



FEATURE

Applying Relational Databases in Native Title Research by James Rose, Anthropologist, NSW Native Title Services Limited.

This is an abridged version of a paper given at the recent 2006 Native Title Conference in Darwin.

Motivations

Anthropology applied as expert evidence to Native Title matters is increasingly coming under two immediate and concrete pressures:

On the one hand the Federal Court, the National Native Title Tribunal and Crown Solicitors are demanding more explicit, more systematic and more transparent anthropological reports. On the other hand, Aboriginal communities filing as applicants to Native Title claims are demanding greater access to and more control of data that is collected *from* them and more accountability from the researchers that are collecting it.

Both these pressures refer to the management of two distinct aspects of anthropological reports: the data and the analysis.

In the case of the court, judgements such as those handed down in *Neowarra v Western Australia*, *Gumana v Northern Territory*, *Jango v Northern Territory*, and of course, *Risk v Northern Territory* (to name just a few) have all highlighted an increasingly specific demand that anthropological reports distinguish more clearly between the facts documented by anthropologists and the opinions that they subsequently formulate in relation to those facts. There are also increasingly specific demands that the opinions themselves be more *transparent* in their formulation; that the line of reasoning be explicitly documented and explained so that its validity can be assessed. Justice Mansfield in his recent summary of the anthropological evidence submitted in *Risk v Northern Territory* (2006 FCA 404), suggests that there may be inherent differences between natural science and social science because of the dependence of natural science upon 'reliable methods' for establishing facts (para 471). He also acknowledges that 'in the context of expert anthropological reports, the line between opinion and the fact on which it is based is not always clear' (para 472). Similarly he acknowledges that 'it is part of the Federal Court's responsibility in hearing native title cases to establish the relative 'primacy' of such evidence (para 468) and to 'accommodate uncertainty' (para 473) where possible. However he is adamant that 'time and effort is

not inappropriately wasted on trying to identify from a poorly constructed report the facts or premises underlying the opinions expressed in it' (para 473).

With regard to native title claimants themselves, the day-to-day experience of anthropologists frequently reveals a strong interest that families' contribution to anthropological reports not disappear into the ether of drafts and NTRB archives. In my own experience families lodging claims want the facilities to access that data in the form it was collected and to control its distribution. In fact, this is often the explicit condition that families set for participating in anthropological research.


Under the *Native Title Act 1993* and the *Evidence Act 1995*, the independence of anthropologists acting as expert witnesses depends upon the independence of their analysis, based, as is commonly quoted, on our 'training, study and experience'. According to the law this independence cannot be based on the will of claimants at whom that training, study and experience is directed. This independence is not affected, however, by any provision of access to data collected from the claimants if they want it.

The project

The NSWNTS Research Unit has taken an apparently novel approach to addressing these two sets of demands. Using specialised software we have developed a system for sorting and interrelating data collected in the course of research so that its utilisation in analysis can be explicitly tracked. This in turn allows us to lay out the steps we take in analysis. Recipients of subsequent reports such as the Crown, Tribunal and Federal Court can make clear and informed assessments of whether the analyses meet the requirements of the relevant legislation. Because the data is so specifically and explicitly indexed and cross-referenced in this system, Claimants are able to see which data has been collected and which has been used or not. This in turn allows them to make informed judgements about the release of certain information and also to access collected data in the Research Unit archives in the future. Indeed, a significant non-native title outcome of research conducted in this way is that it remains functionally accessible to claimants and their descendants long into the future.

How is the data organised?

The NSWNTS Research Unit database is organised according to the well-tested



hypothesis that social activity occurs in space and time. In seeking to demonstrate the presence or absence of a system of land tenure, we thus divide the social activity of regional communities into registers of space and time. The third register, of social activity itself, is a function of recorded concrete interaction between groups and individuals. We thus have three categories of data: temporal, spatial and social.

A relational database operates on the basis of one or more relationships between a series of registers. The definition of the relationships will produce a network whose manifestation will be highly consistent and independently testable. In the case of a social network, the definition of the relationships between its constituent registers of space, time and social interaction, will be similarly manifest. This allows us to ask:

- at what times are people documented?
- at what places are people documented?
- what relationships are documented between people?

Because of this consistency and transparency we are now able to begin establishing in a consistent and analytically transparent way, the absence or presence of a systematic and continuous land tenure. The interrelated registers of the database are also known as tables containing rows and columns. Each row or entry in the table manifests as a record of one person in one place at one time. Categories of data become fields which index an individual's location in space-time together with one instance of the social relations they were engaged in at that point. The database can scan and index all individuals and all locations in any collection of data provided to it. The NSWNTS Research Unit has submitted to its database over 1000 publicly available birth, death and marriage certificates, state records and literature and journal references. The database has in turn identified over 9000 individuals, 1500 locations and tens of thousands of instances of social interaction, manifest in an ongoing social network stretching over 75,000 sq km and 160 years. And that is mostly for one language group.

Let's go to an individual example of the database in action. The name of a man who we will refer to as 'HD' is listed in police tracker records at Wee Waa in 1980. This man also turns up as a father on a marriage certificate in Cuttabri in 1881. There is no guarantee that manual research would identify this fact.

However because the relationship between marriage certificates and tracker records has been defined in terms of matching personal names, the database automatically links the two documents, creates a new record for the man named 'HD', and lists the records in which he appears. It also lists the places, dates and events which 'HD' was associated with in the two records. If we scan through *all* available records we see that 'HD' is listed on eight other records in association with three other dates and locations, including Pilliga in 1855, Glencoe in 1903 and Cuttabri Mission in 1904.

Another important example comes from the assessment of social relationships. For instance, 'HD' is listed as a father on a marriage certificate, and we subsequently know the name of his daughter, son-in-law and wife. But the database also discovers via the relationships defined that 'HD' is listed on his own death certificate as passing away in Pilliga in 1917. The database can scan both kinds of certificate for all 'HD's' filial relations and thus identify his wife, children, parents, siblings and grandparents. It automatically constructs a nuclear genealogy for 'HD' which can then be combined with other nuclear genealogies to map an extensive network of filial kin across time and space. In this way, the database sifts through thousands of documents turning up literally thousands of names and places in seconds. These can then be sorted spatially into regional maps, temporally into descent groups and socially into networks of communities. In states such as NSW, where documentary evidence of Aboriginal people is very deep temporally, the application of a relational database simultaneously cuts research time and produces quantities of information with a precision that cannot be achieved by manual sorting.

The subsequent analysis

Research reports built on this data have two particular strengths. Firstly, they can identify, from complex state records, the movements, names and social relations of individuals, and support analytical opinions derived from these facts. A striking example is the mapping of localised patterns of movement allowing the visualisation of very clear constellations of movement. Secondly, when claimants ask what documents we have discovered that concern their community and ancestors, we are able to tell them immediately and in detail. We are also able to say definitively whether that information has been used and whether or not it may be of any use to their claim.



Demonstrating systematic and continuing land tenure

The demonstration of the existence or absence of a systematic and continuing form of land tenure requires an order of analysis significantly higher than the mere calculations performed by a database. The NSWNTS Research Unit database *can* however highlight correlations between patterns in the data and contemporary assertions of claimants. A common anthropological hypothesis is that Aboriginal land tenure comprises a system of production and distribution of knowledge and authority. These often have material manifestations in the spatial organisation of families and communities: pronounced patterns of movement established through the documentation of hundreds of individuals quickly shows collective preferences for particular locations. It might be asked: are these preferences symptomatic of an invasion-era land tenure system or a completely new form of tenure? If the records document continuity in the pattern and a strong conservatism in selection extending back to the commencement of records, then we have a strong indication that the pattern *is* invasion-era and thus an expression of traditional land tenure. The subsequent investigative task would then be to establish correlations between this tendency in the record and what claimants say. If claimants articulate a systematic index of the places for which their families and community are traditionally responsible as owners, custodians or caretakers, then we have a basis on which to make a comparison.

Again, the path of analysis is clearly and specifically documented. We have an index of references to every single record on which the analysis is based, together with copies of the documents themselves, and an analytical method that can be reproduced and tested on the same data under independent conditions.

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WHAT'S NEW WITH THE NTRU

Staffing

Jessica Weir has completed her work at the NTRU and will now return to complete her PhD studies at the Centre for Resources and Environmental Studies at The Australian National University. Jessica's PhD engages with the recognition of the cultural identity of the traditional owner in the management of water in the Murray Darling Basin.

Angela Philp (Research Officer – publications) and Amy Williams (Administrative Assistant) both had their part time contracts extended with the NTRU, while NTRU positions are advertised. Tran Tran had her contract extended as an employee until 31st July.

Juliet Badics, a law student from Flinders University in South Australia, has joined the NTRU on a four week internship, which was organised through the Aurora Native Title Internship Program. She is currently updating and further developing NTRU's research resource pages.

Congratulations!

There has been a recent baby boom in our ranks. Lara Wiseman welcomed Zoe Olivia on 27 April, Donna Oxenham and Glen Kelly welcomed Tahlia Rose on 30 May, and Krysti Guest welcomed Polly Jennifer Jean on 3 July. Mothers and babies doing well.

Networks and collaboration

In conjunction with the Library, Grace Koch met with a working group to prepare Web resources in Australian Indigenous languages. She is helping to edit the recent on-line exhibition of wordlists of E.M.Curr.

Reconciliation Australia Governance Exchange, USA and Canada 26 May – 13 June 2006

Visiting Research Fellow and Manager of IFaMP, Toni Bauman, participated in a two week governance study tour to the USA and Canada sponsored by the Kellogg Foundation. It was organized by Reconciliation Australia in partnership with the Native Nations Institute for Leadership, Management and Policy (NNI) of the University of Arizona. It entailed travel to Arizona, British Colombia and New Mexico to meet with representatives from a number of First Nations. She also met with members of the Native Dispute Resolution Network, which is located within the US Institute for Environmental Conflict Resolution.

Research Activities

Connection Requirements Project

Tran Tran has incorporated final electronic submissions for the state connections requirements project which has received a positive response from interested parties in the native title sector. Tran is now completing the