

Drawing variants: tilting the theodolite

Barbara Tuck and Sarah Treadwell

Projection (fig 1): *Comforted by the interior, nineteenth century surveyor John Wallis Barnicoat drew up a chair. Its legs, tangling with his, scraped across the wooden floor and he steadied it so as to maintain the regularity of the line he was inscribing in his journal. Seated in the Moutere Survey house, at the top of the South (Middle) Island, the lines on his page were a continuation of the lines cut by the surveying gang through the scented scrub and tangled vegetation, imaginings about increasingly elusive memories and a future yet to be constructed. He scratched a small plan of the house.*

Surveyor J. W. Barnicoat kept a journal during his time of employment with the New Zealand Company. Enfolded within the volumes are architectural drawings of survey houses that he built and inhabited recorded with plans and perspectives. The architectural plan, as conceived by Frascari, is a poetic production of building.² Not only an analytic or prefiguring operation the architectural plan also registers the tactility of building.³ Selected from Barnicoat's 1841-44 journal are architectural drawings which are read as poetic and tactile productions of colonial domesticity, as deferred and imaginative material assemblages that resonate with, and predict, twentieth century constructions of domesticity in New Zealand.

Aligned with the reading of Barnicoat's journals is a perusal of a book of architectural drawings by Ernst Plishke.⁴ Titled *Design and Living* it was produced for the New Zealand Government in 1947 as a survey of the existing and future housing.⁵ Both books consider architectural conditions in New Zealand, one at the time of colonisation and one during modernisation. Drawings by Barnicoat and Plishke are brought together in writing and drawing with regard to relationships between colonization, modernity and domesticity. The assemblages are seen to involve an inclination between states and times; a sliding into and out of material, shifting from the remembered to the forgotten to the imagined.

In 1844 Barnicoat stood with theodolite and chain in the landscape, making drawings as devices for reshaping the land (fig 2). Pencil sharpened like a lens, the field book was inscribed with the profiles

of the land and garnered measurements hard won across swampy ground or slippery dry tussock.⁶ Sighting across the terrain the distant view (a projection of the new ordering) provided his worn body, momentarily, with respite from the hard immediate ground.

Projection (fig 3): *At night Barnicoat withdrew from the unrelenting sky. The intransigent nature of his partner's disposition and the appearance of prohibited alcohol on the survey made welcome the chair by the fire. Looking down at the chair Barnicoat imagined the touch of its wings on his shoulder blades.*

The chair insists on the memory of gravity and subject to importation it records the architect's travels as a souvenir of styles. Repository of the weight of dreams and retaining a memory of the bodily in its form, the chair inclines, sliding between states. Thus lodged the body is a mere slippery suspension between the visual and the tactile.

As a siting/sighting device the chair is discovered in both surveyor and architect's written and drawn accounts of interiority and domesticity. The chair inhabits survey houses and architectural surveys as an articulation or interpretive device for reading the imprints of interiority and conditions of domesticity in New Zealand architecture. Ernst Plishke's chairs, strung through time, a gleaming metallic thread, reassemble and reconfigure past structures of domesticity and propose new definitions. Casting and carving, with laminations, extrusions, mouldings and mass productions Plishke observed;

Although these considerations may come under the heading of 'furnishing' it will ... become obvious ... that ... a clear distinction between 'house' on one hand and 'furniture' on the other is no longer possible.⁷

Assemblage one: The Moutere Survey Station (fig 4).

The Moutere Survey Station, located at the northern end of the South Island of New Zealand, was drawn by Barnicoat in 1842 in plan and in perspective. An instance of the colonial 'domestic' and a proposition of control the architectural drawing can be read as a

prescription for social and spatial relations that still linger in housing in New Zealand.

Capturing a point on the grid (the grid that parcelled and, temporarily, re-apportioned the land) the Moutere survey house (*fig 5*) occupied it provisionally, temporally, in a brief engagement with a specific point. The grid effectively organized both the land and the mode of occupation which was bracketed around one point in space. Occupation of a bracket or parenthesis suggests an uncategorised assertion within an existing order. The colonial and domestic conditions, always unruly, nevertheless, collect around a system of control. The body, bracketed by a chair in a temporary partial containment, is an embodiment of domestic relations with the apportioned, appropriated land.

The Moutere House, as drawn, is a divided house. There is no internal circulation from room to room. The back to back corners describe a separation and the impossibility of communal relationships. Communitarity was, of course, prevalent in the local (and disparaged) pa. The imagined future in the images of the Moutere House is one of a conjunction between proximity and separation. The walls, which separate and divide, are also drawn as inhabitable marking out a boundary and containing space. The walls become passage like, a linear space that casts the rooms into an external condition, a form echoed later in the central corridor of the colonial architectural form of the villa. Signalling an in-between condition the gaps in the walls of domesticity resound with the separations and collisions of inhabitation.

Ornament and reproduction coalesce and inhabit the centre of the plan of the Moutere survey house. The delicate pattern of the thickened cross is a decorative and potentially repetitive detail; every point of the surveyor's grid could be articulated with such an ornamental floral organ. Every joint is such a thickening; conjunction flowers. The junction in this image furnishes the domestic as a decorative or formal articulation of social conditions. The walls leading to the jointing are ornamental containers of volatile combinations; the reproductive, the 'Married couple,' were to be separated from single men and 'Surveyors.' The separations, however, do not avoid the possibility of contamination. In the chimney escaping gases mingle, the conjunction is fruitful.

The Moutere house plan, diagrammatically foundational, is bedded in a domesticity. The married couples have no beds, surveyors have bunks at cross purposes and the single men have aligned

and double bunks. Rather than an oppositional structure of the sexual, a horizontal penetrated by a vertical,⁸ the Moutere survey house is an inclination between two states; both and neither properly. An angular house, concerned with deflection; deflection of words, theory, emotions and blows. The corners, inclined between parts/people/states, in the coolness of conflict, hold out the possibility of contact. They also locate the cross piece. The house registers both conflict and the impossibility of reconciliation within and without.

The plan on the page of Barnicoat's journal touches the north point which nudges the plan with its loss of instinctive orientation; it spins. The wall lines hook around, gathering space, projecting the corners of the house outwards, spinning the centre in a wayward movement. Bereft of familiar navigational aids it travels.

Projection (fig 6): A world and a hundred years later Ernst Plishke, refugee and architect, arrived in New Zealand, architecture his vista. Suffocated by the clean empty air Plishke dragged his chair into the courtyard. Out into the air which he proceeded to construct as internal. Caught in the crook of the house, outside the house, he imagined an architecture to reconstruct family life. He drew a chair and then another.

In Pliskche's images of the L shaped dwelling chair and house are bound together (*fig 7*). The plan collects a corner, inclining around the open courtyard it repeats the formal structure of the chair. It marks the moment of solitary reflection the individual on the house, the house upon the suburb. Yard and chair, lightly poised, are empty in a landscape that runs to the horizon promising only solitude in this new world. Plishke wrote of his L shaped house;

The straight forms of the house are continued even in the paving and the garden pool to bind the house into one unbroken unit. The idea of keeping everything as light and thin as technically possible is carried through also in the interior design. Each chair is made according to its own use and purpose. The dining-chairs are as light as possible; the reading-chair is rather more comfortable.⁹

The corner that is the L shaped house seems as a segmented remnant of Moutere. That survey house, collector of oddities, disseminator of regularities, gathered such corners together in a middle ground (*fig 8*). The gathering of contours, seemingly reasonable, tilts the plan undoing an apparent but fallacious symmetry. Land marks, contour lines, decorate this implacable plan of the Survey Station

which caused the land to be temporarily considered disposable, negligible or commodified.

Below the plan Barnicoat offers another version of the house (*fig 4*). Epitomizing 'home,' the gabled roof contains a 'proper' notion of family. Four walls offer the propriety of enclosure and containment. This house is a personification of now familiar constructions.

Projection: The two faced house offers a shaded face, the end wall/skin with a central dark door/mouth and winking eye/windows, fringed with strands of timber/hair. The other face split, doubled, a light skin/wall speaking with two voices reflecting the divided nature of the interior. The faces, back to back, echo the carved pou that gaze out through paua shell eyes from the palisaded fence of pa.

Cast from internal conditions the singular and divided roof indicates divisions that question any unity of domestic structure (*fig 9*). Where the walls in the plan occur in elevation there are only door openings. Doors, traditional hinges, mechanisms of adjustment, here mark an altered condition, an inability or a refusal to speak with a singular voice.

The Moutere Survey House idealised as thatched cottage unpicks the persistent myth that in the colonies a chance existed to escape the 'containment' of domesticity. It still rehearses the myth in that the category 'man alone' is allocated more space than the area assigned to a 'married couple.' But the house also constructs the possibility of solitude and separation as occurring *within* the confines of domesticity. Barnicoat's domesticity signals a double move of containment and separation. Isolation, a traditional attribute of nature, was in New Zealand already framed as a domestic condition.

Projection: Leaning forward on his chair to catch the shadowy candlelight¹⁰ Barnicoat marked out a zero point on his scale beneath his perspective of Moutere Survey Station and, carefully blotting the ink, allowed for the possibility of an overlapping of experience and imagination.

The small linear scale on the drawing (*fig 5*) asserts another state or an inclination between two conditions. The drawn architecture refers to another reality, another condition of existence; scale as a kind of body covering, a hard sheathing of a soft condition. Barnicoat drew small steps, insect-like marking out of territory; 'feet' moving in a linear fashion mapping across domains. The graphic marks of the scale on the page provide a notation of the animal condition of drawing. The meaning of scale lodged neither in the image nor in the words but

instead between sign and gaze. The scaling device ensures mobility, lack of placement and the possibility of being in two places at once. Barnicoat's chair (lurching on the earth floor) is another such scalar device with its insistence on a particular body in architecture.

Moutere Survey Station constituted a standing point. A station-point from where surveying and recording devices ordered and parcelled up an already owned and occupied land. The process of constructing a system of occupation of the external world did not occur on a blank slate but within, on, through and over another system of land use. Here the violence of the survey (to become bodily and bloody for Barnicoat at Wairau) is repeated and masked as a domestic construction. The Survey Station is also a house redolent of familial occupation. The devices of the surveyor are already domestic items; their inscribed white sheets already bloodied.

Assemblage two: The 'Weimai' Survey House (*fig 10, 11*).

Barnicoat wrote in his journal reflecting on his experience with the Moutere Survey Station;

From the experience of this I am convinced that the cheapest plan is to lay the house out one room deep only - the chimney's should be back to back - also where wood is to hand, poles can be put up quicker than clay. Indeed I would have the posts about 4 inches in diameter put as close together as they would stand leaving cracks and chinks only to be stopped by clay.¹¹

Barnicoat's drawing of the 'Weimai' Survey House plan depicts three rooms in a line (*fig 12*). Two fireplaces back to back across a folding line wall share a chimney. On one side of the wall is a single self contained room. On the other side are two rooms with internal access. The chimney is caught in a line of replication, as a marker of reproductive potential. The reproductive nature of line, lineage, suggests a colonial construction of another blood line culture. A line whose continuation is signalled by the projecting purlins. A system that is described by Barnicoat as "one room deep," the singularity not negating the possibility of depth, a conjunction of individuals not swallowed up by notions of the 'whole' or the 'master plan.'

Plishke intervenes (*fig 13*):

Each piece of furniture has good pure lines and its use has clearly determined its shape. Its structure is not concealed by superfluous ornament. Since each piece has its own

*purpose, the method of its construction is quite independent of that of any other piece ... Chair, table, sofa, bookcase are, so to speak, independent individuals and not part of a set. The same freedom is kept in the placing of furniture in a room.*¹²

Stretched out in a line (*fig 12*) the plan consists of adjacent segments separated but in back to back proximity with an assertion of the 'room' as a primary form. The construction of the house as room both particularises (like the surveyor's vision) and also universalises in that replication renders all individuals as one. A simple, sideways replication in non-hierarchical addition, the 'Weimai' house is a collection of units strung across a landscape mapping out another domestic structure.

Survey lines are constructed as linkages mapping out provisional structures that register continual shifts of the body in landscape or house (*fig 14*). The new landscape/domestic narratives and their incremental displacements are pegged out in space, the shifting positions reinforcing and questioning each other simultaneously.

A line of rooms stretching through space operates as a divide (*fig 12*). The Weimai Survey House is constructed as a palisade, a line of closely marshalled posts, creating here and there, home and otherwise.¹³ The palisaded boundary defensively anticipates and prevents trespass (*fig 15*). Survey pegs leave their traces within the walls; the home is fortified. Across and through the fence certain property is regulated through exchange (food, arms, women, stories). The defensive house tightly controls the nature of the interior and the skin openings but the system of exchange and the delineation of enclosure makes illicit passage inevitable.

Lodged in the line as a figure of conjunction the fireplace, sitting on the fence, records a jointing, the variable nature of union. The figure chair/fireplace (*fig 16*), drawn back-to-back, is an overlapping of time, of bodies. It insistently recalls the theoretical to the bodily, in its doubled addition, repeated union. Unsettling the settled, the four legs of the chair scrape across the floor. Faint lines groove the earth.¹⁴

In the line of rooms that was the 'Weimai' Survey House the extra room, past the mirrored rooms (*fig 17*), contains a sketchy row of bunks and a north point (*fig 10*). Turning, moving to the sun, the middle bunk unreflected and inscribed by the compass, marks the trajectory of dreaming desires.

Projection: Stumbling from his bed in the darkness Barnicoat negotiated the tight interior. Early morning sharp frost caused his eyes to water as he stepped out of the house and drew in the first gulp of morning air. The warm dank residue of house and lungs momentarily clouded the clear light.

Below the plan line is Barnicoat's sketch of the Weimai Survey House. The unified exterior belies the string of rooms in the interior. The assertion of the individual, new units in the colonial situation, is concealed by the importation of the self-contained family. Barnicoat's sketch of fabricated domesticity is set in a familiar landscape of foreground with picturesque object and a background of sublime nature. The house is positioned between everyday objects and the ether; grounded but with its smoke joining the clouds above. Family life is captured in this sectional construction.

The roof, draped garment-like across the structure, is suspended between the divisive walls that it both conceals and contains. A cloth thrown across the bones of domesticity making a tentative, lightweight construction at odds with notions of solidity and permanence of 'home.'

Projection: Barnicoat added to the letter to his wife describing how he missed her and longed for a time of meeting. He sketched the Weimai Survey Station (fig 18), solidly familiar, with the rustic and unusual construction as evidence of his exotic location. The chimney quietly smoked beside him and in his image in solidarity with notions of contented domesticity.

The drawing depicted two paths leading to two front doors, one prominent and decisive, the other faded in the undergrowth. The chimney, shifting along the ridge, promotes one path and door as the main entrance and plays down the peculiarity of a home with two front doors. The house almost appears to be proper but for the appearance of a tent to one side. The tent is rendered as a minimal, inconsequential object like the trolley and barrel. However the repeated sag of the ridges connects tent and house and suggests that there was a need to supplement the nature of family life. Domesticity might not be not self contained.

Projection: At the end of the month Barnicoat again drew the Weimai house (fig 19). This time he thought he might catch the mail home. Walking to the end of the path he turned and looked back catching the house unaware. He drew. The ridge of the house still had, however, a life of its own, it waved and curled as the fabric hung from the

structure. Attention paid to the line gave it an insouciance that started to render the image of domesticity frivolous.

In this image the house has become background to the tent which authoritatively occupies the central space. The path still leads to the house but it is partially blocked by the usually inconsequential barrel. At the base of the hills, perhaps set in welcome opposition to an overwhelming nature, the house has acquired (water leaked and ground shifted) a fluidity and independence that Barnicoat managed to eliminate only in the tightly stretched tent. The tent, portable and mobile, was detached from ideas of domesticity and homeliness. A room running free as a minimal degree of occupancy. Lightly pegged, it would leave only small puncture wounds, the imprint of a chair, on departure.

Barnicoat recorded in his journal his own occupancy of such a lightly fabricated domesticity (*fig 20*). He was architecturally mobile, shifting sites, and shifty within architectural worlds. His encampment on the Wairau plain indicated a knowledge of local architectural forms. Barnicoat wrote;

*Our encampment consists of a gable tent, a round and an oval one. We have besides put up a skeleton house on poles & covered it with a tilt-cover. This [is] our store-house and is intend[ed] as rat-proof.*¹⁵

The encamped domestic is multiple and temporary, as in an arrangement of furniture. The object like nature of the tent is apparent in Barnicoat's closed depictions of their forms. The arrangement of these very separate complete structures seems to be haphazard, side by side and overlapping with no overall plan. The line of rooms that was the 'Weimai' House had drifted apart.

Efforts at control of this wayward domesticity may be discerned in the military and ecclesiastical references in the image. 'Home' is couched in military forms, the circular tents of battlefields. Even the tilt cloth alludes indirectly to jousting. The 'tilt-cloth' or awning, however, is a light covering that reveals a minimal skeleton frame of the structure beneath and reasserts the possibility of mobility in architecture. Even the forms with an independent frame are lightly fabricated.

Plishke comments;

No. 2 is more capricious in design (fig 21). It is not without a certain playful and 'occasional' fluency of line. There is no severity about it. The frame is made of bent

*laminated plywood and the seat is quite obviously put on top of it as an independent part.*¹⁶

This settlement, a temporary construction of home, involved in often contentious acquisition of land, nevertheless drew on architectural forms of the indigenous culture. The gable tent/house in the drawing is similar in form to the gabled chief's house drawn by the missionaries in which the gable ends reach the ground. The store house, covered with the awning, refers more directly to the indigenous store house or pataka. Barnicoat was aware of the existing architecture of New Zealand. He later drew a plan, elevation and sketch of a chief's house on Ruapuke Island (*fig 22*) in which he recorded the interior arrangements including the positioning of the "Mats for seating and sleeping." He later incorporated mats as a unit of domestic furnishing/functioning.¹⁷

Mats as seats make the body mobile in relationship to the ground, shifting in all dimensions (*fig 23*). As clothing they furnish the body. A covering or an ornament to the floor, the mat is also located as part of the vertical walls (as woven structure or tukutuku) in the meeting house (*fig 24*). Between European categories of furniture, furnishing, structure and clothing the mat, like a worked over drawing, is an articulated surface. The tent as pegged fabric/mat similarly mediates between categories of furnishing, furniture and architecture.¹⁸

The chair poised between verticality and the prone is a moment of balance between the axes of orthogonality and describes another condition, the inclined (*fig 25*). As a leaning, a deviation and a bent, architecture as proposed by Barnicoat and mediated by Plishke is epitomised in an assemblage of furnishings, the chair, the mat and the tent (*fig 26*). Furnishing the land and furnishing a domestic condition they have an allegiance to and a persistent deviation from the orthogonal traditions of architecture. The house (*fig 27*) shaken free from the singular stable form of 'home' and another condition of housing, multiple, temporary and mobile, is proposed.

NOTES

- 1 John Wallis Barnicoat (1814-1905) was born in England, and trained as an engineer. He arrived in Nelson in 1842 and worked as a surveyor for the New Zealand Company. Una Platts, *Nineteenth Century New Zealand Artists: A Guide and Handbook* (Christchurch: Avon Press, 1980).

- 2 Marco Frascari, "Plans (3) Ichnography: The Topical Enigma of Architectural Plans," *Terrazzo* (Spring 1989) no. 2.
- 3 The plan, the ubiquitous architectural drawing, is, in New Zealand, considered to be essential in that it is instrumental to the act of building, the preferred condition of architecture. New Zealand architecture, it has been argued, comes from colonial traditions of self sufficiency and practicality, privileging working 'directly' with 'material.' Notions of direct experience in shaping a 'natural' land underpin much of the writing about colonial life. This paper, however, attempts to insist on reading the corporeal into the theoretical and the speculative.
- 4 Ernst Plishke is a Viennese architect, born 1903, who as a refugee from the second World War arrived in New Zealand in 1939. He worked initially as a draughtsman and later as an architect until 1962 when he returned to Europe. Linda Tyler, *The Architecture of E. A. Plishke in New Zealand: 1939-1962* (MA thesis, University of Canterbury, 1986).
- 5 E. A. Plishke, *Design and Living* (Wellington: Department of Internal Affairs, 1947).
- 6 Ruth Allen quotes surveyor Curling Young in her history of Nelson's settlement, "'there never was such a place in that respect - at the top of the Mountains and along the side swamps without end.' The deep bogs and the raupo, bulrushes and giant flax growing therein made survey work in some areas a nightmare." Ruth M. Allen, *Nelson a History of Early Settlement* (Wellington: A. H. & A. W. Reed, 1965), p. 197.
- 7 E. A. Plishke *Design and Living* (Wellington: Department of Internal Affairs, 1947), p. 45.
- 8 A. Loos, "Ornament und Verbrechen," (1908) Bendetto Gravagnola *Adolf Loos* (New York: Rizzoli, 1982), p. 67.
- 9 E. A. Plishke *Design and Living* (Wellington: Department of Internal Affairs, 1947), p. 41.
- 10 Barnicoat during the construction of the 'Weimai' house wrote in his journal "we advanced rapidly with our house and look forward with pleasure to sitting under cover where we can light a candle" *Journal* (Wellington: Alexander Turnbull Library, 1841-44), p. 8.
- 11 John Wallis Barnicoat, *Journal* (Wellington: Alexander Turnbull Library, 1841-44), p. 34.
- 12 E. A. Plishke, *Design and Living* (Wellington: Department of Internal Affairs, 1947), p. 33.
- 13 "Drawing the line somewhere is an activity of last resort. ... Vigorously maintaining the space that remains, it is a line that attempts to fix a limit. These ruled lines are according to Sir Joseph Reynolds 'to be considered fences placed only where trespass is expected.' ... This seemingly paranoid prescription fails to realize that fences are also made for sitting." R. Durham Crout, "Red Lines," *Implementing Architecture: Exposing the Paradigm Surrounding the Implements and the Implementation of Architecture* (Atlanta: The Architecture Society & Nexus Press, 1988), unpaginated.
- 14 "This line marks a ... feeling that something is about to go too far. ... Here, the line exposes itself as 'trespassing' its own limit. It reveals that beneath its sharp edge is an ambiguous and blurred foundation. The act of drawing the line somewhere contains within it the very mechanisms of its own dismantling. In other words this line situates itself somewhere between sense and non-sense." R. Durham Crout, "Red Lines," unpaginated.
- 15 *Barnicoat Journal*, May 15 1843. Text on drawing, Alexander Turnbull Library, Wellington C21763.
- 16 E. A. Plishke, *Design and Living* (Wellington: Department of Internal Affairs, 1947), p. 17.
- 17 See his designs for Maori housing in Nelson 1843. *Barnicoat Journal*, p. 87.
- 18 Catherine Ingraham points out that; "architecture is a discipline that defines its boundaries and design capacities according to the workings of orthogonality (strictly defined, the right-angledness of the line) ... even in epistemological and representational accounts of its own artistic practice, architecture relies on a kind of orthogonality, a linear movement from drawing to building, architect to drawing." Catherine Ingraham, "Initial Proprieties: Architecture and the Space of the Line," *Sexuality & Space* ed. Beatriz Colomina (New York: Princeton Architectural Press, 1992), p. 264.