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# TRANSDISCIPLINARY RESEARCH *and* ABORIGINAL KNOWLEDGE

## MICHAEL CHRISTIE

School of Australian Indigenous Knowledge Systems,  
Charles Darwin University, Darwin, Northern Territory,  
0909, Australia

### ■ Abstract

Indigenous academic researchers are involved in Indigenist, interdisciplinary and transdisciplinary research, all of which present problems and opportunities for Indigenous knowledge traditions. *Transdisciplinary* research is different from *interdisciplinary* research because it moves beyond the disciplinarity of the university and takes into account knowledge practices which the university will never fully understand. Indigenous knowledge traditions resist definition from a Western academic perspective – there are Indigenous knowledge practices which will never engage with the academy, just as there are some branches of the academy which will never acknowledge Indigenous knowledge practices. In this paper I present the story of my own non-Indigenous perspective on Indigenous research and what happens to it in a university. I am not concerned here with the knowledge production work Aboriginal people do in their own ways and contexts for their own purposes, but rather turn my attention to some of the issues which emerge when transdisciplinary research practice involves Australian Indigenous communities.

### ■ Introduction: Indigenist, interdisciplinary, transdisciplinary

There is considerable discussion these days about Indigenous research, but not much clarity concerning its assumptions and practices. It is important to be clear about Indigenous knowledge and academic research, because much is at stake for Indigenous people whose knowledge traditions continue to be colonised, appropriated and marginalised by academic research traditions. Non-Indigenous academics can ignore, smooth over or blur the fundamental differences between knowledge systems, or make claims to which they have no right. In the words of Indigenist researcher, Karen Martin (2003, p. 2), the effects of research for Aboriginal people have been “mistreatment of ourselves and our land, marginalisation from structures and governance and development of misguided policy and programs resulting in feelings of distrust, caution, fear of exploitation and misrepresentation”.

Indigenous academic researchers are involved in Indigenist, interdisciplinary and transdisciplinary research, all of which present problems and opportunities for Indigenous knowledge traditions. After a brief note on the academic perspective, in this paper I try to characterise the university context of Indigenous research in a couple of different ways, give a few examples from my experience, and provide some thoughts on the key characteristics and risks of Indigenous transdisciplinary research. My approach is a sociological one, related to the fields of the sociology of scientific knowledge (see Figure 2) and ethnoepistemology, and understands knowledge as always produced in a socio-political context, always contingent, always culturally-determined.

### ■ The academic perspective

Indigenous knowledges are governed by ancestral laws of representation which are still alive and well in many Aboriginal communities. These laws declare that stories, like languages, designs, songs, performances and other things actually belong to people (sometimes as individuals, sometimes as groups). It is wrong to tell the stories which belong to others without proper approval. Contributors to Indigenous agreements over knowledge must make clear their rights to the claims they make (Martin, 2003). In recent years, Australian law has attempted to find its way through the messy

politics of representation, and made some (still pretty unsuccessful) attempts to recognise traditional intellectual property. I have more to say later about the risks to Indigenous ownership posed by academic structures, processes and representations, but first I should make clear my claims about this paper. Here I present the story of my own non-Indigenous perspective on Indigenous research and what happens to it in a university. I am not making claims about other Indigenous knowledge practices that I do not know about, or are none of the business of the academy. There are Indigenous knowledge practices which will never engage with the academy, just as there are some branches of the academy which will never acknowledge Indigenous knowledge practices. There is however a transdisciplinary space within the academy where claims of alternative knowledge traditions and their collaborations can be addressed.

I am not concerned here with the knowledge production work Aboriginal people do in their own ways and contexts for their own purposes. Nor am I talking about the colonising research which Linda Tuhiwai Smith (1999, p. 10) calls "probably one of the dirtiest words in the Indigenous world's vocabulary". She is referring to the research which non-Indigenous linguists, anthropologists, epidemiologists, clinicians and others do "into" Aboriginal life, health, culture, knowledge and so on, according to their purely academic or biomedical agendas, and without their collaboration.

What I wish to focus upon (from a non-Indigenous largely academic point of view) are the collaborations between different knowledge systems which involve partnerships, work "both ways", and are consistent with appropriate modes of engagement and negotiation which underpin the secular dimensions of Aboriginal life. They are never a hundred per cent successful, but it is highly significant work. While my focus is limited and local, the wider issues I address are matters of great consequence for a large majority of the world's population. Approximately one quarter of a billion people lead their daily lives bound up with knowledge traditions which are characteristically local. Their knowledge has been identified as of key value to the development of sustainable futures, and yet little work is being done to prevent the assimilation of these knowledge traditions to a Western positivist ontology. Increasingly, these knowledge practices are being invited to interact with global initiatives such as the millennium ecosystem assessment without due attention being paid to fundamental questions of the politics and metaphysics of translation from one knowledge context or one scale, to another. When Aboriginal knowledge is uncritically absorbed into the machine of Western science and humanities, a violence is done to it, it is misrepresented, and its owners are marginalised from the process. In the next section I pause to make clear what I see as key characteristics of Indigenous knowledge traditions.

## ■ Indigenous knowledge traditions

Indigenous knowledge traditions resist definition from a Western academic perspective. They are not objects which, as a white Anglo-Saxon academic, I can find and describe. I can only tell a story about how my engagements with Aboriginal knowers speak to my own conventional understandings of knowledge and how it works; that is, I can identify what from my perspective is different about Aboriginal knowledge, but with two important initial comments. First, these key aspects are neither exclusive nor exhaustive. They define neither necessary nor sufficient conditions. Western academic discourses, like Australian law, can never define Aboriginal knowledge adequately nor accommodate its requirements. Second, what I am saying is in no way confined to the knowledge practices of Aboriginal people who continue to own their traditional land under Australian law and continue to speak their ancestral pre-European languages. What follows may be equally true of the knowledge practices of urban and rural Aboriginal people who have been more systematically marginalised from the dominant culture, but have continued to celebrate their Aboriginal identity and culture through traditional practices, and the use of Aboriginal English.

Aboriginal knowledge everywhere comes out of the routine practices of life and makes those practices possible. It is not naturally commodified like laboratory knowledge. Aboriginal knowledge is responsive, active, and constantly renewed and reconfigured. It is eco-logical. Some Aboriginal knowledge is formalised, codified and withdrawn from public access. But this secret/sacred knowledge is not the knowledge with which a university properly deals. It should be understood more as something that you do than as something that you have, knowing how rather than knowing that. Ensuring the successful transmission of knowledge traditions into the future generations has more to do with young people learning how to construct, rehearse, perform, and celebrate their shared knowledge collectively and respectfully, than it has to do with specific content, such as place names and species names and facts about their usefulness. This is not to deny the significance of what Aboriginal people know, it is just to emphasise its performativity.

Like all knowledge, Aboriginal knowledge everywhere is fundamentally local. Aboriginal knowledge traditions differ from place to place. They derive from and enable culturally-specific and context-specific practices. They come from place and relate people to place in their everyday lives. Aboriginal Australian knowledge is possibly different from many other indigenous knowledge systems around the world, because language, land, and identity are interdependent in a unique way in the Aboriginal Australian world and in a distinctive way in each context. We should not assume that there is something universal about Indigenous



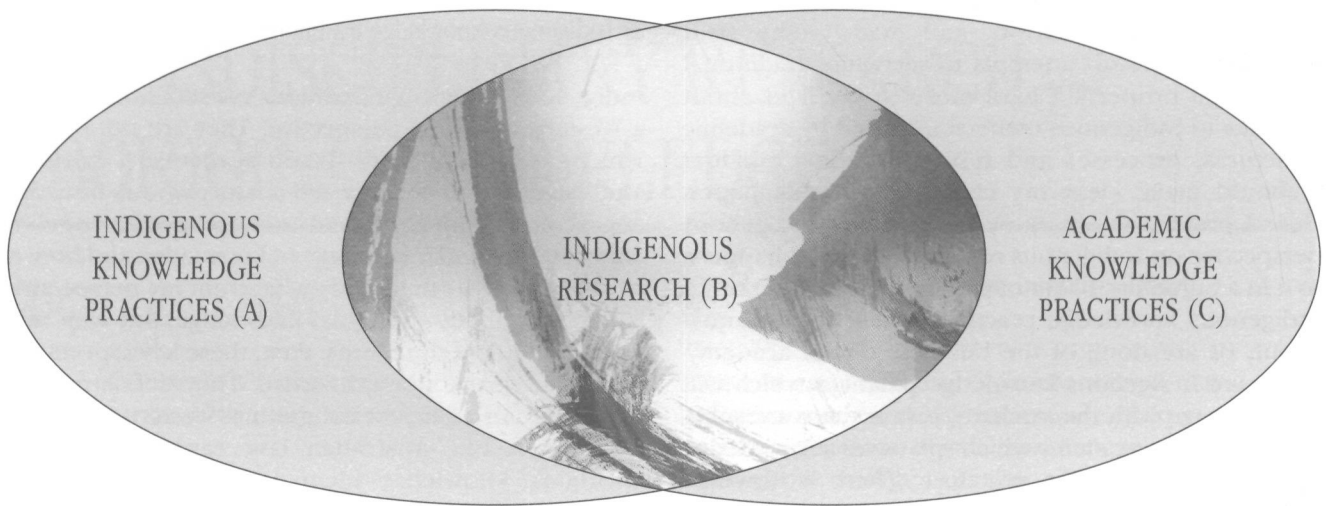


Figure 1. Indigenous research as the intersection between two knowledge traditions.

knowledge, even though there is important work being done protecting indigenous knowledge nationally and globally. The natural environment from savannas to suburbs embodies both ancestral and recent histories. People are only part of the knowledge system at work in the world. The species it holds participate in making the world both intelligible and meaningful. When it is abstracted and generalised, it loses some of its richness, quality, and usefulness.

Aboriginal knowledge is owned. Laws concerning who can say what, and who can profit from particular performances, existed throughout Australia for millennia before colonisation. People who share it must account for their right to represent it. People who receive it must reimburse, and be held to account for the use to which it is put. Aboriginal knowledge tends to be collective. It is shared by groups of people, and its representation depends upon the collective memory at work in Aboriginal languages (including Aboriginal English) and attendant social practices, structures, and performance traditions, as well as in the physical features of their land (old buildings, fishing spots, meeting places etc), its species, and other “natural” phenomena. It is important to remember, as Watson (now Verran) and Chambers (1989, p. 5) point out, that we are dealing not only “with different conceptual systems, but also with different ways of using conceptual systems”. For this reason I tend to follow Verran by referring to knowledge traditions, rather than knowledge systems to draw attention towards their implementation as practice by a community.

**“Both this and that”: Characterising Indigenous research**

Indigenous research grows up in contexts where Indigenous knowledge traditions are strong, and where the academy engages them respectfully and productively. It requires difficult processes whereby

divergent systems are figured within and against each other. When it occasionally succeeds, it is deemed truthful and useful by both Indigenous and academic standards. In this sense, Indigenous research could be represented as in Figure 1.

We could define Indigenous research as that *part of an Indigenous knowledge tradition which is recognisable or legible from a Western research perspective*. Or conversely, we could define Indigenous research as *that part of the Western academic research tradition which is at the same time conceived, shaped, governed and understood within Indigenous knowledge traditions*. The area in the middle of the diagram is Indigenous research because *it fulfils the criteria for both Indigenous knowledge production and academic research*. We might best characterise it not in terms of *this*, but *not that* but rather *both this and that at the same time*.

Indigenous research is not just academic research done by Indigenous people. Indigenous people can of course be active and successful in academic research (C), and non-Indigenous people (under particular epistemological, methodological and political/ethical conditions) can be useful in contributing to the ongoing life of Indigenous knowledge traditions (A). However neither of these practices is, from my point of view, really what we are talking about (which is B). What I am talking about is something which has credibility both within the academy as academic research, and within the Aboriginal world as respectful, respectable, and useful. Indigenous research is always partial, in two senses of the world. Firstly, it is partial in the sense that only a part of it can be seen from either side. Non-Indigenous academics must guard against any attempt to exhaustively define Indigenous research (for to do so would in itself be an act of colonisation or appropriation) or to claim all its results. We can never know it fully. Secondly, it is also partial in the sense that it actively serves the interests of the people



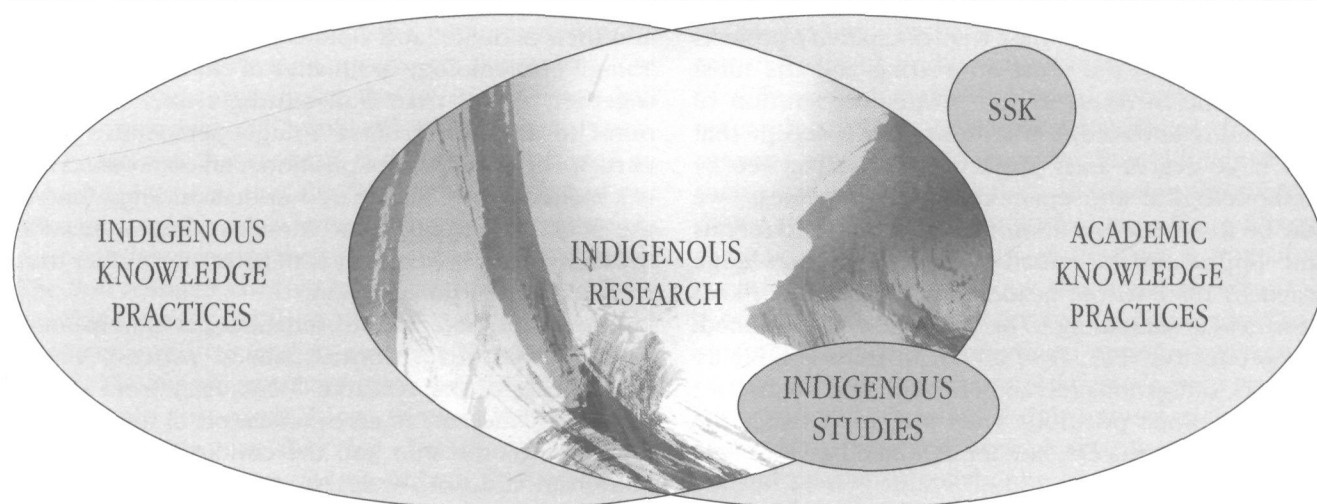


Figure 2. Indigenous Transdisciplinary Research, Indigenous Studies and the Sociology of Scientific Knowledge (SSK).

it represents. It is invested in well-being, so it does not search for a distanced objective “God’s eye view”.

#### ■ “This, but not that”: Indigenist research

In her paper, “Ways of knowing, ways of being and ways of doing: Developing a theoretical framework and methods for Indigenous re-search and Indigenist research”, Karen Martin positions Indigenist research as existing within the academy (presumably largely within and around the discipline of Indigenous studies), aiming “to be recognised by the academy of Western research” (Martin, 2003, p. 5) and working to “decolonise existing colonial Western research practices” (Martin, 2003, p. 2). Quoting Smith (1999), Martin talks of the need to “reframe, reclaim and rename the research endeavour” (Martin 2003, p. 2). In this paper I am not trying to reframe, reclaim or rename anything. I am looking at the uses of Aboriginal knowledge through the academic lens of transdisciplinary methodology. Reframing, reclaiming and renaming characterises the important work of Indigenous academics like Rigney (1997).

#### ■ “Some of this and some of that”: Transdisciplinary research

I am interested in something which happens across boundaries, and which sometimes involves Indigenous knowledge traditions and sometimes does not. I call it transdisciplinary research, following landscape environment research in northern Europe. At Charles Darwin University, as in other Australian universities, we have an increasing number of Indigenous researchers who are becoming involved in research which depends upon both Indigenous methodologies (decisions around who needs to be consulted, what counts as evidence, how truth claims should be assessed, where to start, where to

go on, where to finish, and so on), and academic or bureaucratic ones.

Seldom, of course, does a research project completely or consistently satisfy the requirements of both the academy and the Indigenous knowledge-makers. It is more likely to fluctuate between the publishing and financial accountabilities of the university researcher, and the social/political agendas and responsibilities of the Indigenous knowledge-holders upon whom the success of the project depends. Such research can be both interdisciplinary (where Indigenous studies meets ecology, or anthropology etc and play by academic rules), or it could be transdisciplinary negotiating rules of engagement, evidence and validation with participants outside the university. This transdisciplinary research is worth unpacking if we are to understand what people increasingly call Indigenous methodology. Transdisciplinary research is generally theorised outside the issue of Indigenous methodologies, in terms of, for example, landscape planning, where the perspectives and agendas of the general public are crucial in the deliberations of academics (e.g., Tress, Tress & van der Velk, 2004).

Indigenous transdisciplinary research could be represented in a slightly different diagram (Figure 2). The work of Indigenous researchers in academic contexts is not as easy and uncontested as Figure 1 would imply. It more usually involves contestation, compromise and only partial agreement. It is more than simply interdisciplinary research; it transcends the culture of the academy. It is transdisciplinary rather than interdisciplinary. Intercultural research collaborations often involve the academics and the Indigenous researchers never completely seeing eye-to-eye. They may have different agendas, different criteria for truth and effectiveness, but still collaborate on the methodology or the research transfer. They may never entirely agree upon the outcomes, and yet be satisfied (if not completely impressed) by the

process. It is these complex transdisciplinary projects which are often the most interesting and the most problematic in terms of the proper recognition of Indigenous knowledge traditions. If we accept that to a large degree such projects are characterised by methodological and epistemological messiness, we may be in a better position to understand the threats and opportunities which Indigenous knowledge practices offer to the academy and vice versa. This messiness is something to be accepted and examined; it is productive (e.g., Law, 2004). In transdisciplinary contexts, Indigenous researchers often find themselves in an invidious position. They are, as it were, the servant of two masters, neither of which has complete respect for the other.

### ■ Some examples

In this section I want briefly to summarise my take on some Indigenous collaborative research projects involving Yolngu, the Aboriginal people of northeast Arnhem Land, and other Indigenous researchers. I refer to other sources that give full details of the wider projects where possible, while I concentrate upon aspects of the research which bring out key issues I discuss later. All the projects described below addressed to some extent both Indigenous and non-Indigenous agendas. Each had aspects that were quite unsatisfactory or invisible to the perspectives of the other. None was entirely satisfactory from both points of view. My analysis of the relation between transdisciplinary and Yolngu knowledge practices emerges from these (and other similar) projects, rather than from a more generalised theoretical argument. My analysis is also partial, incomplete, and represents particular perspectives and contexts in time and space – there is no alternative. If all knowledge is local, then all knowledge claims are partial. The angry outbursts, the incredulity, the compromised agendas and humiliations which often attended this work are ignored in the following descriptions. Their partial success always depended upon the respect, good will, good humour and patience which was brought to the negotiations. The examples are taken from four widely disparate academic research fields: medical, social, technological and ecological.

#### *Project 1: Sharing the True Stories*

“Sharing the True Stories” was a collaborative “action research” project which brought together Yolngu and non-Yolngu researchers working to improve communication in the context of renal care in Darwin (Cass et al., 2002; CRC Aboriginal Health, 2003). The Yolngu researchers included dialysis clients, educators, liaison officers and interpreters. From the outset, the Yolngu researchers insisted that communication was a matter of sharing stories between health professionals,

and their patients (and families). Communication in a Yolngu epistemology is a matter of working narratives together, rather than transmitting truths from one mind to another. From a Yolngu perspective, each participant has a truthful position, and communication is a matter of building shared understandings, among the positions, in particular contexts. Communication breakdown is a breakdown in negotiations, rather than a breakdown in transmission.

One of the outcomes of redefining communication as a collaborative, contextualised process was a broadening of the research focus away from purely linguistic concerns, to an examination of the contexts (spaces, agendas etc) and the conditions (narrative, conversation, action) under which good communication would take place. Not only did the research address the ways any particular message (from professional, family, or client) was sent and received, but also and often more importantly, issues as to where (contexts) and when (timing) understandings were shared, how communication agendas were negotiated (including, for example, issues of how the specialisation of health work into nutrition, social work, pharmacy, nephrology, dialysis etc frustrated Yolngu practices of addressing health issues holistically) and ways of ameliorating the tensions between the assumptions which underlie both the biomedical and the Yolngu discourses of health, disease and treatment. The teasing-out of some of these theoretical issues led to interesting spin-offs in some other related projects. For example, in developing a sound track of Yolngu language for a video on what patients should be aware of before undergoing anaesthetics, the traditional method of writing a script in English and translating it into Yolngu languages and having the translation read out for a voice-over was abandoned. Using the notion that communication is the production of shared understandings, the voice-over was prepared from a recording of a group of interpreters discussing among themselves key ideas seen as fundamental to the anaesthetic process. The result was less didactic, less stilted and involved listeners in a discussion – even if it were one which they overheard as it were, rather than joined.

#### *Project 2: Community Harmony*

In the “Community Harmony” research Yolngu researchers Lawurrrpa (Maypilama) and Garnggulkpuy from the Yalu Marnggithinyaraw Nurturing Centre at Galiwin’ku (see <http://yalu.ntu.edu.au/>), used “first language” research to address the issues faced by Yolngu people sleeping under the stars in urban and suburban Darwin. The original impetus of the research was the concern of Lawurrrpa for her brothers living as “long-grassers” in the Darwin suburbs and on the beaches. Something needed to be done, and according to Yolngu principles, it needed to be properly negotiated, and

everyone who had a stake in the issue needed to be involved, particularly the long-grassers themselves. The Yalu researchers were aware that an earlier report had been written into the “problem” (Memmott & Fantin, 2001), but that that research had been conducted in an academic way, and that the “itinerant” Yolngu had not been given a chance to voice their own experiences in their own languages to their own people (as researchers). The Yalu research involved interviews with Yolngu long-grassers where they lived on the beaches and parks of Darwin, and resulted in a report (Maypilama et al., 2004). The report presented some interesting findings; for example, that many Yolngu living in the long grass were there because they felt that they had better opportunities to live authentic Yolngu lives according to the imperatives of Yolngu law in Darwin, than on the “mission” from which they felt they had escaped, and to which they were very reluctant to return. Many compared the long grass of Darwin favourably with homeland centre life, both contrasted against the poisonous sorcery-ridden life on the “mission”.

The long-grassers research articulated some interesting positions which contrasted with the previous non-Indigenous research. For example, the Yolngu researchers, when it came to developing the final report, made clear that the sorts of practices which are normally implied by the “findings” as “ways forward” were already being implemented. There was no distinction between finding out what was wrong and doing something about it. The research represented an opportunity to reflect collectively upon what was happening in terms of both problems and solutions, to let people (Yolngu and non-Yolngu) know what was happening, and to gather support for the ongoing work of Yolngu looking after Yolngu in collaboration with government and the Aboriginal traditional owners of Darwin. Another distinguishing feature was the pervasive acknowledgement that this was a problem which had to do with Larrakia people, because Darwin is on Larrakia Aboriginal land. There may be ways in which Yolngu behave which offends Larrakia cultural protocols, and if this is the case, senior Yolngu and senior Larrakia need to get together to work towards solutions.

#### *Project 3: Digital Memory*

In the “Digital Memory” research, Aboriginal people in various places in North Australia are working on a research project to investigate and implement a role for digital technology in the intergenerational transmission of traditional knowledge. This project has many branches. This is an Australian Research Council Linkage project, (see <http://www.cdu.edu.au/centres/ik/>). The original aim of the research is to develop digital solutions (configurations of hardware, software and digital objects) which can be used by Indigenous people in their own places in their ongoing work of natural and cultural resource

management, including the intergenerational transmission of traditional knowledge. In a number of different contexts, Aboriginal people joined the research effort as co-researchers, using the video cameras, sound recorders, software and hardware for their own work. Rather than addressing the topic of digital technology and traditional knowledge directly, the question was addressed through a myriad of agendas already at work in Aboriginal communities – how to make sense and value from traces of “lost” ceremonial practice in southern museum collections; how to allow senior ceremonial custodians to maintain their supervisory work if they cannot make it to a particular ceremony; how to set up the conditions for old people to collaborate to teach young people ancestral connections between places, families, totems, language and stories; how to let the mining companies know that each area of land has a story and an owner.

This research once again is deeply influenced by Aboriginal knowledge theories and practices – solutions emerge in context and in response to previously-determined agendas; the functions of digital technologies are not given, they are reinvented and configured in response to agendas arising from context; digital objects (movies, databases etc) do not contain knowledge, they are merely artefacts or traces of previous knowledge production episodes and can only be useful if they are revived in new contexts of knowledge production in active, creative, situated, negotiated encounters.

#### *Project 4: Fire Ecology*

In a “Fire Ecology” workshop, Yolngu “scientists”, respected as knowledgeable within Yolngu culture, worked with Western ecologists investigating traditional technologies of environmental management using fire. The northern parts of Australia are characterised by two seasons: the “wet” and the “dry”. For several months of the year around Christmas we are subject to monsoonal downpours – often over 2m of rain in just a few months – and for the rest of the year it is virtually dry. Each year in the dry season fires burn through huge tracts of the grassy lands and open sclerophyll forests. These fires are generally not dangerous to human life as they are in southern Australia, because the strongly seasonal rainfall and regular fires prevent the build-up of a heavy fuel load. For millennia in the “Top End” (the northern parts of Australia), there have been annual fires, and social practices have developed to manage and employ them. In the years since colonisation, the fire regimes implemented by the European settlers have caused alarming species decline (this has only recently become generally accepted in the academic world). As a rule in the past, the Europeans understood best practice in terms of preventing burning altogether. But when fires are prevented for several years, the fuel load builds up until wildfire comes – usually late in the dry season – and damage occurs which may take



many seasons to repair. Ecologists now accept that the judicious use of fire by Aboriginal people over the millennia has actually served, and continues to serve, to maintain species diversity and ecosystem health; and they, and the pastoralists and others have much to learn from Aboriginal practices.

There is a strong drive on the part of Western scientists to find out what happens in “firestick farming”, because it is increasingly clear that since traditional Aboriginal regimes of seasonal burning are no longer practised in many places, there has been a corresponding diminishment in biological diversity. Aboriginal ecologists have traditionally “known” how to maintain the species diversity. What do they know? Or better, how do they know? And how can the Balanda scientists come to learn what the Yolngu ecological practitioners know?

In a number of times and places Yolngu elders and Western ecologists have come together to share their knowledges. An example interaction is a workshop held in East Arnhem Land (Verran, 2002a) where Yolngu and non-Yolngu scientists travelled out to country, and performed a burn, and talked about it together. In the discussions, the Yolngu sometimes told stories or made links which seem irrelevant to the Western ecologists: stories about land, totems and creation, using figures from kinship to integrate their technologies into the rest of their lives. Even with considerable good will between parties, these were difficult sessions. The embeddedness of environmental management in the practices of everyday Yolngu life was as invisible to the Western scientists as was the possibility of abstracting and transporting ecological knowledge to new contexts invisible to the Yolngu. In this episode, the Aboriginal and academic knowledge traditions simply failed to make themselves recognisable to each other.

What do Aboriginal “firestick farmers” have to teach white Australian landholders and policy-makers about fire and biodiversity? Inevitably the healthy community in the healthy landscape involves people on country (Aboriginal landowners and white pastoralists alike) getting to know (and love) the lie of the particular context, its geology and biology, is fire history, especially the history of deliberate early mosaic burning, how it worked, how it did not work, when it worked why it worked (and all the narratives that go along with that) – at specific sites. In other words, Yolngu fire ecology research can be summed up as “You learn to do fire ecology in your place, in the same way as we have learnt to do it in our place. We cannot show you how to do yours, but we can show you how we do ours”. The knowledge is not transferable, but ways of knowing may be. Only the integrated collaborative social practices of burning can be said actually to “contain” Aboriginal knowledge of appropriate fire strategies. The ongoing work of caring for country is an Indigenous research project. Western scientists may, with careful negotiation, be able to generalise the principles they perceive as

underlying specific projects to a wider context, but that is *their own agenda*. It is *their* problem.

### ■ Indigenous methodology and transdisciplinary research

There is much vague talk these days about Indigenous methodology. We need to work towards some agreement, or disagreement, over its key features. Is it a reformist movement to gain credibility for Indigenous knowledge practices within the academy? Or is it a revolutionary practice calling into question the fundamental assumptions of academic research? Research methodology amounts to the work which academics perform to define their practice. Methodology can be seen as a retrospective process of justification. It is “essentially a Western practice and not a feature of (Aboriginal) worlds. So a research paradigm that is entirely Indigenous is not possible” (Martin, 2003, p. 5). It documents a system of principles, practices, and procedures, for performing activities in a coherent, consistent, accountable, and repeatable manner. It is ultimately up to Indigenous researchers to make their own claims about their methodologies.

My aim in this paper is to look only indirectly at Indigenous methodology, bringing a non-Indigenous academic perspective to a discussion of how Indigenous knowledge practices may inform and enrich transdisciplinary research, and how Indigenous knowledge traditions can be eroded or marginalised if they remain unrecognised, which they often do, in the interests of keeping the project going. While my examples are taken from only four academic fields, theoretically all academic disciplines are amenable to some transdisciplinary work. Some disciplines such as (critical) ethnography have already gone some distance to engage non-Western knowledge practices in their work, while with others – “blue-sky” researchers, for example, whose work is self-consciously and aggressively contained within a particular epistemology which may have nothing much to do with everyday lived existence in the world, (think of astronomy or quantum physics) – would benefit from transdisciplinary conversation, if only to help with the work of making judgements as to which research should be pursued, and at what level of funding and commitment.

#### *Where do the research questions come from?*

Who is boss? Traditionally academic research questions have emerged from the rather independent life of academic disciplines (e.g., anthropology, psychology, linguistics). Increasingly, and this is certainly the case with Indigenous research, the research questions come from a need perceived by a community or by a governing body rather than the ivory tower. When the research funding comes from a source different from the research “question”, then there may be some tensions to be worked out. Often the non-Indigenous

researcher is looking for something quite different from their Indigenous colleague. Their primary goal may be to write a publishable paper. The Indigenous researcher may be interested in a particular problem in a particular place which affects their own community. They may have been invited to participate in order just to give the research application more credibility; or they may be invited to act as a token Indigenous researcher to increase the chances of funding. Serious issues of ethics and accountability emerge. Using of a theory of transdisciplinary research we may begin to explore the questions of the origins of research agendas, supervision and support, quite independently of the imperatives of Indigenous research.

### *The politics of scale and place*

There is work to be done defining the scale at which a research project is to be structured. Sometimes,

Powerful parties assume (and less powerful parties accept) the scale at which they are working to be the best or only or most natural scale, without proper negotiation. Scales (local, regional, national, global, or individual, family, clan, phratry, tribe, community) are not given. They are socially and politically constructed, and thus they can hide unequal power relations and allow people to avoid their responsibilities. For example, it may be convenient for some to assume that intellectual property is held by a whole community rather than by an individual. Or conversely, it may be convenient to assume that an individual can give permission or receive payment for something that belongs to a group ... Different scales imply different systems and relationships of accountability, and these need to be identified and negotiated rather than assumed (Christie, in press).

Transdisciplinary research, like Indigenous knowledge production, focuses upon and makes claims for a specific context. As Yolngu often insist, history stays in the place where it has been made (Marika-Mununggiritj et al., 1990). Maybe collaborations with other research systems will produce the abstractions and generalisations which can be applied elsewhere, but that has never been the primary function of Indigenous research. The knowledge of firestick farming is specific to particular places, and tied to the historically contingent human knowledge of both the ancestral and recent history of that place, and the interactions among the people who relate to it. Like all forms of ecological knowledge, it is notoriously difficult to transfer from one location to another. The long-grassers research came out of Lawurrrpa's specific concern for her Yolngu relations, and was framed by their assumptions confirming the Larrakia ownership

of Darwin. We are reminded that we need to look anew each time we enter a research context. We need to do new naming work at each point. We should expect to have to struggle to reach agreement over each new element to emerge.

### *Ethics*

University ethics committees are generally regarded as a necessary evil. They have been shown to endorse new research which is unnecessary and to acquiesce to biased under-reporting of research which they have approved (Savulescu, Chalmers & Blunt, 1996). They are also increasingly likely to refuse to approve research which, like the long-grassers research (see Project 1, above), is designed to respond to the social agendas of concerned Indigenous community members in the practice of everyday life. For example, the need for the two Yolngu researchers to receive ethics clearance from a non-Yolngu committee to chat with their own Yolngu kin in the long grass, and do their ongoing work of being sisters, mothers and grandmothers, was the source of ongoing discussion in the Yalu centre. In addressing specifically the issues of university ethics clearances in anthropological research, Maureen Fitzgerald (2005a, p. 10) says: "Gone are the days of using our own interactions in everyday life as the substance of anthropological knowledge production. Under the current review process our experience as citizens in the world are being de-legitimised as forms of data and knowledge".

Indigenous transdisciplinary researchers need to fight to justify the ethics of their engagement, and then have the additional problem of how to obtain and maintain ethical/ethics approval from Aboriginal elders, how to ensure that non-Indigenous (and other Indigenous) co-researchers respect and work within those limits, and how to ensure that the university ethics committee is properly informed of, and approves Indigenous ethics protocols for each relevant project. The articulation of Indigenous methodology issues is currently enacted in a context where ethics committees work on a "moral panic" crisis management basis (Fitzgerald, 2005b). The solution is to argue each case carefully and vigorously and make clear the two regimes of accountability.

### *Accountability*

In Aboriginal communities there remain strong networks of accountability which may be compromised by academic research. They begin with participants knowing who they are and their rights to speak (Martin, 2003). In the *garma* ceremonial metaphor which is often cited by Yolngu referring to the situated and collaborative nature of knowledge making (Marika-Mununggiritj, 1990; Ngurruwutthun, 1991), it is often forgotten that the *garma* is always the outside part of a

secret/sacred system of authority which is based in land and relations to land and supervised by the authority of leaders. It is they who judge the worthiness of the negotiated performance, and they are respected for their wisdom and their high standards. Indigenous transdisciplinary research is accountable to them. Failure of academic researchers to negotiate the scale at which they work, and to fulfil their responsibilities to Aboriginal community elders is a major source of concern, seriously undermines collaborative research, and can compromise the reputation of Indigenous researchers within their own communities. Marika-Mununggiritj (1991a, p. 25) reminds us,

I must teach in a ways that keeps the knowledge alive, and makes the students feel that once I have shared my knowledge with them, then they are in a way obligated to me, that we have responsibilities together, which come from the knowledge we have shared together.

### Governance

Non-Indigenous people involved in collaborative research often do not have the background or experience to understand the protocols necessary for dealing with an Aboriginal community, or the careful timing which they entail. As Marika-Mununggiritj (1991a, p. 21) explains:

At certain times, the community leaders will come to a place where they will have a negotiation ... within this, the first starting point are underlying step by step plans or strategies which they know that they have to go through. All the steps for the negotiations must be shared. Sometimes it does not work like this. Sometimes people can take everything into their own hands and act as if they can produce the truth and the right way of doing things without the full cooperation and negotiation with other people. Then things become more like the European way of doing things, and the negotiation process is lost.

Using the *Galtha* metaphor Raymattja elaborates:

Each new situation that requires *Galtha* to be used will determine the responsibilities and roles of individuals to participate and carry out the tasks. It will also determine who should be responsible for coordinating the bringing together of the people. It will also determine who should do the talking to all the individuals involved to get the important issues out in the open, get the plans made and get agreement. Each situation that requires *galtha* to be used will set the place that is to be used. This gives us this understanding:

the issues tells us the participants. The issue tells us which participants have which role. The issue tells what the roles are that are involved in this *Galtha*. The issue tells us the location. From there we start to carry out the task to be done (Marika-Mununggiritj, 1991b, p33).

Within the academy, Indigenous researchers continue to spend considerable energy explaining and enforcing these protocols in the contexts of Indigenous research. But it is more complex in Indigenous community contexts, where researchers who do not belong to the community may not have the time or even the ability to learn about the protocols, yet they must be rigorously observed. To learn to submit to an incomprehensible, time-consuming and often nerve-racking regime of order, authority and accountability is a key learning goal for non-Indigenous researchers in transdisciplinary contexts. This is a particular problem where the timelines dictated by funding bodies simply will not accommodate for the orderly process whereby things must be done under Aboriginal governance. When the funding bodies win out, and things are pushed along towards deadlines, Aboriginal knowledge traditions are damaged and communities are alienated by their collaborations with academic research.

### Evidence and truth

Indigenous knowledge traditions resist the idea that it is desirable – or even possible – to understand the work of research simply as producing *representations* (Christie, 1994; Christie & Perrett, 1996). This is quite opposed to the dominant way of knowing in the academy which is that of “empirical observation and critical analysis from a distanced perspective; ‘knowing that’, and ‘knowing about’ ... knowledge that is anchored in paradigm and secured in print” (Conquergood, 2002, p. 146). The fundamental split between mind and matter has remained the basis of the rationality at work in most of the academy, since the time of Descartes, and represents truth in research as “correspondance between discourse and the readymade world beyond discourse” (Goodman & Elgin, 1988, p. 155). This version of truth according to Goodman and Elgin, is incomprehensible, leading to defeat and confusion in the academy. They shift the focus from truth, certainty and knowledge, to rightness, adoption and understanding (respectively), a move which lends itself more readily to a transdisciplinary approach. Goodman and Elgin also use the metaphor of fittingness, “tested by the working, by the forwarding of work in hand”. The proof is in the adoption” (Goodman & Elgin, 1988, p. 158). Further,

For a concept with greater reach than truth, consider rightness ... Not only statements, but demands and queries, words, categories, pictures,



diagrams, samples, designs, musical passages and performances, and symbols of any other sort may be right or wrong ... rightness, unlike truth, is multidimensional (Goodman and Elgin, pp. 155-156).

The Yalu researchers working with the long-grassers, continue to insist that the "rightness" of the research was already being performed *as soon as the research project began*. They were already *doing* their findings. To borrow from Donna Haraway (theorising her own practice), they were "perhaps less committed to *representing* [the experience of *long-grassers*] as if such an epistemological copying process were possible, than to *articulating* clusters of processes, subjects, objects, meanings and commitments" (Haraway, 1997, p. 63, original emphasis) necessary to address the concerns of long-grassers, the community and the Larrakia landowners. Explanations have no more special privilege than actions. The Yolngu fire ecologists (Project 4, above) can do land management for sustainability, they can *teach* it, they can tell stories about it, they can *sing and dance* it, but they have no impulse to *explain* it. The knowledge underlying an integrated fire strategy is not necessarily consciously held and not held by human actors alone. It can be embedded and integrated in complex practices in which burning itself may not necessarily be a focus. Some ecological knowledge simply cannot be summoned and articulated at the request of a researcher with a microphone.

Indigenous researchers in transdisciplinary contexts may find themselves having to expose the evidential practices which are routinely obscured within academic work, and argue alternative ways of evaluating research outcomes. This will often involve bringing the discipline of Indigenous studies into the transdisciplinary research. The epistemology of other indigenous peoples (Native Americans, for example) may be called upon for support. The well-known Native American philosopher Vine Deloria says, "The real interest of the old Indians was not to find the abstract structure of physical reality, but rather to find the proper road along which, for the duration of a person's life, individuals were supposed to walk" (Deloria, Foehner & Scinta, 1999). Pathfinding is also a common metaphor in Aboriginal philosophy (e.g., Marika-Mununggiritj & Christie, 1995). In a paper on truth and Native American epistemology, Jim Cheney uses the ceremonial metaphor in a similar way to Yolngu:

A ceremonial world ... is an actively constructed portrait of the world intended to be responsibly true, one which rings true for everyone's well-being. It is a world built on an ethical-epistemological orientation of attentiveness (and) respect, rather than an epistemology of control ... They must tie down to the world of

everyday practice and experience in a way that makes it possible to survive, they must orient the community and its individuals on roads of life that allow for the flourishing of all members of the community as far as that is possible (Hester & Cheney, 2001, p. 320).

Indigenous researchers are often left with the difficult task of drawing the attention of other researchers to alternative evidential practices. Failing to do so compromises the Indigenous contribution.

In the Sharing the True Stories research (Project 1, above), definitions of both communication and medical truth were the first major point of negotiation – an interaction we had to return to many times as the non-Indigenous contributions repeatedly regressed to a claim of the *biomedical model* as absolute truth and the conduit as the basic metaphor of communication. We needed the good will and patience to keep coming back to a redefinition of the work of producing shared understandings in context.

#### *Scriptocentrism*

When Raymattja talks about using the book she has produced as a teaching resource, she makes the point that

Balanda can't really understand the context of ... the language in Ngayi Balngana Mawurrku [a book of ancestral song in Raymattja's own language] but they can learn from a Rirratjingu Yolngu clearly explaining how every little piece of the language in the song corresponds to the people, the characters in the song, the animals, the environment and nature, that is sung about. They need to see how the song and the story go together, and how they are integrated with the land and Yolngu social order of life ... It is all part of a unified and integrated whole, which cannot be expressed in books written ... placing Yolngu in the dreamtime (Marika-Mununggiritj, 1991a, pp. 21-22).

The academy requires printed and refereed texts. As Conquergood (2002, p. 146) notes, "Between objective knowledge that is consolidated in texts, and local know-how that circulates on the ground within a community of memory and practice, there is no contest. It is the choice between science and 'old wives tales'". This "scriptocentrism" is what de Certeau has called the hallmark of Western imperialism – "Posted above the gates of modernity this sign: Here only what is written is understood" (de Certeau, 1984, p. 161).

In the fire example (Project 4, above), the knowledge surrounding fire lies in a relation between individuals (human and non-human), their lands,

their histories, their languages, and the actual time and place of its implementation. No wonder it defies Western codification. Knowledge itself is dispersed in the landscape (e.g., Hutchins & Klausen, 2000; Law & Hassard, 1999). The very specificity to time and place, the groundedness of Aboriginal theory, is that which prevents the Western scientist from accessing it. The landscape itself and the stories and songs attached to it could be considered the equivalent of “texts” which record fire management knowledge.

The research work on the Darwin Yolngu long-grassers which Lawurrpa and Garnngulkpuy developed for the Community Harmony program (Project 2, above), was seen by them as part and parcel of the ongoing work of Yolngu looking after their kinfolk in difficult circumstances. Writing the research report was the most troublesome part of that research because it required the authors to withdraw from their everyday experience and interventions on the ground, to an air-conditioned space where the “findings” or the “ongoing actions” had to be formally extracted, mapped out, and placed into a written report to fulfil the requirements of the funding body. Ironically, none of the formal recommendations were ultimately addressed, but the project had a significant and lasting effect on the Community Harmony project which is ongoing, and on the professional development of the Yolngu researchers.

### *Responsivity*

Transdisciplinary research has the habit of expanding sideways, and leading off down new pathways. For a non-Indigenous researcher involved in collaborative research, this can be both its most frustrating and its most exciting and profitable characteristic. The Sharing the True Stories (Project 1, above) research expanded in a number of directions (as appropriate for action research) identifying and addressing new issues, putting new negotiation processes in place and developing new practices for generating research transfer. Dwelling upon and implementing a Yolngu definition of communication, actually produced a new “conversational” technique for developing culturally-sensitive listener-friendly voice-overs for Yolngu multimedia. Similarly, the digital memory research (Project 3, above) expands in every direction into which an Aboriginal user disappears with a camera, recorder or laptop. They are already working on the problem of how cameras and computers can help with their ongoing cultural, spiritual and political lives. Their collaborations with non-Indigenous researchers enable them to share their insights with others, and to make the most of new technologies. Their true agendas and findings are largely invisible to their non-Aboriginal co-researchers.

Like landscape management through the judicious use of fire, Indigenous knowledge production is

deeply responsive to changing conditions. The time and place for a fire to be started depends upon a high level of literacy, reading the winds, the dryness of the country, the time of day, the potential dew factor and so on. This sort of responsiveness – the agenda in the Sharing the True Stories changing, the long-grassers research constantly breaking off into doing rehabilitation work back at Galiwinku – is intolerable for some academic researchers who need to keep their dependent variables under control. Academic ecologists who see the environments as balanced, stable systems, tend to criticise Aboriginal firing practices, and those who see them as dynamic unstable and historically contingent accept fire as something inevitable (Verran, 2002b, p.156). Indigenous knowledge practices and environmental flux go hand in hand – “Nature, to be commanded, must be obeyed”.

### ■ Conclusion

In this paper I have used the lens of transdisciplinary research as a way of approaching the difficult question of Indigenous methodology. *Transdisciplinary* research is different from *interdisciplinary* research because it moves beyond the disciplinaryity of the university and takes into account knowledge practices which it will never fully understand. I have tried to look at some of the issues which emerge when transdisciplinary research practice involves Australian Indigenous communities.

Indigenous researchers are increasingly involved in *interdisciplinary* research, where academic principles, practices, and procedures hold sway. In those contexts they have the often lonely responsibility for demonstrating that Indigenous knowledge practices produce significant and unusual research in coherent, consistent, accountable, and repeatable ways. I have tried to show how, when research is taken out of the university and involves *transdisciplinary* collaboration with Indigenous communities, the task becomes even more difficult for Indigenous researchers. The contrast between interdisciplinary and transdisciplinary research theory may help all players within the academy understand the difficult responsibilities which many Indigenous researchers carry around with them in their research practice, and expose some of the crucial issues to be addressed by their non-Indigenous colleagues, mentors and supervisors if Indigenous research is to secure a significant place in Australian universities. It is worth fighting for, because transdisciplinary research is interesting, productive, and significant. It is also worth fighting for, because poor research undermines Aboriginal knowledge traditions and the knowledge traditions of over a quarter of a billion people worldwide.

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## ■ About the author

Dr Michael Christie is currently Associate Professor with the School of Education at Charles Darwin University. He did his research degree through the University of Queensland and his supervisor was Professor Betty Watts. His current research interests include: digital technology, epistemology, communication theory, Indigenous philosophy and semantics.