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A Multicultural and Social-Software Savvy Archaeology as a 'Trial of Strength' for
Recent Thinking in Science and Technology Studies

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ABSTRACT

To submit the perspicacity of recent technoscience thinkers, particularly Latour, Haraway, Ihde and Pickering, to a 'trial of strength' in the appropriate context of archaeology ('study of people through things'), I evaluate its applicability to the contentious issue of 'multivocal archaeology' and the ethical mandate of indigenous groups to participate in archaeological knowledge constitution. Such an application of technoscience posthumanism to this example of archaeological practice serves to trial technoscience where it has received much criticism: its difficulty in addressing normative issues. I suggest an absolute symmetry between humans-nonhumans must be pragmatically tempered by Pickering and Ihde's formulations of 'hybridized symmetry' or 'post-subjective humanism' with the inclusion of *both* bodily situatedness and conceptual frameworks as a part of the 'mangle of practice'. For issues of praxis, I ground technoscience's depiction of technology as potentially democratizing in the usage of 'social software' in recent popular and political culture, and underscore its capacity as direct media to enable an ethical and democratized archaeology.

Key Words

•Archaeology •Multiculturalism •Popular Culture •Social Software •Technoscience

Introduction: metaphysical ills, disciplinarian divides and symmetrical therapy

“All the same, we are not going to wallow in multiculturalism and abstain from making any value judgments; instead, we are going to start talking to one other again, as people should have done at the beginning of the age of great discoveries” (Latour 2004: 210).

Bruno Latour's extensive development of a program to 'symmetrize' the relations between humans and nonhumans carries particular rhetorical appeal for the human sciences. Offering a therapeutic overhaul of the collective, unconscious baggage of an inherited modernist conditioning, Latour's appeal may be in his radical disinvestiture of binarisms which have characterized a Western intellectual tradition composed of radically incommensurate constituents: the 'things' of the world and human subjects groping in Kant's schema to know them. And though this tradition may be traced back to Plato's doctrine of Form/Ideas, Kant's theory of knowledge in his Copernican Revolution serves as a final *coup d'etat* in entrenching a very 'undemocratic' and repressive manner of relating to the world.

Latour's call for a movement for the democracy of people *and* things (2004: 223), then, seems reasonable if 'revolutionary'. Reasonable, or more perceptively, *desired*, as the modernist inheritance has effected a particularly widening divergence in academia between socially oriented and empirically oriented research disciplines - epitomized in the realist-antirealist diatribe of the infamous science wars. The result: a compound fracture band-aided from-above by academic insistence upon multi-disciplinary projects, yet perspicaciously triaged amongst practitioners as the inability-to-speak-across-the-room syndrome. Departments are split along 'science lines', certain courses are avoided or crowded for the inclusion of certain catchwords, and researchers collaborate like a mixed salad of incommensurable specializations (for a poignant example in 'anthropologies' see Segal and Yanagisako 2005). In terms of subject material and method, archaeology in particular straddles the most trenchant divide between the natural sciences and the humanities, concerning itself with the reconstruction of physical processes (of 'things') in the past, as well as the hermeneutic understanding of past

people's behaviors. For archaeology, then, Latour and other STS thinkers' analytic leveling of the discipline's heterogeneous subjects offers therapeutic appeal.

In Latour's recent book, *The Politics of Nature: how to bring the sciences into democracy* (and adumbrated in his introduction to *Making Things Public*) he presents a program offering re-unification in a monistic (though relational) 'Collectivity'. This is also a book which addresses directly a widespread criticism of Latour (and other technoscience thinkers), viz. his inability to address normative issues such as ethics and value judgments. It is within this tension between an 'absolute inclusion', or his 'Parliament of things and people', and the manifestation of an 'absolute subjectivity', or representationalist-bound program, of including a plurality of voices in science as an ethical imperative (Haraway 1997; Harding 1998, 1991) that I want to discuss the particularly germane example of 'Multivocal Archaeology' (Cowell-Chanthaphonh and Ferguson 2004; Mihesuah 2000; Swidler, Dongoske, Anyon and Downer 1997; Watkins 2000; White Deer 1997; Zimmerman 1996). Tacking between a symmetrical approach advocated by certain technoscience thinkers and the asymmetry of subjective, representational approaches of multivocal archaeology, I chart the degrees of 'symmetry' offered by the various 'technoscientists' and assess their applicability to the discipline of people-things. I end by suggesting a tweaking or 'tuning' of technoscience ideas with new digital media (specifically 'Social Software') for my practical goal of attempting an inclusive model of knowledge constitution for archaeology.

The primary technoscience authors I am considering (Andrew Pickering, Donna Haraway and Don Ihde as well as Bruno Latour) explicitly position themselves against traditional Philosophy of Science and Technology in arguing for a non-reductive stance to materiality (Ihde 2002: 1-3, 1991: 6-8; Latour 1988: part2). The movement to incorporate 'materiality' in the most inclusive formulations of Actor Network Theory's 'relational materiality' (Law 1999: 4), Latour's (eg 1999) subsequent 'collective', Haraway's 'cyborgs' (2003: 62-3), Pickering's (1995) 'mangle of practice', and Ihde's (1991, 2002) extension of a phenomenological 'lifeworld' are all inter-related to their respective stances to technology (as co-constitutive material). Their depictions of this embeddedness of material relations differ, however, as to their informing theoretical positions - such as the analytical leveling of Haraway, ANT and Latour of people-things

made possible by a material-semiotics. I will discuss these in the subsequent section "Instrumental Mediation" for the critical divergences of things-people relatedness pertaining to a consideration of alternate conceptual models rooted in subjective factors and the possibility of incorporating 'alternate' (i.e. non-Western science) frameworks for archaeological practice.

As a starting point, however, it is important to highlight the general affirmation of technological-material relations shared among the various thinkers (see Ihde 1991 for a more in depth historical overview) in their efforts to re-conceptualize the integral role of technological mediation in the sciences. Such a generally shared vision of technology re-frames the use of technology (such as social software) as less an application of representational modeling, and more of an integral mode of engaging the world¹. As an example, the understanding of technology as mediating-by-transforming the world into mobilized inscriptions for argumentation comprises one specialized area (inscriptional practice) of technological interface. The role of technological mediation is enlarged in ANT and Latour's ontological extrapolation of such inscriptional, meaning mobilizing practices to include the material-semiotic entanglement of not just specific mediating activities utilizing technology (eg sciences), but to humans-things generally. This trajectory to interface technology and humans in the context of practical activity culminates in Haraway's 'cyborgs' (1997, 2003: 63) - and most inclusively, her 'companion species'. But it is here where the relevant divergences amongst the thinkers I'm considering begin to diverge on more precise details. And I will need to explicate these alternate formulations of human-things convergence and the resultant ramifications for their appreciation of technical mediation. It will be along this internal spectrum of positions that I intend to tease out a notion of instrumentation for archaeological practice and a political strategy for multi-'vocal' inclusion.

Instrumental Mediation

”The reason we are on a higher imaginative level is not because we have a finer imagination, but because we have better instruments. In science, the most important thing that has happened in the last forty years is the advance in

instrumental design...The gain is more than a mere addition; it is a transformation” (Whitehead 1953[1925]: 114).

The embedding of technology in science has been part of a larger program that has reconfigured the relationship between humans and all materiality, not just the specialized technology of scientific instruments. These are fairly well known with ANT thinkers (Callon and Law 1997; Law and Hassard 1999; Latour 2005b) discussing the 'end of the individual' and Latour (esp. later 'after-ANT' works, eg 1999, 2003) formulating a 'symmetrical' relationship between things-humans. Converging with Haraway's (1997, 2003: 60-63) intimacy of 'co-constitutive' relationships of humans-technology-animals, her 'kinship of technoscience', the push to de-center the classic philosophical figure of the 'subject as consciousness' as the center and foundation of all knowledge inquiry (whether classically empiricist or idealist) has itself been forcefully mobilized. Following from the consensus of technologically mediated scientific practice by Latour, Haraway, Pickering and Ihde (among others), these authors also subscribe to a move towards such a post-humanism.

Pickering (1995: 26) states:

"the performative idiom that I seek to develop thus subverts the black-and-white distinctions of humanism/antihumanism and moves into a 'posthumanist' space, a space in which the human actors are still there but now inextricably entangled with the nonhuman, no longer the center of the action and calling the shots."

Ihde (2003: 129) also moves somewhat in this direction with his 'post-humanist' position:

“...if by that you mean we are using an implicit modernist description of humans as highly autonomous, subjective individuals, atomistically linked to society, then I am obviously a post-humanist.”

This is part of Haraway's and Latour's explicit effort to break-down and 're-thread' classic binaries, including the primordial division of Nature/Culture which derivatively gives rise to subjects(culture) vs. objects(nature), the Cartesian mind (seat of culture) vs.

body (locus of natural impulses and interface with nature and objects of nature), etc. For Latour and Haraway, to affirm the mediating effect of instrumentation upon practice is no leap as it forms a minor effort of re-engineering these larger inherited absolute distinctions.

In the vein of Haraway and Latour, such a symmetrical relationship of things-people is especially appealing to archaeology as the study of things within a context of no longer present actors. It enables the artefactual properties of things to be determined as the 'prime movers' of history without a necessary relating to the intentional actions of (past) people. This alleviates the burden of explanation for prehistoric development and historical practice from the subjects (in the past) and their agency, and likewise abrogates the impasse posed by 'social constructivism' and its locking of explanatory ability into the vagaries (relative) of subjective intentionality and contextual situatedness. If the concept of 'matter' already presumes an ontological union of people-technology/artifacts, then ostensibly a study of the process of machinic-agency of material might get at the 'pragmatogony' (Latour 1994), or genealogical origin of both things-people. Such a research agenda for inscriptional practices by archaeologists, or an 'archaeological sociotechnics', may be very productive (Symmetrical Archaeology Collaboratory 2004; Webmoor 2005; Witmore 2004); but I am wary of a reconstructive effort 'of the past' along such lines as it may resemble too closely the 'Culture-Historical' approach of archaeology in the 1930's-1950's (especially in North America) where material (artifacts and stylistic patterns) were conflated with actual past cultures of people.

Such an ontological leveling of things-people to focus on material agency is appealing as "an escape from the spell of representation" (Pickering 1995: 13). However, in looking to the technoscience thinkers, a variety of positions pertaining to precisely this hesitation are clear. In such a mixing movement to de-center the human as simply one actant operating symmetrically with technology and materiality more generally the various positions of the thinkers, particularly that of Pickering and Ihde, begin to distill out. Ihde and Pickering are hesitant to ascribe absolute symmetry to things-people. For both there is a limiting of 'absolute ontological symmetry' in order to retain a semi-autonomous realm of actor intentionality. For Pickering, a retained realm of human intentionality common-sensically pertains to his mangle of practice where the goals of

researchers in relation to the materiality (technologically and in the objects of study as well as more multifarious considerations such as institutional constraints, financial capacities, etc.) are entangled within a process analogous to 'negotiation' (2003: 97,100, 1995: 15-17,185). In Pickering's (2003: 97, 1995: 17) temporal-focused terminology, what must be kept is the 'multiplicity' of different factors operating and effecting each other in a rather Heraclitean flux of agency (or 'dance') which may be punctuated periodically by 'interactive stabilization' of all the various factors - a momentary settling-out into a Whiteheadian 'conrescence'. In Pickering's fashion, emphasizing chaos and chance (vestige of particle-physics background), such 'dances of agency' of people (scientists), objects, technology, etc. should not be reduced down to two encompassing categories of actors-actants - to a sole Homecoming King and Queen on the dance floor. In this 'Process Philosophy' (cf Whitehead 1953) of research practice, Pickering highlights the goals and intentions of the scientists as an irreducible component - irreducible to things or machinic agency of technology.

“I want to talk about intentionality - a term I use in an everyday sense to point to the fact that scientific practice is typically organized around specific plans and goals...One has to recognize that scientists usually work with some future destination in view, whereas it does not help at all to think about machines in the same way” (Pickering 1995: 17).

Aware of his divergent position from ANT, Latour and Haraway on the issue of intentionality and absolute symmetry, Pickering (ibid: 13,15) continues, "...semiotically, these things can be made equivalent; in practice they are not...the putative symmetry breaks down when one tries to imagine delegating machinic functions back to humans." As agents of inscription producing meaning, actor and actant may be directly equated for their 'practical result'. This is Latour and Haraway's 'pragmatic semiotics': as an (ephemeral) end-result, for example, a map is produced by both inscriptional practices of cartographers *and* things; one is impractical and there will be no emergent coordinated effect (the map-reading) without the other (C.S. Peirce has been criticized for this very equation of 'same action'='same (non-manifest) intentionality'; see Coppleston 1994: 316-7; Peirce 1955: ch7; and Webmoor 2005 for the archaeological example of 'mapwork').

Yet to absolutely equate things-people for Pickering (1995: 13) entails committing a 'hylozoism', or "...an unjustified imputation of agency to the nonhuman realm." More strongly, in Ihde's (2003: 143-4) analysis, such leveling re-commits an anthropomorphism and even a 'fetishization' of things and technology (for rebuttal Latour 1993: 40, 2004: 54, 2005b: ch.1-4). The prime examples receiving such criticism are Latour's (1993: 38, 1999: 190) 'sleeping policeman'/speed bumps and Callon's (cf Ihde 2002: 79) scallops of St. Brieuc Bay. These comments against 'absolute symmetry' provoke, especially as Pickering (2003) and Ihde (2002, 2003) come from on-going studies of blurring 'wet-ware/hard-ware' fields such as cybernetics, artificial intelligence and virtual reality.

Yet aside from Pickering and Ihde, Latour (eg 1993: 39, 1999: ch.4-5,185-190, 2004) himself speaks most of 'goals' and 'programs of actions' of researchers within his idea of 'delegation', particularly when he turns attention to 'consultation' in his 'Parliament of Things' as a part of 'the politics of nature'. In this context, delegation refers to the temporal process of negotiating goals of researchers with one another, as well as institutional and political requirements and material agency akin to Pickering's formulation. An agent's goal (say, in one of Latour's examples, of desiring to slow automobile traffic on campus) must be modified in accordance with these certain context-specific constraints (too expensive, socially undesirable to have a large traffic enforcement force on campus, etc.). There occurs, then, an 'interruption' in the agent's program of action, and an act of delegation shifts the agent to an alternately negotiated act of translation, to an alternate program of action (1993: 38-9). The result (in this example) may be the manufacture of 'sleeping police' to ensure speed regulation enforcement. Latour's 'non-copresence' explains how agents and actants (agent and her/his goal, engineers, designs, policemen, concrete, etc.) are contained within the speed bumps of the 'sleeping policemen', with a more general observation that "we live in the midst of technical delegates" (ibid: 40). Here we can see, though, that 'goals' and 'desires' in Latour's usage are not equivalent to Pickering's notion of such 'intentionality'. Instead, such 'intentionality' with Latour is appraised in terms of their inscriptional effects: "they produce meaning via a special type of articulation that crosses the commonsense boundary between signs and things" (ibid: 38). This enables him to steer such a goal

oriented happening, such as the placement of 'sleeping policemen' on campus, around agonistic notions of materialism and human agency (ibid: 41). Such a material or pragmatic semiotics affords intentionality of actors and of actants to be read as equivalent - an equivalency of inscriptional results.

Ihde enters the discussion with an even different understanding and usage of 'intentionality', one that is derived from his 'pragmatic phenomenology', or 'post-phenomenology' (2003: 136). This 'post-' or 'pragmatic' modifier is important for Ihde, as he modifies the original notion of phenomenological 'intentionality' derived from Husserl (and Brentano before him). As conceived in the phenomenological literature, 'intentionality' was utilized to counter-act a Cartesian manner (fundamental for the 'modernist settlement') of isolating consciousness from the encompassing real world - Descartes's 1st-principle of philosophical method. Instead, the concept of intentionality foregrounded the ineluctable inter-relatedness of consciousness-things as part of the 'lifeworld': consciousness of anything is always of objects, of things. Such a use of intentionality does not set the subject/consciousness as the foundation for knowledge of the world (one of the criticisms of social constructivism), but does foreground bodily praxis, or bodily situatedness in the context of the lifeworld, as critical in understanding. With existential phenomenology (Merleau-Ponty, Heidegger, Sartre), such a bodily situatedness emphasized the multi-perspectivalism and ambiguity of what is known of the world as actor-things is always relational and inter-engaged. It is this 'praxis-perception' model of phenomenology, which espouses less what is known, as *how* something is known, which Ihde extends to technology (Ihde 1991: 17; and Hansen 2004 for specifically digital mediums).²

In his 'unorthodox' phenomenology, Ihde extends the embodied and perspectival relations of agents with the world to include embodied relations with technology, "whereby the instrument is experientially taken into one's sense of body and through the instrument something is (mediatedly) perceived 'out there'" (2003: 137). Latour (eg 1999: 9-10, 2003: 16-17) most explicitly criticizes phenomenology for even more firmly entrenching human consciousness at the center of life-world constitution, or asymmetrically pulling the co-constitutive relationship to the human pole. Yet Ihde, in contrast to earlier phenomenology, closes this gap as "an asymmetrical but post-

phenomenological relativity gets its 'ontology' from the interrelationship of human and non-human" (2003: 143). Humans(actors) are not equivalent to things(actants) in Ihde's phenomenological retaining of intentionality, but neither are humans separable or distinct from things. The embattlement really has more to do with scale of analysis due to informing philosophies (phenomenology versus material-semiotics). A pragmatic phenomenology, while attending more to the entwinement of people and things in specific regard to technological contexts, necessarily still holds the scale of analysis to the perceiving actor, while, as already stated, a material-semiotic lens (of Haraway and Latour) attends to consequential 'action', or negotiated end-products of people-things (as most famously with Latour's Pasteur-yeast historical imbroglio). Ihde (2002: 96) addresses this variance of theoretical focus:

“Only by ascending to a much larger context, to too high an altitude, and then with too much generalization and abstraction, does symmetry emerge...[whereas] in the middle-ground, interactive description of human-nonhuman relations, one can discern varieties of intention and degrees of symmetry or asymmetry.”

Ihde alludes to a too-abstracted sphere removed from human actors in Latour's approach to absolute symmetry. This may seem initially contrary as Latour in fact spends an immense amount of effort at 'following scientists around' in their intimate settings of research (1987); while, on the other hand, Ihde (eg 1991, 2002) invests little attention to empirical case studies (and see Ihde and Selinger 2003: ch1,7 for respective criticism). However, for my intention of developing a practical application of technoscience thinking in relation to the politicized context of archaeology engaging with indigenous claims to participate in knowledge constitution, I am going to utilize Ihde's and Pickering's notion of 'hybridized symmetry' or 'degrees of symmetry'. Such a focus on non-universal symmetry, attuned to a sensitivity of specific context (and not assumed Western, technoscience) wherein technical mediation or technological engagement may or may not be democratically shared, will allow me to suggest a politicized program of 'instrumental-facilitation'. A situated, embodied consideration of actors, rather than a leveling effect which occludes pre-conditions of participation in science by focusing on (material-semiotic) outcome-effects, will also integrate the usage of Pickering's

'conceptual models' (1995:185) and Ihde's bodily situatedness in relation to instrumental mediation in following Haraway (1991: 194, 1997: 95-7) in a 'politicized epistemology'.

Inclusion of Claimants

"Second guarantee (of the new 'Constitution'): . . .a revision process should be maintained, an appeal of some sort, to make sure that new claimants will be able to have their voices heard. And 'voice,' of course, is not limited to humans" (Latour 2003: 38).

"...the possibility of a radical performative incommensurability by suggesting that within different cultures human beings and the material world might exhibit capacities for action quite different from those we customarily attribute to them" (Pickering 1995:245).

A focus upon instrumental mediation, of this interface of technology and actors in engaging the world, allows for 'relative degrees' of symmetry between people-things. That is, framing the relationship of people-things from a Pickering and Ihde technoscience perspective where actor intentionality is not absolutely commensurate with actant/thing 'intentionality' in the unfolding of practice, allows for a specified consideration of 'claimants' in the sciences and of particular configurations with technology. A material-semiotic lens (Latour, Haraway) considers goals of practitioners as constrained/enabled by material, socio-political and institutional practicalities (Latour's acts of translation in a process of delegation), but these case studies are contexted in the operation of Western sciences where intentions may be said to be informed by similar conceptual frameworks - such as Latour's Pasteur (1988, 1999: ch.4-5) and cartographers (1986) seeking optical consistency in their media. Can such 'rational activity' or research goals of 'optical consistency' and 'combinability' of immutable mobiles (plans, maps, and other visual inscriptions) for argumentation in the sciences be universalized to all actors and their instrumental mediations? Latour himself (1987: ch5) addresses such a question of 'rationality' versus 'irrationality' and asserts that there is no gulf between them; only differences subscribable to 'rhetoric'. These differences in 'rhetoric' extend to how media

is mobilized to convince. And in the same chapter, he affirms that no knowledge can be separated from its informing context, as all knowledge is embedded in society. This suggests, not only may the 'rhetoric', the mobilization of media, differ depending upon social context, but that the very type of knowledge desired - and so the practical purpose to which media are engaged with - may also differ considerably. Latour attempts to avoid any notion of 'social constructivism' or hyper-relativism (eg *ibid*, 2003: 36,40) by, as previously argued, turning analysis to the inscriptional results of technological interface - to the material-semiotic effects of such mobilizations. As quoted above, Latour (2003) does turn to issues of normativity, of making judgments as to what assemblages of people-things are to be included in the 'pluriverse' of his new 'constitution'. A measure to insure democracy in the new 'parliament' is the sanctioning of 'consultation' (*ibid*: 137-60). But again the emphasis is upon things and their mobilization for normative judgment: "that the question of democracy be extended to things" (*ibid*: 23).

I would not argue for such a hyper-relativism in archaeology by shifting determination to presumably incommensurable social representations of reality (to be, in Hacking's (1999: 24-34) portrayal, a 'social realist' insisting upon the flexibility of 'the world' but inflexibility -'realism'- of social formations). But the 'external mandate' (see below) to include non-archaeological goals in knowledge constitution may be illuminating by incorporating non-Western 'sciences' conceptual frameworks which (as part of Latour's embedding of knowledge in society) do vary according to informing society and do inform differing 'goals of the researchers' prior to any inscriptional activity. This is a shifting of the Latourian lens of analysis along the spectrum to 'pre-conditions' which are not static, a-historical, but are also part of Pickering's inclusive mangle of practice. Sharing a concern with informing concepts of practice, Pickering (1995: 216) believes that:

"The eclectic recognition of the importance of both the epistemic and the social in science is certainly a step in the right direction, a step toward an appreciation of cultural multiplicity in science, and a fruitful departure from traditional monodisciplinary images of science."

Recent legal developments in the practice of archaeology have forced archaeologists to consider just such a 'cultural multiplicity' in science.

“Even in the hearings on the reburial laws, the archaeological community was rumored to have been warned by a senator that if archaeologists couldn’t come to grips with the issue, Congress would solve the problem for them” (Zimmerman 2000: 293).

The above comes from the hearings in a subcommittee of Congress in considering the Native American Graves Repatriation Act (NAGPRA), or Public Law 101-601 of 1990. While political and institutional pressure to open archaeology to inclusion of stakeholder groups is manifest in other nations, the passage of NAGPRA in the United States has had the most impact upon archaeological practice because of its legally binding statutes. Most specifically, sections 7-9 of NAGPRA provide for the altering of one of archaeology's operating assumptions, namely the idea of 'cultural resource', by admitting tribal authorities to define 'resource' under non-archaeological terms. In re-defining what was previously part of the corpus of 'archaeological resources' or 'data' pertaining to North American prehistory under the category of 'Cultural Items' as 'Human Remains', 'Sacred Objects', 'Associated Funerary Objects' 'Cultural Patrimony' and 'Unassociated Funerary Objects, Sacred Objects, and Items of Cultural Property' (1990 25 U.S.C.A. §2(3)a-d), NAGPRA requires that “the federal government and non-Indian institutions must consider what is sacred from an Indian perspective” (Trope and Echo-Hawk 2000: 151; and Mihesuah 2000 for detailed explication). Furthermore, “the term sacred is not defined explicitly in the legislative definition. Rather the definitions will vary according to the traditions of the tribe of community” (Trope and Echo-Hawk 2000: 144). In addition, the burden of proof (the 'preponderance of evidence') in establishing 'cultural affinity' with contested material is not restricted to scientific data but may include: “kinship...folkloric, and oral traditions” (25 U.S.C.A. §7(a)4). Finally, the assessment of such material and the implementation of NAGPRA procedures will be conducted by the administrative body which NAGPRA established as the 'Review Committee' (ibid: §8) which will have recourse to assessing punitive damages to insure the compliance with the statutes (ibid: §9).

The ramifications for the mandate to include claimants in defining and assessing the very data of archaeology has had wide ramifications, particularly as the law is binding not solely for government funded projects, or projects on federal land (as with the ambit of the National Historic Preservation Act (NHPA)), but to any project investigating 'resources' identifiable as Native American - such as with the controversy surrounding the prehistoric identity of 'Kennewick Man'. NAGPRA concerns the abutment of 'legiethics' (cf Watkins 2000) with more immutable, fundamental assumptions about what archaeology is - what it does, how it does it, and why. A prodigious amount of literature has been produced concerning the issue of incorporating 'the local' in archaeological practice³. Though certain archaeologists (Zimmerman 2000: 301-5; Watkins 2000: 170, 2003: 277,282) engaged in the issue speak of 'hybridizing' archaeological knowledge and non-disciplinarian knowledge in constituting a "new and different archaeology" (Zimmerman 2000: 305), these attempts, I would argue, have largely been co-opted by simply training Native Americans in archaeological methods (and disciplinarian philosophy) and including them in otherwise unaltered archaeological investigations. The problem?: distilled to the most divisive issue, NAGPRA entails an abutment of alternate goals, and alternate philosophies and alternate conceptual frameworks for achieving these goals in engaging with 'the past' - as even the notion of 'the past' has been contested by traditions of 'living pasts'. Zimmerman (ibid), along with an increasing number of other pro-repatriation archaeologists such as Watkins (2000: 176, 2001, 2003), are explicitly stating that the embattlement is over the 'conflict in philosophical traditions', or as Smith (2003: 185) puts it, acknowledging that the conflict is not over "ethics...but between scientific and indigenous philosophy".

A practical example may help to underline the legislated necessity for archaeologists (in the United States, but analogous legislation has been passed, or is pending, in New Zealand, Australia and Canada, not to mention professional organizations binding ethical proposals for archaeologists in other countries) to account for alternate goals and practices that may not be strictly subsumed under the intentions of the Western sciences which science studies has (understandably) focused upon. A repercussion of NAGPRA for compliance archaeology (constituting the majority of archaeological endeavour in the States) has been the modification of compliance laws (eg

National Historic Preservation Act) to provide protection for Traditional Cultural Properties (TCP's - Parker and King 1990). Derived from section 7 of NAGPRA, the new statute requires identification and mitigation efforts to protect 'sites' which may contain no normatively defined 'artifacts' or 'cultural material', but which are deemed important to local tribes for purely cultural or spiritual reasons. These are generally synonymous with sacred sites (eg Carmichael 1994). Familiar to some will be the designation of Mount Shasta in Northern California as a TCP, despite constituting solely a 'natural resource'. Such sites may be valorized for their situatedness in the landscape, their association with oral history or cosmogony, or with historical events. As such, they provide a cogent example of the breaking down of nature/culture divisions so prominently espoused by the technoscience thinkers I've been considering (eg Latour 2003). The question for archaeologists, entrusted with identifying and protecting such nature-culture locales, is how to document them for bureaucratic purposes (to be placed on the National Register of Historic Sites for protection - see King 1998, 2000 for 'section 106 protocol'). Determining and documenting the 'significance' of such a TCP was undertaken in conjunction with the National Forest Service (overseeing government agency) on the Comanche National Grasslands in southern Colorado (Webmoor 2003).

Under pre-1990 criteria this vision questing site would be deemed 'not eligible' due to a paucity of artefactual significance. Yet post-NAGPRA amendments to include TCP's deem that significance may be afforded due to the qualities inherent to the location in the landscape which 'selected' the site for culturally-significant activities but were 'a-archaeological'. This re-orientation of selection criteria to the ineffable and immaterial qualities of the site arises from an alternate conceptual model within which research goals and related concepts - such as 'significance', 'preservation', 'past/archaeological site', 'management' - differ considerably from normative archaeological science. A mobilization of actants in the form of the documenters, multi-media 'inscriptions', local Forest Service regulations and resources, etc., were articulated under the alternate criteria to make the claims of significance for the site 'more real' and convincing (in Latour's terms eg 1986: 32). In this very performance of 'tuning' the various media-captures in the project, differing reactions to 'interruption' or thwarting of research goals incur untoward acts of delegation which would not fit any archaeologist's research plan. Instead of

fundamentally being oriented to preserve and manage the site (and so shift acts of delegations in reasonable translations), a goal-shifting to *not* preserve and plot the site with a GPS (Global Positioning System) on heritage maps may be negotiated in order to follow tribal belief in allowing the 'living site' to transform/decay without interference. And would the resultant inscriptions - though these constituted audio recordings, video-work, and map-image integration in non-textual form - be included through Latour's (2003: 136-61) 'consultation' as material-semiotic products? I would argue that if the underlying re-conceptions of 'significance', 'artifact', 'preservation', 'past' and so forth which led the inscription process were *not* factored-in, then the site's assemblage would be dismissed according to normative archaeological judgment - as indeed TCP criteria and adjudication processes are often contested (Echo-Hawk 2000; Mason 2000).

In practice what is required is a 'symmetrical lens' that allows for inclusion of conceptual models which predispose and relate to an additional and necessary inclusion of attention to alternate 'technology interfaces', or instrumental mediations. For Ihde's (1991: 30-8) 'post-phenomenological' perspective, such alternate instrumental mediations are part of macroperceptual-microperceptual factors of bodily situatedness. Inherited from Merleau-Ponty's later writings, cultural context must be considered as it influences macro-perception, or general habits and traditions' orientations toward the world (Foucault's potential discontinuity in cultural perception), which then inform personal micro-perception (ibid: 88). His extension of this fore-fronting of bodily praxis as part of scientific practices to instrumentally mediate, extending and merging with the human perceiving body and so utilized within macro-perceptual orientations, should be included in a technoscientific approach to multivocal archaeology.

Pickering, as part of stressing the 'flux' and 'multiplicity' of his 'path dependency' in scientific practice, includes concepts among the variables that must be 'tuned' into alignment for knowledge constitution to, however temporarily, 'settle-out' (1995: 17,20,182, 2003: 85-9).

“I have argued that the connections between knowledge and the world are, in practice, interactive stabilizations of machinic performances and conceptual strata...” (Pickering 1995: 182).

A later distillation reaffirms his position⁴: “The social is thus itself part of the delicate and uncertain business of making alignments in practice as the material and conceptual” (Pickering 2003: 87). Concepts informing the intentions and practical goals of scientists must, for Pickering, be included as part of his temporally emergent mangle process. In relation to NAGPRA-archaeology, such a inclusion in the 'collective' for consideration in knowledge judgments of *both* informing conceptual models and particular/alternate instrumental mediations (which may indeed not 'inscribe' anything at all recognizable to Western sciences' macroperception) will, I argue, result in a more 'diplomatic collective' (cf Latour 2003: ch4).

Hypertexting Archaeology

Utilizing the degrees of symmetry of Ihde (cf 2002: 96) and Pickering, a way into the acknowledgement of alternate goals can begin with another avowed material-semiotician, Donna Haraway. Analogous to Latour and ANT thinkers, Haraway follows a "semiotics of materiality, applying this ruthlessly to all materials" (cf Law 1999: 4; Haraway 2003: 47, 1991) to propose the radical trope of a material-technology-human cyborg which emphasizes the complexity of sociotechnical relations. However, in this complexity, Haraway focuses on a 'political epistemology' to 'democratize knowledge' in-step with Harding's 'strong objectivity' program (1991, 1998; cf Parsons 2003; though she characterizes the approach as properly 'aliberal' due to non-centeredness on humans 2003: 77). Consequently, as restated by Selinger (2003: 158), “[it] is impossible to epistemologically inquire into the constitutive reality of technoscientific practice without simultaneously engaging in the political arena of legislating who and what counts" (cf Selinger 2003: 158).

Connecting up with a multivocal concern in archaeology, Haraway (1991: 194) contends that knowledge is always situated in complex assemblages which include a Nietzschean perspectivism or the acknowledging of 'observer bias' in technologically mediated vision which always involves selection (1997: 113). For her, interrogative questions are vital: "how to see?", "where to see from?", and "who gets to have more than one point of view?" (1991: 194). The result of the politics of cyborgian bodily

situatedness necessitates democratic measures in technoscientific production (cf Selinger 2003). Enabling multiple stakeholders to engage with one another becomes an integral part of technologically mediated practice (Haraway 1997: 95-6). To this end, Haraway espouses the democratic employment of technological mediation, and forwards the advantages of 'hypertext' for the intrinsic 'openness' and rhizomatic linking.

“The nature of the website, as opposed to many other writing technologies, resists reduction to single purposes and dominating tropes. Links lead many places, and these paths are explored by users, within the webs initially spun by designers, to be sure, but rapidly spiraling out of control of any designer...its degree of semiotic freedom are many” (Haraway 2003:73-4).

Drawing from popular-political culture⁵ and the swelling of ‘Media Informatics Liberation’, as well as early espousal within archaeology by Michael Shanks, utilization of social software has been argued to facilitate just such 'situated' yet democratic enabling (Shirky 2005a,b). Archaeologists have, of course, employed internet resources, but these comprise static pages of information, or textual homologues, which publicize and make accessible archaeological information which would otherwise be restricted to smaller target audiences. More savvy projects which employ the internet generally have explicit theoretical interests behind such information facilitation, and so the content tends to be less simply ‘dumping on the web’ from non-net sources. These other projects use the web-medium to support: a 'multivocal/multinarrative' archaeology (eg Joyce, et al 2000; Lopez 2005) or reflexive approaches (eg Catalhöyük 2003). However, I am going to focus not on ‘old media’ web-design and internet sites, but on a particular ‘group’ of social software: task-oriented wikis (task oriented, collaborative workspaces) and blogging. The contrast to ‘static pages’ will become apparent.

Social software is not new in any sense, as it dates back to ‘Plato’ systems of forty years ago, and really serves as an all-inclusive rubric for anything from ‘Groupwares’ to e-mail, Usenet newsgroups, chatrooms, instant messaging, mailing lists, bulletin boards, multi-user games and more. And in these capacities, we’ve been using it for decades. But what I want to focus upon is one increasingly popular and political niche of the developing web-based platforms combining wikis, weblogs and RSS (Rich Site

Summary) feeds (eg Project Forum platform). There are varieties specializing in imagery, music, group organization, etc. But essentially, 'blogs' are continuously updated web pages that are part stream-of-consciousness diaries and part forums for news commentary and analysis; 'wikis' are 'open-editing', collaborative and group organizing versions of blogs; and RSS feeds allow instant messaging to appraise involved bloggers of updates. And in this form blogging has begun to have a felt impact, especially in terms of political organization and opinion/news dissemination.

“Weblogs are the freest media the world has ever known. Within the universe of internet users, the costs of setting up a weblog are minor, and perhaps more importantly, require no financial investment, only time, thus greatly weakening the ‘freedom of the press for those who can afford one’ effect. Furthermore, there is no Weblog Central - you do not need to incorporate your weblog, you do not need to register your weblog, you do not need to clear your posts with anyone” (Shirky 2003).

When the Guardian (Schofield 2003) refers to social software as just being massively over-hyped, and “just a sideshow run by a few geeks with a tenuous grip on reality,” which doesn't reflect new technology at all, it just reflects changes in society”, I would agree with them. It is reflective of a new ‘change in society’. This change is most visibly evidenced by the attention that has come during the last presidential campaign, wherein the democratic primary contender Howard Dean garnered both organizational and financial boosts from his weblog (DeanforAmerica 2004). As The Nation (Sifry 2003) reported during the run-up to the democratic convention, “‘social software’ is changing and enhancing the participation of ordinary people in politics...” and “the Dean campaign, with its success at raising small dollar contributions, is returning the party in this country to where it belongs--in the hands of the grassroots and everyday Americans.”

Obviously, (for Dean), the wiki and blogging support did not dissolve all obstacles to a radical democratic participation, viz. the disconnect between ‘blogger community’ and ‘actual community of voters’ with the failure of Getting Out the Vote (GOTV). But the media is increasingly popularized, as well known bloggers (people like Doc Searls, David Weinberger, Cameron Barrett, Halley Suitt, Mitch Ratcliffe, Jeff

Jarvis, Jay Rosen, Dan Gillmor, Cory Doctorow, Ed Cone and Danah Boyd) have thousands of daily readers. “Links, RSS feeds and new protocols such as Trackback are increasing the number of connections between groups of people and their blogs, creating a parallel universe that is already known as the blogosphere” (Schofield 2003) – an “electronic back-channel, which is blending the physical world/electronic world experiences” (ibid).

And this is no longer a parallel ‘underground’ of grass-roots communication. The participatory and organizational effectiveness of weblogs and wikis has become apparent to ‘mainstream’ media sources as well. The BBC (BBC iCan 2004) recently flicked the switch on an ambitious website designed to help Britons organize and run grassroots political campaigns – to promote local activism. The site, dubbed BBC iCan, is designed to help citizens investigate issues that concern them, find others who share those concerns and provide advice and tools for organizing and engaging in the political process (Wired Magazine 2003). And other examples abound where ‘mainstream media’ are embedding correspondents and analysts within ‘blogging communities’ to get in touch with grassroots sentiments – and to increase their ratings by anticipating big stories.

Granted, wikis and blogs as social software are still largely limited to textual interface. And Ihde (2002: 83) describes such instrumental mediation as “...a hermeneutic human-technology relation in that the machinic mediation...becomes a kind of language-analog mediation”. As well, there are practicalities to be minded: inundation by spam, encouraging relevant ‘posts’ and maintaining a critical mass interest. In spite of these obstacles, the increased ease of ‘hosting’ the necessary server on ordinary desk tops, the ability to mold to particular interest groups (perhaps just a dozen) as ‘form-fit software’ (Shirky 2005a) and the relatively inexpensive commercially available software platforms all favour social software’s utilization.

Taking a lesson from popular and political culture, the facilitation of stakeholder groups in archaeology via hypertexting, and especially wiki-blogs, is evident. So what might linking-up wikis and blogs afford a hypertexting archaeology? Akin to increasingly evident grass roots mobilizing and dissemination of social software in popular culture, a more “diverse and free” (Shirky 2003) approach to information in archaeology is possible - though already the FCC in the States is considering regulation

of blogging (ibid). Hypertexting affords an ability to register publicly the conceptual models and particular/alternate instrumental mediations that, I argue, must be a part of the mangle of practice in archaeology. Applying hypertexting is not restricted to multivocal approaches; and conversely, multivocal archaeology is not limited to hypertexting. Yet the application of hypertexting to salient contexts gets at Haraway's instrumental enabling. And I am beginning just such a type of inclusion at the prominent Mexican site of Teotihuacan (Webmoor 2004). This instrumental enabling allows stakeholder groups to mobilize media in idiosyncratic ways, registering non-specifically archaeological attitudes, goals and underlying conceptual models brought to engagements with 'the past'. Via such a public exhibition, these complexifying factors may then be integrated into a better proximate understanding of the archaeological process. Per Haraway, attention is directed to who is mobilizing the world through instrumentation, what is selected for mobilization and how this instrumentation is inter-related to the myriad of other situated positionalities – institutional, socio-political, technological. Such a hypertext enabled archaeology accounts for technoscience's portrayal of science as the articulation of heterogeneous actors and actants in an emergent, "diplomatic and ethical collective" (Latour 2003: 214).

Conclusions

What might be gained by instrumental facilitation in archaeology? Or again, why is it important? Articulating all the relevant 'data' for a site, TCP, landscape, etc. will, as part of the participation of stakeholder groups, combine a multitude of technological inscriptions. Maps, GIS (Geographic Information Systems) queries, field-notes, artifact sketches and thermoluminescent results - all already standard for archaeological articulation into a single monograph - will be joined by new mediated inscriptions: audio-recordings, videowork, oral history narratives, non-coordinate 'maps' (Figure 1). The obvious practical problem becomes: how to collate all of the dissimilar data which are not fungible or inter-mediabile (Shanks 2005)? Developed outside of archaeological science, such examples which would enlarge the data of the archaeological collective, but unfortunately, for this very complexifying reason, would be discounted as non-

intermediable. Obsidian hydration results in the same collective of data as oral history!?
(the very exasperation for Mason 2000 vs. Echo-Hawk 2000).

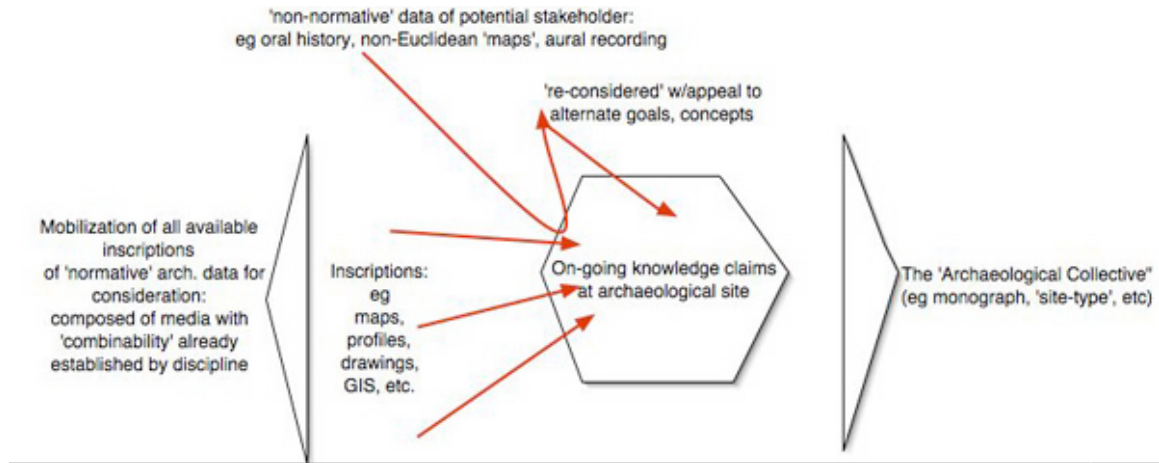


Figure 1: The Mangle of Archaeological Practice - an on-going flux

To get at this, I want turn back to Latour's notion of consultation as an on-going 'diplomatic mediation' process to evaluate inclusion or disclusion from the Parliament of Things (2003: ch4). Worried that "left to themselves, scientists would too quickly agree among themselves as to what (especially what form) is to be admitted" as evidence, Latour opens his consultation to politicians with the aim of deliberately politicizing the arbitration process (ibid: 145). Politicians - the antitheses to a (problematic) value-free ideal of scientific inquiry - are needed precisely to help "detect, for every candidate entity, the jury that is adequate to evaluate its existence according to its own requirements and in relation to its own problems" (ibid). While Latour is not suggesting a relativism, apportioning separate criteria for every bit of data to be judged, there is beginning to be room for inclusion of cultural conceptual models as a requisite background for informed judgment in the sciences (viz. Pickering 1995, 2003). As I have suggested, archaeology in the context of specifically non-Western practices would benefit from *tempering* Latour's resolute symmetry, and instead think in terms of Ihde's and Pickering's notion of degrees of symmetry, attuned to a sensitivity of specific context and not-lodged solely within an 'end-product' material-semiotic analysis.

In summary, how would the respective 'archaeological politicians' know what is relevant to each candidate for inclusion as data, or what are the problems or goals to which such candidate data is directed? Instrumental mediation via hypertext enables presenting, much as in the grass roots organizations of the blogosphere, alternate practical goals and intentions behind 'data' for the politics of archaeology. And for accurately describing the entire process of mediation as inscription, mediation as facilitation, mediation as diplomatic consultation in archaeological practice, I suggest a *mediating archaeology*.

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 Endnotes

¹ While much may be said of the link between Technoscience thinkers and ideas originally formulated by Pragmatists – both ‘classic’ and contemporary – such a review is out of the scope of the present paper. A fundamental example, though, is Latour’s identification of truth through verification or ‘trials of strength’ with the *process* of an idea’s verification, shifting Latour away from the positivist maxim and nearer to C.S. Peirce and William James’s pragmatic correspondence theory whereby “...such mediating events ‘make’ the idea true” (eg James 1925: 202).

² Ihde (1991) also distinguishes between ‘micro-perception’ - concerned with the perceiving individual - and ‘macroperception’ which entails a more common, collective perception sedimented in habit and cultural tradition. This will be discussed in the next section “Inclusion of Claimants”, but it is notable that both Foucault and Kuhn’s coeval development of ‘non-linear’ knowledge development comprised of incommensurable epistemes/paradigms may be traced to sweeping changes in ‘macro-perception’ - Foucault was Merleau-Ponty’s student. Thus suggesting literal alternate manners of ‘seeing’ the world and hence constituting knowledge.

³ The largest compendiums on the issue of stakeholder or indigenous participation in archaeological knowledge production, see especially: Bender 1998; Bray 2001; Carmichael 1994; Gnecco 1999; Hodder 2000, 2002 2003; King 2000; Lynnot and Wylie 1995; Meskell 1998; Nelson and Kehoe 1990; Nicholas and Andrews 1997; Schmidt and Patterson 1995; Stoffle 2001; Swidler et al. 1997; Vitelli 1996; Zimmerman, Vitelli and Hollowell-Zimmer 2003. The more acrimonious exchanges tend to constitute ‘manifestos’ for or against such inclusion and are lime-lighted in the flurry of scholarly journal articles: Anyon and Ferguson 1995; Dowdall 2003 and Parrish; Echo-Hawk 2000; Fotiadis 1993; Goldstein and Keith 1991; Green 2003; Hale 2002; Hemming 2000; Hodder 2002, 2003; Marshall 2002; Mason 2000; McGuire 1992; Meighan 1992; Meskell 2002; Mulvaney 1991; Oyuela-Caycedo, et al. 1997; Politis 2001; Powell, et al. 1993; Shepherd 2003.

⁴ There is obvious affinity to Pickering's inclusion of 'concepts' and Pragmatism's general erasure of fact/value or truth/justification distinctions in the idea of 'warranted assertability' in place of a correspondence theory of truth (eg James 1978: ch 8; Putnam 1995: 8-19; Quine 1953; Rorty 1979: ch 5-6).

⁵ For relevant links to the interchange between politics and social software in popular culture discussions, see the original hypertext version of this article at <http://traumwerk.stanford.edu:3455/mediatingarch/33>.