Spring 2015

Mapping Indigenous Self-Determination in Highland Guatemala

Patricia A. McAnany
University of North Carolina at Chapel Hill

Sarah M. Rowe
The University of Texas Rio Grande Valley, sarah.rowe@utrgv.edu

Israel Quic Cholotio
Riecken Foundation Libraries

Evelyn Caniz Menchu
Riecken Foundation Libraries

Jose Mendoza Quic
Riecken Foundation Libraries

Recommended Citation

McAnany, P. A., Rowe, S. M., Cholotio, I. Q., Menchú, E. C., & Quic, J. M. (2015). Mapping Indigenous Self-Determination in Highland Guatemala. International Journal of Applied Geospatial Research (IJAGR), 6(1), 1–23. https://doi.org/10.4018/ijagr.2015010101

Mapping Indigenous Self-Determination in Highland Guatemala

Patricia A. McAnany, Department of Anthropology, University of North Carolina, Chapel Hill, NC, USA

Sarah M. Rowe, Research Laboratories of Archaeology, University of North Carolina, Chapel Hill, NC, USA

Israel Quic Cholotio, Community Mapping Program, Riecken Foundation Libraries, Guatemala

Evelyn Caniz Menchú, Community Mapping Program, Riecken Foundation Libraries, Guatemala

José Mendoza Quic, Community Mapping Program, Riecken Foundation Libraries, Guatemala

ABSTRACT

The challenges of building research partnerships around community mapping are critically reviewed in reference to the politics of heritage and identity among Indigenous Maya communities in highland Guatemala. This paper discusses how the goals and interests of archaeologists meshed with those of indigenous mappers in five communities that chose to participate in the mapping program. Based on responses to a survey about the mapping project, participants report joining in order to enhance self-determination, gain cartographic literacy, and improve life opportunities. Community authority over the project and a broad base of participation (including young and old, male and female) proved essential to the program, which combined traditional practices of governance with new technologies. This paper describes the community organizational model and protocols for selecting features and topics for thematic maps as well as for gaining community consensus on map content. Finally, it reflects on this transmodern approach to indigenous mapping and the future of research partnerships.

Keywords: *Community-Participatory Mapping, Cultural Heritage, Highland Guatemala, Indigenous Maya*

INDIGENOUS CARTOGRAPHY OF THE POPOL VUH

Great is its performance and its account of the completion and germination of all the sky and earth—its four corners and its four sides. All then was measured and staked out into four divisions, doubling over and stretching the measuring cords of the womb of sky and the womb of earth. Thus were established the four corners, the four sides, as it is said, by the Framer and the Shaper, the Mother and

DOI: 10.4018/ijagr.2015010101

the Father of life and all creation, the giver of breath and the giver of heart….(Popol Vuh, pp. 65-66, Christanson translation, 2003)

With deep taproots in the Central American Maya region, the *Popol Vuh*—a preeminent text among creation narratives of First Americans—begins with a preamble that metaphorically relates the genesis of the earth and sky to the measuring and staking of a cornfield. Thought to be an ancient document due to the fact that stories and protagonists of the *Popol Vuh* appear in Maya iconography as early as 300 BCE, the *Popol Vuh* today is known to us as a text written in the Highland Mayan language of K'iché using a Spanish orthography. The Newberry Library asserts ownership of this treasured cultural heritage, which is housed in Chicago, Ill. Certainly the current location of the *Popol Vuh* typifies the loss of tangible cultural heritage that has accompanied European colonization. Shortly, we return to the loss of deep heritage endured by Maya peoples since the sixteenth century; but first we consider the preamble to the *Popol Vuh* cited above and suggest that this text provides insight to Maya cosmologies—ways of viewing the world and valuing certain kinds of activities—that provides a path to a transcultural space in which a collaborative mapping project could flourish.

Generative activities described in the creation narrative of the *Popol Vuh*—measuring, doubling and stretching the measuring cords—intimate that ordered and measured space is of cosmic importance and that delineated spaces, such as the separation of the earth from the sky, are a natural outcome of the work of creator deities—the Framer and the Shaper. Call them boundaries if you like but the *Popol Vuh* makes it quite clear that measuring, quadrilateral partitioning, and centering are Indigenous Maya concepts. Meeting in this transcultural space of an ordered landscape, the authors (two North American archaeologists and three Indigenous Maya mappers) sought to build a new community of practice (Wenger, McDermott, & Snyder, 2002) based upon collaborative community mapping. Here we discuss the epistemic challenges and successes of building a transcultural community of practice and situate this cartographic program within larger debates about Indigenous cartographies, community mapping, and the politics of heritage and identity. With the cultural epistemology suggested by the *Popol Vuh* in mind, we conclude that the mapping program is working for several reasons, which include the following: 1) mapping was not part of a cartographic-legal strategy to establish or recoup land from a State (Wainwright & Bryan, 2009); 2) from the start gender and age parity were pursued as a goal of the project so that the resulting maps reflect a diversity of community perspectives and are not specific to adult males (Wainwright, 2008, p. 257-259); 3) the power differential between the archaeologists and Indigenous Maya mappers was dampened by the fact that the archaeologists ceded control of the decision-making process to local Maya communities even though this meant "back-burnering" archaeologists' immediate mapping goals; and 4) participating communities enjoyed a pre-existing organizational structure, specifically community libraries, that included a valuable internet connection.

POLITICS OF HERITAGE AND IDENTITY IN THE MAYA REGION

Historically, the corrosion of Indigenous Maya autonomy accelerated through the 19th-20th century period of nation-building during which Maya ethno-linguistic groups (French, 2010) were divided politically among southern México, Belize, Guatemala, El Salvador, and western Honduras. Containing an internally diverse family of Mayan languages crosscut by marked cultural affinities, today the Maya region is thought to include at least six million speakers of twenty-nine nationally recognized Mayan languages. Throughout the southern Guatemalan highlands of the Sierra Madres—which is the locale of this study—twenty-one ethno-linguistic groups reside in variably sized communities, and many settlements can be traced back to pre-colonial times. Five commu-

nities of three distinct ethno-linguistic identities (Mam, Tz'utujil, and K'iche'—the final being the language of the colonial transcription of the *Popol Vuh*) participated in the mapping program (Figure 1).

In 1524 Spanish conquistadors—fresh from the siege of the highland Mexica capital of Tenochtitlán—trekked to the southeast in search of more treasure. Somewhere south of the Isthmus of Tehuantepec, Hernán Cortes and Pedro de Alvarado split their forces and Alvarado commenced an assault on the numerous Indigenous states—each headed by a hereditary aristocracy—that existed in what is now known as the Guatemalan highlands. The siege of the political capitals was ruthless, bloody, and protracted (Casas, 2000). The social memory of Spanish incursions, the places where blood spilled and Indigenous rulers were vanquished, has not vanished from the "heritage-scape" (Di Giovine, 2009) of descendant communities. One of the participant Mam-speaking communities in this project maintains a monument to a slain 16th century Indigenous ruler and is interested in using mapping technology to design a visitor experience.

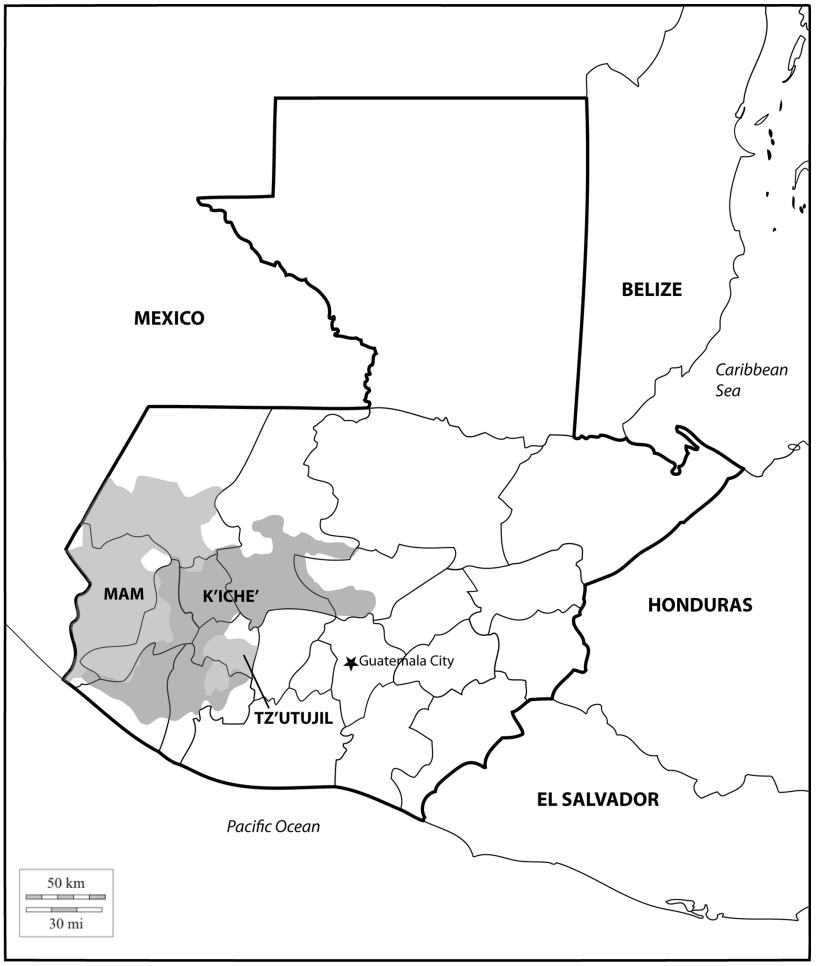
Negotiating with a colonial presence for over 300 years (1524-1840), Indigenous peoples throughout the Guatemalan highlands endured a demographic collapse; loss of land and control of ancestral sites; missionization; endless labor drafts; and attempted enslavement as a labor force for colonial enterprises. With the formation of the Guatemalan State in the 1840s, the situation did not improve. The identity of Indigenous peoples became that of stigmatized second-class citizens—separate and unequal (Hale, 2007, p. 819; 2011, p. 197)—alienated from a valorized and increasingly commoditized deep heritage.

Between 1960 and 1996, the scale of violence against highland Maya communities reached genocidal proportions during a protracted civil war (*La Violencia*) that resulted in the death of over 200,000 (mostly Indigenous) people, the destruction of 626 Maya villages, and the displacement of 1.5 million people (Carmack, 1988; Falla, 1994; Menchu, 1984; Montejo, 1987; Sanford, 2003, p. 14). In 1996, a peace accord was signed and the government of Guatemala—on paper at least—committed to a multi-linguistic and culturally plural State. Prior to the peace accord, the national vision of Guatemala was "predicated upon and committed to transforming Mayan-speaking *indios* into Spanish-speaking *guatemaltecos*" (French, 2010, p. 1). As expressed by K'iche' scholar Emilio del Valle Escalante (2009, p. 2), "since the 1970s, Indigenous peoples have been challenging established, hegemonic narratives of modernity, history, nation, and cultural identity…." In Guatemala, the politics of identity not only are deeply polarized, they are unsparingly asymmetrical.

The 1996 peace accords created greater autonomy for Maya people although Hale (2011, p. 197) has voiced concern that the rise of multiculturalism in Guatemala allows "leaders to affirm cultural equality while also retaining racial privilege." From a heritage perspective, the peace treaty granted Indigenous peoples the right to be present at the sacred sites of their ancestors, even the large pre-Columbian sites that cater to international tourism. Maya people build fire rings and conduct healing rituals and prayer services at pre-Hispanic heritage sites such as Kaminaljuyu, Tikal, and Iximché. But Native peoples remain under-represented among the ranks of archaeologists and professional cultural resource managers within Guatemala, leading K'iche' Maya activist Avexnim Cojtí Ren (2006, p. 10) to remark: "Sadly and unfortunately, the history of our people has also been colonised. That is, the history of the Mayas has been distorted and is told by others."

The perpetuation of racial stigmatism and exclusion from the heritage enterprise is enabled by poorly funded public education and primary-school curricula that steadfastly ignores Maya history and achievements. This situation exists not only in Guatemala, but also in México, Belize, Honduras, and El Salvador. Because of the foundational place of education and the glaring quality of this missed opportunity, the school system is an obvious place—for academic activists working in the tradition

Figure 1. Location of three ethno-linguistic groups in the highlands of Guatemala in which joint InHerit-Riecken community-participatory mapping took place. (Adapted from http://d-maps.com/carte.php?num_car=1717&lang=en)



outlined by Hale (2006, p. 97)—to partner with local organizations and chip away at the many-headed societal asymmetries of racism. In 2006, one of the authors (McAnany, who is a Maya archaeologist) received funding from a small family foundation to dialogue about cultural heritage with rural communities in the Maya region. Forming an organization called MACHI (Maya Area Cultural Heritage Initiative), her group designed cultural heritage enrichment programs that launched in schools in western Honduras, southern Belize, and eventually Yucatán, México (McAnany & Parks, 2012). In Guatemala, radio shows (heritage *novelas*) reached an audience of women, men, and children. Several years later, the radio *novelas* were transformed into a grade school curriculum, MACHI was retired, and InHerit (Indigenous Heritage Passed to Present [www.in-herit.org]) as well as a 501(c)3 called The Alliance for Heritage Conservation was born. In 2012, the second author (Rowe, also an archaeologist) joined InHerit. Both InHerit and The Alliance work to engender conversation about the past

and empower local rural communities (many of which identify as Indigenous) to document their landscapes within which material remains of a deep heritage are contextualized. The Guatemalan mapping project developed within this politics of heritage and is one of several ongoing grassroots programs of collaboration between InHerit and NGOs or community organizations local to the Maya region.

The grassroots *modus operandi* of InHerit means that programs operate in locales in which there is a very weak State presence although "the absence of the formal trappings of the territorial state does not necessarily preclude the workings of neoliberal governance" (Hale, 2011, p. 205). "Flying under the radar" permits greater flexibility and imposes few restrictions, but we cannot claim to be confronting head-on the inability or unwillingness of the State to live up to the Peace Accord and to nurture a multicultural society. The path towards multiculturalism is proving to be very difficult for Guatemala (Valle Escalante, 2009; Montejo, 2005; Sanford, 2003; Warren, 2002). There has been limited change in the ethnic composition of the government and the process of truth-and-reconciliation sputters and stalls in the national court system. During 2012-2013, military forces killed six Indigenous people who were protesting in Totonicapan (Associated Press, 2012), constitutional rights were suspended in several municipalities due to protests against mining concessions (Reuters, 2013), and a judicial conviction of genocide against former Guatemalan President Rios-Montt was overturned (Wilkinson, 2013). Due to this political climate, there is sensitivity to the mapping project and for this reason we withhold the names of participating communities while reporting candidly on the mapping process and its impact.

INDIGENOUS MAPPING: CAVEATS, CONUNDRUMS, AND COMPLEXITIES

Karl Offen (2009, p. 165) traces the territorial turn to Indigenous cartography back to ILO Convention 169 in 1989. From that point on, activist geographers and anthropologists attempted to harness the "power of maps in the service of Indigenous justice" (Sletto, 2009, p. 147). This endeavor proved to be both complicated and compromising and has led to repeated calls for the development of a more critical praxis for Indigenous mapping and scrutiny of collaborative projects between geographers and Native peoples (Bryan, 2011; Sletto, 2009, p. 147 among others). Critical approaches to Indigenous mapping generally ask the following questions. Who is empowered by mapping? Does mapping increase State power over Indigenous communities and pull them further into the perilous orbit of multicultural neoliberalism? Can mapping exacerbate conflict among local communities? Does mapping create boundaries where there once were none? Can mapping be construed as a form of epistemic violence to Indigenous cosmologies? Does mapping fail to disrupt entrenched racial ideologies? Does the act of mapping homogenize communities for the purpose of external presentation, particularly when legal land claims are at stake? These critical questions are examined in turn after which we focus on the complexities and possibilities of Indigenous mapping as a prelude to the case example presented here.

Who is empowered by mapping? The range of stakeholder interests and agendas mobilized by the act of mapping is so broad that mapping needs to be recognized as a political process. Grappling with the realities and complex layering of agendas requires vigilant critical analysis, particularly when the motivation for mapping lies in a cartographic-legal strategy to secure land claims (Wainwright & Bryan, 2009). Maps can empower previously dis-empowered Indigenous communities but they also can further empower the State, the military, powerful interest groups within Native communities, or men over women—particularly when male hunting, fishing, and farming lands are presented as the basis for land claims (Wainwright, 2008, p. 257-259). Within the U.S., the discipline of geography has confronted the ethical implications of this question in response to the use of

funds provided by the U.S. Army's Foreign Military Studies Office to conduct participatory mapping in Mexico and elsewhere (Bryan, 2010; Wainwright, 2012, pp. 45, 52). Entanglements of social science researchers with the U.S. military—particularly those that involve vulnerable populations—pose troubling ethical questions that require continued reflection and strong policy statements from professional organizations.

Does mapping increase State power over Indigenous communities and pull them further into the perilous orbit of multicultural neoliberalism? Both Mollett (2013, p. 1237) and Sletto (2009, p. 147) voice concern that mapping reinforces neoliberal property regimes that, prior to mapping activities, had not been emphasized—in the Miskito and Garifuna regions of Honduras, on the one hand, and among Pemon peoples of the Gran Sabana, Venezuela on the other hand. Moreover, although communities may lodge a land claim against a State with the goal of fixing claim to communally held lands, increased privatization of land often occurs (Fox, Suryanata, & Hershock, 2005; Wainwright & Bryan, 2009, p. 153). Through these legal and supposedly emancipatory means, Native communities are pulled deeper into economic neoliberalism, which has come to dominate the development ethos of most Central American countries (Hale, 2005).

Can mapping exacerbate conflict among local communities? Because of the definitive manner in which "walking a line" (Bryan, 2011) can establish ownership or at least stewardship of a tract of land, heated discussion between communities can ensue when lines are drawn. Even when devised as bottom-up representations of the local landscape, there is rightly concern that mapping projects can serve to exacerbate underlying tensions between local factions, or to erase important voices within the community (Chi & Chin, 2010; Rocheleau, 1995). In an attempt to evaluate whether mapping increases inter-community conflict, Reyes-Garcia and colleagues (2012) conducted a randomized evaluation of the level and intensity of conflict among communities in the Tsimané Indigenous territories of the Bolivian Amazon where participatory mapping was taking place. They found no real or statistically significant increase in conflict (Reyes-Garcia et al., 2012, 650). In the Guatemalan mapping project presented here, heated discussion about thematic maps generally occurred over issues in which there were pre-established divisions within the community, as between traditionalists and evangelicals on the topic of sacred sites not linked to Christianity.

Does mapping create boundaries where there once were none and can mapping be construed as a form of epistemic violence to Indigenous cosmologies? In some cases, yes. Indigenous cosmologies vary widely (one size does not fit all). Given that the pre-colonial K'iche' creation narrative refers to measuring lines and partitioning, it's safe to assume that the concept of delineated space, per se, is not foreign to Maya cosmologies. But this does not mean that communal lands or shared resource areas do not exist—they certainly do. Among Miskito peoples, the term *pana pana luwi laka* refers to shared spaces with mutual or reciprocal use rights (Bryan 2011, p. 43). On a map produced to settle land claims with the State of Honduras, these areas are shown as overlapping parallelograms (Bryan 2011, Figure 2), which are sure to produce a headache for a court system accustomed to upholding the primacy of private property holdings.

In other cases, though, any kind of closed geometric form violates the open network (or meshwork, as per Ingold, 2011) that characterizes the manner in which kinship and livelihood operates across a landscape. Thom (2009) reveals this to be the case for the maritime-focused Coast Salish of the Pacific Northwest who struggled through the legal land claims process because the very process violated their cosmology of life and livelihood, which was predicated upon movement within an open network of family and affines. A Salish elder by the name of Irene Harris explained that "boundaries were like fences, strictly for animals, not for First Nations people" (Thom, 2009, p. 187). These "aporia"—a term that

Wainwright and Bryan (2009, p. 153) use to refer to irreconcilable differences and dilemmas—are not restricted to mapping efforts (see also the discussion on the incompatibility of geospatial and cultural concepts for San people in the Kalahari in Vermeylen, Davies, & van der Horst, 2012). Nadasdy (2005) discusses the epistemic limits to wildlife co-management of Dall sheep in the Yukon territories of Canada. Indigenous Kluane peoples sought to manage the herd with a simple quota system that would preserve the elder rams seen to play an important teaching and socializing role within the herd. But wildlife biologists—who were more concerned with propagating herd numbers and satisfying trophy hunters desirous of a mounted sheep head with full-curl horns (i.e., an elder ram), "decreed that hunters could only take old rams" (Nadasdy 2005, p. 226). In this case, there was no rapprochement or transcultural space in which Traditional Ecological Knowledge and the Western science of wildlife management could co-exist. In the end, the hegemonic power of the State overruled the incorporation of TEK—an all too common result when the two intersect within a legalistic/regulatory arena.

Does mapping fail to disrupt entrenched racial ideologies? Mapping is not a panacea that cures all social ills. Although cartographic projects might succeed in securing land for vulnerable populations that might otherwise be rendered landless by the relentless advance of neoliberal development projects, the very act of securing space—as Mollett (2013, p. 1237) has noted in reference to Honduran Miskito and Garifuna mapping projects—can accentuate the perceived otherness of a population and reinforce racial ideologies of Indigenous peoples as "primordial and static." Likewise, anthropologists have voiced concern over the reservation-like "tethering in place" connoted by mapping Indigenous spaces, and geographer Joel Wainwright (2008, p. 272) points to the limited ability of mapping projects to deconstruct colonial power relations. Do these limits to the power of mapping nullify the process as useful or beneficial or are we asking a hammer to do the work of a pile driver? Dislodging racial ideologies and colonialities will seldom happen through community mapping with vulnerable populations because those communities are the targets (rather than the initiators) of oppressive policies and discrimination. So, there is a poor fit here between the locus of action and the desired result.

Does the act of mapping homogenize communities for the purpose of external presentation, particularly when legal land claims are at stake? Human diversity is striking when one trains an eye on it and any attempt to model human modes of landscape inhabitation inevitably will compress that diversity. Maps are models of human landscape inhabitation. Given the limited ability of the human brain to process infinite diversity, how much compression is allowable for the purpose of enhancing human cognition of people and place? At what point are we guilty of too much compression and homogenization? Does the purpose of homogenization—a land claim, for instance—justify the act? These questions move us into the realm of situational ethics and, as such, yield no ready answer but must be contextualized and a balance sought between the general and the specific. For instance, among Tibetan pastoralists mapping "cannot be scaled up…to settle legal battles over land tenure and resource rights through the regulatory offices of the state" (Bauer, 2009, p. 230). In this case, diversity compression could alienate stakeholders in the mapping process.

In view of the issues discussed above, Fox and colleagues (2005, p. 1) note the "ironic effects of spatial information technology" upon Indigenous communities, which can be both empowered as well as disadvantaged through participation in community mapping. But observation of irony does not move anyone to a better place. A transmodern approach to cartography differs from the postmodern emphasis on irony; the transmodern approach moves to bend spatial information technology to suit social needs and cultural expression—to reform the tools regardless of their origin. This pragmatism or realism is evident particularly in the work of cartographers who are Indigenous. Following a distinction by Rundstrom (1995), Wickens & Louis (2008,

p. 110) embrace *process* cartography, which is incorporative of many different media rather than inscriptive, and they stress the importance of a transmodern approach that includes shared knowledge in cartographic efforts (p. 112). For instance, they employ geospatial technologies to model the seasonal experiential reality of Hawaiians who once lived on a narrow strip of coastline shadowed by a tall, steep cliff at what is now called the Na Pali Archaeological District on Kaua'i, Hawai'i (Wickens & Louis 2008, Figures 7 & 8).

Another geographer—RDK Herman (2008)—employs a web-based medium to boost memory of the deep history of Pacific Islanders and emphasize the shallow time frame of European "visitors." In this case, the European narrative of conquest is challenged through the presentation of alternative perspectives. Laura Smith (2008) relates the effectiveness of GIS for tribal land use planning and re-acquisition of lands among the Bois Forte Band of Chippewa in northern Minnesota. As a non-Native American working for the tribe, Smith (2008, p. 140-141) describes the need for partnership research as advocated by Linda Tuhiwai Smith (2012) in her indictment of social science researchers. In partnership research, collaborative equality pervades all phases of a program of study.

Other transmodern approaches to cartography of and for Indigenous communities but not undertaken by Indigenous cartographers, include an emphasis on dwelling space rather than abstract space (Roth, 2009); a grappling with gendered domains of activity particularly in reference to resources such as tree crops (Rocheleau, 2005); and an insistence that participatory mapping efforts build upon local cultural literacy and a "historicized understanding of a given region's political economy" (Bauer 2009, p. 247). In other words, mappers need to commit to long-term engagement with communities as opposed to "hit and run" mapping efforts, which may do more harm than good.

As Western mappers work to conceptualize cartography less in terms of polygons and more in terms of landmarks, narratives, and dance performance, other cartographers (some Indigenous) are calling for a serious commitment to *critical cartographic literacy* (Johnson, Louis, & Pramono, 2006). This stance draws from two sources: the work of educator Paolo Freire on fostering critical consciousness through pedagogy and the Hawaiian concept of "facing future", which in this case includes grappling with the colonialities of Western cartography, forefronting Indigenous cartographies, and working toward a rapprochement between the two. In reality, what other option exists? Understand the divide and work with it—that is the transmodern approach to the caveats, conundrums, and complexities of Indigenous cartography.

INTERSECTION OF MAYA ARCHAEOLOGY WITH INDIGENOUS PEOPLES

Since the mid-nineteenth century, archaeological documentation has been based upon the fundamentals of Western cartography. The Maya region, in particular, is notable for large, multi-season mapping projects in which vast swaths of countryside—once incorporated into Classic Maya cities of the first millennium CE—are mapped in significant detail. Mapping lowland archaeological sites in a tropical forested region often entailed months of labor-intensive clearing with machetes by local (usually Indigenous) laborers. The resulting maps, however, rarely were taken back to the local communities whose participants had toiled to produce the lines of sight necessary for compass, alidade, transit, or Total Station maps. In this way, archaeological practice recapitulated the role of maps as instrumental in the coloniality of power (Mignolo, 1995) and of power relations between colonizer and subaltern.

With a Western approach to knowing the past, archaeologists were distanced epistemologically from Indigenous peoples whose ancestors formed the object of archaeological study. Beyond employing ethnographic analogy to interpret archaeological materials, archaeologists rarely worked collaboratively—in research

partnerships—with Indigenous communities. In the U.S., Canada, Australia, and a few other locales, legislative actions of the 1990s changed the power dynamics and ushered in a new period of more collaborative (or at least consultative) postcolonial studies (Colwell-Chanthaphonh & Ferguson, 2008; Derry & Malloy, 2003; Killion, 2008; Liebmann & Rizvi, 2008; Silliman, 2008; Thomas, 2000).

In Latin America, no equivalent legislative action occurred; moreover, foreign archaeologists arriving from the U.S., Canada, and Europe often have amassed budgets for archaeological research in Latin America that far surpass the financial capacities of locally trained colleagues and, in many respects, set the research agenda. Permission to conduct research—both mapping and excavation—is seated within ministries of culture that exist at the level of the State. This structural relationship—archaeologists requesting permission to conduct research on foreign soil—strengthens the ties and obligations of archaeologists to Latin American states and often further distances archaeologists from local populations.

In a nutshell, the State has assumed responsibility for the management of archaeological sites but it also initiates partnerships with agents of international tourism in order to reap financial benefit from heritage tourism. Indigenous peoples, other than those working directly for the State, generally are not part of these powerful and lucrative alliances. Archaeologists employ local people in their research projects but as laborers rather than co-researchers. Conversations about archaeological findings and their importance or relevance, especially to descendant communities, has not been a high priority among archaeologists. As a consequence, issues of conservation have reached a crisis state in which destruction of archaeological sites—either from looting or local infrastructural development (Parks, McAnany, & Murata, 2006)—has gone largely unchecked by States that profess limited ability to monitor local activities.

The unsustainability of the current situation is self-evident as is the need to decolonize research methodologies by forming partnerships and recognizing the authority and rights of Indigenous peoples to manage their future (and by extension also their past). Sonya Atalay (2012), an archaeologist of Anishinabe descent, draws upon the principles of participatory research (see Atalay, 2012, pp. 55-62 for literature review) to emphasize the need for more community-based archaeology in which the research strategy includes local communities in the design, execution, and interpretation of archaeological research. In reference to the Maya region, Parks and McAnany (2011) have noted that although archaeologists considered themselves to be stewards of the past, in fact, communities located proximate to archaeological sites are better situated to affect conservation. In short, the postcolonial impulse within archaeology moves towards a democratization of the research process, a de-centering of knowledge generation, and a de-construction of the coloniality of power. In proposing a community mapping program in the Guatemalan highlands, archaeologists hoped to build a research partnership with local communities that would be mutually beneficial but would be unlike a traditional archaeological project in that the documentary goals and desires of the community would come first, an application of what Hale (2011, p. 203) calls the "art of articulation."

BIRTH OF THE GUATEMALAN COMMUNITY MAPPING PROJECT

The case study discussed here benefitted from an earlier community mapping effort located in the Toledo district of southern Belize—home to Mopan and Q'eqchi' ethno-linguistic Mayan groups. Assisted by the then "New Cartography" group from the University of California, Berkeley, Toledo Maya peoples were interested in pressing for legal claim to their traditional use lands (Toledo Maya Cultural Council, 1997, pp. 1, 149). Stating that the "concept of putting down boundaries is European," (Toledo

Maya Cultural Council, 1997, p. 2), community mapping participants nonetheless embraced the notion that spatially documenting their fishing, hunting, farming, and collecting areas was a powerful way of laying claim to a landscape and also one that might be acknowledged in a court of law. The Supreme Court of Belize later acknowledged the land rights of Toledo Maya peoples although the 2010 ruling of Judge Conteh continues to be contested by the State (Minority Rights Group International, 2010). Wainwright (2008, pp. 241-272), a participant in the mapping project, has thoroughly critiqued the process and product (called the *Maya Atlas*) and points out that 1) community mapping is no substitute for political mobilization; 2) the maps produced are gender skewed in favor of adult male patterns of land use; and 3) the effectiveness of the maps in unseating persistent colonialities of power is questionable. For all of its flaws, the *Maya Atlas* provided us with a conceptual starting point.

In 2011 co-directors of the Maya Area Cultural Heritage Initiative (MACHI) initiated a conversation with Paul Guggenheim who was the Guatemalan Program Director of the Riecken Foundation (www.riecken.org). Sponsoring the construction of community libraries and emphasizing local empowerment and leadership, the Riecken Foundation (RF) employs the final three authors of this study. The importance of the partnership between MACHI (later InHerit) and RF cannot be overstated. The coupling merged the mapping expertise (and cultural heritage interest) of archaeologists at InHerit with an RF investment in infrastructure by way of community libraries, books, and importantly computers. Each community hosting a Riecken community library also invests in the costs of personnel to staff the library and the initial acquisition of a land plot on which to build. The significant community "buy-in" increases the value of the library to community members that self-generate a rich array of library activities, many of which are unique to individual communities. As a result, the libraries have become an integral part of the fabric of each community rather than an external imposition. The infrastructural resources and the pre-existing community commitment to the activities of the library increased the likelihood of success in developing partnership research as envisioned by Smith (2012, p. 179).

Through representatives of the Riecken Foundation, communities learned of the opportunity to participate in a mapping project. Initially only two expressed interest, which the archaeologists interpret as a wariness regarding collaboration with a previously unknown organization. Nonetheless, InHerit and RF set about acquiring equipment and organizing training sessions. Workshops, meetings, and the technology required to operate the program (computers and GPS units) were housed within community libraries. Linking the mapping project to this existing communal knowledge repository sent a clear message that the mapping program is of, for, and by the community. Indeed, the first two authors (and the previous InHerit program director) emphasized their role as technology interpreters and facilitators, rather than project directors. Emphasis was placed on capacitating project coordinators and community members in the use of GPS devices and mapping software so that they could then identify priorities for resource management rather than guiding the use of those devices toward a specific outcome.

In 2012, two more communities decided to join the program and in 2013 a fifth community joined. This modest rate of expansion was handled through peer-to-peer transfer of technology and skills, which meant that the *critical cartographic literacy* espoused by Johnson and colleagues (2006) expanded laterally rather than vertically. From the outset, the communities set a goal of recording and mapping natural and cultural resources for community planning. This goal required community selection of features to map and a consensus developed on the need for broad inclusion of men, women, youth, and children in feature selection as well as the mapping process. Through a series of community meetings with the different groups that would be participating in the project, the library affiliates engaged elders, children, youths, men's groups, and women's groups in the selection of

Table 1. Age and gender of participants by community.

Age	Gender	Community 1	Community 2	Community 3	Community 4	Community 5	Totals
Children	Female	0	31	9	8	4	**52**
	Male	0	14	6	7	6	**33**
Teens	Female	10	23	7	6	3	**49**
	Male	15	17	5	9	7	**53**
Adults	Female	20	2	0	0	7	**29**
	Male	12	3	3	4	1	**23**
Elders	Female	18	0	0	0	0	**18**
	Male	12	0	0	0	0	**12**
	TOTAL	**87**	**90**	**30**	**34**	**28**	**269**
						Females	**148**
						Males	**121**
						TOTAL	**269**

features to be mapped (Table 1). Representatives of InHerit occasionally were able to attend these meetings but by and large the meetings were organized and run by library affiliates and community members. As indicated earlier, the mapping project was conceived originally as a means to map shrines and archaeological sites and thus aligned with the larger heritage conservation goals of InHerit and Alliance. Community members expanded the scope of the project to include natural and cultural resources in which communities were keenly interested, such as bird habitats, tourist routes, water systems, forests, workshops of artisans, and the boundary of community use lands.

Initially, Helveta (a British-based company) supplied the mapping technology as it had for a participatory mapping project to thwart illegal timber poaching in Cameroon, Africa. MACHI contracted with Helveta to program icon-driven Motorola MC35 GPS units and provide secure networked storage for data points. Communities selected features to be mapped and a local artist created icons to represent each feature (Figure 2). Helveta software engineers programmed the GPS units to display the icons, which were also displayed on maps. The logic of this approach was to make point collection user-friendly. The process of community icon selection proved to be an important part of community ownership of the process and the product. Further, the upload system recognized multiple users; mappers could distinguish which points could be viewed by everyone, which points should be restricted to in-community use, and which ones needed to be limited further. Ultimately, the partnership with Helveta proved too costly to renew when the contract period ended and the GPS units needed to be replaced. Mapping participants adapted with few problems to new GPS units (off the shelf Garmin e Trex30), which were non-iconic. Since the networked storage system was often unreliable and difficult to access, local storage combined with use

Figure 2. Discussion of icons to be used for mapping (Photo from the InHerit archives)

of Google Earth for plotting allowed mappers easier access to collected information and data points. The lower cost of off-the-shelf technology and local storage allowed us to direct more resources to community participants. We are still pursuing options to replicate and improve the tiered permission system that the Helveta system offered.

COMMUNITY MAPPING PROTOCOLS

The population size of each of the five communities participating in the ongoing mapping programs is between two and three thousand people. While only a small percentage are engaged in actually recording the features that appear as points on a map, nearly 100% of the community is involved through a community-led approval process (via town meetings) for each map created. Broad-spectrum participation was an explicit goal of this project, particularly in reference to youths—who acutely feel the tension between local identity and more cosmopolitan modes of being—and women—who often take a back-stage role in anything that involves public performance (Table 1). Children and adolescents joined the mapping effort with enthusiasm, in part because they have fewer external obligations (Figure 3). Women also participated actively, particularly in reference to maps that feature places of artisan production, such as weaving. The overall emphasis on themed mapping and small-group participation encouraged multivocality in the process of map making and counters one of the critiques of community mapping—that it is often a gender, age, or faction-biased activity. The repeated experience and expression of community space and community history during group field trips serve to highlight the numerous and differing

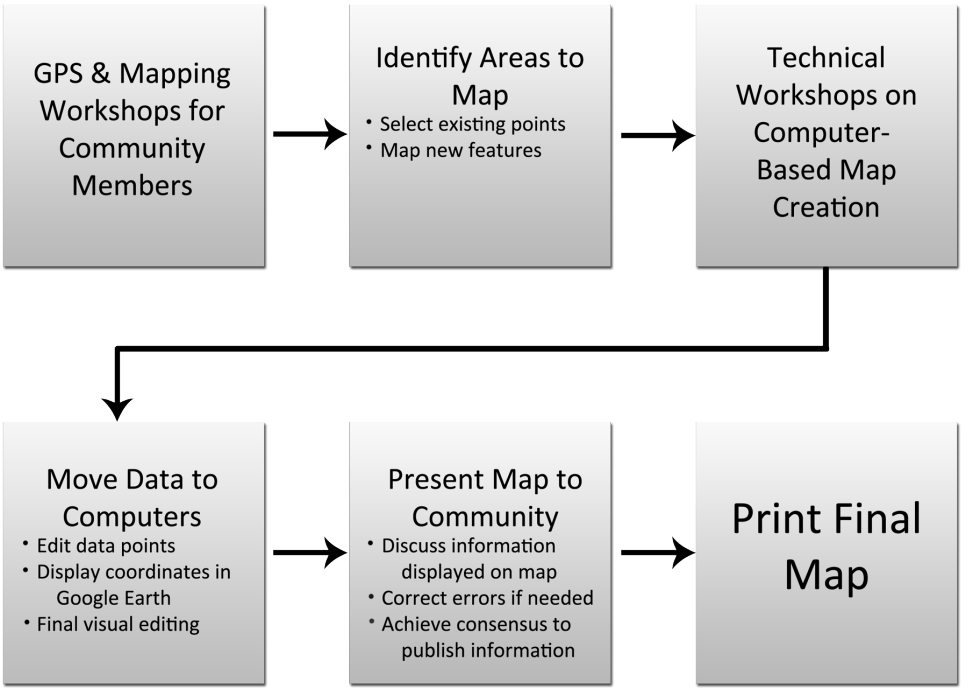
Figure 3. Young mappers collaborate on a mapping excursion (Photo from the InHerit archives)

stories that characterize community spaces. This is particularly true of the mapping activities carried out by groups of elders, whose activities have revived a host of associated knowledge about the communities. Members of the mapping program have begun to collect photographs and stories to accompany the spatial data that has been collected. The inclusion of narratives and images moves the mapping activities in two directions: first, towards a digital humanities endeavor in which a GIS becomes effectively the social memory of community. Second, this project is approaching *process cartography* which, as discussed by Wickens and Louis (2008, p. 110), is a more incorporative endeavor than simply geo-referencing points of interest. This collected body of information now forms the basis of geo-referenced community history archives that are shared and open to all community members.

To facilitate the mapping process, two coordinators were appointed, one from each of the two original communities: Evelyn Caniz Menchú and Jose Mendoza Quic, both of whom are co-authors of this case study. The coordinators divided responsibilities for program activities. Caniz Menchú handles much of the community organizing and gathers groups together to conduct the mapping excursions while Mendoza Quic specializes in the technical aspects of the project, including equipment maintenance and map production. Together the coordinators designed a mapping protocol (Figure 4) that was flexible but provided sufficient structure so that the maps would contain equivalent levels of information and also insure that every map was reviewed at community meetings.

Maps are created using the following community-designed protocol. A group assembles to map locales belonging to a specific theme. After data are collected on the relevant features, mappers return to the library to download points and edit the accompanying information for inclusion on a map. In this way, participants are capacitated in all aspects of the process as

Figure 4. Mapping protocol designed by community participants.



well as the technology. Draft maps are then presented at town meetings during which there is open discussion and anyone can comment on the features that will appear on a map. The map coordinators state that sometimes comments result in moving the location of a mapped feature to more accurately reflect specialized knowledge within the community and at other times the draft maps serve to elicit oral histories, particularly from elders, which can be added to the map archive. Meeting discussion can also result in a location being removed from the map if knowledge of its location and/or existence is deemed too sensitive for open circulation. Only after community meetings have been held and consensus has been reached concerning the content of a map is it printed and distributed within the community. In general, printed maps tend to be a small, portable size, and are used for community decision-making. This protocol provides a striking example of the application of traditional governance practices to new technical means for expressing community identity, social memory, and self-determination.

One community joined the program in order to mark the boundary of their land in relation to surrounding communities (Figure 5). Accordingly, consultation meetings were expanded to include representatives from adjacent communities. At times, these meetings grew contentious because the long-term goal of the mapping project was the allocation of land. But this process of negotiation and consultation was ultimately successful and resulted in an agreed upon and marked community boundary. This boundary divides a hill between the two communities, and allows for continued use by both communities of a shrine located at its summit.

Over time, communities moved from general mapping of infrastructural features to partnering with local NGOs, educational institutions, and government offices to achieve

Figure 5. Boundary of community land overlaid on Google Earth and produced by consensus among neighboring K'iche' communities (Image from the InHerit archives)

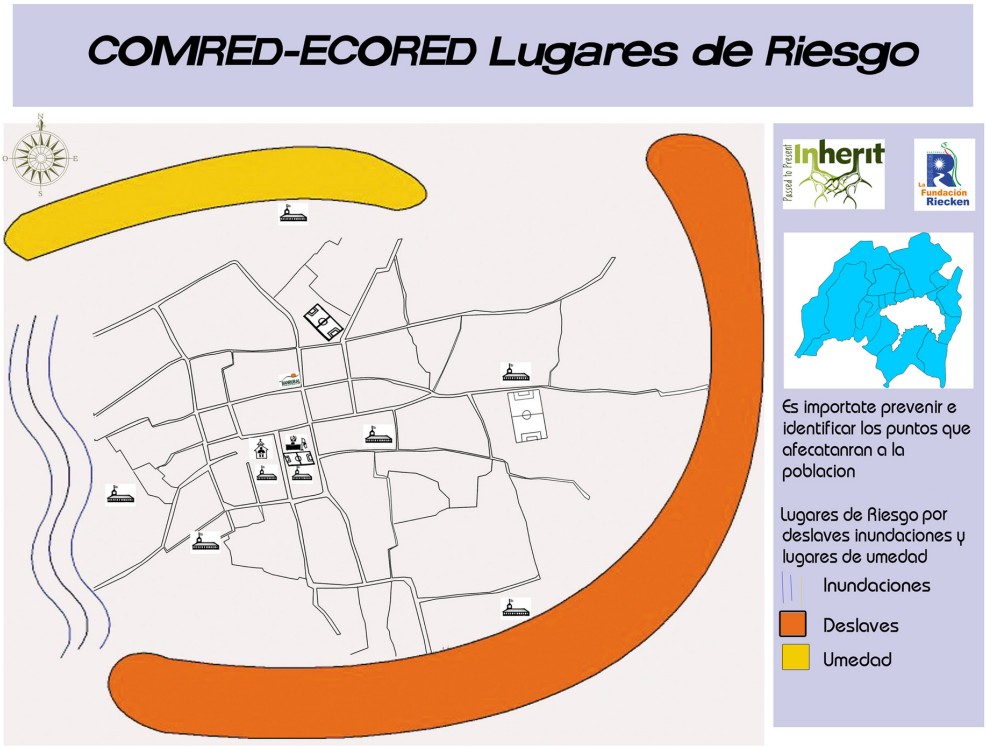
a variety of goals with the mapped data, including the development of tourism infrastructure, demarcation of areas to be reforested, and marking dangerous areas prone to mudslides (Figure 6). The maps were also leveraged to deter the advance of mining companies onto community lands—a chronic problem in the highlands, which are rich in numerous minerals, including gold (the relevant ministry within the Guatemalan State issues permits to international mining companies without any enforcement of a community consultation process). During a visit with participating communities, one community librarian described to the second author the role that mapping had played in successfully resisting incursions by an international mining company.

Mapping efforts have involved significant time and effort on the part of each community where valuable hours that might otherwise be spent in wage-earning activities have been devoted to community mapping. Thematic maps involve variable investments of time ranging from one week to two months (the latter for a sacred-sites map for which long excursions took place as well as significant amounts of community discussion). Community-coordinators work within the constraints of external obligations on the part of participants that include school, work, family, and farming schedules. The established mapping protocols also are tested by factors beyond the control of participants, such as internet outages due to an unstable grid, aging computers, and satellite signals. Despite these limitations, the protocol has worked and produced results as discussed below.

COMMUNITY VIEWS OF PARTICIPATORY MAPPING

During the first two years of the mapping project, four participating communities produced twenty-one community-approved maps and more drafted maps are awaiting community ap-

Figure 6. Map delimiting the risk areas prone to flooding, landslides, and excessive humidity around the perimeter of community land (Image from the InHerit archives)



proval. The maps represent diverse community interests, including the preservation of ancestral knowledge, disaster management, and basic town planning. Minimally, each community now possesses a street map that also includes the locations of important community buildings. Several communities also have produced maps demarcating the boundaries of land and water sources. Themed maps exist that mark sacred places, artisan shops, and valued habitats of plants and animals.

Significantly, between years one and two, the coordinators implemented an exchange program to facilitate the transmission of mapping expertise between communities. Community mappers who had achieved proficiency in the protocol and techniques participated in mapping workshops with new communities whose members were joining the program. Also, new community participants visited the communities in which the program was established in order to see the project in action. While engaging people of all ages, the exchange was particularly focused on youths. Overall, this exchange had several benefits. First and foremost, it introduced a novel technology—GPS receivers and the mapping process—to new communities through a peer transfer process between groups of people who share an ethnic identity as Maya. The peer transfer facilitated a frank conversation about community concerns regarding the mapping process (such as whether the maps would put too much of the community on display) and created a support network for addressing and alleviating those concerns. The knowledge exchange also created new alliances (often across linguistic boundaries) among com-

munities facing many of the same challenges to self-determination and survival.

The devastating earthquake (7.4 on the Richter scale) that hit Guatemala on November 7, 2012 provided an urgent test of the effectiveness of community mapping teams. Houses in the participating communities that were badly damaged or destroyed were quickly located, geo-referenced, and the data transmitted to humanitarian organizations, which responded with assistance. Community mappers successfully leveraged disaster documentation to elicit humanitarian aide for families that needed it. This demonstrates that once community teams have mastered basic mapping skills, they can utilize the techniques in ways that are significantly beyond the original focus of the project, and in the medium of rapid response.

In some communities the mapping project has recaptured sacred and traditional knowledge of places and of the environment (TEK). Under attack from the pressures of globalization, the displacement caused by *La Violencia,* and acutely and aggressively from religious conversion to evangelical Christianity, local Indigenous knowledge is endangered. For many people in the communities, the biggest impact of the mapping project has been to recover knowledge that had been lost, and to disseminate that information to a wider audience, both within and outside of the community. In response to an anonymous questionnaire about the value and impact of the mapping program, participants supplied diverse responses, some of which are quoted (with translations provided) here:

Es [importante] que las personas se den cuenta que hay lugares sagrados que esta[ban] olvidado y hay que darle cuido. (It's [important] that people realize there are sacred places, which were forgotten and need to be cared for.)
Es muy importante porque a través del mapeo se descubrir nuevas riquezas de la comunidad. (It's very important because through mapping we discover new riches of the community.)
[Es importante] para saber que tiene la comunidad y nuestra ubicación en el mundo. ([It's important] so that we know what the community has and our location in the world).
Poco a poco perdemos nuestra identidad ya que por medio de esto [proyecto] conocemos más de nuestra identidad. (Little by little we lose our identity, but through this [project] we learn more about our identity.)
[El proyecto mapeo] es muy importante porque puedo yo recolectar información perdida de la comunidad y darle un buen uso y que tengan un resultado tan exitoso. ([The mapping project] is very important because I can collect information that had been lost to the community and put it to good use with excellent results.)
A través de los mapas la comunidad conoce lo que posee pero que antes no lo conocía, [es importante] para lograr un desarrollo, para mantenerse actualizado en cuanto a la tecnología, a través del internet buscar mercado para sus productos…. (Through mapping the community learns what it has, which it didn't know before. [It is important] for development to keep up with technology and through the internet to find markets for community products….)

We are aware that documentation of traditional knowledge may lead to conflict within communities as evangelical adherents strongly oppose any practices linked to pre-colonial beliefs. Despite the religious schism that exists within some Maya communities, any disputes that arise are discussed at community meetings and to date these disagreements have given way to consensus with regards to community representation through the maps.

Both government officials and teachers have remarked on the importance of the community boundary and street maps that facilitate decision-making processes related to community territory. These maps also provide material for classroom teaching that familiarizes children with their community as the following survey responses indicate:

[Deberíamos usar la información] como una enseñanza en las escuelas desde peque-

ños para que conozcan la comunidad. ([We should use the map information] as a basis for lesson plans for young school children so that they learn about the community.)
Nos va servir para usarlo en las escuelas para y en otros lados para que más gente conozca nuestra comunidad y nos ayuden a mejorarlo. (It will help us to use [the information collected in maps] in schools and elsewhere so that more people know our community and can help us improve it.)
Puede ayudar de mucho para conocer los sitios que existen en la comunidad y se les explica a los niños y jóvenes que aun no estudian. (It's beneficial to know about the sites that exist in the community and to teach children and young people about them.)

Many community members also appreciate the opportunity to become familiar with GPS technology, which is increasingly used throughout Guatemala for transportation, cargo shipment and cell phones. A sample of community responses follows:

Se puede enseñarle a los hijos y hermanos el uso del gps para que ellos puedan hacer otros mapas de otros lugares. (If we teach children to use GPS then they can make maps of other places.)
[Si no existía el proyecto] nosotros no sabríamos que es un gps y no sabríamos usarlo. ([If the project didn't exist] we wouldn't know what a GPS is and we wouldn't know how to use it.)
[Si no existía el proyecto] continuaremos en el analfabetismo a la par de la tecnología de ahora. ([If the project didn't exist] we would have continued to be technologically illiterate.)

In many cases, communities have leveraged their cartographic literacy and geo-referenced community features to initiate new projects with NGOs, educational institutions, and even government offices. Community members see these projects as having the potential to improve the quality of life, economy, and environment of their community. For instance, reforestation projects that work towards sustainable use of local timber have emerged in several communities. Additional examples of new alliances include the following projects. Universidad de San Carlos de Guatemala, Huehuetenango extension, is helping community mappers to geo-reference regional bird habitats. Local women's artisan groups and business associations are keen to mark their place on community maps as a way to gain more visibility and improve economic prosperity in the communities.

Additionally the Academia de Lenguas Mayas de Guatemala (ALMG), the Universidad Panamericana in Quetzaltenango, and the Colegio de Turismo (also in Quetzaltenango) are working on tourism projects with communities based on places of cultural importance recorded by the communities. Consejos Comunitarios de Desarrollo (COCODE), the Ministerio de Cultura y Deportes (MICUDE), and numerous other community organizations, municipal offices, and schools are involved with projects that have developed from the mapping work. These partnerships were either initiated by the communities or approved by communities when approached by external groups. The expanded reach of the mapping project also includes the emergence of community mapping consultants. Individuals who were deeply involved in the mapping project in their home communities are now acting as consultants in neighboring communities to implement targeted mapping for project development. To say that cartographic literacy has empowered the participating communities would seem to be a gross understatement. Rather, it seems more like a crime that so much time passed before communities could access a technological resource that has opened the door to many new opportunities.

While achievements of the 2011-2013 mapping program exceeded original expectations, there are ongoing and profound challenges. Technological challenges include limited internet bandwidth, aging hardware, spotty satellite coverage, and questions about whether to continue use of Google software in light of revelations about Google's complicity

with NSA. A deeper challenge that confronts the program involves maintaining respect and support for community privacy and autonomy while maximizing the collective data that have accumulated to affect changes that communities desire, particularly in regards to enhanced livelihood. For instance, a representative from the Ministry of Culture expressed interest in integrating the data collected by communities into existing government registries of archaeological sites and sacred places. The benefit of this integration is national acknowledgement of locally important places that could be protected from damage or destruction in the event of future development projects. But such as listing would also give the State—not always perceived as an ally in this region—knowledge of Maya sacred places. There remains a deep mistrust of the State by Indigenous communities and a reticence to contribute to national registries.

REFLECTIONS ON A TRANSMODERN CRITICAL CARTOGRAPHY

The opening epigram speaks to a pre-colonial Indigenous cartography linked metaphorically to the creation events of the *Popol Vuh.* Juxtaposed against this rich cultural heritage is the loss of access to that heritage and the racial stigmatization of Maya peoples who enjoy only limited participation in a lucrative heritage enterprise that is managed by the State. We suggest that this politic of heritage and identity can be unsettled through community mapping that strengthens identity and engenders greater autonomy and self-determination. This transmodern approach to societal inequities moves beyond the irony of postmodernism to embrace the "art of articulation" (Hale, 2011, p. 203), the process of constant transcultural negotiation within ever shifting registers of power.

Throughout this negotiation, we have been acutely aware of the fact that mapping is not a politically neutral process but rather one that can differentially empower one gender, a community faction, or the instrumental power of a State. These hazards can never be completely eliminated but can be monitored and avoided proactively, which is the course that we have taken. Communities embraced the mapping process with an entrepreneurial spirit that some might label as perilously close to neoliberalism but we suggest that any grassroots plan that potentially can disrupt or divert the normal flow of *quetzales* (the national currency of Guatemala) is a positive thing.

The five highland Guatemalan communities that participated in this program embraced cartography literacy (Johnson et al., 2006). This hybridization of traditional Indigenous cartography (as described in the *Popol Vuh*) with Cartesian coordinates is characteristic of transmodern approaches. The smallness of a transglobal world means that detachment is a luxury that few can afford. For the vast majority, access to opportunities that allow one to feed a family and send children to school are overriding concerns that must be balanced with the maintenance of cultural integrity and sense of well-being that flows from the support of family and community.

Participating communities gained literacy in a new technology. Significantly the process galvanized an interest in local history, traditional ecological knowledge, and also enhanced the value of places and activities that were mapped. In a way that is characteristic of cartography, geo-referenced places and boundaries assumed a new importance and validity within the community. Perhaps more importantly, utilization of simple off-the-shelf GPS technology has opened a world of new opportunities in a place where opportunity can be hard to come by.

Seating authority and control of the mapping process with communities that shaped both the process and the outcome was integral to this project, which supported a desire for greater autonomy and self-determination. The two archaeologists did not hover over the process but allowed communities to determine priorities and negotiate the final appearance of maps. The mapping process proved useful in innovative and unexpected ways in large part due to the fact that communities felt ownership

over the process and the product. The desire of archaeologists to see maps of archaeological sites and programs of site stewardship emerge from the mapping process was placed on the back burner as communities prioritized their needs and leveraged their product to enhance community opportunities and well-being. Such is the two-way street of a research partnership.

ACKNOWLEDGMENT

We wish to acknowledge Shoshaunna Parks, program manager for MACHI, who supplied inspiration and enthusiasm for the mapping program in its initial stages. Additional support was provided by Romeo Rodriguez, Development Officer for Riecken Libraries in Guatemala, and Luis Quino, former National Director of Riecken Libraries in Guatemala. Lush Cosmetics, private donors, and a family foundation provided financial support to implement the program. The University of North Carolina, Chapel Hill, generously provides a home base for InHerit and The Alliance for Heritage Conservation. We extend our heartfelt gratitude to all who took part in the community mapping program.

REFERENCES

Associated Press. (2012, October 5). Guatemala: Protest Leaves 6 Dead. *The New York Times*. Retrieved from http://www.nytimes.com/2012/10/06/world/americas/guatemala-protest-leaves-6-dead.html?_r=1&

Atalay, S. (2012). *Community-based archaeology: Research with, by, and for indigenous and local communities*. Berkeley, CA: University of California Press.

Bauer, K. (2009). On the politics and possibilities of participatory mapping and GIS: Using spatial technologies to study common property and land use change among pastoralists in Central Tibet. *Cultural Geographies*, *16*(2), 229–252. doi:10.1177/1474474008101518

Bryan, J. (2010). Force multipliers: Geography, militarism, and the Bowman expeditions. *Political Geography*, *29*(8), 414–316. doi:10.1016/j.polgeo.2010.09.001

Bryan, J. (2011). Walking the line: Participatory mapping, indigenous rights, and neoliberalism. *Geoforum*, *42*(1), 40–50. doi:10.1016/j.geoforum.2010.09.001

Carmack, R. M. (1988). *Harvest of violence: The Maya Indians and the Guatemalan crisis*. Norman, OK: University of Oklahoma Press.

Chi, C.-C., & Chin, H.-T. (2010). Knowledge, power, and tribal mapping: A critical analysis of the "return of the Truku people". *GeoJournal*, *77*(6), 733–740. doi:10.1007/s10708-010-9374-6

Christenson, A. J. (2003). *Popol Vuh: The sacred book of the Maya*. Winchester, UK: O Books.

Cojti' Ren, A. (2006). Maya archaeology and the political and cultural identity of contemporary Maya in Guatemala. *Archaeologies*, *2*(1), 8–19.

Colwell-Chanthaphonh, C., & Ferguson, T. J. (Eds.). (2008). *Collaboration in archaeological practice: engaging descendant communities*. Lanham, MD: AltaMira Press.

de las Casas, B. (2000). *Brevísima relación de la destruición de las indias*. Bayamón, Puerto Rico: Universidad Central de Bayamón, Centro de Estudios Dominicos del Caribe.

del Valle Escalante, E. (2009). *Maya nationalisms and postcolonial challenges in Guatemala: Coloniality, modernity, and identity politics*. Santa Fe, NM: School for Advanced Research.

Derry, L., & Malloy, M. (Eds.). (2003). *Archaeologists and local communities: Partners in exploring the past*. Washington, DC: Society for American Archaeology.

Di Giovine, M. A. (2009). *The heritage-scape: UNESCO, world heritage, and tourism*. Lanham, MD: Lexington Books.

Falla, R. (1994). *Massacres in the jungle, Ixcán, Guatemala, 1975-1982 (massacres de la selva)*. Boulder, CO: Westview Press.

Fox, J., Suryanata, K., & Hershock, P. (2005). *Mapping communities: Ethics, values, practice*. Honolulu, HI: East-West Center.

French, B. M. (2010). *Maya ethnolinguistic identity: Violence, cultural rights, and modernity in highland Guatemala*. Tucson, AZ: University of Arizona Press.

Hale, C. R. (2005). Neoliberal multiculturalism: The remaking of cultural rights and racial dominance in Central America. *PoLAR: Political and Legal Anthropology Review*, *28*, 10–28.

Hale, C. R. (2006). Activist research v. cultural critique: Indigenous land rights and the contradictions of politically engaged anthropology. *Cultural Anthropology*, *21*(1), 96–120. doi:10.1525/can.2006.21.1.96

Hale, C. R. (2007). Consciousness, violence, and the politics of memory in Guatemala. *Current Anthropology*, *38*(5), 817–838. doi:10.1086/204669

Hale, C. R. (2011). Resistencia para que? Territory, autonomy and neoliberal entanglements in the 'empty spaces' of Central America. *Economy and Society*, *40*(2), 184–210. doi:10.1080/03085147.2011.548947

Herman, R. (2008). Reflections of the importance of indigenous geography. *American Indian Culture and Research Journal*, *32*, 73–88.

Ingold, T. (2011). *The perception of the environment: Essays on livelihood, dwelling and skill*. London: Routledge.

Johnson, J. T., Louis, R. P., & Pramono, A. H. (2006). Facing the future: Encouraging critical cartographic literacies in indigenous communities. *ACME: An International E-Journal for Critical Geographies*, *4*, 80–98.

Killion, T. W. (Ed.). (2008). *Opening archaeology: Repatriation's impact on contemporary research and practice*. Santa Fe, NM: School for Advanced Research.

Liebmann, M., & Rizvi, U. Z. (Eds.). (2008). *Archaeology and the postcolonial critique*. Lanham, MD: AltaMira Press.

McAnany, P. A., & Parks, S. (2012). Casualties of heritage distancing: children, Ch'orti' indigeneity, and the Copan archaeoscape. *Current Anthropology*, *53*(1), 80–107. doi:10.1086/663687

Menchú, R. (1984). *I, Rigoberta Menchú: An Indian woman in Guatemala* (E. Burgos-Debray, Ed., & A. Wright, Trans.). London: Verso.

Mignolo, W. D. (1995). *The darker side of the Renaissance: Literacy, territoriality, and colonization*. Ann Arbor, MI: University of Michigan Press.

Minority Rights Group International. (2010, August 20). *MRG welcomes Supreme Court decision upholding Maya land rights in Belize, but deplores government decision to appeal*. Retrieved from http://www.minorityrights.org/?lid=10202

Mollett, S. (2013). Mapping deception: The politics of mapping Miskito and Garifuna space in Honduras. *Annals of the Association of American Geographers*, *103*(5), 1227–1247. doi:10.1080/00045608.2013.770366

Montejo, V. (1987). *Testimony: Death of a Guatemalan village*. Willamantic, CT: Curbstone Press.

Montejo, V. (2005). *Maya intellectual renaissance: Identity, representation, and leadership*. Austin, TX: University of Texas Press.

Nadasdy, P. (2005). The anti-politics of TEK: The institutionalization of co-management discourse and practice. *Anthropologica*, *47*, 215–232.

Offen, K. (2009). O mapeas o te mapean: Mapeo indígena y negro en América Latina tabula rasa: *Red de revistas cientificas de América Latina, el Caribe, España y Portugal*, *10*, 163–189.

Parks, S., & McAnany, P. A. (2011). Heritage rights and global sustainability via Maya archaeology. *Anthropology News*, *52*(5), 27.

Parks, S., McAnany, P. A., & Murata, S. (2006). The conservation of Maya cultural heritage: Searching for solutions in a troubled region. *Journal of Field Archaeology*, *31*(4), 425–432. doi:10.1179/009346906791071846

Reuters. (2013, May 3). Guatemala cracks down on anti-mining protests. *Al Jazeera*. Retrieved from http://www.aljazeera.com/news/americas/2013/05/20135321312218166.html

Reyes-García, V., Orta-Martínez, M., Gueze, M., Luz, A. C., Paneque-Gálvez, J., Macía, M. J., & Pino, J. (2012). Does participatory mapping increase conflicts? A randomized evaluation in the Bolivian Amazon. *Applied Geography (Sevenoaks, England)*, *34*(C), 650–658. doi:10.1016/j.apgeog.2012.04.007

Rocheleau, D. (1995). Maps, numbers, text, and context: Mixing methods in feminist political ecology. *The Professional Geographer*, *47*(4), 458–466. doi:10.1111/j.0033-0124.1995.00458.x

Rocheleau, D. (2005). Maps as power tools: Locating communities in space or situating people and ecologies in place? In B. J. Peter, A. Lowenhaupt-Tsing, & C. Zerner (Eds.), *Communities and conservation: Histories and politics of community-based natural resource management* (pp. 327–362). Walnut Creek, CA: AltaMira Press.

Roth, R. (2009). The challenges of mapping complex indigenous spatiality: From abstracted space to dwelling space. *Cultural Geographies*, *16*(2), 207–227. doi:10.1177/1474474008101517

Rundstrom, R. A. (1995). GIS, indigenous peoples, and epistemological diversity. *Cartography and Geographic Information Systems*, *22*(1), 45–57. doi:10.1559/152304095782540564

Sanford, V. (2003). *Buried secrets: Truth and human rights in Guatemala*. New York: Palgrave Macmillan. doi:10.1057/9781403973375

Silliman, S. (Ed.). (2008). *Collaborating at the trowel's edge: Teaching and learning indigenous archaeology*. Tucson, AZ: University of Arizona Press.

Sletto, B. (2009). Special issue: Indigenous cartographies. *Cultural Geographies*, *16*(2), 147–152. doi:10.1177/1474474008101514

Smith, L. (2008). Indigenous geography, GIS, and land-use planning on the Bois Forte Reservation. *American Indian Culture and Research Journal*, *32*, 139–151.

Smith, L. T. (2012). *Decolonizing methodologies: Research and indigenous peoples* (2nd ed.). New York: Palgrave Macmillan.

Thom, B. (2009). The paradox of boundaries in Coast Salish territories. *Cultural Geographies*, *16*(2), 179–205. doi:10.1177/1474474008101516

Thomas, D. H. (2000). *Skull wars: Kennewick Man, archaeology, and the battle for Native American identity*. New York: Basic Books.

Toledo Maya Cultural Council. (1997). *Maya atlas: The struggle to preserve Maya land in Southern Belize*. Berkeley, CA: North Atlantic Books.

Vermeylen, S., Davies, G., & van der Horst, D. (2012). Deconstructing the conservancy map: Hxaro, N!ore, and Rhizomes in the Kalahari. *Cartographica*: *The International Journal for Geographic Information and Geovisualization*, *47*(2), 121–134. doi:10.3138/carto.47.2.121

Wainwright, J. (2008). *Decolonizing development: Colonial power and the Maya*. Malden, MA: Blackwell Publishing. doi:10.1002/9780470712955

Wainwright, J. (2012). *Geopiracy: Oaxaca, militant empiricism, and geographical thought*. Basingstoke, UK: Palgrove Pivot. doi:10.1057/9781137301758

Wainwright, J., & Bryan, J. (2009). Cartography, territory, property: Postcolonial reflections on indigenous counter-mapping in Nicaragua and Belize. *Cultural Geographies*, *16*(2), 153–178. doi:10.1177/1474474008101515

Warren, K. B. (2002). Voting against indigenous rights in Guatemala: Lessons from the 1999 Referendum. In K. B. Warren & J. E. Jackson (Eds.), *Indigenous movements, self-representation, and the state in Latin America* (pp. 149–180). Austin, TX: University of Texas Press.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice*. Boston: Harvard Business School Press.

Wickens, M., & Louis, R. P. (2008). Mapping indigenous depth of place. *American Indian Culture and Research Journal*, *32*, 107–126.

Wilkinson, T. (2013, May 20). Guatemalan court overturns Rios Montt conviction. *LA Times*. Retrieved from http://www.latimes.com/news/world/worldnow/la-fg-wn-guatemala-dictator-rios-montt-retrial-20130520,0,4159350.story

Patricia A. McAnany is Kenan Eminent Professor of Anthropology at the University of North Carolina-Chapel Hill and external faculty at the Santa Fe Institute. A Maya archaeologist, she is co-principal investigator of Proyecto Arqueológico Colaborativo del Oriente de Yucatán and Executive Director of the UNC program InHerit: Indigenous Heritage Passed to Present. InHerit partners with organizations in the Maya region to develop programs that promote critical dialogue about issues of cultural heritage. She is the author/co-editor of several books including Textile Economies: Power & Value from the Local to the Transnational (2011); Ancestral Maya Economies in Archaeological Perspective (2010); Questioning Collapse: Human Resilience, Ecological Vulnerability, and the Aftermath of Empire (2009); and Dimensions of Ritual Economy (2008). She has received research awards from the National Science Foundation and fellowships from the Guggenheim Foundation, Institute for the Arts & Humanities (UNC, Chapel Hill), National Endowment for the Humanities, and Dumbarton Oaks.

Sarah M. Rowe is Program Director of InHerit and of the Alliance for Heritage Conservation, a registered nonprofit organization. InHerit and the Alliance partner with grassroots organizations in the Maya region to empower local communities to protect and manage their pasts. In addition to her present collaborative work with communities through InHerit, she also specializes in the archaeological cultures of coastal Ecuador. This work includes archaeological investigations of the Valdivia and Manteño cultures, as well as the examination of the uses of archaeological knowledge within the coastal indigenous movement. She received her PhD from the University of Illinois in 2014.

Israel Quic is an indigenous Tz'utujil Maya who lives around Lake Atitlan in Guatemala. A passionate community leader, he has worked as a teacher in different schools, and has over 10 years experience in the implementation of the Riecken library in his community. That library is a community gathering place where people of all ages find opportunities to learn and develop their skills and from where they promote and strengthen values of Maya culture. He now works with World Possible to bring technology to rural communities, and continues to volunteer at his community library.

Evelyn Caniz Menchú is a K'iche Maya community organizer who lives in the Totonicapán district of Guatemala. She holds a technical degree in Social Work and Community Development. She is the Cultural Promoter for her community's Riecken Foundation Library and a Project Coordinator for the Community Mapping Project. In addition to facilitating workshops and mapping exchanges, Ms. Caniz has also assisted in the transcription and translation from Spanish to K'iche of five books published by the Riecken Foundation and coordinates artisan workshops in her community.

José Mendoza Quic is an indigenous Tz'utujil Maya who lives around Lake Atitlan in Guatemala. He is the Cultural Promoter for his community's Riecken Foundation Library and a Project Coordinator for the Community Mapping Project. Mr. Mendoza manages many of the technological aspects of the mapping project, and teaches others how to use GPS technology and graphic design software. He also specializes in working with children and leads workshops on artistic and cultural expression, environmental issues and risk management, and audio-visual communication.