps and it is to these that we now turn.

The semantics of assignment to gender, on the one hand, and noun class, on the other, are independent but linked. We now focus on these links and interactions, from the perspective of what combinations are logically possible, and what representational mechanisms we use to allow specifications for gender and noun class to be made independently, while exploiting the many predictable relations to avoid overspecification.

Figure 1 displays the grid of logically possible combinations between gender and noun class. Many of the cells are empty or have just one or two highly marked entries: vegetable agreement is not found with nouns belonging to the basically animate Classes I and II; neuter agreement is not found with Classes I, II or III; feminine agreement is not found with Class III nouns, and with only one Class IV noun (*kun-dung* 'sun', which is in any case class II *ngal-benbe* in Kune and *ngal-djarala* in the avoidance register Kunkurrng). These gaps are due

to the general principle that feminine gender will not be found with inanimates, nor the inanimate genders (vegetable and neuter) with nouns from the basically animate classes (I and II), and that the most marked gender (neuter) can only occur with nouns of the congruent class (IV) or the zero class.

Noun class Gender	I	II	III	IV	V
Masculine	congruent	Exceptions: [biological sex] [plural contexts]	A few lexically specified exceptions: *man-djewk* 'rain', *man-kun* 'honey', *man-djawok* 'katydid' [Also: plural contexts]	Many cases (e.g. many implement terms; *kun-waral* 'spirit' [Also: plural contexts]	Many cases (commonest pattern for animate masculine nouns)
Feminine	[Only Exception: biological sex]	congruent		One exception: *kun-dung* 'sun'	Many cases (commonest pattern for animate feminine nouns)
Vegetable			congruent	Many categories	Some cases (occasional pattern for vegetable nouns)
Neuter				congruent	Some cases (occasional pattern for neuter nouns)

Figure 1. Possible combinations of gender and noun class.

In figure 1 dark shaded areas are unattested and pale shaded areas are attested only with a very few lexemes under highly specifiable conditions. Feminine agreement with Class I nouns, and masculine agreement with Class II nouns, occurs in limited and syntactically specifiable contexts: feminine nouns allow masculine agreement in plural contexts and cross-over in either direction can occur when the biological sex of a particular referent does not coincide with its conventional gender. When we go below the threshold of sex-differentiability, nouns may still be masculine or feminine, but this need not match biological sex. Occasionally, however, the sex of a non-sex-differentiable may become important. Naturally this is likely to be with instances near to the threshold. In this case we find variability in agreement. For instance, *al-wanjdjuk* 'emu' is feminine, and this is normally so irrespective of sex. But now consider this example:

(1) *al-wanjdjuk* *gabani-larlmarr-en,* *al-wanjdjuk* *al-bininjgobeng*
II-emu 3.DU-divorce-NP II-emu II-spouse
ga-ma-ng *na-buyiga* *bininj* *al-wanjdjuk*
3/3-get-NP MASC-other male II-emu
'When emus divorce, the wife emu marries another male emu.'

Here the sex is of particular importance, and we find a masculine agreement *na-buyiga* 'other'. We shall treat this as pragmatically determined, and not a gender accounted for by the assignment rules. Unlike the other cases we are considering, this is an instance where gender varies according to the importance the speaker attaches to the biological fact: the gender matching the sex *may* be used, and need not be used consistently.

Masculine agreement with Class III nouns, apart from plural contexts, is confined to a few cases that need to be lexically specified: *man-djewk* 'rain', *man-kung* 'honey' (optional, so that it also allows vegetable agreement and consistent with the masculine gender of many honey terms) and *man-djawok* 'katydid grasshopper', an example of a metonymic extension of a plant term to an animal associated with it (Evans 1997c), with retention of noun class III but adoption of the default masculine gender.

Turning now to the cells with substantial populations, they fall into three categories:

(a) the four 'congruent' cells, in which the gender and noun class match formally, e.g., *naworneng* 'joker at ceremony' (masc.), *ngalyod* 'rainbow serpent', who is mythologically female (fem.), *man-dubang* 'ironwood tree' (veg.) and *kunngey* 'name' (neut.). For most types of noun with inanimate referents, e.g., nouns denoting plants and body parts, the default situation is for them to be in the appropriate one of these cells. For animates, on the other hand, this is the second rather than the first choice, since animates normally take no overt prefixation, going into class V but with the semantically appropriate gender. However, going into the congruent cell is then their second preference: in other words, simply by marking a lexical entry for such an entity as 'marked', one can predict with near certainty that it will go into the cell containing an overt noun class congruent with its (semantically determined) gender.

Note the value of this in the awkward class of non-human animates: although we have to make an additional lexical stipulation concerning the choice between masculine and feminine, or I and II, we only have to do so on one dimension. For example, for a feminine bird with a class II prefix, we need to specify that it is 'marked' for noun class; from this we determine that it must take the congruent class, i.e. II. If we simply specify it as feminine, then as an animate it would take class V by default. We would need to specify the noun class directly in the lexical entry only if it had an overt prefix that was not congruent with its gender, e.g., a *na*-prefix but feminine agreement or vice versa. So far we have not found any such cases.

(b) the four cells with class V nouns. For animates, which normally eschew overt prefixation, as well as for implement terms, these are the default

cells: zero prefixation, plus the semantically appropriate gender. For most inanimates, which prefer overt prefixation, these are the second choice in a way that mirrors the congruent cells as the second choice for animates: by simply marking inanimate nouns as 'marked', one can predict that they go into class V, with gender determined by their semantics.

(c) the two cells in which class IV nouns belong to one of the two default genders, i.e., masculine or vegetable.

For masculine class IV nouns, this can reflect either the use of masculine gender for many implement and painting terms, e.g., *kun-rodjbe* 'red ochre' (masc.), or dual principles of semantic assignment, as with *kun-waral* 'spirit', assigned to Class IV by the body-part principle, and to Class I by the animate (or more specifically by the malevolent animate) principle.

For vegetable class IV nouns, the situation is more complex. For many, their assignment results from the play of two semantic principles, one in the domain of gender and one in the domain of noun class. Examples are the assignment of *kun-dulk* 'tree' to class IV by the 'plant life-form principle', and to the vegetable gender by the general plant principle, or the assignment of *kun-rak* 'fire' to class IV by the 'domestic fire' principle, and to the vegetable gender by the 'general fire' principle. For others, there is a good deal of contextual variation and inter-speaker variation, reflecting the gradual migration of Class IV nouns into the vegetable gender. In a case where *kunwardde* 'rock' manifests vegetable agreement, for example, this can be attributed to the extended principle, at least for some speakers, by which terms for camp and habitable places go in the vegetable gender, and a construal of a rock shelter as belonging to this semantic category, at least in some discourse settings. Although we do not have rigorous variational data on these nouns, it is likely that for some speakers it represents a particular contextual construal, while for others it has become lexically fixed as belonging to the vegetable gender.

Let us sum up this section by reiterating the implications of this two-dimensional model, with its complex hierarchy of defaults, for how our semantic principles operate. Some semantic principles, such as the assignment of most plants, are identical for both gender and noun class. Some are specific to one domain or the other, e.g., the rules of assigning life-form plants to class IV, where the category of 'plant life-form' is relevant to noun class but not gender, or 'fire', which operates (at least at this higher level of generality) just for gender. Many others, such as principles for assigning gender on the basis of sex, are most economically represented just for gender, with congruence rules and default-specification taking care of whether marking actually shows up as a non-zero noun class. The model we are proposing thus allows us to distribute the semantically-based decisions in a number of ways, so that we can capture the interdependencies of the two systems without being forced to locate all semantic information in one or the other.

4 Network morphology

Corbett (1991) develops a typology of gender in which languages can have semantic or formal (morphological or phonological) assignment systems. While there are languages which have strict semantic assignment systems (Corbett 1991: 8-11), such as the Dravidian languages Kannada (Sridhar 1990: 198) and Tamil (Asher 1985: 136-137), there are no languages which entirely lack semantic assignment of gender (Corbett 1991: 34, 63).

Detailed Network Morphology analyses of gender and class assignment in Arapesh (Fraser and Corbett 1997), Polish (Brown forthcoming) and Russian (Fraser and Corbett 1995) already exist. As with the analysis presented here, these also have the benefit of explicit formal representation and have been checked using the DATR language developed by Evans and Gazdar (1989a, 1989b, 1996; Keller 1995). Fraser and Corbett (1995), representing their analysis explicitly in DATR, use the Network Morphology framework in order to capture the intricate interplay of semantic and morphological assignment of gender in Russian. In Russian gender is assigned on the basis of the semantics, if the noun's semantics specifies biological sex, otherwise gender is assigned on the basis of inflectional class. The Network Morphology work on mixed assignment systems is taken further by Fraser and Corbett (1997) in their analysis of Arapesh, a language of the Toricelli family, spoken on the north coast of Papua New Guinea. The analysis draws on data from Fortune's (1942) grammar and work based on it in Aronoff (1992, 1994: 89-114). This system has semantic assignment based on animacy and biological sex: if a female person, then it is assigned gender IV; if a male person, then gender VII. Otherwise, classes are assigned to genders according to the morphological classes to which they belong. This means that there is usually a rule, or normal case default, which can assign any noun to a gender.

The Mayali system as laid out in Evans (1997a) differs from the Arapesh, Polish and Russian systems in a number of important ways. First, we claim that the system of gender assignment is purely semantic. That is, there is no assignment of gender according to membership of noun class or phonology of the stem. Second, we see that assignment to noun class is also semantic. Third, although the semantic categories of gender and noun class assignment overlap, certain semantic categories are unique to the noun class assignment system. Fourth, where the semantic categories overlap this involves a directionality of assignment of noun class based on gender (exactly the opposite from the other systems we have mentioned).

The usual overlap between gender and noun class in Mayali involves nouns which are inanimate. Here the normal case default for an inanimate noun is that it has congruent gender and noun class. For instance, the noun *mankabo* 'billabong', as an item pertaining to water, is assigned vegetable gender, and consequently noun class III (on the basis that it is vegetable gender), because it is inanimate. Similarly, *kundènge* 'foot' is assigned neuter gender, because it is a body-part, and as a consequence is assigned to noun class IV (the congruent class), because it is an inanimate. In sum, inanimate nouns will be congruent, but

it is the specifics of gender assignment that will determine the form that the congruence takes.

We also saw that the general case for animate nouns is that the noun class is class V. Birds are assigned to the feminine gender by default, but may take the masculine.[6] Note that this involves a move from the specific default for birds to the most underspecified default for anything, which is masculine. Nouns which denote certain birds may have congruence, as a second option, the exceptional case default. For instance, *ngalkordow* 'brolga' takes the exceptional case default for noun class, which is that it should be congruent. As the default gender for birds is feminine, *ngalkordow* is assigned feminine gender and, because it takes the exceptional case default for noun class, it is assigned to noun class II (as can be seen from its noun prefix). More exceptionally still, a bird noun may have both the exceptional case default for gender and the exceptional case default for noun class. So *nadjik* 'tawny frog mouth' specifies the exceptional case default for gender, which for all nouns is masculine. It also takes the exceptional case default for noun class, which is that it should have the noun class congruent with its gender, namely class I (as can be seen from its noun prefix). In sum, we find for inanimates that the move from congruence to non-congruence involves a switch from the normal case default for inanimates (which is to be congruent) to an emergency specification which states that they should switch to class V. As we see in our formal analysis, this is really a kind of second choice 'polarity' effect. Animate nouns such as those for birds are the mirror image of the inanimates, assigning noun class V by default, but taking a congruent noun class as their second option.

4.1 The normal case default

The difference in choice of defaults arises from degrees of specificity, or layers of defaults. As was the case in the previous section, we may talk of a second choice or exceptional case default for both gender and noun class. We saw that the exceptional case default for gender is masculine, and that the exceptional case default for noun class depends on whether the noun in question is animate or inanimate.

A noun has a choice of possible combinations of these first and second choices for gender and noun class. From Figure 1 we see that masculine gender may occur with any noun class. According to our analysis, this is because masculine is the exceptional case default for gender and should therefore be the possible 'marked' or last option for any noun. Equally, as class V is the default for animates and the exceptional case default for inanimates, it occurs with all four genders. Finally, the choice of congruent noun class for animates is the exceptional case default for that group. This means that having class V or a noun class congruent with gender is a possibility for any noun.

We may use *djukerre* 'female black wallaroo' as an example of basic assignment, giving its lexical entry in the DATR formalism in (2).[7]

(2)

```
Djukerre:
```

```
<> == NOUN                                                    [1]
<sem gloss> == female black wallaroo                          [2]
<root> == djukerre                                            [3]
<sem> == MACROPOD.                                            [4]
```

The lexical entry Djukerre is a **node**, which is a location in a **network** of information. Nodes are written with an initial upper case letter. Located at this node, as elsewhere in the network, are **facts** which consist of a pairing of a left-hand and a right-hand side. Each left-hand side of a fact consists of a single **path**. Every path is enclosed in angle brackets '<' '>'. A right-hand side of a fact may consist of an atomic **value**, a reference to another path, a reference to another path at a different node, or a combination of these. Fact [1] in (2) involves a reference to another node, namely NOUN, for any information not specified at Djukerre. Fact [2] tells us that the semantic 'gloss' of the particular item is 'female black wallaroo'. In fact [3] the pairing of the path <root> with the atomic value 'djukerre' tells us that the root is *djukerre*. In fact [4] we are referred to the path <sem> at the node MACROPOD to obtain more information to pair with the path <sem> and its **extensions**. It should be noted that more specific information (indicated by moving from left to right in a path) at a node will override any default information provided by another node from which it inherits. So Djukerre will override any information which is specifically about its <sem gloss>, but inherit from MACROPOD other information which is an extension of <sem>. Equally, as the left-hand path <> in fact [1] is the 'empty' path, this means that any extensions of that path, other than the three already specified at Djukerre, can be found at the NOUN node.

Whereas fact [4] in (2) states that Djukerre inherits information about the semantics of the class to which it belongs, fact [2] states semantic information which is specific to that particular lexical item. The noun *djukerre* 'female black wallaroo' supplies a value for biological sex on the basis of the semantics which are particular to it. The gender of the noun is assigned according to the output of the semantics and determined at a node GENDER. This node is referred to by the node NOUN, not given here, from which Djukerre inherits. Some of the facts to be found at the node GENDER are given in (3).[8]

(3)

```
GENDER:
    <> == masculine
    <entity which_is animate> ==                              [1]
          GENDER_FROM_SEX:< "<sem sex>" >
    <entity which_is animate and bird> == feminine            [2]
    <entity which_is inanimate> == vegetable                  [3]
    <entity which_is inanimate and body_part> == neuter       [4]
...                                                           [5]
```

For *djukerre* the most specific matching path in (3) is that to be found on the left-hand side of fact [2]. This says that the syntactic gender value for animate entities requires an **evaluation** of the sex of the item in question and the use of

the appropriate value as an attribute in a path at the node GENDER_FROM_SEX, given in (4).

(4)
```
GENDER_FROM_SEX:
    <> == GENDER                                    [1]
    <female> == feminine.                           [2]
```

It can also be seen from facts [3], [4] and [5] in (3) that the normal case defaults for the gender of birds, inanimates and body-parts are feminine, vegetable and neuter respectively. Furthermore, fact [1] in (4) states that, if the item in question does not denote a female, the value for gender is to be found back at the node GENDER in (3). This means that an animate noun for which the sex is either male or unknown will be assigned masculine gender according to fact [1] in (3). As masculine is the maximally underspecified choice of gender (there is nothing in the left-hand path paired with masculine), it is also the exceptional case default for gender.

4.2 Exceptional case defaults

We have seen how gender is straightforwardly assigned in terms of the normal case default. We shall exemplify the interaction of exceptional case and normal case defaults for gender and noun class with two nouns which have birds as their denotata. It was claimed that *ngalkordow* 'brolga' is assigned to noun class II, because it takes the exceptional case default for noun class, which makes it assign the congruent noun class to go with the normal case default for gender, which in the case of birds is feminine. We give the lexical entry for *ngalkordow* in (5).

(5)
```
Ngalkordow:
    <> == NOUN
    <sem gloss> == brolga
    <root> == kordow
    <noun_class>== NOUN_CLASS:<exceptional_case_default>    [1]
    <sem> == BIRD.                                          [2]
```

The important facts for our purposes are [1] and [2] in (5). Fact [2] tells us that *ngalkordow* inherits information about its semantic category from the BIRD node in the semantic hierarchy. The output of this semantic component states that it is an `entity which_is animate and bird`. This then matches with the appropriate path at the GENDER node to assign this noun feminine gender (see fact [3] in (3)).

For fact [1] we introduce the concept of the exceptional case default attribute. The idea here is that the workings of the assignment system are interrupted and the maximally underspecified option is the only one which can then be taken. The point about this exceptional case default attribute is that it is no more than a generalized exceptionality marker. The exceptional case default is assigned, because the exceptional case attribute is **not** recognized. As the

attribute is not recognized, the maximally underspecified option at the node referred to must be the one used. In other words, we do not tell the system which value to assign, we tell it that it must assign the 'marked' or exceptional case default, whatever that may be. Fraser and Corbett (1997) and Brown (forthcoming) implemented the exceptional case default in a similar way. We give the NOUN_CLASS node in (6).

(6)

```
NOUN_CLASS:                                                    [1]
   <> == <switch "<sem cat>" >
   <entity which_is inanimate> ==
                  CLASS_FROM_GENDER:< "<syn gender>" >         [2]
                                                               [3]
   <entity which_is animate> == v
   <switch entity which_is inanimate> ==
                              <entity which_is animate>        [4]
   <switch entity which_is animate> ==
                              <entity which_is inanimate>      [5]
```

...

The exceptional case default path can only match with the path in fact [1]. This states that the output of the semantic component should be evaluated and used to extend the switch path. The switch paths are found in facts [4] and [5] in (6) and state that if the noun in question is inanimate, it will behave like an animate and that if it is animate, it will behave like an inanimate. As birds are animate, the path in fact [5] matches and the value is the same as that which is the normal case default for inanimates, namely the one specified in fact [2] (that the noun's syntactic gender be evaluated). As we know that the noun is assigned the default gender for birds, namely feminine, it will receive the congruent noun class, class II.

A final example of the extent to which gender and noun class may interact is *nadjik* 'tawny frog mouth'. The lexical entry for this noun is given in (7).

(7)

```
Nadjik:
    <> == NOUN
    <sem gloss> == tawny frog mouth
    <root> == djik
    <noun_class> == NOUN_CLASS:<exceptional_case_default>      [1]
    <syn gender> == GENDER:<exceptional_case_default>          [2]
    <sem> == BIRD.
```

Again, the output from the semantic component says that this noun denotes an `entity which_is animate and bird`. Here, however, this does not play a role in the assignment of the gender, because the exceptional case default attribute is used in fact [2]. The path can match only with the empty path at the node GENDER, which is paired with the value `masculine`. With *ngalkordow* 'brolga' we have already seen that using the exceptional case default attribute for noun class assignment to an animate noun ultimately leads to an evaluation of that noun's gender (in order to assign congruent noun class), and because *nadjik*

'tawny frog mouth' has the exceptional case default gender masculine, it will be assigned to noun class I.

Further evidence to support an approach in which we may switch on congruence of gender and noun class comes from the special *Kun-kurrng* register.[9] This register is learned later in life (typically from adolescence) and essentially involves a second set of vocabulary items with the same grammar and phonology as the everyday language, or *kunwokduninj*. Unlike other 'mother-in-law' styles reported in Australia, the number of vocabulary items is so high that there is little semantic collapsing into hypernym sets (Dixon 1971) or metonymic chains (Evans 1992). The semantic parallelisms with the everyday register take many forms, such as parallel compounding of the elements of morphologically complex verbs and, relevant here, an almost total match in the gender of Kunkurrng words and their everyday correspondents. Moreover, virtually all everyday words with a non-zero noun-class marker have Kun-kurrng equivalents with the same noun-class: an example is ordinary language *ngalkordow* 'brolga' and its Kun-kurrng equivalent *ngaldjingburduwalan*.

What is particularly interesting here, however, is the large number of Kunkurrng words that have a noun class prefix congruent with the gender of everyday words in the zero class. This motivates a formal treatment in which the basic gender assignment rules, normally blocked from assigning congruent noun classes for certain lexical subclasses (sometimes as the default for that subclass, and sometimes at the idiosyncratic, lexical level) so that they end up with zero prefix, is allowed, in the relevant lexical classes, to assign congruent noun classes to Kunkurrng nouns. In the case of mammals with salient sex (such as the most important macropods), and whose everyday nouns govern gender according to their sex but belong to the zero noun class, most have corresponding Kunkurrng forms with congruent noun class. For example, *ngal-warddedjemngorrmo* 'female black wallaroo' is the equivalent of the ordinary language form *djukerre*. In sum, Kun-kurrng is characterized by more overt morphological marking, such that lexical items with zero prefixes in the ordinary language frequently have non-zero prefixes in Kun-kurrng, and these are congruent with the gender of the ordinary language noun. The great consistency between ordinary language and Kun-kurrng nouns confirms the operation of a single set of semantic principles across registers.

5 Conclusion

The Mayali gender and noun class system is specially significant. It is not possible to account for the different patterns if one assumes that gender and noun class must be one and the same thing. The gender and noun class systems are partially independent and noun class may sometimes depend on gender. We showed that the use of the 'exceptional case default' helps delimit the space of deviation. The exceptional case default involves specification in a lexical entry that something is odd in a certain respect, but it does not specify directly how it is odd. The system is left to determine this. Furthermore, our analysis has been represented in the DATR lexical knowledge representation language and checked

on a number of nouns. This confirms that our analysis does indeed give results consistent with the system we have found in Mayali.

Notes

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[1] We use the term 'gender' for a system of classification of nouns relevant for agreement purposes. This position is justified in detail in Corbett (1991). This classification may or may not correspond to a real-world distribution of sex. Within agreement-based classifications, there is then no point in treating 'noun class' in, say, many languages of the Caucasus as different from 'gender' in Dravidian languages; it is purely a matter of tradition. If 'gender' is used as the core term for classifications relevant for agreement, this leaves 'noun class' free to be used for purely morphological classes (cf. Evans 1997a). So, when we use the term 'noun class' here we mean the morphological class of a given noun.

[2] The only exceptions to this are when the noun is incorporated: cf *ngarridjobkeng kundulk* and *ngarridulkdjobkeng*, the non-incorporating and incorporating forms of 'we chopped the tree' (see Evans 1995, 1997b on Mayali incorporation).

[3] We do not include the plant name *namarndengabek* 'plant species whose leaves are said to resemble a devil's hair', which is vegetable gender and could be argued to have a *na*-prefix, on the grounds that the *na*-prefix is part of the first compounding element (*namarnde* 'devil') rather than being attached to the compound as a whole.

[4] It is likely that the term *ngal-yurr*, when used in its botanical sense of 'pityrodia jamesii; cleome viscosa' rather than its entomological sense of 'Leichhardt's grasshopper', would take vegetable agreement; this is a rare example of a metonymic extension of an insect term (motivating the *ngal*-prefix) into the botanical domain.

[5] Sole exception: *namarnde* 'devil' is attested once with the demonstrative *kunu* 'NEUT-that', presumably construed here as a body part (i.e. ghost, spirit).

[6] Apart from the large number of nouns for birds which are assigned feminine gender, a significant piece of evidence which suggests that this is the default gender for birds comes from the Gun-djeihmi dialect, where a feminine prefix is used on the interrogative 'what' applied to a bird of unknown type.

Al-njamed	*ngal-dehni ?*
FEM-what	FEM-that

'What (bird) is that?'

[7] The emboldened numbers in square brackets, such as [1], allow us to refer to particular facts in a given example. Their purpose is entirely expository and they are not to be found in the actual DATR representation.

[8] Where facts are followed by ellipses this indicates that other facts are to be found at this node which have not been given here.

[9] Further information on Kun-kurrng can be found in Harris (1970), Manakgu and Djayhgurrnga

(1985), and Garde (1996).

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