A LEXICOGRAPHIC STUDY OF SOME AUSTRALIAN LANGUAGES: PROJECT DESCRIPTION
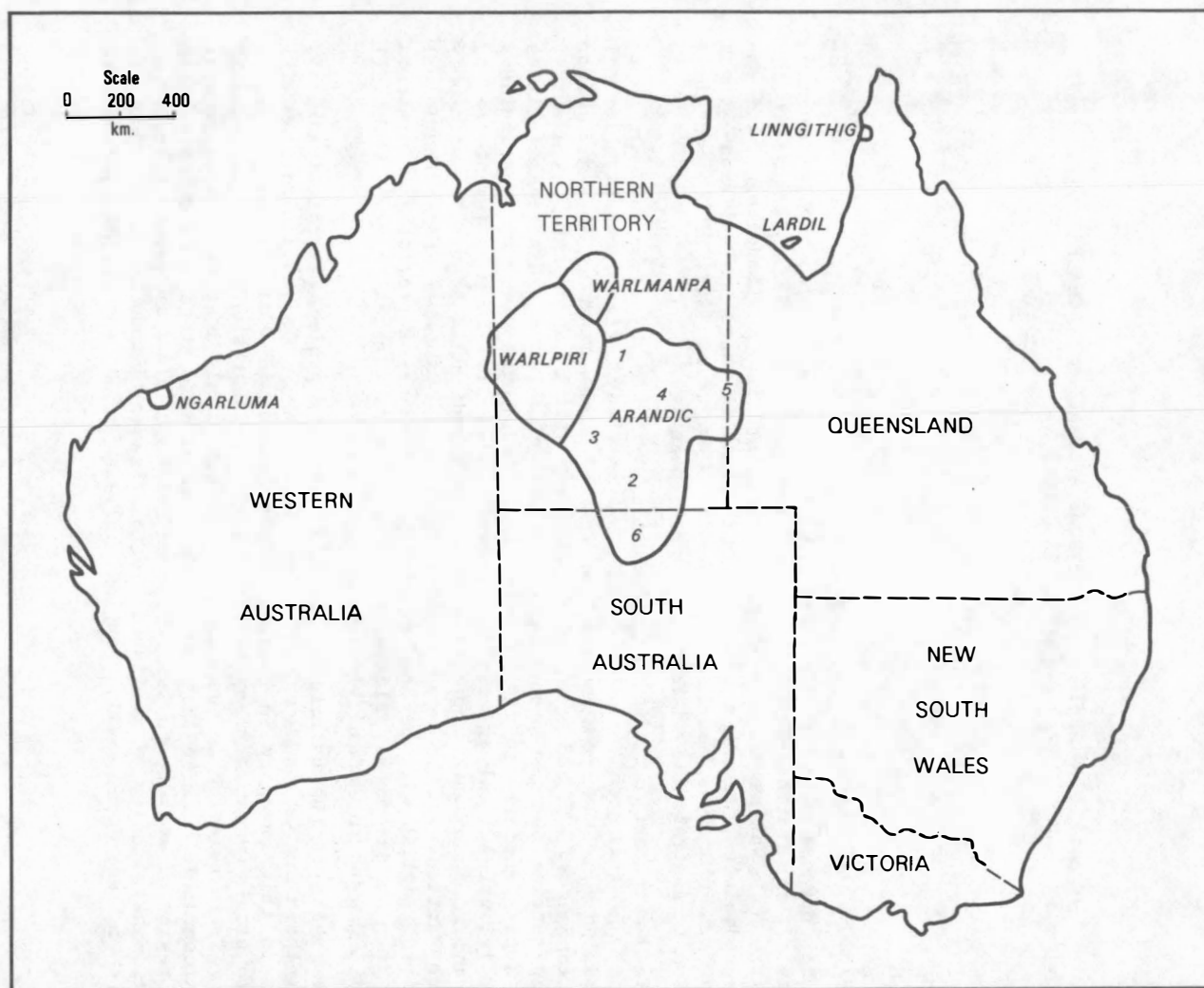
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1. INTRODUCTORY REMARKS

The purpose of this project is to compile lexicographic resource materials, or dictionaries, for five Aboriginal Australian languages: (1) Warlpiri, (2) Warlmanpa, (3) Ngarluma, (4) Lardil, (5) Linngithig, and one language-dialect complex, Arandic. These belong to the so-called Pama-Nyungan family (cf. O'Grady, Voegelin and Voegelin 1966, Wurm 1971, 1972) and their location in Australia is indicated on map 3 (page 72).

To the extent that it is practicable, our aim in each instance is to provide the full complement of semantic, morphosyntactic, and etymological information which we possess for the lexical items existing in our data on these languages. In addition, each dictionary will be accompanied by a survey grammar setting out the phonological, morphological, and syntactic principles which apply generally in the language and, therefore, need not be stipulated for individual lexical items. The grammars will also include inventories of bound and free morphemes comprising closed or paradigmatic sets. The main body of each dictionary will be oriented from the point of view of the Aboriginal language. English will be used primarily as a means of providing information about the lexical items, although an English-first lexical finder list will also be appended to each dictionary.

We refer to the anticipated products of this project as 'dictionaries', though the term is applied here in a special way. In particular, we will aspire to this category in regards to the content of entries, but we cannot hope to attain the dictionary level of lexical attestation, as it is commonly conceived, in relation to the number of entries. This last is true in general of lexicographic work on Australian languages at this stage (see O'Grady 1971, for a review of work up to 1968). If we think of 'size' in terms of number of entries, the majority of published dictionaries (or vocabularies, as they are usually called) are small, ranging between 1,000 and 2,500 entries (for

Scale
0   200   400
km.

NORTHERN
TERRITORY

LINNGITHIG

LARDIL

WARLMANPA

WARLPIRI   1

NGARLUMA

4
ARANDIC

5

3

QUEENSLAND

2

WESTERN

6

AUSTRALIA

SOUTH

AUSTRALIA

NEW

SOUTH

WALES

VICTORIA

Map 3: Approximate location of languages involved in the dictionary project

example, Teichelmann & Schürmann 1840, Schürmann 1844, Moore 1884, Oates & Oates 1964, Holmer 1967, Geytenbeek & Geytenbeek 1971, Hall 1971, Breen 1973, Reece 1975, and vocabularies appended to grammars, such as Smythe 1948, Capell & Hinch 1970, Dixon 1972, 1977), though a few larger dictionaries, ranging from 4,000 to 7,000 entries have also appeared (for example, Hughes 1971, Hansen & Hansen 1974, Coate and Elkin 1975). Of the dictionaries to be developed in this project, only that for Warlpiri will compare in size with the larger published ones; the rest will belong to the smaller category.

In all cases, our primary focus is upon the content of entries. Within a typology of dictionaries, ours will belong to the "overall-descriptive" or "reference" type (cf. Zgusta (1971:210)). We feel that it is essential to progress in the study of Australian Aboriginal languages, and to the task of ensuring that their testimony be offered in the study of human language generally, that reference dictionaries be made available for use by scholars of all sorts – grammarians, comparativists, lexicographers, applied linguists, and especially scholars who are based in Aboriginal communities. An important part of our effort in this project is to develop a model for the design of such dictionaries for Australian languages. Our success in achieving this goal will vary according to two factors – the data available, and our own areas of competence. Our data on Warlpiri far exceed those for the other languages; accordingly, our treatment of lexical items in Warlpiri will be much richer than in the other languages. In general, however, the spirit of the enterprise will be the same for all, since the goal will be to give the maximum amount of information, within the limits of our abilities. Since our competence and primary interests are in areas of grammar, our entries will give rather more emphasis to issues relating to the articulation of the lexicon with the grammar than to other areas of lexicographic concern. This emphasis is somewhat novel, for Australian dictionaries, certainly, and the importance we attribute to it will be discussed again below.

2. THE CONTENT OF LEXICAL ENTRIES

2.1 Morphophonological information

The languages of this project all belong to the suffixing type; nouns are inflected by suffix for case; verbs are inflected by suffix for tense, mood, and aspect; and productive derivational morphology is likewise suffixal. While the general principles of inflection and derivation will be given in the grammars accompanying the dictionaries, each lexical entry must, of course, indicate all morphophonemic properties specific to it – all morphophonemic behaviour of the lexical item which is not predictable from its phonological representation or syntactic category. This is relatively non-problematic in the languages with which this project deals. In Warlpiri, for example, the conjugation membership of verbs must be indicated, since it is not predictable from the phonological shape or syntactic subcategory, but with minor exceptions, the allomorphy associated with nominal inflection is entirely regular. In Lardil, with some exceptions, morphophonemic alternations are entirely regular, given the underlying phonological representation of stems. In the case of Lardil nominals, however, it happens that the underlying representation is distinct from the citation (or nominative) form. While the two forms are related by rule (cf. Hale 1973b, Klokeid 1976a), the Lardil

dictionary will be most useful if nominal entries are designed so that both
forms can be apprehended at a glance. Linngithig exhibits somewhat greater
surface irregularity, making it necessary to stipulate inflectional category
both for nouns and for verbs. But this, in general, is the magnitude of the
problem. In no case is the problem great, and the decisions which must be made
concerning the form of entries are quite straightforward. Much more difficult
is the task of providing adequate information concerning the syntactic
behaviour and meanings of lexical items.

2.2 Syntactic information

It is a fundamental responsibility of reference dictionaries to stipulate
as precisely and as thoroughly as possible the syntactic behaviour of lexical
items and to relate this to their semantics. We will take the position here
that an adequate reference dictionary must supply the syntactic and functional
information which would be present in the lexical representations of major
morphemes in a 'realistic' transformational grammar of the type described by
Bresnan 1978. And to the extent that our knowledge permits us to do so, we
will supply this information systematically in the dictionary entries which we
develop.

Each entry must specify, in addition to the part of speech of the item,
the syntactic environment in which the item occurs (i.e. its 'syntactic
marker'), and, in the case of a predicator or other relational item, it must
indicate how the argument positions in its functional structure are associated
with the syntactic structure.

To exemplify what is required, let us consider the Warlpiri verb *panti-rni*
(cited in the non-past tense to indicate its conjugation membership) as it is
used in the following sentence:

(1) *Ngarrka-ngku   wawirri   pantu-rnu   (kurlarda-rlu).*
      man-ERG   kangaroo   spear-PAST   (spear-INST)
      'The man speared the kangaroo (with a spear).'

The minimal syntactic marker of *panti-rni* in this usage may be stated by
reference to the case array which it selects:

[ERG,   ABS   ]

The verb takes two primary syntactic arguments, one in the ergative case (ERG),
the other in the unmarked, or absolutive, case (ABS). Warlpiri does not
utilize a fixed word order; accordingly, we formulate the case array as an
unordered set. The grammatical relations borne by the syntactic arguments
follow by general rule (cf. Hale, Jeanne, and Platero 1977) - the ergative
bears the subject relation, and the absolutive bears the object relation. The
case array can be enlarged by the inclusion of an optional instrumental
expression (INST), which, like other 'semantic case' expressions, does not bear
a primary grammatical relation to the verb - following common practice, we can
say that it bears the 'oblique' relation. This expanded syntactic marker
adequately protrays the syntax of *panti-rni* in the usage illustrated:

[ERG,   ABS,   (INST)   ]

The verb is thereby correctly classified with others of the same syntactic type (such as *luwa-rni* 'shoot, hit with missile', *paka-rni* 'strike', and so on), and it is correctly distinguished from verbs belonging to other syntactic types (for example, *rdanpa-rni* 'to accompany', selecting the absolutive-dative case array: [ABS, DAT], *warri-rni* 'to seek, look for', selecting the ergative-dative array: [ERG, DAT], and so on). Clearly, this is essential information which must be included in the verbal entry in the dictionary of Warlpiri. And the corresponding information must, of course, be supplied in dictionary entries for the other languages involved in this project. To complete the task, however, we must indicate for each entry how the syntax relates to the semantics.

2.3   Semantic information

Consider the following very rough definition of the Warlpiri verb *panti-rni*, as it is used in sentence (1):

(2)   x   produce indentation or puncture in y by moving pointed object
       into contact with y.

Ignoring for the moment the involvement of an instrument (a pointed object), this definition makes essential reference to two semantic arguments. One of these (designated x) corresponds to the traditional notion 'agent', while the other (designated y) corresponds to the traditional notion 'patient' – the agent, by some means or other, produces an effect upon the patient. Here, and quite generally for verbs of this semantic type, the x-argument in the semantic representation (the agent) is aligned with the ergative argument in the syntactic representation, and the y-argument (the patient) is aligned with the absolutive. This is in fact exemplified by sentence (1).

It is a traditional view that general principles exist according to which semantic and syntactic argument structures are aligned. That is to say, while it is recognized that the syntax of a lexical item, or some aspect of it, may occasionally be entirely idiosyncratic and not at all predictable from the meaning, it is recognized at the same time that there are general principles which apply without fail in literally thousands of cases – in fact, this assumption underlies the common lexicographic practice of leaving implicit the semantic-syntactic connection. But it is one of the tasks of linguistics to make this connection explicit and, where possible, to discover the general principles involved. Recent work in a variety of linguistic frameworks has contributed substantially to this effort (for example, Gruber 1965, 1976, Fillmore 1968, 1971a,b, Matthews 1968, Kiparsky & Kiparsky 1970, Zwicky 1971, Jackendoff 1972, 1976, 1978, Mel'čuk 1974, Anderson 1977, Carter 1976b, 1976-7, Ostler 1978, Perlmutter 1978, Dik 1978, Starosta 1978, among others), and we will take it to be a major responsibility of our work in this project to supply, where we have it, information contributing to the advancement of knowledge in this area of linguistic concern.

Assuming that it is correct to say that the semantic arguments of the Warlpiri verb *panti-rni*, in the meaning portrayed in (2), are an agent and a patient, and that they are aligned with the syntactic arguments as stated above, we might express the crucial information by means of a formula, such as (3) below, which states the syntactic and semantic argument structures and their alignment:

(3) [agent/ERG, patient/ABS, (instrument/INST)   ]

This would be a parsimonious expression of the essential information. However, we will not attempt to use formulae of this sort in formulating dictionary entries for verbs, primarily because of the fact that, at our present level of understanding, such a formula as (3) is almost totally uninformative. Despite important advances in lexical semantics, we really do not know as yet how the semantic argument structure of predicators should be represented, or even the primary terms which should be involved in their representation (compare for example, Carter 1976a,b, 1976-7, and Jackendoff 1976, for quite different views on this). In short, we believe that dictionary work at this point should work toward, rather than presuppose, the maximally general expression of the syntactic-semantic alignment - the dictionary should be expansive rather than parsimonious in this area.

In conformity with this belief, we propose to utilize prosaic definitions of the type represented by (2) above, integrated with the syntactic marker in the following manner:

(4) [ERG, ABS, (INST)   ] : x (ERG) produce indentation or puncture in y (ABS) by moving pointed object (optionally represented by INST) into contact with y.

In each instance, the definition will be garnered from the widest possible range of occurrences and from definitional commentary elicited from knowledgeable speakers of the language. In addition, it will be followed by a short list of the English words or expressions which figure most prominently in translating the item (such as, spear, stab, jab, poke), to be used in preparing the English-first lexical finder list, and, most importantly, example sentences attesting usage.

In constructing the definitions, and in choosing supporting attestations, we will have in mind the theoretical problem of ultimately developing a theory of syntactic-semantic alignment. We will also be concerned to provide information which will enter into the formulation of general lexical rules, such as, for example, those which in the case of Warlpiri *panti-rni* relate the usage embodied in (4) above to those embodied in (5) and (6) below:

(5) [ERG, ABS   ] : pointed object x (ERG) produce indentation or puncture in y (ABS).
(poke, pierce,...)

(6) [ERG, DAT, (INST), *-rla(-jinta)*   ] : x (ERG) move pointed object (optionally represented by INST) in direction of y (implicature: contact not made).
(poke at, jab at, stab at, throw spear at,...)

Quite generally, Warlpiri affective verbs which have an 'instrumental' reading like that in (4) also have a reading, like that in (5), in which the effect is produced 'directly' by an entity functioning alone, not manipulated by an independent agent. And where motion is involved in producing the effect, the verb typically has a third use – like that expressed in (6) – in which the focus is upon the motion and, by conversational implicature at least, the effect normally associated with the verb is unachieved. Often, as here, the different uses correlate with differences in syntactic marker. Although these relationships are recurrent in the lexicon of Warlpiri, we cannot as yet regard them as absolutely general, and therefore relegate them totally to the grammar; nor can we state them in other than a preliminary form. This comment applies analogously to the other languages of this project, of course. We maintain, therefore, that these lexical relationships are properly included in the dictionary as a part of the relevant entries. At this stage of our knowledge, the dictionary quite rightly serves as a data-base for research in these areas.

We have space here to survey only a small portion of the semantic information which must be included in lexical entries. Moreover, we have deliberately chosen a comparatively simple example to illustrate our general approach. Verbs whose syntax and semantics are more complex will involve proportionately greater complexity in their lexical entries – thus, for example, verbs like Warlpiri *ngarri-rni* 'to tell someone to ...', which take sentential arguments, will require a statement of their control properties (cf. Postal 1970, Chomsky (1973:257)), and so on. We have said nothing so far about nominals, the other principal part of speech in Pama-Nyungan languages. While most nominals function primarily in the argument role, a great many function primarily in the predicate role (for example, Walrpiri *ngampurrpa* 'desirous, wanting', *pina* 'knowledgeable, knowing') and, accordingly, have argument structures quite comparable to those of verbs. Many nominals have meanings which can be properly understood only by reference to their position within a semantic paradigm or domain, such as, the kinship system, of special importance, and complexity, in Australian Aboriginal societies. And in general, for the vocabulary at large, it is important in a dictionary to indicate semantic relations among words. Some of these relations play important roles in Australian culture, for example, antonymy (cf. Hale 1971), hyperonymy, hyponymy and synonymy (cf. Dixon 1971). Where we possess relevant information concerning these relations, we will include it in our dictionary entries (except where it would violate a proscription, set by the speakers of the language involved, against the public revelation of sacred material (cf. introductory comments in Hale 1971)).

For further indication of the nature of semantic information which we hope to include, see the preliminary sample entries in 3 and 4 below. We turn now to a brief consideration of the remaining rubrics to be included.

2.4   Derivational information

The formal aspects of productive derivational morphology will, as a matter of course, be detailed in the grammar. There is a distinction to be drawn between derivation effected by rules of the phrase structure (cf. Jackendoff (1977, Ch. 9)) and derivation effected by rules which can properly be said to belong to the lexicon (cf. Aronoff 1976). To the first category belongs, for

example, the absolutely general principle of nominalization – defined over a phrasal category, not over lexical items – giving rise to the tenseless ('infinitival') desentential complements of Warlpiri, Warlmanpa, and the Arandic languages. To the second category belongs, for example, the productive process by which inchoative and causative verbs are derived from nominal bases in the majority of Pama-Nyungan languages. Our dictionary entries will be concerned primarily with the latter category in that they will include information concerning aspects of lexical derivation which are idiosyncratic, such as derivational processes specific to particular lexical items, and item-specific semantic or syntactic behaviour deviating from otherwise general rules of lexical derivation. It will be an important task of the grammar and dictionary together to give an accurate picture of the relative productivity of individual derivational processes. In this general area of concern, an especially interesting derivational system is represented by the rich inventory of preverbs in Warlpiri and Warlmanpa (and closely related languages). The morphologically bound (or semi-bound), but semantically and phonologically root-like preverbal elements constitute an extremely important lexical resource, rivaling in abundance the verbal and nominal parts of speech. Accordingly, they will be an important focus of attention in our work.

A traditionally problematic case is represented by certain detransitivizing processes, such as the passive-reflexive of Lardil (cf. Klokeid 1976) and the passive of Ngarluma (cf. O'Grady, Voegelin & Voegelin (1966:101), and Wurm (1972:62)). The syntactic structures of passive (-reflexive) sentences is provided by rules of phrase structure, but the passive (-reflexive) morphology is strictly verbal and is, moreover, restricted to a subcategory of verbs. The active-passive relation in these languages is similar in nature to the relation between syntactic-semantic markers (such as (4) and (5)) discussed above in connection with the Warlpiri verb *panti-rni*, and the question of whether the active-passive relation is effected by means of a syntactic transformation is open, no less in these languages that in, say, English (cf. Freidin 1975, Wasow 1977, Bresnan 1978, and much other literature). There are Lardil and Ngarluma passives which, unquestionably, must be entered in the lexicon, by virtue of morphological irregularity, semantic specialization, syntactic deviance, or the like. But we will take a general lexicalist position and enter, for every verb, information concerning its ability to take a passive form. Here again, we assume that the dictionary should serve as a data-base for the eventual formulation of general principles.

2.5 Dialectal and contextual information

Our dictionary of Arandic will be explicitly comparative, since it deals with a language-dialect complex. But in the case of single languages, too, we will present dialectal information if we have it. This will be especially important for Warlpiri, since it is spoken over an enormous area and exhibits noticeable intralanguage variability. The dialect picture in Warlpiri is not clear, however, and we will assume that the dictionary should include information contributing to its eventual clarification. Our lexical data come from all of the major centres of Warlpiri concentration, and we propose to indicate the provenience of our recordings for every item, as a part of its dictionary entry. In the grammar, likewise, we will indicate the source of forms which appear to represent local usage. This will be of considerable value in future studies of lexical and grammatical diffusion (in the tradition recently initiated by Heath 1978, for example).

By 'contextual information' we mean socio-cultural factors involved in the use of lexical items such as 'in-law' or avoidance vocabulary (cf. Dixon 1971), auxiliary vocabularies used under conditions of restriction on ordinary speech (cf. Hale (1973b:442-445), and 1982b), and the widely reported taboo on the use of lexical items resembling, or incorporating, the names of the deceased (cf. Dixon 1970 for some discussion). Where it is known, the status of dictionary items in relation to these factors will be included. Thus, for example, in Warlpiri the onomastic restriction just mentioned is, in part at least, responsible for the existence of large synonym-sets for certain concepts (for example, *yankirri, karlaya, karnanganja, kuna-maju, wanya-parnta, pirilyi-nga-rnu* 'emu'). It is not satisfactory simply to list these as synonyms, without comment (as is done, for instance, in Hansen & Hansen 1974, for Pintupi). Some indication must be made of the relative currency of synonymous terms; some are rarely used, while others can be said to be current and in general use.

2.6 Etymological and historiographic information

Where possible, in the interests of comparative and diffusional studies, lexical items will be supplied with an indication of their occurrence elsewhere in Australia, either by citing a reconstruction (using, say, the asterisk notation of O'Grady 1966, to reflect relative historical depth) or, where a reconstruction cannot be offered, by citing other languages in which the form has been recorded. An indication of the likelihood of borrowing will also be made, certainly in the case of loans from English, but also for loans from neighbouring Australian languages where we have reason to suspect borrowing.

Historiographic documentation of dictionary entries refers here primarily to the citation of earlier linguistic and ethnographic literature in which the items are mentioned, particularly where it is discussed at some length. Such references are extremely valuable, since they often supply cultural and general onomasiological information which we ourselves do not possess or, for reasons of length, cannot include in the entry, see, for example, Tindale's excellent remarks on the Lardil territorial term *nyedwe* 'place, territory' (spelled *jaruwe(i)* by him, Tindale (1974:18-19, 21)), and Strehlow's masterful essay on the Arandic concept *tjurrunga* 'sacred entity' (tʃuruŋa , Strehlow (1968:84-86, et passim)).

3. WARLPIRI

3.1 Location, speakers, previous documentation

The Warlpiri-speaking area currently embraces approximately one eighth of the Northern Territory. It is located in the west of the Northern Territory and extends a short distance into Western Australia at points roughly mid-way along the north-south course of the common border. A somewhat more restricted traditional tribal area is described in Tindale (1974:236), and an exact delimitation of the territory has been made in connection with the recent successful land rights hearings. Major concentrations of Warlpiri people are

at Yuendumu, Willowra, Hooker Creek, Warrabri and Papunya. The number of
Warlpiri speakers is set at 2712 by Milliken 1976, but this is probably a low
figure and certainly does not include the many fluent speakers who do not
regard their tribal affiliation as Warlpiri.

Our spelling of the tribal name is that now employed in the Yuendumu
Bilingual Education Program, but there are other spellings, the commonest being
Walbiri.   The Warlpiri are also known by other names, the commonest of these
being Ngaliya (the name predominating in the extreme south of the area, for
example, at Papunya).   Literature on the Warlpiri people is fairly extensive,
including an excellent ethnography by Meggitt 1962 and a number of linguistic
works.   The latter include a brief grammatical sketch by Capell 1962 and an
informative ethnolinguistic essay by the same author (Capell 1953), a study of
Warlpiri phonology by Jagst 1975, and a grammar and dictionary by Reece 1970,
1975.   Several papers on specific topics in Warlpiri grammar have also
appeared, or will soon appear (for example, Hale 1973a, 1976a, Laughren 1978,
1982, Nash 1980), and a large number of unpublished works exist (for example,
Hale 1959, 1967-8, 1969, 1974, 1982a, Carrier 1976, Granites 1976, Laughren
1977).   In addition, the bilingual education personnel at Yuendumu and Willowra
have been producing elementary reading materials at a steady rate over the past
five years (with some 50 primers, and many workbooks, as of August, 1978); and
recently, a bilingual news bulletin, *Junga Yimi* (the true word), has begun to
appear.   Despite all of this documentation, we do not yet have a grammar or a
dictionary which is at all commensurate with the status of Warlpiri as one of
the most vital languages in Aboriginal Australia.   The work currently being
done at Yuendumu on a monolingual dictionary and the work of the project here
proposed will hopefully correct this situation.

3.2   Core of data for the dictionary project

The material which forms the core of our Warlpiri data-base was assembled
in the following manner.   During 1959, Hale spent approximately six months
working with speakers of Warlpiri preparing a general survey of the vocabulary,
with emphasis on semantic domains which are especially elaborated in Australian
languages.   This was done not only for the purposes of documenting the Warlpiri
language, but also to serve as a model, or guide, for the study of other
Australian languages during a two-year field trip (sponsored by NSF, fellowship
No. 40858, 1959-61).   Grammatical studies of Warlpiri were also conducted at
this time, but the primary interest was in exploring the lexical resources of
the language.   The results of this lexical study were assembled in a manuscript
entitled *Introduction to Wailbry* (sic) *Domains and Selection (IWDS)*, along
lines closely parallel to the Voegelins' study of Hopi vocabulary (Voegelin &
Voegelin 1957), and comparable to that work in size (approximately 1,500 items)
and coverage.   This resource was utilized extensively in subsequent work on
other Australian languages, as well as in further work on Warlpiri.

During a second field trip to Australia (sponsored by NSF, Grant No. GS-
1127, 1966-67), Hale was concerned both with the study of aspects of Warlpiri
grammar and with further work on the lexicon, particularly in relation to the
light that the latter might shed on the grammar.   In the course of this work,
several gifted speakers of Warlpiri were asked to compose oral essays (on tape)
on the meanings and onomasiology of individual lexical items appearing in

IWDS. This resulted in a sizable increase in lexical inventory, because the essays themselves introduced many new items. Most important, however, it provided an extensive body of textual material containing not only extremely valuable commentary on the meanings of words and their uses, but also much contextual information of great relevance to our concerns in this project. Transcriptions of tapes made in 1966-67 have so far yielded 2,000 foolscap-size pages of data. Many tapes remain only partially transcribed, that is, those portions not understood by Hale at the time the tapes were made were written down, glossed, and in some cases resubmitted for commentary, but the rest was left for later transcription. It is estimated that these, when fully transcribed will yield at least another 2,000 pages of data. In addition, we possess approximately 2,000 more pages of material on a variety of topics from the field trips, from a month-long visit to Yuendumu by Hale in 1974, and from a six-week visit to MIT by Robin Japanangka Granites in December-January, 1975-76. These latter include conversations, lesson materials, grammatical eliciting, songs with spoken commentary, personal anecdotes and adventures, and other narratives. To this core of data must be added a large amount of material which has been collected at Yuendumu by Mary Laughren.

3.3 Sample dictionary entry

We do not have a final format for our dictionary entries. Consequently, this presentation will take the form of a brief, and very preliminary, discussion of various items of information which will be included in the entry for a particular Walrpiri verb, namely the verb *yirra-rni* 'put, place, ...'. For an example of a nominal entry, see 4 below on Warlmanpa.

3.3.1 Morphophonological information

By citing the verb in its non-past form, hyphenated to display the inflection, we effectively identify its morphophonemic subclass, or 'conjugation'. Disyllabic (or longer) verbs taking the non-past ending *-rni* belong to the 'second conjugation' (according to the usage in Hale, 1959, 1969, 1974), and *yirra-rni* is a perfectly regular member of that subclass. The grammar, of course, will detail the allomorphy exhibited by the inflectional and derivational morphology of regular second conjugation verbs.

The entry is written in the orthography adopted for use in the Yuendumu Bilingual Education Programme. With some exceptions (not involved here, but to be detailed in the phonological section of the grammar and in relevant dictionary entries), representation in that orthography permits unambiguous recovery of the underlying phonological representation.

3.3.2 Syntactic and semantic information

The form of the entry itself indicates that *yirra-rni* is a verb, since only verbs are inflected for tense and participate in the conjugation system. The diathesis of the verb will, or course, be embodied in the syntactic marker and semantic representation associated with each of its uses. A basic use of *yirra-rni* may be formulated very tentatively as follows:

(7)   [ERG, ABS, ALL/LOC   ] :   x (ERG) cause   y (ABS) to be in place
z (ALL.LOC) by moving   y   to   z.

This is, we repeat, a very tentative formulation. With the exception of the notation ALL/LOC, the intent of (7) should be relatively clear from our remarks at 2.3. By the expression 'z (ALL/LOC)' we mean that a nominal denoting the destination or ultimate resting place (z) of the entity moved (y) may appear in the allative case or in the locative case, freely. The meanings of the semantic cases themselves will be discussed thoroughly in the grammar.

To complete our account of this use of *yirra-rni*, we include English glosses and examples of usage:

(put, place, position, locate, ...)

(a)   *Karntangku kartaku yirrarnu warlukurra.*   The woman put the billycan   on   the   fire.   (b)   *Nyarrpararla yirrarnu tiraki Japanangkarlu?*   Where did Japanangka put the truck? ...

A second use of this verb may be set out as follows:

(8)   [ERG, ABS, LOC   ] : x (ERG) cause   y (ABS) to be in place   z(LOC)
by creating   y   in place   z.

(put, make, build, paint, draw, ...)

(a)   *Kurdukurdurlu kalu kuruwarri yirrarni walyangka.*   The children are making (e.g. drawing, painting) designs on the ground.   (b) *Nyampurla kapili ngarrkangku yunta yirrarni.* The men are going to put a windbreak here. ...

To be sure, the two uses which we have distinguished here are intimately related. But we wish to adhere to a conservative practice in cases of this sort by granting separate status to distinguishable but related uses. We cannot hope to be totally consistent in this, since our knowledge is limited. But we wish to avoid, to the extent we are able, undue influence from the English glosses we know to be appropriate. It is doubtless significant that both of the above uses are adequately rendered by the single English verb 'put', this in itself surely says something significant about the core meanings of English 'put' and Warlpiri *yirra-rni*. But it is also significant that Navajo, for example, renders the two senses in utterly distinct manners; the first by means of the famous classificatory verbs of 'handling', the second by means of various verbs of 'creating' or 'making'. We do not wish to be excessively anticipatory in our generalisations over observed uses. Our purpose, above all, is to provide information upon which an improved characterisation of lexical meanings can ultimately be made.

The following use of *yirra-rni*, while semantically related to the first, involves a somewhat different semantic marker and more narrow selection:

(9) [ERG, ABS, DAT] : x (ERG) cause article of clothing y (ABS) to be on z (DAT), normally a person, in the manner appropriate to y, by moving y onto z.

(put on, don (in reflexive), ...)

(a) *Japanangkarlu karla kurduku jati yirrarni.* Japanangka is putting a shirt on the child. (b) *Mukardinyanu yirrarnu purlkangku.* The old man put on his hat.

The grammar will explain that the dative argument, here and in general (sense permitting), can be represented by the reflexive, as in (9(b)).

Related to the use shown in (8) above is the following, also with altered syntactic marker and more discriminate selection:

(10) [ERG, ABS, DAT] : x (ERG) cause decorative marking y (ABS) to be on surface of discrete entity z (DAT) (artifact, person) by creating y on surface of z.

(put, draw, paint, cut, carve, ...)

(a) *Yapangku karlurla nyampuwardingkirli kiri yirrarni karliki.* People of this area put (carve) fluting (*kiri*) on boomerangs. (b) *Kurawarri kapalanyanu yirrarni kurdujarrarlu.* The two children are putting marks on themselves (or on each other).

This does not exhaust the uses of *yirra-rni* known to us, but it should suffice to illustrate the general character of the definitional and syntactic portions of our verbal entries.

Much work remains to be done in perfecting the definitions so that they are at once accurate and informative. It goes without saying, of course, that we must explain the practices we have adopted in formulating definitions. This will be done in a general expository essay attached to the dictionary. Among other things, we will be concerned there to clarify our semi-formal metalinguistic use of certain English expressions such as predicates like 'cause', 'go', 'be', 'move', 'produce', 'manipulate physically'; relational terms like 'in', 'on', 'to', 'onto'; and substantival expressions like 'place', 'discrete entity', and so on. We will also describe our practice with regard to details of selection and our usage in cases where encyclopaedic knowledge is alluded to such as our use of expressions like 'in the manner appropriate to x', 'characteristic of x', and the like. Most important, we will attempt in the general essay to justify certain claims which are implicit in our definitions, such as our bipartite formulation of the use in (7) above so as to include an 'effect' component (x cause y to be ...) and a 'means' component (x move y ..., by moving y).

3.3.3 Additional semantic information

In addition to strictly definitional information, the semantic relation of each item to certain others will be included, particularly where this will lend support to a proposed definition. In the present instance, it will be pointed out that Warlpiri *yirra-rni*, in the use given in (7) above, but not in the other uses, is a *hyponym* of certain other verbs of physical transfer. For example, *yirrpi-rni* 'to insert, put in, ...' has the syntactic marker indicated for (7), and it differs semantically from that use only in that the destintion of y is specifically the interior of z. By contrast, *yirra-rni* itself leaves the exact spatial orientation of y with respect to z indeterminate, allowing any orientation appropriately rendered by the allative and locative cases. The verb *yirrpi-rni* is a true hyponym of *yirra-rni*, the latter can always replace the former, preserving truth, but not conversely. Certain derivatives of *yirra-rni*, to be discussed briefly in the next subsection, are also hyponyms of it.

Many pairs of lexical items have overlapping uses. That is to say, there are uses in which one lexical item may appropriately paraphrase another, although the total range of uses of the two are distinct. Where we have information of such paraphrase relationships, they will be given, at one entry or the other. In the case at hand, it will be pointed out, for example, that the verb *kiji-rni*, whose principal meaning corresponds approximately to that covered by the English glosses 'throw, drop', is also used as a verb of physical transfer substitutable for *yirra-rni* in uses given in (7) and (9). Most interesting, however, is the fact that *kiji-rni* can paraphrase *yirra-rni* in the 'creative' senses embodied in uses (8) and (10), thereby providing valuable evidence for the intimate relationship among these various uses.

3.3.4 Derivational Information

In the following subsections, we discuss three sorts of derivational morphology into which the Warlpiri verb *yirra-rni* enters. The discussion is meant simply to be representative of issues which will arise frequently in the construction of Walrpiri dictionary entries. It is not an exhaustive treatment of *yirra-rni*. We omit from this discussion ostensibly idiomatic combinations (such as *waninja-yirra-rni* 'to fall in love with'), though these will, of course, be included in the actual dictionary.

3.3.4.1 Derived causatives, *yirra-rni* as a causative auxiliary

There is a closed and semantically coherent set of causative expressions formed by prefixing to *yirra-rni* the infinitive (V-INF) of the basic verbs of stance. These latter are *nyina-mi* 'to sit', *karri-mi* 'to stand', *nguna-mi* 'to lie' and *parntarri-mi* 'to crouch, be in a humped-up stance'. The resulting combinations take the form *V-INF-yirra-rni*, and one of their most basic uses may be expressed as follows (jointly for all):

    V-INF-yirra-rni

    [ERG, ABS] : x (ERG) cause y (ABS) to assume the stance depicted
    by V by physically manipulating y.

    (put in sitting position, ...)

These derived verbs can also partake of the use given in (7) above, with added
specification of the stance of y in place z:

        [ERG, ABS, ALL/LOC] : x (ERG) cause y (ABS) to be in place
        z (ALL/LOC) by moving y to z, in such as way that y, in place z,
        is in the stance depicted by V.

        (set, stand, lay, ...)

In this uses, these derived causatives are hyponyms of the simple verb
yirra-rni.

    Since this particular derivational process is specific to *yirra-rni*, it
will be detailed in the entry for that verb. At the entries for the relevant
stance verbs, however, there will be a reference to the derived causatives
together with directions to the full discussion.

3.3.4.2 Preverbs

    Like most basic verbal elements in Warlpiri, *yirra-rni* combines with a
number of preverbs, most of which leave the syntactic marker and definition of
use (7) intact, but with some added specification.   Some of the preverbs of
this types are *wuruly-* 'seclusion', *waraly-* 'suspension', *juka-* 'upward
protrusion'.   Thus for example we have:

    wuruly-yirra-rni

    [ERG, ABS, ALL/LOC] : x (ERG) cause y (ABS) to be in place
    z (ALL/LOC) by moving y to z, in such a way that y, in place z,
    is secluded, not in view of others.

    (hide, seclude, 'plant', ...)

Some preverbs, however, combine with *yirra-rni* in an idiosyncratic manner both
from the point of view of the syntactic marker, and from the point of view of
the definition.   In some cases, the preverb is unique to the combination.   For
instance, while the primary use of *parnta-yirra-rni* is clearly related to use
(9) above, the form is essentially a unique combination and cannot be predicted
on any general grounds:

parnta-yirra-rni

[ERG, ABS, DAT   ] :   x (ERG) cause blanket or other flexible
covering   y (ABS) to be on   z (DAT) such as prone person, in the
manner characteristic of   y, by moving   y   onto   z.

(put blanket over, cover with blanket, ...)

Roughly speaking, there are three types of preverbs in Warlpiri. One type
combines with verbs in an absolutely productive manner, there being no verbs
whatsoever which cannot host them.   Typically, the semantics of these
absolutely productive preverbs are related to factors *external* to the
definition of the verb; the preverbs, therefore, are not restricted in their
occurrence to verbs of specific semantic subtypes.   Thus, for example, the
quantifier preverbs *muku-* 'all, completely', *puta-* 'some, partially', *jarnku-*
'each, separately', *yarda-* 'another, more, again', and so on, relate to the
meanings of the nominal expressions in a sentence, or to the aspectual frame of
a sentence, not to the meaning of the host verb itself.   Thus, it is always
possible to arrange matters so that a given verb hosts one of these preverbs.
It would almost certainly be a mistake to regard a combination like
yarda-yirra-rni 'put another, put more, put again' as a lexical item in the
usual sense.   The existence of this combination is assured by an absolutely
general principle of word formation, and its syntax and semantics can be stated
in completely general terms.   Preverbs of this general category will be entered
in the dictionary as separate entries, together with a statement of the general
rules pertaining to them and ample exemplification.

At the opposite extreme in the productivity scale are preverbal elements,
like *parnta-* exemplified above, which occur only in unique, or extremely
limited, combinations.   At the entries of verbs which host them, these
nonproductive preverbs will be listed, but the combination as a whole will head
its own separate entry and will be fully treated there.

Much more interesting are the many preverbs of an intermediate sort,
exemplified by *wuruly-* above.   Semantically, these typically relate *internally*
to the meaning of the host verb; they have readily discernable semantic content
which modifies that of the host verb in ways which appear to be quite
regular.   And they are partially productive, in the sense that they combine
relatively freely with verbs possessing specific semantic properties.   Thus,
for example, *wuruly-* combines with transitive and intransitivie verbs of
location (that is, verbs whose definitions, in the preliminary form given by
us, contain the expression 'in place   z'), adding to their meaning the 'manner'
qualification which we have tentatively rendered 'in such a way that   y, in
place   z, is secluded, not in view of others'.   Preverbs of this general type
will be entered in the dictionary in two ways.   First, each will be accorded a
separate entry at which its general properties will be stated; it will be
exemplified minimally, but a list of known host verbs will be given.   Second,
at the entry of each host verb, the combination will be treated in full.   Thus,
at the entry for *yirra-rni*, the combination *wuruly-yirra-rni* will be treated.
Since the definition of this combination conforms to a general rule, it can be
given in a greatly abbreviated manner.   It will be sufficient to say in this
case that the meaning of the preverb ('in such a way that ...') is simply
appended to the definition embodied in (7) of the host verb, with the variables
linked in the proper way, of course ('... y, in place   z, ...').   Nothing at
all need be said about the syntactic marker, since that remains unchanged.   In

general, for preverbs of this sort, we take a conservative position and include in the dictionary the specific detail, as well as the general rule. This is in conformity with our general view that the dictionary should serve as a data-base for research on general principles operating in the lexicon.

3.3.4.3 Deverbative nomic nominals

There exists in Warlpiri a suffix added to verb stems to form 'nomic' or 'generic' nouns. The suffix appears in the same position relative to the stem as do the tense endings, and like the latter, it varies in shape according to the conjugation membership of the verb. With second conjugation verbs, the form is *-rnu*, homophonous with the past tense, in fact. A noun thus formed typically appears as the second member of compound with another noun, corresponding to an argument of the verb. Most frequently, the verb is transitive, and the preposed noun stands in the object relation to it, for example, *yapa* 'person' plus *nga-rnu* 'eater' gives *yapa-nga-rnu* 'cannibal'; *kuyu* 'meated animal, game' plus *pu-ngu* 'killer' gives *kuyu-pu-ngu* 'game-killer, good hunter'; and so on. In general, the meaning of such a nomic nominal can be characterised in the following terms:

> Entity of which the activity depicted in the combination N–V (where N is direct object of V) is appropriately predicated or is a characteristic property.

The formation of nomic nominal expressions of this sort is quite free in Warlpiri, and they are often coined spontaneously, for example *jungunypa-ma-nu* 'mouse catcher' coined in 1966 to refer to a biologist doing field work for a short period in the Yuendumu area. But many nomics are well established and must be considered lexical items in their own right.

Nomic nominalisation provides a rich source for the development of technical vocabulary in Warlpiri. Recently, the process has been used to create technical terms in linguistics. One such term, reported by Alpher 1976, involves the verb *yirra-rni*. The term is *yintirdi-yirra-rnu* 'stem formative'. It consists of the noun *yintirdi* 'stem of word' (a semantic extension from the senses 'stem of plant, trunk of tree, ...') preposed to the deverbative noun *yirra-rnu* 'maker' (based upon the use of the verb *yirra-rni* given in (8) above).

3.3.5 Dialectal and contextual information

This verb, so far as we know, is universal in the Warlpiri-speaking area, having been recorded from speakers representing all the major centres of Warlpiri concentration.

There is, however, one use of the verb which was recorded only in the east in the Hanson River region. The use many be formulated as follows:

[ERG, ABS] : cold wind/weather x (ERG) cause y (ABS) to suffer,
feel discomfort.

as in:

Pirriyarlu kaji yirrarni. The cold is causing me to suffer. I am
cold.

This meaning is normally rendered in Warlpiri by means of the general verb of
damage and harmful effect *pi-nyi* 'to damage, harm, hit, kill' or by one of the
selectionally more restricted verbs *kaaly-pi-nyi, karlpi-mi* 'to cause to suffer
– said of cold wind or weather'.

No special contextual information need be given for *yirra-rni*. A few
Warlpiri verbs have special *yikirrinji*, or 'avoidance', replacements for use in
speech acts which involve (as addressee or referent) a kinsman to whom the
speaker must behave in an indirect and respectful manner. For most verbs,
however, including *yirra-rni*, a general umbrella *yikirrinji* verb is used (*miti-
pi-nyi, marrarl-ya-ni,* or *ngarri-jarri-mi,* depending upon the kinsman involved;
cf. Hale 1959).

3.3.6 Etymological information

Warlpiri *yirra-rni* is possibly related etymologically to the causative
form reconstructable as ******nyirra-l*** 'to put, set', which is in turn related to
the stance verb ******nyina-Ø*** 'to sit' (cf. Warumungu *nyirri-l, nyin-*; Arandic
*arri(-rni)-, *ani-).   If so, the verb continues a tradition of considerable
antiquity, since the causative formation, while nowhere an active process
synchronically, is at least assignable to Pama-Nyungan, being attested
vestigially in widely separate members of the family. The reconstruction would
warrant three asterisks in O'Grady's notation (O'Grady (1966:110–112)).
However, the *y-ny* correspondence in the initial consonant, while not
unprecedented (cf. *yilima, nyilima* 'liver', within Warlpiri itself), is highly
irregular, and the etymology suggested here may well be false. Generally in
cases like this, initial *y* in a Warlpiri form earmarks a loan from the
predominantly vowel-initial Arandic languages, and it is at least remotely
possible that Warlpiri *yirra-rni* is not a continuation of ******nyirra-l*** but
rather a borrowing from one of the neighbouring Arandic forms. Against this is
the vocalism of the Warlpiri form.

4. WARLMANPA

4.1 Location, speakers, previous documentation

Traditionally the Warlmanpa occupied an area immediately to the northeast
of the Warlpiri. Tindale (1974:236) does not accord them separate tribal
status, and includes their name as an alternate of Warlpiri. The only
published maps which indicate the Warlmanpa are Meggitt's 1962 (which does not
delineate their territory, but puts them as northeast neighbours of the

Warlpiri between the Warumungu and the Djingili) and O'Grady, Wurm and Hale's language map 1966 (which places them too far to the west). The only other information on their location is in a map in McConvell 1981 which, consistent with Meggit, places them in an area centered about 30 miles west of Banka Banka homestead, and extending northwards to Lake Woods. Capell (1962:44) notes "Rennie's (sic. Renner) Creek and Banka Banka districts" as being Warlmanpa territory. All this is in turn consistent with what Nash was told of the location of traditional Warlmanpa territory during his field work. A more exact appreciation of the extent of traditional Warlmanpa country was gained in the Warlmanpa, Warlpiri, Warumungu and Mudbura traditional land claim, heard in late 1980.

The remaining Warlmanpa speakers are few, amounting to a handful of (extended) families. They reside primarily at Tennant Creek, Ali-Curung (Warrabri) and Banka Banka (including its outstation at Jinarinji). Others, perhaps a few dozen, know a good deal of the language but are more at home in one or more other Australian languages – these people live at the above-mentioned places and also at Elliott. The number of Warlmanpa speakers is set at 36 by Milliken 1976, but this figure is based more on volunteered tribal affiliation than on the languages commanded by the individual, and is liable to be an under-estimate. On the other hand, people who regard themselves as Warlmanpa all use another language, whether Warlpiri or Warumungu, or English for a large proportion of their daily life, so the language is under threat and no-one under the age of 30 has much command of it, as far as we know.

Our spelling of the name is that which conforms with the orthography now used to record the language, and is taken from the Yuendumu Bilingual Education Programme's model. Previous spellings have been Walmamba, Walmanba and Warlmanba. An alternate pronunciation, favoured by speakers whose first language does not allow lateral plus nasal clusters (for example Warlpiri), is Warnmanpa.

Warlmanpa has been mentioned, even in passing, only a handful of times in the literature. It is listed in the surveys of O'Grady, Voegelin & Voegelin 1966, and Wurm 1971, 1972; and mentioned in Meggit 1966, Chakravarti 1967 and McConvell 1980. The published literature is confined to asides in Capell 1953, 1962 (see the following section) and Hale (1973a: 231 n. 17, 1973b: 453 n. 56). The only other mentions in print of the name are in government documents, including the one published as Milliken 1976.

4.2 Core of data for the dictionary project

The data available from Capell consists of a 20-word list and a 9-line text (reprinted from Capell (1953:112, 129)), a list of the basic forms of the pronouns and 6 simple sentences, in Capell (1962:45-47). Aside from this, the material consists only of field notes and recordings made by Hale and David Nash.

Hale's material consists of 101 pages of handwritten data, collected from Lofty Japaljarri of Powell Creek (27pp.), Jack Jangala Walker at Warrabri (3pp.), and Donald Jupurrula Graham ("Spencer", sc. Pencil) at Tennant Creek in 1966 (61pp.). This last corresponds to two 1-hour tape recordings. Written

analysis consists of a handwritten 5-page list of the person-number clitics (compared with Gurindji and Njininj) and half a page of verbal morphology. This data-base was extended during the 1977-78 field trip made by Nash. The additional material is on 25 1-hour tapes (not including 3 tapes of songs), which are still being transcribed, and the equivalent of about 20 pages of notes (vocabulary and grammatical investigation) that were not taped. Hale's *IWDS* was used for elicitation in a number of domains, as were sections of his Warumungu Notes, and Warlpiri grammatical excerptions.

The working Warlmanpa card index currently numbers around 220 verbs and 600 nominals. This does not include a further 110 place-names, nor most of the roughly 200 Warlmanpa flora terms collected by Nash. The remaining transcription and excerption will yield approximately two hundred more items. For a preliminary vocabulary and grammatical sketch see Nash 1979.

4.3   Sample dictionary entry

This presentation is a brief and preliminary discussion of various items of information which will be included in the Warlmanpa dictionary entry for the noun *ngapa* 'water, rain, ...'.

4.3.1   Morphological information

By citing the word unmarked as to category we effectively identify it as a nominal, for verbs appear hyphenated with their conjugation marker; and minor categories such as particle will be explicitly labelled. The grammar will detail the allomorphy exhibited by the inflectional and derivational morphology of a regular disyllabic nominal, for example, the widespread Pama-Nyungan ergative-locative allomorphy, conditioned by syllable count (cf. Hale, 1976b).

The entry is written in the orthography used for Warlpiri in the Yuendumu Bilingual Education Programme. The recovery of the underlying phonological representation is as straightforward as for Warlpiri, with perhaps one complication. This has to do with an apparent fortis/lenis distinction in intervocalic stops in Warlmanpa, primarily in disyllabic roots. This distinction is largely predictable in such roots, and the rules for it will be indicated diacritically. Suffice it to note here that *ngapa* contains a fortis stop, that is, *nga[p:]a*.

4.3.2 Syntactic and semantic information

The form of the entry, as we have noted, indicates that *ngapa* is a noun, and, therefore, inflects for the various cases. The meanings of *ngapa* include:

1.   water - the liquid:
(a) *Ngaparna nganmi.* I'll drink the water.
(b) *Kalyarrpakarnu ngapa wiri; yiwirtika yiwirtika panangurra.* He swam the flood (lit. big water) from tree to tree.

2.   ice
(a) *Parrangu jinya ngapa.* The sun is melting (lit. burning) the ice.

3.   rain
(a) *Ngapa wanma.* It might rain.
(b) *Ngapaju ngayuku waluka pilywanu.* The raindrop hit my head.

4.   liquid, for example, juice of fruit
(a) *Yarnunju yimpa ngapajila.* This fruit is juice-less.

5.   water source
(a) *Ngapangarnalu jartakangu.* We slept at the water hole.

4.3.3 Additional semantic information

The meanings of Warlmanpa *ngapa* overlap with those of a number of other items. Thus, for example, a common use of *pirraku* is a hyponym of *ngapa*:

   pirraku 1. 'thirsty', 2. 'potable water'

There is evidence that the first meaning is basic, but the second meaning is very well-documented, not only for Warlmanpa, but for its Warlpiri cognate *purraku - pirraku* as well. Other hyponyms of *ngapa* are *paawani* 'flood water, moving surface water'; *wilpa* 1. 'river, creek', 2. 'creek water'; *ngulya* 1. 'hole', 2. 'burrow', 3. 'soak, water-well', 4. 'water from soak'; *paliji* 1. 'rock-hole', 2. 'water from rock-hole'. All of these words have a meaning hyponymous to the first of the meanings listed under *ngapa*. As will be evident from the dictionary as a whole, the conflation of potential and actual ('water, well', 'fire, wood') is a recurrent theme in the semantics of nominals. This is true not only in Warlmanpa, but in the Australian languages generally (cf. O'Grady 1960).

Related to the third sense of *ngapa*, that is, 'rain', we have the opportunity to record information of a mythological nature, since rain (like many other phenomena) figures prominently in Australian totemic theory. The mythological character, whose name has been rendered 'Rain Dreaming' in English, is appropriately referred to by the term *ngapa*, as in:

   Ngapangu parninyangu pulkama, lanilku, jutpungu.
   Rain smelled the old man, who was afraid and ran.

4.3.4 Derivational information

Like most nouns capable of denoting places, *ngapa* can combine with the suffix *-wartingi* 'denizen of': hence *ngapa-wartingi* 'water-dweller'.

This noun also combines with the extremely productive noun-forming proprietive and privative suffixes (cf. Dixon (1976: 203-310)), thus *ngapa-parna* 'having water, bearing rain (as cloud)'; *ngapa-jila* 'waterless, without water, no rain, arid'.

4.3.5 Dialectal and contextual information

Given the small number of speakers of Warlmanpa, and the fact that it is currently used only by a few families, information on dialectal variation is sparse. There are respects in which the speech of the present speakers differ, but it may be that such differences are attributable to influences from other languages that they know. In any case, since we do not have all the knowledge needed to control for such interlanguage influence, we will take the conservative approach, as adopted elsewhere in the project, of listing the information as we have it as to variation among speakers that we have recorded. Usually a Warlmanpa entry will bear no dialectal or contextual comment, and this is to be interpreted as indicating that the item is not restricted in dialect or style.

4.3.6 Etymological and historical information

In this section it will be noted that *ngapa* is widespread in the western area of the Pama-Nyungan territory. It occurs, for example, in the neighbouring Warumungu *ngappa* and Warlpiri *ngapa*.

Historiographic comment for this entry would mention the occurrence of *ngapa* in Capell's wordlist (1962:45), - ŋaba in his orthography - and furthermore its occurrence in Capell's text (1962:47) where it signifies a mythological being in the sentence given in 4.3.3 above (here repeated in Capell's orthography):

ŋabaŋu baṇinjaŋu bulgama lanilgu djudbuŋu.

Lightning smelled the-old-man (who) was-afraid (and) ran.

extracted from an account of Palyupalyu, the blue-tongued lizard. This Dreaming narrative has been retold to Nash.

5. NGARLUMA

The traditional Ngarluma territory, in the vicinity of the Western Australian town of Roebourne, was bounded on the north by the Indian Ocean, on the south by the tablelands some 50 miles inland, and on the east and west by the Peeawah and Maitland rivers, respectively (cf. von Brandenstein 1970, Hall 1971; and also Tindale 1974, who gives a similar delimitation of the traditional territory). The number of Ngarluma speakers was estimated to be approximately 71 in the 1966 (von Brandenstein (1970:8)). The anthropological literature on the Ngarluma is listed and briefly discussed by von Brandenstein in the introduction to his three-volume collection of narratives in the Ngarluma and Yindjibarndi languages (von Brandenstein 1970).

The work just mentioned is without question the most important published source of Ngarluma linguistic data. It includes some 49 Ngarluma texts, averaging two to three pages in length, primarily from Mr. Robert Churnside, who was also the source of the material to be used in this project. Another publication by the same author is an annotated vocabulary of some 886 Ngarluma lexical items originally compiled around the turn of the century by the son of the first European settler on Nickol Bay, in the Ngarluma area (Hall 1971). This is extremely valuable material, written down at an early date by a person who quite obviously had native, or near-native, command of the language. In addition to these sources, and to other early recordings mentioned by von Brandenstein, there are brief discussions of certain points of Ngarluma grammar in O'Grady, Voegelin & Voegelin 1966, Hale 1967-8, and Nash 1976, and Ngarluma forms are cited in the important comparative study of the Ngayarda languages by O'Grady 1966. There is, as yet, no comprehensive account of Ngarluma grammar. Nor is there an extensive list of vocabulary items in an orthography which accurately reflects the phonological distinctions which must be recognized in Ngarluma.

Our data consist of 400 pages of field notes collected in 1960 by Hale, who worked with Mr. Churnside for a short period in Roebourne. The lexical research was guided in large part by Hale's earlier work on Warlpiri domains (*IWDS*), with necessary modifications for the coastal environment and cultural area.

The grammar of Ngarluma, and of its sister languages in the Ngayarda subgroup, proved to be of extraordinary interest in the context of what was known about Australian languages at the time these data were collected. So far as we are aware, this was the first documentation of an Australian language which had a passive rule and a nominative-accusative case system (cf. Hale (1967-8:772), Dixon (1972:136-7), Silverstein (1976:113), Nash 1976)). It is evident that the Ngayarda languages, including Ngarluma, have developed the passive rule in quite recent times and that the nominative-accusative case system also represents a recent change from the absolutive-ergative type which prevails in the Pama-Nyungan family. Because of this rather unexpected grammatical feature, rather more attention was given to the syntax of Ngarluma than to its lexicon during the field research period.

We feel that it is important to document as fully as we can the grammar of Ngarluma, and in many ways this will be the most important aspect of our work on that language. The dictionary itself will be the shortest in the project, approximately 1,000 entries, though each entry will include all of the detail which we have on the item, just as in the case of the other languages of the project. In addition to its function in documenting detail of lexical items,

the dictionary will also serve a corrective function, by recording certain phonological distinctions which are systematically merged in von Brandenstein's otherwise extremely valuable transcriptions of Ngarluma narratives. Moreover, it will complement the work recently completed by Frank Wordick on the closely related, but phonologically innovative, Yindjibarndi language (cf. Wordick 1982).

6. LARDIL

Lardil people are now concentrated on Mornington Island, one of the Wellesley group, at the southern extreme of the Gulf of Carpentaria, North Queensland. Tindale 1974 has Mornington, and the Denham Island shore directly across Appel Channel, as the traditional territory of the Lardil. However, Sydney Island is also said to have been a part of it.

The number of Lardil-speakers is not known. It is probably not in excess of fifty, and when Hale visited Mornington Island in 1960, fluent speakers of Lardil were in their forties or older.

Some anthropological literature has appeared concerning the Lardil people (for example, works cited in Tindale 1974) and an autobiography of a Lardil man, containing much valuable historical and ethnographic information, has appeared (Roughsey 1971). Many linguistic forms are cited in these writings, and some information of lexicographic relevance can be extracted from them.

Strictly linguistic works include brief comments by Capell appended to his studies of the languages of Arnhem Land (Capell 1942), papers by Hale 1965, 1966b, 1967, 1973b, Klokeid 1976b, 1978, McConvell 1981, Sjoblom 1976, and the doctoral dissertation by Klokeid, mentioned above (Klokeid 1976a). Except for Capell's work, these writings are based on the data collected by Hale in 1960 and 1967.

Certain aspects of the grammar of Lardil are covered in detail in Klokeid's work. There is, however, no lexicon for Lardil and a sketch grammar surveying all aspects of Lardil grammar has yet to be written.

During three months in 1960 and during a week in 1976, Hale collected material on Lardil from speakers living at Mornington Island. The research was devoted both to grammar and to the lexicon. The data amount to approximately 700 pages of notes. About two-thirds of this is on magnetic tape. We also have material on the closely related, and phonologically more conservative Yanggal language, of Forsyth Island. This is invaluable in understanding the changes which have taken place in Lardil, and we will therefore incorporate our Yanggal grammatical and lexical data into our work on Lardil, as an appendix cross-referenced to it.

In addition, an extensive study of the auxiliary vocabulary, Damin, was made. This material will also be thoroughly analyzed and written up. The exact form in which it will appear, however, will have to be determined through consultation with Lardil people. They may wish the Damin to be put in a separate volume, because of its special status in Lardil ritual.

The lexical data on Lardil were collected in an attempt to replicate the study of domains (embodied in the *IWDS*, see 3 above) in a maritime environment. The scope of our Lardil lexical data is, therefore, roughly

comparable to that of the Warlpiri domains study, but with the maritime orientation.

Lardil is of particular interest in Australian linguistics because of the fact that it has a nominative-accusative case system, rather than the ergative-absolutive system which prevails in Pama-Nyungan (see Hale 1970, for discussion). Lardil shares this property with the distant Ngayarda languages of the Australian west coast, of which Ngarluma is a representative (see 5 above). Hale 1970 assumed that Lardil represented a continuation in modern times of an ancestral Australian nominative-accusative system. Recently, however, convincing arguments against this view have been advanced (cf. McConvell 1981, Klokeid 1978). Evidently, both Lardil and the Ngayarda languages have, independently, changed to the nominative-accusative type, developing a productive passive rule in the process. Lardil's closest relatives are divided in this respect. Yanggal, like Lardil, is nominative-accusative, while the closely related Yukulta, spoken on the mainland, is ergative (Keen 1972, in press).

7. LINNGITHIG

Tindale 1974 includes Linngithig in his cover-term Winduwinda. As near as we can determine, the Linngithig subgroup of the Winduwinda were originally located southwest of the Embley River on the west side of the Hey River, on Cape York Peninsula. This location given by informants in 1960 does not agree with McConnel, who locates a group termed Leningiti much farther south in the Winduwinda area (McConnel 1939). Sharp's Lenngeti is located by him in the Alngith area on the northeast side of the Embley at the site of the former Weipa Mission (Sharp 1939). Alngith and Linngithig are very close sister dialects, and it is quite probable that the area identified by Sharp is at least contiguous to the Linngithig area identified by our informants. It is very probable that Linngithig is no longer spoken. The most knowledgeable speaker, Mr. Sam Kerindun, passed away several years ago. Little has been published about the Linngithig people or language. The kinship terms are given in McConnel 1950 and the pronouns, together with about a dozen lexical items are given in Capell 1956. Hale has published a brief grammatical sketch in an appendix to O'Grady, Voegelin & Voegelin 1966, and Linngithig forms are cited in Hale's brief comparative study of Northern Paman phonologies (Hale 1976c).

Our data on Linngithig comprise some 130 tightly written pages of field notes collected by Hale in 1960. The lexical coverage is roughly comparable to that of the Warlpiri domain study, with of course, the appropriate adaptation to the Peninsular environment and culture area. The grammar was also thoroughly surveyed.

Linngithig and its sister Northern Paman Languages are of considerable interest to comparative linguistics in Australia because of the far-reaching phonological changes they have undergone (cf. Hale 1964, 1966a, 1976c). While the Northern Paman languages are evidently quite closely related to the rest of Pama-Nyungan, the sound changes which they have undergone (including wholesale loss of initial consonants, and loss or severe reduction of the first vowel, together with a variety of vocalic and consonantal mutations) have so thoroughly altered the appearance of lexical items that, until relatively recent times, the close relationship of Northern Paman to its sister subfamilies was in serious question.

In addition to information on Linngithig, we have data on its closest relatives as well.   And we propose to incorporate these data into the Linngithig volume, as a further contribution to the study of the comparative linguistics of Cape York Peninsula.   It is unfortunate, but nonetheless true, that our data may be the last that will ever be obtained for certain of these languages.   The data are, therefore, of considerable importance in our efforts to reconstruct the linguistic history of the area.

8.   ARANDIC

The Arandic-speaking area occupies roughly the southeast quarter of the Northern Territory, extending a short distance into Queensland in the east and a somewhat greater distance into South Australia along the Finke River (cf. Tindale 1974, Strehlow 1968, Hale 1962, Breen 1977).   The group includes communities referred to by the terms Kaytej, Kaititj, or Kaititja (see Koch, this volume), Aranda (or Arunta), Anmajerra, Alyawarra (or Iliaura), and Antekerrepenhe.   These are numbered 1 through 5 on the map (page 72) where the approximate locations are also given.   Kaytej is clearly a distinct language within the group, and the southernmost Aranda (called Lower Aranda in Hale 1962, and numbered 6 on the map) is also probably a separate language.   The rest of Aranda (including Strehlow's Northern, Eastern, Western, Southern, Central, and Alitera dialects), together with Anmajerra, Alyawarra, and Antekerrepenhe, probably form a single language, albeit one with considerable dialect diversity.   These judgments concerning the make-up of the Arandic group are based upon a study of shared vocabulary, a part of which is reported in Hale 1962.   The published portion of this study did not include Antekerrepenhe, the easternmost representative of the group, but subsequent assessment of its position quite clearly indicates that it is to be grouped with the Aranda-Anmajerra-Alyawarra dialect complex.   Antekerrepenhe and Lower Aranda are no longer widely spoken, and the latter may in fact be extinct at this time.   The other Arandic forms are still vital, however.   Milliken 1976 gives the following numbers of speakers: Aranda (the dialects taken together) 2110, Anmajerra 839, Alyawarra 746, and Kaytej 380.

The Aranda have long occupied an important position in the study of man, and the anthropological literature on them is extensive.   The most recent addition to this literature is Strehlow's monumental study of Aranda song and ritual (Strehlow 1971), perhaps the most important work yet to appear in the rich tradition of Australian anthropological studies.   A number of linguistic works have also appeared.   Relatively recent linguistic literature includes Strehlow's study of Aranda phonetics and morphology, representing Western Aranda primarily, but with many comparisons to the other dialects (Strehlow 1944), and most recently Yallop's grammar of Alyawarra (Yallop 1977).   There is also a grammar of Antekerrepenhe, in manuscript form, by Breen (n.d.).   The other forms of Arandic are not well represented in the literature, but linguistic research is currently underway on the most vital languages and dialects (see, for example, Koch, this volume).

Our data consist of approximately 2,000 pages of field notes collected by Hale in 1959-60.   Most of this material is also on magnetic tape.   All of the varieties of Arandic are represented in these data, except Northern Aranda. The best represented are Kaytej, Alyawarra, Western Aranda, and Lower Aranda,

in that order. The bulk of the data were collected at intervals before, during, and after the compilation of the Warlpiri domains study (*IWDS*), so they are to a large extent informed by the results of that study. But there is also a relationship in the reverse direction, since aspects of Central Australian language and culture which emerged first in the Arandic study were systematically checked in Warlpiri as well.

In addition to straightforward documentation of lexicon and grammar, a major interest in the Arandic study was comparative (cf. Koch, this volume). This remains a central interest of the principal investigator, and much of the effort in the Arandic phase of this project will be oriented around the problems of Arandic comparative linguistics. The group is especially interesting for a variety of reasons. Being located in an area which embraces the oasis-like portions of the MacDonnell Ranges, it would have been possible for Arandic-speaking peoples to remain in the Centre during periods of severe drought in interior Australia. There is much to suggest that the Arandic peoples were in fact isolated in this manner, in relatively recent times, for a period long enough to permit the extraordinary linguistic changes which the Arandic languages exhibit to develop without interference, or inhibition, from the intense multilingualism which prevails in areas of tribal contiguity. The evidence for this isolation does not derive solely from the linguistic considerations just cited, but from other spheres as well, most notably from the work of Birdsell 1950 in physical anthropology. We have an excellent opportunity here to pool evidence from a variety of disciplines in an effort to reconstruct the demographic history of the area. The linguistic evidence is an important component, perhaps the central component, in this effort.

A reconstruction of Arandic linguistic history will involve not only comparative work internal to the group, but also a detailed study of the position of Arandic within Pama-Nyungan. The latter was initiated by O'Grady in his important study of the linguistic implications of the western boundary of the Aboriginal institution of circumcision (O'Grady 1959), and during the past twenty years, the present investigator has been gradually adding to O'Grady's original body of Arandic/Pama-Nyungan etymologies. Our Arandic dictionary will incorporate what we now understand of Arandic comparative linguistics, both internal and external, and all etymologies which we believe to be valid will be included.

Arandic phonology is interesting synchronically in that it has an unusual inventory of phonological segments. It has modified the original vowel system of Pama-Nyungan by merging the front-back distinction among high vowels and transferring the rounding feature to neighbouring consonants. This has given rise to a system which is rather difficult to analyze synchronically (see Breen 1977, and Wafer 1978, for some discussion). Our work will provide much information relevant to the history of this system, and we will, in the grammar section, offer our own synchronic analysis of Arandic phonology and detail the arguments which we believe supports it over alternative analyses.

9.   CONCLUDING REMARKS

There are many reasons why lexicographic work is important. Comparative linguistics, for example, depends very heavily upon accurate documentation of the vocabularies of individual languages and dialects, and the task of those of us who are involved in the effort to reconstruct the linguistic history of Aboriginal Australia will be greatly eased when larger amounts of reliable lexical resource materials become available. The results of the project described here will be a contribution to this area of concern, quite clearly. And in general our work here will be relevant to areas of linguistic study which involve the lexicon in one way or another.

It is obvious from the general tenor of this proposal that we place special emphasis upon the relationship between the lexicon and the rest of grammar. In fact, we view the study of the lexicon of a language as an integral part of the study of its grammar. Accordingly, we take the position that our dictionary entries must, above all else, provide information which can be used to advance the study of grammar. In addition to the actual presentation of information belonging to this category, the project will also necessarily result in a suggested model for its incorporation into the lexicographic record of a language.

10.   1983 POSTSCRIPT

This project received partial support from the National Science Foundation, Grant number BNS-7913950, for which we are grateful. We have had to reduce the size of the project considerably, the primary focus now being the dictionary of Warlpiri. The bulk of the work on this has so far been done by Mary Laughren and David Nash, whose report is included in this volume (see page 109). At the present time, the following items are in preliminary form:

(i)   a dictionary of the domain of body parts;

(ii)   a dictionary of the domain of flora;

(iii)   a dictionary of morphologically simple verbs;

(iv)   sections of the main dictionary, namely words beginning with *l*, *m*, *n*, *ny*, most words beginning with *j*, and most beginning with *w*.

In addition to these items directly concerned with the dictionary, two theses have been completed which contain material which will be incorporated in companion volumes relating the dictionary to the grammar of Warlpiri (namely Nash 1980, and Simpson 1983). Three published papers were also written, in part, with a view to the dictionary (Laughren 1982, Nash 1982 and Hale 1981).

Besides the work which has been done on Warlpiri in connection with this project, a preliminary dictionary of Lardil with companion grammatical sketch, has been completed (Hale, Farmer, Nash and Simpson 1981). This includes a list of known forms in the auxiliary language, Damin, as well. Some initial preparations for the compilation of a comparative vocabulary of the Arandic languages have also been done, by M.I.T. graduate student Lisa Travis; this has consisted of the preparation of card files, with illustrative sentences, for Kaytej, Alyawarra, and Lower Aranda.

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