RESEARCH AT THE INTERFACE

Bi-cultural studio in New Zealand, a case study

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Abstract

It has been suggested that Aotearoa New Zealand's designed and cultural landscapes do not reflect its status as a bi-cultural nation. To address this problem, the Landscape Architecture programme at Victoria University of Wellington set up a partnership with Manaaki Taha Moana: Enhancing Coastal Ecosystems for Iwi and Hapū, funded until 2015 by the Ministry of Business, Innovation and Employment, Wellington. Masters' students were asked to explore landscape design that would help iwi and hapū envisage ecological restoration or design projects that might enhance connections to their ancestral lands. This research considers the focus groups with students and iwi held after the studio and proposes a strategy for more effective bi-cultural design partnerships, which includes establishment of a protocol with a "research at the interface" approach. Finally, it recommends a number of strategies to better educate students in the responsibilities of designing in a bi-cultural environment and to promote more effective bi-cultural partnerships in the future.

Keywords

research at the interface, bi-cultural design, design studio, protocols

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Introduction

If we accept the claim that a country's land-scape is a reflection of its culture (Lewis, 1979), we may also have to accept that the *designed* landscapes and public spaces of Aotearoa New Zealand do not often adequately reflect its status as a bi-cultural nation. There seems to be relatively little evidence of a "sharing or blending of two cultures on more or less equal terms" (McKay, as cited in Memmott & Davidson, 2008, p. 98). Such a sharing, on "equal terms", requires an intensity of cultural exchange that is often difficult to achieve, despite this country's bi-cultural status.

What we typically see in our public spaces is a design default to a narrow number of archetypes and symbols typically expressed as standard forms and surface patterning. For example, a number of public landscapes in New Zealand are cited as giving precedence or at least consideration of Māori needs and values (Figure 1), "yet, while these efforts are often well regarded, by their very nature they are superficial in terms of their cultural expression, narrative content, and cultural accommodation.

And these examples remain the exception rather than the rule" (Simpson, 2008, p. 2). But as cultural theorists suggest, landscape is not just about the artefacts and products of a culture; it is also an expression of cultural values. If a country's designed landscapes reflect superficial attributes rather than deeper values, it may mean that the sharing and blending between cultures is far from equal, or that designers are not yet fully conversant with the appropriate design modes and practices necessary to make meaningful cultural exchange work.

This situation may be the product of one or more circumstances. First, many non-Māori people in the community do not have an in-depth understanding of Māori culture, which constrains the kind of sharing of values on a day-to-day basis that might influence design modes and practices. Second, there is still not enough of a critical mass of Māori designers, despite the recently established national Ngā Aho network (www.ngaaho.maori.nz) and work of prominent indigenous designers, architects and landscape architects. Third, and connected with the last point, there is a dispro-portionately low number of Māori students

FIGURE 1 Te Aro Park in Wellington, designed by ceramics artist Shona Rapira Davies, is in the shape of a canoe, with the prow on the extreme right of the photograph. Source: Wellington City Aerial Imagery (2009).

enrolled in design schools in Aotearoa New Zealand, where relatively little Māori content is taught in design studio. And finally, true collaboration in the world of government and business is hard to achieve; it requires time and skill, and at a governance level requires a combination of relationship building and capacity building (Blackhurst et al., 2003).

These are all issues that could be addressed through tertiary education of designers about cultural landscapes and intercultural engagement resulting in richer, more complex and meaningful landscapes, which are the product of a genuine sharing of cultures. There seems, however, to be relatively little discussion in the literature about how to make this kind of cultural interchange work at a tertiary level (for exceptions see Hill, 2005, and Forsyth, Lu, & McGirr, 1999). This paper describes one such attempt. During the course of a bi-cultural design studio at the Victoria University of Wellington, New Zealand, between 2010 and 2013, the authors developed a "protocol" for cultural exchange on "more or less equal terms" that so far has proved to be surprisingly effective.

Bi-cultural landscape

In investigating the notion of a bi-cultural landscape, the authors recognise that Māori and Pākehā have transformed Aotearoa New Zealand and its natural areas in varying ways, and in turn natural settings have influenced each culture's way of life, relationships to, and understandings of the natural world. A bi-cultural landscape might therefore be based on concepts derived from the United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Convention definition, where landscapes represent the combined works of nature and humankind, whilst embracing a diversity of interactions that take place between them (UNESCO, 1972).

Bi-cultural landscapes might also be defined as places where important historic events have occurred as part of Aotearoa New Zealand's emerging national identity. As we understand it, heritage, cultural and ancestral landscapes cover large geographic areas that may have multiple owners and represent a convergence of many experiences and interests. They reveal dynamic systems undergoing constant change. They do not fit neatly into a single historical period, but have composite layers of human interaction and ongoing narratives of significance associated with each place (New Zealand Historic Places Trust, 2003).

The context

The Landscape Programme at Victoria University established a bi-cultural design studio in 2011 with Taiao Raukawa Environmental Resource Unit. The studio was part of the Taiao Raukawa research project, Manaaki Taha Moana (MTM): Enhancing Coastal Ecosystems for Iwi and Hapū funded by the Ministry of Business, Innovation and Employment until 2015. MTM is a collaborative, action and kaupapa Māori research project that uses and bolsters mātauranga Māori or Māori knowledge systems within whenua, awa, repo and moana. This knowledge has been used for hands-on action research and rehabilitation programmes for valued ecosystems. They have taken place in the context of Māori lives experienced within a contemporary Māori society. Kaitiaki have responded to the severe environmental decline of ancestral lands and waterways, and the need for ecological restoration programmes, by engaging in research on the decline of species and by devising activities that are more meaningful and relevant to their local Māori communities (Smith, 2011). The coastal region of cultural landscape is bounded by the Tasman Sea and extends from the Hōkio Stream in the north, to the dynamic Waitohu Stream, wetland and estuary at Ōtaki in the

south, within the south-west coastal region of Te Ika a Māui.

The MTM project also aims to restore and enhance coastal ecosystems of importance to iwi, through a better knowledge of those ecosystems and the degradation processes that affect them. The research endeavour covers a 17 km coastline with inland dune systems, encompassing culturally important streams, dune wetlands and lakes (Figure 2) in the south-west coastal region of Te Ika a Māui. The coastal case study has considerable tracts remaining in Māori land title. Therefore, the project has been discussed with many marae, iwi and hapū groups, whānau, trusts and Māori farming incorporations. There has also been enthusiastic support for the project from many central and local government agencies, as well as from iwi authorities, hapū and kaumātua. This action research process is grounded in a kaupapa and tikanga Māori epistemology of knowledge development (Hardy et al., 2011; Smith, 2007). These approaches suggest that restoration of fragmented ecological systems is interdependently related to the healing of a community, especially to the relationships of iwi and hapū with the natural and cultural landscape. Such a kaupapa-based research approach is anchored in the worldview of Māori and associated cultural value system, which underpins all practical restorative activities.

Related hapū within the case study region have generated an intimate closeness with the environment and shaped the landscape through their human actions and influences since they migrated from Waikato regions starting around 1819. They lived, procreated, died and sustained themselves by their seafaring, fishing, gardening and housing skills using natural resources, consistent with Pacific island living adapted over generations to suit the temperate climates of Aotearoa New Zealand. They entreated spiritual entities and their associated environmental properties (Smith, 2007). They supported themselves with knowledge systems based on generations of understanding brought

FIGURE 2   Aerial view of case study region. Image comprised of 14 images stitched together as a visual aid for the MTM research project. Source: Laurie Cairns, Palmerston North.

about by talking about place and observing and developing place in a detailed way (Skutnabb-Kangas, 2000). These ways of knowing place

were prerequisites for maintaining a healthy environment and its customary knowledge rights. Their interactions with resources through shellfish gathering, freshwater fishing, fishing activities at sea, and for horticulture and gardening were essential activities that made sense of their local world. They used the Māori moon calendar or maramataka and star lore as an illuminating ecological knowledge guide for symbiotic environmental care and sustainable resource use. They seasonally harvested according to the lunar cycle, then dried and stored abundant resources from the sea, the coastal dunes, the rivers, streams and wetlands for sustenance over the non-seasonal months (Figure 3). They snared birds within the coastal forests and also from the foothills and mountain forest regions. Their activities for human wellbeing were integral within an epistemology of knowledge development that provided the means to nurture, sustain and protect hapū in their region (Solomon, 1998).

Within the case study region, some kaumātua recollections collated in the Kuku, Ōhau, region have underpinned strategies for improving wāhi tapu and historic papa kāinga site protection. Cultural landscapes range from expansive landforms such as the Ōtararere foothills on the Poroporo ridgeline beneath the imposing Tararua Ranges (Figure 4), to the waterways and freshwater springs that proliferate in the area; from the whole Kuku coastal region at sea to the Ōhau River beach (Figure 5), to precisely specified areas such as different papa kāinga or urupā in dune systems.

Ancestral influences and adaptations that have shaped lands and ecosystems over time are still recalled today. There remains a deep respect for the highly dynamic nature of the complex socio-bio-cultural-ecological systems (Smith, 2007), albeit impacted upon by land tenure changes, extensively modified agricultural landscapes (Figure 6) and ecological decline (Figure 7). Also, and importantly, a mātauranga Māori approach to science is not based on the dualistic assumptions of a Western scientific epistemology. The distinctions or separation between professional scientist and

FIGURE 3   Māori group preparing to smoke eels, Koriniti, 1921. Source: McDonald (1921).

FIGURE 4 General aerial view of Tukorehe to Wehiwehi tribal regions, showing Tararua Ranges in the background. Source: Aerial photography, 6 June 2009, by Lawrie Cairns, Palmerston North.

FIGURE 5 Ōhau River beach with royal spoonbills (*Platalea regia* or kōtuku nguturoa). Photograph taken 8 May 2013. Source: Moira Poutama.

FIGURE 6   Typical agricultural landscape in the region. Source: Penny Allan.

FIGURE 7   Ecological decline in Waiwiri Stream to sea, which was once a revered mahinga kai. Today the stream is choked with water celery weed (*Apium nodiflorum*), an indicator of highly nitrified water. Photograph taken 15 March 2012. Source: Huhana Smith.

non-scientific stakeholder, theory and practice, subject and object, start and finish, past and present are subsumed by a holistic approach that considers a whole-of-person, and a whole-of-system theory of knowing (Durie, 2004).

In many ways, the Resource Management Act (RMA) 1991 has influenced contemporary Aoteaora New Zealand's cultural landscape because it recognises and provides for the values of both Māori and Pākehā in design projects. However, in reality, there is ongoing poor treatment of Māori values and their knowledge systems, and lack of recognition of Māori relationships with land, waterways and their kaitiaki responsibilities for place (Backhurst

et al., 2004). Solutions have included developing national policy statements and interim guidelines written by Māori with an insertion of the Treaty of Waitangi as a founding principle of the RMA (Smith, 2007).

The site

The project site was once extensive coastal forest, with streams, rivers, estuaries, a series of back dune lakes, lagoons and dune wetlands. In the early 19th century this was a landscape of extensive sand dunes, waterways and some of the most extensive wetlands in the country

FIGURE 8 Map of waterways west of Levin, 1920s. Source: Diaries of George Leslie Adkin 1884–1964, National Library of New Zealand, Alexander Turnbull Library, Oral History Centre, Wellington.

(Figure 8); a rich and productive landscape supporting scattered family groups who were settled in communities but shifted with the seasons depending on where food and other resources were gathered.

Threats to socio-cultural connections to the land, economic value and ecological health of the coastal environment are the result of inappropriate settlement patterns and poor farming practices, and are clearly evident in the case study region. The invention of refrigeration in the early 1900s was a serious blow: good for the national economy but disastrous for the environment. Refrigeration meant that butter could be shipped to England, which in turn precipitated extensive clearing of the wetlands to make way for dairying. By the 1930s almost 90% of the wetlands had been drained. The coastal plain now is a landscape of ditches and drains, straightened rivers, compacted soil and polluted waterways (Figure 9). A large proportion of the land is devoted to dairying, which is lucrative but unsustainable. While two of the largest Māori coastal farming incorporations in the case study region are working with more supportive, statutory bodies, there still appear to be few economically viable alternatives as most of the large holdings in the district are

dairy farms. Land not devoted to dairying is given over to "lifestyle blocks" owned by part-timers who come up from the city on weekends and holidays or by full-time residents who are looking for a better life. Small coastal settlements have developed inappropriately, close to and sometimes on top of fragile and shifting dunes and draining into wetlands. Water pollution, the proliferation of weeds, and erosion of the extensive dune lands are common, and for those interested in restoration of these landscapes, a constant struggle.

The studio

The design studio, an innovative participatory action research and social learning design initiative, has become an ongoing partnership until 2015, with the students, their lecturers and the wider MTM research team working together with local hapū (Figure 10).

The studio within this case study and alongside MTM projects was run in 2011, comprising 20 students and 2 tutors. It was launched at a weekend on a local marae, an hour's drive north of the university. It included a number of hīkoi and hui with local iwi and scientific experts,

FIGURE 9   Stream from Kahuwera wetland to Lake Waiorongomai. Photograph taken 13 November 2010. Source: Huhana Smith.

FIGURE 10   The team in front of Tukorehe Meeting House at Tukorehe Marae, Kuku. Source: Huhana Smith.

and talks with iwi elders during the night. The university studio was run over 12 weeks, with two 4-hour sessions each week. There were formal assessments halfway through the studio and at the end of the 12-week session. The brief was broad and focused on the development of strategies for alternative land uses and settlement patterns. The aim of the project was to encourage students to "develop an understanding of the issues in this area then solve these issues through design". It was pitched as "an opportunity to understand and work with Māori values, and to develop solutions that cross cultural barriers". Students were asked to test design solutions at various scales and for various issues: from dune protection and ecological regeneration techniques to land use, farming practices and urban settlement location and patterns.

The studio presented enormous challenges. Students were particularly tentative about working in a bi-cultural environment. We had expected that exposure to the Māori culture would produce a shift in thinking, with a concomitant shift in the creative output. However, the initial work suggested that students were designing at a distance when in fact the studio required a more passionate, empathetic response. Transgression, the capacity to push at the boundaries and sometimes cross them, is an essential component of the creative design process. But students were nervous about crossing boundaries. For some of the Pākehā students, deeply respectful of Māori culture, the prospect of working with the local iwi and hapū was terrifying.

Student work tended to focus on operational and programmatic strategies for re-invigorating traditional cultural practices to do with farming and food production (for example, flax farming using traditional and contemporary methods, eel farming). Interventions were always at a local scale with the intention that local influences would then extend to encompass beneficial effects for the whole region. Local-scale interventions that focused on the management and harvesting of ecosystem resources tended to also include attention to associated seasonal cultural practices and the spatial and formal infrastructure (typically ephemeral) required to sustain such practices. In this way students were able to research traditional materials and construction techniques as well as managing seasonal activities over space and time.

At the beginning and end of the semester, students were given a questionnaire to give us insight into their learning experience. In addition, informal focus groups were conducted with both the student group (10 attendees) and the iwi client (4 attendees) at the end of the semester. These interviews were based on a set of formal questions, which are appended. The outcomes of the focus groups are discussed below.

The focus groups

Iwi focus group

According to the iwi focus group, the studio's primary benefit for the kaitiaki Māori was that it allowed them to tap into the skill base of the students' capacity to visualise and use technology in landscape.

> We can talk to these students and they can visualise what we are talking about … we love the visual side of things … at the end, to see the results, they blew us away. (A. Spinks, personal communication, February 2012)

> Part of our challenge is to disseminate this information to iwi and hapū. Training landscape architects to think like Māori; to understand whenua and relationships like whakapapa, better, is a good way to do it. We want to assist students to understand what Māori relationships to whenua mean … the best way to do this is face to face and to bring Māori kaupapa to it. (H. Smith, personal communication, February 2012)

They also saw the students acting as an example to young people in their own culture. "We would like our own Māori students, iwi and hapū to have these skills" (A. Spinks, personal communication, February 2012). The focus group also saw the partnership and the broader project as a way to inspire and influence by providing career pathways for the younger Māori and by bringing the rich knowledge base of culture to an environment that "needs it more than any other". The landscape projects provided tangible benefits to iwi and hapū, which would feed back to the whenua. Finally, they wanted discrete projects within the broader research project to be identified. Students' design projects, if set up in the right way, could act as briefs, which would enable the team to seek funding for implementation.

Surprisingly, they did not mention the capacity that designers have to integrate ideas, particularly ideas from different disciplines, into a coherent and compelling whole. This is something that design teachers talk about quite a bit. They alluded to this skill when they spoke later in the interview about student M's project: an alignment of sensitive, slightly dangerous and culturally disparate issues in one place and in a way that made perfect sense, and which made us all think about our own cultural practices in a different way.

> It's very important to protect the Māori side of things, important not to abuse the knowledge. M went to the edge. If you were Māori you wouldn't even look at that stuff. It would only work with someone coming from outside. She listened to all the things we talked about, she tiptoed around things delicately enough; and then she nailed it. (A. Spinks, personal communication, February 2012)

Also surprising was that the issue of appropriating cultural knowledge was not a problem. The Māori focus group was very clear and matter-of-fact about what they can and cannot divulge.

> You don't tell your deep stories to anyone else. We have protection mechanisms out there, including spiritual guardians. It's not appropriate to tell the hyper-detail of Tukorehe stories because there are spiritual kaitiaki who protect them. You have to be careful … we have to be guided by our kaumātua or elders. Usually they're pretty sharing and giving. But they decide in the end and that's cool. (H. Smith, personal communication, February 2012)

This kind of response is partly the result of a growing confidence about strengthened Māori knowledge bases, obviously hard won, where Māori have never given up their struggle to have the partnership intentions of the Treaty of Waitangi 1840 honoured and embedded within the country's legal and constitutional framework. Despite the complexities that have arisen from the interpretation of the Treaty, it is clearly a living document and has support among New Zealanders in ways that did not exist before. "We're at a point now", one Māori participant said, "where we are strong in our worldview, and there is no going back on that."

We spoke at some length about the concept of bi-cultural studio.

> It should be intra-cultural too. The sensibility we get from doing this kind of project is that there is no time to waste … we're in deep shit environmentally. We don't have time to deliberate or stand aside from each other … this is human … this is what it means to be human. I think that's what's exciting about the creative potential of this collaborative project. (H. Smith, personal communication, February 2012)

When questioned about the best way to deal with the issue of the students' tentativeness about designing alongside another culture, given their deficiencies in language and understanding about cultural practices, the group was emphatic.

We are really good at communicating across that barrier. Māori don't mind as long as you give it your best shot. The students would get a heap out of a weeklong workshop. It's what Massey [University] does. Their Māori visual arts students disappear for a week up to the East Coast before class starts. That is the best way. The students then hit the ground running. It's a very good bonding process. We [Ngāti Tukorehe] are damn good at doing hui. (H. Smith, personal communication, February 2012)

They stressed that if students were introduced in this way to some basics of te reo and cultural practices (for example, pōwhiri),

they would be prepared instead of coming into it cold, nervous and scared. Imagine how good it would be if all the students, every year, had this experience. Yes, that would be ideal. A prerequisite of the learning experience! (A. Spinks, personal communication, February 2012)

Finally, we discussed methods. What design tools for analysis and evaluation were particularly useful in this kind of bi-cultural environment? Much has been written in the last decade about Māori-specific methodologies. Part of what is strong about Māori culture is its capacity to operate in its own way, on its own terms, as a strong and resilient culture (Smith, 2011). The team's idea was that a basic grounding in language and cultural practices supplemented with a variety of design tools—both Pākehā and Māori—might give the students the skills to operate effectively and critically in this unfamiliar cultural environment. We discussed what those concepts and tools or methodologies might be. First, being welcomed through the waharoa to the marae complex where students are literally warmed in an ancestral embrace of a whare tupuna in the ritual of encounter with the spiritual and material Māori world. Second, "the hīkoi

(walking and talking) on the whenua, getting out there and walking and seeing the place" (H. Smith, personal communication, February 2012). Third, whakapapa, a genealogical reference system that makes sense of a complex world, not just the genealogical relationship between people, but the system that pulls everything (nature, heritage and peoples) together. "That's a methodology, the sensibility of how we understand our place in the world is found there" (H. Smith, personal communication, February 2012). And in terms of evaluation, there is a range of particular values (discussed later in the paper) that are important to a Māori worldview, and that might serve very well as tools for evaluating student projects.

Student focus group

Students did not have a lot to say about what they felt they brought, as individuals and as designers to the studio. Some felt their skills were in "knowing how everything works together", understanding "scale and depth" and having the capacity to visualise ideas. The conversation about their contribution quickly turned to their relationship with the iwi partners and how they "got past their nervousness in the end" and started "working between them and with them". They also recognised how lucky they were to be working with people who were so generous with their time and ideas; and the way they made students feel welcome. "The marae trip was hugely influential," said one student, "they were really helpful. They asked us to do something and accepted us, so it was easier." Another student suggested how important it was that the leader of the research project and co-author of this paper had "an artistic sensibility and she acted as a bridge, a translator" and regular contact with her was particularly beneficial.

In terms of the cultural interface, in the first half of the studio, the students' nervousness was palpable. One student had "a fear of insulting [the iwi client], getting something wrong, going
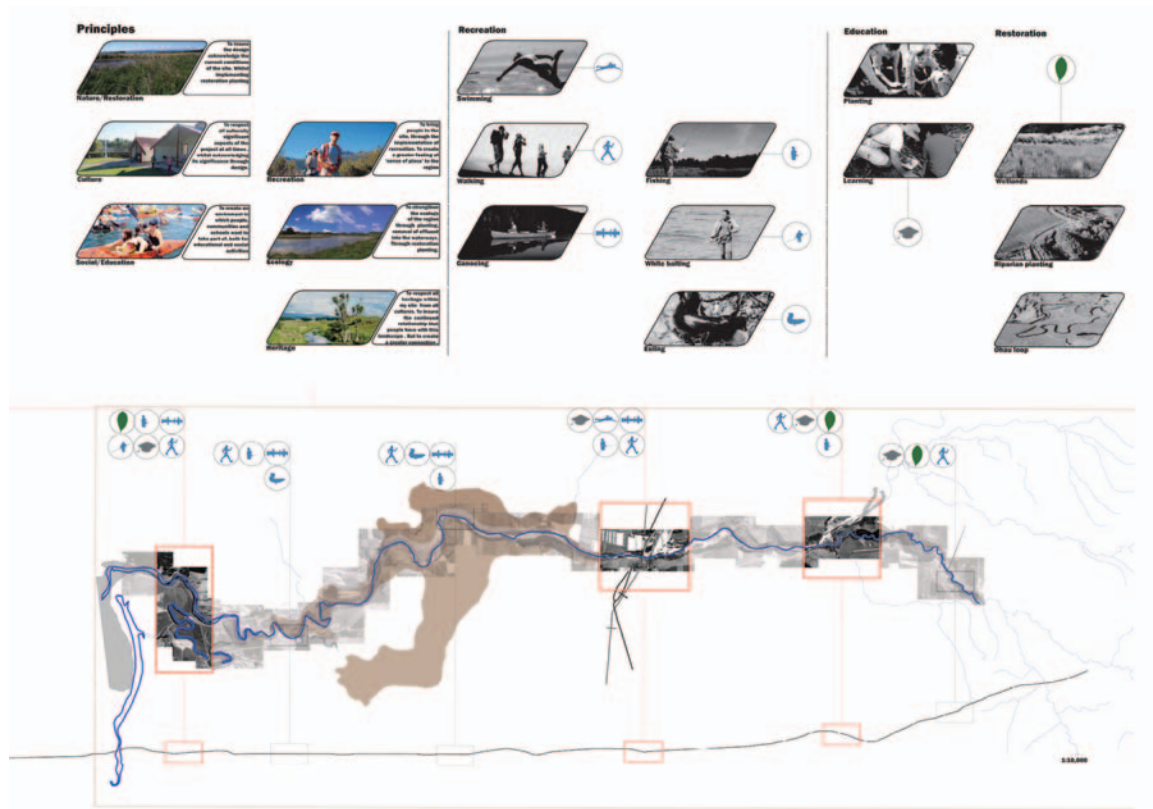
FIGURE 11   Student work: Plan for ecological and cultural interventions along Ōhau River, from the mountains to the sea (Bradley Ward). Source: Bradley Ward.

past a boundary", another said:

> In the first half of the semester I didn't want to do anything, I was worried about upsetting anyone, there was a bit of tension … I was scared to do anything different. They have a completely different idea … when I was preparing for the crit and Huhana said she was going to bring in all the elders, it made me nervous.

There was also confusion about how to communicate with the client, particularly from a distance. They wanted to get the balance right between getting the information they needed and not overloading the iwi with requests.

Despite these difficulties, students agreed that "in the end it worked out really well". Although the scale and complexity was larger than anything else they had done before. "We learned how things worked together … to integrate systems rather than see them as separate."

They also suggested that regular contact with the client in the latter part of the studio, which emphasised "cultural and spiritual" dimensions, was "hugely important" in helping them to achieve integration (Figure 11).

Did the project change the way they designed? Some students talked about the complexity and depth they achieved in their work being the result of an overlay of social, natural and spiritual that they hadn't experienced before. One student suggested that the "cultural and social aspects were hugely important, with the social balancing the technical". Another said, "I think the cultural side of the project was very interesting and it took a while to get my head around it just because it was so different to everything we've done before."

When asked how important design method was to the success of their projects and whether they did anything differently, they talked about "walking on site" (the hīkoi) and they wanted "more stories", suggesting that there seemed

to be "missing information" that constrained them from moving forward. One claimed, "the method would be different if we started mapping the cultural/spiritual aspects of the landscape" and that if we wanted the students to look at design method differently that we should "maybe write it into the brief".

Although the iwi found the process challenging, they seemed to be more resilient or more capable of adapting to a relatively unstable situation. The students, on the other hand, had a lot at stake, particularly the fact that their work was being assessed, so any confusion ensuing from the operations "at the interface" had the potential to affect their grades.

The protocol

During the course of responding to difficulties arising during the course it occurred to us that a protocol, developed to clearly articulate and guide the relationship between both parties, might be a useful tool. It would establish a framework or a set of ground rules that might deliver the certainty necessary to allow experimentation to flourish.

Since the Waitangi Tribunal was established in 1975 to investigate and make recommendations on claims brought by Māori relating to actions and omissions by the Crown in honouring the Treaty of Waitangi, an extensive body of research has flourished in order to address the challenges faced by bi-cultural research partnerships. "Research at the interface" was a concept established "to afford each belief system its own integrity, while developing approaches that can incorporate aspects of both and lead to innovation, greater relevance, and additional opportunities for the creation of new knowledge" (Durie, 2004, p. 13). The concept is based on a three-house concept (Winiata, 2005) based upon the Treaty of Waitangi. The model (Figure 12) advocates

for the creation of discrete spaces in which the cultures, one represented as Māori (the Tikanga Māori house), and the other represented by the Crown (the Tikanga Pākehā house), can naturally evolve in their own way. It also sets forth the conditions and principles in which two discrete houses can interact with one another to give rise to the "Treaty of Waitangi House". (Royal, 1998, p. 6).
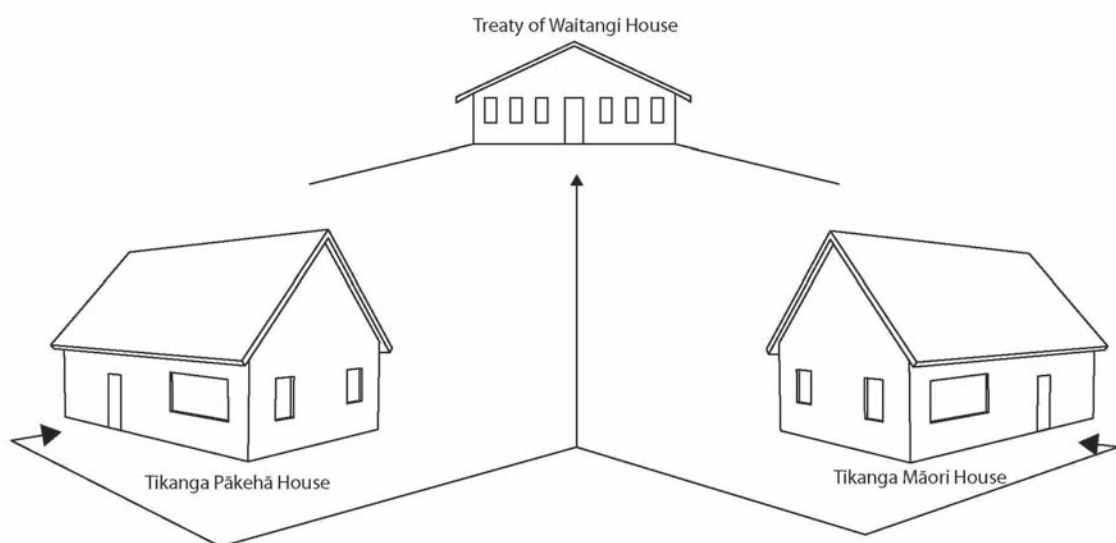

FIGURE 12   The Tikanga Pākehā house. Drawing from image of Two Peoples Development based upon the Treaty of Waitangi. Source: Drawing by Brad Dobson, Victoria University of Wellington based on Royal (1998).

The principle of interaction from a position of mutual respect, integrity and strength is particularly important to the successful operation of a bi-cultural studio. A protocol which formalises a set of conditions and principles to support a bi-cultural partnership can establish the rights and values of both cultures and create a "third space": an environment where both cultures feel free and safe to experiment and challenge the status quo. Each point in the protocol has a number of pedagogical and cultural implications that will affect not only how the studio is managed and how each member of the partnership behaves, but also how the studio sits within a wider curriculum framework. These will be discussed in a subsequent paper. The protocol is as follows.

A bi-cultural design studio should:

- be preceded by an apprenticeship in the culture, its history, cosmogony, customs and language;
- be characterised by a fundamental shift in method;
- lead to innovation, greater relevance, and additional opportunities for the creation of new knowledge;
- have active Māori participation, as researchers and respondents;
- use mainstream and Māori tools for analysis;
- include Māori values and concepts as a basis for assessing the relevance and potential benefits of the research;
- have a code of ethics; and
- not make liberal use of mātauranga Māori in a manner which runs the risk of distorting both context and content.

The protocol was developed halfway through the studio in response to dissatisfaction about the outcomes of the studio. It allowed us to check what was not working and why, acting as a diagnostic tool which allowed us to reflect on studio practice. It can also be referred to at any stage during future studios to make sure the process is "on track". Its simplicity and clarity allows us to be specific and targeted in both diagnosis and prescription. It acts as a catalyst for a deep and productive engagement between cultures where both are seen as bringing something of value to the table. It can also be used as a research tool: each point in the protocol is a research "problem" in its own right, and the "action research" process of research, testing and evaluation through studio over time is likely to result in richer, deeper and more productive bi-cultural working relationships.

Discussion

There are a number of preliminary conclusions that can be drawn from this research about the operation and significance of design studio in bi-cultural environments. First, in this kind of design studio, both parties must come from a position of strength. Ironically in this particular case, the Pākehā students felt nervous. This is perhaps because Māori culture is strong and sure of itself (especially in the Ngāti Tukorehe or associated hapū context), whereas in contrast, the student group was relatively young and inexperienced. Perhaps too, students are typically not taught to be reflective and explicit about their practice and are therefore unaware of the qualities and strengths they might bring to such a partnership. Second, it cannot be overestimated just how much immersion in another culture is required to move beyond the most superficial understanding. It is difficult to achieve this kind of exposure in professional life; this is why bi-cultural initiatives at university have so much potential. Third, a deep grounding in both one's own and another culture is more likely to produce studio work of depth and richness, work that reaches beyond the deployment of symbols and that encourages a concomitant shift in thinking for both cultures. Finally, cultural landscapes need to be visible and understood in a cross-cultural context and their existence and values regularly embedded

and referenced into landscape design, urban planning and architectural design. A country's designed landscapes are more likely to reflect its cultural makeup if all cultures have adequate representation in the professions responsible for the built environment. Bi-cultural design studios can help in Aotearoa New Zealand because they introduce Pākehā students to the values and practices of Māori. This exposure, if managed well, might result in deeper and more meaningful responses from the professional Pākehā designers that constitute the majority of design professionals in this country. However, this kind of studio also makes the curriculum in design schools more meaningful and relevant to Māori students. Although it is difficult to find accurate figures, statistics indicate that few Māori graduate from design schools. As iwi in the focus group suggested, the bi-cultural studio shows their own children how they might find a possible career pathway in the design professions.

Conclusion

The introduction of bi-cultural rural and urban landscape design for all tertiary design professions could have far-reaching effects not only for Aotearoa New Zealand, but for all countries engaged in similar issues. The approach outlined in this essay has the potential to shift the way Pākehā and Māori interact to produce landscapes of lasting value that deeply reflect the bi-cultural nature of this country. This is a powerful way to ensure that the country's landscape is a proper reflection of its bi-cultural status, as well as helping develop the skills

that encourage Māori to design, determine and maintain control over their own destiny.

Glossary

awa	waterways
hapū	extended kinship group
hīkoi	walking and talking meetings on land
hui	meetings
iwi	tribe
kaitiaki	custodians, guardians
kaumātua	elders
kaupapa	Māori philosophy
mahinga kai	food gathering area
marae	meeting houses
maramataka	Māori moon calendar
mātauranga Māori	Māori knowledge
moana	seas and harbours
Pākehā	New Zealander of European descent
papa kāinga	original dwelling areas
pōwhiri	welcome ceremony
repo	wetlands
Te Ika a Māui	Māui's fish; the North Island
te reo	Māori language
tikanga	protocols
urupā	burial areas
waharoa	gateway
wāhi tapu	sacred areas
whakapapa	genealogy
whānau	extended families
whare tupuna	ancestral meeting house
whenua	lands

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