Currently, in the Tanami Desert of Australia’s Northern Territory, in excess of seven million dollars in mineral royalties may be distributed to Aboriginal communities and individual Aboriginal people each year. This royalty money can fluctuate markedly from year to year depending on variables such as the success of exploration, the price of gold, mining company expenditure, and the rates of production in terms of mass and quality of ore from both the pits and the mining plants themselves. The money, commonly referred to simply as ‘royalties’, is primarily paid out by mining companies and is subject to legal agreements made with traditional landowners through their representative body, the Central Land Council (CLC). Sections 35 and 64 of the *Aboriginal Land Rights (Northern Territory) Act 1976 (ALRA)* provide for financial payments to be made to the ‘traditional owners’ of areas associated with, or affected by, mining and exploration.

The advent of the *ALRA* and the land claim process represented a significant shift in the objective relations of Warlpiri cultural conceptions of place. Land claims and the statutory requirements of the *ALRA* combined to place an emphasis on the relationships of Aboriginal people to their land in a new manner. The land claim process required people to articulate and objectify their relationships to place in a tribunal setting that required the definition of which people owned which land in relation to membership of descent groups and the boundaries of their ‘estates’. In essence, the *ALRA* signaled a reification of cultural forms that would underscore the fundamental tenets of Aboriginal society, history and culture which were so clearly different from those of Euro-Australians.

In the Tanami Desert, the CLC, as instructed by Warlpiri and landowners from other linguistic groups, has entered into agreements with a large number of companies. These agreements allow for exploration and mining on Aboriginal land. The two most important features of these agreements, as far as Warlpiri people are concerned, centre on the protection of their places of significance and the payment of royalties to the relevant traditional owners of the land affected by either mining leases or exploration licences. The developments associated with the exigencies of mineral exploration on Aboriginal land have forced, and are continuing to force, traditional owners to make many decisions.
about their land, such as about the relative importance of places and the bases for membership of royalty receiving associations. The objectification of Warlpiri knowledge of place and people’s relationships to place is extremely significant. It is at the centre of tensions and politicking between people to identify who is eligible to receive money from specific tracts of land, and the criteria upon which such eligibility is based, contested and upheld.

In the year 2000, an area of 85,250 km$^2$ in the central Tanami Desert was covered by seven mining leases, more than 160 exploration licences within 53 separate agreements, with a further 100 applications awaiting consideration. Extensive consultations, beginning with seeking consent from the appropriate traditional owners, are necessary before any work by mining companies or other external development interests can take place on Aboriginal land. Then follows the project of mapping places and identifying those to be protected and avoided during exploration and mining work, which is usually carried out by an anthropologist working with the appropriate Warlpiri people. As a result of these activities and other factors, Warlpiri relations to the lands from which they now derive financial benefits have changed greatly since the arrival of land rights. This chapter will specifically address the demarcation of space and place and the ways in which the Warlpiri landscape is dissected by gold exploration and mining, a complicated development that dominates the current modelling of relationships between people and place in the Tanami Desert.

The CLC’s submission to the Reeves Review noted that the ALRA reversed a long process that had denied recognition of Aboriginal owners’ rights and responsibilities for their land, and that as a result, ‘for the first time since contact between Aboriginal people and non-Aboriginal people, the balance of power between Aboriginal landowners and mining interests has shifted’ (Reeves 1998: 519). The ALRA has afforded the greatest opportunity for Warlpiri, who became sedentarised in missions and reserves following the establishment of such settlements,$^1$ to once more access their places in the Tanami Desert. These opportunities to access remote country have resulted, firstly from the land claim process, and secondly as a consequence of the processes arising from the mining provisions of the ALRA (especially Section 42), which vests traditional owners with a decision-making role over access to place. These provisions have given Warlpiri people control of their places in the face of the intense pressure for economic development in the form of gold exploration and mining in the Tanami Desert. The provisions were vigorously contested in some of the submissions to the Reeves Review, and the debate revolved around the extent to which Aboriginal people will be able to have a meaningful say in the development of economic interests over their land and places (Reeves 1998: 520).

$^1$ See Dussart (2000: 36–38) for further details concerning the ‘forced sedentarisation’ of Warlpiri people.
The competition for the right to control access to Aboriginal land is one that is now familiar in recent Australian history. In the context of the two most famous cases of disputes between government, the mining industry and Aborigines — Noonkanbah (Hawke and Gallagher 1989) and Coronation Hill (Merlan 1991; Keen 1992; Brunton 1992) — Merlan (1991: 341) has made the observation that:

Such disputes highlight the problems which arise from contradiction between direct governmental support for Aborigines as a traditional and socio-culturally distinctive ‘type’, and support from the private sector (thus also indirectly, from government) for them to become and to see themselves as modernizing facilitators of economic development. Conflict between these two paths realizes itself partly in conflict over space, and its material and symbolic definition.

How the conflict over the production of space has been manifested in the Tanami Desert is of direct concern. Elsewhere I have considered Warlpiri places as natural, material phenomena that are imbued with symbolic and practical characteristics that demarcate and orientate social space, to which myths and stories are attached (Elias 2001a: 103–16, 2001b). Particularly important here is the concept of *jukurrpa*, which is a term Walpiri use to refer to the creative epoch often referred to as ‘the dreaming’. But it is also used to refer to the ancestral beings who formed the country and to their activities or ‘dreamings’. One way places are culturally ordered by Warlpiri is in terms of the way that they restrict access to certain people. Such restrictions are based primarily on categories of age, gender and knowledge, and with respect to the different bases upon which people could claim identity with them as both individuals and social groups.

At the present time Warlpiri places are at the centre of interests that seek to determine their location and physical boundaries. This determination is of great significance for mining companies and governments who want to maximise their ability to access space in order to ascertain the extent of mineral reserves. The *ALRA* legislation recognises the Warlpiri right to exercise a considerable amount of power over access to their land. Here is the source of conflict over the material and symbolic definition of place that Merlan referred to earlier, which is most simply explained by the fact that boundaries have different meanings in different societies (Lefebvre 1991). The process of mapping in the Tanami Desert will be shown to have had profound effects on the definition of place and space, and on Warlpiri conceptions of them both physically and socially in terms of the imposition of boundaries between people and place.

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2 See Dussart (2001: 17–24) for a detailed description of *jukurrpa*.
The Land Claim Process

Land claim hearings in the Tanami Desert commenced with the Warlpiri and Kartangarurru-Kurintji claim (Peterson et al. 1978). Lodged in 1978, it was the first claim heard by the Aboriginal Land Commissioner in the Central Australian region. The claim itself involved a huge area of land that encompassed a number of ‘tribal’/linguistic groups, including the Gurindji, Kartangarurru, Pirlngarna, Kukatja, Ngardi, Nyininy, and all of the Warlpiri subgroups — Warnayaka, Manyangarnpa (Yalpiri), Ngalia and the Warrmarla. From the outset, discussion of landownership was based on the model of the patrilineal clan that involved the identification of people’s association with corresponding groups of places related to jukurrpa. The presentation of evidence for the early land claims placed greater emphasis upon social affiliation stemming from relations coded within the land than with respect to places within the land itself. The authors of the claim book explained some of the more practical reasons for this situation:

The least satisfactory aspect is the accuracy of place location on the maps. The principal reasons for this are the extent of the area involved, the lack of roads in the area, the general difficulties of travel and the fact that we have not visited the remoter parts of the Tanami Desert. We have, however, surveyed the area from a light plane in company with a small group of traditional owners. Even where places have been visited the practical difficulties of accurately locating a soakage or other place in an undulating plain or thick stand of mulga are considerable. In consequence only the major places have been shown on the maps where the location has been visited or can be confidently located. This means that many hundreds of names are not included although they are well known to the people and their order along the song lines is known to us (Peterson et al. 1978: 2).

Clearly, when the Central Desert Land Trust was granted very little was known about the location of most major places of significance except those that were easily identified as topographical features. These places were discussed through the claim hearings but the establishment of a successful claim was not reliant on the demonstration of knowledge of the location of places of significance, but rather on the links of traditional owners to the land. This situation was repeated in the Warlpiri, Kukatja and Ngarti claim (Myers and Clark 1983), where hardly any evidence was heard on the claim area at all and the mapping and presentation of located places was virtually non-existent.

Beginning with the Chilla Well claim, the Land Commissioners (under considerable political pressure) increased the demand for the accurate location and identification of place, which then continued in subsequent land claims (Stead 1985). The first reason for this was that accurate mapping of places was facilitated through a combination of factors, including the availability of more
financial and logistical support for research, the fact that a shorter time had elapsed since *yapa* (as Warlpiri people refer to themselves) had worked and lived on the land, and the political climate of the time. This climate was created by the establishment of self-government in the Northern Territory in 1978, and most notably the subsequent development of gold exploration and mining in the Tanami Desert. The combination of these influences placed a pronounced emphasis on the importance of identifying Warlpiri places of significance. There continues to be enormous pressure applied to Aboriginal landowners and the Land Councils by industry and government not to hinder economic development by ‘locking’ up land. These interests have identified the sacred site or place as a ‘bogey man’; its mythical status is argued to be a hindrance to a modern, economically responsible country.

The preparation of the Western Desert and Tanami Downs land claims witnessed the injection of more funds for research by the CLC and involved numerous trips undertaken to identify the location of places. These necessitated taking traditional owners on extended country visits mapping different dreaming tracks. During such research the knowledge of senior people, who had walked through these areas before being moved to settlements, was crucial to the authoritative identification of these places. Maps were produced that accurately recorded locations of places to illustrate how claimed areas of land were ‘full’ of places that were of significance to *yapa*.

The development of the Northern Territory’s mineral base has long been identified as a key priority of the Country Liberal Party which held power from the time of self-government in 1978 until 2001. The Northern Territory Government’s opposition to land claims by Aboriginal people was a stance taken in order to remove what was perceived as an unnecessary obstacle to the development of economic infrastructure: the defeat of Aboriginal land claims would have allowed mining and exploration to go ahead unimpeded. Not only did the government fail in this respect; its vehement contest of land claims actually assisted *yapa* to rediscover places of significance, thus strengthening the Warlpiri position. Warlpiri, through the CLC, quickly established a number of agreements with mining companies, and through the procedures of exploration and contingent ‘site clearances’ provided for in these agreements, people were rediscovering and locating many of their places. As more exploration tracks were made in remote areas they provided the means for people to more easily access their places. This process facilitated the preparation of subsequent land claims as people travelled through country more frequently. However, there is a critical distinction to be drawn between the mapping and recording of place data for a land claim and the mapping and recording of place data for mineral exploration. The exigencies of gold exploration and mining require that boundaries be allocated to located places in order for development to proceed...
with surety. This situation introduced a new dimension to place that had not previously been conceived by Warlpiri or institutional anthropology.

**The Mining Provisions**

Sections 41 and 42 of the *ALRA* clearly spell out the procedures for consultation and negotiation between Aboriginal owners, defined as ‘traditional owners’, other interested or affected Aboriginal people, and mining companies. The first meetings that take place are known as ‘consent to negotiate’ meetings, and in the Tanami Desert these are convened by the CLC. The CLC is responsible for identifying and bringing together the correct groups of traditional owners (as defined by the *ALRA*) to consider the mining company’s Exploration Licence Application. The blocks of land that are the subject of such applications are determined by the Northern Territory Government and subsequently offered to one applicant mining company under the *Northern Territory Mining Act 1980*. The ‘consent to negotiate’ meeting is the point at which Aboriginal people exercise the power of veto over an application. They may reject outright the proposal of a company to explore over a certain application for any number of reasons that do not necessarily have to be disclosed. If an application is approved by traditional owners, an Exploration Licence is granted and an agreement is forged between the CLC on behalf of Warlpiri and the applicant mining company. Such agreements include stipulations regarding protection of Warlpiri land interests (places), financial compensation in the form of royalties, infrastructure development, provision of employment opportunities, and a realistic environmental protection program (Ireland 1996: 2; CLC 1998a). A separate agreement is concluded if the stage is reached where actual mining can proceed and be profitable.

The right of veto through the procedure of consent to negotiate is the key element of the mining provisions of the *ALRA* that enables Warlpiri people to regulate access to, and potential developments on, their land and places. The right of veto was identified by Woodward (1974) during the Aboriginal Land Rights Commission as the means by which Aboriginal people could be given realistic control over their land and help to establish a meaningful economic base by the subsequent negotiation of royalties and rentals from development on their land. The right of veto has been consistently contested by the majority of the mining industry, and also in some political quarters, on the grounds that it potentially locked up resources and that royalties paid to Aboriginal people would shorten mine life and adversely affect the national economic interest (Altman and Peterson 1984). The record of gold exploration and mining in the Tanami Desert has clearly disproved such a contention.

There have been significant social and economic benefits that have flowed to both traditional owners and the mining industry through the CLC’s execution of the statutory processes of the *ALRA* in the Northern Territory. In particular,
this process has been assisted by the more progressive mining companies that recognise the special nature of the link between Aboriginal people and the land (CLC 1998a: 49). From the more enlightened industry perspective, the success of the agreements made between mining companies and Warlpiri people in the Tanami Desert hinges on a company’s respect for this special link and is the foundation of a workable and mutually beneficial relationship (Ireland 1996: 1).

Manning (1997: 26) has noted that during the last decade there has been a dramatic increase in the total area covered by mineral exploration licences in the Northern Territory. This has been primarily due to negotiations over land in advance and the establishment of protocols between Land Councils and mining companies that have combined to speed up and streamline processes involved in making agreements. Whilst this observation indicates the familiarity that Aboriginal people have developed with the procedures for access to exploration on their lands, it is clear that a comfortable relationship did not develop overnight. The relative ease of gaining access to Aboriginal land for mining companies is in contrast to the operational difficulties experienced by both Warlpiri and mining companies that have been encountered in the actual day-to-day workings of agreements. The process of finding a balance between Warlpiri interests in identifying and protecting their places and the desire of mining companies to maximise the amount of land at their disposal for gold exploration was a difficult one. The introduction of both mining companies and Warlpiri to each other and the Tanami Desert has thrown up intriguing questions as to the contemporary definitions of place, space and *jukurrpa* (dreamtime) for Warlpiri.

**Gold Mining Returns to the Tanami Desert**

The steady process of the transfer of land claimed and won back to Warlpiri hands was followed closely by the rising interest in gold and other mineral exploration that gathered momentum during the 1980s. By the early part of the following decade, the central area of the Tanami Desert was literally being held under the microscope. Both Normandy NFM (previously North Flinders Mines — NFM) and Tanami Joint Venture were allocated exploration licences over The Granites and Tanami respectively that had lain dormant during the 1970s. An exploration licence was granted to NFM in 1975, with subsequent mineral leases offered by the Northern Territory Department of Mines and Energy in 1980, and an agreement was finally reached between the CLC and NFM in 1983. This agreement was necessary because of the need for NFM to secure more land outside of the licence in order to set up its processing plant and other requirements for the proposed mine at The Granites, including a large and steady water supply. In 1987 mining recommenced at Tanami, and by 1991 control of the mine passed to Zapopan. Zapopan held the exploration licences negotiated with the traditional owners and the CLC around the original Tanami Joint Venture
mine site at Tanami, where the gold deposits within the existing lease were soon exhausted. By 1995, further deposits were found in close proximity to the mine and Central Desert Joint Venture was formed by Otter Gold Mines Ltd and Acacia Resources.

The continuing attraction that the Tanami Desert region holds for gold exploration has been buoyed by the success of Normandy NFM in the discovery of a remarkable deposit west of The Granites. The effect of the substantial high-grade gold reserves at Callie–Dead Bullock Soak was the catalyst for a dramatic intensification of Exploration Licence Applications that cover the entire survey area: ‘the 1992 discovery of Normandy Mining Ltd’s 3 million ounce Callie gold deposit transformed the Northern Territory’s Tanami region into a sexy exploration address’ (Bell 1998: 65). From the early 1990s Warlpiri of the Tanami Desert have been involved in day-to-day consultations regarding access to places that have been prompted by the post-Callie land-rush which is widely considered to be ‘one of the great modern-day Australian gold discoveries’ (ibid: 67). The total capital expenditure on Callie up until 1998 was $76 million. Normandy NFM’s Callie deposit is by far the greatest reserve of gold so far discovered in the Tanami Desert, and is the first gold mine in Australia that has been developed with the consultation and permission of the Aboriginal owners. In 1999 Normandy NFM were completing a feasibility study on the possibility of a new treatment plant, yet as of late 2000 there was no separate mill or treatment plant at Callie, and ore was transported by haul road to The Granites for processing.

Since its inception in 1976, the ALRA has certainly not restricted the access of mining interests to Aboriginal land in the Tanami Desert. Annual exploration expenditure in the Northern Territory went from $1 million to $40 million over a period of 20 years, and is showing little sign of slowing (Ireland 1996: 2). Total expenditure on gold exploration in the Tanami Desert alone was in excess of $12 million in 1997 (CLC 1998b: 6). As of the beginning of the year 2000, there were over 100 Exploration Licence Applications in the Tanami Desert awaiting consideration, more than 160 licences had already been granted under the terms of 53 agreements between the CLC and various mining companies, and there were seven actual mining leases.

The Federal and Northern Territory Governments’ programs for the economic development of Aboriginal people in remote areas have met with little success. In contrast, mining companies have been active in exploiting the few opportunities for economic development in remote Australia, particularly in the Tanami Desert. The return of mining to this region is of great significance because of the mutually beneficial relationship it affords. The mining companies benefit through the extraction of gold on Warlpiri terms, and the Warlpiri benefit by
receiving considerable financial benefits through royalty payments as well as regional and community development and employment (Manning 1997: 33).

The Measurement of Dreams

Through a diverse variety of historical agents and processes, places — or ‘sites of significance’, as they are often called— have become highly topical. Conservative ideology has consistently argued that the Australian landscape should not be divided into sacred and profane categories, and the basis of this argument has been that Aboriginal places are empty and devoid of significance because Aborigines no longer live a ‘traditional way of life’. Countering this narrow view have been the realities of the ALRA, continuing academic research into Aboriginal social and cultural life, and the increase of Aboriginal political representation — all of which have combined to raise public awareness that Aboriginal places and land have profound meanings that cannot be simply dismissed as irrelevant.

The project of mapping places in the Tanami Desert attempts to link the eternal Aboriginal ‘dreamtime’ or jukurrpa to the landscape. Places have been widely conceptualised as the interface between the human and cosmological present. The process involved in exploration and mining has served to give boundary and shape to place. The mapping project results in the demarcation of the ‘sacred’ and the subsequent division of Aboriginal peoples’ relations to land into categories of places. The identification of places that are sacred tends to render the remaining land as meaningless or inert place. This division of space from place is termed the ‘grounding of significance’ by Lefebvre, and can be seen as part of a wider intellectual process where: ‘Places are marked, noted, named. Between them, within the “holes in the net”, are blank or marginal spaces’ (Lefebvre 1991: 118). But the physical demarcation of the extent of influence of a place or jukurrpa cannot be reduced to a simple process of two-dimensional mapping; the content of the jukurrpa cannot be measured only by a projection of its surveyed borders onto a map.

Consideration of the practicalities of how exploration and mining proceed on Aboriginal land in the Tanami Desert thus reveals how these interests require Warlpiri people to abstract, delimit and impose boundaries on places. Such processes present both yapa and resource developers with considerable practical and intellectual difficulties. The reason is that the identification of areas of land as ‘no-go areas’ is an alien concept in both mining industry and Aboriginal perspectives. Essentially the mining industry, long used to treating the landscape as a potential economic resource, has been forced to recognise that land has other sociocultural values. However, the realities of the process of exploration in the Northern Territory, and particularly in the Tanami Desert, have also revealed another intriguing reality. Aboriginal places have been infused with a previously absent economic dimension because place is imbued with new meanings when
it is identified by the mining companies as being of cultural value. Place becomes valued and commodified as a kind of cultural real estate. It is the complexities informing this infusion of economic value emerging from the division of the landscape into place and space that will be examined in the remainder of this chapter. The implications of this alteration of the meaning of place for Warlpiri are compounded by the payment of royalty monies in the form of rent and compensation for gold mining exploration and development in proximity to Warlpiri places. The first question to consider is the manner in which place becomes bounded and the land becomes divided into the sacred and economically significant. This renders the remainder of the landscape empty of meaning, to be subsequently explored and mined with impunity.

**Mining and the Creation of Blocks**

For Warlpiri one of the most difficult problems initially faced in coming to terms with the exploration process is the fact that they are forced to consider Exploration Licence Applications that have abstract boundaries made up of lines and angles defined by latitude and longitude and the aeromagnetic grid. The borders of these blocks cut across Warlpiri places and dreaming tracks in a haphazard way that is devoid of any meaning or logic readily accessible to yapa. From the outset, Warlpiri are forced to abstract their interests in place to a level that has no correspondence with their understanding and experience of place and land tenure. As Glowczewski (1999: 5) noted, ‘the institutional structures which are proposed in Australia rarely give control to the Aboriginals in such a way as to allow them to develop what is specific to them in their spiritual relationship with the environment’. Before examining the initial cross-cultural problems brought about by conflicting frames of reference, it is useful to briefly describe how exploration licence blocks are created and offered to companies by the Northern Territory Government.

In Australia the State owns minerals that lie beneath the ground. The government considers that mining of such resources should benefit all citizens as well as the government itself through the payment of associated royalties. In order to maximise potential economic development and benefits for the nation, the State desires that the exploration and mining processes be as rapid and thorough as possible. This ideal is achieved by fostering healthy competition amongst interested parties in areas of known reserves, resulting in a large number of applicants seeking licences. The choice of licensee is based on the assessment of exploration proposals that are submitted to the Department of Mines and Energy. There are a number of mechanisms in place which ensure that the licences issued to explorers are used as productively as possible.

Exploration for gold usually commences with very little knowledge of an area and relies heavily on published geological data (if available), geological maps and aeromagnetic surveys which assist in identifying anomalies that indicate
the possible sites of gold-bearing deposits. It is up to the licence holder to design an exploration program involving sampling and drilling in order to identify potential deposits. This process may take some time and is intensive in terms of effort as well as expense. Competition between explorers could not occur if original licence holders occupied their ground for indefinite periods; this would in effect tie up the land and prevent further exploration. To overcome this problem the size of exploration licence areas is reduced over time in order to maximise the use of space available for competitive exploration. Explorers must not hold up the exploration process, and must therefore relinquish part (approximately 50 per cent) of their licence area each year so as not to tie up land unnecessarily. As a result, licence applications are generally made for areas in excess of those actually required for exploration purposes, so that the risk taker can progressively hand back those areas which are not thought to be prospective. Through this process the government achieves its dual objectives of regulating the size of exploration areas and maintaining economic incentives for exploration (personal communication, Trevor Ireland, 2000).

Extensive exploration occurs throughout the central Tanami Desert region, and as ground is relinquished by one company, another is waiting to apply for the licence. This means that Warlpiri must participate in a bewildering number of meetings and inspections throughout the year if they are to monitor mining company activities and the progress of company work programs. Exploration interests in the Tanami Desert are not showing any signs of abating either. In part this is explained by the application of new exploration techniques facilitating the penetration of deeper layers of rock. Hence mining companies continue to apply for land that was previously thought to have been thoroughly explored (personal communication, Simon Henderson, 2000).

Exploration for gold in the Tanami Desert is under the influence of another dual imperative: the location of sizeable gold reserves as against the location and avoidance of Warlpiri places of significance. This requires spatial measurement, in which ‘boundaries’ must be defined in order to demarcate areas where mining can proceed and areas where such activities are forbidden. The current land tenure model, in response to the interests of exploration and mining, involves a measurement or weighting of dreams, that requires *yapa* to identify and locate their places of significance and to rank and weigh their cultural order of rights in (and affiliation to) place. The remainder of the chapter will explore the manner in which the mining model of land tenure cuts up the landscape of the Tanami Desert into abstract parcels within which Warlpiri identify places and *jukurrpa*, and ultimately negotiate their relationships with these and with each other.

Every year in the Tanami Desert, Warlpiri encounter a new round of exploration licences for consideration. These areas of land are increasingly irregular in shape; conglomerations of ‘empty ground’ discarded by former
prospectors and in the process of being recycled by others as new exploration licences. Warlpiri are continually being faced with new, irregular boundaries of exploration applications and licences that make it difficult for them to keep track of which places these new boundaries relate to in terms of ownership and affiliation. The problems this situation poses for Warlpiri involve making decisions about who can make decisions over these blocks, locating the places of significance they contain, ensuring that development interests do not encroach upon them, and deciding how they are to be protected. A common feature of all of these problems is the speed of exploration and the impediments that are encountered in attempts to define the boundaries of place within the changing parameters of a mining company work program. There are two approaches that have been used to identify the boundaries of Warlpiri places in the context of gold exploration and mining in the Tanami Desert — the site clearance and the work area clearance — and I shall now examine each of these in turn.

The Site Clearance Process
Long before the shift in Federal Government policy that formed the background of the ALRA legislation, Stanner (1965) noted that it was no longer possible to map an Aboriginal region in terms of its full resources — be they human, spiritual or economic. Nevertheless, the reintroduction of people and place in the Tanami Desert has witnessed a determined effort to map and detail Warlpiri interests in and knowledge of place. The method of administering development projects up until the early 1990s involved traditional owners’ approval of an Exploration Licence Application, and once the licence was granted by the government, a site clearance process was instigated.

Essentially the site clearance process involved a survey by knowledgeable senior Warlpiri and CLC anthropologists. Together they travelled through the licence area recording the location of places, defining boundaries or blocks where mining exploration was forbidden. From the survey recordings, a map was drawn that detailed places of significance to be avoided and areas in which the mining company could pursue exploration. The method of mapping had the primary aim of ensuring that those places which Warlpiri wished to protect would be safeguarded from mineral exploration. A host of complex problems that arose out of the site clearance process will be briefly summarised here. The mapping project implicit in the site clearance project placed Aboriginal knowledge at the disposal of the mining company but was far from effective in detailing the sum of Warlpiri interests in land.

Mapping the location of places by Warlpiri involved significant problems in that it forced people to detail precise locations of places that were often subject to secrecy. One such example is the location of highly restricted men’s places that invariably have rather nebulous boundaries. A site clearance survey had the effect of pinpointing the exact location and features of such restricted places.
This caused considerable problems for senior men in particular who, aware of the location of a place, were often reluctant to reveal it due to the fact that the knowledge associated with it was available to only certain persons on the basis of such criteria as age, race, gender and semi-moiety. As a result it was not uncommon for some of the most important places to remain unspecified and hence unprotected. Also, the informants were unaware of the consequences of maintaining secrecy about these places. The mapping of Warlpiri place involved a clear transgression of sociocultural restrictions that caused considerable difficulties and pressures for those people charged with the responsibility of undertaking the site clearance survey in the first place.

Figure 11-1: Diagram depicting places of significance for the Warlpiri in relation to the licence area in initial year of exploration.

Figure 11-2: Diagram depicting places of significance for the Warlpiri in second year of exploration with reduced licence area.

Figures 11-1 and 11-2 illustrate just how difficult the measurement of dreams can be under the exploration and mining model of land tenure, for both Warlpiri and mining companies. Interpretation of these figures depends on knowledge of the fact that Warlpiri have a subsection system, meaning that they have eight social categories that are inherited through descent. These categories' potentially
allocate all human beings in a universe of classificatory kin, with concomitant obligations and responsibilities’ (Bauman 2002: 206). The vernacular terms appearing in the figures refer to male and female subsection names: women and men have similar subsection names, which are differentiated largely by their starting consonant — Nangala refers to females and Jangala refers to males.

A problem that involved the grounding of the significance of place arose from delineation of the physical boundaries of places. Put simply, the practicalities of drawing a line around a place, as though it possessed a primarily spatial significance that could be bounded, posed difficulties for Warlpiri. This was due to the fact that jukurrpa created and left their essence in places, and this presence in the landscape was manifested in complex physical and metaphysical relationships between places (Elias 2001a: 106–12). The mapping of place and the imposition of boundaries required by the site clearance process created serious practical problems for Warlpiri in defining the location of place boundaries.

For example, with respect to Figures 11-1 and 11-2, a comparison can be made between the places 1a and 1b as opposed to places 2a and 2b on the basis of the kind of travel undertaken by the jukurrpa related to the two different semi-moieties. For argument’s sake, we may think of all four places as important soakages (‘native wells’) existing in conjunction with some other topographic feature. The jukurrpa moving between 1a and 1b travels through the air and so the demarcation of boundaries around these two places is relatively straightforward on the ground. However, in the case of 2a and 2b, the jukurrpa ancestors are involved in a number of running battles with each other, so all of the rocks in between the two places represent the bones of people who have been speared and killed, yet this area does not have a name and may not be considered important enough to restrict the activities of a mining company. The way in which Warlpiri demarcate boundaries in such an example is a complex matter and is difficult for a company to map.

Another example might involve an extremely powerful place such as place 4, which exerts influence around a huge area that actually includes the place at 1b, yet place 4 does not even lie within the boundary of the Exploration Licence. The practicalities of issuing instructions to mining companies to effectively manage and protect Warlpiri places of significance were extremely difficult under the site clearance regime and predictably led to miscommunication.

The difficulties faced by Warlpiri in mapping the locations of places within the context of mining exploration was further compounded by the fact that there were deficiencies in the site clearance process that prevented Warlpiri from locating all of their places of interests on their own terms. The site clearance process could be characterised as one that attempted to take a ‘freeze-frame’ or ‘snapshot’ of interests in place that was reliant on the imposition of a very
restricted timescale that allowed access to knowledge. Conversely, Warlpiri knowledge of place is best understood as one in which layers of knowledge of an area may be revealed slowly over time with the input of various individuals and groups. Places are composites of knowledge that involve uncovering a vast store of layered sociocultural meanings. The site clearance process distilled only one of these layers as though it represented the entire complement of Warlpiri knowledge of places within a region.

The shortcomings of the freeze-frame methodology of the site clearance process can be effectively drawn out when compared to the way that Warlpiri people map their own interests in place. Nash (1998) investigated Warlpiri sand mapping techniques and discussed the ways that they are variously employed to indicate places in an area, the dreaming tracks crossing an area, and how these may be combined. The presentation of subject material displayed in a sand map is dependent on a number of factors including scale, positioning, audience, and the context of the mapping itself. Nash (1998: 3) observed that people would talk about and map *jukurrpa* in order to open up and reinforce memories before travelling to a region, and this was a process that involved a number of talkers and drawers. Such multiple narratives emphasise the fact that the activity of mapping is carried out by individuals and groups of Warlpiri who express different links to country through their expression of rights, knowledge and experience. The themes of knowledge and authority in the mapping of place and the ability of mapping to reveal patterns of interdependence between people within groups have been explored elsewhere in Australia and Canada by Biernoff (1978) and Brody (1986) respectively.

Traditionally, a site clearance survey was undertaken by a limited number of individuals and made no allowance for the fact that land and places contained within an exploration licence area may not have been visited for considerable periods of time. The return to country necessitated by a site clearance survey demanded a reorientation of Warlpiri people to a specific tract of land that was difficult to achieve in only one or two visits. The difficulties involved in assembling the repertoire of place knowledge stem from the fact that a considerable period of time had elapsed since people were in the region, and the fact that the region itself was defined by arbitrary licence boundaries that in no way corresponded with Warlpiri conceptions of regions and meanings. A licence area may cut across land belonging to a wide number of different *jukurrpa*, each with its own interested individuals and groups of people. In visiting a certain area the routes of travel undertaken may have little to do with the previous routes travelled by Warlpiri people or the directions and paths of *jukurrpa*. As wide a group of people as possible was needed to share information, memories, experience and knowledge of places in order to try and define the extent of places contained in a specific area within an appropriate and meaningful cultural framework. The site clearance process could not take such culturally specific
parameters into account. The mapping project imposed a temporal and physical boundedness on place that neglected Warlpiri ways of knowing, discussing and experiencing places on their own terms.

Ultimately, the impossibility (for both the mining companies and Warlpiri) of working with a map produced by the site clearance methodology came down to the fact that subsequent visits to a licence area made by Warlpiri would always reveal more places than had previously been identified. There were a number of factors contributing to this recognition that combined to emphasise the vitality of people’s relationships to place. These included the contribution made by the knowledge and memory of different individuals, the fact that the area was widely discussed back in communities and among other interested persons after initial site visits, that jukurrpa and songs were sung and discussed to check the order and connections of places, the land was often burned to allow easier location of soakages later, and so on. The attempt to locate and bound all Warlpiri interests in place under the site clearance process that attempted blanket coverage of a licence area simply did not work. In Figures 11-1 and 11-2, for example, the places that are mapped in and around the exploration licence area may have taken several visits to locate after a considerable period of time and sustained research had transpired. In addition there may yet be other places to be located such as soakages that are difficult to locate or other places that have not been searched for by knowledgeable informants.

It was not only Warlpiri interests that could not be clearly and definitively mapped after one survey in the site clearance process. The mining companies were also incapable of building a picture of an area in terms of its potential gold-bearing locales through the gathering of information over a short period of time. Sampling, costeining (trench ripping), and drilling sites, along with camps and access tracks, changed locations quite frequently. It was difficult for both the miners and Warlpiri to keep a track of, and understand, each other’s interests in place. The division of land into areas that were important and those that were not, whilst based upon different criteria, was equally difficult for Warlpiri and the mining companies. Lefebvre (1991: 334), observing the commodification of space that attended the rise of capitalism, remarked that under such extractive conditions:

Space is marked out, explored, discovered and rediscovered on a colossal scale. Its potential for being occupied, filled, peopled and transformed from top to bottom is continually on the increase: the prospect, in short, is of space being produced whose nature is nothing more than raw materials suffering gradual destruction by the techniques of production.

In the case of the Tanami Desert, what constituted space and place ebbed and flowed over time, particularly so when places were continually being encountered during the course of routine exploration. The production of space within the
site clearance process sought to divide space into areas organised by introduced scales of economic and sociocultural meanings, using Warlpiri place as the raw material of the system. The process failed to account for the manner in which people were able to identify and locate place, for it was Warlpiri who were the producers of this material not the project of mapping itself. To plot a place on the surface of the land involved trying to remove or extract it from the complicated web of meanings in which it is constituted and negotiated by Warlpiri. To point to a map and say ‘there is X at such and such hill’ is to take a place and attempt to render it only in its physical dimension in order to confine it in form and boundary. Mapping as envisaged by the site clearance process hinged upon a distortion that did not reflect any other significance of place in both physical and social landscapes. But the significance of place cannot be confined to a purely physical dimension and must be understood in the local, regionalised context of other places, jukurrpa, people, affiliations and politics.

The rapid expansion of the number of exploration licences approved by Warlpiri in the Tanami Desert began escalating in the early 1990s, and the site clearance process presented difficult obstacles for them as well as the mining companies. The practical difficulties that prevented an effective working arrangement for both parties also made it hard to see how interests in land and access for the stakeholders could both be protected. The site clearance process was unworkable and was therefore abandoned, to be replaced by the work area clearance method that was designed to communicate and inform both parties of their interests in place as part of an ongoing working arrangement. This new approach achieved considerable success in reducing complications that had arisen from the failure of the site clearance process to effectively identify the complement of Warlpiri places and interests within a particular licence area — and most importantly, within a culturally appropriate frame of reference.

The Work Area Clearance

The development of the work area clearance process cannot be solely attributed to the need to more effectively incorporate Warlpiri ways of knowing and identifying their places. A more successful working relationship between Aboriginal people and exploration companies also required a commitment on behalf of the latter to take a more positive approach to place. This certainly necessitated the incorporation of an understanding of Warlpiri relationships to place, but simultaneously identified and attempted to accommodate the objectives and interests of mining companies. The mechanisms of the work area clearance made the production of space and place more transparent and thus more easily comprehensible to the stakeholders.

The underpinning philosophy of both exploration for and production of gold is straightforward. A company seeks to maximise the amount of land available for exploration in order to increase the chances of finding a prospective gold
reserve that will pass on financial benefits to the company and its shareholders. In the Tanami Desert this philosophy had to be adjusted in order to take into account the instructions of Warlpiri people who designated which land was available for exploration. The premise in operation remains the same for both the site clearance and work area clearance process. As the previous exploration manager of Normandy NFM in the Tanami Desert explained:

Dilemmas are best avoided by the simple commitment to the early identification of sacred sites, and their immediate exclusion from the area subject of exploration — ‘If it’s culturally important, we don’t want to explore there’ (Ireland 1996: 11).

The difference between the two clearance processes lay in the manner in which the cultural importance of place was identified and incorporated into a workable relationship between yapa and mining interests.

The problems manifest in mapping place in the context of the site clearance has been documented. However the work area clearance process did not dispense with the idea of mapping altogether. The difference was that the attempt to map Warlpiri interests in place under the work area clearance procedure instead focused on the work program objectives of the company. In this way the area under consideration in an exploration licence was substantially reduced and the kinds of activities that were proposed were specifically detailed. The working arrangement became proactive to the extent that Warlpiri people inspected an exploration licence area on a case-by-case basis. Over a more workable time period yapa were enabled to make more informed decisions and surveys, the results of which informed subsequent instructions issued to the company. The work area clearance was an approach to place that provided greater scope for Warlpiri management of exploration on their own terms and removed the impediment of designating boundaries of place. The process also allowed different groups of people to identify their interests in places because it provided for a number of visits over the life of the licence area. From the company’s perspective, the work area clearance minimized the risk of an unforeseen identification, late in an advanced exploration program, of a place of significance that intersected with a gold deposit. This scenario would present enormous problems for both Warlpiri and the company, but was difficult to avoid in the piecemeal approach of a site clearance.

The Mining Model of Place

The implementation of the work area clearance program in the Tanami Desert had the unintended effect of speeding up the rate of gold exploration in the region. As the work area clearance process was refined, more Warlpiri places were identified, people rapidly reoriented their interests in place, more tracks were built making access easier, and the exploration process itself became
progressively demystified in Warlpiri eyes. Indeed, exploration in the central part of the region has become so intense that certain areas have already been the subject of several successful licence applications and exploration programs. The volume of interest in exploration in the Tanami Desert has forced the CLC to convene massive meetings of traditional landowners to consider multiple applications at once. In 1997 two meetings were held to deal with 42 and 62 Exploration Licence Applications respectively (CLC 1998a: 52).

The work area clearance approach of determining access to land was formulated with reference to the dual imperatives of both Warlpiri and mining company interests concerning the demarcation of space and place in the Tanami Desert. The work area clearance process replaced the flawed site clearance process and redressed the fundamental problems the latter caused by failing to effectively locate and identify Warlpiri places of significance. The development of gold exploration and mining has imposed a new model of land tenure in the central Tanami Desert. The first dimension of this model concerns the way that it requires yapa to continually divide the landscape into areas of space and place. This measurement of dreams has necessitated that both Warlpiri and mining companies rank and order their interests in land to effectively manage mining related developments.

For a mining company there are a number of different activities that take place over a long period of the time which have variable impacts in terms of levels of disruption caused to the landscape and the extent to which they encroach upon Warlpiri places. In the early phases of exploration these activities include helicopter and four-wheel drive surveys and sampling, camp construction, drilling and costeanning. These aspects of the exploration process have relatively low impacts although they are extensive throughout an exploration licence area. More intensive drilling and costeanning are usually restricted to smaller prospective areas. Exploration requires a small number of specialist personnel and little or no development of infrastructure. Sufficient time is given for the identification of all places of Warlpiri interest before the mining process begins. Mining itself is confined to a relatively limited area. The requirements of a mining venture include the construction of infrastructure such as roads, airstrips, water bore fields, pipelines, gravel pits, offices, accommodation, processing facilities, workshops, tailings and waste dumps, in addition to the ore pits themselves. Exploration and mining are very different activities that variably affect the significance of the local constellation of Warlpiri places and jukurrpa. Figures 11-3 and 11-4 illustrate how the interests of mining companies contract over time in order to focus intense development activity in the clearly defined area of a mineral lease. The second dimension for modelling Warlpiri land tenure under the mining regime is the determination of which places are affected by a new mine that has been developed within the original exploration licence area.
Warlpiri have become increasingly sophisticated in the ways in which they deal with questions determining which places are affected by mining and exploration, how important the places are, and the weight given to them in order to decide the proportions of royalties paid to the appropriate groups of owners. In the exploration example (Figure 11-3) there are clearly four different jukurrpa (one belonging to each semi-moiety) related to the licence area, from which people affiliated with each semi-moiety could argue for a role in decision making and a share of proceeds from royalties. To avoid unnecessary consideration of the physical extent of a site, let us say that all four places are fairly important soakages existing in conjunction with some other topographic feature. The most common way that Warlpiri order the interests of each group of kirda (patrilineally descended landowners) is as follows (in descending order of importance): 4 claimed by N/Japanangka and N/Japangardi; 2a and 2b claimed by N/Jakamarra

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and Na/Jupurrurla; 1a and 1b claimed by N/Jangala and N/Jampijinpa; 3 claimed by N/Japaljarri and N/Jungarrayi.

In discussion of how yapa arrive at such a ranking reference will be made to the Warlpiri gradation of place discussed in more depth in Elias (2001a: 106–17). Place 4 is deemed the most important place because it was yukaka or kaninjarra (inside or below) and is a restricted place where something of consequence was happening (ngurrjumanu), even though the physical centre of the site itself lies outside the licence area. It is also the prime place within the local area because there is no other place associated with jukurrpa on that level. Places 2a and 2b could be argued to have an equal degree of importance as place 4, even though the jukurrpa travelled across the ground (yaninika-wurna) and they are not as ‘deep’ literally or metaphorically by comparison. This argument would be justified on the grounds that there is an area where the ancestors emerged and fought with each other in between the two places (also ngurrjumanu as in the previous case), and the entire jukurrpa is confined within the licence area, thus elevating its importance. Next in ranking of importance are places 1a and 1b, where a jukurrpa simply flew through the air (kankarlu) between two places doing nothing of great significance at either place except resting (ngunaja). These places are also both entirely contained within the licence area. Finally, the least important place is place 3, where the jukurrpa is said to be affiliated with trees along a creek bed which it visited (ngunaja) before returning to its place of origin, doing nothing else of significance. At issue in the determination of which jukurrpa (and semi-moiety) are included within a licence area on Warlpiri terms are considerations of the power or strength of jukurrpa, the proximity of site features, the number of places and the activity of the jukurrpa itself.

As indicated earlier, under a mining regime, the emphasis on various aspects of an existing system of Warlpiri land tenure can change rapidly over a short period of time, given that the boundary of a licence area may change according to the success of initial exploration. Figure 11-4 takes up the example five years later when a gold mine is proposed in one part of a new mineral lease and the rest of the licence has been relinquished. In this situation, the case of place 3 is straightforward. It is discarded immediately from negotiations over a role in decision making and a share of proceeds from royalties. What happens with the other places becomes much more interesting. Places 1a and 1b, 2a and 4 all become of equal importance and share authority, with perhaps a smaller proportion of power and authority allocated to place 2b. How does this order change? In the case of places 1a and 1b the kirda (bosses) of one patriline and jukurrpa become increasingly important because there are two places in close proximity to the site of the mine and their jukurrpa. Although travelling through the air, they are still regarded as very close. Place 4 remains at the same high level of importance because it is still the most significant place in the local region. However, in the case of places 2a and 2b a distinction or contrast is drawn.
between them because, although they share the same *jukurrpa* and are from the same semi-moiety, the patrilineal descent group associated with place 2b is more distant from the mine site and is not within the mineral lease. However, place 2b is still included, albeit on a lesser level, because of the group’s close association with place 2a and the fact that their *jukurrpa* is closely associated with the mine, even though their place is not.

This simple example indicates that for Warlpiri the measurement of dreams in terms of *jukurrpa* and place are closely associated with both the boundaries drawn by a mining company and the activity which is undertaken. In reality, the different combinations of *jukurrpa* and place are far more complicated than these illustrations. The important points are that the mapping of responsibility and authority over place is in the first instance mediated the different factors already mentioned, and also the relationships of local descent groups and wider regional considerations. In addition, decisions regarding the affiliation of semi-moieties and *jukurrpa* in a localised region must account of royalty payments and land tenure within a broader sociopolitical context.

**Conclusion**

The physical reintroduction of people to place in the context of mineral exploration in the Tanami Desert has thrown up complex and challenging issues. The production of boundaries over space and place in addition to the processes of exploration and gold mining have created an enormous amount of work aimed at identifying and maintaining different kinds of boundaries that are physical, social and spatial. Under the *ALRA*, Aboriginal land can neither be bought nor sold, yet the reintroduction of people to place has nonetheless commodified, not only the relationships between people and place, but also those between different groups of people. Mapping was the first part of this process that drew together Warlpiri politicking over rights to places in the face of the institutional requirements of the CLC, the mining industry and the government, in order for them to resolve questions of boundaries and ownership of place. Decisions over the identification and protection of places have, by and large, been the responsibility of senior knowledgeable persons. The identification of the appropriate owners of those places demands that Warlpiri people map their relationships to place with respect not only to their own places and boundaries, but also to those that are created by the development process.

The process of mineral exploration in the Tanami Desert requires Warlpiri to think carefully about their places within different kinds of physical and social boundaries. It has been argued that the mining model of land tenure requires that both Warlpiri and mining companies must carefully weigh how Warlpiri place is constructed with respect to an exploration or mining project. Exploration, mining and royalty payments expand the scope of politicking among Warlpiri by introducing an economic context within which they organise, negotiate and
resolve competing claims of ownership and affiliation to place by different individuals and landholding groups.

References


