BODY PARTS IN WARRAY

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1. Introduction

This paper examines body parts in the morphological and syntactic structure of Warray_. Warray is a member of the Gunwingguan language family (a non-Pama-Nyungan family), and was originally spoken around the town of Adelaide River approximately 100 km south of Darwin. There are three main areas of interest.

1. The pattern of noun-class marking. Class marking distinguishes alienable from inalienable body parts. This paper argues that certain apparent anomalies in the class marking of certain body parts proceed on a principled basis if a notion akin to that of "person" as opposed to "body" is taken to be the prototypical "whole" notion for the class.

2. Nominal compounding of body parts. Body parts are by far the most commonly compounded nominals in Warray. There are two types of body part compounds. One type of body part compound is productively attested only with inalienable body parts. It presents the conditions of body parts as relatively enduring characteristics of the whole. This type of compound frequently functions as a synecdoche [a figure of speech where a part is used to mean the whole]. Synecdochic compounds have a wide range of use in Warray as natural species names. The other type of body part compounding creates new body part lexemes.

3. Clauses involving body parts show two main areas of interest. One of these is the "possessor ascension" of cross-referencing (where the whole is cross-referenced rather than the part). This is the normal pattern of cross-referencing in Warray, but variations are possible. The significance of the normal pattern and the nature of the contrast with the variations are examined.

In possessor ascension clauses the part noun is also frequently incorporated into the Verbal Complex. Noun incorporation is examined in some detail in this paper. The nature of the distinction between noun incorporation and denominal verb formation is considered. The grammatical

structure of noun incorporation is analysed and it is argued that noun incorporation is essentially adverbial/locative in nature in Warray.

Possessor ascension cross-referencing and noun incorporation permit us to "verbally" define an inalienable body parts class. This verbally defined inalienable class shows some differences to the nominally defined inalienable class. The nature of these differences are examined.

As Warray is a dying language with only a very few speakers, it would appear desirable to provide some basic information on the competence of my consultants. I worked on the language with two main consultants. They were both born in the mid - late 1920's, and appear to have used Warray as one of their main daily languages until their mid to late teens. However they have very little common life history. Though they knew about each other from their childhood, they did not actually meet until approximately 1950, and since that time they have not been in close or frequent contact. Moreover I did not normally work with them together. They speak slightly different dialects, but the differences are quite minor, and none are relevant to the matters covered in this paper. Both consultants have a good command of Warray, though their knowledge is somewhat rusty owing to lack of use. Neither of my consultants gave lengthy texts and so it is frequently difficult or impossible to comment on discourse factors and their effects.

2. Typological Background.

Warray has three major parts of speech; nominals, particles and verbs. In Warray, unlike many Australian languages, it is possible to formally distinguish nouns and adjectives on three grounds. Firstly they take different inchoatives; nouns take _nayi_yn, whereas adjectives take _ji-yn. Secondly adjectives take the Oblique suffix -wu, whereas nouns do not. Thirdly nouns and adjectives show significantly different patterns of class prefixing. Class marking of nouns distinguishes four reasonably semantically consistent classes.

a-   some human male nouns

al-   all human female nouns

an-   inalienable body parts, and some parts of the landscape.

‾-   everything else, including alienable body parts.

Class marking of adjectives proceeds on a rather different basis. The general principles are as follows.

a-   is the unmarked form, being a possible modifier for referents of any class

al-   is only found with human female referents

an-   is the usual form for referents lower on the animacy hierachy.

‾-   is only very infrequently found. Usually there is also a preceding head nominal and such forms are probably better analysable as quasi-compounds.

There are however a number of lexically governed exceptions. _murdek 'big' does not have an an- class form, whereas -wak 'little' and _jerriyn 'one' occur only in an- class forms. Even if an adjective does occur with all three substantive prefixes, exceptions to the general patterns are found (e.g. nal an-warru 'a bad man'). As adjectives do not in many cases show class concord with their referents it is frequently not possible to give them a substantive gloss, and so they are often glossed simply as Cl for Class Marker.

Warray has a well developed case marking system, with the following case markers.

-‾   Absolutive

-yi   Ergative/Instrumental

-yiwu Comitative

-(w)u Dative

-lik Allative/Locative

-ba   Perlative

-yang Ablative/Causal

-yi is not obligatory in its ergative function. Transitive Subjects may alternatively take Absolutive case marking. Case marking is otherwise obligatory. The determination of NP constituents and occurrence patterns of case marking are complex (c.f. Harvey). However NPs consisting solely of nouns and/or adjectives generally show a head nominal - immediately following modifier nominal constituent structure. Case marking attaches to the final constituent in such NPs.

Although case marking is an important system in Warray, the language is generally head-marking (Nichols 1986), like the other members of the Gunwingguan family. The Verbal Complex (hereafter VC) may carry a large amount of information. It is the only obligatory constituent in verbal clauses, which are the unmarked clause type in Warray. The VC is by far the most morphologically complicated form, and has the following structure in Warray.

Pronominal Prefix Complex + (Indirect Object Prefix) + (Adverb) + (Noun) + Root + (Auxiliary) + (Reciprocal/Reflexive) + Aspect/Mood/Tense Suffixes + (Directionals)

The pronominal prefix complex carries information as to the person and number of Subject and Object of the verb. Unlike other Gunwing.guan languages the pronominal prefix complex in Warray is relatively agglutinative. In most cases Subject and Object prefixes may be factored out, though their ordering (not discussed here c.f. Harvey) is somewhat complex. There is one set of Object prefixes and three sets of Subject prefixes; an Unmarked Set (found chiefly in the Past Realis), a Non-Past Set (Future Intentional), and an Irrealis Set (Past Irrealis and Future Uncertain). The three sets of Subject prefixes combine with conjugationally determined verbal suffixes to convey information about aspect, mood and tense.

The Unmarked Subject prefixes and Object Prefixes have the following paradigms (the Non-Past and Irrealis Subject prefixes are based on the Unmarked forms).

Table 1 : The Unmarked Subject Prefixes.

		sg	dl	pl
1	inc		ma-	i-
	exc	at-		i-
2		an-		a-
3		‾-		ba-

Only the 1inc has a specific dual form, otherwise the plural is used. The 3rd plural is also used for specific indefinite meanings such as 'someone'.

Table 2 : The Object Prefixes.

	sg	pl
1	ban-	in-
2	ana-	in-
3	‾-	bin-/bun- _

As in the other Gunwingguan languages there are two major classes
of verb stems, simple and compound. Simple stems consist of just a verb
root (many of which are monosyllabic). Compound stems consist of a verbal
or nominal root, followed by an auxiliary. Nearly all auxiliaries are
mono-syllabic, and many also occur independently as simple verbs
(historically it would appear that all auxiliaries originally occurred
independently as simple verbs). However the auxiliaries, even those which
also occur as simple verbs, do not in most cases have any substantive
predicate meaning in their function as auxiliaries. They simply act to
verbalise the root they compound with.

In addition to these basic constituents the VC in Warray, as in
other Gunwingguan languages, may also contain reciprocal or reflexive
suffixes, a valence increasing prefix (the Indirect Object prefix),
incorporated adverbs and nouns, and directionals. As the following
example shows the VC may code a considerable amount of information.

1. gat-gubal-nabat-dayn?-mi-yi-n

    IRR1sgS-nearly-hand-cut-Aux-refl-P _

    'I nearly cut my hand.' [lit. I nearly hand-cut myself]

Cross-referencing of Objects is not restricted to Direct Objects
(Objects not requiring a valence increasing affix) in Warray. Indirect
Objects may also be cross-referenced with the use of the valence
increasing Indirect Object prefix nat-.

2. bat-mi muya nguny-u-wu

    1sgSNP-get A tucker 2sg-OBL-DAT

    'I will get tucker for you.'

3. barriyn-nat-mi muya

    1sgS->2sgONP-IO-get A tucker

    'I will get you tucker.'

As a comparison of 2 and 3 shows the Indirect Object displaces the Direct Object as the entity cross-referenced by the Object prefixes. The IO prefix nat- is the overt signal that the valence of the verb has been increased and that the Object cross-referenced entity is an Indirect, rather than a Direct, Object. A very wide range of entities may be coded as Indirect Objects; affected locatives, benefactives, ethical datives, goals, possessors, and purposives. Essentially any non-sub-categorised entity which is affected, or towards which the verbal predicate is directed may cross-referenced as an Indirect Object. When an entity is cross-referenced as an Indirect Object it takes Absolutive case.

4.   mimi at-nat-ji-yi

      uncle 1sgS-IO-say-PP

      'I told uncle.'

5.   *mimi-wu at-nat-ji-yi

      uncle-DAT 1sgS-IO-say-PP

      'I told uncle.'

3. Noun Class Marking of Body Parts in Warray.

In Warray body part nouns belong to either the an- or ‾- classes. The great majority of body part nouns are marked with the an- prefix. However the following "body part" nouns are unmarked (i.e. they belong to the ‾- class).

balmuk 'wing', bula 'grey hair', deklok 'semen', dumila 'tears', gijarniyn 'spit', gijewek 'beard', gine 'mucus', giyak 'sweat', gurratj 'blood', julmija 'pubic hair', mala 'leaf', mija 'hair', mel 'vagina', nguk 'faeces, guts', wul 'urine'

Additionally there is the noun garle 'cocoon, dillybag, pouch [of a marsupial], womb'. However this noun is only marginally, if at all, a member of the body parts category. For my consultants it appeared that its primary meaning was 'dillybag' with the other meanings being related to this primary meaning on the basis of perceived similarities of shape and function.

The set of ‾- marked nouns shows a reasonable degree of consistency. With the exceptions of balmuk 'wing', garle in the senses of 'pouch, womb' and mel 'vagina' all the nouns refer to bodily fluids, excretions,

hair and leaves. Bodily fluids, excretions, hair and leaves share a common distinguishing characteristic as opposed to other body parts. Portions of them are visibly lost and replaced as the normal course of events (hereafter "replaceable/ability" will be used as a cover term for this concept). As such they may be viewed as being alienably attached to the body. This would suggest that the an- vs ‾- opposition in class marking of body parts reflects such a semantically based inalienable vs alienable opposition. The following two pairs provide some support for the hypothesis that replaceability is an important criterion determining class marking.

6.   nguk faeces, guts   an-nguk   guts

7.   mala leaf on tree or ground an-mara   leaf on tree

    The an- marked forms can only refer to entities attached to the whole (i.e. not lost to the whole), whereas the ‾- marked forms can refer to both attached and detached entities. However as the marking pattern in 6 and 7 is not productive (the difference between the free and bound root forms of 'leaf' should be noted), its evidentiary value is somewhat uncertain. Further there are some replaceable body parts which take an- class marking.

    an-bun 'feather', an-dum-mija-wek eyebrow/lash, an-gundu 'egg', an_nabat-bidiyn 'fingernail', an-ngar 'fur, body hair', an-ngubat-bidiyn 'toenail'

    Therefore replaceability clearly does not completely control class marking. The situation in Warray would appear to be that described by Dixon (1982 : 182) in his discussion of noun classes "some [class memberships] are without explanation ..... some may have had an explanation in terms of an earlier stage of the language, but the class assignment has been retained and the explanation lost as the language has altered." However there is another factor to be considered which shows that the occurrence of exceptions is less arbitrary than it initially appears.

    This additional factor is the nature of the whole in the part/whole relationship. The term "body part" indicates that the body is the prototypical whole. However I would argue that the prototypical whole for the body part class is not the 'body', but is rather a notion similar to that of 'person'. This viewpoint is argued explicitly by Wilkins (pers comm) and implicitly by McGregor (1984 : 228). Clearly both 'body' and

'person' are complex notions and some consideration of the differences between the two is necessary. I do not propose to provide a complete semantic description of either notion here, but merely to set out the prototypical differences that appear to be relevant in determining the distribution of class marking.

Firstly I think that it must be said that persons are conceived of as normally having bodies. However this does not mean that 'body' and 'person' are synonymous. Animals have bodies, but are not persons. Similarly creatures of the imagination such as doppelgangers and zombies have bodies, but they are not persons. Clearly then persons are human. However neither does this mean that 'person' and 'human' are synonymous. It is quite possible to be a human and an "unperson" as in Orwell's 1984. I think that the relevant difference is a social one. To be a person is to have some distinguishing individual characteristics in terms of capacity for action in, and membership of the social world. An "unperson" has no membership of the social world; no capacity for action in the social world. The terms "impersonal", "to depersonalise", "to personify", and "the personal touch" show that it is not merely a capacity for action in the social world that is relevant in defining "person". These terms all involve concepts of recognition of, and capacity to act in terms of distinguishing individual characteristics. Therefore I would argue that the relevant differences between 'person' and 'body' are being human, and having and recognising distinguishing individual characteristics in terms of the capacity to act in the social world.

The preceding discussion has been conducted in terms of English semantics and sociocultural perspectives. Its transferability to an Aboriginal sociocultural perspective is by no means unproblematic. However I lack the material with which to make the necessary semantic differentiations in Warray. Therefore I can only offer an English based set of distinctions and demonstrate that similar distinctions appear to be relevant in the class marking of body parts in Warray. I do not claim that the distinctions in Warray relate to a concept identical to that of 'person' in English. They do however suggest that some notion similar to that of 'person' involving the features that distinguish 'person' from 'body' is relevant in explaining the distribution of class marking in Warray. A number of Aboriginal languages do have lexemes translated as being equivalent to English 'person' (Dixon 1980 : 119). However Warray

is not among them, and further the exact meanings of these lexemes have not been fully investigated.

If 'person' is taken to be the relevant prototypical whole for the class then it is possible to see that the distribution of most of the anomalies in the class marking of body parts proceeds on a principled, though not completely predictable basis. This is the case not only for the anomalies we have already discussed, but also for some additional anomalies in class marking. No equivalent explanation is possible if 'body' is taken to be the prototypical whole notion.

In discussing the distribution of apparent anomalies in class marking I will be following Lakoff's (1986 : 17 - 18) analysis of the structure of noun classes in terms of prototype. I would argue that 'person' is the central notion for the part/whole relationship, with less central members being linked to it by chains. The nature of the linking chains is variable, but the links are motivated. However while the links are motivated it is not possible to predict the exact constitution of a class, nor is it necessarily the case that all members of a class will share some common feature. In Lakoff's terms 'person' is a typical prototype (1986 : 33 - 34) for the whole in the part/whole relationship.

There are a four sets of body part nouns whose class marking is anomalous, either in terms of the posited replacability dichotomy (marked by ⁻- vs an-), or in terms of the 'body' being the focal whole notion. Three sets of exceptions become less anomalous if the focal notion of the "body part" class is taken to be 'person/individual'. The first set consists of nouns referring to physically inalienable body parts which are not marked with an_. In Warray this set consists of mel 'vagina' and the marginal body part term garle 'pouch, womb'. As Evans (this volume : 5) notes in this volume, anomalous class marking for genitalia is not uncommon in Australian languages. This anomalous class marking would appear to be a reflection of a rule set out by Dixon (1982 : 179) in his discussion of the principles of noun class marking "If a subset of nouns has some particular important property that the rest of the set do not have, then the members of the subset may be assigned to a different class from the rest of the set, to 'mark' this property".

Given the salience of sex and sexuality in human life it is hardly surprising to find that body part nouns referring to genitalia may be marked distinctively from other inalienable body part nouns. If garle in

its meanings 'pouch, womb' is to be treated as a member of the body part class then its ‾- class marking would appear to follow in the same way given the intimate connection of sex and reproduction. While the occurrence of anomalous marking for genitalia and reproductive organs may be explicable, its actual distribution is not, as predicted by Lakoff (1986 : 18). There does not appear to be any immediately obvious reason why mel is unmarked, but the other two nouns referring to genitalia an-layn 'penis, tail' and an_mak 'testicles' belong to the an- class.

The second set of anomalously marked nouns are specifically animal body parts which are marked in a manner contrary to that which would be posited on the basis of the proposed replaceability criterion.

8.   an-bun   feather

9.   an-gundu   egg

10.   an-ngar   fur, body hair_

11.   balmuk   wing

The three an- marked nouns all refer to replaceable alienable body parts, and the ‾- marked part refers to a non-replaceable inalienable body part. If 'person' is taken to be the prototypical whole, then animals are less central wholes, because they are not persons. However they are linked to the notion of person by the fact that they have bodies. By virtue of this link the class marking of specifically animal parts is motivated. The actual class marking of these parts is however irregular.

This may be simply because animal parts are peripheral to the part/whole class, and irregularities are to be expected in peripheral areas. Alternatively the irregular class marking may be explained by a principle of Lakoff's. He suggests (1986 : 22) that when two categories are in minimal contrast, exceptions to one category will be assigned to the other category. In the marking of body parts in Warray an- and ‾- are in a minimal contrast. The irregular marking of the animal body parts in 8 - 11 may function to indicate their peripheral/exceptional status. Considerations of animacy may also be relevant as 8 - 11 all describe parts prototypically belonging to higher animates, which are most immediately opposed to humans in terms of the animacy hierarchy. The only noun referring to the body part of a lower animate an-ngak 'shell' is regularly class-marked.

The third set consists of three nouns which do not refer to parts of the physical body as such, but which are class marked with an-.

12.   an-bong   print, track

13.   an-mewel clothes

14.   an-nyi   name

These nouns all refer entities which are to varying degrees individually distinctive of persons in terms of the human world. Names are particularly salient parts of a person's social identity for Aboriginal people. Stanner (1937 : 301) states "the personal names by which a man is known are something more than names. Native statements suggest that names are thought to partake of the personality which they designate. The name seems to bear much the same relation to the personality as the shadow or image does to the sentient body ...... Names are not symbols so much as verbal projections of an identity which is well known in the flesh." Similarly prints are entities which are directly physically distinctive of the individual.

Clothes are however much less obviously individually distinctive of persons. Throughout the area in which Warray was spoken one of the major traditional funeral rites was the public burning, or burial with the corpse of a person's clothes and possessions (Berndt & Berndt 1985 : 457). This destruction appears to be symbolic of the separation of the dead individual from the living. There was therefore an important traditional context in which clothes were individually distinctive. However we should note that the noun mekmek 'swag, possessions' is ‾- class marked. Further the precise pre-contact meanings of the terms an-mewel and mekmek (even the existence of the term mekmek) are unknown. Clearly while the inalienable class marking of an-mewel may be motivated, it is much less strongly motivated than that of 'name' or 'print'.

an-mewel is a rather marginal member of the body part class. As we shall see (5.6 ex's 82 & 83), while 'clothes' is marked as a member of the nominal inalienable body part class, it does not form part of the "verbal" inalienable body part class defined by possibility of incorporation within the verbal complex, and cross-referencing of the whole rather than the part. It would seem likely that this difference in the treatment of 'clothes' from other an- marked nouns is explicable in terms of the fact that clothes are not necessarily and directly associated with the individual.

The fourth set of exceptions is not semantically based. It involves three compound forms, and is examined at 29 - 31 in the following discussion of nominal compounding.

4. Nominal Body Part Compounds.

Nominal compounds have the following structure in Warray.

Class Marker + Modifiee Root + Modifier Root

This structure is parallel to that of NPs (c.f. section 2). Compounds are right branching in Warray (c.f. Harvey; Lieber 1980), and may formally be either nouns or adjectives, depending on the class of the rightmost root. Consequently compounds display rather variable class marking, as the class marking of nouns and adjectives is significantly different (c.f. section 2).

Body part compounds are the most common nominal compounds in Warray. There are two types of body part compounds in Warray. One type of body part compound presents the condition of a particular body part as being a relatively enduring characteristic of the whole. This type of compound is only productively attested with inalienable [non-replaceable] body parts. Presumably this is because the conditions of alienable [replaceable] body parts cannot in general be interpreted as relatively enduring characteristics of the whole.

15. a-/al-dum-jaminy-u   a man/woman with bad eyes

     M-/F-eye-bad-OBL   [lit. the bad-eyed one]

16. a-yel-gubam-u   a fat man

     M-flesh-big-OBL   [lit. the big-fleshed one]

This type of compound is frequently used as a synecdoche. The only traditional nicknames known to me are synecdochic compounds.

17. a-murlu-nendu   He who was kicked in the M-hip-horse
     hip by a horse

18. al-garra-dren   She whose leg was run
     F-leg-train   over by a train

 The names of a number of animal and plant species are synecdochic compounds, with varying degrees of literalness. This appears to have been

an areal feature as it is found to a much greater extent in the unrelated
Limilngan language spoken to the north-east of Warray (though the forms
in Limilngan are NP's rather than compounds).

19.   a-bam-gubam(-u)   Brown snake_

      Cl-head-big-OBL   [lit. the big-headed one]

20.   an-garra-bitbit   plant sp (leea rubra)_

      Cl-leg-red   [the red-legged one]

21.   a-ngarndi-bit-u   Eucalyptus miniata_

      Cl-throat-coloured-OBL [lit. the colour-throated one]

22.   an-nguk-buye-buye   beetle sp

      Cl-guts-stinking-stinking   [lit. the stinking-gutted one]

23.   (a-)ganim-bali-wu   frill-necked lizard

      Cl-ear-big-OBL   [lit. the big-eared one]

24.   dum-dingding-u   fish sp

      eye-sticky-OBL   [lit. the sticky-eyed one]

25.   jen-bulang-u   tree sp

      tongue-cheeky-OBL   [lit. the cheeky-tongued one]

     The class marking of these compounds is somewhat variable. The
compounds in 19 to 22 show the adjectival class marking (c.f. section 2),
that would be expected from their structure. However 24 and 25 show ‾-
class marking, and 23 shows ‾- class marking as an alternant. ‾- is the
correct noun class for the entities that these compounds designate. Over
time it appears that adjectival synecdochic compounds describing natural
species show a tendency to be re_analysed as nouns. As a result they also
tend to show the class marking patterns of nouns. This is most commonly
the case with compounds such as 24 and 25, where the synecdoche is highly
obscure. This tendency is most clearly exemplified by the dialectal
variants of the following lexeme.

26a.) an-bam-jili-wilek-wilek b.)   bamjiwilewilek

      P-head-mouth-charcoal-charcoal

      'brown snakes with a stripe on their heads.'

     The a.) variant is still analysable as a compound (there are other
examples of compounds involving more than two nominal roots in Warray),
but the b.) variant is synchronically unanalysable.

The following synecdochic compound provides a particularly clear illustration of the essentially inalienable nature of this "enduring characteristic" type of body part compound.

27. mara-bali-wu

     leaf-big-OBL

     'Leichhardt tree.'

This compound takes ¯- class marking, arguing that it like 24 and 25 shows a tendency to be reanalysed as a noun. However the important point to be noted with respect to inalienability is that the root found for 'leaf' is the inalienable root -mara, and not the alienable root _mala (c.f. 7). Apart from the roots _murlu 'hip', -bam 'head', -garra 'leg', -ngarndi 'throat', -nguk 'guts', -dum 'eye', -jen 'tongue' and -jili 'mouth' already illustrated in the preceding examples, the roots -jat 'leg' and -miyn 'belly' also occur in synecdochic species name compounds. All of these are inalienable body parts. There is only one possible alienable "enduring characteristic" compound.

28. bun-nat-dingding

     feather-IO-sticky

     'bird sp.'

There are a number of problems with this form. Firstly even though an-bun 'feather' is semantically alienable, it is formally marked as inalienable (c.f. 11). Secondly it is not entirely clear to what degree this compound is synchronically analysable in Warray. Thirdly this compound involves the otherwise verbal Indirect Object prefix nat- (only one other nominal compound involves this prefix). Therefore the compound in 28 is clearly a marginal form, and does not invalidate the inalienable character of this compound type.

The other type of body part compound in Warray are compounds which are themselves body part lexemes. Most of these compounds refer to inalienable body parts, and are, as expected, class marked with an-. However there are three compounds which refer to semantically alienable body parts, and these three compounds contrary to expectations are also class marked with an-.

29. an-dum-mija-wek eyebrow/lash

     P-eye-hair-little

30. an-nabat-bidiyn fingernail

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        P-finger-nail
31.     an-ngubat-bidiyn   toenail
        P-toe-nail
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It is not immediately clear why these forms are class marked with an-. It is possible that they are so class marked to indicate as overtly as possible that they are compounds functioning as body part lexemes, and not compounds functioning to present characteristics of the whole, but this is not certain.

5. Syntax of Clauses Involving Body Parts.

The major areas of interest in the syntax of body parts are the "possessor ascension" pattern of cross-referencing (where the whole is cross-referenced rather than the part) and noun incorporation. These two phenomena allow us to define a "verbal" inalienable body parts class which differs from the nominal inalienable class. However before examining the differences between these two inalienable classes, we will first examine the structuring of "possessor ascension" and noun incorporation in detail. We will also examine the other clause type involving body parts which is unusually coded - Subjectless transitive clauses.

5.1 Body Parts in Subjectless Transitive Clauses.

 "Subjectless" transitive clauses are clauses based on transitive verbal predicates with passive or medio-passive interpretations. Subjectless clauses involving body parts do not show any overt marking of the subjectless status of the clause. Thus a clause such as 32 may have either of the two interpretations given, depending on context.

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32.     an-nebe ban-dayn?-mi
        P-hand 1sgO-cut-Aux PP
        a) 'He cut my hand.'
        b) 'My hand is cut.'
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Subjectless situations involving other types of entities require either overt Indefinite Subject marking (33 - in Warray the 3pl category

also marks indefinite entities), or the reflexive (34) or the use of an
intransitive verb (35 & 36).

33.   bun-ba-bun-m-iyn ginganawu ga-ba-yu-yu

      3plO-indefS-bury-Aux-PP over there NP-3plS-PR-lie

      'They are lying buried over there.'

      [lit. Someone buried them and they are lying over there.]

34.   gujili?-mi-yi-yn wik

      fill-Aux-refl-PP water

      'It is filled with water.'

35.   wik juluk-m-iyn

      water spill-Aux-PP

      'He spilled the water.' [juluk-m-arl to spill tr]

36.   wik juluk-j-ang

      water spill-Aux-PP

      'The water has spilled.' [juluk-j-ang to spill intr]

5.2 Cross-Referencing of Body Parts.

        There are three possibilities for the cross-referencing of
Part/Whole entities in intransitive Subject (hereafter S), or transitive
Direct Object (hereafter DO) function in Warray. The normal pattern is
for the whole to be cross-referenced as S or DO. This pattern of cross-
referencing is commonly known as "possessor ascension". However there are
two alternative patterns; the part may be cross-referenced as S or DO, or
the whole may be cross-referenced as an Indirect Object. The different
constructions code differences in the discourse status of the part, and
affectedness of the whole.

        The term "possessor ascension", which refers to the usual pattern
of cross-referencing, implies that at some "deep" level of structure the
clause is generated with the body part cross-referenced, and that the
possessor then displaces it at some later level in the derivation of the
clause. While I use the term "possessor ascension" in this paper as it is
well known, I do not subscribe to the implications of the term in any way.
There is no evidence in Warray for preferring the more complicated
possessor ascension hypothesis over the simpler base-generation of cross-

referencing of the individual. Indeed there is evidence which directly contradicts the possessor ascension hypothesis. In Warray there are possessor ascension constructions where the part occurs as a free nominal with peripheral case marking (44 - 46). This would appear to pose insuperable problems for any theory of possessor ascension, as the body part, being a peripheral NP, is presumably never cross-referenced at any level of derivation.

The possessor ascension construction cannot be viewed as a reflection of the real world physical contiguity of body parts and their possessors (Fox 1981 : 323), as it is possible to so code "parts" which are not in any sense physically contiguous with their possessors.

37.   an-nyi amala gan-ban-mitj-na-n

       P-name Neg IRR-1sgO-know-Aux-P

       'He does not know my name.' [lit. He does not know me name.]

Nor is it possible to view it as a reflection solely of the fact that the individual is affected by things which affect the part. The alternative construction where the whole is coded as an IO also indicates that the whole is affected.

38.   ban-nat-dayn?-mi an-garra an-mu an-geng-u gut-m-iyn

       1sgO-IO-cut-Aux PP P-leg P-bone Cl-new-OBL put-Aux-PP

       '(The doctor) cut my leg open and put a new bone in.'

a)   [lit. The doctor cut open the leg, affecting me, and put a new bone in.]

b)   [*lit. The doctor cut me open, the leg, and put a new bone in]

38 is not an example of possessor ascension. The individual is coded as an IO [the a) literal translation], and not as a DO [the *b) literal translation, also c.f. ex 32] (the nat- prefix indicates that the Object is an Indirect, rather than a Direct, Object c.f. section 2).

The most plausible explanation for the "possessor ascension" construction would appear to be that it is a reflection of the fact that parts are dependent, non-individuated entities in discourse, whereas their individual possessors are independent and individuated (Hopper & Thompson1984 : 724 - 726). Therefore the individual possessors are cross-referenced. However if a part is individuated and independent in discourse terms, then the alternative constructions with either the part

itself cross-referenced, or the whole cross-referenced as an IO may be
used. The choice between these two alternatives depends partly on whether
there is another entity involved or not. If only the part/whole entity is
involved then the part will take cross-referencing.

39.   an-nebe at-dayn?-mi ngek-u-wu ngek amala amba-yang

      P-hand 1sgS-cut-Aux PP 1sg-OBL-DAT 1sg Neg where-ABL

      ngek-nanak an-nebe at-dayn?-mi

      1sg-only P-hand 1sgS-cut-Aux PP

      'I cut my hand, me, nobody else, only me, I cut (my) hand.'

      In 39 the speaker wishes to emphasise her own sole and individual
responsibility for the action affecting her hand. The hand is therefore
individuated in discourse terms, and is therefore coded as an independent
patient Object (the verb has not been reflexivised c.f. ex 1).

40.   bulbul ban-lagi-yn

      sick 1sgO-toss-PP

      an-dum ga-gurditj-gurditj-m-arl ngek-u-wu an-doy

      P-eye NP-R-go around-Aux-NP 1sg-OBL-DAT P-heart

      mutjla an-dum an-doy a-warru

      too P-eye P-heart Cl-bad

      'I feel sick. My eyes are going round, my heart too. My eyes and
heart are bad.'

      In 40 the speaker, after making a general statement that she is
sick, focusses on the particular individuated parts which are feeling bad.
This construction with the part taking cross-referencing is also possible
when there is another entity involved.

41.   an-nyi ngek-u-wu ban-ganimup-m-iyn amala gan-mitj-na-n

      P-name 1sg-OBL-DAT 1sgO-forget-Aux-PP Neg IRR-know-Aux-P

      'He has forgotten my name. He does not know it.'

      In 41 the second VC cross-references the part (3sgO prefix ¯-). 41
shows that the discourse saliency/individuation of a part is very much a
matter of the speaker's perspective. The first VC in 41 cross-references
the individual. There do not appear to be any strong real world reasons
for the change in cross-referencing patterns between the two VCs. In 41
the whole does not appear to be greatly affected by the activity [not

knowing] affecting the part. However if the whole is strongly affected, and another entity is involved then there is a strong tendency for the whole to be cross-referenced as an IO, as in 38 and the following examples.

42.   ngek an-letma ban-nat-wuli-wul-iyn a-gudangyi
      1sg P-tooth 1sgO-IO-R-finish-PP M-doctor
      yirr?-mayim wul-iyn ngek-u-wu
      pull out-Aux PI finish-PP 1sg-OBL-DAT
      'My tooth was finished. The doctor pulled it out. My (tooth) was finished.'

43.   an-letma ban-nat-yirr?-mi a-gudangyi
      P-tooth 1sgO-IO-pull out-Aux PP M-doctor
      'The dentist pulled out my tooth.'

IO cross-referencing may be found even if the VC is semantically passive (ban-nat-wuli-wul-iyn 42). IO cross-referencing is not obligatory as a comparison of 42 and 43 reveals. This shows that coding the affectedness of the whole is also a matter of the speaker's perspective. In summary the evidence suggests the following cross-referencing patterns in Warray.

1. Normal discourse status of part : dependent, non-individuated

     Individual cross-referenced as S or DO.

2. Marked discourse status of part : individuated

     Part cross-referenced as S or DO (unmarked construction).

     Individual cross-referenced as IO (marked construction - when another entity involved and individual affected).

Thus it appears that the major parameter controlling cross-referencing patterns is discourse status of the part. The usual low discourse status of body parts is coded by the possessor ascension cross-referencing pattern. If a part has a marked higher discourse status, then two constructions exist to code this marked status. One of these constructions, cross-referencing the part, is the unmarked way of coding this marked status, as it may code any situation where the part has a higher discourse status. The other way, cross-referencing the whole as an IO, is a highly marked construction that is only used when there is another entity involved and when the whole is affected.

This analysis of cross-referencing patterns being controlled by discourse factors is to some degree hypothetical. The lack of a reasonable text basis in Warray prevents full testing of the hypothesis. I do not doubt that a reasonable text basis of body part constructions would require a more precise refinement of the nature of the discourse factors affecting the cross-referencing of body parts.

5.3. Case Marking and Functions of Body Part Nominals in Possessor Ascension Constructions.

The following examples demonstrate the possibilities for case marking of body parts in possessor ascension constructions.

44.   ngirri ban-nawa-m wang an-nebe-yang

       dog 1sgO-take off-PP meat P-hand-ABL

       The dog took the meat out of my hand.'_

       [lit. The dog took the meat off me from the hand.]

45.   an-ngube-yi ga-bun-mi-yi-n yok-lik

       P-foot-INS NP-bury-Aux-refl-NP sand-LOC

       'He is drawing with his feet in the sand.'

       [lit. He is burying himself with the feet in the sand.]

46.   nginyang an-ga-dirri?-dirri-m-arl an-bart-yi

       what 2sgS-NP-R-crawl-Aux-NP P-knee-INS

       'Why are you crawling about on your knees?'

       [lit. Why are you crawling about with the knees?]

47.   an-bam at-bu-m nal

       P-head 1sgS-hit-PP man

       'I hit the man on the head.' [lit. I hit the man head]

The thematic roles of the substantively case marked body parts in 44 - 46 are made explicit by those case markers. The semantic function and thematic role of the Absolutive [-¯] case marked body part in 47 is less explicit. The construction type in 47, with the body part taking Absolutive case, is in terms of frequency by far the usual construction for coding body parts in possessor ascension constructions. Therefore further investigation as to the semantic function and thematic role of such Absolutive case marked body parts is warranted. On the basis of 47

it might appear that we could describe Absolutive case marked body parts as having a locative thematic role. However it is not possible to characterise all Absolutive marked body parts as having a locative role. We have already seen that body parts such as 'name' which are not readily characterisable as having a locative role occur in this construction type (ex 37 is repeated for convenience).

37.   an-nyi amala gan-ban-mitj-na-n

       P-name Neg IRR-1sgO-know-Aux-P

       'He does not know my name.' [lit. He does not know me name.]

A good description of the semantic function of Absolutive marked body parts in possessor ascension constructions is provided by Halliday's notion of Range. Halliday (1986 : 134) states that the Range "expresses the domain over which the process takes place". While 'name' in 37 is not readily characterisable as having a locative role, it certainly expresses the domain over which the person's not knowing occurs. Similarly physical body parts taking Absolutive case, such as that in 47, are characterisable as providing the Range of the process. This view of the most common function of body parts is in essential agreement with that of McGregor (1985 : 210 - 211) "the body part specifies the EXTENT or LOCUS of the participant's involvement in the action. That is, it specifies the part of the individual which is most directly and intimately involved in the action."

It is important to note however that it is not clearly the case that the converse is true; that body parts expressing the Range of a process will take Absolutive case marking. The Ablative and Instrumental case marked body parts in 44 - 46 are also interpretable as providing the domain of the process. As Ablative and Instrumental case marking are apparently obligatory in 44 - 46 it would appear that for physically locatable body parts the usual concepts of thematic roles are relevant in determining case marking. This hypothesis is supported by the following example.

48.   at-li-yn an-nebe-yi at-bu-yi-yn an-bam

       1sgS-fall-PP P-hand-INS 1sgS-hit-refl-PP P-head

       'I fell and hit myself on the head with my hand.'

       [lit. I fell and hit myself head with the hand.]

In 48 there are two body parts, one in an instrumental role and one in a locative role. The determination of the Range in 48 is problematic. Quite possibly both body parts determine the Range. Whatever the nature of the Range in 48, it is the body part with a locative role which receives Absolutive case marking.

In summary it appears that independent body part nouns in possessor ascension clauses function semantically as Ranges. The usual case marking for body part Ranges is Absolutive. This is found with entities which are not physically locatable (in terms of the analysis proposed in sec. 3, when the person part is not a body part), as 'name' in 37 (the exact thematic role of 'name' in 37 is unclear to me). It is also found in the great majority of cases with physically locatable parts (i.e. when the person part is a body part). However case marking patterns argue that Absolutive case marked physical parts should be interpreted as having a locative role in Warray. If the part is to be interpreted as having another role it will receive overt case marking to mark this. These interpretations patterns are to some extent language specific [witness the different thematic roles assigned in 46 to the body part by English and Warray].

The syntactic function of Absolutive marked body part nominals also requires consideration. Hale (1981 : 338) suggests that the body part is predicated of the whole "in the sense that what is true of the PART is seen to be true of the WHOLE". However as McGregor (1984 : 212) points out what is true of the part is not necessarily true of the whole. In 37 the fact that the person does not know my name, does not necessarily mean that he does not know me. As McGregor further observes it is by no means clear on general grounds that the part/whole relationship involves predication. It certainly does not involve attribution or equation. Napoli (1988a : 7) analyses a predicate as an event which has role players. I do not think that body parts are easily visualised as events with wholes being role players.

The relationship between the part and the whole would appear to be more akin to modification than predication. It delimits the reference of the whole, in a manner similar to the way that proto-typical modifiers such as adjectives are understood to delimit the reference of their head. It is true that in non-configurational languages the distinction between modification and predication is not easily drawn, and it is possible that no such distinction can be drawn in Warray. Nevertheless there is no

syntactic evidence in Warray for differentiating Absolutive marked body parts as a special syntactic class of secondary predicates. The most economical solution is to treat them as modifiers within an Absolutive marked NP.

5.4. Noun incorporation and Denominal Verbs.

Before proceeding with discussion of the particulars of noun incorporation in Warray it is necessary to give some general theoretical consideration to the nature of noun incorporation, and especially to consider the nature of the distinction between noun incorporation and denominal verb formation.

Sapir (1911 : 257), in the classic discussion of noun incorporation, defines it as "this process of compounding a noun stem with a verb that it is here proposed to call noun incorporation, no matter what the syntactic function of the noun logically is." Mithun (1984 : 848) defines noun incorporation as "a particular type of compounding in which a Verb and Noun combine to form a new Verb. The Noun bears a specific relationship to its host Verb - as patient, location or instrument.".

In effect Mithun defines "Noun incorporation" as the compounding of a noun with a verb to form a new verb subject to the condition that the noun must bear a specific argument relationship to the verb. Sapir is apparently in general agreement with this, stating (1911 : 257),

"This type of verb, "to song-write" ..... is best considered a particular class of the more general type of noun-verb compound verb. As a matter of fact, it is often just as difficult, at least in some American languages, to draw the line between the objective and non-objective use of an incorporated noun as it is to determine the precise syntactic value of the qualifying member of a compound noun. Thus "I hit his face" may often be interpreted locatively as "I hit him in the face", while even so transparent an example as "I eat meat" may often be understood instrumentally as "I feed on or with meat".

It appears that Sapir is operating on the implicit assumption that there will be an argument relationship between the noun and the verb. However he adopts a rather asystematic and lexicalist approach to the process of noun incorporation. Sapir and Mithun make the following statements in connection with denominal verb formation.

"Many American languages form denominative verbs from noun stems by means of various derivative affixes of verbal, generally transitive, meaning. Thus, from Paiute qani- "house" are formed qanintcu- "to build a house" and qanixyai- "to have a house", from Yana hauyauba- "deer fat" is formed hauyauba-iniguia- "to contain nothing but deer fat". In these derivative verbs the nouns "house" and "deer fat" can not be considered as incorporated, for the verbal elements -ntcu-, -xyai-, and -iniguia- are not verb stems but verb-forming affixes morphologically comparable to English -ize in verbs of the type materialize , pauperize ." (Sapir 1911 : 254)

"denominal verb formation is a different formal process. In noun incorporation, as commonly understood since Sapir 1911, a noun stem is compounded with a verb stem to yield a more specific, derived verb stem. The Greenlandic [Eskimo] construction is based on a single noun stem with a derivational suffix. It is not entirely clear why one would refer to this as noun incorporation, since it is not obvious what such nouns are incorporated into. In incorporating languages, a verb minus its incorporated noun is still a well-formed verb; but in Greenlandic, a denominal verb minus its noun stem would be no word at all." (Mithun 1986 : 32)

It would appear that Mithun and Sapir are in substantial agreement, that if the verbal morpheme in a morphologically analysable verb stem, involving a noun root, cannot stand alone as a well formed verb, then the whole stem should be regarded as a denominal verb stem as opposed to a compound verb stem involving noun incorporation. This criterion, a negative criterion for noun incorporation, is intuitively appealing.

However Warray, and other Gunwingguan languages, provide two major problems in relation to the use of this "independent occurrence" negative criterion for noun incorporation. These problems arise in relation to what is described as "lexical incorporation" (Mayali : Evans - this volume, Ngalakan : Merlan 1983 : 143 - 144). One problem involves verb stems which are morphologically analysable as consisting of noun + verb where both the noun and the verb can occur independently, but which one would wish to exclude from the scope of an analysis of noun incorporation by the positive definition of noun incorporation as being the compounding of noun + verb, with an argument-like relationship between the noun and the verb, that Mithun and Sapir are implicitly using.

As mentioned in section 2 Warray has two main types of verbs: simple verbs consisting of a verb root; and compound verbs consisting of a nominal or verbal root and an auxiliary. Most auxiliaries also independently occur as simple verbs. The essential function of the auxiliary system is to verbalise nominal or verbal roots (c.f Harvey for argumentation on this point). Denominal compound verbs are extensively and productively formed by the auxiliary system. Thus if we take the independent verbs bu-m 'to hit', and la-m 'to spear', we find that they function as an auxiliaries to verbal roots.

49. nyi-bu-m   'to cry'   gi-la-m 'to pour'

bu-m functions productively as a denominaliser approximately meaning 'to make noun X'.

50. wek-bu-m   'to make a fire'

(wek 'fire')

la-m is also found in denominal compounds, though not productively.

51. giliyn-la-m 'to line up'

(an-giliyn 'line')

There is every reason in Warray to analyse these noun + verb compounds as classing with such prototypically denominal forms as the adjectival inchoative-ji-yn.

52. gamu-ji-yn 'to become tough'

(-gamu 'tough')

The inchoative -ji-yn is an auxiliary, parallel in form and function to all other auxiliaries. Its only marked feature is that it only verbalises nominal roots, whereas other auxiliaries chiefly verbalise verb roots. Nevertheless 50, 51 and 52 are all Nominal Root + Verbalising Auxiliary constructions. The fact that bu-m and la-m also occur as independent verbs is irrelevant. In all three cases the nominal provides the main predicate information in the compound, whereas the auxiliaries provide only very limited predicate information (it should be noted that there is no correlation between the auxiliary and independent meanings of bu-m and la_m).

Following the "independent occurrence" criterion with respect to 50 and 51 would produce a most unsatisfactory result, as they would presumably have to be analysed as examples of noun incorporation. They are clearly denominal verbs formed by using the auxiliary system, whose

major function in Warray is as a verbalising system. If the positive criterion requiring an argument relationship between the noun and the verb is followed then 50 and 51 will be excluded from the scope of noun incorporation.

The second major problem for "independent occurrence" involves verb stems which are morphologically analysable as consisting of noun + verb, where the verb is not attested independently, but which one would wish to analyse as being examples of noun incorporation because there is an argument-like relationship between the noun and the verb.

53.   dum_bay?_m-arl 'to open one's eyes' (an-dum 'eye')

54.   bam_berrngberrng-m-arl 'to shake one's head' (an-bam 'head')

bay?_m_arl and berrngberrng-m-arl are not found independently of the compound forms given ('to open' is otherwise expressed by the verb del_bu-m, 'to shake' is otherwise dol?dol-m-arl). Therefore these verbs must be analysed as denominal verbalisers by the independent occurrence criterion. In connection with this point Mithun in her discussion of noun incorporation (1984 : 847 - 848) states "Interestingly, all languages which exhibit such morphological structures also have syntactic paraphrases. If we know that, in Koryak, one can say tiqoyanmatekin 'I-reindeer-slaughter' then we can correctly predict the existence of a sentence like Tinmekin qoyawge 'I-slaughter reindeer'." .

It is not clear what status Mithun attributes to this statement. It may be a statement about a general tendency in the majority of cases. Alternatively it may be a qualification on the interpretation of noun incorporation in general (i.e. if a compound construction does not have a syntactic paraphrase then it is not to be treated as an example of noun incorporation). The following statements in Mithun (1986 : 33) suggest that the first alternative is intended "Speakers of an incorporating language may never hear or produce sentences about hand-washing where the noun for 'hand' appears outside of the verb 'wash', and may even find such sentences odd, because the situation calling for them would be odd. This does not mean that noun incorporation is arbitrary."

I see no principled reason why the existence of a syntactic paraphrase should be taken as a diagnostic for noun incorporation. The compounds in 53 and 54 are both formally and functionally parallel to noun incorporation forms, and are quite distinct from the denominal compounds illustrated in 50 - 52. In 53 and 54 both the noun and verb

make significant contributions to the lexical meaning of the compound, and there is an argument relationship between the noun and the verb.

Overall for Warray it would appear that use of the formal "independent occurrence" criterion produces unsatisfactory results both from the point of view of positively defining denominal verb stems and from the point of view of negatively defining noun incorporation constructions. The positive criterion requiring an argument relationship between the noun and the verb on the other hand does provide satisfactory results.

Therefore any noun + verb compound, where the noun and the verb have an argument relationship will be treated as an example of noun incorporation. Noun + verb compounds which do not show an argument relationship will be treated as examples of denominal verb formation. This distinction correlates with a distinction in the lexical nature of the two compound types. In noun incorporation the lexical meaning of the compound is componential from the meaning of the noun and the verb. In denominal verb formation the verb is leached of its meaning as an independent form and makes only a minimal contribution to the lexical meaning of the compound. This explains why in Warray, as in other Gunwingguan languages, denominal compounding shows a much greater degree of lexicalisation than noun incorporation compounding does.

Occasionally the boundary between noun incorporation and denominal verb formation may be initially somewhat difficult to draw. The verb wo-y occurs both as an independent verb meaning 'to give', and as a productive denominalising factitive auxiliary.

55. dilmi-wo-y 'to dry something'

     (-dilmi 'dry')

When wo-y compounds with an adjective as in 55 its denominalising function is clear. However the analysis of the following compound on the noun an-nyi 'name' is more problematic.

56. an-nyi ba-nyi-wu-ji-yn-?lul

     P-name 3plS-name-fact/give-recip-PP-pair

     'The pair of them gave each other their names.'

Transferral of names, under a system known as ngirrwart, was an important feature of Warray social organisation traditionally. The compound verb in this clause describes this ngirrwart system. The

compound verb nyi_wo-y could be interpreted as a noun incorporation compound with the sole meaning 'to bestow/give a name'. Alternatively it could a factitive denominal compound equivalent in meaning to the English denominal verb 'to name'. The English denominal verb means both 'to bestow/give a name' and 'to say/speak a name'. The following example shows the Warray compound verb nyi-wo-y has the same range of meaning as 'to name'.

57.   amala gan-a-nyi-wu ju-m gaji-n

       Neg IRR-2plS-name-FA die-PP that-PRM

a)   Don't name him! He has died that one!

b)   *Don't give him a name! He has died that one!

It is not the case that the b) translation is infelicitous merely in English. The Warray verb wo-y 'to give' requires transferral of the patient/ theme entity, just as much as the English verb to give does. Clearly no transferral occurs in 57, and therefore the wo-y found in the compound verb in 57 is not acting as the verb 'to give', but must rather be acting as a factitive auxiliary.

In addition to 57 there is also the fact that Warray does not otherwise productively incorporate patient Objects (c.f. 58). Given these two facts, and the fact that the compound nyi-wo-y conforms formally to a productive denominalising pattern (55), there is good evidence that in 56 the a) denominal factitive interpretation is the correct interpretation of the compound verb.

5.5. The Structure of Noun Incorporation.

Noun incorporation in Warray is of general typological interest as it provides a clear counter-example to the generalisation made by Mithun (1984 : 875) "If a language incorporates nouns of only one semantic case, they will be patients of transitive verbs .... If a language incorporates only two types of arguments, they will be patients of transitive and intransitive verbs .... Many languages additionally incorporate instruments and/or locations".

Warray does have productive noun incorporation, but this is essentially adverbial/locative in nature, as we shall see in this section. Warray does not productively incorporate patient Objects (c.f. 56), nor

is there any evidence that it ever did so productively. The only compound which historically involves patient Object incorporation is the following.

58. girrangajerriyn ba-warri-gut-mi-yi-yn

     three 3plS-child-bear-Aux-refl-PP

     'They had three children.'

This compound warri-gut-mi-yi-yn 'to child-bear' involves the lexemes warri 'child' and gut-mi-yi-yn the reflexivised/intransitivised form of the verb gut-m-arl 'to give birth to, to bear'. However this form is only marginally synchronically analysable. This compound was used by one of my consultants, but not by the other. However the consultant who used the compound did not use the lexeme warri 'child', though she did use a plural form warri-ba 'children'. The consultant who did use the lexeme warri 'child', did not use the compound exemplified in 55. No other compounds of this type occur in Warray.

Mithun (1984 : 858) treats incorporation of body parts as an aspect of what she describes as noun incorporation Type 11 "Noun incorporation of body parts allows affected persons to assume a primary case role, such as subject or direct object, rather than merely oblique possessor." Essentially Mithun argues that incorporation of body parts occurs to permit possessor ascension. This is incorrect. While noun incorporation requires the possessor ascension pattern of cross-referencing, possessor ascension does not require noun incorporation. In Warray, and in the other northern prefixing languages of Australia, it is quite possible to cross-reference the whole without incorporating the part. Therefore incorporation cannot be said to license possessor ascension.

Incorporation of body parts in Warray is not restricted to animates, being also found with inanimates.

59. mala-wuli-yi-yn yumbal

     leaf-finish-refl-PP tree

     'The tree has lost its leaves.' [lit. The tree has leaf-finished itself.]

60. an-jili at-jili-del-bu-m

     P-mouth 1sgS-mouth-open-Aux-PP

     'I opened the tin lid.' [lit. I lid-opened it, lid.]

Normally only one noun can be incorporated into the VC, but there are two examples of incorporation of two noun roots.

61. bat-du-dum-bam-birri-m-iyn

     1sgS-PR-eye-head-feel dizzy-Aux-A

     'I feel dizzy.'

62. at-miyn-gubulung-yu-ng

     1sgS-belly-down-lie-PP

     'I lay belly down.'

The degree of lexicalisation and internal structure of these forms are uncertain. The compound miyn-gubulung 'belly down' occurs independently (gubulung also occurs by itself as an independent form). This would suggest that 62 involves the incorporation of a compound noun. The particular combination of noun roots in 61 is not found elsewhere, and it does not, in any obvious sense, display the usual modifiee-modifier structure of nominal compounds (cf. sec. 4). As such it would seem likely that it should be analysed as a lexicalised combination.

In Warray incorporation is possible whenever the individual is an S or DO.

63. at-nabat-gamu-ji-yn

     1sgS-hand-stiff-inch-PP

     'My hand is stiff.' [lit. I became hand-stiff.]

64. bun-lorr?-may

     feather-pluck-Aux IMP

     'Pluck the feathers out!' [lit. Feather-pluck it!]

It is not possible to incorporate when the whole is a transitive Subject. Thus 'I carried the child on my shoulder' can only be expressed by 65b, not by 65a.

65a. *at-murnak-wuk-mi an-wak

     1sgS-shoulder-carry-Aux PP Cl-little

65b at-wuk-mi an-wak an-murnak-lik

     1sgS-carry-Aux PP Cl-little P-shoulder-LOC

65a could only have the rather bizarre meaning 'I carried the child's shoulder'. In clauses based on an intransitive verbal predicate with an IO, incorporated forms are taken to refer to the S.

66. gakuy-u an-ga-nat-gurrung-way?-way-gayi-n

after-DAT 2sgS-NP-IO-arm-R-wave-Aux-NP

'Later you will wave to him.'

There are no definitive examples of incorporation on a transitive verb with an IO in the data available. The impossibility of incorporation on transitive Subjects appears to be a language universal restriction (Baker 1988a : 81). Baker argues that the universal restriction on transitive Subjects is to be explained in terms of the Unaccusative Hypothesis. The Unaccusative Hypothesis (Perlmutter 1978 : 162 - 163) divides intransitive verbs into two classes along essentially semantic lines. Verbs describing willed or volitional acts are unergative verbs with an underlying Subject. Verbs describing other types of intransitive are unaccusative verbs with an initial underlying Object, which in Government Binding Theory moves to Subject position at Surface Structure. The exact membership of the two classes varies language specifically.

Baker (1988a : 88 - 89) argues that only unaccusative verbs permit incorporation. Therefore it is possible to explain the restriction on transitive Subjects as following on a universal restriction of incorporation to what in Government Binding theory are Deep Structure Objects. While Unaccusativity may be relevant to the distribution of incorporation in some languages there is no evidence that it is of any relevance in Warray.

Firstly, as Napoli (1988b : 141 - 142) does, I do not view the unaccusative distinction as being a language universal property. I view it as a language specific property requiring evidence. There is no evidence that anything resembling the unaccusative distinction, as it is commonly understood in Government Binding theory (cf. Burzio 1986), operates in Warray. The prefixing patterns of intransitives do not correlate in any significant way with the unaccusative hypothesis. There are two verbs ngarndi-dep-m-arl 'to be thirsty' and wulwul_mi 'to ache' which take the Object prefixes to cross-reference their inherent experiencer role. These two verbs are certainly unaccusative in the terms of Perlmutter's original formation and the fact that they take Object prefixing is clearly related in some way to this fact. However all other intransitive verbs take Subject prefixing to describe their inherent roles, no matter what the thematic status of that role.

Neither does the pattern of incorporation among intransitives correlate in any way with the unaccusative hypothesis. Highly agentive, volitional and controlled intransitives may incorporate (cf. also 66).

67.   at-nabat-nyim an-bokbok-u-lik yumbal-lik

      1sgS-hand-enter P-hollow-OBL-LOC log-LOC

      'I put my hand into the hollow log.' [lit. I hand-entered the hollow log.]

 Unless one is to take the vacuous position that all intransitives are unaccusative, it is clear that the unaccusative hypothesis is not of relevance in explaining the distribution of incorporation in Warray. Rather an explanation for the distribution of incorporation must be sought from the nature and functions of incorporation.

In Warray body parts form by far the most frequently incorporated class of nouns. This conforms with the observable generalisation for incorporating languages in Northern Australia that the class of incorporable nouns always includes body parts (Mara : Heath 1981 : 280 -1, Nunggubuyu : Heath 1984 : 472, Ngalakan : Merlan 1983 : 144, Ngandi : Heath 1978 : 118, Rembarrnga : McKay 1975 : 299, Tiwi : Osborne 1974 : 50, Warndarang : Heath 1980 : 86). This is also observable for languages elsewhere in the world (Nahuatl : Merlan 1976 : 188). In some languages only body parts are incorporable (Muskogean : Haas 1941, Ngan.gi Kurung.gurr : Reid : pers comm). These facts would argue that body part incorporation is a primary type of incorporation rather than a secondary type of incorporation as Mithun treats it.

The possibilities for incorporation other than of body parts are much less extensive in Warray than in some other Gunwingguan languages such as Mayali (c.f. Evans this volume) or Rembarrnga (McKay 1975 : 287 - 309). Apart from body parts, the following types of incorporation are attested (the [] indicate the apparent thematic role of the incorporated noun).

68.   gijirriyn yul-lik yul-del-bu-m gaji gut-m-iyn

      bird sp ground-LOC ground-open-Aux-PP that lay-Aux-PP

      an-gundu gakuy an-wak ngal?-jim

      P-egg after Cl-little out-come

      'The gijirriyn bird burrowed into the ground and laid its eggs. Afterwards the chicks came out.' [locative]

69. gaji warri-ba-?lul bin-ba-wili-ngiw-a wili-lik

     that child-PL-pair 3plO-2plS-house-put in-IMP house-LOC

     'You mob put those two children in the house!' [locative]

70. at-dumgiga-gut-m-iyn an-wak ga-yu-yu dumgiga

     1sgS-sleep-put-Aux-PP Cl-little NP-R-lie asleep

     'I put the child to sleep. He is lying asleep.' [?]

71. an-mewel at-windi at-mirral-lagi-yn

     P-clothes 1sgS-hang out 1sgS-sun-put-PP

     'I hung the clothes out in the sun.' [locative]

72. at-wik-lagi-yn an-mewel wik-lik gaku

     1sgS-water-toss-PP P-clothes water-LOC later

     bat-wurlek-m-iyn

     1sgSNP-wash-Aux-A

     'I tossed the clothes in the water. Later I will wash them.'
[locative]

73. yow at-windi-ny-iyn mirral-lik ga-mirral-nu-n

     yes 1sgS-hang out-UNM-PI sun-LOC NP-sun-burn-NP

     'Yes I hung them (the clothes) out in the sun. They are drying in
the sun.' [?locative, ?instrumental]

74. ngirri wang ban-nabat-nawa-m an-nebe-yang

     dog meat 1sgO-hand-take off-PP P-hand-ABL

     'The dog took the meat out of my hand.' [ablative]

75. gimiyn-gurditj-m-a

     point-go around-Aux-IMP

     'Go around via the point!' [perlative]

76. wik ga-bul-murlk-murlk-m-arl

     water NP-water-R-wave-Aux-NP

     'The water is waving.' [?theme]

     The incorporated nouns appear to have a variety of thematic roles.
However, as with the independent body part nouns discussed in 5.3, they
are all characterisable in terms of Halliday's (1986 : 134) notion of the
Range which "expresses the domain over which the process takes place".

Therefore it would appear that incorporation in Warray can be analysed in a simple and unified manner as being the incorporation of Ranges. The majority of the non-body part Ranges appear to have a locative thematic role. In 5.3 we saw that thematic roles are relevant in determining the case marking of independent body part nominals (locatives take Absolutive case, other roles take the appropriate case marking). Thematic roles are also relevant in controlling incorporation.

77. ngek amala an-nebe-yi at-gibat-derret-bu-yi-yn

     I No P-hand-INS 1sgS-back-scratch-Aux-refl-PP

     'Not me, I scratched my back with my hand.'

78. at-jili-dang?-m-iyn

     1sgS-mouth-click tongue-Aux-PP

     'I clicked my tongue.'

In 77 and 78 there are two body parts involved in the process; an instrumental (hand/tongue), and a locative (back/mouth). Both can be interpreted as Ranges. However it is the part in a locative role which is incorporated. The non-incorporation of 'tongue' in 78 cannot be explained in terms of its being inferrable from, or in some sense lexically incorporated within the verb. All other verbs describing activities specific to a body part obligatorily incorporate that body part. Thus berrngberrng-m-arl 'to shake' and duyn-m-arl 'to nod' incorporate -bam 'head'; bay?-m-arl 'to open' incorporates -dum 'eye'; and widi?widi-m-arl 'to wag' incorporates -layn 'tail. It is only for dang?-m-arl, among the specific body part verbs, that there exist distinct instrumental and locative body parts.

Therefore incorporation in Warray may be analysed as being the incorporation of Ranges. When there is more than one possible Range, the one with a locative role is the one incorporated. Analysing incorporated body part nouns as Ranges explains why in transitive constructions they are interpreted as being part of the Object, rather than of the Subject. As they express the domain over which the process operates they must be part of the Object, rather than of the Subject.

The relationship between the incorporated noun and the verb appears to be one of modification. The incorporated noun delimits the verb in a manner akin to that of adverbs. In this context it is important to note that, apart from the nouns so far discussed, the only other incorporable roots in Warray are certain roots with classical adverbial functions (e.g.

wok 'heavily'). Therefore noun incorporation in Warray appears to be analysable as a particular type of a more general compounding process of verbs with their modifiers. Compounding of modifiers is the prototypical compounding pattern, and as such noun incorporation in Warray falls naturally within the general parameters of compounding.

The patterning of incorporation in Warray is in general accord with Kiparsky's proposal (unpublished, but quoted in Baker 1988b : 20) for a thematic hierarchy controlling the order in which roles compose semantically with the verb.

Agent > Benefactive > Goal > Instrument > Theme(/patient) > Locative

Warray is a language which permits incorporation only with the role lowest on the hierarchy (with one marginal exception involving the next lowest role 58). The nature of body part incorporation in other languages is an empirical question requiring further investigation. It is however interesting to note that body parts appear universally to be the proto-typical incorporable nouns. If body part incorporation is universally that of Ranges with a preference for locative Ranges then this would accord with the hierarchy proposed by Kiparsky.

Warray while providing some problems for Mithun's analysis of noun incorporation is, as we have indicated, compatible with her thematic role based approach. What is required within Mithun's approach is a re-analysis of the semantics of body part incorporation, and of its status as a secondary form of noun incorporation. The evidence from Warray (and other languages) argues that body part incorporation is the proto-typical primary form of incorporation. The evidence from Warray suggests that this is so because the body parts of sub-categorised entities are proto-typically back-grounded Ranges, which as such modify the verb.

The organisation of noun incorporation in Warray appears to be fundamentally incompatible with Baker's abstract structure based approach. Baker (1988b : 2) sets out the generalisation "A noun can be incorporated into another category in the system of a polysynthetic language only if a noun phrase headed by that noun would be the sister of the category in the phrase structure system of an isolating language." Baker (1988b : 6) specifically states "The claim that locatives do not incorporate also needs clarification ...... Indeed, there are examples, but to the best of my knowledge they are fairly few and limited".

Baker excludes body part incorporation from his purview (Baker 1988b : 3), because "their role in the sentence as a whole is not always clear". This paper has hopefully demonstrated that body part incorporation is a regular process in Warray. Nevertheless this does not constitute a direct counter-example to Baker's arguments on the structure of noun incorporation. However the non-body-part locationals exemplified in 68 - 76 are direct counter-examples to both the general and the specific statements that Baker makes about noun incorporation. There would not appear to be any way of generating these examples within Baker's system.

While it is possible to determine the controls on what is potentially incorporable in Warray, it is not possible to set out the controls determining when incorporation will actually occur. It appears that certain incorporations are obligatory (e.g. dum-bay?-m-arl 'to open one's eyes' and bam-berrngberrng-m-arl 'to shake one's head' 53 & 54). However most incorporations are optional and it is probable that discourse factors (independent occurrence as new information vs incorporation as old information c.f. Merlan 1976) play an important role in controlling the actual occurrence of noun incorporation. However the lack of a suitable text basis prevents full comment on this aspect of noun incorporation in Warray.

We may note that in Warray the incorporation of a noun is no bar to its also occurring as a free form in the same clause.

79.   an-nebe at-nabat-nyim yumbal-lik

      P-hand 1sgS-hand-enter log-LOC

      'I put my hand in the log.' [lit. Hand, I hand-entered the log.]

80. a-warr-u an-jen ga-jen-bil?-m-arl bigirring-u

      Cl-bad-OBL P-tongue NP-tongue-poke-Aux-NP 3pl-DAT

      '(He is) bad. He is poking his tongue out at them.'

      [lit. He is bad. Tongue, he is tongue-poking out at them.]

The type of construction in 79 and 80 is reasonably common in Warray. The nature of the contrast between the three possible types of possessor ascension clauses is not entirely clear.

81.   an-nebe at-dayn?-mi-yi-yn

      P-hand 1sgS-cut-Aux-refl-PP

      'Hand, I cut myself.'

82.   an-nebe at-nabat-dayn?-mi-yi-yn

       P-hand 1sgS-hand-cut-Aux-refl-PP

       'Hand, I hand-cut myself.'

83.   at-nabat-dayn?-mi-yi-yn

       1sgS-hand-cut-Aux-refl-PP

       'I hand-cut myself.'

       81 - 83 convey the same proposition. It is highly likely that the differences between the three are discourse based. Merlan (1976 : 177) in her seminal discussion of the discourse status of noun incorporation states

       "In terms of discourse, it is possible to show that incorporated nouns serve to maintain definiteness of discourse reference by functioning as anaphors which maintain co-reference with previously introduced lexical nouns. Because the lexical properties of nouns are preserved under incorporation, noun incorporation functions as a strong reference-maintaining device intermediate between complete repetition of the co-referential adjunct and complete anaphoric pronominalisation."

       It is likely that 81 - 83 represent finely graded distinctions in the possibilities for discourse reference maintenance in Warray. From observation it appears that independent occurrence functions in a manner akin to topicalisation, with 81 and 82 representing finely graded distinctions in the degree of prominence. They are normally clause initial and set off by a slight pause. However the relationship between the boundaries of intonation groups, the placement of pauses and putative clause boundaries is complex in Warray. It is definitely not possible to formally distinguish a topicalised clause structure from an ordinary clause structure in terms of the patterning of intonation group boundaries and/or the placement of pauses. Thus the status of independent body parts is presently somewhat uncertain.

5.6. The Syntax of Body Part Constructions and Inalienability.

       In section 3 we saw that noun class marking divides body parts into an inalienable class marked by an-, and an alienable class marked by ‾-. Possessor ascension and incorporation also allow us to define alienable and inalienable classes. However these "verbally" defined classes do not

correspond exactly to the nominally defined classes. Part nouns which belong to the nominal alienable class take possessor ascension cross-referencing.

80. gijewek ban-ba-dayn?-mi

     beard 1sgO-3plS-cut-Aux PP

     'They cut my beard.' [lit. They cut me beard.]

     These nouns may also be incorporated.

 81. bat-du-dumila-jup-jup-m-iyn

     1sgSNP-PR-tear-R-flow-Aux-A

     'My tears are flowing.' [lit. I am tear-flowing.]

     Conversely the noun an-mewel 'clothes', which belongs to the inalienable nominal class does not fall within the verbal inalienable class. There are no examples of this noun being incorporated and the prefixes invariably refer to it, rather than to the possessor.

82. wek at-dirrim-bu-m ngikbayang amala gat-na-n

     fire 1sgS-light-Aux-PP morning Neg IRR1sgS-look-P

     wek-yi no-y ngek-u-wu an-mewel

     fire-ERG burn-PP 1sg-OBL-DAT P-clothes

     'I lit a fire this morning, (but) I did not look out and the fire burnt my clothes.'

     It is possible to cross-reference the action as affecting the whole, but only by cross-referencing the whole as an IO, not as a DO.

83. an-mewel ban-nat-lala?-mi

     P-clothes 1sgO-IO-tear-Aux PP

     'He tore my clothes.' [lit. He tore the clothes affecting me.]

     It would appear that the differences between the nominal and verbal inalienable classes follow from the fact that they are concerned with very different things. Nominal inalienability is concerned with distinguishing the body parts that constitute non-replaceable parts of a person's physical and social identity. Verbal inalienability is concerned with coding the fact that persons have a high discourse status, whereas the parts of persons usually have a low discourse status, irrespective of whether they are non-replaceable parts of a person's identity or not.

     It is therefore predictable that body parts treated as alienable by class marking will belong to the verbal inalienable class. The lexeme

an_mewel 'clothes' presents the converse case. It is class marked as nominally inalienable, but is treated as alienable verbally. Given that it is the only example of its type, any analysis is of necessity somewhat tentative. Nevertheless it is worth noting that 'clothes' as an entity are rather more independent of the individual, than other body parts are. Consequently they do appear to have a higher discourse status than other parts, which would in turn explain why they are verbally marked as alienable.

6. Conclusion.

Body parts play an important role in grammatical coding in Warray. The noun class system has as one of its major contrasts the distinction between replaceable and non-replaceble body parts. The most frequent type of nominal compounding is compounding of body parts. There are two classes of body part compounds. One class are themselves body part lexemes. The other class are compounds on inalienable body parts which describe enduring conditions of the whole. This second class has a wide range of use in its synecdochic function, with many natural species names being compounds belonging to the class.

The system of clause level grammar presents a number of ways of coding part/whole relations. Body parts, normally having a low discourse status, are not usually cross-referenced in the verbal complex, and indeed are frequently incorporated into the verbal complex. Body parts generally function as Ranges in clause level grammar. We have argued that body part incorporation should also be viewed as being the incorporation of Ranges, with a preference for locative Ranges. While body parts usually have a low discourse status, and are preferably interpreted as locative Ranges, there are ways of grammatically coding departures from either of these states of affairs.

The alienable/inalienable opposition is obviously an important parameter in discussing the grammar of body parts in Warray. A number of oppositions and coding patterns can be characterised in terms of this opposition, though as we have seen, nominal and verbal inalienability are not the same thing.

The important point to be noted about both types of inalienability, and about the grammar of body parts in general in Warray, is that the

prototypical reference whole for the concept of body part is not the 'body' as such. Rather it is a concept akin to that of 'person', involving factors of human-ness and social interaction in terms of distinguishing individual characteristics. The grammar of body parts in Warray cannot be properly understood without this central insight.

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_ The following orthography is used : long and syllable final stops - p bilabial, t alveolar, rt retroflex, tj palatal, k velar, ? glottal : other stops - b bilabial, d alveolar, rd retroflex, j palatal, g velar : nasals - m bilabial, n alveolar, rn retroflex, yn syllable final palatal, ny other palatal, ng velar : laterals - l alveolar, rl retroflex : rhotics rr alveolar, r retroflex : n.g = apical nasal + velar stop, r.n = retroflex rhotic + non-apical nasal, y.n = semivowel + nasal

_ These two forms are dialectal variants.

_ Abbreviations in glosses - A = Set A suffixes, ABL = Ablative, Aux = Auxiliary, Cl = Class Marker, DAT = Dative, DO = Direct Object, F = Feminine, fact = Factitive, IMP = Imperative, inch = inchoative, IO = Indirect Object, IRR = Irrealis, LOC = Locative, M = Masculine, NP = Non-Past, O = Object, OBL = Oblique, P- = Part, -P = Past, PI = Past Imperfective, pl = plural, PP = Past Perfective, PR = Present, R = Reduplication, recip = reciprocal, refl = reflexive, S = Subject, sg = singular, UNM = Unmarked

_For one of my consultants this lexeme meant only 'fur' with mija meaning both head and body hair. For my other consultant this lexeme had the meaning indicated with mija meaning 'head hair'.

_ Mature specimens of the king and western brown snakes have large heads. This particular name for brown snakes (there are other names) refers only to such specimens.

_ This plant has bright red stalks.

_ This tree has rough dark red-grey to black bark to half trunk height, with smooth white bark on the upper trunk and branches.

_ This example was tested twice with both my consultants, and whenever the part occurred as a free noun it took ablative case marking.