
Indigenous Knowledge and Resource Management in Northern Australia making collective memory with computers



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**The Indigenous Knowledge Resource Management Northern
Australia Project
Garma 2004
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I spent the first morning of the Garma Festival in the Yirrkala community, forty kilometers from the Festival site. On my return I sensed the first warmth of familiarity with the area. I walked past the Charles Darwin University (CDU) 'doḡa' on my way back to my tent. The CDU doḡa was conspicuous as it was one of two narrow portable buildings near the centre of the treed Festival area. I made a note of its orientation to aid a smooth entrance into the field of my research after lunch. There is a sense of unease at Garma, of not knowing what might happen next. So you fill your belly, just in case you miss the next meal. I ate too quickly, gathered my tools for the afternoon: notepad, water, and video camera, and set out towards the CDU doḡa.¹

The Bujgul (ceremony) ground served as the geographic centre of the Festival site (see Appendix 1). Around the Western edge of the Bujgul ground were the main sites of importance and attraction to visitors. At the South end was the main catering facility, which was provided by the Canadian operators of the local open-cut Bauxite min, ALCAN. Further around was the visitors' camping area. Central on the Western edge was the Display area, and at the north end was the reception and car park. The CDU doḡa established one boundary of the Display Area, which consisted of various exhibits including maps, art and other information hosted by local groups and organizations. Doḡas are narrow portable buildings, approximately three meters wide and ten meters long, and are the only four-walled, lockable structures on the site (except the showers and toilets). They have doors on one side and a row of small windows on the other. An information center, called the Info Hut, resided in two doḡas forming the adjacent sides to a square area shaded by a tarpaulin. CDU staff and students managed one doḡa while the other was shared by Museum Victoria, various journalists and photographers, and the members of the National

Recording Project for Indigenous Music in Australia. Many CDU staff and students have an established relationship with the Yolŋu communities through the Yolŋu Studies program offered through the School of Australian Indigenous Knowledge Systems (SAIKS). CDU also collaborate with the hosts of the Garma Festival, the Yothu Yindi Foundation (YYF), through the Garma Cultural Studies Institute (GCSI). One of these collaborative projects is the Indigenous Knowledge Resource Management Northern Australia ARC Linkage Project (IKRMAN).

As I approach the CDU doŋa I can hear the hum of the air conditioners and other electrical equipment. A CDU banner is draped over the single open door, holding it open. Sticky taped to the wall facing the Display Area are various sheets of paper describing Yolŋu knowledge practices and kinship. Michael Christie, an IKRMNA senior researcher who I had previous met in Melbourne, recognizes me and invites me inside, out of the afternoon heat.

“Come inside and hang out”, he says disappearing into the streams of people entering and exiting the doŋa.

There was hardly the space to hangout. The only clear floor was a mere four square meters immediately inside the door. A table ran down the left hand side of the building below the windows. Seven computers were arranged along the table, a single chair allocated to each, with a printer at the door end. Two locked storage cabinets were also squeezed inside, one of which double as a couch. The desk was cluttered. IKRMNA pamphlets, papers on Indigenous Knowledge Management in Alaska, a printer manual, various Festival outlines and Programs were entwined with insulated network cables, power cables, computer mice and battery charges. The most important documents were sticky taped above the desk on the wall, including a username and password for the IKRMNA database program handwritten on an A4 piece of paper, typed instructions on how to upload items onto the database, keystrokes for the *A Yolŋu NTU* font, and, slightly closer to the door, a growing list for people interested in the CDU Yolŋu language courses.

¹ These narratives are taken from my field notes. They are compilations of events that attempt to stay ‘true to’ rather than necessarily ‘true of’ my experience at Garma 2004.

A man named Bevan Koopman was responsible for the setup and smooth operation of the network of computers in the CDU doja. He was a computer scientist with the Government supported research organization Distributive Systems Technology Centre (DSTC). Bevan's computer was the furthest from the door and encased the server for the database. It was networked to the other computers, which were provided by CDU and also ran the database software. DSTC have developed software for Indigenous communities in both Australia and North American (where they work with the National Museum for the American Indian). In Australia DSTC is working *pro bono* for the IKRMNA Linkage Project. It is this relationship that enabled the DSTC software, a computer and one of their personnel, Bevan Koopman, to be transported to and arranged into the functioning of the Info Hut at Garma 2004.

Inside the doja there are five Royal Melbourne Institute of Technology (RMIT) students getting ready to record the more formal Forum sessions at the Festival. Some are still finishing working at computers, while others pack their bags with drink bottles and note paper. They begin to discuss the afternoon's tasks.

Using the Festival Program the students allocate themselves to particular sessions, ensuring each session is also allocated correct types of recording devices: laptops and Minidisc players and media, microphones and head phones. This requires some sorting out.

"Does your USB work with my MiniDisc?" Asks one student to other.

The other student shrugs, and reaches for her USB cable. The two students link the Minidisc to a computer using USB cable, confirming its compatibility through icons on the screen. Other students check that their MiniDiscs are working, recording sound and playing it back through a set of head phones.

Three Yolŋu boys are sitting around one of the laptops. They have opened a 'painting' program, and quickly all three children want their own computer. One moves to the neighboring computer.

"Michael's working on that one", one RMIT student says to know one in particular.

"How about this one?", the RMIT coordinator says to the boys.

"No. It's the server. It runs all the other ones!", someone says.

"When's Michael going to be back?"

The boys are already settling down in front of computers, and the RMIT students' cease their apparently futile efforts, and return their attention to their preparation. Another five Yolŋu older boys join the younger ones.

The RMIT students were the most common occupants of the doŋa, especially at night after doŋa's various daytime visitors had ceased and before the night time entertainment finished and Dusk, a writer, came in to set up his swag on the floor for a good nights sleep. Daytime visitors included: CDU students documenting an art project taking place immediately outside, journalists charging their equipment at the few spare power sockets, visitors wanting printouts of information, IKRMNA researchers and Yolŋu children. RMIT had established a contract with YYF, for the transcription of all the formal sessions of the Forum and the Music Symposium. These sessions were an initiative of the Garma Cultural Studies Institute and operated similar to a Western pedagogical forums or panel discussions. They were almost exclusively in English, and the students transcribed much of it at the time using laptops, filling in gaps back in the doŋa from digital recordings taken using MiniDiscs. When the transcriptions were considered finished they were uploaded onto the database by the students, who described each item with the details given in the Festival Program. The RMIT students often worked more than 12 hours each day.

The other inhabitants of the doŋa related to IKRMNA were John Greatorex, a SAIKS lecturer and researcher, Bryce King, a SAIKS research assistant, Jenny Wulumdhuna, a teacher from Djurranalpi, a homeland Centre on Galwin'ku Island, and Mark Yingiya from Milingimbi. The four of them

worked at recording Yolŋu knowledge on video recorders. By the end of the week Yinjiya and Wulumdhuna had taken over ten hours of footage, some of which was viewed and edited in the small clear corner of the doŋa. A discussion of the different work done by the RMIT students, Yinjiya and Wulumdhuna is the focus of much of the discussion later in this paper.

Yolŋu boys often came into the doŋa in groups to use the computers, especially the painting programs. Making do with the allocation of one chair per laptop they sat on each other and/or on the people working next to them. The boys were confident in establishing themselves in the doŋa, never shy in asking you to move out of their way or asking for help opening the programs. The groups tended to include boys of similar age. The older boys, between ten and fifteen at a guess, were familiar with the computer software and easily located and opened the painting program. The younger boys either used the program straight after an older boy, asked somebody at hand to open the program or played freely opening various programs and clicking objects on the screen using the mouse. Occasionally Bevan involved himself with the groups' interests and work.

The group of Yolŋu boys settled into using computers, occasionally calling to each other to show what they had done or were doing. Taking interest in the boys and their use digital technology, I get out my video camera and begin to record them.

Immediately the boys see me, a few surround me, peering over my shoulder at what I am recording on the LCD screen. They walk in front of me ensuring they get in the picture. Some hold out a 'thumbs up' viewing their hand gestures on the LCD screen at the same time.

"My turn", says one of the younger boys, taking the camera from my hands. As I was soon to learn, little effort was needed to get Yolŋu hands on to digital technology compared to that of keeping them off.

The boy happily records his friends on laptops, two of whom are now being shown maps of the Gove Peninsular (the surrounding region) by Bevan.

Another boy is drawn over to the maps, politely switching of the computer his was working on, and unknowingly to everyone at the time, including himself, shutting down the database server.

“Sydney?”, one says pointing to the bottom of the screen. I am glad the boy is still recording what I am interested in. As this thought passes, the boy turns the camera on me.

I smile, then self-consciously turn to look behind me, acting as if the boy was really filming there. I fail to shake in the interest of the boy. He aims the camera squarely at me: what are you doing here the boy and the camera ask together.

What was I doing? At Garma I spent much of my time ‘hanging out’ in the CDU doja. I was there to record the emergence of the IKRMNA database, using a notebook, video camera and a still camera. However, most of the time I didn’t feel like I was hanging out at all, but merely trying to hanging on. I had hoped to document how Yolju people created data items and how they worked with the database. I had though that I might witness the emergence of a database which supported the ontology of those Yolju who began to build it. This did not happen. Slightly bewildered, I hung on for two days, until I decided to let go and simply see what did eventuate.

What am I doing now? In a way I’m still trying to let go of preconceived ideas. I am trying to write up my experience and involvement with the IKRMNA project at Garma 2004, that captures the uneasiness that I felt and the some its complexity. I am wanting to tell a story that holds onto what happened. In the description above I have given a picture of what I consider the ‘IKRMNA project world’. I have borrowed this heuristic from Helen Verran’s “embodied microworld”². These worlds involve

“material embodied, in-place routine actions that express social relations: both individual, personal and intimate, and collective, impersonal and institutional. They involve written texts, and stories,

² Helen Verran, 2004a, “A Nineteenth Century British Investigation”, in *Doing the Nature of Australia*, unpublished.

theories, narratives, images and figures that contribute to the justifying and explaining of the project.”³

The social relations, or “routines of sociality”, of the IKRMNA project world include: the institutional associations between ALCAN and the Yothu Yindi Foundation, the associations formed between the Yothu Yindi Foundation, Charles Darwin University, RMIT and DTSC, and the relation between the Yothu Yindi Foundation and the various land owning Yolŋu clans of the North East Arnhem Land region. Other routines of sociality include the groups Yolŋu boy’s who used the doŋa for particular purposes, the visitors and myself, as a University of Melbourne student⁴. All these relations are expressed in the material configuration of the Festival Site: the area in which we ate, the generators supplying the power to the site, the central location of the CDU doŋa and its internal material arrangements which supported particular practices, and the classification of material technologies (laptops, MiniDiscs, CD drives, digital video cameras and still shot cameras) in supporting digital information. Texts and narratives that explained the project were present in the IKRMNA pamphlets, articles relating to DSTC work in North America, the Festival program, and the transcriptions which were testimony to the productiveness of the project world. All these routines performed particular entities and entire realities into being at Garma 2004⁵.

I want to turn now to what the IKRMNA thought they were doing at Garma 2004. There are a number of texts associated to and produced by the IKRMNA project that were not present at Garma 2004. Discussing these can help trace decisions or routines that have been clotted by the project beyond the horizon of my experience at Garma 2004⁶. The guiding principle of the IKRMNA project is articulated below by Michael Christie during an IKRMNA project seminar in 2003.

³ Ibid, p 2.

⁴ I was only able to attend the Garma Festival 2004, through an enrolment in a subject offered by The School of Anthropology, Geography and Environmental Studies at The University of Melbourne, who also have an established agreement with the Garma Cultural Studies Institute.

⁵ See Bruno Latour, 1999, *Pandora’s Hope: essays on the reality of Science Studies*, Havard University Press, Cambridge and London, p 151 and John Law, 2004, *After Method: mess in social science research*, Routledge, Oxfordshire and New York, p 27-32 on reality as the routinisation of local practices.

⁶ Geoffrey C Bowker and Susan Leigh Starr, 1999, *Sorting Things Out: classification and its consequences*, MIT Press, Cambridge and Landon, p 48.

“The first basic principle for developing ownership and usefulness would be to start with very limited data that has been produced by the people on the ground which they have decided will be useful for their own purposes in teaching younger generations, making collective memories, or celebrating connections.”⁷

In this quote, Michael Christie identifies an aim - “developing ownership and usefulness” and the practices for its achievement - local people deciding on what data items to produce and producing them themselves. This statement, which I consider exemplary of IKRMNA statements of purpose, illustrates a dovetailing of two imaginaries in the IKRMNA project world. The first of these imaginaries is that of knowledge production as an ever emerging local activity. The second is of self determination for Indigenous Australians. Within the embodied microworld heuristic,

“Imaginaries are pivotal both (a) as image or figure and (b) as justificatory narrative. Imaginaries *achieve* a degree of continuity and coherence *through* choreographing enacted routines”⁸ (emphasis added)

The IKRMNA understanding of knowledge production predominantly fulfils the first function of the imaginary, while indigenous self determination predominantly fulfils the second. IKRMNA understands the database they hope to create as “always an emergent solution.”⁹ This solution is “emergent” in the sense that it supports indigenous knowledge and its structures through supporting the gradual stabilization of local indigenous practices of managing their knowledge in digital forms. Such a process is described by Lucy Suchman as one of “artful integration”¹⁰. In the case of software development, artful integration dissolves the distinction between

⁷ Michael Christie, 2003, “Databases which support rather than inhibit Australian Aboriginal ways of knowing and making knowledge”, ARC Linkage Project Seminar, September 24, 2003, Charles Darwin University, p 9.

⁸ Helen Verran, 2004a, p 17.

⁹ IKRMNA, 2004a, “Indigenous Knowledge Management Northern Australian: making collective memory with computers”, unpublished, p 1.

¹⁰ Lucy Suchman, 2002, “Located Accountabilities in Technology Production”, *Scandinavian Journal of Information Systems*, 14(2), p 91-108.

'users' and 'developers'¹¹, as the software is developed within the context of use. Hence, the figure of an emergent solution also informed the development of the software.

The IKRMNA software is open source, so anyone can access and modify its code to local situations. The software enables data items to be uploaded into a unique address on a particular server (like a URL on the internet). These items may be text, images, audio, video, or a combination of these. The software allows for a variable number of fields for describing each item, called metadata. In having no defined structure the database is attempting to grow its own ontology, produced by those who use it - Indigenous Australians. Hence, the IKRMNA project world is attempting to avoid any hard wired Western assumptions about reality that are common in many digital archives.¹² Moreover, the interface of the IKRMNA database was developed to be similar to common internet browsers such as Internet Explorer and Netscape Navigator.¹³ Search enquiries are required to be typed into a white field and results are displayed with their description and an icon representing the type of object (text, audio and/or video).

Central to the enactment of the IKRMNA project world are other routines informed by the figure of local knowledge production. Yolŋu people are involved in all aspects of the project¹⁴ and Yolŋu metaphors inform the project's methodology¹⁵. The main forums where the project's trajectories are set are workshops open to all participants¹⁶, and the sites where the project can be brought to life within the context of its use, such as Garma and

¹¹ Ibid. p 92. The notion of no distinction between design and use was expressed to me at Garma 2004 by Bevan Koopman as a common understanding within software development.

¹² IKRMNA, 2002, "Australian Research Council Linkage-Projects (Round Two): Application form for Funding Commencing 2003", p49

Michael Christie, 2004, "Computer Databases and Aboriginal Knowledge", unpublished, p 4, and for a more general discussion see, Geoffery Bowker, n.d., "Keeping Knowledge Local", unpublished.

¹³ Jane Hunter, Bevan Koopman, and Jane Sledge, 2002, "Software Tools for Indigenous Knowledge Management", retrieved from www.dtsc.edu.au during July 2004, p 12.

¹⁴ IKRMNA, 2004, "About the project", retrieved from www.cdu.edu.au/ik/about on 29.09.04, and IKRMNA, 2002, p 48, 51.

¹⁵ Specifically IKRMNA uses the metaphor of *djarrma*, the native rat, "who runs back and forth through all the tunnels under the ground, busily taking news and opinions from person to person, group to group", Raymattja Marika, 2004, in IKRMNA, "What we Do", retrieved from <http://www.cdu.edu.au/centres/ik/whatwedo.html> on 14.10.2004.

¹⁶ IKRMNA, 2002, Australian Research Council Linkage-Projects (Round Two): Application form for Funding Commencing 2003, p 49 and IKRMNA, 2004, "About the Project", retrieved from <http://www.cdu.edu.au/centres/ik/about.html>.

Larrakia (the land around Darwin)¹⁷ are central. Lastly, an exhibition of the development of the project remains available on its website¹⁸.

The IKRMNA justificatory narratives are ones of Indigenous self determination in Australia. As well as foregrounding Indigenous control over knowledge, the project regenerates movement towards Indigenous control over education and land ownership and management.¹⁹ IKRMNA emphasizes the importance of Indigenous environmental knowledge, enlisting international biodiversity agreements binding the Australian Government.²⁰ The commitment to Indigenous land ownership is manifest in the institutional relationship forged between IKRMNA and the Northern Land Council, which has a statutory responsibility to help Indigenous people manage the land to which they claim ownership.²¹

These routines of sociality, textuality and materiality, and their supporting imaginaries, which I have helped bundled together as the IKRMNA project world, sustained three subprojects at Garma 2004. I will label the three subprojects by their human actors: the RMIT students' subproject, Mark Yin̄ya's subproject and Jenny Wulumdhuna's subproject. Each subproject worked to produce data items for a database. Data items are not knowledge, they are information. We can think of them as inscriptions or recorded statements which are produced *within* a site of knowledge production. According to Joseph Rouse, these practices of 'surveillance and recording' are critical in the political work knowledge production.²² However, for these "in-here statements"²³ to be understood as knowledge they must resonate with and ramify into sanctioned routines of knowledge production. Moreover, these resonances and ramifications are transformatory - they construct the worlds they study.²⁴ In the case of

¹⁷ IKRMNA, 2004, "Garma 2004", retrieved from http://www.cdu.edu.au/centres/ik/db_garma.html, and "Larrakia 'Gulumerrgin' subproject", retrieved from http://www.cdu.edu.au/centres/ik/db_larrakia.html

¹⁸ see www.cdu.edu.au/ik

¹⁹ IKRMNA, 2002, p 46-52.

²⁰ IKRMNA, 2004a, p 1, IKRMNA, 2002, p 48 and 51.

²¹ IKRMNA, 2002, p 52.

²² Joseph Rouse, 1987, *Knowledge and Power: towards a political philosophy of science*, Cornell University Press, Ithaca and London, p 215.

²³ John Law, 2004, "Scientific Practices", *After Method: mess in social science research*, Routledge, Oxfordshire and New York.

²⁴ *Ibid*, p 211.

research, these routines, which are often messy and not always coherent, are called methods.

My shift in emphasis from project worlds to methods, is an enactment of my own ethnographic method. A method moreover, that I am using to do particular type of work. I have used the embodied mircoworld theory to flatten my account of the institutional position of both my research and the IKRMNA project. In doing so, I have foregrounded the network of routines of sociality, materiality and textuality which constitute the project world. A focus on routine practices as the generative activities within sites of local knowledge production enables me to produce an account of sameness between the different forms of knowledge production informing the different subprojects. However, I now wish to attend to these differences, and to do so I wish to foreground method. This is a political step on my behalf. I am using my method to attribute other methods on particular practices.

In telling a story of different methods I want to embrace and present a form a symmetry in my account which avoids notions of success and failure, and truth and falsity.²⁵ The RMIT students did produce data items (their transcripts) whereas Wulumdhuna and Yijiya did not. However, it was not a failure of the Yolju to embrace the technology, not was it the wisdom of the RMIT students that allowed them to use the database. Rather, each subproject produced knowledge differently. Whether or not the in-here statements of the data items were successfully produced was dependent on the ability of the IKRMNA project world at Garma 2004 to support the different methods of the three subprojects. To capture the sense in which these methods are not simply the actions of humans but forms of institutional relationships, and the material configurations and textual properties of non-humans that inhabit our research worlds Law defines the term “method assemblage.”²⁶ Law’s definition:

“Method assemblages may be seen as the crafting of a hinterland of ramifying relations that distinguish between: (a) ‘in-here’ statements,

²⁵ Bruno Latour, 1996, “Do Scientific Objects Have a History? Pasteur and Whitehead in a Bath of Lactic Acid”, *Common Knowledge*, vol 5, 76-91, p 79.

²⁶ John Law, 2004, p 38-42.

data or depictions ...; (b) the 'out-there' realities reflected in those in-here statements; and (c) an endless ramification of processes and contexts 'out-there' that are both necessary to what is in-here and invisible to it."²⁷

The hinterlands of the research for the RMIT students include their contract with the Yothu Yindi Foundation, the Festival Program which listed what they were to record, and the routines of transcription and the technologies required to do so. For Yinjiya and Wulumdhuna, their hinterlands were the digital video cameras and video tapes, their clan and moiety affiliation,²⁸ and their position in the local kinship system called *Gurruṯu*. According to Law knowledge production is about "the orchestration of suitable and sustainable hinterlands."²⁹ That is, the routines of knowledge production produce, and most often reproduce, a reality itself: a reality "out-there" to reflect the "in-here statements".³⁰ Hence, an inability to produce data items is a consequence of the impossibility of enacting routines necessary for a particular kind of knowledge production. In Law's terms, it is the absence of a sustained and suitable hinterland. I now wish to look at each subproject in turn.

The RMIT students produce in here statements which were audio recordings and text transcriptions of the Forum and Music Symposium. Law argues that the reality 'out-there' constructed by Western social science in particular, is one that is *independent* in relation to the researchers and method, *anterior* in its temporality, *definite* in its reach, and *singular* in its existence.³¹ The RMIT students' subproject can be mapped onto this Western social science ontology. Independence and anteriority were achieved by the deployment of particular technologies: the MiniDisc recorders, Dictaphones, and laptops. These recording devices comfortably support the metaphor of knowledge as representation which is pervasive in Western culture.³² This assumption was reproduced in the production of

²⁷ Ibid. p 42.

²⁸ The Yolŋu people are divided into 16 land owning groups called clans, who are the descendents of the ancestral beings who created the world and everything in it. The Entire Yolŋu universe is divided into two moieties called Dhuwa and Yirritja.

²⁹ John Law, 2004, p 29.

³⁰ Ibid. p 42.

³¹ Ibid. p 24-25.

³² Michael Christie, 2003, p 4.

transcripts, where English words were assumed to provide accurate representations of the Forums. The particular work done by these technologies in producing “endless ramification processes” is best traced through the events in which it failed. One of the first problems encountered was the fact that some of the MiniDisc recorders wiped the information from the media, and other Minidiscs were simply lost. As one student said to me -

“We’ve had major hassles with all our sound. Minidiscs are being wiped, and we’ve had to use cassettes so that [transcribing] might have to happen later. It’s pretty crazy ... from Melbourne we’ll transpose some MiniDisc files. The cassettes, I donno what we’re gonna do. It should work.”

In this comment the student acknowledges that in solving the problem of the malfunctioning MiniDisc recorders they have stepped outside the established hinterland of the IKRMNA project: they started using Dictaphones which produce analogue information not digital. To solve this they will have to generate an appropriate hinterland “from Melbourne.” ‘In here’ statements in English also proved problematic because often words could not be discerned from the recording or words appeared for which no one knew the correct spelling. In response to the second difficulty, the students made a list of words that needed to be spelt correctly, planning to find someone to correct it by the end of the conference. Another difficulty was sustaining the supply of 240 volt alternate current power. Each day the on site generators needed to be refueled, and were switched off for this process. Occasionally computers ran out of batteries, disrupting the smooth production of the in-here statements.

The messy workings of the RMIT subproject did however, continue to produce transcriptions. On the final day of the festival, the coordinator, Beck, sat down with another student Caroline, to mark off what had been done.

B: “So you did . . . Just tell me which ones you’ve done and how far you’ve got”

C: "I did that." (Pointing to an item on the Festival Program held open in front of both of them).

"And that's finished." (pointing to another)

B: "And you've done that"

C: "Yeah"

B: "So do you have it?"

C: "Yeah."

B: "So that one's finished. Can you give me the disk back? . . . Thank you. Okay, Saturday. This one, number ten?"

C: "We're typing all of that out. Music symposium. Done that, number seventeen."

Here the students are using the Festival Program as a list which aids the definition of the world out there. According to Bowker and Star lists are a genre of representation and considered a foundational activity in Western worlds.³³ Beck holds the list and Caroline holds the disks encoded with her transcriptions. There is no doubt that the world they are researching/producing is *definite*. No part of the world escapes the transcription or its description copied from the Festival Program. This world is *singular*. So pervasive are these assumptions of independence, anteriority, definiteness and singularity that one transcription included the statement "(Note: The following is not the exact words of the speakers but a summary of what they were talking about.)"³⁴ This genre of representation moreover, embodied in the Festival Program, can be understood as a "figure" in the RMIT subproject. Figures "simultaneously explain, justify and choreograph realities made in their image"³⁵ That is, they are the central branches between the method assemblage and its hinterland. Geoffery Bowker has described a form of archiving called a "regime of particularity" which includes lists or trees as its figures.³⁶ This regime is the "the art of the particular - any surrogate is a counterfeit, and to counterfeit is death."³⁷ Each Forum or Symposium is recorded and marked off on the Program. The list was slowly completed, explaining the RMIT subproject and the world it

³³ Bowker and Star, 1999, p 137-8.

³⁴ IKRMNA, 2004, *Garma Forum 2004: Luku-nherraṅ Romnha Dälkuma: Indigenous Livelihoods and Leadership Session thirteen: Indigenous Livelihoods and Mining*, IKRMNA, Gulkula, p 3

³⁵ Verran, 2004a, p 21.

³⁶ Geoffery Bowker, no date b, "Time Money and Biodiversity", unpublished.

described, and structuring the material and social configurations of knowledge production which were necessary to produce the transcriptions. Let us now turn to Yijiya's sub-project. Here's a story from the second last day.

Yijiya, Bryce and I sit on the floor inside the CDU doṅa. We are watching Yijiya's footage of a Bungul. Another man, John, sits opposite us reading.

Yijiya says that clan elders must control the editing process. Particular places must be visited. I could not discern if these places were the homelands of the elders, or places important to the knowledge in question. If Bryce is going to be a part of this he will require permits.

Conversation turns to how the footage of all the Garma Bunguls should be organized for viewing by the elders. Yijiya wants one disk for each clan, with the Bunguls ordered by day.

"Gupapuyṅu . . . day one, two, three, four. . . "
"Gumatj Bungul one, two, three, and four."

We all turn to the footage in question. Yijiya's has filmed the body paint designs used for the bungul and other parts of preparation. During the bungul he has recorded the audience as well as the Yolṅu elders who were present. Most of his footage is very close to the performers. Bryce asks Yijiya why he is so close. His answer is that her needs to be close to record the singers, especially just one voice so the words are clearly heard. After all, Yijiya points out, students may want to transcribe these songs and they must not make mistakes.

Bryce tells Yijiya that he does not have to worry about the sound because Aaron is recording it.

"Has Yijiya met Aaron?", John asks us all.

³⁷ Ibid, p 8.

“Have you met Aaron?”, Bryce asks.

Yinjiya shakes his head.

“He was with Neparrŋa (a senior Gupapuyŋu man)”, one of the men inform Yinjayin who remains unsure: either of whether he knows Aaron or of splitting sound and picture

Bryce adds that he thinks it would be better if Yinjiya filmed from a range of distances. Yinjiya is not easily convinced and says he knows everyone involved in the Bungul and can sit with the singers, unlike Bryce (nevertheless, Yinjiya used a tripod positioned off the bungul ground the following day). Yinjiya also knows what is being bought to the Bungul. On the second day, Yinjiya informs us, an object was bought the Bungul. This object was both a painting and a man, and we are best to think of ‘day two’ as ‘catfish day’. This point opens up another sphere of the conversation.

“Catfish Day?”, asks Bryce, getting his pen at the ready.

Yinjiya continues to explain. Day one is yukuwa (yam), day two is munburri (catfish), day three is gumbarr (emu), all of which are part of the Murayana series. Bryce writes this down, confirming pronunciation and spelling as he goes.

At that moment the video displays Gumatj men joining in the Yukuwa dance being performed by the Gupapuyŋu. Bryce looks at Yinjiya. This is expected, Yinjiya reassures us.

“Gumatj have Yukuwa and Murayana”.

Yinjiya then points out that Yukuwa is now being danced with Munburri.

There is a pause in conversation and soon we drift back to Yinjiya’s project.

Yinjiya gets to the point. He wants three copies of each recording, each one numbered, so he can give them to the elders. He wants them on DVD if possible because he might want to pause and capture still images, which is not possible using VHS.

Bryce asks if Yinjiya is interested in continuing this project over the next few years.

He most definitely is.

Once the tapes are made, Yinjiya continues, he wants the stories relating to the videos to be written down. However, Yinjiya says telling Yolŋu people what he wants to do will take a long time because ‘we do not learn through observing and asking questions. They tell stories when they want to’.

Yinjiya also wants his own camera and computer. He wants to be able to edit at home. At present Bryce must travel too the homelands to visit Yinjiya and the elders.

He wants to show people “the ways our people see”. Yinjiya wants to do this using video footage and computers.

Bryce agrees. “Yolŋu should be in control . . . you should be . . . self sufficient?”

“Autonomous”, I suggest.

Yinjiya’s method assemblage inhabited a different hinterland to that of the RMIT students. Where the RMIT students had formed a relationship with the Yothu Yindi Foundation, Yinjiya attended Garma 2004 due to his relationship with one of the Festival’s major participants - the Gupapuyŋu clan. Yinjiya had been invited by Gupapuyŋu elders to record their bungul at Garma, and he wanted to show the few Gupapuyŋu who did not attend the Festival their clan’s performance.³⁸ In turn, the Gupapuyŋu were made welcome by the Gumatj clan who own the Gulkula Estate within which the Festival was held. Hence, similar to many other accounts of Yolŋu knowledge making³⁹, the central figure in Yinjiya’s research was Gurrutu, the

³⁸ IKRMNA, 2004, “Garma 2004” retrieved from http://www.cdu.edu.au/centres/ik/db_garma.html on 14.10.04.

³⁹ Verran, Helen, 2004b, “Chapter One: An Odd Beginning”, *The Dreaming and Sciences*, unpublished, 1-27, Helen Verran, 2002, *A Post Colonial Moment in Science Studies: Alternative Firing*

kinship system (which defines reciprocal relationships between both individuals and clans). This was also evident in the description of another researcher, Aaron Corn, by his kin relation first and foremost. Yinjiya's interest was guided by what may be considered useful information for reproducing an understanding of the Festival to particular people in particular places. In producing information which allowed for this particular practice of knowledge production, Yinjiya recorded the Bungul in detail. He recorded the objects bought to the bungul, the body paint designs, the words of songs (*manikay*), the music and the people who were present. The video camera proved flexible enough to capture these various aspects to Yinjiya satisfaction. However, it is not these individual details that are important to and remembered in Yolŋu knowledge, but the connections between them.⁴⁰ The reason why these recordings, these 'in here' statements, did not become data items was because Gupapuyŋu elders needed to control their editing and description, and these elders were back at Millingimbi, a full days drive and barge journey from Festival site.

To simply regard this requirement as one of politeness or respect on behalf of Yinjiya would impose the Western metaphor of knowledge as representation onto this situation. In fact, Yolŋu knowledge inhabits an entirely different metaphysics from that of Western social and natural sciences. Yolŋu knowledge "is in the ground, it lives in the country, it is embodied in people, relationships and performance."⁴¹ Hence, where the Western view understands the world as consisting of spatially located, bounded matter which can be represented, the Yolŋu universe consists of "types of relations between named elements"⁴² which are renewed and remade through performances.⁴³ Moreover, the Yolŋu knowledge economy is based upon secrecy. Knowledge, and hence particular performances of knowledge production or ritual, is shared amongst the Yolŋu within relations of gender, clan and moiety affiliation, and initiation.⁴⁴ John Law argues that within their metaphysics, where knowledge is remade through performance,

Regimes of Environmental Scientists and Aboriginal Landowners", *Social Studies of Science*, 32(5-6), 729-762.

⁴⁰ Verran in Law, 2004, p 129.

⁴¹ Christie, 2003, p 1.

⁴² Verran, Helen with the community at Yirrkala and with David Wade Chambers, 1993, *Singing the Land, Signing the Land*, Melbourne: Deakin University, p 15.

⁴³ John Law, 2004, p 130.

⁴⁴ Law, 2004, p 128, and Ian Keen,, 1994, *Knowledge and Secrecy in an Aboriginal Region: Yolŋu of North-East Arnhem Land*, Oxford: Clarendon Press, p 2

the Yolŋu (and other Indigenous Australians) manage secrecy by maintaining multiple realities.⁴⁵ Hence, Law describes an Australian Aboriginal method assemblage as one that is;

“capable of enacting an ontological multiplicity that comes close to ontological disjuncture. It achieves this because there is no universal or general, instead everything is relatively specific, relatively ‘local’, enacted at particular places on particular occasions. Because these is no overall privilege. This means that that which is not clear is not necessarily waiting to be made clear. Perhaps it is diffuse, of marginal concern, and therefore hardly exists and can be left indefinite.”⁴⁶

This “ontological multiplicity” (allowed for by Yiŋiya in not completing data items) inundates any network within which an anterior, definite and singular world may exist, and prevents its possibility. Moreover, the Yolŋu knowledge system explicitly requires dependence on the various social relationships within which knowledge is produced. The only possibility, argues Law, for any form of singularity is a very local singularity established through explicit negotiation.⁴⁷ This negotiation is what the Gupapuyŋu elders would hopefully provide. Moreover, these negotiated enactments embody practices that deem some information more important than other information, which remains “marginal”. The processes of knowledge production which condense multiple registries of information into one is what Bowker calls the “regime of implosion”⁴⁸ (in contrast to the regime of particularity used by the RMIT students). The figure he uses in his description is money, which works to condense the multiple facets of an ecosystem, its biodiversity, into a single measurable value. However, for such a regime to allow Yiŋiya to produce data items, social and material relations different to those present within the IKRMNA project world at Garma 2004, had to be established. This was not the case, and this frustration was expressed by Yiŋiya in his wish for his own camera and computer so he could build his method assemblage out of the appropriate hinterland of his community.

⁴⁵ Law, 2004, 135.

⁴⁶ Ibid. p 137-8.

⁴⁷ Ibid. p 128.

⁴⁸ Bowker, n.d. b.

Wulumdhuna on the other hand, made recordings that did not require the same level of management in editing as Yijiya. Following her interests in her own clan, the Gumatj, Wulumdhuna did manage to sustain a hinterland that joined one of Yolŋu knowledge production and the IKRMAN project world. She was authorized to edit her recordings herself. The main reasons for her not completing data items were her time commitments due to her position as an important Festival participant, and the difficulty of editing in the small clearing in the CDU doŋa. Even when using headphones, Wulumdhuna could not hear the recording as clearly as she liked due to the noise of the many other users of the CDU doŋa. Wulumdhuna is a Gumatj woman. However, she does not often come to Gulkula. This year she met her 'second farther' Joe Djalalingba, who was a senior Gumatj man. During the Festival Wulumdhuna interviewed Djalalingba. She recoded these interviews, which concerned some traditional business of interest to the Gumatj, which Wulumdhuna wanted to show her father and other Gumatj people.⁴⁹ Using a video camera and a Land Cruiser, Wulumdhuna, John Greatorex and Joe Djalalingba visited important Gumatj sites on the Gulkula estate. The stories mainly focused on place names and land tenure.⁵⁰ In visiting these places with Joe Djalalingba, Wulumdhuna and her subproject were located within a context supported by the Yolŋu understandings of knowledge (as related to land, clan affiliation and personal seniority). Moreover, it was also able to be supported within the IKRMNA project world at the Festival. Her interest in her own clan's knowledge and her visit to Gumatj land defined a method assemblage that avoided using a regime of particularity with its invisible assumptions about reality and short circuited some of the hard work required in a regime of implosion. Hence, through the specific negotiations of her social position and the material configuration offered to her by the IKRMNA project world, she was able to produce a highly contingent, local singularity, as suggested by Law.

In conclusion, Wulumdhuna's subproject can be understood as located somewhere between Yijiya's subproject and the RMIT subproject. It could be considered as a hybrid, producing a world out there that was singular, and perhaps definite, (similar to the RMIT subproject), while maintaining a

⁴⁹ IKRMNA, 2004, "Garma 2004".

⁵⁰ Op cit.

contingency upon Yolŋu knowledge systems (similar to Yinŋa's subproject). This 'bridging' of difference was made possible by establishing a sameness in my accounts of the three subprojects. This was achieved by focusing on routine practices as the generative acts of knowledge production in each of the three method assemblages. In foregrounding stories of the here and now of local practices, within context of the IKRMNA project world, the differences relating to the incompatible metaphysics of Western and Yolŋu worlds, can be understood as degrees in establishing different research hinterlands. In sidestepping a direct analysis of the metaphysical differences, this account falls short of any full and perhaps just account of either world views. Nevertheless, the methods I have used in attributing methods and method assemblages to what I experienced at Garma 2004 has allowed me to tell a story that accommodates difference in the doings of producing data items in the context of Indigenous knowledge resource management.

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