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Chapter 8

Notes on World View and Semantic Categories: some Warlpiri Examples

Ken Hale

The expression 'world view' has at least two senses, implying at least two distinct methods of study.* In one of its meanings, the expression refers to the primary logical principles upon which a philosophy is based – the central propositions or postulates in a people's theory of how things are in the world. I will refer to this as World View-1. This may be explicitly and consciously formulated in conventional doctrine or, as is more often the case, it may be implicit, and thus more indirectly manifested, in certain cultural institutions and art forms, whether verbal, such as poetry and myth, or non-verbal, such as painting and dance. Its connection to language tends to be superficial, in the sense that it is reflected primarily in the elaboration of certain lexical domains and in certain 'manners of speaking'. It may or may not be shared by all speakers of a language, being something which is learned separately from the grammar of a language, as a result of instruction or as a result of participation in the activities of the associated culture. Thus, for example, a person might well have Navajo as his or her first language without at the same time having knowledge of the Navajo theory of the universe (as depicted, say, in Pinxten *et al.* 1983). Such a person is no less a speaker of Navajo, in my judgment, than one who is expert in Navajo philosophy. It follows as a methodological principle, if this is true, that establishing a connection or relation between a philosophical postulate and a principle of grammar requires that the two be established independently. That is to say, World View-1, the philosophy of a people, must be established without reference

* Warlpiri is an Aboriginal language spoken in the central western part of the Northern Territory, Australia. I would like to thank a number of Warlpiri speakers and colleagues in Warlpiri linguistics for helping me to learn what I know of Warlpiri grammar: Sam Japangardi Johnson, George Jampijinpa Roberston, Robin Japanangka Granites, Paddy Jupurrula Stuart, Darby Jampijinpa, Dinny Japaljarri Anderson, Mary Napaljarri Laughren, David Jungarrayi Nash, Jane Nangala Simpson, and the late Mick Jupurrula Connel. And I wish to thank Henk van Riemsdijk, Jan Koster, Anneke Groos, Reineke Bok-Bennema, and Anneke Neijt for supplying a stimulating atmosphere at Tilburg University in which to discuss some of the ideas in this paper.

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to principles of grammar, and vice versa. I suspect that it is somewhat rare to find cases of such a relationship that pan out, precisely because of the essential autonomy of grammar and philosophy. Occasionally, however, it happens that a correlation between philosophical postulates and principles of grammar is so striking that one is perhaps justified in proposing that the one constitutes an explanation of the other. Such a case is the correspondence between the principles which govern the application of the rule of 'Subject-Object Inversion' in Navajo (see Hale 1973b; Creamer 1974) and the Navajo theory of language and control as reported in Witherspoon (1975, 1977). Briefly, human beings, being the possessors of language, and therefore of the power to control events, can freely maintain or relinquish this control, a fact which may be reflected linguistically in the positioning and concomitant morphology of the object *vis-à-vis* the subject in certain transitive sentences. Entities not endowed with language are correspondingly less imbued with power; and this is likewise reflected in the ordering and concomitant morphology of subjects and objects. This, it seems to me, is a successful instance of a correlation between a philosophy and a principle of grammar. However, this fits well into the scheme I have suggested since, evidently, this explanation does not hold for all speakers of Navajo. For many, the use of Subject-Object Inversion, where it is free, is a matter of sentence perspective, a device for altering the topic-comment partitioning of a sentence.

Reviewing briefly, World View-1, or philosophy, has the following characteristics in relation to language and, in particular, to the study of language and world view: (a) it is not necessarily shared by all speakers of a language; (b) it is learned separately from language and, hence, is autonomous from grammar; (c) its relationship to language tends to be a matter of the lexicon rather than the grammar; and, from the point of view of the methodology appropriate to its study, (d) its existence must be established independently of the grammar of the language of the people who profess it.

By contrast, the other sense of the expression, call it World View-2, consists in the 'analysis of phenomena' embodied in the system of lexico-semantic themes or motifs which function as integral components in a grammar, where by 'grammar' we mean the theory which relates the phonological form of sentences to their semantic form. World view in this second sense can be characterized in the following terms: (a) it is necessarily shared by all speakers of the language, since its acquisition is a part of the definition of the predicate 'know the language'; (b) it is learned as a part of the process of learning the language, and it is hence not autonomous from grammar (though it may belong to an autonomous subsystem of grammar); (c) its relationship to grammar is intimate, being a part thereof; and (d) its existence is established as an automatic conse-

quence of the choice of the 'correct' grammar of the language - i.e., the correctness of some putative lexico-semantic theme depends upon the overall simplicity and integrity of the grammar.

World View-2 is, in an important sense, universal - a part of the innate linguistic capacity of human beings - albeit instantiated in different ways and in different proportions in different languages. In my view, at least, a generalized World View-2 forms a part of the mental baggage which a child brings to the task of acquiring a language - the task being that of deciding precisely how the universal principles are instantiated in the grammar, which principles are to be allowed to flourish, which are to be relatively suppressed, and to what extent, etc.

With this background, I will now turn to Warlpiri with a view to relating these notions of world view to aspects of that language.

As a grammarian, I am much more comfortable with world view in the second sense. However, before discussing an example of World View-2, I will, with great trepidation and self-doubt, attempt to articulate two fundamental themes in Warlpiri philosophy, i.e., World View-1, and relate them to aspects of the Warlpiri language. The themes might be given the following names: (i) the logic of eternity (or, to use Aram Yengoyan's term, the 'eternal logic'), and (ii) the logic of complementarity.

The eternal logic is the logic of cyclical perpetuity, or unbroken circles, as opposed to what might be termed the 'linear logic', the logic of linear perpetuity and of beginnings and endings - both valid forms of logic, and both present in all actual philosophies, though generally with one prevailing over the other. The eternal logic is evidenced in many ways in Warlpiri thought concerning the nature of entities in the world. An important theme which runs through Warlpiri ritual and totemic theory is the theme of the 'persistence of entities through transformation', the idea that a given entity presented to the senses at a given time is simply the current manifestation of something which has existed always and will always exist. To this category, I think, belongs the theme of the 'unity of the actual and the potential', noticed and described by O'Grady (1960). He pointed to the reflection of this theme in the meanings of lexical items, yielding equations such as firewood=fire, animal=meat.

The Warlpiri means of referring to the manufacture of an item may well be a reflection of the theme of the persistence of entities through transformation and, therefore, of the eternal logic. There are at least three favorite ways of referring to manufacture, and none of the favored ways corresponds to the English verb *make*, which implies non-existence of an item prior to its manufacture. The Warlpiri verbs are most consistent with prior existence of the item - the act of making is the act of transforming or perfecting. The expressions are: (1) *ngurrju-ma-ni*, literally 'to cause to become good', hence 'to perfect, to fix'; (2) *yirra-rni*, lit-

erally, 'to put, to place', used commonly in reference to the creation of entities by Dream Time personalities and for the creation of a picture, design, or piece of writing; and, finally, (3) verbs of impact and concussion, such as *paka-rni* 'to chop', *panti-rni* 'to pierce, to gouge', and *jarni-rni* 'to trim, to sculpt', actions which are involved in the perfection of a manufactured item. All of these are consistent with the idea that manufacture is transformation, rather than creation *de novo*. And, in fact, it is correct to say, for example, that a boomerang exists before it is made – in the mind of the maker, of course, but also concretely in the wood or tree from which it will be cut; one says that a likely limb *is* a boomerang, not that it *would* or *could be*. This fashion of speech is the one that prevails, not the English conditional.

A dramatic example of the logic of cyclical perpetuity, of course, is to be found in the principles which inhere in the elaborate system of kinship nomenclature, of great renown in anthropological tradition (see Laughren 1982 for a presentation of the algebra of Warlpiri kinship).

I will turn now to a brief discussion of the logic of complementarity, or the 'unity of the opposites' – the idea that any whole consists of complementary parts; or, viewed from the other angle, the idea that any opposition forms a unit, that opposed entities constitute a unity; each entity complements some other entity. This theme is massively illustrated in sacred myth where, for example, Dream Time personalities representing a natural species and semi-moiety and traveling from one site to another will suddenly be transformed into a complementary species and, typically, a complementary subsection. In the sphere of land ownership, the principle is exercised in the definition of the land-owing unit, bearing joint and complementary responsibility for the maintenance of land, as a group consisting of members of the two complementary patrimoiety, the *kirda* and the *kurdungurlu*, thereby investing rights and responsibilities for ritual land maintenance in individuals tracing their connections to a country through their mothers as well as individuals tracing the connection through their fathers. Indeed, this theme is one of the most important organizing principles in Warlpiri society. And in the case of the *kirda* and the *kurdungurlu* it serves to achieve the maximal and most just distribution of rights and duties. It is an issue which has come forcefully to the fore in the context of land claims cases in Central Australia (see Maddox 1981, Hale 1980, Nash 1982).

In the Warlpiri language, this theme manifests itself quite strongly. The kinship terminology consists, in effect, of an entire algebra in which the logic of complementarity operates (see Laughren 1982). Thus, for example, each theoretically possible partitioning of the system into equal parts (moiety, semi-moiety, subsections, etc.) is recognized and labelled. In other areas of vocabulary as well, the theme is readily observed

– e.g., in the use of antonyms, rather than negation, as in the oppositions *ngampurpa/jukuru* 'wanting/not wanting', *pina/ngurrpa* 'knowing/not knowing' (see Wierzbicka 1967 for the universality of the first of these; and see Hale 1971 for discussion of an elaborated tradition of antonymy). There are also lexical items whose meanings embrace 'antonyms', thereby neatly exploiting the doctrine of the unity of the opposites – for example, the preverb *julyurl(pa)*, put on verbs of motion and stance, to denote entry into or location in *water* or, its complement, *fire*. Thus, *julyurl-wanti-mi* means to fall into water or to fall into fire (see Nash 1980, 1982 and Simpson 1983 for discussions of the category 'preverb' in Warlpiri). The opposition, or better, the complementarity of fire and water, is a recurrent motif in Warlpiri myth. Another example is afforded by the word *juju*, which can refer to the most cultural of all things, namely sacred objects, and to the most profane and least cultural of all things, e.g., a plant or weed which has no use to humans, rubbish. As a final example, I cite the verb *maju-ma-ni*, which in its profane and everyday use is the antonym of *ngurrju-ma-ni*, discussed above – i.e., it is the opposite of 'to perfect', hence 'to ruin, to wreck, to mess up, etc.'. But in certain ritual contexts it means precisely what its opposite means – i.e., 'to perfect, to make ready, to prepare', for example, in the expression *walya maju-ma-ni*, which means not 'to mess up the ground', as it would in everyday usage, but rather 'to prepare the ground (for purposes of ritual)'.

I will attempt to sum up these observations. Notice that the examples which I have adduced as instances of a relation between language and World View-1 have been at the level of vocabulary. And this is precisely what we would expect if World View-1 consists in the philosophy which a people has elaborated to explain and to explicate the nature of the world; it stands to reason that the language will have vocabulary to express these ideas and that it will have reflections of these ideas at various places in the lexicon (where the latter is understood to comprise not only the morphemes of the language but also the set phrases which make up a characteristic manner of speaking; see Pawley 1982 and Lakoff & Johnson 1980). It is not necessary, however, to imagine that pervasive principles of the grammar will reflect the ideas which make up a philosophy. It seems to me to be a matter of luck, a chance happening, when a neat correspondence between World View-1 and a principle of grammar (of the sort observed by Witherspoon for Navajo) is met with. This could, however, be wrong, and the search for such correlations should never be abandoned. If I were to search further in Warlpiri, I would look at, among other things, the systems of modality, tense and aspect, parts of speech, and spatial reference.

I would like now to turn to a consideration of world view in the second sense, which, to repeat, consists in the analysis of phenomena

which is embodied in the system of lexico-semantic themes and semantic categories which function in any grammar (though in different ways and to different extents in distinct languages). The example which I would like to develop by way of illustration belongs more or less to the traditional rubric of 'grammatical category', or perhaps more accurately, 'semantic category' (by contrast, for an example of a 'lexico-semantic theme', in the sense of a productive principle which functions to extend or broaden the range of applicability of large numbers of lexical items in the dictionary of a language, see Hale 1981 and Corver 1984). The theme to be discussed here will be labelled 'coincidence'.

The coincidence theme manifests itself in the meanings of certain grammatical elements, including case endings, complementizers and tense-aspect morphology. If I am correct in my claim about the semantics of these elements, the theme which seems to me detectable in them is especially interesting, and instructive, because of the fact that it is not uniformly marked, morphologically speaking, and because of the fact that it is to be observed in parts of the grammar which are not otherwise intimately related. The theme is therefore difficult, if not impossible, to learn on the basis of the data which a language learner would have in the normal course of language acquisition, suggesting that the semantic opposition involved is universal. If this is correct, then Warlpiri differs from English, say, not by virtue of the presence of the theme but rather by virtue of its constancy in distinct areas of grammar and the relative purity with which it is represented. Briefly, the theme can be articulated in informal prose as follows: it is the definition of spatial, temporal, and identity relations in terms of 'central' versus 'non-central' (or 'terminal') coincidence. It is convenient to begin the discussion of this theme by considering the meanings of the so-called 'local' cases of Warlpiri, since the fundamental opposition involved is most readily grasped in the spatial domain.

The principal local cases of Warlpiri are the locative (LOC), the perlativ (PERL), the allative (ALL), and the elative (EL), and they may be set out in the following table, reflecting the fundamental semantic opposition involved in the system:¹

(1) The local cases:

Central	Non-central (Terminal)
-ngka~ -rla LOC	-kurra ALL
-wana PERL	-ngurlu EL

The allomorphy indicated for the locative is governed by the moraic structure of the stem to which the ending is added - the velar-initial al-

ternant appears exclusively on dimoraic (disyllabic) stems, while the lateral-initial alternant appears on polymoraics and, irregularly, on a few dimoraics. The glosses assigned to the endings are to be understood as approximate and are not a particularly good guide to the meanings involved. The meanings of these elements are best understood in terms of the notions 'figure' and 'place' (or 'ground'). Consider first the sentence

- (2) Yapa ka karri-mi pirlu-ngka.
(person PRES stand-NONPAST stone-LOC)
'The person is standing on the stone (or hill).'

Let us refer to the nominal bearing the locative ending as the 'place'. The locative serves to indicate the spatial orientation of the entity denoted by some verbal argument, the subject in this case, in relation to the place. We will refer to the nominal bearing the subject function in (2) as the 'figure'. The meaning of the locative is essentially this: the location of the figure coincides with the place. The spatial coincidence in this case is 'central coincidence' in that, to the extent that it is physically and practically possible, given the nature of the figure and place and the specific stance or movement of the figure, the center of the figure coincides with the center of the place. Out of context, the most likely relation in (2) is that corresponding to the relation expressed by the English preposition *on*. However, depending upon the nature of the figure and the place, the English translations *at*, *by*, and *in* are equally appropriate, the Warlpiri, however, specifies no more than central coincidence of the figure and place (though more precise spatial relations are, of course, expressible in the language, by means of locative specifiers used in conjunction with the locative case). Additional examples of the locative are given in the following sentences:

- (3) Nantuwu ka-lu karri-mi yama-ngka.
(horse PRES-333 stand-NONPAST shade-LOC)
'The horses are standing in the shade.'
- (4) Ngapa ka palka karri-mi pilikanti-rla.
(water PRES present stand-NONPAST billycan-LOC)
'There is water (present) in the billycan.'

The Warlpiri perlativ also denotes central coincidence, but with an added dimension of linear extension on the part of the figure - the location of the figure corresponds to its trajectory (in the case of a verb of linear motion) or its linear arrangement in the case of a verb of stance or of being in position). To the extent that it is practical, the location of the

figure (i.e., its trajectory or linear arrangement) coincides 'centrally' with the place. Appropriate English translations include *along*, *over*, *by*, *past*, *through*, and *among*; it is exemplified in the following sentences:

- (5) Nantuwu ka karru-wana parnka-mi.
(horse PRES creek-PERL run-NONPAST)
'The horse is running along the creek (bed).'
- (6) Ngapiri ka-lu karri-nja-ya-ni karru-wana.
(rivergum PRES-333 stand-INF-PROG-NONPAST creek-PERL)
'River red gums grow along the creek (bed).'

In contrast to the locative and perlativ, the Warlpiri allative and elative can be characterized in terms of non-central coincidence, or perhaps more suggestively, in terms of 'terminal' coincidence. In this case, as with the perlativ, the location of the figure corresponds to its trajectory (if moving) or its linear arrangement (if stationary), which can be viewed as ending, in the case of the allative, or beginning, in the case of the elative, at the place. In other words, with the allative, the end of the figure's trajectory coincides with the place; and with the elative, the beginning coincides. Appropriate English glosses for the first include *to*, *up to*, *onto*, *into*; and for the second *from*, *out of*, *off of*. Examples follow.

- (7) Walya-kurra kuja-ka-lu parnka-mi-rra, ngula ka-lu lani
jiti-mi-rra walya-kurra, ngula-jangka ka-lu yangka
walya-wana-lku parnka-mi- -kanyarla yangka.
(ground-ALL CCOMP-PRESS-333 run-NONPAST-THITHER,
then PRES-333 afraid descend-NONPAST-THITHER ground-
ALL; then-AFTER PRES-333 that ground-PERL-THEN run-
NONPAST - euro that)
'When they run off to the (low) ground, it is in fear that they
descend to the (low) ground; after that, they run along the ground
- - i.e., those euros.'
- (8) Nyampu-ngurlu ngurra-ngurlu parnka-ja jakuru-pi-nja-wangu.
(this-EL place-EL run-PAST leave taking-do-INF-PRIVATIVE)
'He (just) cleared out from this place without taking his leave.'

Moving now to another area of grammar, we observe that the oppositions inherent in the system of four local cases are almost perfectly replicated in the set of four enclitic elements which combine with verbs to indicate the spatial orientation of an action in relation to some point of reference

(e.g., the location of the speaker). The isomorphism of this system with that of the local cases is upset only by virtue of the fact that one of the enclitics has, in modern Warlpiri at least, an aspectual meaning (approximately 'durative') rather than the expected spatial one. There is no doubt, however, that this particular enclitic belongs, morphologically speaking, to the spatial enclitic system (see Nash 1980, Simpson 1983), and it is not unreasonable to suggest, it seems to me, that its present aspectual use is an innovation. The four elements are set out in the following table:

- (9) The directional enclitics:

Central	Non-central
(-yi 'durative')	-rni 'centripetal'
-mpa 'perlativ'	-rra 'centrifugal'

Assuming that the point of reference involved in the use of these enclitics is to be likened to the notion 'place' used in the discussion of the local cases, the semantics of the enclitic glossed 'perlativ' may be characterized in roughly the following terms: the (approximate) center of the figure's trajectory or linear arrangement coincides with the place (typically the location of the speaker). Appropriate English glosses include the English adverbs *by* and *past*. It seems to me clear that it belongs to the category of central coincidence, as opposed to the non-central category, which is clearly correct for the centripetal and centrifugal enclitics. Taking the location of the speaker as the point of reference, or 'place', the centripetal enclitic denotes the relation in which a figure's trajectory or linear arrangement *ends* at the place, the centrifugal that in which the figure's trajectory *begins* at the place. Thus, appropriate English glosses for the first include the expressions *hither* or *this way*, and for the second, *thither*, *away*, or *that way*. Examples follow:

- (10) Nantuwu ka parnka-mi-mpa.
(horse PRES run-NONPAST-BY)
'The horse is running by.'
'The horse is running past.'
- (11) Nantuwu ka parnka-mi-rni.
(horse PRES run-NONPAST-HITHER)
'The horse is running this way.'
'The horse is coming, at a run.'
- (12) Nantuwu ka parnka-mi-rra.
(horse PRES run-NONPAST-THITHER)

- 'The horse is running that way.'
'The horse is running away.'

The fourth member of this set, the aspectual member, is used most commonly in concert with the nonpast tense or the imperative; typical of its use is the future durative, as in (13):

- (13) Nantuwu kapi parnka-mi-yi.
(horse FUT run-NONPAST-DURATIVE)
'The horse will keep running.'

The idea that this element may once have had a spatial meaning is encouraged somewhat by (i) the observation that the expected four-element system is found elsewhere in Central Australia (e.g., the system of directional proclitics of the Western Desert language; see Douglas 1958, Goddard 1983), and (ii) the fact that the element *-yi*, like the directional enclitics, has a suffixal cognate in the subsystem of spatial specifiers referring to the cardinal directions (see Laughren 1978).

In the spatial domain, it is rather easy, I think, to detect the semantic opposition and functioning of central and non-central coincidence. But I would like to argue that the opposition is more pervasive and more fundamental in Warlpiri semantics and that it enters into other domains of grammar in which relations between entities are expressed (cf. Traugott 1978 and references cited there). In fact, one might say that it comprises the fundamental theory of relations. In any event, it is clearly an abstract and general semantic category. I would like now to move to other domains in which the opposition is utilized in Warlpiri. The first of these is the system of finite complementizers (i.e., the COMP elements which appear prefixed to the base of the auxiliary in tensed dependent clauses). I believe that this system utilizes the opposition in its purest form to express a most fundamental semantic relation between a main clause and a finite adjoined, semantically dependent, clause (see Hale 1976 for a discussion of the syntactic notion '*adjoined* relative clause').

The finite complementizers are prefixed to the auxiliary base which, in the core auxiliary system, is represented by the null element (\emptyset) or else by one of the overt elements *lpa-* or *ka-* and which functions in concert with verbal endings (NONPAST, PAST, IRREALIS, IMPERATIVE) to render the basic tense-aspect-mood system of Warlpiri (see further below for a discussion of these latter elements). The principal complementizer+base combinations, together with glosses of the associated verbal endings, are set out in the following table:

- (14) The finite complementizers:

Central	Non-central
kaji- \emptyset -, NONPAST	yungu- \emptyset -, NONPAST
kuja- \emptyset -, PAST	yungu- \emptyset -, PAST
kaji- \emptyset -, IRREALIS	yungu- \emptyset -, IRREALIS
kuja-ka-, NONPAST	yungu-ka-, NONPAST
kuja-lpa-, PAST	yungu-lpa-, PAST
kaji-lpa-, IRREALIS	yungu-lpa-, IRREALIS
	yungu- \emptyset -, IMPERATIVE

Some remarks on alternations are in order. Many speakers use *ngula-* instead of *kuja-*. Most speakers use *yi-* in place of *yungu-* if the complementizer is followed by a phonologically overt base or by the null base plus a non-third person subject marker. And many speakers use *yinga-* in place of *yungu-* elsewhere. The alternation between *kaji-* and *kuja-* among the central complementizers is a complex and not fully understood issue. According to one favored pattern of usage, *kaji-* is used for uninitiated events of processes (hence, with NONPAST, in its use as a future, or with IRREALIS), while *kuja-* is used for instantiated events or processes.

As indicated in table (14), I claim that the fundamental opposition in the finite complementizer system is the same as that found in the local case system - i.e., central as opposed to non-central coincidence. Here, however, we are not dealing with a figure and a place, in the concrete spatial sense, but rather with events or processes in a main clause and a subordinate clause. By analogy, though, we might think of one clause as corresponding to the figure and the other to the place (see Talmy 1978). The complementizers on the left side, i.e., *kuja-* and *kaji-*, denote a central coincidence of some aspect of the dependent clause with a corresponding aspect in the main clause. The coincidence may be referential (as in NP-relative clauses, see Hale 1976), temporal (in what might be termed the T-relative clause, corresponding to *when-* or *while-*clauses of English), or circumstance and condition (as in conditionals with *if* or comparisons with *whereas*). Examples of the central complementizers (glossed CCOMP) follow forthwith:

- (15) Kuja-ka-riipa lakurru yiri-ma-ni, ngula ka-riipa yirriki-rni.
(CCOMP-PRES-122 axe sharp-CAUSATIVE-NONPAST, that
PRES-122 grind-NONPAST)
'When we sharpen an axe, we grind it.' (T-relative)
'The axe we sharpen, we grind.' (NP-relative)

- (16) Yali-nya kapi-rna watiya paka-rni, wanti-nja-wangu kuja-ka
 karri.
 (that-FOCUS FUT- \emptyset -1 tree chop-NONPAST, fall-INF-PRIVA-
 TIVE CCOMP-PRES stand(-NONPAST))
 'I am going to chop down that tree that is standing without having
 fallen.' (NP-relative)
 (The nonpast ending -*mi* of first conjugation verbs may optionally
 delete, as in the dependent clause here.)
- (17) Kaji-lpa-npa yangka warlu-ngka purra--yi-ka-ju yinka
 kajika-npa watiya-rlu kuyu yurduyurduma-ni.
 (CCOMP-IMPERF-2 that fire-LOC cook-IRREALIS meat-E.G.,
 that POTENTIAL-2 stick-INST meat turn-NONPAST)
 'If you were cooking meat on a fire, for example, you might turn
 it over with a stick.' (hypothetical conditional)
- (18) Yapa kuja-ka yangka yali-rla pali, kula-ka-lu ngula-ngka nyina
 kutu; ngurra-kari-kirra ka-lu ya-ni.
 (person CCOMP-PRES that that-LOC die (-NONPAST), NEG-
 PRES-333 that-LOC sit(-NONPAST) nearby; place-OTHER-
 ALL PRES-333 go-NONPAST)
 'When/if a person dies there, they don't stay closeby there; they
 move to another place.' (T-relative, conditional)
 'At the place where a person dies, they don't stay closeby there;
 they move to another place.' (NP-relative)

While the central complementizers denote referential, temporal, or circum-
 stantial coincidence, the non-central complementizer *yungu-* (glossed
 NCCOMP) denotes a sequential relation, the relation in which one event
 or process precedes or follows another. This is the basic meaning of the
 complementizer. It is observed with great frequency in sentences used
 to express a causal or purposive relation - that is, the situation in which
 one event or process leads to or motivates another. The following sen-
 tences exemplify this complementizer (in two of its alternants):

- (19) Kati-rminja-rlu ka-rlipa kurlarda ngurju-ma-ni - ngurju yangka
 yi-ka nguna wirkiwirki-wangu.
 (press-INF-INST PRES-122 spear good-CAUSATIVE-NONPAST -
 good that NCCOMP-PRES lie(-NONPAST) crooked-PRIVATIVE)
 'We make a spear by stepping on it, so that it lies nice and straight
 (lit. not crooked).'
- (20) Warnu-ku ka-rna-rla warri-rni, nyampu-rla-ku, yungu-rna
 katu-rnu-rra.

(snake-DAT PRES-1-3sgdat seek-NONPAST, this-LOC-DAT,
 NCCOMP- \emptyset -1 press-PAST-THITHER)
 'I am looking for a snake around here, as I ran over it.'

- (21) Yali ngarra-rna kurdu yinka-panu pi-nyi - yi-ka-ju yinka
 ngarliari.
 (that FUT- \emptyset -1 child mirth-EXCESS hit-NONPAST - NCCOMP-
 PRES-1 mirth laugh(NONPAST))
 'I am going to hit that mirthful child - as it is laughing at me.'
- (22) Nyampu ka-rna-rla warru-nya-nyi watiya-ku, yungu-rna
 rdilykirilyki-paka-rni.
 (this PRES-1-3sgdat around-see-NONPAST tree-DAT,
 NCCOMP- \emptyset -1 broken-chop-NONPAST)
 'I am looking around here for a tree to chop up.'
- (23) Yarrpi-rni-lki ka-rlipa warlu - jarra-ma-ni-lki - palka-lku yi-ka
 jarra-lku janka ngurra-ngka.
 (kindle-NONPAST-THEN fire aflame-CAUSATIVE-NONPAST-
 THEN - actual-THEN NCCOMP-PRES flame-THEN burn(-NON-
 PAST) camp-LOC)
 'Then we kindle a fire - we ignite it then - so that it then burns as
 an actual flame in camp.'

The non-central complementizer *yungu-* is used for situations in which
 instantiation of the event or process depicted in the dependent clause
 precedes (as in (20), (21)) or follows (as in (19), (22), (23)) that of the
 main clause. That is to say, the non-central coincidence category appears
 here in its purest form, merging the distinction in relative order.

Like the finite complementizers, the infinitival complementizers -
 case-like endings suffixed to the infinitival forms of verbs - also reflect
 the distinction between central and non-central coincidence. On the
 central side of the opposition are the suffixes of the 'obviation system'.
 In addition to the category of central coincidence, these endings indicate
 which main clause argument, if any, controls the subject of the infinitival
 (see Simpson & Bresnan 1983, Simpson 1983). Thus, for example, *-karru*
 (glossed SUBJCOMP) indicates that the subject of the main clause is the
 controller, while *-kurra* (OBJCOMP) indicates that the main clause object
 is the controller. The ending *-LOC-jinta* (glossed PROXCOMP, a com-
 posite of which the first part is identical to the locative case) is a gener-
 alized proximate, indicating control either by the main clause subject
 or by the main clause object, but with the added semantic implication
 that there is a direct causal relation, as well as a relation of temporal

coincidence, between the event or process depicted in the infinitival clause and that of the main clause. The ending *-LOC-rni* (OBVCOMP, a composite again) is basically obviative, indicating that the infinitival subject is *not* controlled by a direct argument of the main clause. All of the endings of the obviation system share the semantic property of indicating the temporal relation of central coincidence between the dependent and main clause. That is to say, as with the English temporal relative *while*, and some uses of *when*, the event or process depicted in the dependent clause is contemporaneous with that of the main clause. By contrast, the non-central complementizers mark sequential relations. The so-called purposive *-ku* (glossed PURP) indicates, essentially, that the event or process of the dependent clause follows that of the main clause. It is highly appropriate for situations in which it can be said that the event or process of the dependent clause is an outcome or end result of that of the main clause; or, viewing the matter from the other perspective, the event or process of the main clause initiates that of the dependent clause. A clause bearing this complementizer is quite appropriately paraphrased by a finite dependent clause in *yungu-* (see (14) and (19)-(23) above), in those uses of the latter according to which the event of the dependent clause follows that of the main clause. The 'serial' ending *-rla* indicates that the event of the main clause follows that of the dependent clause. It figures frequently in a sort of 'serial verb construction' in which the infinitival is semantically coordinate with, rather than subordinate to, the main verb. And typically with *-rla*, the subject of the infinitival is controlled by that of the main verb. The infinitival complementizers are set out in the following table:

(24) The infinitival complementizers:

Central		Non-central	
-karra,	SUBJCOMP	-ku,	PURP
-kurra,	OBJCOMP	-rla	SERIAL
-LOC-jinta,	PROXCOMP		
-LOC-rni,	OBVCOMP		

Some examples of these elements follow.

- (25) Turaki-rli-nganpa jurdu yilya-ja parnka-nja-karra-rlu.
(truck-ERG-111 dust send-PAST run-INF-SUBJCOMP-ERG)
'Our truck threw up dust as it went along.'
- (26) Wawirri ka-rna nya-nyl parnka-nja-kurra.
(kangaroo PRES-1 see-NONPAST run-INF-OBJCOMP)
'I see a kangaroo running.'

- (27) Rdaka-rna-ju paju-rnu karli jarnti-rninja-rlajinta.
(hand-1-1 cut-PAST boomerang trim-INF-PROXCOMP)
'I cut my hand while trimming the boomerang.'
- (28) Kurdu ka manyu-karri-mi ngati-nyanu-ku yarla karla-nja-rlarni.
(child PRES play-stand-NONPAST mother-OWN-DAT yam dig-INF-OBVCOMP)
'The child is playing while its mother is digging yams.'
- (29) Karlarra-lku-lpa-lu jilja-kurra pardi-ja -jurlarda-ku-lku paka-rninja-ku.
(west-THEN-IMPERF-333 sandhill-ALL depart-PAST - - sugarbag-PURP-THEN chop-INF-PURP)
'Then they set out westward to the sandhills - to chop sugarbag (i.e., native bee honey).'
- (30) Jinta-ngka-jarri-nja-rla-lu karrka-ja pina ngurra-kurra, kuyu-kurku manu miyi-kirli.
(one-LOC-INCHOATIVE-INF-SERIAL-333 proceed-PAST back camp-ALL, meat-HAVING and food-HAVING)
'They assembled and proceeded back to camp, laden with meat and vegetable food.'
- (31) Karrku ka-lu rdaka-ngku manya-ma-ni ngapa-ngku yarli-rninja-rla.
(ochre PRES-333 hand-ERG soft-CAUSATIVE-NONPAST water-INST wet-INFL-SERIAL)
'They soften the ochre with their hands, having wet it with water.'

The local cases, the directional enclitics, and the two complementizer systems have the semantic force of denoting certain relationships between entities in specific domains, i.e., the domains of space, time, circumstance, and concrete phenomena. The essential idea being explored here is the notion that the fundamental semantic opposition in all these grammatical systems is the same - to wit, the opposition between central and non-central coincidence, which generalizes to the various domains and is manifested (morphosyntactically) in quite distinct ways.

I would like to suggest now that this same abstract opposition also functions as the primary semantic distinction within the core aspectual system of Warlpiri. In the core system, the category of aspect is represented in the choice of auxiliary base. Central coincidence, I suggest, is marked by the overt bases *ka-* (glossed PRES in example sentences) and *lpa-* (glossed IMPERF), while non-central coincidence is marked by

the phonologically null base \emptyset - (glossed PERF). These function in concert with the verbal inflections for tense and mood, as indicated in (32) below:²

(32) Tense and aspect:

Central	Non-central
ka-, NONPAST	\emptyset -, NONPAST
lpa-, PAST	\emptyset -, PAST
lpa-, IRREALIS	\emptyset -, IRREALIS

The basic tense distinction in Warlpiri is past/nonpast, or in feature representation [\pm past]. Warlpiri moods include the imperative, not listed in (32), and the irrealis or hypothetical (which we may represent in feature notation as [+hypoth(etical)]). The past/nonpast distinction functions only in the realis (i.e., [-hypoth], the first two lines of (32)). The distinction is merged in the irrealis according to the following redundancy rule:

(33) [α central] \rightarrow [- α past]/[+hypoth, ___].

Thus, in the irrealis mood, tense is nonpast if aspect is central ([+central]) and past if aspect is noncentral ([-central]). This is illustrated in the dependent, or protasis conditional clauses of (34) and (35) respectively:

(34) Kaji-lpa-rna wawirri nya-ngkarla, kajika-rna luwa-rni.
(CCOMP-IMPERF-1 kangaroo see-IRREALIS, POTENTIAL-1 shoot-NONPAST)

'If I saw a kangaroo (now), I would shoot it.'

(35) Kaji- \emptyset -rna wawirri nya-ngkarla, kapi-rna luwa-karla.
(CCOMP-PERF-1 kangaroo see IRREALIS, FUT-1 shoot-NON-PAST)

'If I had seen a kangaroo (then), I would have shot it.'

In (34), with imperfective, or central aspect, the protasis expresses a hypothetical condition related to the time of speaking, i.e., the present, hence [-past]; while in (35), with the perfective, or non-central aspect, the protasis expresses a hypothetical condition related to a time which precedes the time of speaking, i.e., the past, hence [+past].

The glossing I have chosen for the two aspects of Warlpiri implies that the language makes use of the imperfective/perfective distinction. I think that this is essentially correct, but the true nature of this opposition in Warlpiri is to be understood, I suggest, in terms of the more general

central/non-central distinction. The imperfective, which includes the present tense (glossed PRES) is [+central], while the perfective is [-central]. This is what the perfectivity distinction in Warlpiri amounts to.

The auxiliary base and the verbal inflection function jointly to define the tense and aspect of a finite clause. Thus, we may represent the tense-aspect category of sentence (36) below as the feature set (37):

(36) Wawirri ka parnka-mi.
(kangaroo PRES run-NONPAST)
'The kangaroo is running.'

(37) $\left[\begin{array}{l} +\text{central} \\ -\text{past} \end{array} \right]$

Let us assume, following Reichenbach (1966), that the category of tense is to be described in terms of a time of speech (S), an event or process (E), and a temporal point of reference (R). Using this vocabulary, we may characterize the tense distinctions of Warlpiri as relations (of priority, simultaneity, and the like) between S and R, and the aspectual distinction as a relation (of central or non-central coincidence) between R and E. Generally speaking, the tense which I have glossed PRES, which co-occurs only with the nonpast verbal inflection, denotes the temporal relation in which S and R coincide (in the Reichenbach notation: S, R), as in (36). This is an imperfective in Warlpiri and, accordingly, the event depicted by the verb in (36) is on-going at R - i.e., R coincides centrally with E, a relation which I will notate R/E. The tense-aspect category of (36) may be represented, in modified Reichenbach notation, as follows: S, R/E.

By contrast to (36), the tense-aspect category of (38) below is that defined by the feature set (39):

(38) Wawirri-lpa parnka-ja.
(kangaroo-IMPERF run-PAST)
'The kangaroo was running.'

(39) $\left[\begin{array}{l} +\text{central} \\ +\text{past} \end{array} \right]$

Again, this is an imperfective, but it is in the past tense, hence the temporal point of reference precedes the time of speech (thus: R ___ S). As in (36), so also in (38), the event depicted by the verb is on-going at R, hence the aspect is central coincident. The tense-aspect category of (38) may be represented as follows in modified Reichenbach notation: R/E ___ S.

In a number of distinct linguistic communities in Central Australia (e.g., the Arandic communities, the Warumungu community), the past imperfective is quite regularly used as a 'historic' tense, in narratives reporting events of the (more or less distant) past. In this usage, the imperfective/perfective distinction is neutralized. We may express this in terms of a rule of usage, as follows:

(40) [+central] → [0central] / [+past, ___].

Warlpiri participates in this Centralian tradition, illustrated in the following narrative fragment (the same as (29) above):

- (41) Karlarra-lku-lpa-lu jilja-kurra pardi-ja- jurlarda-ki-lku paka-
minja-ku.
(westward-THEN-IMPERF-333 sandhill-ALL start-PAST - -
sugarbag-PURP-THEN chop-INF-PURP)
'Then they set out for the sandhill country to the west - to cut
sugarbag (i.e., to gather honey):'

The effect of rule (40) is that of neutralizing the central/non-central distinction in the past tense. The appropriateness of the use of this form depends on extralinguistic factors - roughly, it is appropriate for telling stories or reporting past events of some remove from the present.

The null form of the auxiliary base marks the non-central, or perfective, aspect. It is illustrated in concert with the nonpast tense in (42) below:

- (42) Ngaju- \emptyset -rna parnka-mi.
(I-PERF-I run-NONPAST)
'I'll run.'
'Let me run.'

The tense-aspect category involved here is represented by the feature set (43):

(43) $\left[\begin{array}{l} \text{-central} \\ \text{-past} \end{array} \right]$

Here, the tense category indicates that the point of reference does not precede the time of speech. Generally, where no other element of temporal reference is present, as is the case in (42), the point of reference is taken to be coincident with the time of speech (thus: S, R). And quite generally in the nonpast tense, the non-central aspect indicates that the

event is itself non-past. We may say that there is an aspect of coincidence in relation to R, but only in the sense that it is *non-centrally* coincident. That is to say, the event is not itself on-going at R; rather, its *inception* coincides with R, to the extent that this is possible or practical, given the nature of the situation involved. The event or process, E, starts, or, if momentaneous, both starts and finishes at a non-past time which is as close as possible to R. For this reason, the category (43) is sometimes referred to as an 'immediate future'. In the modified Reichenbach notation, I will use a hyphen to indicate the aspectual relation - thus, (43) may be represented in that notation as follows: S, R-E. Warlpiri also possesses a future tense form according to which the point of reference specifically *follows* the time of speech - i.e.: S ___ R-E. This future tense is marked by means of the element *kapi-* (or dialectically, *kapiu-* (glossed FUT) preposed to the null auxiliary base, as in (44) below:

- (44) Ngaju kapi- \emptyset -rna parnka-mi.
(I FUT-PERF-I run-NONPAST)
'I will run.'
'I am going to run.'

Although I cannot assert this with absolute confidence, I suspect that the force of the 'durative' element *-yi* in a sentence of the type represented by (13) above is that of rendering a central coincident aspect, permitting a future central, not otherwise a part of the Warlpiri system, so far as I understand it.

The null base in combination with the past tense is illustrated by (45) below, and the corresponding feature representation is set out in (46):

- (45) Nantuwu- \emptyset parnka-ja.
(horse-PERF run-PAST)
'The horse ran.'

(46) $\left[\begin{array}{l} \text{-central} \\ \text{+past} \end{array} \right]$

Here, the point of reference precedes the time of speech, and the event can be viewed either as ending or as beginning at R - hence, either of the following two representations: E-R ___ S, or R-E ___ S.

As a final example of the central/non-central opposition in Warlpiri grammar, I will cite the distinction between depictive and translative predication (see Simpson 1983). Secondary predication of (morphologically nominal) attributive expressions, as illustrated in (47) below, is an important resource of Warlpiri which shoulders an extraordinarily large

portion of the expressive burden, permitting as it does the incorporation of an indefinite number of subordinate propositions in a single clause:

- (47) Nantuwu ka parnka-mi mata.
(horse PRES run-NONPAST tired)
'The horse is running tired.'

The relation between the subordinate predicate *mata* in (47) and the action depicted by the verb is one of central coincidence – that is, the state of fatigue attributed to the subject coincides with the action; the horse is tired while it is running. By contrast, in (48) below, in which the subordinate (nominal) predicate is inflected for translative 'case', the relation between the predicates is that of non-central coincidence. The translative indicates that the state depicted by the secondary predicate is the *end* result of the action depicted by the verb – the horse runs until it is tired:

- (48) Nantuwu ka parnka-mi mata-karda.
(horse PRES run-NONPAST tired-TRANSLATIVE)
'The horse runs till tired.'

I suggest, in short, that the two types of secondary predication illustrated by (47)–(48) are to be understood in terms of the basic abstract central/non-central opposition, as set out in the table below:

- (49) Depictive and translative predication:

Central	Non-central
Nominal expression appears in case of controlling argument (e.g., absolutive as in (47)).	Nominal expression appears in translative case.

In the foregoing discussion, I have briefly examined six areas of Warlpiri grammar for which it is possible to argue, convincingly, I maintain, that a fundamental abstract semantic opposition of central versus non-central coincidence is at work. I believe that this opposition is a semantic universal, though it is to be observed with particular clarity and purity in the grammar of Warlpiri. Its universality follows, I suggest, from the fact that it constitutes a part of the mental structures which enable human beings to acquire the semantic systems of their native languages. It is, in short, a part of World View-2. The opposition itself is therefore not learned, only the particular ways in which it functions in the grammars

are learned. I suspect that Warlpiri represents the unmarked case in this regard; if not, it closely approximates it in the purity with which the opposition is to be observed.

NOTES

1. The glossing of examples is, for the most part, self-evident. The categories of person and number in the auxiliary are indicated by means of numerals: 1 = first person, 2 = second person, 3 = third person; 11 = first exclusive dual, 12 = first inclusive dual, 333 = third plural, and so on. For details on Warlpiri grammar, see e.g. Hale 1973, 1982, 1983, Nash 1980, and Simpson 1983.
2. In the text I discuss only what might be called the 'core' of the tense aspect system. In addition to the elements appearing in table (32), there exist others which fill out a rather rich system of tense-mood-aspect markers in the auxiliary. Furthermore, in some dialects of Warlpiri, particularly in that known as Ngaliya, there exists a special future ending, continuing the reconstructable Pama-Nyungan *-ku, and in the speech of some Warlpiris, there is a special presentational present tense, continuing a reconstructable *-nya.

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