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Indigenous and Ethnic Articulations of New Media

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Abstract: This paper extends a lineage of research that reveals appropriative possibilities by which indigenous and ethnic communities have appropriated media technologies to serve their own cultural, political, and social visions. This paper focuses on networked and database-driven “new” media and information systems, and the possibilities and potentialities these hold within cultural scenarios. A case is presented that has focused on Native communities within the United States. Through this presentation, I present a methodology, process, and analysis of the means by which information systems can enable culturally and community-focused goals.

The isolating and stratifying impacts of new media are widely discussed when pertaining to indigenous and ethnic communities. Emerging from these critiques is the term “digital divide” [www.digitaldividenetwork.org, NTIA(1999 and 2000)], and maintains two meanings. First, it can apply to the notion of ownership. This indicates that existing ethnically-correlated stratifications would only be accentuated by those who own, operate, and control the roles of new information systems. Secondly, a number of writers have flatly assumed that new technologies inherently create ethnic biases. These critiques lie not so much in problems fundamentally with the technological system itself, but rather how it is used to reinforce structures of power, and therefore stratify.

However, in parallel to these critiques, a number of relevant initiatives and studies have pointed to the empowering potentials held by internet-based technologies toward ethnic and indigenous communities. This includes literature that uncovers how communities can utilize the internet to exchange information, preserve histories, generate diasporic identities, and share resources that can enable collective political and social causes to be realized. This paper focuses on the empowering potential held by the use of (a) servers and networks, and (b) databases within information systems. The possibilities these hold to enable fragmented and underprivileged communities is discussed in the context of my fieldwork with 19 Native American reservations based in San Diego County (California, United States).

New Media and Community

A number of social scientists have questioned the potential held by information systems toward forming and sustaining community. At the forefront, Paul Virilio has denounced new media technologies, and the means by which they “virtualize” the physicalized understanding of landscape, geography, and culture. His concern is that through new media there is an overemphasis on “real-time” versus ‘real space’ or ‘real life’.

The specific negative aspect of these information superhighways is precisely this loss of orientation regarding alterity (the other), this disturbance in the relationship with the other and with the world. . .Up to now, history has taken place within local times, local frames, regions and nations. But now, globalization and virtualization are inaugurating a global time that prefigures a new form of tyranny [Virilio (1995, p.1)].

When community is no longer understood in geographical terms, fears and critiques have arisen [Sassen(1999), Oldenburg(1989)] . Robert Putnam points to the loss of geographically-localized communities as factors that accompany the emergence of

network media [Putnam(2000)]. Public spaces, local cafes, and bowling alleys – all places of meeting in traditional Western civic society, are largely obsolete social spaces today. Putnam argues that Western societies (focusing on American societies) have become disconnected from the traditional means by which people receive social affirmation. These have included family and friends, recreational leagues, political parties, and religious institutions. Heightened intra-community interaction generates greater social capital, loosely defined as the cohesion of a community in providing resources for itself. Putnam finds a decline in civic, religious, and political participation across American society, and argues these losses in social capital are linked to lower educational performance, higher crime rates, and other negative phenomena[Putnam(2000)].

How do new media technologies affect this dynamic? Putnam argues that this is still an unanswered question. It seems clear that the context of technology usage would be important to clarifying this issue. Social network theorists, for example, have discovered that “social” uses of information systems can positively impact community formation and sustenance, through the sharing of information resources and creation of common spaces for socializing and communication [Wellman and Gulia (1999)].

Culture and Community - Visual Media

The prevailing discussion has been limited to a passive understanding of new media, as a set of technologies that are imposed upon the public, rather than as a tool that can be utilized to achieve locally and culturally specific visions. The understanding of media and technologies as emerging from a central source and vision has led to the assumption that they have in turn projected values that derive from the “culture industries” and reify power dynamics between the owners and consumers of the technology (Horkheimer and Adorno (1976)). By recognizing the possibilities for technologies to serve specific community aims, new media can instead be understood as a catalyst for new interpretations and alternative paradigms (Hall(1973)).

Faye Ginsburg, an anthropologist from New York University, has detailed a number of efforts by which media technologies have empowered ethnic and indigenous communities [Ginsburg(2002)]. “Screen Memories” discusses the means by which the Inuit people of the Arctic re-create oral traditions through the media of film and video. This has been done without an intrusive intervention, and merely by making tools available that can address pressing needs. While re-telling stories involves their being reshaped, as discussed by Ong [Ong(1988)] and others [Goody and Watt(1968), Lord(1960)], preservation is a process that requires adaptation to competing demands and an altered cultural and political context. For example, Ginsburg discusses the means by which Inuit filmmakers have created films as a response to dominant objectified representations.

Rather than destroying Inuit cultures as some predicted would happen, these technologies of representation – beginning with the satellite television transmission to Inuit communities of their own small-scale video productions – have played a dynamic and even revitalizing role for Inuit and other First Nations people, as a self-conscious means of cultural preservation and production and a form of political mobilization. . . .(The benefit of new media) is apparent not only in the narrative constructions of Inuit history on their own terms, but in integrating it with Canadian modernity, embodied in the flow of television [Ginsburg(2002, p. 41-42)].

Ginsburg's example reveals how film and video technologies have allowed community members to create and disseminate their reflections on present day realities and future visions. This example demonstrates the importance of re-purposing the Frankfurt School critique of culture industries within a model of appropriation that place those traditionally disadvantaged into the position of creator and broadcaster. This is a step further than the process of traditional appropriation and reception studies [Hall(1973), Morley(1992)], wherein the fan [Jenkins(1992)] or receiver re-tells or re-creates an already once released narrative. Instead, the content and utilization of the technology are placed in the hands of the community.

Terrence Turner's work with the Kayapo people of central Brazil extends Ginsburg's analyses by overtly studying the impact of community-created media on cultural, educational, and political efforts [Turner(1992)]. The purposes of his research involved initiating a video-creating process to advance and develop various political and cultural community agendas. Introducing the technology of video camera to the Kayapo translated into an involvement and documentation of the negative effects of governmental hydroelectric dam schemes. The video documentation was brought back to the people by the appointed video creators and informed the different tribes of the impending danger. The Kayapo discovered that using their video cameras allowed them to interview and question Brazilian bureaucrats and politicians with a level of legitimacy that the government official would have to answer. Ultimately, this work translated into an international exposure for the community, as they were able to demonstrate their land rights issues on an international stage that could supersede even the Brazilian national government.

Turner argues that while media scholars have worked in the domain of ethnographic film with an end purpose in mind, few reflect on the possible effects of an objectifying medium such as film's impact on the social and cultural consciousness of the people involved. The question of who owns and controls the films that are created may seem unimportant, but this often has a significant effect on the community itself. With the Kayapo, the different roles occupied in the video making process had an impact on their relative abilities to advance within the tribal government.

From the moment they acquired video cameras of their own, the Kayapo have made a point of making video records of their major political confrontations with the national society, as well as more exotic encounters such as their two recent tours to Quebec to support the Cree Indians in their resistance to a giant hydroelectric dam scheme that would have flooded their land. They have also employed video to document internal political events such as meetings of leaders from different communities to settle disputes or the foundation of new communities. . . The Kayapo do not regard video documentation merely as passive recording or reflection of existing facts, but rather as helping to establish the facts it records. It has, in other words, a performative function.[Turner(1992, p.11)]

Essentially, the aspects of video that are often criticized – its exhibition and framing of the subject – are what the Kayapo have exploited to achieve their own aims. Over a series of successful political struggles from 1970-1982, the Kayapo have recovered land the size of Scotland as well as entered the international stage to champion causes of sustainable development and indigenous rights.

Turner's example is extended in the work of Eric Michaels, focused on the Warlpiri Aborigines of Western Central Australia [Michaels(1994)]. Michaels provides a

pathbreaking illustration of the use of television as a localized information source that transforms issues of economy and power structures within the community. His example extends the approach of Turner and others by focusing toward infrastructures as technologies that maintain local and culturally specific control. These technological solutions involved the creation of a low-frequency, low-power community transmitter that would allow community members to select from a variety of locally produced programs. The process generated an expansion of topics covered through these video programs, and correspondingly, shifts within social organizations of the community to accommodate the television feed. Fascinatingly, Michaels observes a seamless transition between the oral traditions and electronic media.

There is no necessary translation from orality to electronics; we are instead seeing an experimental phase involving the insertion of the camera into the social organization of events [Michaels(1994, p.65)]

Therefore, cultural control has been placed around the creation, transmission, and dissemination of visual media for the Warlpiri. Similar to Turner, this work maps to important issues of self-determination within the community, not only in terms of content created, but also with decisions made as to external satellite-derived feeds of national or international programming. These levels of control reveal the potential by which local populations can generate self-sustaining indigenous media that can live independently of the researcher's presence.

The above examples demonstrated means by which technologies are appropriated by indigenous groups to achieve community-focused cultural, political, educational, and social objectives. These technologies emerge from ethnographic research that is community-focused. Yet the impact and discussion of these projects must not be considered solely within the case-study or domains of the fieldwork, but in a larger play with national and international notions that define the concept of "indigenous", through media, politics, and other conduits. These are critical social and cultural issues that emerge through the culture-media examples and propositions I articulate in this paper. Hartley and McKee encapsulate these discussions as the "indigenous public sphere".

It follows that we believe the 'indigenous public sphere' stands as a model for other developments in late modern culture. . .in the developed Western world as a whole. New notions of citizenship have arisen that stress culture, identity, and voluntary belonging over previous definitions. . . Media are primary and central institutions of politics and of idea-formation; they are the *locus* of the public sphere [Hartley and McKee(2000, p.4)]

The precedents I have discussed are limited to the visual broadcast media of film, video, and television infrastructures. But what do "new" interactive, web-based, network and database-driven digital media hold in the indigenous and ethnic realm? Efforts of media cultural studies scholars must center on the novel possibilities held via "new" media that were unavailable in video, television, and film precedents. I point to two features that both hold great relevance in the convergence of cultural studies and new media: (1) client-server architectures (networks), and (2) databases (classification and object preservation).

Feature One: Bridging Space - Diaspora, -Scapes, and Networked Media

Traditionally, community has been conceived of around the bounds of geographical neighborhood and cultural background. However, in an epoch of globalization characterized by flows that connect individuals and objects across distance and via technological mediation, implications toward community must be re-conceived. Arjun Appadurai's essay "Disjuncture and Difference in the Global Cultural Economy" [Appadurai(1998)] focuses on the cultural implications of the global flows of information and capital. Via these flows, community may be imagined and impacted [Anderson(1990)], and through the digital networks that enable interaction across distance, national and local politics are shaped. Traditional ethnic and local notions of community are deterritorialized via Appadurai's description of "ethnoscapes", one dimension of transnational cultural flow.

Appadurai's explains that culture and community have shifted from the local to the –scape. He points to the struggle by the Sikh immigrants (in the West) to further the cause of an independent homeland (Khalistan) within India, although the population is only connected via the mediascape of a set of internet technologies.

These landscapes thus, are the building blocks of what, extending Benedict Anderson, I would like to call 'imagined worlds', that is, the multiple worlds which are constituted by the historically situated imaginations of persons and groups spread around the globe [Appadurai(1998, p.27)].

Community is therefore 'imagined', mediated through the imageries of the "mediascape", ideologies of the "ideoscape", and ever-shifting demographics of ethnicity ("ethnoscape") and information. As ethnicity and its study becomes a multi-sited discipline, new media, due to its networked client-server abilities, holds potential as a means to connect distributed ethnic populations across geographical distance.

This invokes the concept of diaspora, the minority expatriate communities that originate from a homeland but have migrated to new host country [Safran(1991)]. The identity of diaspora is often framed relative to the dual relationships held with the ancestral homeland as well as the new host country. In an era of global cultural flow, the diaspora issue grows in importance. With advances in networked technologies, diaspora now maintain social and political ties that are transnational, including fellow communities in other host countries and homeland. Can the internet allow an identity to be imagined that is transnational in nature? [Morley and Robins(1995)].

A number of notable studies have focused in on the impact new media holds on diasporic identity formation, cultural expression, politics, and so on. Mitra's research on Indian immigrants and their uses of newsgroups [Mitra(1997)] presents dual results: (1) National identity is imagined simply via the transnational membership in the virtual space, and (2) National identity is fragmented via the fractured disagreements and ongoing dialogues that result via a newsgroup that is atemporal and therefore without an end. Additionally, the original understanding of migration as a strong break from the homeland has been reversed by the recognition that networked media has enabled migrants to maintain ties to the originating country [Mitra(1997), Castles and Davidson(2000)]. Homelands serve as means of cultural identification for these communities and create an imagined sense of one-ness,

according to scholars of transnational migration [Anderson(1991), Ginsburg et. al(2000)].

The next feature impacted via the convergence of diaspora and new media is that of mobilization. Kwok [Kwok(1999)] has described how the internet can enable ethnic communities to globally react, communicate, share resources, and mobilize in reaction to global events. Marginalized discourses can be published without having to enter into the traditional top-down editorial processes that Adorno and Horkheimer are so critical of. It therefore introduces the possibility of resistance that is inherent in every relationship of power [Foucault(1983)]. Diaspora can introduce web sites to present marginalized perspectives but can also create electronic systems to present their culture and ideas to visitors and virtual tourists [Srinivasan(2004), Chan(2005), Miller and Slater (2000), Kwok(1999), Ho, Babeer, and Khondker(2002)]. Nationalism can be promoted from afar via these diaspora through the creation of sites that assert rights to territorial states [Bakker(2001)]. One example of this is the means by which Uyghur (region in Western China) activists and non-governmental agencies [Gladney(2003), Kanat(2005)] have utilized the internet to link to one another, receive international financial and other support, and popularize their political/cultural causes by presenting their distinct cultural histories in opposition to mainland China. These new media connections have played an important role in reinvigorating Uyghur identity amongst dispersed groups while creating a new diasporic, transnational identity that is relatively independent of the "East Turkestan" homeland. The Uyghur example complements the work of Tekwani on the Tamil diaspora in Sri Lanka [Tekwani(2003)]. Tekwani argues that digital networks complement the social, political, and economic networks that have always sustained inter-diasporic relationships, and that the internet is particularly useful to diaspora because of the power of immediacy it offers to share resources in light of spatial dispersion. This networked feature has presented the Tamil diaspora of Sri Lanka with the possibility to promote their cause yet also militantly organize resistances to the national government.

A final example is provided in Jon Anderson's study on electronic mediation across the "cybernauts" of the Arab Diaspora [Anderson(1995)]. Anderson has researched how the Middle East's overseas immigrants are finding each other via the Internet and forming communities that are decentralized and non-hierarchical in contrast to the traditional at-home social organizations. The connections these cybernauts have include a bricolage of different media components.

What emerges in all of these venues is what I have called a creolized discourse [Anderson(1995)] that mixes bits of wire service news, transcriptions of sermons, intense debate about home-country issues, stories of expatriate life and notices of cultural events, sources of food and of cheap flights home, and even matrimonials. [Anderson(1997)]

Anderson has identified that new worlds and spaces of interaction are created that integrate Iraqis without being as fundamentally tied to the homeland itself. In that regard, this example differs slightly from the Uyghur or Khalistan examples. The Middle East has become public according to Anderson and its public visibility starts and ends via these new media technologies. In the Middle East itself, barriers of access has limited those online to elites. Therefore, the egalitarian facets of the virtual space are not shared as uniformly within the homeland.

In addition to the diaspora example, indigenous communities have also appropriated new media to activate their own cultural, political, economic and other causes. A wide variety of indigenous web-sites are now in existence, some created by non-governmental organizations, and others created by communities themselves (see <http://www.hanksville.org/NAresources/indices/NAactivist.html> for example). Native Americans, the subject of this paper's study, are at the forefront of this movement, having organized a vast variety of sites that either represent a tribal nation, an archive, a political movement, or a economic institution. Native American leaders have used the internet to generate support from within and outside their nations, to exchange and share resources, to coordinate cultural activism through pow-wows, etc., and so on. With the recent opening of the Smithsonian's National Museum of the American Indian, many activists and leaders have joined forces via this common institutional affiliation.

The point across both the indigenous and diasporic examples is clear: the networked nature of new media technologies enables sharing, identity formation, communication, and publicization to occur nearly instantaneously without being bound by the realities of physical distance. However, the danger remains of a new digital colonization of these internet sites:

Clearly, the Internet provides indigenous peoples powerful new means of self-representation, but as its use expands and intensifies, so does the "overseeing gaze" of encapsulating polities and transnational corporations. This given, the current relief from visual imperialism afforded to indigenous peoples by the web may be phantasmagoric and the "visual performative" alone will not overturn their subaltern positions in the political arena [Prins(2002), p.72]

As Harald Prins aptly points out, it is critical for communities to work to develop media that cannot be incorporated or absorbed by the imperialistic influences he identifies. By implication, the challenge is clear: Communities must push to develop new media and information systems that are not just exhibitions or aggregations of content, but also are built around locally and culturally specific representations and paradigms.

Feature Two: Databases, Ontologies, and Cultural Discourses

With this challenge, I introduce the second highlighted feature new media offers to ethnic and indigenous communities, that of databases and ontologies. New media can extend the powers of video by also preserving and classifying the creations of the community within an information architecture, or ontology, which can be representative of the community's priorities or a specific cultural discourse [Srinivasan and Huang(2005)]. This provides the potential to answer Prins's charge and engage communities to not only be the creators but also architects of their media and information systems. Creating spaces that are based around the community's own representations and discourse may enable media to truly serve the community's specific priorities, rather than presenting a space that is incommensurable with a culture's traditions and own categorizations of knowledge. It may allow an "indigenous" approach toward development to result [Srinivasan(2006)].

The institutional approach toward approaching this issue of databases and representation is present in digital archives and library research. Archival research has expanded to consider electronic records [Gilliland-Swetland(2005)], focusing on

the ability to store, classify, and interpret provenance through database annotations. A number of international organizations have emerged to develop classification schemes for cultural heritage material that is preserved in a database and served globally. These efforts have converged with new platforms and mark-up languages developed by Computer Scientists, with a first breakthrough as XML. Each effort has had to consider the question of ontology, or the architecture of the knowledge repository, and its relevance to the material being circulated. In global cultural heritage databases, the ontology is expressed by the different standards that are articulated for particular cultural domains. As an example, the European Union's Dublin Core (<http://dublincore.org/>) project maintains a set of particular standards that drive the architecture of its database systems. It is notable that it maintains three major priorities: (a) Developing metadata standards for discovery across domains, (b) Defining frameworks for the interoperation of metadata sets, and (c) Facilitating the development of community- or disciplinary-specific metadata sets that are consistent with items 1 and 2.

Therefore, the goals of bridging knowledge *across* domains is key to the development of the standards by which cultural knowledge is indexed and annotated within Dublin Core's media systems. It adheres similarly to certain models that have begun to introduce themselves into the literature on digital libraries and digital museums. For example, the ABC model, described by Hunter and Lagoze [Hunter and Lagoze(2001)], classifies objects as entities that maintain temporality, actuality, and abstraction as their three layers of categorical data. Temporality is a reference to events, precedences, and sequences. Actuality is a layer that refers to anything that can be physically detected, whether it be a view, smell, or touch. Finally, abstraction is related to concepts and only references a concept when it is articulated or acted upon.

What is clear when one begins to analyze these metadata models is that they are built around a system of logic that follows traditional notions of rationality. The assumption in Hunter and Lagoze's work that a concept only can instantiate when it is articulated publicly imposes a number of assumptions around the contextualization and notion of the cultural object and how it is perceived. These are systems that do not seem to primarily be concerned with the community or specific cultural group's authorship, epistemology, or ontology.

Presenting a Community-focused Approach

The projects and models presented concern themselves with both the networked and database-classification aspects of new media, but in both cases I have presented examples that have yet to truly engage the possibilities to enable communities to author, classify, and own their media and information systems.

My research has focused toward ethnography that drives the development, design, and deployment of a new media system of new media. The communities with which I have worked have understood my approach as non-traditional and anti-imperialist, and instead a collaborator seeking to develop new media that is owned and designed by ethnic and indigenous communities.

The case presented to demonstrate this approach is Tribal PEACE (Preserving Education and Cultural Expression), a web-based information system created with 19 Native American reservations of San Diego (California) county as part of my doctoral dissertation work between the years 2003-2005 [Srinivasan(2005)].

Tribal Peace

The reservations of San Diego County derive from the once contiguous and connected nations of Kumeyaay, Luiseno, Cupeno, and Cahuilla. These nations tended to maintain contact with one another but largely existed as separate communities based on blood lines. However, historical dynamics and the creation of the reservation system have fragmented and disconnected these peoples from one another and a collective cultural history. Indeed, today, native languages, songs, and rituals remain largely lost across the reservations.

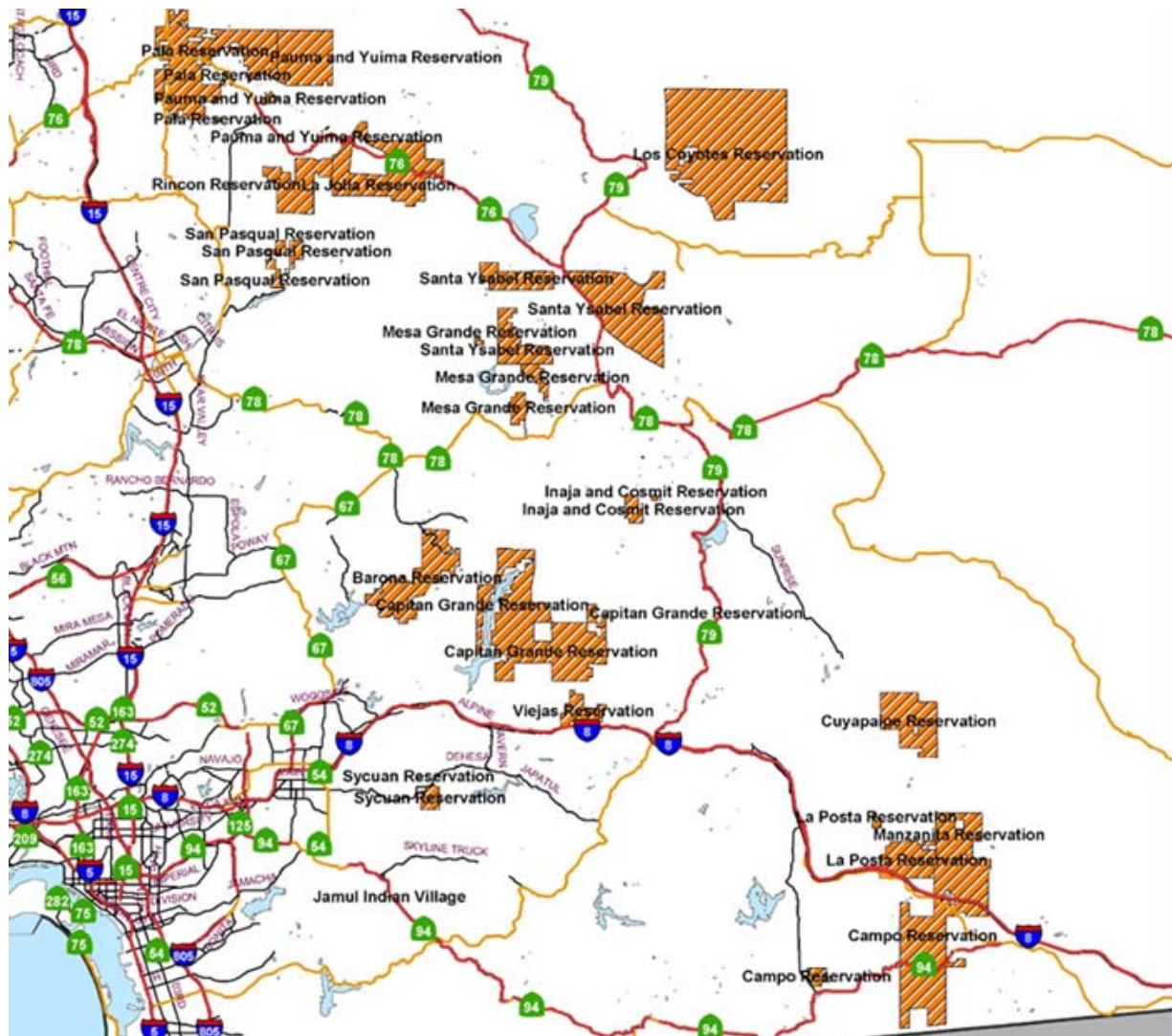


Figure 1: The 19 Native Reservations of San Diego County and inter-connecting highways (source: San Diego Geographical Information Systems)

The goal of this research was to study the impact of a community-designed and created media system on resolving disconnections that the reservations face. One is a disconnection from cultural memory, as just explained. The second goal is spatially-focused and based around employing the networked power of new media to re-connect the fragmented reservations of the region. It is notable, however, that this re-connection would not establish a community that once existed. Indeed, given

that each of the nations were separate entities and communities, the re-connection would establish an “imagined community” around the shared media system.

The physical dispersion of the reservations is conveyed in the above map. Not only is this dispersion expressed in terms of the distance between reservations, but also in the lack of access to major highways and freeways of the area. While the density of population increases significantly as the map approaches the San Diego city in the Southwest region of the map, placement in areas of relative isolation has left the Native reservations at a significant disadvantage in terms of transportation infrastructure. Disconnection is thus accented by the inadequacy of transport infrastructure and a disadvantageous landscape for many of the reservations within San Diego County. Even on the individual reservations, land title is not contiguous. This has created the so called “checker-board” pattern on the scale of a single reservation where to reach one point of the reservation to another, one must pass through non-reservation land. This lack of contiguity and boundedness generates the fragmentation on the micro-scale. Indeed, natives often allege that the fertile land on their reservations is given to non-natives and farming cooperatives. As an example, here is a GIS-generated map of the San Pasqual reservation:



Figure 2: The checker-boarded layout of the San Pasqual reservation (source: SanGIS)

I was invited to work with the leaders of these 19 reservations through an organization known as the SCTCA (Southern California Tribal Chairmen’s Association). The SCTCA had received a massive technology grant from Hewlett-Packard that provided up to 5 million dollars worth of digital network infrastructure,

earmarked for wireless internet towers, computers, projectors, video cameras, and so on [<http://www.hp.com/e-inclusion/en/project/tribal1.html>]. This infrastructure would be based around the goals of rekindling ancient networks of kinship amongst the reservations that had been destroyed over time. In essence, the grant would provide a "Tribal Digital Village" (TDV). Of course the provision of this internet access and technology would not guarantee a "village", but instead provide the opportunities all communication infrastructures offer. Therefore, I was invited to develop a media environment that could serve as a space of exchange and preservation across the 19 reservations. This project, it was decided, would be called Tribal Peace. My first meeting with the community leaders (via the SCTCA) was in December, 2003. At this point, interest was expressed in collaborating on a project that could build on the TDV infrastructure. It was not until February of 2004, however, that I was able to secure permission from the SCTCA's Education and Culture Committee, at a meeting taken place on the Barona reservation. The committee consists of cultural representatives from each of the 19 reservations and makes collective decisions to collaborate with outside researchers. At this meeting, approximately 50 members were present, and after presenting and answering questions on previous research [Srinivasan(2004), Srinivasan(2002)], permission was granted to begin the project. Active ethnography began at this time, and Shonta Chaloux, a leader from the San Pasqual reservation, was given the role of serving as the project leader on behalf of the SCTCA. Shonta's role was to publicize the project across the reservations, and engage community members to participate in developing their own media pieces to submit and share with others across the reservations. A number of pieces had already been created through previous SCTCA programs, and ancestral songs, images, and languages had been digitized. Reservation members had already begun utilizing the technologies to digitize and document traditions, language and songs. Moreover, stories reflecting contemporary issues and realities had begun to be created through the use of the video cameras available at the different reservation "resource centers". Ultimately, I had spent close to six months intermittently (November, 2003 – April, 2004) on the reservations before Tribal Peace went "live".

As I spent much of the next 18 months (11/03 – 5/05) on the reservations, my goal became to develop bonds with as diverse a group of tribal elders, leaders, and institutions across all the reservations as much as possible. This would allow the project to interact with diverse networks and power structures across the reservations rather than inherently serve as a tool of those already in deeper connection with the SCTCA. Additionally, I worked to gain the blessings of tribal leaders and icons already serving as threads of connection across the communities, such as medicine people, tribal chairmen, cultural leaders, and so on. It was understood that the system must be embedded within the sociocultural context and respect the threads and networks it maintains, rather than existing as a negation of this.

Reservation members had already begun utilizing the technologies to digitize and document traditions, language and songs. Moreover, on a very basic level stories reflecting contemporary issues and realities had begun to be created, primarily through the use of the video cameras that were present at the different reservation "resource centers". Ultimately, I had spent close to six months intermittently (November, 2003 – April, 2004) on the reservations before Tribal Peace went "live".

By April of 2004, Shonta and I had assembled a committee of 20 individuals spanning 15 of 19 reservations to serve as the overseers and leaders of the project. This committee membership was open to any who wished to join, and its membership to this day remains fluid. The committee meets bi-monthly to discuss how the system could continue to empower reservation members to continue to bridge space and connect with one another around shared information and priorities. It consists of members from different reservations and has attracted individuals to participate who have normally not been strongly tied to existing cultural initiatives.

With the initial April meeting, the committee gathered to view the 75 media pieces submitted for the system. They discussed the appropriateness of showing pieces to all members of the community, the importance of being sure information would be community intellectual property, and possibilities to deploy content into educational and cultural initiatives that were ongoing across the reservations. This meeting served as the first opportunity for community members to design the Tribal Peace system, and the means by which it could be built around culturally-specific representations and priorities. The process of eliciting a collective ontology amongst tribal members was challenging and involved the primary leadership of Shonta (where I was present as largely an observer and to answer any clarifying questions). Committee members viewed the different media pieces, paused videos at different times, and free-listed topics that were considered important by consensus. After completing discussion about all 75 pieces, the list was finalized with some topics removed and others added. The committee then created a structure to represent the interrelationships between these topics, engaging in dialogues regarding which topics were more related to others within the world of the reservations. They expressed the need to be able to re-visit the ontology diagram at any time and modify the structure as they see fit. They also stressed the importance of enabling submitters to continually adapt the annotations they choose to provide to their submissions. With these steps finalized, the following initial ontology was created:

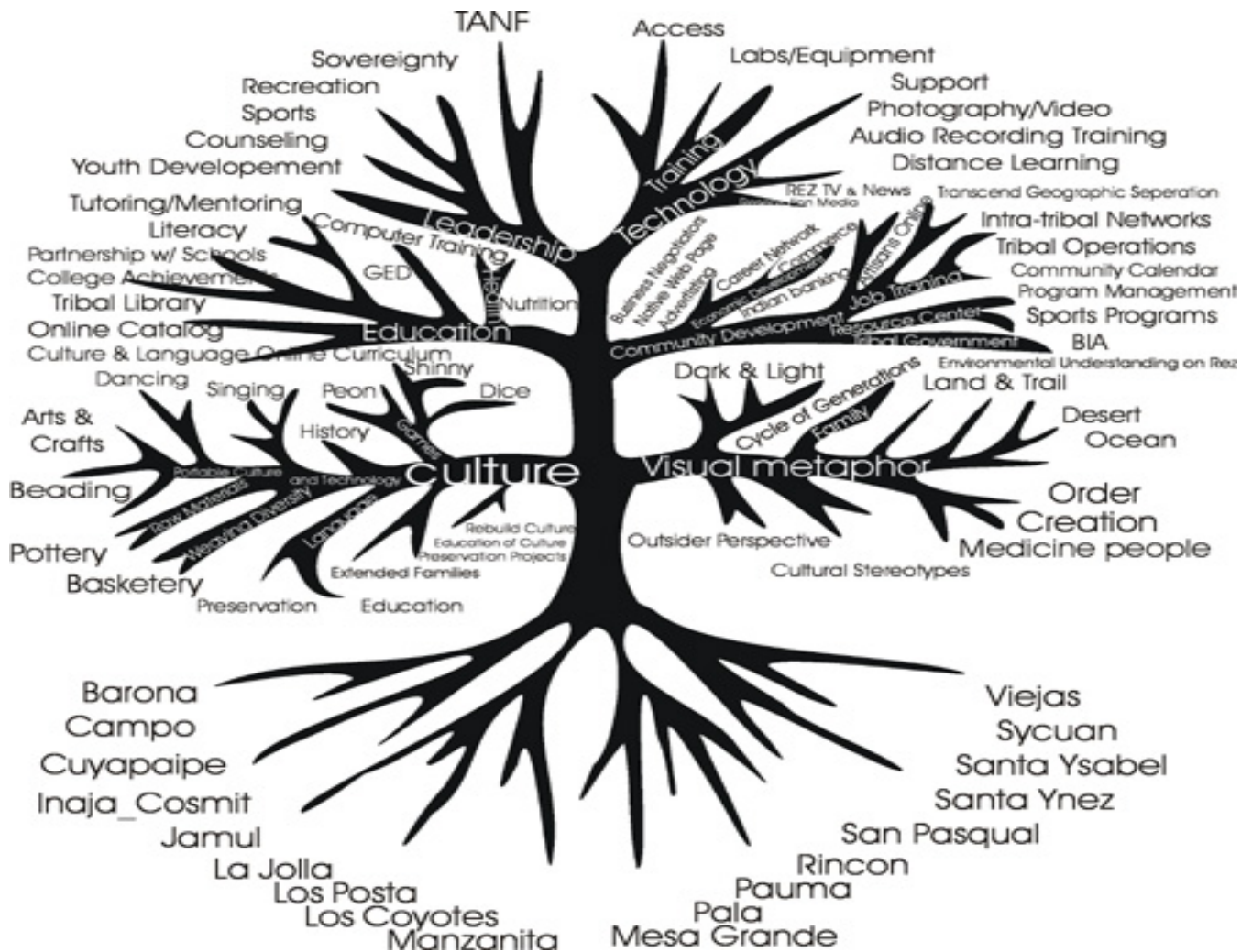



Figure 3: Initial Tribal Peace Ontology (topics/concepts with the roots serving as the reservations) – author: Ray Esquero

This ontology represents the community's overall structure of priorities and issues. As further content is added to the system and issues change, the ontology shall adapt based on the committee's reflections and redesign. The continual adaptation of ontologies therefore corresponds to events that may occur on the reservations over time, such as natural disasters (which have made their way more prominently into the created content and ontology nodes) or political movements toward sovereignty. The adaptation also adheres to the growth of the system across the reservations. As community members become more engaged by submitting new content, joining the project committee, and commenting on each other's content, the ontology shall adapt accordingly. The infusion of educators, medicine people, and political leaders into project involvement over time has therefore impacted system content and ontology structure. Over time, therefore, the system has begun to accommodate the voices of educators and the voices of cultural leaders who have begun to see the system as a powerful tool in their daily purposes. For example, the oral traditions of bird-singing, prayer, and native languages, can be easily digitized and disseminated across the reservations for archival and educational purposes. There has thus been a

natural linkage between these oral and cultural histories and the visual performativity of the new media system [Ong(1990)].


Please choose the issues related to your file:

 Inter-Tribal Vision


 Culture

 Games


- Peon
- History
- Singing
- Dancing
- Crafts
- Beading
- Basketry
- Reservation-Specific Practices
- Education of Culture

 Language

- Preservation and Education
- Pottery
- Preservation Projects
- Weaving Diversity
- Portable Culture and Technology
- Rebuild Culture
- Raw Materials
- Extended Families
- Plants

 Image Themes

- Darkness and Light
- Landscape and Trails
- Ocean
- Creation and Order
- Medicine People
- Desert
- Family: Cycle of Generations
- Cultural Stereotypes
- Outsider Perspective

 Education

- Literacy
- Partnership with Schools
- Computer Training
- College Achievements
- CERD

- GED
- Tribal Library
- Online Catalogs
- Culture and Language Online Into Curric
- Tutoring/Mentoring
- Community Development
 - Economic Development
 - Business/Negotiators
 - Career Networks
 - Advertising and Promotion
 - Commerce
 - Native Web Pages
 - Indian Banking
 - Artisans Online
 - Sustainability
 - Intra-Tribal Networks
 - Transcend Geographical Separation
 - Tribal Operations
 - Community Calendar
 - Program Management
 - Resource Centers
 - Sports Programs
- Health
 - Nutrition

Figure 4: The System Upload Page – where nodes of the ontology can be checked in annotation of a submission (authors: Alexander Allain and Ramesh Srinivasan)

The ontology is a discretely re-designed representation of the convergence between the system's databases and community's cultural articulations. It provides a mechanism for community members to annotate and re-annotate their submissions with a set of collective topics. System visitors can browse through content based on these ontology topics and in turn the collective cultural discourse. It reveals a means by which new media can be organized with a responsiveness to differences of ethnicity and culture, traced even to the very languages spoken [Whorf(1940)].

As Tribal Peace was intended to be a web-based project accessible across the reservations, engaging the project committee in the process of visually designing and leading the outreach process was important. A key aspect of this was to determine a metaphor that could drive Tribal Peace and energize the native reservation members around a collective cultural theme. With this goal different concepts were discussed, and ultimately the theme of re-birth and revitalization emerged. It was important for the community to work with a metaphor that was present within their natural environment yet also embody the theme of re-birth. We explored different images, such as fire, ocean, animals, and so on, but the metaphor that resonated strongest according to Shonta was the tree. The Manzanita tree in particular can be found across the landscape of the region, and emerges in local cultural mythologies across the reservations. It was a natural choice to utilize this, a real tree with symbolic importance, as the project interface. The submissions by community members therefore appear on the branches of the Manzanita tree.

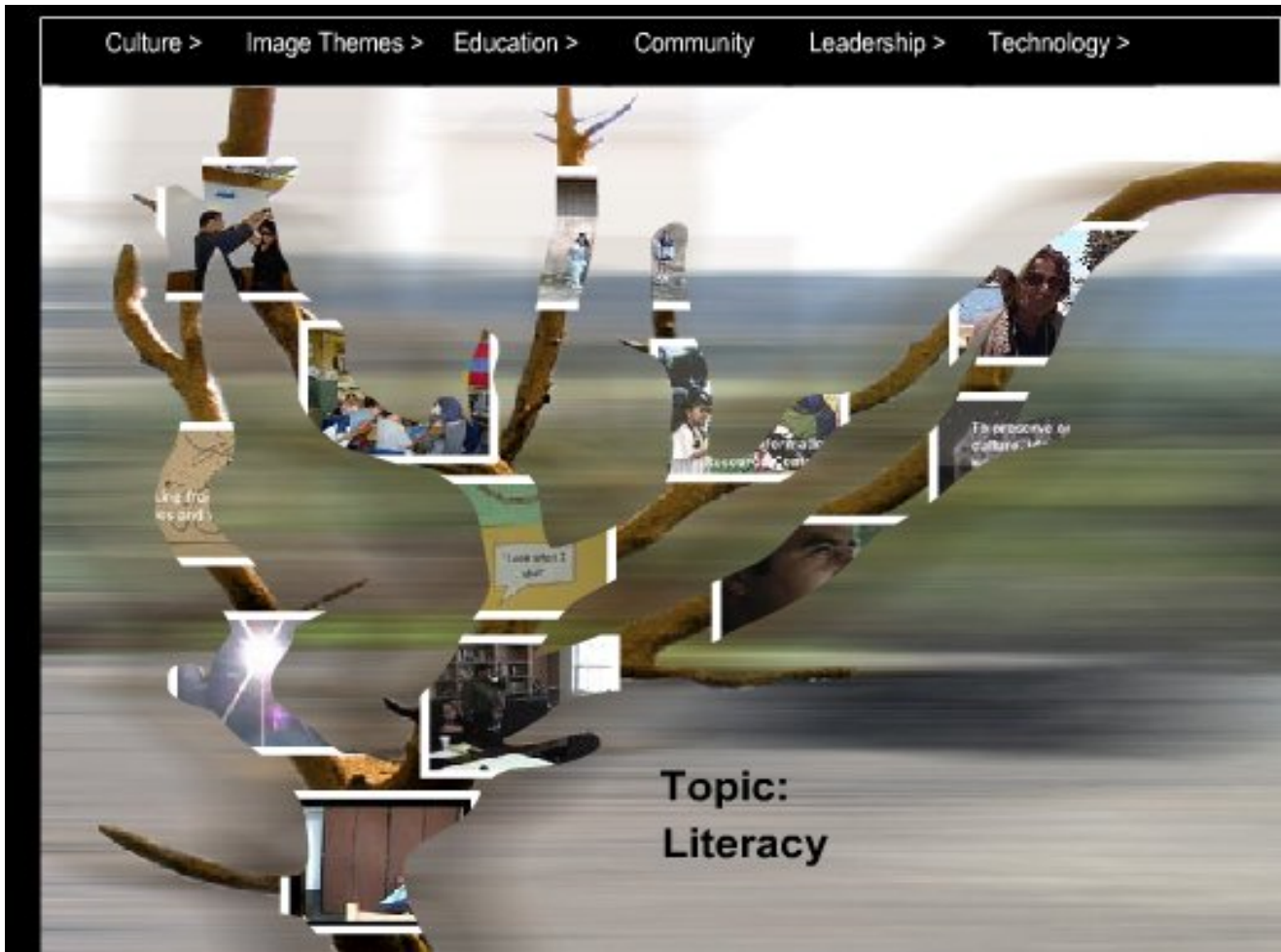


Figure 5: Composite Interface Metaphor: Manzanita tree

Exploiting a cross-reservation internet infrastructure, Tribal Peace attempts to connect a displaced and fragmented community around shared information. While this is not focused around the global scale of diaspora, the networked character and potentials are similar. As a bottom-up project, submissions are created and owned by individuals across the reservations. The project emerges from the ethnographic process and via the leadership of community members across lateralized structures of power. Therefore, the project committee does not just feature tribal chairmen, but also members of casinos, educators, and so on.

However, to truly enable the community to serve as the articulator and owner of a media system, the issue of databases must be re-encountered, and within a manner that moves away from the top-down, formal logic-type models described earlier via the Dublin Core and other examples. In essence, creating a mapping between the cultural priorities and the database representations of content is the system unlocks the question of ontology, and whose ontology drives the system. The challenge here is of mapping a cultural discourse to an organization of databases, a question which I have been concerned with in previous and ongoing research [Srinivasan(2005), Srinivasan and Huang(2005), Srinivasan(2006)]. I have observed that this elicitation must be humanistic, ethnographic, and truly in the hands of community members.

How they wish to map and conceive of their own cultural priorities, temporalities, and spatialities, must be their own choice and not placed into a pre-decided template. The creation of emergent databases [Turnbull(2004)] would then be a technical challenge that would follow from the cultural mapping process.

I discuss further details of my time on these reservations in other publications [Srinivasan(2006)], but wish to point out that the ethnographic process of engaging the community, presenting my research and personae, and ultimately receiving the embrace that manifested itself into a digital media system, is a key element of this research [Srinivasan(2005)]. This has involved the understanding that the development of the information system accompanies and progresses reflexively based on the ethnographic process [Hammersley(1992)]. The time spent with medicine people, political leaders (chairmen), educational representatives, and business owners all manifested itself into the development of Tribal Peace. I believe that conceiving the creation of the media system as rooted within the ethnographic process enables Tribal Peace to serve as a useful contrast to the systems and theories articulated earlier in this paper. Indeed, in the spirit of Turner and Michaels, Tribal Peace is a project that has focused on deploying and designing media that has emerged out of the navigation of the social and cultural geography of the native reservations. This has occurred through the social deployment of the project, self-representation through story creation and video-making, and via the ontologies and database representations of the community's aggregated content.

System Impact and Evaluations

How has Tribal Peace impacted the social, educational, political developments across the communities? And how can this impact be understood within the context of 8 months of system usage wherein data was gathered? (Tribal Peace debuted in April, 2004 and evaluations are gathered from January, 2005).

I have found a strong connection between usage patterns and particular months that featured concentrated ethnography and relationship-building between myself and reservation members. I have found that the presence and active outreach within the tribal social geography has had a statistically significant impact on any dimensions of system usage. These metrics include number of stories viewed, diversity of queries and stories, number of comments left, and number of user sessions. The quantitative data have shown a gradual growth in system usage as a function of time but ultimately a strong correlation with the ethnographic period. The question this result raises is at what time scale a system like Tribal Peace can be truly evaluated. If self-sustainability is to be reached, it would entail a significantly lower correlation with the time spent by the ethnographer. Therefore, the quantitative data paints a clear lesson that can be captured through words, that a technology's ability to impact a community is subject to accompanying social and cultural processes.

The impact of the system, however, cannot solely be considered in terms of this quantitative data. Given that data was collected within an incubatory period, much of Tribal Peace's benefits lie in its potential to engage community infrastructures (such as schools, political and cultural institutions, etc.) in the long term. I have observed periodic use of the system in the on-reservation secondary schools, particularly during Native Culture, History, and Politics sections. Additionally, the system has been used in occasional meetings to allow political leaders to access the variety of voices of their peoples. Finally, the system has been advocated by other tribes outside institutions and individuals who maintain strong relationship with the tribes. This includes faculty from UC San Diego's Department of Ethnic Studies, and directors

from San Diego's Museum of Man and the Smithsonian's National Museum of the American Indian.

Looking to Future Convergences

The Tribal Peace example is intended to demonstrate the potential of developing new media systems for communities that utilize digital networks and culturally-authored databases. This research acknowledges that new media systems and video technologies can elicit and shape cultural ontologies that in turn impact the potential for communities to preserve, share information, and develop collective infrastructures. Two important issues continue to stand out:

- (1) Globalization of the Tribal Peace method: How would the localized process described briefly in the context of Tribal Peace apply when working with multiple diaspora across different global spaces? Will the bridging efforts of Tribal Peace with 19 dispersed, but semi-local reservations, apply across such great distances?
- (2) Eliciting truly culturally-articulated ontologies: The ontology diagram demonstrated in Figure 7 was created by the project committee, but is it truly representative and indicative of the basic conceptions by which these native nations represent and classify the world? Researchers have revealed, for example, that aboriginal notions of history, time, and geography are incommensurable with Western rationalistic knowledge systems. How could such an ethno-media project as Tribal Peace function within this setting? This is the enquiry of current ongoing research [Boast, Bravo, and Srinivasan(2006)].

As future research continues to explore these questions, the barriers between cultural difference and information/media technology will continue to erode and in turn a continued trajectory of ethno-media research will uncover new empowering potential uses of technology within the ethnic and indigenous realm.

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