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3. LINGUISTIC APPROACHES TO NUNGGUBUYU ETHNOZOOLOGY AND ETHNOBOTANY

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Introduction

This study does not attempt to integrate the Nunggubuyu classification of flora and fauna with ritual symbolism or the like. The paper will deal with public (onesoteric) speech only, and will cover the following topics: (1) the functions of generic and quasi-generic terms; (2) the classification of foods vis-à-vis (mere) objects; (3) certain aspects of the classification of vegetative zones; (4) morphologically analysable terminal taxa; (5) the noun-class system; and (6) intraspecific lexical differentiation (male/female, growth stages, etc.).

The four or five clans whose traditional language was Nunggubuyu occupied the area around Cape Barrow on the Arnhem Land mainland west of Groote Eylandt. Some clans to the south now speak Nunggubuyu as their primary language following the demise of Warndarang. Most Nunggubuyu speakers are now at Numbulwar Mission. They number around 250 and many adults are largely monolingual.

Certain aspects of the traditional subsistence economy survive in truncated form. Important marine sources of meat were dugong and turtles (especially green turtles) and fish of reefs, beaches, and estuaries. Crustaceans and certain shellfish can also be mentioned. Terrestrial game included five species of kangaroos and wallabies; birds including emus and various wading or diving species; snakes including file snakes (aquatic) and pythons; tortoises; fish of rivers and lagoons; freshwater mussels and occasional freshwater crustaceans; etc. Eggs, especially of turtles, were relished.

Topographic vegetative zones in the area are diverse, but true sandstone escarpment (found to the north-west) is largely absent. Identifiable zones include tall stringybark (Eucalyptus tetradonta) forest and specialised formations including dense low stringybark scrub; Melaleuca floodplains immersed during the wet season; low sandy scrubland including Acacia confusa and associated species; exposed beaches; salt pans with scattered herbs (chiefly chenopods); riverbanks; areas dominated by broad-leaved Melaleuca leucadendron on stabilised dunes; dense canopied jungle behind beaches; uncommon monsoon scrub; estuarine mangrove forests and their extensions up tidal rivers; rocky islands etc. Permanent lagoons and some streams provide water lilies (Nymphaea), while various seaweeds and seagrasses occur in brackish and salty water.

A great many flora species were economically important. Corms and seeds of Nymphaea lilies were fundamental staples during much of the dry season. Toward the end of the dry season, receding lagoons provided abundant root foods from Triglochin procera be mentioned. Cypar occurs seeds were processed, but this to the north or on Groote E the Nunggubuyu associate cl present but was not a major monsoon scrub provided fraterobata (green plum) was Dioscorea and several Ipom substances or had some other.

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All of these nouns happen referenced in the verb as -a hence we recognise ANAG: am

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Nunggubuyu ethnozooology and ethnobotany

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1. the classification of foods;
2. the classification of terminal taxa;
3. the noun-class
4. language was Nunggubuyu in the Arnhem Land mainland west
5. the number around 250 and many

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Sea are diverse, but true sandstone is largely absent. Identifiable zones are usually forest and specialised scrub: Melaleuca floodplains and scrubland including Acacia and beaches; salt pans with scattered dense canopied jungle behind mangrove forests and their eche. Permanent lagoons and some while various weeds and grasses during much of the dry season. Lagoons provided abundant root

foods from Triglochin procera and Eleocharis dulcis (Scirpus littoralis can also be mentioned). Cypres occurs in the north-western Nunggubuyu area and its seeds were processed, but this was not the fundamental staple it was for groups to the north or on Groote Eylandt. Similarly, Apomoecon elongatus (which the Nunggubuyu associate closely with Nympheceae) lilies), an aquatic plant, is present but was not a major staple. Many species of trees and some vines of monsoon scrub provided fruits; the broadly distributed tree Buchanania obvata ('green plum') was also important. Common yams include two Dioscorea and several Ipomoea species. Many trees provided medicinal substances or had some other direct or indirect economic significance.

Five species of honey bee (Trigona) are distinguished on a number of criteria. Witchetty grubs (cossid and cerambicid larvae) were obtained from the trunks (usually not roots) of certain trees but were not of great importance. Eggs of the green ant (Oecophylla virescens) and sometimes of meat ants (Iridomyrmex species) were occasionally soaked in water and eaten.

Further documentation of these observations will be given in a projected paper on Nunggubuyu botanical terminology and economic ethnobotany, and in conjunction with future linguistic publications (which include texts on these subjects).

Generic terms

We may begin by noting the following explicitly generic terms for flora and fauna, none of which includes any of the others in their uses as classifications of objects (but cf. the section on the classification of foods concerning extensions of muri).

muri ANA fish (includes rays and sharks; excludes all marine mammals, jellyfish, eels, sea-snakes)

muri ANA bird (includes fruit-bats and other bats, occasionally flying insects such as grasshoppers)

muri ANA marine turtles and dugong (excludes freshwater tortoises)

muri ANA snake (includes eels, sea-snakes)

muri ANA shell

muri ANA grass or herb (non-woody)

muri ANA tree or shrub (woody)

All of these noun pairs happen to take the ana-class prefix; some are cross-referenced in the verb as -e- and others as -wu- in transitive object function, hence we recognise ANA and ANA subclasses.

The range of muri is unremarkable. Of the marine mammals, dugongs are under muri while porpoises and whales are not ordinarily subsumed under any of the terms shown. Subcategories of fish may be expressed indirectly by using various verbs for different fishing techniques (e.g. tala 'to spear fish while wading on beach'), or by using expressions involving habitats (ama-magalab-jinjuy 'of beaches'). One explicit, though infrequent, subclass is lagalu, which covers lagoon fish at the point when they rise up from their 'hibernation' in the mud at the first rains. Another subclass is maliyar, which covers small and middle-sized rays (but does not cover large species such as manta and eagle rays). There is no obvious confabulation of sharks and rays into a single category, though there is some tendency to extend the special
term *u-bangidi* 'meat of ray' to also cover shark flesh (terms for various types of ray fat are not so extended).

As a general label for animals, *yargiru* tends to be restricted to flying animals though it also covers the emu (a flightless bird); see the next section for more on this term.

The term *wagalij* covers the dugong and five marine turtles (a sixth, the leathery, is rarely seen and is not hunted, and is only marginal to the *wagalij* category). Dugong and the green turtle are most important; both are hunted (the verb is *guragur-*) in canoes with harpoons. The term *wagalij* tends to focus on dugong somewhat more than on turtles, and it is formally (but irregularly) related to the term for dugong (*yargalij*). That is, when denoting a particular specimen *wagalij* is used more often in place of *yargalij* than in place of *yala:ligi* (green turtle); if a turtle is denoted a specific turtle term is normal. In languages to the north *wakali* (obviously related to Nunggubuyu *wagalij*) is a specific term for dugong.

The term *maaŋara* means 'shell' both as a body-part term and a general label for shellfish.

The term *maa* 'grass' is also applied to the freshwater long-tom fish (*Strongylura krefftii*), which has a long thin snout (roughly like that of a swordfish) which projects above the surface of the water when the fish moves. A less common synonym for *maa* (*yala:li*) in the sense 'long-tom' is not applied to grasses.

Aquatic plants such as water lilies, seaweeds, seagrasses, and algae are not included under either *maa* or *raaŋ.*

In addition to these explicitly generic terms, there are a few nouns which can be used either as specific (terminal) taxa or, at least in some contexts, as quasi-generic terms additionally covering other terminal taxa. In classical ethnoeclassification theory, we would speak of terms which occur on two levels of the taxonomic hierarchy—the specific level contrasting with other terminal taxa and a more general level contrasting with other specific terms (fig. 1).

![Generic Specific Tree](image)

Here certain privileged terms (a, x) occur in both levels while other terms occur only as specific terms and others (p) are only generic.

However, the terms I have in mind are not used in the way which this simple schema would imply; in particular, the 'generic' uses of terms like a and x may be more restricted than those of true generic terms like p. If x and y have generic uses, it is only by virtue of the fact that the species they represent constitute the most salient or significant members of (sub-)classes which happen not to have generic labels.

For example, the Nunggubuyu have no generic term for kangaroos and wallabies. To say 'I am going hunting for kangaroos/wallabies' it is necessary to promote the term *yargiru* (agile wallaby, *Macropus agilis*) to quasi-generic use (*yu-yu:ri: a-yargiru-way*, lit. 'I go to agile wallaby'). In the Ngandi language, spoken just inland from Nunggubuyu in a more hilly environment, the term *girk* (teuro, *Macropus ritha*), spoken north of *yargiru*.

A number of other quasi-generic terms are used:

1. *gara ga Students* who designate the *gganitea* and less this lily as a *ga* water lilies and their fruits; for varieties of *Nymphaea* and excludes the diminutive and *ga* in the area.
2. *maabangari* This species *scapulatus,* but can be used *q* *Pteropus gouldii.*
3. *nauru* This refers to the other crabs (usually *excludin* *dwar*. This refers *spec* and is used quasi-generically *e* *marbidi.* This term des *com* common of the small rays. *A* for the smaller rays, *freq* broader sense, so that *maa:* (f) *yala: ligi.* The green *turi* marine turtles (except *perhap* *g* *dalarj:ray.* The long-necked *all tortoises.*

An important syntactic distinction is that quasi-generic one, can *explicit* superordinated to a distinct 'snake' can be used in *utte* browns—all kinds of snakes involves a special prefix *-wan* faunal terms. Moreover, one *a pyton* or 'That is a snake'. Let us contrast this with qual "We hunted euros, antelopeine *yargiru*'. This would explicitly break the rules. Moreover, but not 'That is a *yargiru*,' the *l* (agile wallaby) is applicable.

The common syntactic fra senses are (a) when the specific go hunting for —), and (b) collectivity comprising (perha not to enumerate (as in 'We sa future tense (and negative) utterances.

If both generic and quasi-ge specific terms which are not whale, jellyfish, seaweed. most
the term *dirk* (euro, *Macropus robustus*) is used in this quasi-generic sense. In Ritharrngu, spoken north of Nunggubuyu, there is a true generic term (*juća*).

A number of other quasi-generic terms in Nunggubuyu have been noted. These are:

(a) *ayag*. This designates the fruit (seed pod) of the large water lily *Nymphaea regia* and this lily as a whole. It can also be used as a general term for all water lilies and their fruits; for the Nunggubuyu this category includes several varieties of *Nymphaea* and the aquatic herb *Aponogeton elongatus*, but excludes the diminutive and inedible *Nymphaoides* lilies (*Neomano* is not known in the area).

(b) *mařhangari*. This specifically designates the red fruit-bat *Pteropus scapulatus*, but can be used quasi-genericly to also include the other species, *Pteropus gouldii*.

(c) *murač*. This refers to the mud crab *Scylla serrata*, and by extension to other crabs (usually excluding hermit crabs).

(d) *wada bir*. This refers specifically to the large sand goanna *Varanus gouldii*, and is used quasi-generically for all goannas.

(e) *marbidi*. This term designates the cowtail ray (*Dasyatis*), the most common of the small rays. Although we have noted the generic term *mālar* for the smaller rays, frequently *marbidi* is used (quasi-generically) in this broader sense, so that *mālar* is fairly uncommon.

(f) *nala līgi*. The green turtle (*Chelonia mydas*), and quasi-generically all marine turtles (except perhaps the leathery turtle).

(g) *daimar ray*. The long-necked freshwater tortoise *Chelodina* species, hence all tortoises.

An important syntactic difference is that a true generic term, but not a quasi-generic one, can *explicitly* subsume several taxa or be hierarchically superordinated to a distinct terminal taxon. For example, the term *marb* 'snake' can be used in utterances like 'We saw pythons, taipans, king browns—all kinds of snakes'. Indeed, the 'all kinds of —' construction involves a special prefix *wara*- which can only be used with generic flora-fauna terms. Moreover, one can point to a python and say either 'That is a python' or 'That is a snake', explicitly subsuming one term under the other.

Let us contrast this with quasi-generic *yarg* 'agile wallaby'. One cannot say 'We hunted euros, antelopine kangaroos, nail-tailed wallabies—all kinds of *yarg*'. This would explicitly subsume several terminal taxa under *yarg*; thus breaking the rules. Moreover, if one points to a euro he can say 'That is a euro' but not 'That is a *yarg*'. the latter being appropriate only if its specific sense (agile wallaby) is applicable.

The common syntactic frames of terms like *yarg* in their quasi-generic senses are (a) when the specific denotata of the term are uncertain (as in 'I will go hunting for —'), and (b) when the term applies to an undifferentiated collectivity comprising (perhaps) several species which the speaker chooses not to enumerate (as in 'We saw lots of —'). Point (a) will be more relevant to future tense (and negative) utterances than to past and present (positive) utterances.

If both generic and quasi-generic terms are combined, there is still a residue of specific terms which are not subsumed under any of these broader classes: whale, jellyfish, seaweed, most insects (for honey bees see the next section).
Classification of foods

The principal opposition is between *jangu* ANAn ‘flesh’ and *mariya* ANAn ‘vegetable’. The latter term in particular is broader than the gloss suggests. ‘Flesh’ includes meat from kangaroos and wallabies, witchetty grubs, and the first five genera listed on page 41 (fish, birds, marine turtles and dugong, snakes, shells). ‘Vegetable’ includes plant foods (from aquatic as well as terrestrial species), honey, eggs, edible gum from trees, and insect foods other than grubs.

Although the two terms are frequently opposed as such, in some contexts it appears that they are not strictly opposed. First, the term *mariya* (which covers foods of a wide variety of textures and tastes) is the unmarked member of the opposition and it can thus be used (quasi-generically) as a general term for all foods when ‘flesh’ and ‘vegetable’ are not contrasted. Secondly, whereas *mariya* is only occasionally used as a body-part term (eg. ‘edible portion’, ‘fruit’, or the like) contrasting with terms for other parts of the same object (eg. a tree), the term *jangu* is frequently used as a body-part term. Not only does it apply to human flesh (which is never consumed now, and traditionally could only be consumed in special mortuary contexts), but even in the context of eating it is frequently opposed to terms like *manaj* ‘fat’ and *gudan* ‘guts’. Thus *jangu* is a more context-sensitive term, sometimes standing for meat (ie. game animal, including fat and guts) in contrast to *mariya*, sometimes contrasting with other body-part terms.

The contrast *jangu/mariya* is reinforced by another pair of terms, *yalaj* and *ga:ga:daj*. The denotative reference of *yalaj* coincides with that of *jangu* (in opposition to *mariya*), while that of *ga:ga:daj* coincides with that of *mariya*. The use of *yalaj* differs from that of *jangu*, however, in emphasising a change of diet to flesh after having had nothing but vegetables for a period; hence we may translate *yalaj* as ‘meat for a change’. Similarly, *ga:ga:daj* means ‘vegetables for a change’ (after having eaten nothing but meat for a period). These terms are used in the narrow context of changes in diet (or desire for such changes), while *jangu* and *mariya* are less specialised and less charged with value judgements. There are also verbal forms, *yalaja: -to eat meat for a change* and *ga:ga:daja:- to eat vegetables for a change*. The opposition between *jangu* and terms for other body-parts (fat, guts) does not enter into this area of food classification, presumably for the obvious reason that where there is meat there is also fat and where there is no meat there is likewise no fat.

Most of the specific terms subsumed under *mariya* ‘vegetable’ are terminal taxa, such as flora terms. There are some intermediate generic terms, however: *gagala: pig*, *nirala: turtle egg*, *ga:gu: honey* and *binan* ‘gum on certain wattle’. These are all body-parts (in a loose sense including secretions), and are generic only inasmuch as they apply to a number of named species.

The corresponding sub-classification of *jangu* ‘flesh’ largely coincides with the schema of generic classifications listed on page 41. Thus a term like *gagala: pig* can be used not only to define a class of animate objects, it can also specify a class of edible flesh (or perhaps we should say animate objects qua source of flesh). However, one such term (*gurigai*) is semantically broadened when the context involves eating (or prospective eating). As an ordinary generic term, it ordinarily implies ability to fly and can therefore be roughly translated as ‘bird’, with emus (flightless) as marginal members. However, in the context of eating the term *gurigai* is broadened to mean ‘terrestrial game’.

In this sense if there are any kangaroos and wallabies, subsumes (at least quasi-generally) terrestrial mammals thereof aquatic creatures *nugalij* (tr)

The semantic shift ‘bird’ to ‘raw, uncooked’ ‘ripe, cook these terms is their behaviour rare and retains its basic *me:gi* (in this position - *rigu-*) many combinations shows (with - *wa-: -to bite*) there is a fall’ - -*rigu:raibi:- -to faint’, which has died or collaps unconscious, rendered *inde* semantic extension is presu (eg. by sparring) before dealing with three (not two) becomes ‘raw’ only when it say that it is raw before pragmatically infelicitous.

Mention may also be made of grasses and other plants emus, or buffaloes.

We will not attempt to topographic/vegetative *zon* relate to our central *cone* groupings; (b) the definitive species.

Returning to the list on p. in several cases be correlated characteristics, *modes* of to determine which criteria are seen decisive for defining th both include terrestrial and The category *nugalij* (turtle) shared habitats and eating on seaweeds and seagrasses but also because they are hu
In this sense if there are any focal referents with a privileged status they are (a) kangaroos and wallabies, and (b) emus. In the broader sense, *nurugu* subsumes (at least quasi-generically) the generic category *ma:ri*n’snake’ (or the terrestrial members thereof), and the primary oppositions are thus with aquatic creatures *wugali:j* (turtles and dugong) and *puyija:* (fish).

The semantic shift ‘bird’→ ‘game animal’ is part of a well-established semantic pattern in eastern Arnhem Land. The central mediating figure is *emu,* only marginally a bird but the terrestrial game animal *par excellence.* Indeed, Nunggubuyu *wa:yi:n* ‘emu’ is part of a diffused lexical set which includes *wa:yi:n* ‘game animal’ in languages to the north; in these northern dialects another term, *warakan,* means variously ‘emu’ or ‘game animal,’ and in some of these dialects *wa:yi:n* and/or *warakan* can in appropriate contexts focus specifically on birds, cf. Maddock (1975).

The opposition ‘flesh’/’vegetable’ is intersected by the familiar opposition ‘raw, uncooked’/’ripe, cooked’ (*digu* vs. *jaray*). What is most interesting about these terms is their behaviour as compounding initials. In this position *jaray* is rare and retains its basic meaning ‘ripe, cooked’ (ie. ready to eat). By contrast, *digu* (in this position -*rigu-* ) is very common as a compounding initial, and in many combinations shows semantic specialisation. In -*rigu-*wa- ‘to eat raw’ (with -wa- ‘to bite’, *rigu-*ra-bi- ‘to fall’, -*rigu-*ra-bi- ‘to faint’, -ma- ‘to pick up’ → *rigu-*ma- ‘to pick up (something which has died or collapsed)’, etc. Here *rigu-* shows the sense ‘dead, unconscious, rendered inert, incapable of action’. The avenue for this semantic extension is presumably that hunted animals must be rendered inert (eg. by spearing) before they can become potentially edible. We are really dealing with three (not two) states: inaccessible, raw, and cooked. An animal becomes ‘raw’ only when it has the potential of becoming cooked (and eaten); to say that it is raw before it is rendered inert is not only obvious but is also pragmatically inedible.

Mention may also be made of the term *dugui* ‘fodder,’ which covers a range of grasses and other plants eaten by particular animals such as kangaroos, emus, or buffaloes.

**Vegetative zones**

We will not attempt to describe the Nunggubuyu classification of topographic/vegetative zones here. Rather we deal with two aspects which relate to our central concerns: (a) the role of shared habitat in generic groupings; (b) the definition of vegetative zones by means of dominant flora species.

Returning to the list on page 41, we can see that the five fauna categories can in several cases be correlated simultaneously with particular gross anatomical characteristics, modes of locomotion, and habitats; it is therefore difficult to determine which criteria are minimally distinctive. Anatomical considerations seem decisive for defining the classes snake (*ma:ri*n) and shell (*marugara*), since both include terrestrial and aquatic species as well as a few ambivalent ones. The category *wugali:j* (turtles and dugong) makes sense partly because of shared habitats and eating preferences (dugong and green turtles feed chiefly on seaweeds and seagrasses and tend to co-occur in the same feeding grounds), but also because they are hunted in the same way (with canoes and harpoons),
because they are of the same order of magnitude in size, and because the process of butchering and cooking them is similar. The categories ngulalij and nguja (fish) are distinguishable from yrugu (bird) largely on the basis of aquatic vs. terrestrial/aerial habitat. The term yrugu itself, in its ordinary sense, is distinguished from other terrestrial animals such as kangaroos and wallabies by its ability to fly (sugar gliders, marsupials which glide through trees, are excluded). In the broader sense of yrugu as ‘terrestrial game animal’ (see page 45) the opposition terrestrial vs. aerial is obliterated but the opposition terrestrial aerial vs. aquatic is dramatised. All in all, habitat would seem to play at least some role in determining the distribution of various generic terms for fauna. As for flora, recall that mada ‘grass’ and rayap ‘tree or shrub’ are not normally applied to purely aquatic species such as seaweeds or water lilies, though mada can be applied to some semi-aquatic grasses and sedges.

In subclasses of ‘fish’, habitat is even more significant. We have noted (see page 41) the use of langalas as a special term for lagoon fish as they emerge from hibernation in the mud on the first rains. There is also an important verb -wadij-farma- (with -arma- ‘to chase’) meaning ‘to hunt for freshwater game’ (tortoises, file snakes, mussels, etc.), and this is obviously based on habitat. Adjective-like expressions such as ama-mogalaba-jinju ‘of beaches’ and a-gugu-wa-jinju ‘of freshwater’ are common in juxtaposition to generic terms like yarru ‘fish’.

The use of certain flora terms as designations for the vegetative zones which they dominate is parallel to the extension of terminal taxa as quasi-generic terms (see page 42). An example is ama, which specifically designates Rhizophora stylosa, the mangrove with severely buttressed roots found on the outer (seaward) fringe of mangrove swamps. Perhaps because it is the most easily visible mangrove from the sea, it is used as a general term for mangroves under syntactic conditions like those for quasi-generic terms (ga-ya:-ri: ama:-ma-wuy ‘I am going to the mangroves’).

A more complex situation is presented by terms for various low shrubs found in scrublands on basically sandy soil. The term mudidi is applied specifically to Acacia conspersa, a wattle with spike-shaped (not globular) flowers. The term can also be used as a general term for scrubland with this and associated species. There is another term, madibjar, which applies to a number of shrubs about one or two metres high, without economic value, with tiny or needle-like leaves, having sharp twigs capable of causing scratches or cuts, and having brightly coloured but small flowers (white, red, yellow, orange) in the dry season. This constellation of shared characteristics applies to three common species (Acacia subplanata, Grevillea pungens, and Calytrix exstipulata), and to a number of others (Verricordia cunninghamii, Hibbertia lepidota, Dillenia species, Jacksonia thesidoës, etc.). This term madibjar is thus easily extendable as a term for the scrubland which includes most of these species. As terms for vegetative zones, mudidi and madibjar tend to be confused since the species in question overlap.

A special term for dense low scrub of stringbark (Eucalyptus tetradonta) is found: warwar. It appears that this is exclusively a vegetative-zone term rather than a flora term. The term for stringbark as a species is Yu:n, but although the more typical (and taller) form of this tree dominates large areas of forest the term Yu:n is only infrequently used to designate such zones; instead they are included in the general topographic term yu:r ‘bushland’.

In general, it appears that above) are used to designate basis.

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Almost all Nunggubuyu of an analysable term is r yellowish form of the same ‘back’ and -galiyu, appears to be white/bright.

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In discussing polysemous fauna species in both sense other semantic domain. We only cases where the two will not deal here with the more closely related or sim. The following cases have b
(a) walburryga. This is app whose wood is used for fir sense is more common: in t species is often confused w (called buduga, called ‘fir turkeys are thought to eat the found in some other langua cunninghamii is a derivative suffix).

(b) yarrga. This applies to di have no explanation for this used only in the second sen the second.
In general, it appears that specific flora terms (other than those mentioned above) are used to designate vegetative zones only on an occasional and ad hoc basis.

### Analysable terminal taxa

An analysable term is something like *black duck* with two or more morphemes, whether fused into a single word, loosely compounded, or merely juxtaposed. An analysable term is something like *red* consisting of an unsegmentable unit. In addition to applying this distinction to Nunggubuyu terms, we will also discuss some instances of polysemy and semantic "extension".

Almost all Nunggubuyu flora-fauna terms are analysable. One example of an analysable term is *gululu-yahalulu*, an uncommon word referring to a yellowish form of the sand goanna (*Varanus gouldii*). Here we have *ybulu* 'back' and *yahalulu* apparently an irregular form related to the verb *yahala* 'to be white bright'.

The little pied cormorant (*Phalacrocorax melanoleucus*) is *gulnum-balgaru*, which contains *gulnum* 'belly' plus another unattested ending (formally an adjectival noun). In the Ritharrngu language to the north we find this species called *gulun-balkara*, with that language's stem *gulun* 'belly' at the beginning.

The stem *rabara* 'tail' appears to occur in a few fauna terms: *rabara-wulma* 'black whip-snake' (*Demansia*), *rabara-yala* 'large ray sp. with long tail'. The endings -*wulma* and -*yala* are semantically unclear. -*yala* does not occur elsewhere while -*wulma* occurs elsewhere only in *yida-wulma* 'juvenile black whip-snake' (cf. *yida* 'waist'). Another term beginning with *yida* is *yida-fargfarg* 'king brown snake' (*Pseudechis australis*), where the ending is identifiable as the adjectival noun *fargfarg* 'rough, coarse'.

In discussing polysemous terms we distinguish those which designate flora-fauna species in both senses from those whose second sense involves some other semantic domain. We begin with the first type, and will mention here only cases where the two flora-fauna senses are sharply distinguished (ie. we will not deal here with the numerous cases where a term is applied to two or more closely related or similar species, as in the case of *madijiar*, see page 46). The following cases have been noted:

(a) *walburungu*. This is applied to the plains turkey (bustard) and to a shrub whose wood is used for firesticks. *Clerodendrum cunninghamii*. The former sense is more common; in the latter sense the term is used erratically as this species is often confused with a similar species, *Clerodendrum floribundum* (called *budjara*, or called 'firestick', see below). One informant explained that turkeys are thought to eat the seeds of *C. cunninghamii*. The correlation is also found in some other languages (eg. Ritharrngu), where however the term for *C. cunninghamii* is a derivative of the term for turkey (ie. shows an additional suffix).

(b) *yangga*. This applies to dragonflies, and to the triton shell *Syritx aruanus*. I have no explanation for this correlation. A less common synonym *rughalu* is used only in the second sense. The first sense of *yangga* is more common than the second.
(c) yivauj. This applies to a mangrove, Bruguiera sexangula, and to the immature root corm of one of the water lilies, Nymphaea violacea. This correlation is also obscure. Unlike most other polysemous terms, this one shows different noun-class prefixes in the two senses. Both senses are about equally salient.

(d) lunyarg. This is the common term for (domestic) dog, and is occasionally applied to a marine horse-mussel shell (Modiolus). The correlation is semantically obscure.

It should be noted that the language has no productive compounding process which could produce formal equivalents to such English compounds as horse-mussel or emu bush. The only way to make such 'metaphorical' correlations is simply to use a single term in both botanical domains, hence Modiolus is called literally 'dog' instead of 'dog shell' or the like. There is thus no overt formal evidence for the primacy of one sense (canine vs. Modiolus), though at least in this example there is little doubt which sense is more salient.

The second type of polysemy involves two senses, only one of which is a flora-fauna term. Examples:

(a) anah. This is the word for yamstick, and is also used to designate a particular Acacia species (unidentified) whose wood is used to make such implements.

(b) binay. This refers to the sweet, edible gum which collects on the bark of certain wattles, notably Acacia torulosa. It is infrequently used as a term for this species, though the term mihar is much more common in this sense.

(c) jambilbig. This is the common term for dildjiru (musical instrumental), but can also be applied to the tree Eucalyptus ferruginea. Dildjiru are drone-pipes made from slender logs hollowed out by termites, and this tree is the favourite raw material. The tree species is more commonly called gujiata. The two senses of jambilbig have different noun-class prefixes (as a floral term it takes the MANA class, agreeing with the synonym gujiata).

(d) ljuha. This is the general term for paperbark, the loose papyre bark of several species of Melaleuca. The term is also applied to one or two varieties of the species M. viridisflora, viz. those specimens with loose papyre bark usually growing in swampy areas. The term ragal applies to those specimens of this species, usually found on higher ground, with tight bark which is not easily removed. As a floral term ljuha has no synonyms and is thus the only term applicable to the relevant specimens. Usually ljuha has a single noun-class prefix (ANAwa class) in both senses; infrequently as a floral term it is MANA class (agreeing with ragala).

(e) jarbara. This is the term for containers (coolimans) made from the bark of another Melaleuca species; this bark is less papyre and more fibrous than that of the species mentioned in the preceding item. The term jarbara is also applied to the unidentified species of which the bark is taken (possibly Melaleuca nervosa), and there is no synonym in this sense. In both senses the noun-class prefix is normally of the ANAwa class, but as with ljuha as a floral term the MANA class prefix is occasionally used.

(f) walu. This is the term for material in consuming honey; either the inner bark of Acacia torulosa (miigar) or the soft roots of the grass Alloteropsis semialata. The term walu also designates the latter species, and in this sense there is a synonym arigari.

(g) wiul. This means 'kidney' and also refers to the tree Terminalia grandiflora. The nut of this tree is kidney-shaped.

(h) muggagari. This is an ad and like other human nouns suffixes marking number of nonhuman category it refers thin bil (hence 'uncircumcise').

(i) mii. This is common snake-lizard, Lilias burtoni, inside.

(j) furuan (or ayapa). The also be applied to Clerodendrum wood is used in making sue.

In most of the cases just n (ie. more salient). Note that nonbiological sense, but is r (binay, jambilbig, walu, l pattern.

It should also be pointed o nonbiological senses for the if I say 'Go get furuam the Clerodendrum floribundum' of a firestick is Clerodendrum functionally significant the two translations frequently.

This observation applies n indicates a material, or sort specimens (anah *yamstick", walu "honey-eating materi jerdjera since its noun-class t does not apply to cases t circumcised; pied stilt", or analogy or metaphor linking.

One of the more entertainin noun-class affixes (usually pro complex and difficult type c categories are distinshable suffixes):

MSG (masculine singu MDU (masculine dual.

FSG (feminine singular.

FDU (feminine dual.

PI (three-or-more plur.

For nonhuman nouns pl marked. The basic categori with the dual suffix):

NA (prefix na- or yi-1

NGARRA (prefix jahr
(h) **nunggaragu**. This is an adjectival noun stem meaning ‘uncircumcised boy’, and like other human nouns it takes various noun-class prefixes and number suffixes marking number and gender. With MANA class prefix (an explicitly nonhuman category) it refers to the pied stil, a wading bird with a very long thin bill (hence ‘uncircumcised’).

(i) **mi.mi**. This is common in the sense ‘milk’, and can be applied also to the snake-lizard, *Lialis burtoni*. This species is said to have a milk-like substance inside.

(j) **juruman** (or *awa*. These terms mean ‘firestick’ or ‘firedrill’. They can also be applied to *Clerodendrum floribundum* (also called *budaga*), a tree whose wood is used in making such implements.

In most of the cases just mentioned, the nonbiological sense seems primary (i.e. more salient). Note that in a few cases the term is the sole term for the nonbiological sense, but is merely one of two terms for the biological species (*binaj, lamhilibilg, wulug, juruman*); there are no examples of the reverse pattern.

It should also be pointed out that the sharp differentiation of biological and nonbiological senses for these items may not always be justified. For example, if I say ‘Go get *juruman*’ this can be interpreted either as ‘Go get (wood from) *Clerodendrum floribundum*’ or ‘Go get a firestick’. Since the physical substance of a firestick is *Clerodendrum*, and since every specimen of *Clerodendrum* is functionally significant chiefly in being prospective material for firesticks, the two translations frequently coincide pragmatically for the Nunggubuyu.

This observation applies to cases of polysyonymy where the nonbiological sense indicates a material, or something made from a material, of the biological specimens (*anaj ‘yamsick’, *binaj ‘gum’, *lita ‘paperbark’, *jahara ‘cooliman’, *wulug ‘honey-eating material’, *juruman ‘firestick’—we omit *lamhilibilg ‘didjeridu’ since its noun-class prefix distinguishes it from the botanical sense). It does not apply to cases like *mi.mi ‘milk; snake-lizard’, nunggaragu ‘uncircumcised; pied stil’, or *wuddu ‘kidney; tree species’ since there is only an analogy or metaphor linking the two senses and there is no pragmatic overlap.

### Noun classes

One of the more entertaining pastimes in Australian linguistics is the study of noun-class affix (usually prefix) systems. Nunggubuyu appears to be the most complex and difficult type in the continent. For human nouns the following categories are distinguished (by noun-class prefixes and number-marking suffixes):

- **MSt** (masculine singular, prefix *na-*)
- **MDu** (masculine dual, prefix *nu- and suffix -swa*)
- **FSg** (feminine singular, prefix *yara-*)
- **FDu** (feminine dual, prefix *yara- and suffix -swa*)
- **Pl** (three-or-more plural, prefix *wara-*)

For nonhuman nouns plurality is not marked, and the dual is not reliably marked. The basic categories marked by prefixes are these (each can co-occur with the dual suffix):

- **NA** (prefix *nu- or yi-*)
- **NGARRA** (prefix *yara- or yi-*)
ANA (prefix ana- or a-)
MANA (prefix mana- or ana-)
WARRA (prefix warra- or wa:)

The nonhuman classes are labelled on the basis of the first form of the prefix, but for each class there are two forms used in different morphological environments. Note that NA and NGARRA share a prefix with human M and F categories, respectively, but the human classes lack the variant prefix ya:. The WARRA class shares one of its prefixes with the human PI class. The ANA and MANA classes are nonhuman only. For the ANA class there are two subclasses since pronominal object-markers in the verb are -nu for some ANA nouns but -wu for others: ya-xanu 'I saw it (ANAa)', but yarwu-nunu 'I saw it (ANAawu).

The noun-class prefixes have important syntactic functions. Consider this example:

na-wałyji-nun nga-na-nun ana-murahbu, ana-rungal
M-man-Sg ANA/3MSg-saw ANA-crab ANA-big

'The big crab saw the man.'

Here 'man' and 'crab' are unmarked for case categories. Since word-order is not based on case, there is a problem in distinguishing 'man saw crab' from 'crab saw man'. Fortunately, the pronominal prefix in the verb, ngingu-, is specified for ANA class subject acting on 3MSg object (ANAa and ANAwu subclasses are not distinguished when functioning as subjects), so the gloss is 'crab saw man'. The other problem is whether 'big' cross-refers to 'man' or 'crab', but since 'big' shows the ANA prefix we know that it refers to 'crab'. Because of loose word-order, the noun-class system is important in linking cross-referencing elements (eg. adjectival nouns or demonstrative pronouns) to particular nouns, and is indirectly involved in clarifying case roles.

The other important functions of the class prefixes, particularly with nonhuman nouns (which have two distinct series of prefixes), involve the presence/absence of the prefix and if present the choice between the two series. These choices are manipulated to express various nuances such as 'nominal aspect' (a complex matter which we cannot explore here) and so forth.

Note that these syntactic functions, which are of crucial importance in disambiguating virtually every Nunggubuyu sentence, are independent of the semantic basis on which particular nouns are assigned to particular classes. In understanding the example above, it is important to know that muraxbu 'crab' is a noun of the ANA class. It is not important whether Nunggubuyu speakers simply learn the noun classes for each noun (ie. as part of mental dictionary entries), or learn a few general principles of class assignment which then automatically assign muraxbu to the ANA class. The one essential requirement is that all speakers agree which nouns belong to which noun classes.

Ordinarily, a linguist or anthropologist confronted with an elaborate noun-class system concentrates on the discovery of semantic principles for class assignment; once these rules have been elucidated it is assumed that the system is 'understood'. I would suggest that such understanding is at most incomplete, since the fundamental raison d'être of the system is not to permit speakers to run around expressing culturally embedded categories, rather to help them code and decode simple linguistic messages. Comprehension of why the system exists should take precedence over analysis of the semantic oppositions among its elements.

The simple fact is that assignment of nonhuman ne (many nouns go into the ANA class, availing ourselves of all ethnobiological classification and many associations, would demand assignments of nonhuman loanwords, which are assigned fairly clear semantic bases.)

For example, taking the first line quickly find that the term nonhuman classes with no true of other semantic don kangaroos and wallabies. In this instance the noun designates an animal object) are usua class of the noun unanswerable question of why the first place.

In the Ngandi language, sp system where the nonhuman predictability; a given dono noun class or perhaps has in language there is a 'whatcha has forgotten a noun (or person word is used, quite frequently would get expressions like g the dummy noun jara is pr frequently falls to correctly & examples of the type ujara's dummy noun.

In Nunggubuyu, where 1 arbitrary and complex than Although this can take noun speakers just omit the prefix, have guessed incorrectly so 'whatchamacallit' noun in this kind class associations of noun-class assign the linguistic form, rather the and unless the noun itself determines the class.

The theoretical literature (Aitch, Worley 1935) an oppositions among the meml Emindihiyagwa, an insular ne was some semantic basis for reaction to the then-current narrow empiricism of Am
The simple fact is that there is no general semantic basis for the class assignment of nonhuman nouns in Nunggubuyu (human nouns, on the other hand, are assigned on the basis of sex and number). One can make a few observations, e.g. that many generic fauna terms (see page 41) and abstract nouns go into the ANA₅ class. However, even persistent analysis along these lines, availing ourselves of all the latest advances in perceptual psychology and ethnoclassification and having recourse where necessary to mythological associations, would account for far less than one-third of all the class assignments of nonhuman nouns. (The main exception is recent English loanwords, which are assigned to the ANA₅, ANAᵦᵦ, and MANA classes on fairly clear semantic bases.)

For example, taking the generic term *nguji* "fish" (itself an ANA₅ noun) we quickly find that the terminal taxa it dominates are distributed among all six nonhuman classes with no evidence of consistent semantic criteria. The same is true of other semantic domains (birds, honey bees, spears, names of rituals, kangaroos and wallabies, turtles, grasses and herbs, trees and shrubs, etc.). Synonyms are normally in the same class, and body-part terms (for flora and inanimate objects) are usually assimilated by derivational processes to the class of the noun designating the whole, but this still leaves us with the unanswered question of why a particular class instead of others was chosen in the first place.

In the Ngandi language, spoken just to the west, there is a similar noun-class system where the nonhuman classes do show a reasonable degree of predictability: a given domain like 'fish' or 'tortoises' generally sticks to one noun class or perhaps has two possibilities (vs. six for Nunggubuyu). In this language there is a 'whatchamacallit' noun *-jara*, indicating that the speaker has forgotten a noun (or personal name). It is interesting to note that when this word is used, quite frequently the noun class is guessed incorrectly. Ideally, we would get expressions like gu-*jara* gu-*jark* ('whatchamacallit, water') where the dummy noun *-jara* is provided with the correct prefix gu-. The speaker frequently fails to correctly anticipate the prefix, however, and we get lots of examples of the type a-*jara* gu-*jark* or the like, with incorrect prefix a- in the dummy noun.

In Nunggubuyu, where nonhuman noun-class assignment is far more arbitrary and complex than in Ngandi, the 'whatchamacallit' noun is *wany*. Although this can take noun-class prefixes, in the great majority of instances speakers just omit the prefix. I interpret this to reflect the fact that they would have guessed incorrectly so often that they feel it prudent to produce the 'whatchamacallit' noun in naked form. In both Ngandi and Nunggubuyu, then, there is strong evidence that no matter how hard we look for 'underlying principles' of noun-class assignment we will fail; in most cases it is the noun (i.e. the linguistic form) rather than a semantic concept which is assigned to a class and unless the noun itself is remembered it may not be possible to correctly determine the class.

The theoretical literature on Australian noun-class systems of which I am aware is Worsley (1954) and Dixon (1968): both deal with the semantic oppositions among the members of the systems discussed. Worsley dealt with Emindhiyaowa, an insular neighbour of Nunggubuyu, and stressed that there was some semantic basis for the formal oppositions. This emphasis was in reaction to the then-current polemic context, which was dominated by the narrow empiricism of American post-Bloomfieldian linguistics. Rightly
criticising this excessive formalism. Worsley suggested that noun-class assignment in Enindhilyagwa was partly, if not entirely, understandable on the basis of semantic principles.

A stronger position was taken by Dixon (1968), who suggested that in the Dyirbal language class assignment is largely predictable from a few central principles (including a ‘wastebasket’ clause assigning most residual items to one of the classes). Irregular or unexpected assignments were explained, one by one, by invoking various *ad hoc* explanations based on mythological correlations or the like (some such suggestions came from the informants themselves).

I have no important quarrel with Dixon’s analysis of this language. I suggest, however, that this method will not yield satisfactory results when applied to languages like Nunggubuyu, Ngandi, and Enindhilyagwa. The ‘irregular’ residue after ‘regular’ (motivated) assignments have been carried out will be more like 85%, than 10%, and even if mythology and perceptual psychology are pressed into service the residue will greatly exceed the ‘regular’ portion.

The basic point is that we need to go beyond cognitive-structural analysis of these morphological systems, and investigate their communicative functions, if we wish to achieve satisfactory results. The beneficial functions of the noun-class systems in reducing various sorts of ambiguity are largely independent of whether there are simple semantic principles underlying class assignment; these functions are carried out even if class assignment is totally random and arbitrary. Nor is it legitimate to soothe ourselves with the thought that Nunggubuyu may once have had a neat semantic noun-class system and that only the vicissitudes of time have distorted the old patterns; far from being the tattered ruin of a once-proud proto-system, the Nunggubuyu noun-class system is as thriving and deeply rooted as any system attested.

**Intraspecific lexical differentiation**

A particularly striking aspect of Nunggubuyu ethnobiological taxonomy is the abundance of male/female and growth-stage terms for various flora and fauna. Although most of these involve fauna, there are some botanical examples. The grass *Vetiveria elongata*, which is common on dunes, is normally called *manungga* but a few old speakers remember a term *rjar* for immature specimens. The mangrove *Avicennia marina*, which has edible fruits, is usually *kalgar* but there is a special term for saplings, *wirjulyul*. This sapling term is found primarily in songs but can be used occasionally in ‘ordinary’ speech. Another important mangrove, *Rhizophora stylosa* (mentioned on page 46), is usually *ana* but the term *jurj* applies to saplings.

However, for flora the most common special terms are not juvenile (vs. mature) items, rather they are terms for parts of the plant. Water lilies (*Nympheae*) are especially well-endowed, with a number of terms for various types of root corms, fruits (pods), flowers, leaves, and stems; some such terms apply only to one species while others (flower, leaf, stem) apply to all species of *Nympheae* but not to other floras. The root corm of *Nymphaea violacea* (*yanguri*) is called *wudan*, but there are several terms for growth-stages: *jirigilil* (very immature), *iywuyu* (immature), *nindan* (old and bitter-tasting),

There are ten or fifteen other parts (eg. fruits, root) are at
For fauna a large number
with juvenile/adult distinctions
ereb), butterfish (*Selene* jordani), barramundi (*Lates*
unidentified parrotfish (*yam*
various mullets (eg. *Magul*.)
whether the reference is to
specimens of small species.

At least two sharks have 
whales and dolphins. the
have special juvenile terms
Distinguished from the sea-

In the *wugali* category (in
terms for at least two of six
back (*C. depressa*). Dugong
addition to the general term
fas, young females. *adu*
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's'female young dugong' are 
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growth-stage terms for *du*
terms
Turtles and dugong also
organs, sections of fat, etc.,
other fauna.

Special juvenile terms are
three of five deadly snakes
snake *Amphiesma mairii*, a
term for sea-serpents. Other
blue-tongue lizard (*Tiliqua*),
and the crocodile.

Many birds have special
female. A tentative list of
swampen, oyster-catcher, 1
eagle (whistling kite), koel,
wren, quail, peaceful dove, r
n
tailed eagle (eaglehawk), lil

tight-heron, sulphur-creste
brolga, jabiru (crane), mask

**Out of five kangaroo wallies
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to the usual term. For **hands**
Even large introduced quac
There are ten or fifteen other flora terms for which special designations for parts (e.g., fruits, root) are attested; we omit details.

For fauna a large number of special juvenile terms are recorded. Fish terms with juvenile/adult distinctions include barracuda, bony bream (*Fluvialosa erebi*), butterfish (*Selenotoca multiasciata*), 'Saratoga' fish (*Selenepogon jardini*), barramundi (*Lates calcarifer*), milkfish (*Chanos chanos*), and an unidentified parrotfish (*yambugu*). There is also a complex nomenclature for various mullets (e.g., *Mugil, Valamugil*) but for some of the terms it is not clear whether the reference is to juveniles of larger species or to full-grown specimens of small species.

At least two sharks have juvenile/adult differentiation. Three of four named whales and dolphins, the trepang (bêche-de-mer), and the jellyfish likewise have special juvenile terms (the common jellyfish is, however, not lexically distinguished from the sea-wasp). A few rays have special juvenile terms.

In the *wugali* category (marine turtles and dugong) we find special juvenile terms for at least two of six named turtles, green (*Chelonia mydas*) and flatback (*C. depressa*). Dugong have a particularly elaborate taxonomy, since in addition to the general term *pacuwalu* there are special terms for infants, young males, young females, adult males, adult females (pregnant), and adult females (not pregnant). The terms *aragu* 'young male dugong' and *yulanji* 'young female dugong' are the bare noun stems used (with various number-marking affixes) in the senses 'uncircumcised boy' and 'young girl', respectively (human singular forms *nu*: *garagu*: *nu* and *yulanji*: *nu*). Other growth-stage terms for dugong are morphologically unrelated to human terms.

Turtles and dugong also have a rich system of terms for various internal organs, sections of fat, etc., and these terms are in most cases not applied to other fauna.

Special juvenile terms are recorded for the following snakes: most pythons, three of five deadly snakes (king brown, taipan, and whiptail), the freshwater snake *Amphisbaena mairii*, an unidentified arboreal species, and the general term for sea-snakes. Other reptiles with juvenile/adult distinctions are the blue-tongue lizard (*Tiliqua*), four of seven named goannas (*Varanus* species), and the crocodile.

Many birds have special juvenile terms and some distinguish male from female. A tentative list of terms with simple juvenile/adult distinctions: swamp hen, oyster-catcher, beach stone curlew, mudlark (peeewee), whistling eagle (whistling kite), koel, bush curlew, jungle fowl, silver gull, kingfisher, wren, quail, peaceful dove, red-backed kite, green pygmy-goose, egret, wedge-tailed eagle (eaglehawk), little black cormorant, pied (magne) goose, nankeen night-heron, sulphur-crested cockatoo, plains turkey (bustard), friarbird, brolga, jabiru (crane), masked plover, darter, swamp pheasant, channel-billed cuckoo, one of the terns, crow, osprey, whistling tree-duck, and a few others not identified. More elaborate differentiation involving sex is found with the following: pelican, chenchenhawk (brown goshawk), white-breasted sea-eagle, great-billed heron, and emu.

Out of five kangaroo/wallaby species named, three have special terms for females and two of these also have juvenile terms (not specified for sex). Possum is another category with a juvenile term and a female term in addition to the usual term. For bandicoot (*Isodon*) there is a juvenile/adult distinction. Even large introduced quadrupeds (horse and buffalo) have special juvenile
terms: *mu:ri* (adult) buffalo' vs. *ba:bulug* 'juvenile buffalo', *jaragu* or *yaraman* (adult) horse' vs. *galigabi* 'colt'.

It is notable that in several cases the juvenile/adult opposition is more carefully specified than species differences. For example, 'possum' probably covers three species (brush-tailed possum, ring-tailed possum, phascogale) which are readily distinguishable, but whereas *jaragu* and *yaraman* (adult) are clearly marked the interspecific variation is not. Similarly, 'oystercatcher' covers two distinct species (which have different labels in the Mara language to the south), distinguished by colour, but the juvenile/adult distinction is marked.

In all cases of juvenile/adult differentiation, the juvenile term is clearly the marked member of the opposition and is much less common than the adult term (which can be used loosely to denote specimens at any growth stage and is thus not exclusively adult). In many cases younger speakers do not know the juvenile terms. Similarly, in the case of male/female opposition the male term is unmarked and is used loosely as the general term for the species as a whole.

It should be emphasised that the juvenile/adult and male/female lexical oppositions mentioned here are not the result of productive derivational processes (e.g. the addition of a diminutive affix). Instead, the juvenile and female terms are in most cases suppletive (i.e. the stems are formally unrelated to the adult or male term). Example: *garajujug* (adult) whistling kite' vs. *guraju*mirri' 'juvenile whistling kite'. However, some juvenile (but not female) terms are related to the corresponding adult term by irregular formal perturbations: no single 'process' of this sort applies to more than a handful of examples. Thus, from *gadigadig* (adult) oystercatcher' we get juvenile *gadjir* (unreduplicated), from *madwaj* (adult) green pygmy-goose we get juvenile *dawaj* (loss of initial syllable, retroflexion of initial consonant), from *garajinala* (adult) term we get juvenile *garajima* (loss of final syllable), etc.

Because the juvenile terms are so highly marked and uncommon (at least for many species), we would expect that historically these terms have been subject to greater vicissitudes (i.e. greater rate of lexical replacement). In some cases this appears to be justified, since the Nunggubuyu juvenile term is a borrowing from another language (often that language's adult term) while the adult term in Nunggubuyu is not a recent borrowing. Examples: *merari* 'wedge-tailed eagle' vs. *dilyangadilyanga* 'juvenile wedge-tailed eagle' (the latter borrowed from Warrndarang and Mara to the south), *galgur* 'nankeen night-heron' vs. *gandawadigir* 'juvenile nankeen night-heron' (the latter borrowed from Warrndarang).

However, in other cases the juvenile term is more archaic; sometimes it is an old term for the adult which has been semantically narrowed. In particular, in those cases where a single proto-form has split into two phonological reflexes, it is the juvenile term which displays the more archaic pronunciation while the adult term has innovated. Compare the treatment of initial consonants in these examples (asterisks indicate reconstructed proto-forms): *bukbu* → *balug* 'juvenile swamp pheasant' and *wabog* (adult) swamp pheasant', *galmaruk* → *galmaruk* 'juvenile friarbird' and *almaruk* (adult) friarbird', *jigama* → *jigama* 'juvenile ray species' and *yigama* (adult) ray species'.

In general, juvenile and female terms take the same noun class (see the previous section, pages 49-52) as the adult or male term. Noun-class marking is not regularly used to distinguish female from male specimens of a particular named species, whether or not there is a special female stem. Thus *gurajalij*

'dugong' and all sex-specific *mungurru* 'adult female dug *jaragula* 'crocodile' which: NGARRA class regardless: sex is specified by noun el explicitly personified, as in steals and cohabits with a

The only regular exception for three kangaroo species happen to be in the ANA: el class: arjambal 'male' ant 'female antelopine kangaroo species': morphological association c the human f'sg class (pre assignment of the female ter *dugong* and 'crocodile': tal senses.)

Perhaps the reason why ki: nourn-class variation somehow animals are relatively humaa (notably maternal behaviors) is a morphological opp kangaroo/wallaby, a few animate/inanimate (fish. sto

It is not possible to p juvenile/adult distinctions: factors seem to favour the o (a) large size (hence substa juvenile and adult). This kangaroo/wallaby species. d birds such as emu.

(b) behavioural salience. Th lethal snakes like the taipan.

(c) edibility. Relevant to pty (d) significant growth-stage butterfly have significant bandicoots have different s significant colour dimorphism. (e) growth-stage differences different onomatopoeic term

References
juvenile buffalo", *jarangu* or *yaraman*

juvenile adult opposition is more

For example, *possum* (probably

ring-tailed possum, phascogale)

*jarangu* juvenile adult and male; female

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we affix). Instead, the juvenile and

the stems are formally unrelated

*mujuugu* (adult) whistling kite vs.

yer, some juvenile (but not female)

adult term by irregular formal

apples to more than a handful of

'patterncatcher' we get juvenile *gadjirr*

green pygmy-goose' we get juvenile

ion of initial consonant), from

*ganima* (loss of final syllable), etc.

marked and uncommon (at least for

ally these terms have been subject

emotional replacement). In some cases

*gunu* juvenile term is a borrowing

's adult term) while the adult term

g Examples: *marriji* 'wedge-tailed

tailed eagle' (the latter a borrowing

gulung* 'nankeen night-heron' vs.

eron' (the latter borrowed from

is more archaic; sometimes it is an

ically narrowed. In particular, in

put into two phonological reflexes,

are archaic pronunciation while the

reatment of initial consonants in

acted proto-forms): *bukuku* --

*marriji* 'adult') swamp pheasant',

*amurung* (adult) friarbird',

*rugamu* 'adult ray species'.

ake the same noun class (see the

or male term. Noun-class marking

from male specimens of a particular

sexual female stem. Thus *yarugali*

'dugong' and all sex-specified terms like *avage* 'young male dugong' and

*marriji* 'adult female dugong' are in the *NGARRA* class. A term like

*jarangula* 'crocodile' which has no special female term is regularly in the

*NGARRA* class regardless of the actual sex of the specimen denoted (actual

sex is specified by noun class only in the rare cases where 'crocodile' is

explicitly personified, as in one semi-mythical narrative where a crocodile

steals and cohabits with a human girl).

The only regular exceptions to these observations are the special female

terms for three kangaroo/wallaby species. The male (and juvenile) terms

happen to be in the ANA3 class, while the female terms are in the *NGARRA*

class: *avambal* (male) antelopeine kangaroo' is ANA3 while *andra/iburu*

female antelopeine kangaroo' is *NGARRA*. In this instance the partial

morphological association of the *NGARRA* class (prefix *yara-* or *yi-* with

the human *FSg* class (prefix *yara-) seems to have influenced the class-

assignment of the female term. (Other nouns in the *NGARRA* class, such as

'dugong' and 'crocodile', take the *NGARRA* class for male as well as female

senses.)

Perhaps the reason why kangaroo/wallaby terms, unlike other fauna, show

noun-class variation somewhat like that seen for human nouns is that such

animals are relatively human-like in size, habitat (terrestrial), and behaviour

(notably maternal behaviour). In the nearby Rithangnu language, there

is a morphological opposition between 'higher' animate (human,

kangaroo/wallaby, a few other large species like emu) and 'lower'

animate/inanimate (fish, stone, insects, etc.).

It is not possible to predict in advance those species which have

juvenile/adult distinctions and those which do not. Nevertheless, certain

factors seem to favour the occurrence of such oppositions:

(a) large size (hence substantial absolute dimensional differences between

juvenile and adult). This would apply, for example, to whales, large

kangaroo/wallaby species, dugong, certain large fish (eg. barramundi), large

birds such as emu.

(b) behavioural salience. This could apply in cases like dangerous sharks and

lethal snakes like the taipan.

(c) edibility. Relevant to pythons, frilled lizards, ducks, etc.

(d) significant growth-stage dimorphism in colour or shape. For example,

butterish have significant juvenile/adult differences in fin configuration;

bandicoots have different snout-shape at different stages; sea-snakes have

significant colour dimorphism.

(e) growth-stage differences in calls of certain birds, hence a few cases where

different onomatopoeic terms are applied to juvenile and adult specimens.

References


Worsley, P. M. 1954 Noun-classification in Australian and Bantu: formal or semantic?