

# HANDSIGNS AND HYPERPOLYSEMY: EXPLORING THE CULTURAL FOUNDATIONS OF SEMANTIC ASSOCIATION

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*Many 'implausible' semantic changes will no doubt be validated in time by those with a deep knowledge of traditional Australian Weltanschauungen.* (O'Grady 1987:525)

## 1. INTRODUCTION<sup>1</sup>

Just over thirty-five years ago, Geoff O'Grady submitted an ambitious work that married anthropological concerns with linguistic concerns and set the scene for the comparative historical endeavours he has pursued ever since. This was his research BA thesis for the Department of Anthropology at the University of Sydney. The first line of this work reads:

The purpose of this thesis is to determine the extent to which the advance of circumcision among the Aboriginal tribes of Western Australia is reflected in the present-day distribution of languages and cultural traits. (O'Grady 1959:1)

In this we see an early interest in the interplay between cultural practice and linguistic traits which would expand in focus from Western Australia to the whole of Australia. O'Grady was the first to look seriously at the relation between cultural diffusion and linguistic diffusion in Australia. Implicit in his work is the idea (well-known to historical comparativists of the Indo-Europeanist tradition) that the diffusion of cultural practices involves the diffusion of concepts and the diffusion of concepts is typically accompanied by the diffusion of linguistic elements. As such, even in this early work, he recognised that semantic shift and semantic association provided critical clues to cultural practice and culture

<sup>1</sup> Much of the approach which this paper uses was developed in collaboration with Nicholas Evans, and I would like to thank him for his input, advice and encouragement. I would also like to thank Balthasar Bickel, Gavan Breen, Ingjerd Höem, Adam Kendon, David Nash, Gunter Senft, Eva Schultze-Berndt, Barbara Villanova and Michael Walsh for their help and advice. My own research on Arrernte is supported by the Yipirinya School in Alice Springs and I am greatly indebted to the Yipirinya community for their guidance and friendship. Margaret Heffernan, especially, has been a wonderful teacher and, in relation to this paper, she has been my main guide in understanding contemporary handsign usage. My understanding of the use and meaning of lexical items in Arrernte also owes much to conversations with Gavan Breen, Jenny Green and John Henderson who all work extensively on Arandic varieties. I must also acknowledge the Arandic Languages Dictionary Program based at the Institute for Aboriginal Development in Alice Springs for access to language documentation relevant to this paper. Finally, I would like to thank Geoff O'Grady for his interest and encouragement with respect to my research into semantic change. I remember particularly when he and his wife Alix visited me and my wife Barbara for lunch in Davis, California in 1989. Among other things, we talked about the interconnections between 'brain', 'egg', 'marrow', 'water', 'pus', 'head' and 'skull', and about his early travels in Australia collecting linguistic materials. His continuing interest in, and love for, his work were palpable and inspiring.

change. For instance, he wrote (1959:115) that “In non-W[estern] D[esert] there are indications of a semantic link between ‘mother’ and ‘sun’” and suggested that “[t]his may be a clue to some aspects of non-WD religious beliefs”, a suggestion which, in these days of *Women, fire and dangerous things* (Lakoff 1987), is now known by much of the linguistic world to be true. Similarly, he observed (1959:114) that “C[ommon] A[ustralian] \**njuran* ‘ground, camp’ is absent from S[outh] W[estern Australia], and *gala* there tends to refer to ‘camp’ as well as to the basic meaning ‘fire’” and he hypothesised that this semantic shift is to be explained by the fact that “in the colder SW climate the camp is regarded as consisting first and foremost of the camp-fire” (cf. Evans 1992b:493–501).

Like much of his later work, his BA thesis was concerned with lexical comparisons and comparative reconstruction, and his awareness of the importance of such semantic associations led him to observe (1959:113) that “[e]ven in a test list of little over 100 words semantic factors cannot be eliminated, and precise cognate counting demands due allowance for the changes involved”. But, assessing the plausibility of a semantic association or semantic change has from the very beginning been a consistent and nagging problem for comparative reconstruction. In more recent years, O’Grady’s method has been to assemble semantically disparate cognate sets based on the probability of phonological match. He states (1987:519) that “Pama-Nyungan cognate search is thus above all phonologically motivated”, and he elaborates that “[q]uestions of semantics are raised only after phonology-based identification of potential cognates has been carried out”. But as he points out, an inevitable outcome of such a method is that one is “confronted with the necessity to make a judgement as to whether, for example, a negative particle could have evolved into a word for ‘edible root’”. Lacking such evidence as independent documentation or correspondence to well-attested patterns of universal and Australian-specific patterns of semantic association (see O’Grady 1979), O’Grady in fact rejects the association of ‘negative particle’ and ‘edible root’, but not before admitting (1987:525) that his unawareness of a semantic link between these two notions “is not necessarily shared by the native speaker”. It is at this point that O’Grady makes the statement that stands at the beginning of this paper, an acknowledgement that a much greater understanding of Australian ethnography will be needed if we are to reconstruct not just forms, but the concepts and world view they embodied. For O’Grady, every reconstructed form is both a claim and a clue concerning the *Weltanschauung* of a once vital speech community. While it has not been his own mission to immerse his work in the nitty-gritty of ethnographic detail, he has acknowledged and assumed such links must be made.

This paper is an extension of research undertaken jointly with Nicholas Evans into the exploration of polysemy and semantic change in Australian languages, and may rightly be seen as a companion piece to Wilkins (1996) and Evans (this volume and 1992b). Our research complements that of O’Grady since it places semantics before form, and works towards a semantically-based identification of potential cognates, leaving questions of phonology to be raised only after potential semantic associates have been identified. To achieve this goal first requires an understanding of current patterns of semantic association. Three of our most important operating principles are: (i) “all semantic changes within a speech community involve polysemy at their beginning point or at their endpoint” and as a result “[s]ynchronic polysemy becomes crucial in the investigation of semantic changes because it acts as a proof of the plausibility that two meanings are semantically related and that one meaning could give rise to the other” (Wilkins 1996); (ii) everyday language is just one of a number of semiotic systems which a speech community has at its disposal, and so

one should not only look to other everyday languages to provide independent documentation of a semantic association, but one should also cross-compare semiotic systems; and (iii) there is a “need to make explicit the cultural knowledge that allows us to substantiate a claim of semantic relatedness” (Evans this volume). The central purpose of this paper is to further explore the assumption that semantic associations in distinct semiotic systems may parallel one another and to demonstrate the need for making explicit the cultural foundations from which semantic associations emerge. One result will be several networks of attested semantic associations which can later be used to search for cognates in the rest of Australia.

As Evans (1992b:488) notes, it is an open question as to how far semantic associations in other semiotic systems will parallel those of everyday language. Figure 1 presents my working hypothesis concerning the relative degree to which conventions of everyday language are mirrored by other symbolic conventions used by various Australian communities. It is hypothesised that non-linguistic symbolic conventions which are more public are more likely to reflect the kind of semantic associations found in everyday language. By contrast, semiotic codes which are supposed to be secret and/or restricted to certain subgroups of society may depart radically from everyday conventions in order to promote opacity. Further, it is also hypothesised that as a semiotic system becomes less and less like everyday spoken language in terms of medium and structure, there is a parallel decrease in the likelihood that it will maintain the same types, range and specificity of associations as those found in everyday languages.<sup>2</sup> Semiotic systems do not map directly on to one another, on the contrary, it is assumed that each semiotic system that a group uses can provide a unique and equally useful (and valid) picture of how the society structures semantic space. However, we might expect that the more obvious or important a semantic association, or type of semantic association, is for a particular cultural group, the more semiotic systems that association will be mapped into.

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<sup>2</sup> This discussion and the hierarchy as presented in Figure 1 are admittedly oversimplified and overidealised. For one thing, the hierarchy as presented misleadingly suggests, for instance, that highly restricted secret languages are likely to mirror everyday language conventions more closely than everyday public songs. This need not be the case. There are two dimensions which vary independently but are conflated in the hierarchy: (i) degree of public access; and (ii) types of semiotic expression (which differ in terms of primary medium and structure). Here I have chosen to hierarchically arrange the types of semiotic expression, and it is only within each type that I have hierarchically arranged subtypes according to degree of public access.

Another complication which is not being addressed here is the fact that it is not always simply a specific semiotic code which is restricted or public; specific elements which constitute the code (e.g. specific words) may also vary according to degree of public access. Moreover, as Michael Walsh (pers. comm.) has rightly pointed out, there are cases where a form may be public but its sense may be restricted, or at least one of its semantic associations may be restricted. Similarly, a form may be publically useable by just a restricted subgroup of the community, but open to reception (and understanding) by the whole community (see, for instance, Morphy's (1991, Chapter 5) discussion of inside and outside knowledge among the Yolngu). As important as these issues are, they are peripheral to the current aims of this paper.

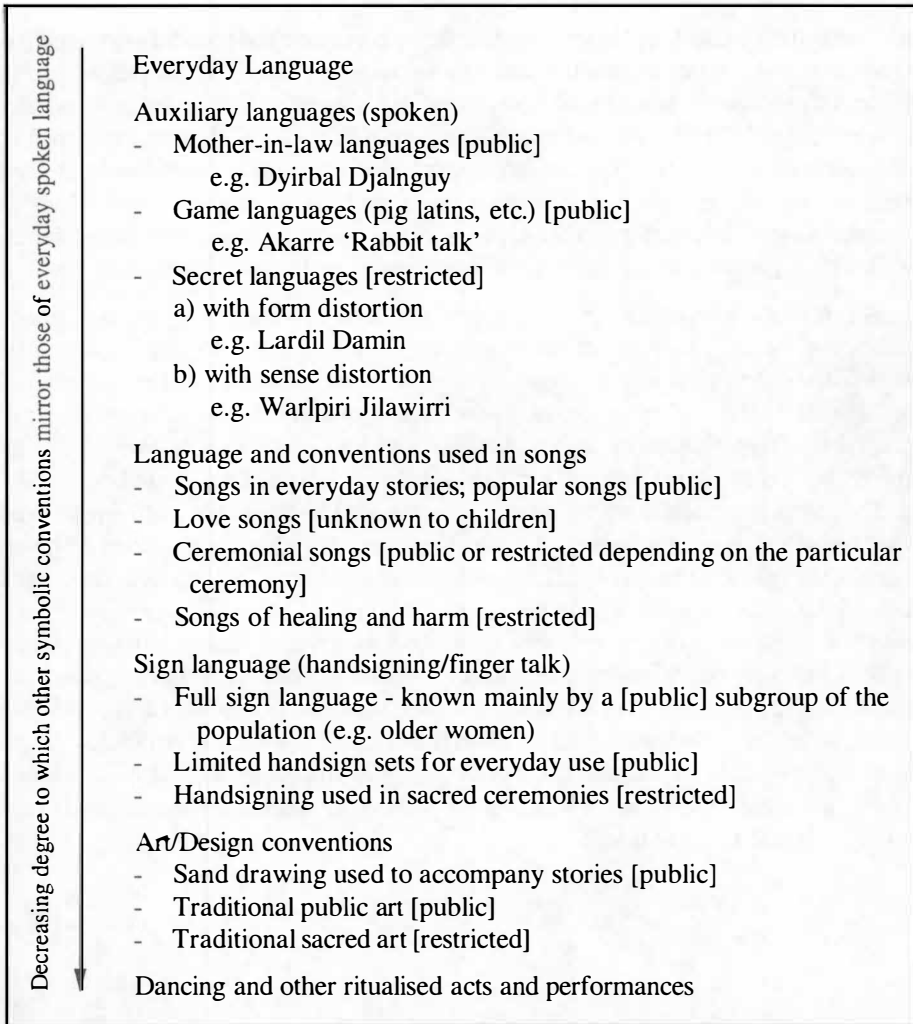


FIGURE 1: MULTIPLE SEMIOTIC SYSTEMS IN AUSTRALIAN COMMUNITIES

To narrow the scope of this exploration, I will focus on the question of whether and how semantic associations found in Arrernte handsigns, as described by Carl Strehlow (1915:54–78; 1978), are reflected in everyday language. These handsigns are part of a public code, a kind of auxiliary sign language with a limited sign vocabulary and simplified syntax available for use by all members of the community. In other auxiliary languages in Australia, it is common that a severely reduced vocabulary means that there are high levels of polysemy relative to the everyday language, and this is also true of Arrernte handsigns where one handsign can correspond to as many as ten distinct (non-synonymous) lexemes. As a very simple example which can be found in contemporary Arrernte handsign usage, one handsign corresponds to both *aherre* 'plains kangaroo' and *kere* 'meat; game animal', reflecting that this kangaroo is considered the prototypical game animal and a preferred meat.<sup>3</sup> Evans (1992b:476) refers "to the lavish polysemy found in such systems as *hyperpolysemy*".

<sup>3</sup> The same handsign is described and illustrated by Kendon (1988:149–150) for Warlpiri, but only in the meaning of 'plains kangaroo' (i.e. *marlu*). He records (p.266) a separate Warlpiri sign for 'meat; game animal' (i.e. *kuyu*).

Through detailed case studies of two hyperpolysemous handsigns, I will explore how the network of semantic associations involved in each case of hyperpolysemy reflects both universal and culture-specific concerns, and can only be fully accounted for when one is in possession of quite specific ethnographic facts. Further, everyday language data will be examined to determine the extent to which semantic associations in the hyperpolysemous networks of each handsign are also present in language. For this comparison with everyday languages, I will rely on my own research on Arandic languages, especially Mparntwe Arrernte (Wilkins 1989, 1993), as well as using four very recent and excellent dictionaries of different Australian languages: one, for the Arandic language Alyawarr (*Alyawarr to English dictionary*, Green 1992); two for different Western Desert languages (*Pitjantjatjara/Yankuntjatjara to English dictionary* (2nd edn), Goddard 1992, and *A basic Kukatja to English dictionary*, Valiquette 1993); and one for a much more culturally, linguistically and geographically distinct language, Kayardild (*Kayardild dictionary and thesaurus*, Evans 1992a).

The rest of the paper will be organised as follows: §2 contains a brief discussion of sign use among the Arrernte; §3 and §4 contain the two case studies referred to above; §5 provides conclusions.

## 2. HANDSIGNS AMONG THE ARRERNTE

In using the term *handsign*, as opposed to simply using the term *sign*, I am attempting to capture something of the Arrernte view of these codified gestures. Arrernte speakers themselves talk of *iltye-le ile-me* (hand-INST tell-present) 'telling something with the hands' (i.e. using handsigns) or *iltye-le angke-rre-me* (hand-INST speak-RECIP-present) 'speaking to each other with the hands', and a reduplicated form based on *iltye* 'hand', *iltye-me-iltye-me*, is the term used for conventionalised handsigns themselves. Further, as Carl Strehlow (1915:54) noted, one term for sign language, or handsign use, is (*a*)*kw-irre-nty* (C.S. *kwerinja*) which is formed from *akwe* 'hand, arm', plus the inchoativiser *irre-*, plus the deverbal nominaliser *-nty*. Following Kendon (1988:97) we may describe handsigns as codified manual gestures used for communicative purposes and involving "a phrase of movement in which hand or hands are moved away from a rest position towards some region in space or towards some part of the body, and then back again" and "[a]s the hand approaches this location, the hand itself comes to assume a distinctive organization, or *handshape*".

Handsigns are ubiquitous in communicative interaction among the Arrernte. They may accompany speech or they may be used independently of it. Storytellers will often use a handsign rather than a word to convey certain information, and people drawing stories in the sand may use a handsign to disambiguate a highly general sand-drawn symbol. During meetings, silent side comments are often made using handsigns, and it is very common to see people who are distant from one another communicating in sign. As far as I've been able to observe, the Arrernte case falls somewhere in the middle of the continuum that Kendon (1988:2) draws between *sign use* ("[w]here the number of codified gestures used is relatively small and where they are not used as an autonomous mode of discourse") and *sign language* ("where the codified gesture vocabulary is large, and where codified gestures can be employed as a mode of discourse on their own"). Unlike the highly elaborated sign language controlled, for instance, by Warlpiri and Warumungu women, where the gesture vocabulary

consists of thousands of items and there is a complex syntax<sup>4</sup> which allows anything that could be said in the everyday language (including lengthy narratives) to be easily rendered in sign language (Kendon 1988), the Arrernte situation involves a handsign vocabulary that seems to be somewhere between 300 and 500 items, and these items may be put together to form signed utterances using a simplified syntax with reduced grammatical distinctions that places limits on what can practically be communicated. Carl Strehlow (1978:349) notes with respect to the sign language of the Arrernte that “[a] knowledge of it seems to be universal” and “[i]t is understood by all the adult men and women”, and this remains true. We are talking of a simplified auxiliary communication code that is used on an everyday basis by all members of the speech community, not an elaborated language in its own right which is used primarily by women under a speech taboo (usually in connection with mourning: Kendon (1988:85)).

Carl Strehlow’s (1915) description of ‘Die Zeichensprache der Aranda’ (The sign language of the Arrernte)—see also Strehlow (1978)—remains the largest compendium of handsigns recorded for the Arrernte (more particularly the Western Arrernte). This is just one section out of his mammoth and impressive multi-volume work *Die Aranda- und Loritja-Stämme in Zentral-Australien* (1907–1922). This section is primarily a list of Western Arrernte words and expressions with a description of the corresponding handsign, or complex of handsigns. Although there are no breaks in the 454 entries, they are ordered according to the semantic domains that the everyday language words fall into (human status and age terms, followed by kinship terms, followed by terms for spiritual being, followed by body parts, and so on). Sometimes a single entry will contain a list of everyday words that the handsign corresponds to, and occasionally an entry will be an expression made up of two or more already listed handsigns combined according to the rules of the simplified syntax. Very frequently there is no actual description of the handsign corresponding to a Western Arrernte word, instead there is an indication that that word is covered by the same handsign as another word, and the cross-reference is given, and on rare occasions an explanation for this polysemy of the handsign is provided. The following is just such an example (C. Strehlow 1915:63):

153. *alknénera*:                      Wie *tjilpa* (Beutelmarde) No.62, weil nach der Tradition  
(Cikade) und die                      der *Tjilpa*-Mann viele *alknénera* gesammelt und gebraten  
hat andern Cikadenarten        (s. Aranda-Sagen S.53).

An English translation of this section on sign language was made by C. Chewings and published in 1978. His rendering of this entry is as follows (p.357):

153. *alknénera* (cricket and other cricketlike insects). The same sign as for *tjilpa* (the marsupial wild cat, No.62) because according to tradition, the *tjilpa* man collected and baked many *alknénera*.

Although it is a good thing to have an English translation, this example will suffice to show why one must also deal with the original rather than trusting only to the translation. Firstly, *alknénera* refers to ‘cicadas’, as the German original indicates, not ‘crickets’, and, secondly, the German original provides cross-references here (and in many other entries) to other parts

<sup>4</sup> It should be pointed out that the morphosyntactic structure of the sign languages used by Warlpiri and Warumungu women appears to be modelled largely on the morphosyntactic structure of everyday spoken Warlpiri and Warumungu (Kendon 1988, Chapter 8). Thus the complexity of these sign languages appears to be inherited from everyday language rather than being an independent property.

of Strehlow's larger work where one can find further information on the semantic and cultural relations mentioned, and these were uniformly omitted from the translation. Further, the translation copy has a couple of mistaken internal cross-references to terms which are meant to share the same sign, and this is clearly a problem if one is attempting to examine cases of hyperpolysemy.

With all the preceding discussion taken into account, it is possible to state that there are 261 distinct basic handsigns which correspond to 477 everyday words.<sup>5</sup> Of these, 172 handsigns are, as far as one can tell from Strehlow's data, non-polysemous. That is to say, in these cases there appears to be a one-to-one correspondence between a handsign and a Western Arrernte everyday language word. However, just over a third of the handsigns, 89 to be precise, cover the same semantic space as 305 of the distinct, non-synonymous, everyday language terms provided by Strehlow. In other words, there is substantial polysemy in the handsign lexicon relative to the everyday language lexicon. Each of these 89 handsigns corresponds to between two and ten words. While much of this hyperpolysemy has not been confirmed with respect to the current contemporary situation of sign use amongst the Arrernte or other groups, the truth is, there has been very little follow-up research, and there seems no reason to doubt the accuracy of Carl Strehlow's observations for the time and place he was gathering data. Indeed it is an exciting find that this reduced auxiliary sign language has some of the encoding properties found in spoken auxiliary languages from other parts of Australia (e.g. Guugu Yimidhirr 'brother-in-law language' (Haviland 1979), and Damin initiation register used by the Lardil (Evans 1992b; Hale 1982)). For one thing, it may allow one to determine whether medium effects the patterns and types of hyperpolysemic relations one finds in auxiliary language systems. For our purposes, it provides us with examples of networks of associated concepts for which explanations of connections are needed, and which allow us to explore what degree of parallelism exists between semantic associations as revealed by handsigns, and semantic associations as revealed in language.

The two case studies which follow are organised in the same fashion and each contain five main subsections. They begin with a general description of the sign complex, that is, the set of everyday words which the handsign corresponds to. This is followed by a description of the form of the handsign itself. Then a discussion of the semantic and cultural connections is presented, in which relevant ethnographic details are included in order to substantiate the associations. After this, the exploration turns to the search for everyday language parallels to, and extensions of, the semantic associations manifested by the handsign. Finally, there is a summary of the results of the particular case study.

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<sup>5</sup> These figures differ slightly from those of Kendon (1988:49, 388) who concludes that Strehlow described 290 signs covering 454 meanings. I believe the discrepancy is explained as follows. Firstly, Kendon has treated each entry as a separate meaning, while, as I have noted, sometimes an entry contained more than one corresponding Western Arrernte word (of different meanings) and sometimes an entry contained complex expressions which can be explained in terms of more basic signs and general rules of combination. Thus my correspondences are sign to word correspondences, which differs from the number of entries. Secondly, it seems as though Kendon may have counted as single signs certain sign complexes that could be generated by syntactic rules and this would explain why he has 13 more signs than I do.

3. CASE STUDY 1: WOMEN OF THE SUN

3.1 THE SIGN COMPLEX

Strehlow indicates that *arrekwetye* ‘woman’ (C.S. *arágutja* ‘Frau’), *kwarre* ‘big girl’ (C.S. *kwara* ‘Mädchen, größeres’), *lernnge* ‘sun’ (C.S. *lénga* ‘Sonne’); *kwerralye* ‘the Pleiades, the seven sisters’ (C.S. *kurálja* ‘Siebengestirn’) and *arlte-le* [day-LOC] ‘in the daytime, during the day’ (C.S. *általa* ‘am Tage’) are all represented by one and the same handsign. The only semantic connection among these notions which he makes explicit is in his description of *arltele* ‘in the daytime’ where the full entry reads: “Same as *lénga* (sun, No. 255) or *arágutja* (woman, No.2), for the sun is regarded as a woman” (C. Strehlow 1978:366). However, we may render the relations in this complex as in Figure 2.

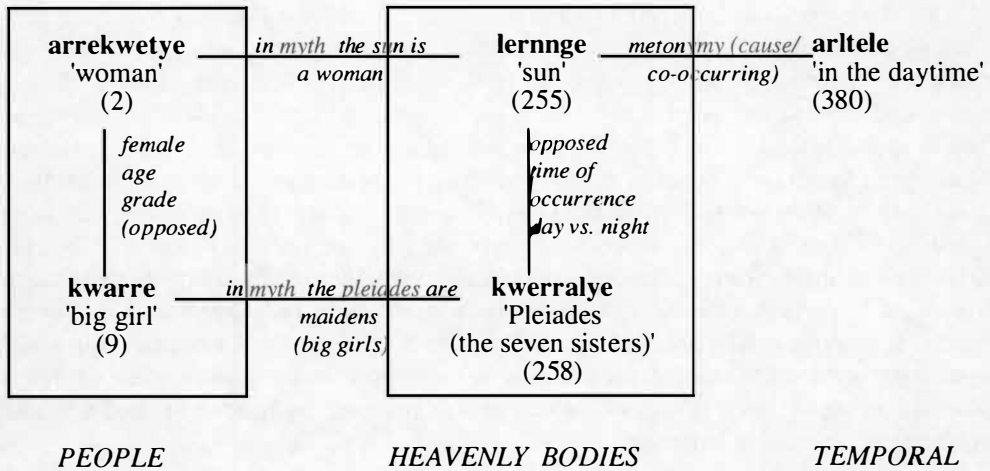


FIGURE 2: THE 'WOMAN/SUN' COMPLEX

3.2 THE HANDSIGN

“Spread all the fingers of the right hand horizontally with the back up, hold 1 [the thumb] somewhat up and 2 [index finger] somewhat down, and bring the whole hand into trembling motion.” (C. Strehlow 1978:350)

Kendon (1988:396) represents this Arrernte sign in his notation as follows  $x\bar{B}^{\sim}_{\perp}{}^{\text{tr}}$ . That is,  $x\bar{B}$  = a variant on an ASL ‘B’ handshape with digits 2, 3 and 4 fully extended, 1 [index finger] extended at A joint, flexed at B joint, thumb fully extended and abducted, the other fingers may either be drawn together or pulled apart, depending on the sign [see figure on p.122];  $\sim$  = facing or pointing downwards;  $\perp$  = away from signer ; and  $\text{tr}$  = tremble, a very rapid, small amplitude movement.

The semantic base of the sign is currently unknown. That is to say, if the sign form has a non-arbitrary origin, it is yet to be uncovered. Moreover, Strehlow’s is the only known attestation of this sign; the sign for ‘woman’ which I have recorded for Mparntwe Arrernte speakers is entirely different (it is based on the breast), and the sign which Spencer and Gillen (1927) give for ‘sun’ is also distinct (cf. figure 51 on p.606). However, Kendon (pers. comm.) has suggested that there may be a formal and a semantic connection between



this Arrernte sign and the Warlpiri sign for *parraja*, which is the term for a long flat wooden dish (coolamon) which women use for preparing edible seed, carrying food, and carrying babies. Such artefacts are uniquely associated with women and are often used to refer to, or symbolise, women. Kendon (1988:127) observes that, in his study of Warlpiri sign language, the handshape xB (i.e. the handshape at the base of the Arrernte sign) “occurs but twice, in the sign for *parraja* ‘coolimon’, and in the sign for *pirrarni* ‘yesterday’”. These signs, and the Arrernte sign, differ in their movement component, so any connection is only through handshape, but it is very interesting and suggestive that the only two Warlpiri signs with this handshape have meanings that are easily fitted to the network in Figure 2 (i.e. *parraja* ‘coolamon’ is conceptually associated with ‘woman’ and *pirrarni* ‘yesterday’ is conceptually associated with the temporal notion of ‘in the daytime’). In this connection, it is also worth noting that Kendon (1988:474–512) presents both a signed and spoken version of a story which “belongs to the Dreaming and is part of a complex of stories that are concerned with the star constellation the Pleiades or Seven Sisters”. This story is entitled *Parraja-kurlu* ‘About the coolamons’, and in it coolamons play a crucial role in precipitating a climax where a group of sisters of the Napaljarri subsection “take off and go up into the sky to become the *Napaljarri-warnu* constellation [i.e. the Pleiades—DPW]” (1988:475). In Warlpiri, therefore, it appears that ‘coolamon’ and ‘the Pleiades’ are also closely connected concepts, and this further supports the hypothesis that the formal connection (in terms of xB handshape) between the Warlpiri sign for ‘coolamon’ and the hyperpolysemous Arrernte handsign for ‘woman; girl; sun; Pleiades; in the daytime’ reflects a conceptual connection as well.

### 3.3 DISCUSSION OF SEMANTIC AND CULTURAL CONNECTIONS

The network in Figure 2 does not appear to involve a single central concept from which all others radiate, but instead appears to involve a structured parallelism. In short, the classic semantic opposition of ‘girl’ and ‘woman’ which involves shared gender but opposed age grades, is mirrored by the opposition of ‘the sun’ and ‘the Pleiades’, which are both heavenly bodies, but are noticeable at opposed time periods, daytime versus night-time. The parallelism and sense of structured oppositions is further reinforced by the fact that in Arrernte myth ‘the sun’ is a ‘grown woman’ (*arrekwetye*) and ‘the Pleiades’ is a group of ‘girls’ (*kwarre*). The fifth concept in the network, ‘in the daytime’, appears to be a simple association with ‘sun’. The fact that ‘the sun’ is a cause of ‘daytime’, and the two are observably co-occurrent most of the time, leads to a very common association cross-linguistically (as for instance the Indonesian term for ‘sun’ *mata hari* ‘eye of the day’), and in this network may be seen to support the assertion that the ‘daytime’ versus ‘night-time’ opposition of ‘the sun’ and ‘the Pleiades’ is indeed a relevant semantic consideration. This sketch of the relations, however, does not do justice to the actual richness of the relations, nor does it give a sufficient account of the cultural understandings within which the network is embedded.

An enriched account would require, among other things, a sketch of the actual mythic beliefs concerning ‘the sun’ and ‘the Pleiades’. C. Strehlow provides both a Western Arrernte (1907:16–17) and a Luritja (1908:8) account of ‘the sun’. Although both renditions are similar on many points, there are significant differences. In the Arrernte account, the sun (*lemnge*) is a solitary beautiful unmarried woman, while in the Luritja account the sun (*tjintu*) is, in fact, a group of sisters (an elder sister and progressively younger sisters). In both accounts, the sun has long white hair, her/their home is in a place in the east, and the sun’s

journey involves climbing a high tree up into the heavens, and then travelling westwards, and then descending in the far west out of sight. In the Arrernte account the home in the east is called *°Rarka* (i.e. *aherrke*, currently a Mparntwe Arrernte word for ‘sun’), the tree is a supplejack (*tnyere*), the source of light and heat is a large firestick carried by the woman, and the western descent is into a large hole in the ground (C.S. *°ralpara*, MpA *ahalpere*), while in the Luritja account the home is called *Ununpa* ‘very hot’, the tree is a bloodwood tree (*arrkinka*, Ar. *arrkernke*), the source of light and heat is the red and fiery body of each sister, and the descent is into the sea. During the night the sun travels back to her home in the east concealed in the armpit of a man. The Arrernte version has the sun woman making the same journey every day, while in the Luritja version a different and progressively younger sister makes the journey every day, until it is the eldest sister’s turn again. The Luritja version also allows for different sun women to be located in different places, and the sun women of summer have a different source from the sun women of winter. Strehlow notes that Western Arrernte people consider the rays of the sun to be the sun’s pubic hairs (see §3.4.3), and in the Luritja account he mentions that an eclipse arises when the spun hair of a possum covers the sun.

Certainly, both accounts of ‘the sun’ support the pan-Australian connection of ‘sun’ with ‘woman’, and contain features which suggest a semantic and cultural affinity with the Dyirbal inclusion of ‘woman’, ‘sun’ and ‘fire’ within the same noun class (Dixon 1972). However, the differences between the Arrernte and Luritja accounts must surely be considered as important as the parallels. There is a lot of room for variation, even when a common cultural core is held constant. In the Arrernte case, the association of ‘sun’, ‘woman’, ‘firestick’, ‘day’, ‘supplejack’, ‘large hole in the ground’, ‘man’s armpit’ and ‘pubic hair’ within the mythic account itself forms a network worthy of further investigation. In my own research into Mparntwe Arrernte terms and uses for plants, I was told, for instance, that there is a special ceremonial firestick, *ntyangkwerlkngge*, which can only be made from *atnyere* ‘supplejack’, thus adding a further cultural link between the fact that ‘the sun’ woman climbs the ‘supplejack tree’ and the fact that she carries a ‘firestick’, two points which are central to the Arrernte account but are not part of the Luritja account.

To the above we can add the interesting fact that one of the Mparntwe Arrernte words for ‘the sun’, the word preferred by many older speakers, *aherrke* is cognate with the name Strehlow gives for the eastern home of ‘the sun’, *°Rarka*. Koch (1983), in the first serious attempt to compile etymological entries for Arandic languages, has suggested an Arandic protoform *\*ahe-* with the semantic range ‘hot; angry; fight’ (based on such associates as Alyawarr *aha* ‘angry’, *aherlk* ‘dawn’, *aherrety* ‘hot weather, summer, dry country’, *aherrk* ‘sun, sunlight’), and notes that this would constitute the first element of *aherrke* ‘sun’, with the second element *-rrke* being an unproductive suffix used in nominal formations. In such a context, it makes sense to ask whether *ahalpere* ‘large hole in the ground’ (C.S. *°ralpara*), which might otherwise seem unrelated semantically to ‘fire’ (or ‘sun’), has a first element that derives from *\*ahe* with the connection to ‘fire’ (through ‘sun’) provided by the Dreamtime account (i.e. it is the place in the West that the sun drops into every night). This is a question to which an answer is currently unavailable, but is the type of hypothesis which the culturally enriched data leads us to pursue.

Turning now to the Western Arrernte account of the Pleiades, Strehlow (1907:19–20) notes that in the Dreamtime a group of many girls (older girls, not yet women) lived at a place called *Kerntele* [cold, frosty-LOC] ‘Frost’, or ‘Ice’ (C.S. *Kantala*). These girls were called *Kwerralye* (C.S. *Kuralja*), which is the name of the Pleiades, and Strehlow claims that

this name is in fact composed of *kwarre* ‘big girl’ and an ending *-lye* (C.S. *Ija*) which he suggests means ‘many’ but which I have been unable to confirm in any of the available linguistic sources. These girls were gathered to dance the women’s dance (*nthepirreme*) at a young man’s initiation, and performed this dance in the evening with torches in their hand. They performed their dance for a number of evenings during the rites, and when the ceremony was finally completed they returned home to *Kernte*, and then ascended into the skies where they are visible as the Pleiades. Strehlow observes that the Pleiades are most visible during the summertime when they rise in the east in the early evening and are visible throughout the whole night. Moreover, this is the time of year when most ceremonies take place, lasting long into the night, and the Pleiades are considered to be spectators of these rites. Maegraith, who went to record the astronomical observations of the inhabitants of Hermannsburg in 1929, confirms (1932:23–24) a number of Strehlow’s observations, but claims that “the famous Pleiades, or Seven Sisters, is considered to be the tracks of a group of young girls, also ‘not yet lubras’”. He also writes that “[t]his group receives the name of *Kuralja*, but is given no marriage classification”, which contrasts with the Warlpiri account mentioned in §3.2. For the Luritja, Strehlow (1908:9) presents only a very brief account of the Pleiades. The Luritja word for Pleiades, *Ukarala*, is cognate with the Arrernte, and is apparently also based on the word for ‘teenage girl or young woman’, *ukara*. These girls lived at *Ukaralyi* ‘Girls’ Place’, and they are associated with the gathering of bush bananas and the performance of the women’s dance. However, there is no mention of ‘firesticks’, ‘evening dancing’ nor participation in initiation rites which are part of the Arrernte version. It is worth pointing out that there is *no* claim in any of these early Arrernte and Luritja accounts that the girls of the Pleiades were sisters,<sup>6</sup> nor do they ever specify a number (like seven), thus it seems better to steer clear of the potentially confusing designation ‘Seven Sisters’ and stick to translating *Kwerralye* as ‘the Pleiades’.

If we bring the Arrernte accounts of ‘the sun’ and ‘the Pleiades’ into comparison, we find new patterns of association. Based on the mythic account, both heavenly bodies are females carrying firesticks. On the everyday knowledge side, we can say that both have a particular association with summer, the time when both are especially perceptible, and when they both have a significant east-west trajectory. As for reinforced oppositions, in the Dreamtime stories both arise from home countries with diametrically opposed associations; ‘the sun’ is the denizen of a place associated with ‘heat’ and ‘fire’, whereas ‘the Pleiades’ have their original home in a place associated with ‘cold’ and ‘frost’. In terms of their actual ‘day–night’ opposition, we can refine the account by saying that, in fact, ‘the Pleiades’ has a special association with ‘evening’ (moving into night), and the opposition may perhaps be better understood as a ‘day’–‘evening’ opposition.

Evans (this volume) has noted that when considering a pair of potentially related concepts we need to be concerned with three types of connection, triangularly associated: linguistic connections, mythological/social connections and day-to-day world connections. If we change ‘linguistic connections’ to ‘sign form connections’, then the relation between ‘the sun’ and ‘the Pleiades’ nicely exemplifies how all three connections can be relevant at once. Moreover, it shows how we must pay equal attention to both similarities and oppositions in

<sup>6</sup> This is in contrast to the Warlpiri account mentioned in §3.2 where it was noted that the Pleiades are considered to be a group of sisters of the Napaljarri subsection, and the Warlpiri name for the Pleiades, *Napaljarri-warnu*, reflects this.

gaining a full understanding of the strength and texture of the connections. We may diagram this triangle of connections as follows.

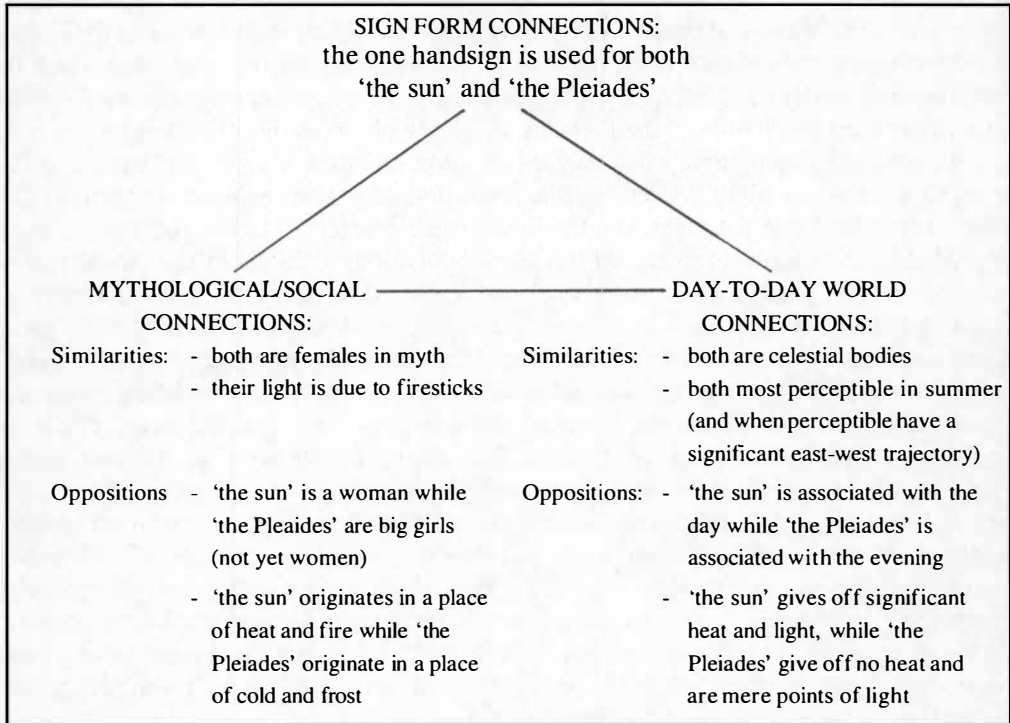


FIGURE 3: THE TRIANGLE OF CONNECTIONS WHICH ASSOCIATE 'THE SUN' AND 'THE PLEIADES'

In short, the association of 'woman', 'big girl', 'the sun', 'the Pleiades' and 'day', is enmeshed in, supported by and perpetuated through a rich network of cultural associations which involves understanding a much larger number of interlinked relations and concepts than those five which the single handsign brings together. These cultural associations are both of a 'day-to-day world' kind and a 'mythological/social' kind. Without an elaborated ethnographic account, the explanation of the five-term 'sun/woman' complex illustrated in Figure 2 would be severely impoverished, and its peculiarly Arandic nature would be lost behind a pan-Australian and universalist overlay, which could explain the skeletal framework of the network, but would be insufficient for explaining how these relations are maintained and made meaningful by a single cultural community which places its own particular layers of semiotic flesh on such a skeleton. While the Luritja facts would support the same basic associations, these resonate against the background of substantially different mythic accounts which branch into different wider cultural relations, with different overlays of similarity and opposition than is found in the Arremte account. As we shall see below, the wider network of cultural associations will be needed when we explore everyday language parallels, and this exploration will, in turn, expand the net of cultural connections.

## 3.4 EVERYDAY LANGUAGE PARALLELS AND EXTENSIONS

## 3.4.1 SUN &amp; DAY

As noted previously this is a cross-linguistically common association which is also widespread in Australian languages. Mediating notions can be 'sunlight' and 'daylight'. The fact that it is common in Aboriginal Australia to make direct reference to sun position for keeping track of time, makes an association of 'sun' with 'time' common.

Kukatja	<i>tjimtu</i>	1) sun; 2) day
Pitjantjatjara	<i>tjintu</i>	1) sun; 2) sunlight; 3) day
Pitjantjatjara	<i>tjiripi</i>	1) sun; 2) sunlight; 3) day
Kayardild	<i>warrku</i>	1) sun; 2) day; 3) time
Alyawarr	<i>aherrk</i>	1) sun; 2) sunlight; 3) daylight [ <i>arlta</i> 1) day; 2) daytime]
Mpamtwe Arremte	<i>aherrke</i>	1) sun; 2) time of day; 3) time [ <i>arlte</i> 1) day; 2) daytime]

Note also in this connection the following association of 'flame', 'heat', 'hot part of the day', 'daylight' and 'day':

Yankunytjatjara *kalala* 1) hot part of day, noon-time; 2) daylight, by day [from *kala* 'flame'] [cf. O'Grady's (1990:221) etymological set for PPN \**paaja*<sub>2</sub> which includes, with varying degrees of certainty, the notions 'sun's rays'; 'to dawn, break—of day'; 'to ignite a fire'; 'shine'; 'fire'; 'bum']

## 3.4.2 SUN &amp; WOMAN

The everyday lexical association of 'sun' and 'woman' does not appear to be very common, and does not appear in the dictionaries examined. However, as noted above, O'Grady (1959:115) observes a semantic link between 'mother' and 'sun', citing as partial evidence the Balardong form *ɲaŋg* 'sun/mother'. O'Grady (1966:116) also proposes an etymological set involving 'sun' and 'woman': Martuthunira and Thalandji *yaka.ra.ɲu* 'sun', East Miminy *yaka* 'woman'.<sup>7</sup>

## 3.4.3 SUN &amp; PUBIC HAIR

In his discussion of the Arrernte account of the sun, Strehlow mentioned that the rays of the sun are considered to be the sun's pubic hair. In Kukatja a couple of lexical items recapitulate an association between 'sun' and 'pubic hair', but the association appears to be supported by a different belief. In the entry for *ngurrurn(pa)* '1) pubic hair; 2) sun' there is a cultural note which states "[t]he sun makes pubic hair grow; thus *ngurrumpa* means both 'sun' and 'pubic hair'" (Valiquette 1993:157). However, an example sentence under *puru-purula* 'to rise' suggests there is not only a causal connection, but also a perceived metaphoric parallelism between the 'sun' and 'pubic hair': "The sun rises and pubic hair rises, pubic hair [which is] certainly [something] private, does grow." Another lexeme which demonstrates the same general association is *nyanyi* '1) pubic hair; 2) sun early in the morning and late in the afternoon'. The cultural note appended to this form repeats the causal connection, but adds the important information that it seems to be associated primarily with

<sup>7</sup> In addition, O'Grady (1966:96) states that: "[t]he linguistic evidence for a Pan-Nyungic Weltanschauung seems to suggest an early polarization of the concepts *mother's brother* and *father's sister*; *wind* 808; *sun* 868 (Balardong *yo.k*, EM *yaka* woman, Ny *yaku* male cross-cousin)...".

adolescent girls (p.163): “The relationship of the sun to pubic hair [in promoting its growth in adolescent girls] is considered to be so close that the word *nyanyi* (pubic hair) is sometimes used to refer to the sun early in the morning and late in the afternoon”. The reduplication of *nyanyi* continues the connection, but new concepts are added to the mix; *nyanyi-nyanyi* ‘1) face; 2) forehead; 3) pubic hair; 4) general appearance of person or object; 5) sun, especially in the late afternoon’. In both the Arrernte and Luritja accounts of the ‘sun’, long white hair is a characteristic of the sun, thus it may not be out of place to note that an example sentence under *nyanyiwuurt(pa)* ‘incipient pubic hair’ notes that one of the salient characteristics of incipient pubic hair is that it is considered to be white: “The first pubic hair [is] white like [on] a *tjuwil* (Acacia tree)”. The lexical semantic facts, along with the cultural notes and example sentences, show a connection in Kukatja between ‘sun’, ‘pubic hair’, ‘white hair’ and ‘adolescent girls’ which strongly parallel several of the significant cultural connections made in the Arrernte and Luritja accounts of ‘the sun’, although it must be emphasised that different cultural explanations and supporting associations appear to be at work.

It makes sense to ask whether there is evidence of these connections in the sibling varieties of Western Desert. Inspection of the Pitjantjatjara/Yankunytjatjara dictionary does not reveal any parallels with the Kukatja case, although it does contain an entry for the shared form *nyanyi*, which is only given the gloss of ‘pubic hair’ and has a further cultural note that this word is considered sensitive language which is “[u]sed in sexual banter, and ‘getting fresh’”. There was no suggestion in the Kukatja dictionary that the words for pubic hair were considered sensitive language, but this may be due to the fact that the Kukatja dictionary “favors ‘old words’ and usages by people who are now in their 60’s and 70’s” (Valiquette 1993:ii), and it contains many illustrative sentences which reflect the culture prior to the establishment of the local Catholic mission in 1942. The Pitjantjara/Yankunytjatjara dictionary, on the other hand, tends to represent contemporary culture and usage.

Looking further afield, the Kayardild dictionary indicates that *kujawuru* ‘uninitiated young man’ is based on the root *kujaa* which means both ‘pubic hair (of either sex)’ and ‘sprouts (e.g. from water-lily bulb)’. Once again we see the natural ‘day-to-day’ world connection of ‘pubic hair’ with adolescence, but in this case the lexical connection singles out adolescent (uninitiated) males, while in the Kukatja case the cultural connection singles out adolescent girls.<sup>8</sup>

### 3.4.4 WOMAN & GIRL

The association of lexical items for ‘woman’ and ‘girl’ is common both cross-linguistically and within Australia. Of course, ‘female’ is a common mediating notion. The following table of terms from three Western Desert varieties shows how one form, *kungka*,

<sup>8</sup> Actually, this is too simply stated. It is important to note that uninitiated young men, especially young men about to undergo initiation, may be considered to be like young women. Among the Arrernte for instance, initiation is considered to be a rite of passage which, among other things, moves the initiate from ‘the way of the women’ into the ‘way of the men’, and the treatment of the novice often reinforces that they have a ‘womanly side’ that they must leave behind (Morton 1985:395–401). A linguistic reflection of this type of philosophy may be found in the Western Desert term *kungkangkatja* which is based on the form *kungka* ‘girl, unmarried girl’ and means both ‘pertaining to the female, feminine’ and ‘an adolescent boy almost ready for initiation’ (Douglas 1988:17, 283).

can be used primarily for 'woman' in one variety (Yankunytjatjara), 'girls' in another variety (Kukatja), and 'female' in the third (Pintupi/Luritja, Hansen & Hansen 1992).<sup>9</sup>

	WOMAN	FEMALE	GIRL
Yankunytjara	<i>kungka</i>	<i>akuri</i>	<i>akuri</i>
Pintupi/Luritja	<i>minyma</i>	<i>kungka</i>	<i>kuyunypa</i>
Kukatja	<i>ngapurlukurlu</i>	<i>tutju</i>	<i>kungka</i>

Distinctions are often made in age or human classification terms depending on whether a female human being is married or not (e.g. Pintupi/Luritja *watitjarra* 'woman [married; lit. 'man-having']'), or whether she has children or not (e.g. Pitjantjatjara *minyma* 'mature woman, particularly those with two or more children'), or whether she has breasts or not. 'Girlhood' and 'womanhood' may then be notions that are relative depending on the particular parameters chosen for distinction. Thus, for example, in Alyawarr the form *aleyak* refers primarily to 'a young girl', but it can apply to a childless woman of any age. One example sentence, for instance, translates as: "The old woman has no children, she is *aleyak*". This type of application is parallel to the use of the term 'boy' for a male human being of any age who has not gone through initiation.

While breasts are a salient characteristic of women, and frequently the term for breast is used in terms for women, one cannot generalise precisely as to what age grade such a term will be applied to. In Kukatja the general term for 'women' is *ngapurlukurlu*, which literally means 'breast-having', but in Kayardild it is the term for 'adolescent girl', *munirruru*, which is based on the form for 'breast', *munirra* '1) breast, 2) milk, 3) pectoral fin of shark'. The term *ngapurlu* '1) breast; 2) milk' in Kukatja is also used as a woman's term of address to a blood or classificatory sister.<sup>10</sup> Of course, one of the most common associations with 'breast' is 'mother'; for example, in Pintupi/Luritja three different forms, *ngunytju*, *yipi* and *mimi* are synonyms which all cover the semantic range of 'mother', 'breast' and 'milk'.<sup>11</sup> (Remember, we have already seen a language with a form that polysemously refers to both 'mother' and 'sun' in §3.4.2, so parallelisms between 'mother' and 'woman' are relevant to our current investigation.)

One of the features of interactional language use which facilitates semantic shifts between human age grade classifications is the vocative use of a totally inappropriate age grade term to signal informality and affection towards the addressee. For example, I have recorded Western Arrernte women calling to, or addressing young girls, with the term *ulkemane* 'old woman', and I have recorded an Mparntwe Arrernte woman who when speaking affectionately to a baby girl that she was picking up said "*Ngke arelhe ampwe*" (lit. give-it-here woman old) 'Come here old woman'. Similarly, in Kukatja, the term *kuyunpa* 'pre-pubertal girl' is sometimes used by older women when they address each other in a familiar way (instead of using kinship terms).

<sup>9</sup> It would appear that in Pitjantjatjara *kungka* polysemously covers all three notions.

<sup>10</sup> Murrinh-Patha (Walsh pers. comm.) has the same form as Kukatja for 'breast' and 'milk' (i.e. *ngapurlu*), however, unlike Kukatja, the derived form which translates literally as 'breast-having' (i.e. *ngapurluma*) is used for 'adolescent girl', not 'woman'.

<sup>11</sup> Kendon (1988:396) shows that it is very common in Australian Aboriginal sign languages for the signs for 'mother' and/or 'woman' to crucially involve the breast. In fact some of the sign languages employ the same sign at the breast for both 'woman' and 'mother' (e.g. Maithakari, Wanamara and Koa).

## 3.4.5 GIRL &amp; PLEIADES

Strehlow's suggestion (cf. §3.3) that the Western Arrernte and Luritja terms for 'the Pleiades' are based on the word for 'girl' is plausible, but inconclusive. Both the forms *kwerralye* and *kwarrelye* have been recorded for 'the Pleiades' from Western Arrernte speakers (Breen pers. comm.), and this variation in form parallels variation in the Arandic area of either *kwerre* or *kwarre* for 'girl'. However, we would expect forms of similar phonological shape to have similar variation patterns, thus the parallelism in form is striking, but not convincing. The same also holds for the cognate forms that Strehlow records for Luritja, *ukara* 'girl' (cf. Yankunytjara *ukara* 'teenage girl or young woman') and *ukarala/ukaralyi* 'Pleiades'. That is, this would be the forms we would expect, if, for instance, Luritja had borrowed the words *kwarre* 'girl' and *kwerralye* 'the Pleiades' independently. What one needs to explain is the *-(a)lye* ending, which Strehlow claims means 'many', but for which there is no further attestation. If Strehlow was accurate in recording a difference in the Luritja forms, such that *ukarala* meant 'the Pleiades' and *Ukaralyi* was the name of the place ('Maidens' Place) the star-girls of the Pleiades originate from, then the variation of the ending *-la* versus *-lyi* itself would be strong evidence in favour of an independent stem *ukara* in the formation of the word for Pleiades, and there would be little doubt that its gloss should be something like 'girl' or 'adolescent girl'. However, again Strehlow is currently the only source for this information, and what is needed is independent confirmation. One is tempted to throw Kukatja *kurrpulu* 'the Pleiades' into the mix and suggest that Arrernte *kwerre* ~ *kwarre* 'girl' corresponds to the first elements of the Kukatja form (i.e. *kurr*). However, this would require a story about borrowing, and an explanation of what the element *-pulu* might mean, and these are not forthcoming.

The plausibility of the linguistic connection between *kwarre* 'girl' and *kwerralye* 'the Pleiades' does, however, increase when we consider parallel evidence from *An introductory dictionary of the Western Desert language* (Douglas 1988). Here we find *kungka* 'girl, unmarried girl' (cf. the WOMAN & GIRL association above) and three forms for 'the Pleiades', all of which appear to be based on this root: *kungkarangkalpa*, *kungkarungkaru* and *kungkara*. Cultural notes attached to the entries for *kungkarangkalpa* 'the Pleiades' state that the word applies to "female characters in a sacred story" and indicate that they are regarded as "creators of the east wind, in sacred mythology". This last mythological connection may be taken to correspond, albeit indirectly, to the prior observation that 'the Pleiades' is associated with a significant 'east-west' trajectory when it is most visible (i.e. during the summer).

It should be noted that other Arandic varieties have different forms for 'the Pleiades'. In Alyawarr the form is *interrk*, the primary meaning of which is 'white ant'. In Mparntwe Arrernte *arrarkwe* is the word for 'the Pleiades', a form for which no story about a connection with 'girl' can be created.

As for parallels outside Central Australia, O'Grady (1990:246) reconstructs a Proto Pama-Nyungan form *\*paarla* 'woman, wife', and the set of forms upon which he bases the reconstruction contains, as suffixed forms, Pankarla *pallara* 'woman' and *palla.rii* 'Pleiades'.



### 3.4.6 PLEIADES & SUN

No everyday lexical connections have yet been attested to directly link ‘the sun’ and ‘the Pleiades’, although previous entries demonstrate that it would be possible for these two notions to be lexically connected through the mediating links of ‘woman’ and ‘girl’ (with the connection ‘female’ and ‘wife’ also being relevant).

### 3.4.7 PLEIADES & STAR

The Western Arrernte form *kwerralye* ‘the Pleiades’ is identical to the Mparntwe Arrernte form *kwerralye* meaning ‘star’. Clearly there has been a semantic shift, and if we give any credence to the hypothesis that the form is originally derived on the basis of *kwarre* ~ *kwerre* ‘girl’, then the direction of the shift would be ‘the Pleiades’ → ‘star’. Whichever direction the shift, the broadening or narrowing of reference that would be involved can be taken as particular evidence for the special significance of ‘the Pleiades’ at the time that the shift would have occurred. Wilkins (1986) has suggested that:

In semantic changes which involve ‘kind-of’ relations and which were traditionally classified as widening and narrowing, it is not just any member of a category whose name could be taken to apply to the category as a whole (widening) or which could take on, as its specific name, the name of a category (narrowing); only core members of a category, particularly those closest to the prototype, are involved in such changes.

In the case under consideration, ‘star’ is the category of which ‘the Pleiades’ is a member (along with ‘the morning star’, ‘the Southern Cross’, ‘Antares’, ‘the Hyades’, etc.), and the claim would be that ‘the Pleiades’ would have to be considered a core, nearly prototypical, member of the ‘star’ class if a semantic shift from one of these notions to the other is to take place.

In §3.3 we investigated the structured cultural and semantic opposition between ‘the Pleiades’ and ‘the sun’ (cf. Figure 3). Aspects of this opposition may also apply more generally to the relation between ‘star’ and ‘sun’. For example, note the ‘hot-cold’ opposition that is recapitulated in the following translated example sentence from the Kukatja dictionary entry for *tiru* ‘1) unreal; 2) lie; 3) “make-believe”; 4) trick’: “The sun is characterised by heating. [From its heat] pubic hair develops. The stars are make-believe [with regard to] being characterised by heating and are unrelated [to the development of pubic hair]” (Valiquette 1993:254). This example also reflects the opposition implicit in the fact that the sun is associated with pubic hair, while the stars are not.

## 3.5 RESULTS OF CASE STUDY 1

We have established everyday language lexical parallels for four of the five links in the original hyperpolysemous network under discussion. These links are: SUN & DAY; SUN & WOMAN; WOMAN & GIRL; and GIRL & PLEIADES. The only link for which no lexical connection has been attested is PLEIADES & SUN. Not surprisingly, the links which are based on more universal ‘day-to-day’ world connections (i.e. SUN & DAY and WOMAN & GIRL) are far more surely and widely attested than those which are based on more culture-specific mythological connections (i.e. SUN & WOMAN and GIRL & PLEIADES). The two further associations which were investigated, SUN & PUBIC HAIR and PLEIADES &

STAR, both extend the original network of associations and reinforce several of the key conceptual elements that were present in the mythological and day-to-day account of 'the sun' and the nature of its relation to 'the Pleiades'. Furthermore, this pairwise investigation of lexical connections lends support to the hypothesis that a similar logic underpins associations in both the auxiliary sign language and everyday language, and shows that it is worthwhile to use the hyperpolysemous network as a guide to searching cross-linguistically for potential cognates.

The network of attested lexical connections which arose in the course of the preceding discussions may be summarised as in Figure 4.<sup>12</sup> There are four main types of connection that occurred in the data, and they are given distinct representation in the network: 1) polysemy; 2) derivational relation; 3) confident etymological relations (i.e. cognacy) of forms in closely related languages or dialects; and 4) relation through derivation from same base form. Note that there are no attested forms which are polysemous for the concepts 'SUN' and 'WOMAN' (although the parallel connection of 'sun' and 'mother' is an attested polysemic relation), nor are there any attestations of a form which covers both 'the Pleiades' and 'girl'. In the former case, our best lexical connection is based on cognate forms in closely related languages, and in the later case the lexical connection is based on a derivational relation where the form for 'GIRL' is the base for the form for 'the Pleiades'. Thus, the hyperpolysemy of the original handsign is not reflected in a continuous chain of everyday language polysemies which covers all points in that network. In short, the primarily mythological associations are here not manifested by polysemy in everyday languages, while the common day-to-day associations are. Still, what is considered a common day-to-day connection is also subject to cross-cultural variation.

It is important to emphasise that here we are only investigating lexical connections. There are other important linguistic connections between concepts which have been paid only little attention here. Such things as textual co-occurrence, frequency of collocation, and common grammatical treatment are also pertinent linguistic parameters which can reveal patterns of conceptual association. Though there is no lexical connection between 'star' and 'sun' in these data, we have certainly seen translated example sentences which show that they are talked about together and considered to be part of the same general area of experience. Similarly the fact that the words for 'the sun', 'the Pleiades', 'woman' and 'girl' all fall together in Dyirbal noun class II (*balan*) (along with the words for 'flame', 'breast', 'milk', 'star' and 'mother') is, as Dixon (1972, 1982) and Lakoff (1987) have shown, a significant everyday language manifestation of the conceptual connection among these notions. However, the concentration here has been on discovering lexical connections, because the ultimate concern is to devise a semantically-based means for increasing and evaluating the cognate base for comparative reconstruction in Australia.

<sup>12</sup> A network such as that presented in Figure 4 can be understood as an artificially delimited section that has been extracted from a significantly larger network of lexical connections. For example, the extensive network which Evans (1992b:490) labels "the fire/camp/country nexus" would articulate with the network presented here through the 'sun', 'day', 'time' and 'flame' nodes, more than doubling the number of concepts linked together.

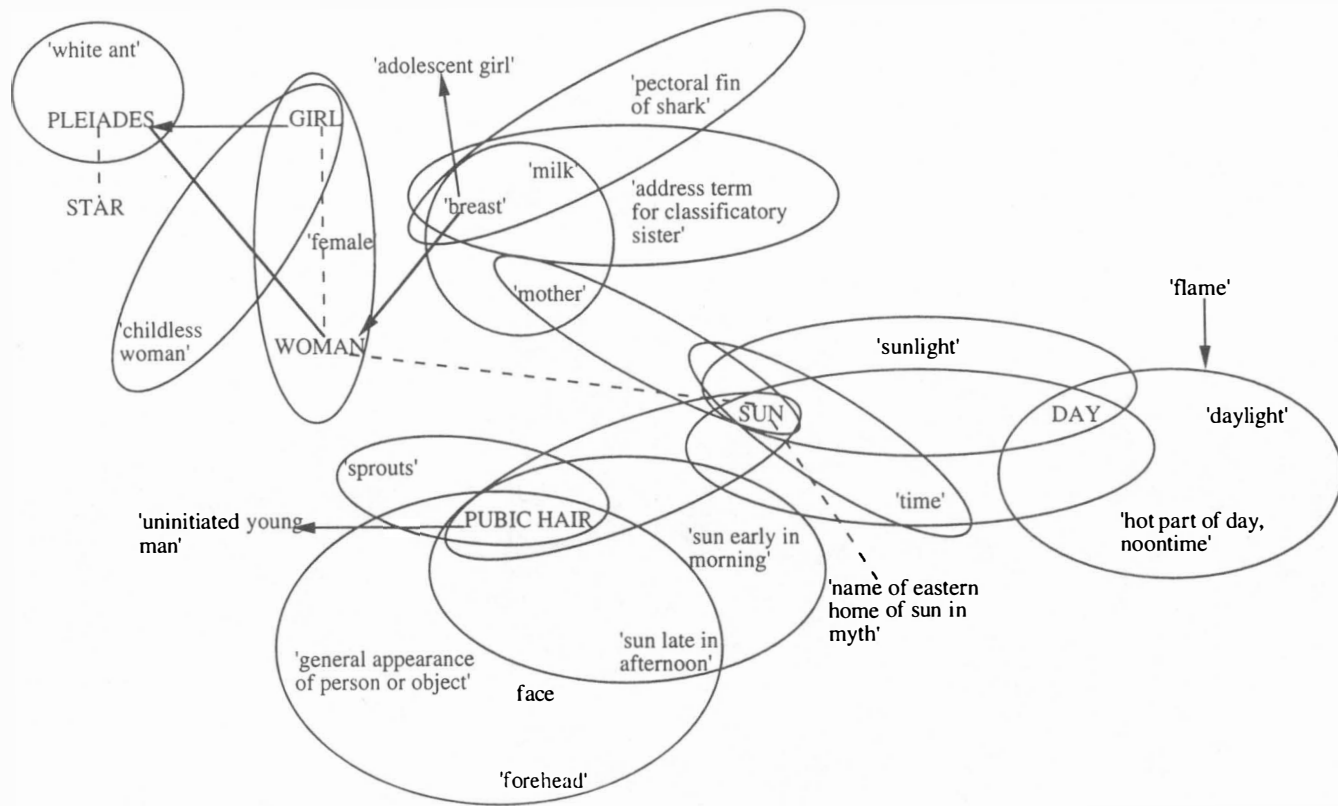


FIGURE 4: ATTESTED LEXICAL CONNECTIONS IN CASE STUDY 1 (WOMAN/SUN COMPLEX)

- 'x' 'y' = attested polysemy involving 'x' and 'y'
- 'x' → 'y' = a word for 'y' derived from a word for 'x'
- 'x' — 'y' = 'x' and 'y' are derivations based on the same stem
- 'x' - - 'y' = clear etymological relation between words for 'x' and 'y' in closely related languages

4. CASE STUDY 2: EMU FOOD AND EMU FOOT

4.1 THE SIGN COMPLEX

In this case, one sign replaces eight lexemes of the everyday language: *ileye* 'emu' (C.S. *ília* 'Emu'), *kamule* 'camel' (C.S. *kámula* 'Kamel'), *tywarnpe* 'ironwood tree' (C.S. *tjuánba* 'Acacia estroph.'), *alkumala* 'a kind of tree' (only attested in C.S. and he glosses it 'Baum'), *inmurte* 'members of the lepidium genus' (C.S. *inmóta* 'Busch'), *lelarre* 'chocolate bush' (C.S. *lélara* 'Strauch'), *ilkurte* 'desert cucumber' (C.S. *ilkóta* 'gurkenähnliche Pflanze') and *tamana* 'edible plant species' (only attested in C.S. and he glosses it 'Strauch'). Strehlow notes explicitly in his entry for *inmurte* 'members of the lepidium genus' that emus eat these plants, and in his entry for *tywarnpe* 'ironwood tree' he claims that emus rest in the shade of these trees. These are the only two connections which he explicitly remarks upon. Figure 5 shows the proposed network structure of this complex of associations, as determined from further information discussed below.

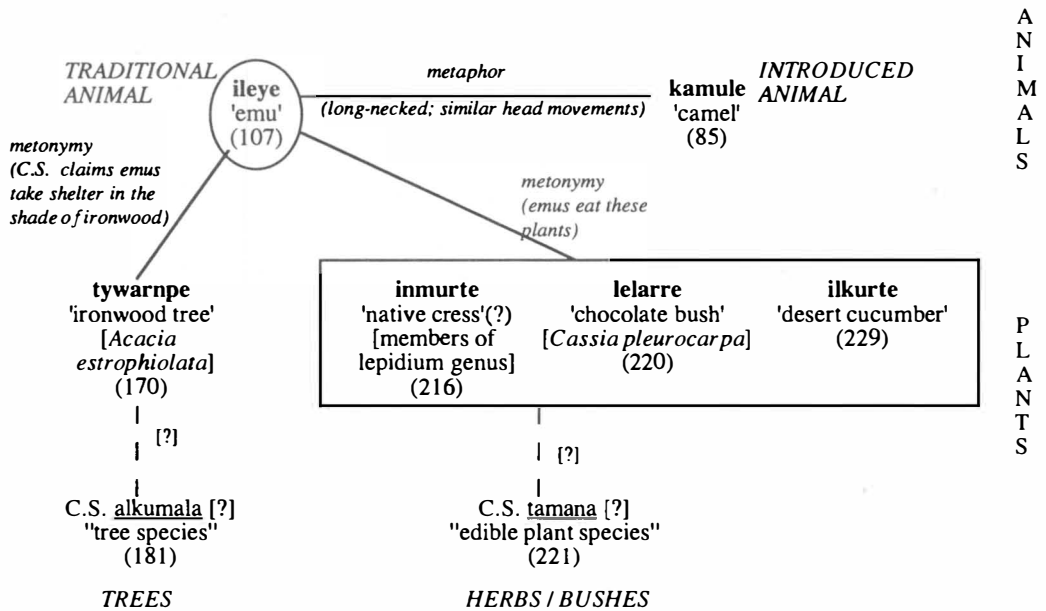


FIGURE 5: THE EMU COMPLEX

4.2 THE HANDSIGN

“Make a fist, with back of hand down, and quickly move it downward a few times (the movement being confined to the wrist, not the arm). The sign indicates the movement of the throat or neck of the emu.” (C. Strehlow 1978:355)

Spencer and Gillen (1927:604, with drawing on 605) describe the sign for ‘emu’ (i.e. “*Erlia*”) as follows: “The four fingers are bent over the palm; the thumb is bent with its tip touching the first and second fingers. The hand held horizontally and moved up and down on the wrist”. They do not indicate that it has any further meanings.

Indeed, this sign for 'emu' remains in common use today throughout Central Australia. Kendon's description (1988:179) and drawing (p.167) of the Warlpiri sign for *yankirri* 'emu' capture perfectly the sign that I have recorded for Mparntwe Arrernte *arleye* 'emu' and Western Arrernte *ileye* 'emu'. He observes that "the hand is held vertically on the forearm, bunched in such a way that the second joint of the flexed index finger slightly protrudes, and the Sign Action consists in a series of wrist extensions, producing a pattern of movement reminiscent of the emu's head movements as it walks...". This final comment of Kendon's confirms Strehlow's observation concerning the iconic nature of this sign. More specifically, Kendon (1988:166) notes that the base representation of this sign involves two techniques of iconic representation: first, the handshape *models* the emu's head, and second, the movement of the handshape mimics the movement of the emu's head as it walks and is therefore an *analogic enactment* of the action.

#### 4.3 DISCUSSION OF SEMANTIC AND CULTURAL CONNECTIONS

Not only is the form of this handsign based iconically on features of an 'emu', but, as Figure 5 shows, the structure of its meaning complex appears to be a radial network centred on 'emu'. Within this network we have some clear examples of the type of metonymically-based flora-fauna polysemies discussed by Evans (this volume).

In discussions of, or narratives involving, the emu, it is very common for people to make direct reference to the types of plant and fruit which the emu eats. In the Dreamtime account of the 'emus' provided by C. Strehlow (1907:42-45), there is an explicit statement that a party of emu ancestors travelling westwards came upon a place named *Ileye-ke Merne-nhe* (emu-DAT plant food-ACC) 'Food for Emus'<sup>13</sup> where the party fed on *inmwerte* 'plants of the lepidium genus'. Elsewhere, in discussing how Dreamtime ancestral beings would transform into the animals which they had given rise to and thereby assume all the characteristics of those animals, Strehlow notes that the emu ancestors ran around like emus do, and that they ate the cabbage-like leaves of the *inmwerte* just like emus do. He further notes here that Arrernte people themselves steam the leaves and eat them.<sup>14</sup> This association of *inmwerte* 'plants of the lepidium genus' and *ileye* 'emu' is further strengthened by the fact, recorded by John Pfitzner (Arandic Languages Dictionaries Program n.d.), that when Western Arrernte people cook the *inmwerte* leaves, they place them between layers of hot stones (with the leaves sometimes also sandwiched between layers of pigweed) and then bury this under hot sand and ashes, after which they "[m]ake two emu footprints on top" and then "[e]veryone must go away out of sight" otherwise the *inmwerte* leaves won't cook. Pfitzner notes that the use of emu footprints in this context is an acknowledgment of the fact that this plant is eaten by emus.

In other Dreamtime accounts, Strehlow also records emus eating *ilkurte* 'desert cucumber' and *ankwerrpme* 'mistletoe (*Lysiana exocarpi*)', as well as charcoal and small stones. I myself was told that emus feed their babies with *ankwerrpme* 'mistletoe' and recorded a story accompanied by sand drawings in which the drawn representation for *ankwerrpme* was

<sup>13</sup> Strehlow records the placename as *Iiaka-mannana* 'Emu-Futter'.

<sup>14</sup> Strehlow further suggests that the plant has a terrible taste. Pfitzner (Arandic Languages Dictionaries Program n.d.) observes that when the plant is eaten raw it has a hot taste like pepper. The Kukatja dictionary notes that the taste of these plants after being steam baked is "compared with that of ash". The Kukatja name for plants of the lepidium genus is *yunmurtja*, a form which is clearly related to Western Arrernte *inmwerte*.

a circle, representing a tree functioning as host for this parasitic plant, with two emu footprints facing the circle, indicating that an emu would feed on the plant. For the Yankunytjatjara, Goddard and Kalotas (1985:147) note with respect to *parka-parka* 'mistletoe (*Lysiana murrayi*)' that "the ripe red fruits are eaten by people and emus". They also note more generally that the different types of mistletoe in the Central Australian area tend to prefer Acacia and Eucalyptus tree species as their hosts, a fact which may not be irrelevant in the search for an explanation as to why there are two trees included in the network in Figure 5.

Yet another example of how common it is to associate emus with the food they eat is to be found in the example sentence given in the Alyawarr dictionary under the entry for *ankerr* 'emu'. Here emus are characterised as eating *akatyerr* 'bush raisin, bush tomato (*Solanum centrale*, *Solanum coactiliferum*)', *arrarntenh* 'bush plum (*Canthium attenuatum*)', *intekw* 'type of plant (*Scaevola parvifolia*)', *arnwekety* 'conkerberry (*Carissa lanceolata*)', and *anngey-anngey* 'type of plant with fruit like the bush plum (*Clerodendrum floribundam*)'. It is important to note that while the Arremte, like the Alyawarr, use the term *akatyerre* for the 'bush raisin', another Arremte term for this plant and its fruit is *ankerle-arkwenhe* which translates as 'emu food' (*ankerle* 'emu'; *-le* 'ERG', *arkwe-* 'eat', *-nhe* 'nominaliser of habitual action'). Such a lexicalisation is of course one of the most overt linguistic manifestations of a direct metonymic relation between flora (in this case the bush raisin) and fauna (the emu). However, in terms of handsigns, this connection is not preserved and Strehlow indicates that *akatyerre* 'bush raisin (*Solanum centrale*, *Solanum coactiliferum*)' has its own unique sign rather than being included as one of the plants that can be referred to using the 'emu' sign. Thus, not all common emu foods are covered by the 'emu' sign.

While Strehlow indicates in his writings that *inmwerte* 'lepidium genus' and *ilkurte* 'desert cucumber' are both eaten by 'emus' he does not say anything of *lelarre* 'chocolate bush (*Cassia pleurocarpa*)' nor *tamana* 'edible plant species'. We do know, however, from notes gathered by the Arandic Languages Dictionaries Program that *lelarre* is edible only to birds, and we also know from the Kukatja dictionary that another type of cassia, *Cassia venusta*, is eaten by emus. Thus the assumption is being made here that emus will eat *lelarre* 'chocolate bush (*Cassia pleurocarpa*)'. Since we do not know which plant *tamana* refers to, it is difficult to be sure where it fits into the network, but since it is labelled as an edible plant species, and since many of the plants which emus eat are also plants eaten by people, it is possible that *tamana* was covered by the 'emu' sign because it also refers to a plant eaten by emus. This, however, is an extremely tentative suggestion.

In the context of the current paper, one of the most significant aspects of the preceding discussion is the fact that the metonymic association of 'emu' and 'plant food eaten by the emu' is recapitulated across a number of the distinct semiotic systems used by the speakers of Arandic languages (cf. Figure 6). Graphically, emu footprints have been attested as indicating *inmwerte* 'lepidium plants' and *ankwerrpme* 'mistletoe (*Lysiana exocarpi*)'. Linguistically, there are both lexical and textual connections. Lexically, one of the terms for the 'bush raisin' is a compound of the word for 'emu' and a nominalisation of 'eat,' and textually, both Dreamtime narratives and expository accounts concerning the 'emu' typically include a comment on one or more of the plant foods eaten by the emu. Finally, of course, the 'emu' handsign covers at least three plants eaten by the 'emu'.

Semiotic system	Attested associations of 'emu' and 'plant food eaten by emu' in Arandic groups
Everyday language	<ul style="list-style-type: none"> <li>• Textually: in narrative and expository texts, when 'emu' is talked about it is typical to talk about the (plant) food that it eats [plants of the lepidium genus; mistletoe, desert cucumber; bush raisin, bush plum; conkerberry].</li> <li>• Lexically: one word for 'bush raisin' is a compound involving the words for 'emu' and 'eat'.</li> </ul>
Handsigns	<ul style="list-style-type: none"> <li>• The handsign for 'emu' (which is iconically based on an emu's head and movements) also covers some plants which emus eat [plants of the lepidium genus; desert cucumber; chocolate bush(?)].</li> </ul>
Sand drawing (graphic art)	<ul style="list-style-type: none"> <li>• Emu feet are drawn in the sand on top of where cabbage-like leaves from plants of the lepidium genus are being steam baked in the ground, acknowledging that emus also eat this plant.</li> <li>• In a sand story, two emu feet drawn facing a circle representing a tree were used to signify 'mistletoe', a plant which bears fruit eaten by emus and people.</li> </ul>

FIGURE 6: CROSS-SEMIOTIC REPETITION OF THE ASSOCIATION OF 'EMU' AND 'EMU FOOD'

Although graphic depictions of emu footprints may be used to signify, or indicate, plants eaten by emus, the Arrernte compound *arleye-ingke* 'emu foot' and the Alyawarr compound *ankerr-ingk* 'emu foot' both refer to a plant which is not eaten by emus, *Goodenia lunata*. An example sentence in the Alyawarr dictionary explains the basis for the name: *Alperr ankerr-wenh ingk-apeny* (leaf emu-POSS foot-SEMBL) 'the leaves are like emu's feet' (Green 1992:49; the entry includes an accompanying drawing which demonstrates the likeness). This association, then, is metaphoric rather than metonymic. Another Alyawarr example sentence points out that *Goodenia lunata* used to be chewed with ashes like wild tobacco. As another long-shot association to be explored, it is worth pointing out that the Alyawarr entry for *athimp* 'ironwood' indicates that the leaves of the ironwood tree were used to make ashes for tobacco. Could the association between 'ironwood' and 'emu' which the handsign under consideration suggests be mediated by the fact that a plant known as 'emu foot' (*Goodenia lunata*) was chewed like wild tobacco with ash, and one source for that ash was the ironwood? Perhaps, but there is currently insufficient evidence to build this connection with any degree of confidence. Still, it must be said that C. Strehlow's claim that 'ironwood tree (*Acacia estrophiolata*)' and 'emu' are associated by the fact that emus take cover in the shade of this tree is not supported by any further data and seems equally speculative. Remember, however, that since a favoured food of the emu, 'the mistletoe', is a parasite on *Acacia* and *Eucalypt* tree species, one could see emus feeding on any mistletoe that grew on ironwood trees, but this association would not be unique to the 'ironwood'. So, this arm of the radial network represented in Figure 5 seems a particularly weak, but not totally unpromising, semantic connection. However, as we shall see in the section on lexical connections below, an association of 'emu' with 'coolibah tree' (*Eucalyptus microtheca*) seems quite strong.

'Emu foot' is not only the name used for *Goodenia lunata*, it is also the Western Arrernte name which C. Strehlow (1907:1) records for one of the great spirits that dwells in the sky. This being is called *Ileye-ingke* (emu foot) because he is a large man with feet shaped like that of an emu. T.G.H. Strehlow (1964:725) describes this man as follows:

The Western Aranda believed the sky to be inhabited by an emu-footed Great Father (*kngarritja*), who was also the Eternal Youth (*altjira nditja*). This Great Father had dog-footed wives, and many sons and daughters—all the males being emu-footed and all the females dog-footed. They lived on fruits and vegetable foods in an eternally green land, unaffected by droughts, through which the Milky Way flowed like a broad river; and the stars were their campfires. In this green land there were only trees, fruits, flowers, and birds; no game animals existed, and no meat was eaten...the reddish-skinned emu-footed Great Father of the sky, whose blonde hair shone 'like a spider web in the evening sublight', looked as young as his own sons...

Once again the recurrent connection of 'emu' and 'plant food' is reinforced. The emu-footed Great Father lives in a sky world where no meat is eaten, and fruits and vegetable foods provide the only sustenance. Further, as Morton (1985:122–123, 163–166) points out, this account is but one manifestation of a widespread association between 'the emu' and 'the Milky Way'. Throughout much of Australia "this emu tends to be identified with the dark patches of the Milky Way" (p.122) because the conjunction of these dark patches together looks to the naked eye very much like an emu with the Coal Sack forming the head (cf. Basedow 1925; see illustration in Morton 1985:164). In connection with the first case study concerning the 'woman/sun' network, it is important to point out that the Western Arrernte account of this particular association of an ancestral being ('the emu-footed Great Father') with a celestial body ('the Milky Way') contains similar features: for instance the reddish skin of the beings, their blonde (white) hair, and fires being the sources of the stars (in this case campfires and in the previous case firesticks). From the point of view of the current case study, the important feature is the re-occurrence of a double metonymy which we have seen before in other contexts: the 'emu foot' stands for 'the emu, with all its salient characteristics' and one of these essential properties concerns 'the plant food which the emu eats'. Furthermore, the Milky Way is simultaneously the river running through the verdant fruit-filled land presided over by the great emu-footed man *Ileye-ingke*, and is also the white background against which a great dark 'emu' can be discerned, and so once again a mythic connection and a day-to-day (perceptual) connection reinforce each other, and in so doing reflect patterns of association previously encountered in other contexts.

The only connection which has not yet been discussed is that between 'emu' and 'camel'. In fact, many of the signs that C. Strehlow gives for introduced animals are the same as signs for traditional animals. Thus, the sign for 'sheep' and 'goat' is the same as that for 'kangaroo rat'; the sign for 'donkey' and 'cat' is the same as that for '(native) dog'; the sign for 'rabbit' is the same as that for 'native cat (quoll)'; and the sign for 'chicken' is the same as that for 'eagle (and birds more generally)'. This then was a general pattern of extension at the time that C. Strehlow recorded his data. The particular association of 'emu' and 'camel' appears to be metaphoric. Remember that the sign is based iconically on the movement of the head and neck of the emu as it walks along, and the camel is a long-necked animal which apparently is considered to have similar head movements when it travels along.

I have not collected a current Arrernte sign for 'camel', but Kendon (1988:208) notes that the current Warumungu sign "is a sort of descriptive phrase, indicating the camel's hump". One of the Alyawarr terms for 'camel' is *artep mpwer* (back heap/hump), literally 'hump



back'. In Kukatja one term for 'camel', *murtitkilpa*, means 'knees bump together' and a second, *tjarnapuntu*, means 'back man'. No evidence has yet been uncovered to further connect 'emu' to 'camel', nor do any current linguistic or sign forms suggest a special attention to the neck or neck movement.

As we shall see below, the discussion above has only scratched the surface of the available knowledge of, and associations with, the 'emu'. Among other things, the 'emu' is a prized game animal, its belly feathers are important in ceremonial decoration, and it is considered unique because of the fact that it is the male which looks after the young. Thus, the network of associations which is covered by the 'emu' handsign (cf. Figure 5) is based on a very restricted subset of available cultural connections, and the only association in this network which is well-supported and pervasive is the association of 'emu' with 'plant food eaten by the emu'.

#### 4.4 EVERYDAY LANGUAGE PARALLELS AND EXTENSIONS

In this section we will limit ourselves to exploring only those lexical connections which involve 'emu'. This is done partly because of concerns for space, but is mainly due to the fact that the network represented in Figure 5 is being treated as a radial network centered on 'emu'. Although emus are widespread in Australia, they do not occur everywhere. For instance, they are not part of the traditional culture of the island-dwelling speakers of Kayardild (Evans 1992a). It goes without saying that such factors set natural limits on cross-linguistic comparison. For this investigation, we will focus on data from Arandic and Western Desert languages.

Three lexical connections have already been encountered above: (i) the metaphorically-based use of a compound of 'emu' and 'foot' to name the plant *Goodenia lunata* in Arrernte and Alyawarr; (ii) the use of the same compound ('emu foot') in Western Arrernte to name a key Dreamtime figure who dwells in the sky; and (iii) the metonymically-based use of a compound of 'emu' and 'eat' as an alternative name for the 'bush raisin' (*akatyerre*) in Arrernte.

##### 4.4.1 EMU & OTHER PLANTS AND TREES

In Kukatja there was also a compound which literally meant 'emu foot', *tjina-karlaya* (foot-emu), and which named a plant, in this case *Isotoma luticola*. No information is given to indicate whether this name originated through metaphor or metonymy, but we are told that this term "is not used nowadays on account of the death of a woman with that name". In such cases of taboo, lexical replacement is the norm, and in this instance it appears that the term chosen as the new name for *Isotoma luticola*, *kunakapal(pa)*, continues the association with 'emu' since it also means 'emu egg'.

The reduplication of *karlaya* 'emu' in Kukatja also gives rise to a plant name: *karlaya-karlaya* 'shrub with blue flowers (*Halgania erecta*)'. A note appended to this entry states that the plant is eaten by people, but there is no indication of what the plant's connection to emus is.

The Alyawarr dictionary treats *ankerr* meaning 'emu' and *ankerr* meaning 'coolibah (*Eucalyptus microtheca*, *Eucalyptus intertexta*(?))' as homophones. While this may be the case, the dictionary also notes with respect to *ankerr* 'coolibah' that "[t]he leaves are used in

the cooking of emu". Moreover, one important feature of the 'coolibah' is that it has an edible seed which is considered to be "good, like fat" (Arandic Language Dictionaries Program Notes), and in some other Arandic languages, notably Anmatyerre and Eastern Arrernte, the name for this seed is *arleye*, which also means 'emu'. This striking parallelism suggests that a semantic connection between 'coolibah' and 'emu' seems very strong, although it must be admitted that the semantic factors motivating the connection are still not very clear. Given the prior discussion of ash and native tobacco, it should also be noted that the bark of the coolibah, like the leaves of the ironwood tree, is used to make ashes for mixing with tobacco.

#### 4.4.2 EMU & EMU FEATHERS

The soft, downy white feathers from the belly of the emu are of significant cultural importance in Central Australia. Although these feathers are used in the manufacture of a number of artefacts, including the shoes worn by the dreaded kurdaitchas (traditional assassins), they are particularly associated with ceremonial decoration, especially decorations of the body and artefacts in men's ceremonies. Thus it comes as no surprise to find that one of the terms for 'emu' in Alyawarr, *anhelengkw*, is formed by adding the proprietive suffix *-elengkw* to the root *anha* '1) emu feathers; 2) hat made of emu feathers', and so literally means 'something that has emu feathers'. The same association may also be true of Kukatja where *yarturru* means 'emu feathers' and *yaturrrkulu* is one term for 'emu'. Also note in this connection the Kukatja form *yatu* '1) soft; 2) tired; exhausted' next to another term for emu, *yatula*.

In the Kukatja entry for *karlaya* 'emu' eight synonyms for 'emu' are listed. One of these, *wanyayaru*, is not given its own entry in the dictionary, but it is interesting to note that *wanya* means both 'evil spirit' and 'kurdaitcha man', and *yaru* means 'careful, slow, gentle, soft' (qualities of the kurdaitcha's movements and his shoes). In commenting on Róheim's (1972:670) observation that in Central Australia "[t]he demon and the medicine man are birds of a feather", Morton (1985:144) states:

The emu, too, is a 'bird of a feather', since it is closely associated with sorcery in the minds of Central Australian Aborigines, both mythically, and in terms of the 'emu feet' of the kadaitja. [cf. Spencer & Gillen 1927:417–418, 454–461]

Thus, the putative lexical connection of 'emu' and 'kurdaitcha' in Kukatja seems to have ethnographic support. Moreover, in Alyawarr, the term *apwaylpew*, meaning both 'kurdaitcha' and 'kurdaitcha shoes', appears to be based on the form *apwa* 'emu feathers'.<sup>15</sup> A cultural note appended to *apwaylpew* observes (Green 1992:68): "The shoes are made from emu feathers and look a bit like slippers. They leave no tracks".

#### 4.4.3 EMU & MILKY WAY

The Australia-wide association of 'emu' and 'the Milky Way' was discussed previously. A lexical reflection of this association is found in Alyawarr where the form *arrang* means

<sup>15</sup> In Western Desert languages, kurdaitchas are commonly referred to as *tjina karpilpa* which literally means 'bound foot'. This again, is a reflex of the fact that kurdaitchas are characterised by wearing emu feather foot coverings. (Indeed, one common English designation for kurdaitchas is 'featherfoot'.)

both ‘emu’ and ‘the Coal Sack and other dark patches in the Milky Way down to Scorpio (which together form a shape like an emu)’.

#### 4.4.5 EMU & BODY PARTS

Two of the nine Kukatja words for ‘emu’ make reference to body parts other than feathers. One, *ngalyapulkuny(pa)*, literally means ‘big forehead’ (*ngalya* ‘forehead’). Given that the handshape of the Arrernte sign which we are investigating is meant to iconically represent the ‘emus’ head, this Kukatja lexicalisation would support a hypothesis that the emu’s head is considered a particularly salient characteristic of the animal and so is a good candidate for metonymically (i.e. synecdochically) referencing the animal in both handsigns and in language. The second term is *tjuntatarrka*, which is a compound of *tjunta* ‘hip; thigh’ and *tarrka* ‘leg, bone’. That the legs are also considered a salient characteristic of the emu (along with its head, its feathers, and its feet) seems to be implied by the following Kukatja example sentence: “[you have] the legs [i.e. *tarrka* - DPW] of an emu! They swore at each other [like this] in the dreamtime. [Such swearing] is not [used] nowadays” (Valiquette 1993:330).

#### 4.5 RESULTS OF CASE STUDY 2

The lexical connections which have been garnered in this investigation are summarised in Figure 7. Note that none of the particular connections to be found in the emu-complex covered by the Arrernte handsign (cf. Figure 5) are repeated in this network. It must be remembered that this investigation draws on a very restricted number of languages and is unlikely to represent anywhere near the full range of particular connections. Still, as Evans (this volume) has emphasised, in attempting to identify parallel patterns and establish general laws of semantic change, the particular associations found in individual languages are not as important as the more general principles which govern such associations.<sup>16</sup> This is also true for the cross-comparison of semiotic systems. As far as the case at hand is concerned, if we consider only those lexical connections which arise out of the notion EMU (including polysemies with ‘emu’), rather than those notions which give rise to EMU (e.g. ‘emu feathers’), then we find a set of lexical associations that very much parallels the network covered by the handsign.

<sup>16</sup> Although, as emphasised in §3.3, local particulars are crucial for understanding how general patterns manifest themselves in actual cultural and linguistic contexts. Such particulars will be necessary for establishing the richest and most accurate reconstructions possible. First, however, we must have some guide as to what cross-linguistic connections can be made, and at what level of granularity, and with what degree of confidence. So, as in all historical endeavours, we seek to distinguish the contingent from the general and demonstrate how unique patterns of language and culture arise from the interaction of (i) natural laws, (ii) widely shared social, cultural and linguistic principles, and (iii) the particular contingencies that affect individual groups at a specific time and place (e.g. cultural contact).

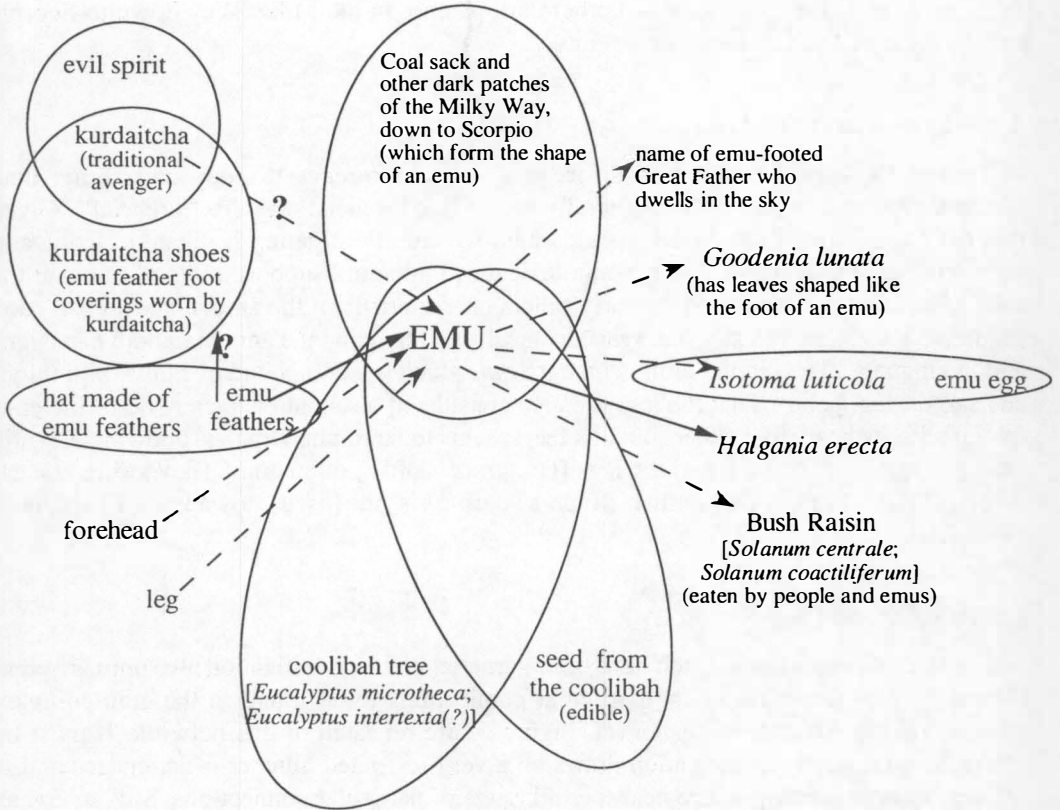
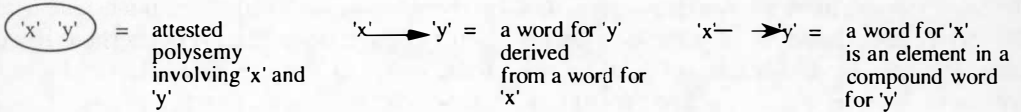


FIGURE 7: ATTESTED LEXICAL CONNECTIONS IN CASE STUDY 2 ('EMU' COMPLEX)



As in the original network, here we find associations to trees, in this case the coolibah, and to four other plants (herbs and bushes). One of these plants, the bush raisin, is known to be eaten by the 'emu', and so we have a metonymic relation of the sort that is clearly established in the original network. To be sure, one of the remaining plants in the diagram of lexical associations is based on metaphor (i.e. '*Goodenia lunata*' which has 'emu foot' leaves), and the connection between 'emu' and the other two plants ('*Isotoma luticola*' and '*Halganian erecta*') is currently unknown. But the primary point is that if the network of associations covered by the handsign were merged with the diagram of attested lexical connections it would merely recapitulate the general types of associations found in a subportion of that lexical network, and the only truly distinct type of association it would add is the metaphorical connection between a traditional animal ('emu') and an introduced animal ('camel').

One unsurprising generalisation that the network of lexical connections in Figure 7 suggests is that terms for parts that saliently characterise a particular animal may be used in forming the name for that animal. In this case, terms for 'emu feathers', 'forehead' and 'leg'

are all used to form words for 'emu'. Thus, most of the associates that give rise to EMU are governed by a general principle (i.e. synecdoche) which is quite distinct from the principles which govern the associations that arise out of EMU.

## 5. CONCLUSION

This paper has focused on semantic associations. More particularly, it has examined the crucial role which detailed ethnography plays both in establishing plausible semantic associations and in fleshing out the unique local cultural understanding of known universal or areally widespread associations. Further, it has demonstrated, at least in two cases, that significant parallels do exist between those semantic associations that are revealed in the hyperpolysemy of Arrernte handsigns and those semantic associations that are revealed by lexical connections, including polysemy, in everyday languages. These parallels are not exact replications of associations in the two systems, instead each semiotic system reflects its own particularised encapsulation of associations.

Each case study has highlighted different factors and concerns. In one case, the 'woman/sun complex', the form of the hyperpolysemous network was based on a structured parallelism of concepts, while in the second case, the 'emu complex', there was a radial network. In the first case, the structured parallelism required an attention not only to similarities, but also to oppositions. The association of 'sun' and 'Pleiades', for example, was supported by both similarities and oppositions in the mythological/social sphere and in the sphere of the day-to-day world. While both case studies demonstrated how mythic concerns and day-to-day concerns mutually reinforce one another, it was in the first case study where mythic beliefs on their own explained semantic associations like that between 'woman' and 'sun', and between 'girl' and 'the Pleiades'. If this study is representative, then it would suggest that mythic connections on their own (independent of day-to-day connections) may be sufficient to promote hyperpolysemous representation in auxiliary sign systems, but they are less likely to promote polysemy in everyday language, although they may be reflected in other types of lexical connection.

It was also in this first study where an emphasis was placed on the need to examine the particular cultural manifestation of widespread associations. While a conceptual relation between 'sun' and 'woman' is found throughout Australia, and probably reflects some reconstructable aspect of Proto Pama-Nyungan Weltanschauung, such a broadly construed association is skeletal in form and under-explained. Each local cultural group will take such relations and develop its own fleshed-out version of the association and provide particularised explanations which are of local relevance. We must understand this richer ethnographic level if we hope to obtain a better understanding of the historical movement of groups and the diffusion of ideas within Australia, and if we hope to build a cultural reconstruction that goes beyond merely stating that 'sun' and 'woman' are connected in myth because the sun is believed to be a woman. Remember, that even neighbours like the Luritja and the Arrernte had quite distinct twists in otherwise similar accounts.

As for the second case study, it provided a detailed example of the type of sign metonymy explored by Evans (this volume) in which there is a "sharing of names, or at least of roots, between biological entities of patently different classes and even kingdoms, on the grounds that one biological entity signals the presence or availability of another". It was here where we found the association of 'emu' and 'plant food eaten by emu' reflected in three distinct

semiotic systems—everyday language (both in terms of lexical connections and textual description), handsigns, and graphic representation (in the form of sand drawings) (see Figure 6). While the same range of plants was not represented in each semiotic system, the general principle of association was. Similarly, when we looked for everyday lexical parallels of the set of associations represented in the hyperpolysemous network covered by the handsign, none of the specific associations was repeated, but most of the same types and categories of association were. Importantly, since we are dealing with a radial network, it is necessary to mention that the iconicity of the sign form, in representing the head movements of the emu as it walks, may be taken to correspond to the fact that ‘emu’ is at the centre of the network. Moreover, it was in this study where we needed to distinguish between those lexical connections in which words for ‘emu’ give rise (through compounding or derivation) to terms for other notions, or are polysemous with those other notions, and those lexical connections in which some terms for other notions give rise to words for ‘emu’. As befits the fact that the network is meant to radiate out from ‘emu’, it was only those lexical connections of the first type which paralleled the semantic associations found in the hyperpolysemous handsign network.

In the introduction, I noted that the approach assumed in this paper was complementary to that pursued by O’Grady. The two approaches should, theoretically, meet in the middle. In providing networks of attested semantic associations which are substantiated through rich ethnographic description, we have semantic tools which can be taken to other Australian languages in order to pursue semantically-motivated cognate searches. Anyone using O’Grady’s method can tell us what are the phonologically plausible cognates, and anyone using our method should (eventually) be able to tell someone pursuing O’Grady’s method what are semantically plausible cognates. In this sense, these two approaches provide a check on one another. One of O’Grady’s (1979:122–123) most famous etymological connections is that between terms for ‘ear’ and ‘ground’. It is not established on the basis of any claim of known semantic connection, but on the basis of at least five parallel associations of form in a number of distinct language groups, and is said to be clinched on the basis of one case where the form in question is very unusual (on statistical grounds) and so is unlikely to be an accidental resemblance given the other parallels. O’Grady notes (1979:123) that “the semantic void which a speaker of a European language such as English conceives of as existing between GROUND and EAR is so great” that it presents a conundrum for reconstruction unless one applies the phonologically-based principles he outlines. Certainly, the now well-attested and ethnographically substantiated association of ‘sun’ and ‘pubic hair’ which was documented in this paper is no less strange to English ears than the connection of ‘ground’ and ‘ear’. Still, without the same type of attestation and semantic substantiation, the connection between ‘ear’ and ‘ground’ remains perplexing and phonological forms conveying these notions cannot yet be admitted with certainty as semantically plausible cognates. Only with continuing research of the sort outlined in this paper will we be able to resolve this and similar problems with a high degree of certainty. As Meillet (1967:52) noted “[t]he agreement in meaning should be as exact and precise as the agreement in phonological form (according to rules of correspondence)”.

To conclude, there are a plethora of further questions which the data and analysis in this paper raise. Among them are issues of cognitive representation and lexical access. Do cultural scripts help to organise information encoded in distinct semiotic systems in a parallel fashion? Are handsigns accessed in the same way as lexical items? Does the linguistic lexicon interact directly with a lexicon of handsigns, and if so, how? What are the cognitive

processes underlying translation between distinct semiotic systems? Do the networks of semantic association presented in this paper have any psychological reality? The answers to such questions remain far off, but they bring us back to the recognition that issues of semantic association should not become too abstracted from the individual members of sociocultural groups who internalise, reflect, create and operate with these semantic associations. What we can say with slightly more assurance is that this study helps bring us closer to realising O'Grady's vision of an etymological dictionary of Pama-Nyungan. Moreover, it gives some hints as to how a historical thesaurus of Australian languages might be organised, and what some of its entries might look like. Finally, by recognising the cultural foundations of semantic associations, and by "explicitly articulating semantic analysis to ethnography" (Keesing 1979:27), we move closer to ensuring that our linguistic reconstructions are also an important contribution to cultural reconstruction—a goal which O'Grady has maintained from the very beginning of his own work.

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