

'Making and Doing STS' Ngambri /Canberra, November 2024.

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'Making and Doing STS' and 'Ground Up Inquiry'. Inspiration from two novel STS methods

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Institutional Background to STS in Australia

Australian scholars inquiring into the workings of sciences and technologies in contemporary society have grouped themselves into two professional organisations: AAHPSSS (Australian Association for History, Philosophy, and Social Studies of Science) and the AusSTS network (a set of localised groups of researchers who focus their inquiries at least in part through considering the workings of sciences and technologies in particular situations). AAHPSSS, recognised by the Australian State as the official voice of Australian scholars inquiring into sciences and technologies tends to cleave more strongly to disciplinary boundaries. The researchers constituting the AusSTS groups are interdisciplinary, and this is the demeanour which characterises the 2024 meeting. AusSTS local organisational nodes are now active in Melbourne, Sydney, Darwin, Wellington, and Canberra.¹ The 2024 AusSTS conference is jointly organised by members of the Canberra and Darwin groups.

There are two large international scholarly organisations of scholars inquiring into the workings of contemporary sciences and technologies. The *European Association for Studies of Science and Technology* (EASST) was established in 1981. The *Society for Social Studies of Science* (4S) which held its first meeting in San Francisco in August 1975 predominately expresses north American sentiments concerning the workings of sciences and technologies but is also strongly committed to fostering international connections. In 2018 the 4S meeting was held in Sydney organised by the Deakin Science and Society Network, at this meeting an additional Australian STS grouping came together as TopEndSTS.

Taking root in the late twentieth century in newly established, peripheral Australian regional public universities committed to interdisciplinarity, by the mid 1980s STS had begun to seriously challenge disciplinary scholarship established a century before as an Australian public university system came into existence. Boundaries between sociological, anthropological, philosophical, and historical approaches to studies of knowledge in society were challenged. Core in this challenge was the perceived need to connect to Indigenous traditions of epistemics.² Australian STS was unique in taking on this challenge from its beginnings, and today this legacy is seen most strongly in TopEndSTS.

What characterises STS inquiry?

The recognition that epistemics and politics are already and always entangled in any here and now is what I take to be the core insight of STS inquiry as a field. "Solutions to the problem of knowledge are solutions to the problem of social order" wrote Shapin and Schaffer (1985:332); "Science is not politics. It is politics by other means" wrote Latour (1988:229).³ STS inquiry begins in the assumption that knowledge-doing and politics are ineluctably entangled in and as the practices that constitute society, so that as inquiry, STS should be understood as simultaneously political work and epistemic work.

This STS claim made in the late 1980s, was loudly voiced with a confidence that came from recognising that that by the 1980s

technophobia [was] an everyday response to the risks and threats generated by advanced industrialization [when] the critique of science had been normalized and domesticated, exercised in a hundred little ways [on a daily basis] (Ross, 1996:3).

Forty years before climate change had become institutionally recognised, the claim was seen as voicing modern common-sense in articulating the widespread expression of

massive public anxiety about the safety of everything from the processed for we consume to the steps... [being] taken towards a biologically engineered future (Ross, 1996: 3).⁴

As it turned out however this claim inaugurating an interdisciplinary study of modern scientific knowledge in society came at an inopportune moment in European history. The end of the Cold War brought with it an 'end-of-ideology' moment, inducing a thorough-going political quietism in academia which quickly became the norm in social sciences. Science studies practitioners quickly discovered that institutionally it was strategically difficult and tactically unwise to critique science, as feminist STS practitioner did in noting a situation that still holds thirty years later.

If you want to do modern agribusiness, modern technosciences can help: If [however] you want to maintain a fragile environment and [restore] biodiversity, those sciences, so far, have been of little assistance (Harding, 1996: 16)

By the mid 1990s, institutionally STS had adopted a 'Don't ask don't tell' attitude concerning commitments to the view that STS is simultaneously political work and epistemic work.

Thirty years later in STS, expressions of commitment to a position concerning relations between epistemics and politics come in weaker and stronger versions. Perhaps the majority position is to decline to foreground this aspect of STS. What was in the 1980s an uncontroversial adage expressing an epistemic commitment, is now generally taken as a soft norm, a vague knowledge claim about modernity's sociality. The view that knowledge-doing and politics are entangled can be very inconvenient institutionally. The reality of today's world still necessitates strategic and tactical ambiguity. Proclaiming too loudly that one does inquiry that is committed to recognising entanglement of epistemics and politics can be academically very costly in terms of *institutional politics*, as Bruno Latour would discover when he found himself embroiled in the Science Wars (Koertge, 1998).⁵

'Making and Doing STS'

One way to understand the 'Making and Doing STS' initiative is to see it as a modest beginning in pushing-back against the political quietism that beset STS institutionally in the mid 1990s. Indeed, that is the way I read it. In 2015 the 'Making and Doing STS' initiative was launched in the name of the 4S Council, led jointly by American and European researchers. It clearly expresses the inclusiveness and openness that has characterised the workings of 4S as a professional institution since its beginnings in 1975. The emphasis in 4S authorised presentations of the 'Making and Doing STS' program emphasises the role of *practices* in on-the-ground engagements in STS inquiry and in the reporting of STS findings. This emphasis on practice and practices-in-practice is what I take to be a second distinguishing characteristic of STS inquiry.

The *Society for Social Studies of Science* (4S) invites proposed presentations for a new meeting format, and related awards called STS Making and Doing. The STS Making and Doing initiative aims at encouraging 4S members to share scholarly *practices of participation, engagement, and intervention* in their fields of study. It highlights scholarly practices for producing and expressing STS knowledge and expertise that extend beyond the academic paper or book. By increasing the extent to which 4S members learn from one another about *practices they have developed and enacted*, the initiative seeks to improve the effectiveness and influence of STS scholarship beyond the field and/or to expand the modes of STS knowledge production.

The STS Making and Doing Awards formally acknowledge and celebrate distinctive achievements in practices of STS making and doing. It recognizes 4S members who have demonstrated scholarly excellence in formulating, enacting, and sharing theoretically informed practices of participation, engagement, and intervention in their fields of study. The STS Making and Doing program is organized as part of the 4S annual meeting. Selected presentations will be displayed at an exhibition during the meeting. (italics added)⁶

There have now been nine Making and Doing STS Exhibitions and six have been archived.⁷ In 2024 the Making and Doing program was an almost unmanageably popular element of the Amsterdam 4S/EASST conference. A chapter of the fourth *Handbook of Science and Technology Studies* was devoted to describing, justifying, and evaluating the program "Making and Doing: Engagement and Reflexive Learning", and a book *Making and Doing. Activating STS through Knowledge Expression and Travel* describing ten research projects in Making and Doing STS terms, has been published.⁸ In promoting good STS pedagogy through, and as inducing reflexivity in learning in the process, 'Making and Doing STS' is described in these texts as expression of knowledge work. Given that the core insight of STS as a field is that knowledge-doing and politics are ineluctably entangled in society, today's STS Making and Doing program can be seen as endorsing the idea that forms of knowledge doing and politics doing (or vice versa) are one and the same.

'Making and Doing STS' displays are to some degree expressions of political intention. They take the form of problematising and troubling scientific initiatives in asking who benefits and how; sometimes inquiry follows citizen scientists and sees sciences happening at the behest of hands and institutions of other than established interests; social activism with science, inquiry explicitly pursuing political ends to promote social justice is not ruled out. On this reading 'Making and Doing STS' displays at STS conferences are relatively safe spaces enabling a showing/telling that stays true-to the STS understanding that knowledge doing *is* politics. In displays we see demonstrations of careful doings of practices of epistemics and politics as entangled both in on-the-ground inquiry and in their scholarly presentation to STS professionals. In proposing a display in a 'Making and Doing' exhibition at an STS meeting, STS practitioners attempt to address other STS professionals, they 'show and tell' the practices-in-practice they deployed in inquiring into happenings of knowledge and politics as entangled. Inevitably they construe the outcome of their work as a form of political intervention in the form of STS knowledge doing.

Ground Up Inquiry. Practice-based making and doing driven by the (political) intention to avoid institutional epistemic injustice

The Ground Up approach to inquiry has gradually emerged in the NT across several decades, starting in the late 1980s. Now after 40 years of organic development in northern Australia, Ground Up practices have gradually been established as 'best practice' amongst a range of NT institutions. In the 1990s several initiatives jointly authorised by Yolngu Aboriginal Australian organisations and academics at several Australian universities and tertiary education institutes strongly inspired by STS thinking, were instrumental in helping the modern academy take root in the Northern Territory. Naming this approach to inquiry as

Ground Up occurred later, in association with the invention by the Australian State of an Australian market in knowledge work products.

This is a situated approach to teaching in an institution dedicated to science, and to researching deployments of sciences and technologies in society which recognises that work necessarily entails engaging as entanglement of politics and epistemics. From its beginnings Ground Up has sought explicitly and openly to avoid epistemic cruelty and injustice by placing its governance as research, under Yolngu knowledge authorities. In its practices-in-practice Ground Up inquiries are first and foremost accountable in the workings of extant and particular First Nations institutions albeit that these workings are for the most part not made visible to settler researchers. As research Ground Up inquiry accepts that its practices are subject to the workings of institutions it does not understand and in many cases cannot see. Ground Up accepts that its inquiries are both epistemically and politically constrained in unknowable ways.

In the 1980s as the first tertiary education facilities were established in Australia's federally governed Northern Territory in continuing the internal colonising by the Australian State that still characterises NT governance, STS arrived along with the modern sciences. This still new inter-discipline took seed as a 'postcolonial' initiative in an education facility designed to train members of the Aboriginal population to become schoolteachers and adult educators. This facility had developed from a Department of Territories facility training Aboriginal men and women as low-level NT colonial administrative officers. In the pedagogy of the re-named Batchelor College remote teacher education program (RATE), STS afforded the possibility of research-based curriculum development in science and mathematics education. In this program significant resources were provided for students and staff on-the-ground in schools in remote Aboriginal settlements, to co-operate with college-based lecturers in inventing novel curriculum, syllabus, and pedagogy for what was seen as a unique Australian school system. (Verran, Spencer, Christie, 2022).⁹ In the decades that followed, what had begun as an initiative on the periphery of the colonising project of NT education (primarily northeast Arnhem Land), entered as a well-established cultural flow into an institution that had previously been primarily a settler education institution, the Darwin Community College. A fully-fledged university came into existence as Charles Darwin University in 2003, by which time Ground Up inquiry, committed to ethically working disparate knowledge traditions together while respectfully keeping them distinct, had become a recognisable entity.¹⁰

Chronology of Episodes of Ground Up Inquiry Making and Doing in Northern Territory

- 1980s – Making and doing number differently in Yolngu schools
- 1990s – Yolngu languages in the university
- 2000s – Multiplicity in NT public problems
- 2010s – Accountability in NT governmentalities
- 2020s - Articulating epistemo-politics in ecological engagements with First Nations???

Ground Up researchers always partner with Indigenous researchers and establish arrangements for inquiry in particular places to proceed under the authority of the appropriate Elders of those places. Many of our partner researchers offer research services through Indigenous Researchers Initiative (Charles Darwin University, 2017b).¹¹ Ground Up Inquiry is often contract-research and service delivery, but it is also increasingly recognised as an established method of inquiry where Indigenous and academic knowledge authorities work together as equals under the aegis of the modern university system.

A few years ago, in recommending the method we articulate as 'Ground Up Inquiry', Latin American anthropologists Blaser and De la Cadena note that this form of inquiry has revealed that conditions need to be created to explicitly and openly manage epistemic incommensurabilities ethically. They suggest that the method requires researchers "to cultivate a specific epistemic demeanor.... articulat[ing] the how and what of [their] epistemic practices" (Blaser and De la Cadena, 2018:10). We agree, but we also demur. Much delving into and elaboration of concept 'epistemic practices' needs to be done to develop it as an STS concept before the contribution it might make to generating goods in the workings of northern Australian institutions can be discerned. Nevertheless, epistemically speaking the careful deployment of the concept is proposed here as the next work of Ground Up inquiry. Politically however the mid 2020s is a time of significant challenge for Ground Up inquiry as the effects of the resounding 'No' to constitutional political recognition of First Nations polities as voiced by the Australian public in 2023 become felt.

TopEndSTS a Darwin-Canberra Axis. Towards making and doing an emergent northern Australian STS political ecology?

As noted previously the Australian STS group known as TopEndSTS came together in 2018 at the 4S meeting held in Sydney. The group has gradually evolved as an on-line reading and discussion group which uses STS concepts to frame approaches to inquiry into people-places. In terms of academic institutions, it is bringing together researchers located in CDU's Northern Institute and those associated with ANU. Speaking as a now elderly Ground Up researcher it is towards this group that I turn.

My sense is that this group which has auspiced the workshop for which this paper has been written, is feeling its ways towards developing making and doing a northern Australian STS political ecology. The odd phrase 'voicings between' of our title points to the sense that TopEndSTS as Darwin-Canberra axis connects two distinctive knowledge institutions. As 'eco-polities', the

territories express quite different 'people-places' and this might offer opportunities in inquiring into institutionalities emergent as local responses to the political and ecological exigencies in the anthropocenic planetary era. I want to ask what 'Making and Doing STS' and 'Ground Up inquiry' might offer this dimly perceived future project?

So, what is 'political ecology'? I see it as a trope which has been variably 'ontologically tuned' both by strong political shifts and strong epistemic shifts in the past half century. The term 'trope' arising in in the Greek *trepein* names the idea that collectively humans live immersed in historico-cultural flows and that at certain junctures there are 'turnings'. In such turnings particular moments or historico-cultural trajectories of events are established. This is not the place to tell the many (at least six?) ontological re-turnings of the term across fifty years, but like STS its emergence can be seen as expressing the widespread general anxiety that characterised the 1980s *Zeitenwende*.

Here's its start. In an article titled "Ownership and Political Ecology" published in 1972 in *The Anthropological Quarterly*, American Eric Wolf opined that "The [European] Alps, of course offer a magnificent laboratory to the ecological anthropologist interested in the ramifications at any given time, and over time... of variations in the distributions of men, animals and plants in the landscape and of the specification and scheduling of [human] work sites and work tasks" (Wolf, 1972: 201).¹² This focus on political ecology as fine-grained regional studies of political economy continued into the 1980s. Here, we might point to *Land Degradation and Society* (Blaikie and Brookfield, 1987) published as economic geography.¹³ This study emphasized the socio-economic factors contributing to ecological degradation, highlighting how power relations and capitalism impact land use and resource management in on-going environmental destruction. Around this time the google search engine begins to find the phrase 'political ecology' appearing in scholarly books

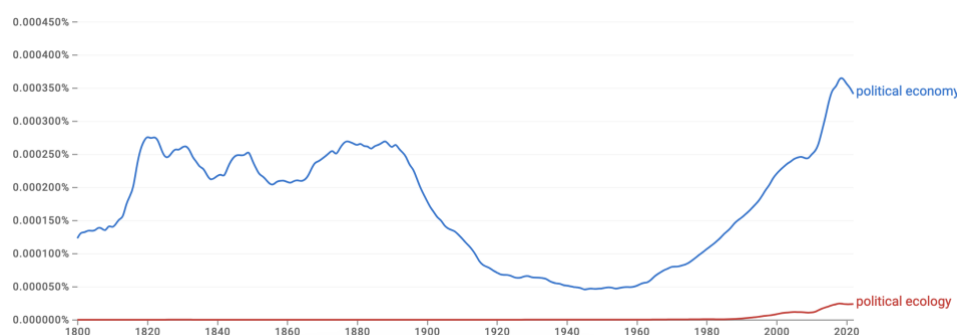


Figure 1. Google Books' N-gram view results

How might making and doing STS as it has evolved in northern Australia in the form of Ground Up inquiry, contribute in an emerging northern Australian STS inflected political ecology? The discussion I seek to promote proposes that insights can be garnered from both 'Making and Doing STS' and 'Ground Up inquiry'. What do these two movements have in common? I propose they can be understood as extant *realpolitik* exemplars of scholarly enactment of a) the commitment to the recognition that knowledge doing and politics are always already profoundly co-constituting, and b) second they both adopt *practices-based* approach to inquiry.

¹ <https://aussts.wordpress.com/people/>

² Verran-Watson, Helen and David Turnbull (1995). "Science and Other Indigenous Knowledge Systems", *Handbook of Science and Technology Studies* Sheila Jasanoff, Gerald Markle, James Petersen, and Trevor Pinch (eds), pp115-139.

<https://methods.sagepub.com/book/handbook-of-science-and-technology-studies/d11.xml>; Verran, Helen (2018). "Doing Difference Differently. Deakin University STS in the Late 1980s" <http://stsinfrastructures.org/content/helen-verran-doing-difference-differently-deakin-sts-late-1980s/essay>; Verran, Helen (2018). Video Interview – Parts One and Two. <http://stsinfrastructures.org/content/interview-helen-verran-part-1-2>

³ Shapin, Steven and Schaffer, Simon (1985) *Leviathan and the Air-Pump. Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press); Latour, Bruno (1988) *Pasteurization of France*, (trans. Alan Sheridan and John Law.), (Cambridge, MA: Harvard University Press)

⁴ Andrew Ross (ed.) (1996). "Introduction", *Science Wars*, Durham: Duke University Press.

⁵ Noretta Koertge (1998). *A House Built on Sand. Exposing Postmodernist Myths About Science*, Oxford: Oxford University Press.

⁶ https://4sonline.org/sts_making_and_doing_call_for.php).

⁷ https://www.4sonline.org/making_and_doing.php

⁸ Downey, Gary Lee and Zuiderent-Jerak, Teun (2017) 'Making and Doing: Engagement and Reflexive Learning in STS' (in) *The Handbook of Science and Technology Studies*, (eds) Ulrike Felt, Rayvon Fouché, Clark A. Miller, and Laurel Smith-Doerr, (Cambridge, MA: MIT Press): 223–251; Downey and Zuiderent-Jerak (2021) (eds.) *Making & Doing Activating STS Through Knowledge Expression and Travel* (Cambridge, MA: The MIT Press).

⁹ Verran, H, Spencer, M, Christie, M. (2022). "Ground Up Inquiry: Questions and Answers About the Emergence and Development of a Northern Australian Tradition of Situated Research" "Ground Up Inquiry: Questions and Answers About the Emergence and Development of a Northern Australian Tradition of Situated Research", *Learning Communities Journal*, Number 27: 3-14

¹⁰ <https://groundup.cdu.edu.au/index.php/current-projects/>

¹¹ IRI <https://iri.cdu.edu.au/>

¹² Eric Wolf (1972). "Dynamics of Ownership in the Circum-Alpine Area" *Anthropological Quarterly* Vol 45, no3, 201-205.

¹³ Piers Blaikie and Harold Brookfield, eds. (1987) *Land Degradation and Society*. London: Routledge