1. Introduction

Objectives and scope

This report documents the various concepts, inquiries, materials, processes, and techniques that comprise my Studio Practice Component. It includes also the false starts, corrections, and hesitations in a manner that finished works are at pains to hide. It recounts experimentation with various media and the generation of my ideas, captures the roots of my creative processes, and reveals how it is as much a process of deciding what not to do as it is a process of endorsement.

The primary theme of the studio work is based on my life-long interest in geology and, more specifically, my concerns regarding the vast quantities of geological resources needed to sustain an ever expanding and increasingly demanding global population. Reflective questioning on my part, such as “where will all the water, fossil fuels, and metallic ores come from to propel all six billion of us into the next century?” and “where has all this material come from so far?”, constitutes the driving force behind this creative and explorative journey.

My response to such questions is manifested in the form of sculptural constructions and assemblages using work shirts, bricks, sheet metal, maps, text, and rock samples. These materials either embody the earth directly, are manufactured from it, or represent categorised and abstracted information about it in the form of topographic and geological maps. The works constitute a kind of abstract material remapping of this continent and our association with it through the consumption of geological resources.

I have sought to construct works that centre the self-importance and perceived inclusiveness of urban centers, by examining their economic and geological life-lines to so-called peripheral areas of ground where the extraction of mineral resources occurs. My mapping of the land draws on geographic and geological investigations and some of Australia’s economic, political, and cultural relationships to the ground of which (and on which) it is constructed. It is sculpture that encourages viewers to construct dialectical
relationships between the geographically rooted dichotomies of the gallery (as centres for the contemplation for art, but on a metaphorical level, as urban centres of mass consumption) and the geological sites and resources to which the works refer. Another implication broached by the work is the evidence that all land in Australia can be construed as an object for commodification.

The works explored in this report are based on personal geological field experiences as well as broader interpretations of mineral resources in Australia. Informing them also are the writings of Steven Kesler, Peter Hancock, Geoffrey Blainey, and Mary White who provide ecological, political, scientific, and economic views (often contrasting) on future possibilities regarding mineral resources and the effects of mining on the environment. The formal and theoretical discourses my works embody are in part responses or dialogues with the works of artists such as Robert Smithson, Carl Andre, Donald Judd, Guillermo Kuitca, Michelangelo Pistoletti, Lothar Baumgarten, Hamish Fulton, and Imants Tillers. On such frames of reference, I have elaborated, endeavouring to extend their use of maps, grids, earth samples, metals, and other materials and processes in art. Other sources of inspiration for my works are the theorists and art critics who write in relation to the intersections between art and land, including Rosalind Krauss, Alan Sonfist, Jeremy Gilbert-Rolfe, Robert Storr, Wynstan Curnow, Benjamin Weil, and Craig Owens. By integrating or layering geological explorations of the Earth, current political, ecological and cultural concerns, and other artists' responses to the ground, I have sought to create works that seek to seduce the viewer into exploring themselves in relation to land and land use.

In the dissertation component of my study, I analyse how art can be used as a vehicle to bring distant mine sites and related mining issues to the attention of urban centres of mass consumption. The dissertation draws on the Site/Non-Site dialectics of Robert Smithson, Alfredo Jaar's installations reflecting connections between Brazilian gold miners and urban centres of consumption, and the Bark Petitions sent to Parliament by the Yolngu people of Yirrkala, North East Arnhem Land, to protest the mining of
bauxite on ancestral lands. These works enable viewers to construct dialectical relationships between geographically rooted dichotomies. I am interested in how the artists have perceived their relationships as mediators or facilitators between geological materials and mining activities at distant or peripheral sites and urban centres of consumption.

How these artists decrease the conceptual and or physical distances between the geographical extremes forms the backbone of my period of study in the studio, where each of the works elucidates the relationship between people and geologic resources differently and I am the mediator or facilitator. Underlying these works is an exploration into the act of looking at land and reflecting on our multitudinous relationships to it through consuming the ground. Despite the inception of my ideas in the works, each piece is intended to be open-ended in that meaning can be negotiated at various levels.

Despite my longstanding concern for human and ecological welfare in relation to mineral resources, and the objectives of my proposed program of study, the backbone of these works is my intense desire to regain a sense of place in the world, to feel grounded and connected to the land. It is from this yearning that these works are heavily invested with maps of Australia, my current home. The element of repetition, which alludes to gridding and mapping the land, reflects my desire to weave a relationship with the land.

This island-continent, Australia, is far removed from where I was born (The Netherlands), the first of three languages I learned to speak (Dutch), where I was raised (Québec, Canada), educated (Canada, The Netherlands, United States, Australia) and the land that my soul constantly yearns to return to (the Canadian Arctic). My family is fragmented - spread variously across four countries on three continents. For these reasons, I now yearn for some measure of stability and, as always, seek to construct it through my explorations of the ground, wherever I happen to be living at the time.

For four years, Australia has been my place of residence (twice as long as intended originally) and my perceptions and experiences of this country are ingrained deeply within the structural and material properties of these
works. For me they resonate with my desire to gain a comfortable sense of place, a feeling of belonging. The works documented here, like those that preceded them a few years before, are rooted geographically, and for me their materialisation manifests a poetic mapping of my mind. This is also a search for an as-yet-unrealised home, in that the domestic sphere, in relation to the land outside, is alluded to time and time again through saucepans, bricks, and bolts of material, all of which have been constructed from, or imprinted with, fragments of maps.

Since my early childhood, I have sought to create a sense of place for myself through writing, drawing, gazing at maps, reading about explorers, and investigating the earth beneath my feet. This desire for belonging somewhere, whether geographically or in the mind, is captured partially in short stories that were written during the course of my research. It is only by writing these memories and experiences that I have been able to unleash the bits and pieces of this visual narrative.

The next part of this section relates two autobiographical short stories that recount some of my early geological experiences, and are included to help illustrate the origins and motives behind my studio works. It is followed by a discussion of relevant literary investigations that relates my studio work to my dissertation, which is a separate document. The remaining sections of this Studio Report provide in-depth analyses of studio works I have created over the past four years. Each of the works is described chronologically from its inception to its final exhibition, providing the concepts, materials and processes, frames of reference, as well as personal thoughts and motivations that have influenced the making process.

Early references

My father, a research scientist, or more specifically, a geophysicist, while we were eating our dinners at the round dining room table, would explain how the Earth was formed. He talked about plate tectonics, earthquakes, volcanoes, and other geological phenomena. The Earth, when it first began, had no skin, no crust, no ground at all. It was just a big ball of molten
material. Where did the ground come from I often wondered, and I'd steal a quick glance to make sure it was still intact under my chair.

The accoutrements of a meal - napkins, place mats, cutlery and dishes - were used to model the formation of towering mountain ranges, deep ocean basins, and sweeping plains of black volcanic soil. From the window ledge in the dining room Papa would take his cherished mineral samples and show us differences between sedimentary, metamorphic, and igneous rocks. Once he really surprised us and brought home a piece of the moon.

In his stories, lava spewed forth from deep ocean trenches where no fish dared live. I had visions of seething masses of orange and red exploding in all directions, the immense heat boiling sea water and driving clouds of steam miles high into the atmosphere. Lava bombs would fly in all directions. His eyes took on a slightly wild look and his flamboyantly gesticulating arms matched the immensity and excitement of such monumental and potentially catastrophic events. I swear I have had occasion to duck.

At other times, his hands would take on the eerie presence of massive continental and oceanic plates separating or colliding ever so slowly; a minute matching a billion years, hardly discernible to my eye. But suddenly, with the explosive force of multiple earthquakes, the hands would jolt and jump in staccato, rupturing the stillness of the air, causing my heart to skip a beat, and the ground to buckle and break beneath my feet. The cacophony of rumbling and hissing noises that issued from his mouth added enormously to the spectacles I was so privileged to watch.

Sometimes I superimposed my father's stories onto a picture map of the world that hung above my bed. I tried to figure out which continent moved where and how the glaciers inched across the land. Sometimes I got carried away and almost scared myself by imagining menacing new mountain ranges and glaciers that steadily inch forward and begin to crush the walls of my room, obliterating everything from sight, including the map. To survive the onslaught I imagined having to run in a southerly direction for years, possibly as far down as Florida or even Venezuela.
As much as my father would get excited with re-enacting the creation of the Earth and describing the physical components of the ground, at other times his voice would be hushed. The stories which then emerged described the dreadful working conditions of many miners, the risks entailed in working far underground, our increasing need to mine, and the necessity of exploring remote and nameless areas of land, such as the areas he covered with his geological crews. The underlying concern of these stories was his conviction that in the not too distant future, serious shortages of mineral resources would occur worldwide. That our ever increasing dependency on non-renewable resources, such as metal bearing ores, fossil fuels, and even fresh water, might not exist in sufficient quantities for everyone to benefit from. I learned from him, however, that the ground holds many clues and that if people can read these clues they will have the knowledge to locate new sources of mineral wealth thereby allowing us to continue to build large cities, to buy everything we need, and to travel far and wide. In the meantime, I was terrified that our bore would run dry and I tried on several occasions to find gold deposits in the granite ledges outcropping on our property.

Many of my father's colleagues were busy discovering new ways of analysing the ground. I know this because my father would come home and tell my mother about what was going on at work, while she leaned over the stove preparing the evening meal. I liked to stand at the big kitchen window with my back to them and listen, while watching their reflections in the glass. In winter there was usually nothing to see outside - it was too dark; possibly darker than the deepest South African gold mine. I often pictured the sweating African miner featured on one of the pages in the Earth volume of the Time Life Series. He, so hot, far underground and at the other end of the world seemed the antithesis of my privileged existence. Standing at this window, I sometimes had the added pleasure of ducted hot air billowing up my pant legs, while outside it was so cold that I could use my breath inside to create rich patterns of frost on the freezing window pane.

I occasionally had the opportunity to visit my father at work. First I'd carefully make my way past the security guard and then I was free to roam
through the Geological Survey of Canada. On the fifth floor was my father’s laboratory. It was a room full of glass vials, automatic pens, maps, and rock samples. In a metal drawer he kept samples from the moon. Outside, the labyrinthine hallways were hung with all kinds of colourful maps and photographs of largely unidentifiable things that I knew, were somehow related to the Earth.

Never a visit passed without me pressing my face against the curved glass walls of the rock and mineral display cases. These were located just off the highly polished pink and green granite lobby. I’d have to leave the display cases until last in case the guard discovered me and asked me to leave the premises. Many of the specimens were exquisitely beautiful. I yearned to touch them. Never too far from my mind was the question of where people found these magnificent samples of ground, why I could never find samples like this in the back yard, and how people could bear to crush and melt this beautiful ground to make ordinary things like refrigerators, saucepans, and bathroom taps.

Story # 40

Between the ages of eighteen and thirty, my desire to explore polar regions was fulfilled. During those years I worked primarily as a bush cook for Precambrian Division field crews of the Geological Survey of Canada, and I travelled extensively with geoscientists across the Canadian Arctic at latitudes just below or above the Arctic Circle (Figures 1.1, 1.2). More recently, I have worked in the field as a navigator and geological assistant in Australia where my experiences have taken me throughout the Pilbara of Western Australia and the Broken Hill region of NSW.

Each field season, the geoscientists busy themselves inspecting the land, either remotely by aircraft, or on their hands and knees. Sometimes through snow, other times through sand, with their lenses, hammers, and maps in hand. They take extensive notes, collect rock, mud, or soil samples, and might drill for core as well. The focal point of these field projects is to scrutinise a wide area of land and summarise it in the form of a geological map, accompanying notes, and published papers. This information is then
Figure 1.1 (top)
74°42'N, 94°50'W
Cornwallis Island, NWT, Canada
Travelling by DC3 to fieldwork area, 1984

Figure 1.2 (bottom)
62°10'N, 74°20'W
Northern Quebec, Canada
Fieldwork, early summer, 1987
shared with geologists the world over - people who will never see or experience these remote lands first hand. How remote geographies are described, categorised, and communicated to others far away is of great interest to me.

Working with geoscientists often necessitates living in some of the most inhospitable and isolated places on earth. In the Arctic camps, we live for three or more months at a time without the accustomed conveniences of modern life - no electricity, tap water, washing machine, refrigerator, car, television, or telephone. While working in such remote areas it occurred to me that without geoscientific investigations we would all be destined to living our lives with even much, much less. This realisation hit home hard one field season when we almost lost the means to survive.

While moving our Geological Survey camp from one location to another, the helicopter developed engine problems. We were left with little equipment, food, or fuel. A solar flare rendered radio reception virtually useless. There were many grizzly bears in the area, the guns were still back in the old camp, and it was getting colder. I started to worry because, as the cook, I was responsible for the general welfare of the crew. I wondered how long we might be stuck and how I could possibly get enough food to feed ten hungry people if we were left to our own devices for more than a few days. I worried that someone might get injured or that a bear might attack. Then what would we do? Or what if it sleeted and snowed for three days, how would we stay warm and dry? I wondered if we had the buckets here to collect water from the lake. Every course of action I considered pursuing depended on metal articles or components that were unavailable to me. I found this ironic, because here we were, a geological crew here for the purpose of locating mineral resources. That's when it fully occurred to me - our society is completely dependent on mineral resources for its very survival. From that day forward, I have been intensely curious to map some of the relationships and intersections that occur between the geosciences and consumerism.
"If you didn’t grow it, you mined it."¹

“One does not impose, but rather exposes the site - be it interior or exterior. Interiors may be treated as exteriors or vice versa. The unknown areas of sites can best be explored by artists.”

Robert Smithson²

When this project first began, several friends and colleagues suggested that the topic I had chosen to explore through my studio works was rather dry and in many ways contentious. Why, some wondered, would I want to spend four years of my life analysing and thinking about largely desolate tracts of ground, and furthermore, how could I even think about exploring places such as mining sites (Figures 1.3, 1.4, 1.5), and present them through art in any significant way other than as deplorable?

First of all, the study of rocks, remote tracts of ground, and mine sites, is not dry in itself. In our day-to-day existence, we are wholly dependant on rocks in peripheral places to provide us with the manufactured goods we desire. There is no denying this. After all, how can cities worldwide with millions of people access enough water for daily use without any plastic and metal pipes? How do you produce and cook food for billions of people without using fertilisers, plastic and metal packaging, metal pots, or sufficient energy? How do you create shelter and institutions without using steel, glass, concrete, or massive quantities of fired bricks? And how do you see in the dark without the use of fossil fuels, lead batteries, millions of metres of copper wiring, or tungsten for light bulbs? Reflecting on our lives in this way I would argue that we are not as far removed from remote mine sites or areas under geological investigation as we might at first assume. To realise that we are connected every day to many distant tracts of ground is for me an exhilarating concept; never before have people been able to trade and transport such masses and varieties of earth material worldwide. Secondly, mine sites in themselves are not deplorable places, although perhaps the rate at which we consume such sites might be considered so.

¹ As a Pilbara miner told me in 1993, “If you didn’t grow it, you mined it.”
Figure 1.3 (top)
31°58'S, 141°27'E
Fieldwork, Broken Hill, NSW, 1996

Figure 1.4 (bottom)
32°16'S, 150°54'E
Coal stockpiles, Hunter Valley, NSW, 1996
I realised that I had chosen to address one of the most important issues of our time. With the world’s population forecasted to double within the next fifty years, it will, within my lifetime, reach a staggering ten billion people. The pressure we are exerting on the land is unprecedented in scale.³ This is occurring simultaneously with the desire of people worldwide to live with all the conveniences and luxuries of a technologically advanced society that is inherently dependant on mineral resources. For thousands of years we have steadily increased our demand for mineral resources, however those that were relatively accessible and close to centres of human habitation have long been depleted. Now geoscientists must search in extremely remote regions for more elusive deposits of mineral wealth (Figure 1.6) and it is not unusual for ore to be transported thousands of kilometres before being processed at a site possessing sufficient and affordable sources of energy. Where will the geological material come from to fill future demand, and what will its effects be?

As an example of the extent of our impact on the land, during the course of the lifetime of every Australian, he or she will be directly or indirectly responsible for the extraction of truly massive quantities of geological material.⁴ Lawrence Alloway has said “since the 19th century, man has shared in landscape formation at a scale comparable to that of geological process.”⁵ And indeed, when flying over the country there is ample evidence of huge earth moving constructions. Almost at any moment the land shows the marks of human intervention.

Yet, despite our dependency on mineral wealth, controversy rages over the perceived evils of mining. Examined briefly in this paper are three widely divergent views. The first points to mining as an ecological catastrophe, as postulated by Steven Kesler in Mineral Resources, Economics and the Environment, who is adamant that the rate at which humans are populating the earth and the rate at which “more developed countries” are consuming mineral wealth is destroying the earth and future prospects for

⁴ Dr Neil Williams, Director, Australian Geological Survey Organisation (AGSO), ANU Public Lecture, 1997
human survival. Kesler reflects on the imbalances in resource distribution and how more developed countries, that make up only 16% of the world population, account for the consumption of 70% of world aluminium, nickel, and copper. His concerns are ecological as well in that he believes that mineral consumption is implicated strongly in acid rain, global warming, and the destruction of the ozone layer. In his chapter "Mineral Exploration and Production," Kesler cites enormous shortfalls for the future.6

In contrast to Kesler, Peter Hancock, in his book Green & Gold, believes that we will not run out of mineral resources because the earth is made up of many minerals and our requirements for various minerals change with time and with developments in technology. He points out as well that many geologic materials can be recycled and that the term "non-renewable" is a bit of a misnomer with regard to recyclable metals. Hancock reminds us also that what is considered ore, or material economically viable to mine, changes with the numbers on the stock exchange, so that what is not considered to be ore one day may well be considered to be ore ten years from now. This is important to keep in mind when establishing reserves. It is also why old mines are often reworked.

Hancock also raises the concern that many environmental groups have far too much political clout. He argues that politicians are often poorly informed, having themselves little scientific background, and therefore it is easier for them to be swayed by emotion rather than by more rational strategies for long term land use planning and assessment.

Mary White, in Listen Our Land is Crying, writes that until recently, mining in Australia had a bad reputation for exploiting, destroying, polluting, and leaving permanent scars on the land. Yet, as White reveals, strict policy guidelines and environmental assessments have rendered mining in Australia far more environmentally friendly than many agricultural practices. This may come as a shock to many readers who think that, in

Figure 1.6
21°07'S, 119°41' E
Geologist sampling, Pilbara, WA, 1993
environmental terms, any kind of plant growth is positive and that
Australia is well suited for cattle and sheep grazing.

Australia’s gold rush days, with thousands of men, each man for himself
digging with a spade, are gone although tales remain in popular
imagination. But mining in Australia today is no less important to the
country’s economy as it was a century ago. In The Rush That Never Ended,
Geoffrey Blainey explores the mining past of Australia in relation to today
and, along with Hancock and White, asserts that the forty billion dollars of
annual export income gained from mining indicates that the rush indeed
never did end.7 Mining is Australia’s biggest money maker and we are all
inextricably tied up in it whether we like it or not, as it definitely enhances
our collective standard of living.

A third view examined in this report is the Aboriginal view, in which land
is considered the mother of all life. In the Aboriginal world view, there is
no sense of hierarchy between the land, its resources, and the people. Land
and its ancient multiple histories are respected deeply and it is the
responsibility of people to care for it according to ancestral and sacred law.
Not an isolated view is that of the Yolngu people of North East Arnhem
Land, who consider themselves to have come from the land and that land
and people are one. As Yolngu artist Narritjin Maymuru once expressed:
“the land owns us” and “the paintings come out of the land and speak their
messages on behalf of the people who live there.”8

I am motivated by the belief that we are all responsible, sometimes
indirectly, for the exploitation of all natural resources and the resulting
degradation of the environment. I do not take a stand against the mining
industry in Australia, or elsewhere, for the simple reason that current rates
of population growth and consumption leave us few viable alternatives
other than to simplify our way of living, which few people are willing to do.
I do object to the mining of uranium, because of difficulties in waste
disposal, and its potential for mass destruction, but my primary concern is

7 Geoffrey Blainey, The Rush That Never Ended: A History of Australian Mining, Melbourne
exponential population growth and the potential for resultant ecological chaos.

The actual extraction of mineral resources affects only a very small percentage of the Earth's surface, but it is the increases in population, in conjunction with increasing consumption of all natural resources and industrially manufactured materials, that leads to air and water pollution, erosion, loss of natural habitats, and shortages in quality water. How we consume these materials, and at truly alarming rates, particularly non-renewable fossil fuels, such as coal, natural gas and oil, is of real concern to me. The pressures of global over-population\(^9\) mean that the crises we are currently experiencing are destined to get worse. But as long as there is increasing demand, there will be a supply - the exponential effects likely at the expense of the environment. There is no escaping the cycle of destruction and consumption. How we use the land today will affect all future generations and it is indeed one of the most important issues of our time. As Robert Smithson aptly put it "Even the most advanced tools and machines are made of the raw matter of the earth."\(^{10}\)

Having worked with geologists for two decades, I can appreciate to some extent the tremendous amount of research that goes into developing a better understanding of the ground and the various considerations that are carefully thought about prior to the construction of a mine. But most people, including myself, have very little real understanding of the extent of our reliance on geoscience, mineral resources, and centres of mining.

My challenge was to successfully merge my interest in geosciences with sculpture. Although the task has been at times frustrating and difficult, I found courage to pursue it when I came across the following extract written by sculptor Tony Cragg. This passage has been particularly relevant to me because my father, in all his wisdom and creativity as a geoscientist, could never see the point of me aspiring to be an artist.

\(^9\) White, p. 7.
"In a sense it's obvious that in terms of the physical world scientists make
the more fundamental statements, but artists and philosophers don't have
a less important job. They humanize, they find out what the significance of
science is for human beings.... It takes a long time for philosophers and
artists to pick up the pieces."

Cragg's words have encouraged me to explore various potential
intersections between geoscience and sculpture. I've been looking at the
significance of geosciences and trying to find ways, as Tony Cragg put it, "to
humanise it". Can I, or should I, even attempt to integrate scientific texts
with my amateur interests and experiences into art. How do I make my
work meaningful for a non-scientific audience, for a scientific audience, and
how do I respond to the issues of our time that compel me to work with
representations and materials derived from the ground? How do I refer to
geoscience without talking over people's heads, sounding didactic, or relying
on some pedagogical model, such as a museum display?

In an effort to comprehend the pieces that Tony Cragg speaks of, I have
recollected my memories of working with geologists in the bush, navigating
from the air and on land, collecting and labelling of rock specimens, and
assisting in the painstaking process of hand-colouring (now superseded by
portable computers) of the latest edition geological maps. I have peeled back
layer upon layer of topographical and geological maps (figure 1.7), continued
to work alongside geologists, and read about the Earth's geology and our
economic connections to mineral wealth. As a stepping stone between these
experiences and my work as an artist, I have studied the works of several
painters and sculptors that engage directly with the ground or make
reference to it through mapping.

How could I get urban viewers to connect the works in the gallery with the
peripheral lands to which the works refer and, in some instances, from
which the materials in the artwork originated? My works are visual
narratives, intended to implicate the viewer in their construction. The use
of maps, mirrors, and text may seduce, while, at other times, trick the viewer
into contemplating their relationship to distant tracts of ground. Each work

Figure 1.7
35°18'S, 149°08'E
"Cartographic strata", studio, 1997
points to somewhere else, a place we may eventually consume in order to satisfy the furnaces of our individual desires.

Furthermore, I do not use naturalistic representations of geographical sites, and so viewers are not gratified instantly with information about which part of the country I am referring to. As abstractions and codified references to the ground, the works require the viewer to spend some time investigating layers of materials and meanings. The works invite exploration of forms and surfaces from various angles and perspectives, thus, in one sense, acting as a telescopic lens to distant tracts of ground. In this sense I invite viewers to piece together fragments to create a picture for themselves.

To aid in the narrowing of conceptual boundaries and geographical distances between ourselves and so-called peripheral mining sites, the intentional juxtaposition and layering of various elements, such as maps, earth samples, building materials, reflective surfaces, text, and utensils, may encourage viewers to link the familiar with the not-so-familiar, the end product (manufactured object) with its physical origins in the ground, or the man-made with the naturally-occurring. This juxtaposing of dichotomous extremes within several of the works may prompt viewers to create some kind of common ground and this is what forms the crux of the works: bringing closer together the process of consumption to the illusion of environment as a limitless field of existing or potential mine sites. Dialectical relationships between geographic dichotomies, such as here/there, centre/periphery, urban/rural, inside/outside, culture/nature, and science/nature occur throughout the exhibition. They occur from my observation of transformations in the territories I traverse. I have endeavoured to foster poetic links (as opposed to pedagogical or didactic) between the viewer and gallery (both inherently part of an urban centre) and peripheral landscapes or tracts of ground.
Figure 2.1
Nien Schwarz
Backbone 2, 1995
plaid flannel workshirts, fabrics, fur, wool
Backbone, De Vaalserberg, Rotterdam, 1995

Figure 2.2
Nien Schwarz
Backbone 1, 1995 (detail)
plaid flannel workshirts, fabrics, fur,

*Backbone 1 and 2, Vancouver and Rotterdam, 1995*

*Backbone 1 and Backbone 2* are assemblages of plaid flannel work shirts ranging from 50 to 125 in number. These works, which I consider to be soft sculpture installations, emphasise the architectural boundaries of the space by running the entire length of one gallery wall (Figure 2.1). Each shirt, hung by its collar from a nail only ten centimeters from its neighbour, loses its autonomy as a single object; the array of shirts forms an extensive and lively mass of colour that contrasts sharply with the remaining smooth, cold, white surfaces of the space.

Observed from a distance, the work appears as an extended horizontal field of colour; a visual interplay of dark and light, of chromatic and tonal values. The length of the work is punctuated with concentrated patches of luscious saturated reds, their vibrancy heightened by warm spotlights and their intentional juxtaposition next to areas of more subdued colour. Each patch of red grasps the eye and holds it with a magnetic intensity, only to be stolen an instant later by a neighbouring patch of equally vibrant red. The eye dances from red patch to red patch, each one assaulting the viewer after traversing across a patch of more subdued and recessive colours.

Regarded from a distance, the work’s formal construction, using individual shirts as units or building blocks, is not immediately evident and, for this reason, there appears initially to be no internal logic or sense of order to this horizontal band of riotous colour and line. I view it as a kind of abstract painting, but one that pushes the architectural boundaries of the space from left to right, from one side of the gallery space to the other, and using the white wall above and below the work as a framing device to compress and flatten the work.

The extension of the work into the very corners of the room activates the space and is intended to prompt dialogues between the viewer, the work, and the space. The corners become points of contemplation, pauses; conceivably, if the walls were not there, the work could continue
indefinitely. Constrained by architectural boundaries, it could be that we are seeing only a fragment of a larger whole, a thin slice of the universe, the rest extending beyond the boundaries of the space. The possibility of the work extending through the corner to the exterior of the gallery is heightened further with the realisation that the work is not structured as a single self-contained mass, but is constructed by the repetitive placement of individual shirts as modular units or building blocks. With the identification of individual units comes an undulating rhythm sweeping between each collar and across the back of each shirt, a rhythm that could go on beyond the confines of the space.

As the viewer walks the length of the work from wall to wall, the work is a kaleidoscope of colour, one shirt blending into another (Figure 2.2). There is a multitude of similar geometric patterns, nuances in texture, subtleties and gradations in colour, variations in weave, and small representational images of animals and people emanating from the surfaces of printed textile landscapes. The formal, geometric construction and patterning of each plaid pattern is interwoven en masse to produce a staccato of vertical, horizontal, and diagonal lines of varying thickness: a thick warm matrix of grids, hatching and cross hatching, fused collectively from wall to wall.

Hanging the shirts at chest height establishes an instant rapport or dialogue between the viewer and the work. The wall of clothing may appear as a welcome, a confrontation, a celebration of labour, or a palpable absence realised through the viewer’s presence. It is here that the intent of the work lies, in its desire to construct various dialogues and layers of meaning regarding cultural or social constructions of people and place.

Plaid flannel work shirts, commonly referred to as “lumberjack” shirts, are also associated with commonly held notions about Canada - the great outdoors, cold weather, and the country’s heavy reliance on hard physical labour to extract natural resources through activities such as logging, fishing, hunting, trapping, farming, and mining. The shirts are hard-wearing; ready to absorb sweat, and to protect the body from the ravages of insects, cold, and too much sunshine. The ubiquitous plaid flannel shirt is the unofficial
uniform and emblem of outdoor labourers; labour which for centuries has formed the backbone of the Canadian economy and construction of a Canadian cultural identity. Although plaid flannel shirts are worn also by outdoor enthusiasts and recreationalists, the shirts are worn more commonly by men engaged in activities of controlling nature through its physical reconstruction and the imposition of cutlines, roads, fences and fields, logging and mining, building of subdivisions.

Based on this correlation, my intention was to explore both the material and conceptual properties of the fabric; as a medium for soft sculpture and as a metaphorical construction to analyse connections between people and land. On the one hand, the Backbone series explores some of our working relationships to land and, on the other hand, they exercise a potential to critique idealised cultural constructions of landscapes. The work was intended to examine the paradoxical positions that people take toward human relationships to the land.

To further this interest, each version of Backbone contains shirts that have been deconstructed and reassembled. The materials and printed fabrics employed act as signifiers and visual prompts to either accentuate our constructions of landscape or to subvert our expectations of them. My intention was to create an interplay of dichotomies, a possibility for the construction of dialectics, between the viewer and the space, between the internal space of the gallery and the outside world, and between the rugged and worn qualities inherent to second hand work shirts and the more flimsy, pretty, and idealised qualities of printed fabrics destined for domestic interiors.

I worked primarily with second-hand shirts that are faded, torn, repaired, threadbare, stained, or splattered with concrete, paint, or tar. Some have had the sleeves removed for comfort or to lend an air of toughness. These used shirts are about individuals, individuals who have laboured long and hard to work the ground - their presence still palpable in the rounded elbows, faded backs, missing buttons, threadbare cuffs and frayed shirt tails.
Here and there, plaid sleeves, cuffs, collars, and shirt backs have been removed carefully, their seams freed of stitches, then ironed flat, and used as patterns from which to cut identically-sized pieces of fur or printed textiles. Commercially produced textile prints, ones that reflect utopian ideals of landscapes, include images of big game animals relaxing in pristine wilderness settings, men in plaid clothing with trophy-sized fish, log cabins with wisps of curling smoke (you can almost smell the bacon), and various representations of indigenous people with bows and arrows or spears. This is the stuff of escapism, nostalgia, and nature as an illusion all mixed into one. It is about imposing cultural values onto nature and creating ready-made landscapes to decorate our homes. We tame the outside before we bring it inside, delineating clearly the civilised from the primitive.

Tucked in amongst these utopian ideals are subversive inclusions of fur pelts (rabbit, wolf, fox, beaver, muskrat, ermine, kangaroo, emu feathers), printed images of transport trucks (Figure 2.3), Christopher Columbus' ships, hunters, cowboys and Indians at war, glass trade beads and blanket material. In some instances, fur pieces are juxtaposed with prints of cute, fur-bearing animals. This is colonisation, the sound of chainsaws and logging trucks ripping across the land, struggles over ownership and use of land, and decimation of species and natural habitats; the antithesis of the utopian ideal. These are the realities of land use we do not want to claim responsibility for, the other relationships we have with nature that we choose to exclude from the textile prints with which we make our homes comfortable. Our comfortable domestic environments are fuelled by our consumption of nature indoors. Each shirt has been sewn back together, the colours of the intervention blending in with the colours of the work shirt.

In 1995, six months after commencing my course of study at CSA, Backbone I was exhibited at the Surrey Art Gallery in Vancouver. Approximately one quarter of its 50 shirts had been modified by addition of fur pelts and textile prints. This row of shirts faced a broad glass-paned gallery entrance that allowed a rapport between the work inside the gallery and the out-of-doors with which the shirts are most commonly associated. This intersection of inside with outside and with representation of rural inside and the reality of
Figure 2.3
Nien Schwarz
*Backbone I*, 1995 (detail, truck shirt)
plaid shirt, commercially-printed cotton
Backbone, Surrey Art Gallery, Vancouver, 1995
an urban outside was a turning point for me and instilled new ways of working and thinking about sculpture, that has influenced my later work. Subsequent works conceptually infer connections between the viewer inside and distant geographies outside.

While *Backbone 1* was in Vancouver, *Backbone 2* was in Rotterdam. This version (Figure 2.1) was twice the length, using a total of 121 shirts to cover a 11.5 m wall, and contained the beginning of a series of Australian shirts that I had been working on as a means of exploring connections between Australians and their country. I was very interested in exhibiting in Rotterdam because it was from this port city that my family left Holland more than 30 years before to emigrate to Canada. The exhibition proved to be exciting, and allowed me to explore, on unfamiliar turf, both Canadian and Australian constructions of national identity in relation to land. The grid format of the exhibition invitation aptly reflected my mapping and navigational interests. A visual dialogue or intersection occurred between two geographically separated sites through the simultaneous depiction of Canadian and Australian geographies on the single surface of a post card (Figure 2.4).

For the European venue, I increased the proportion of altered shirts and included many more fabrics that romanticised the great outdoors. In Rotterdam, the Vaalserberg's exhibition space for *Backbone 2* was long and narrow. It was apparent immediately that, without initially distancing the viewer from the work, I could not create the allusion to a very long colourful object as I had done previously. I had never intended the work to be regarded as a collection of individual objects and was forced to reconsider seriously the whole project to find a way for it to work without the result looking like a used clothing shop.

In the one week I had to install the work, I experimented with a number of different approaches. Rather than hanging the shirts in one long continuous row, I grouped the shirts according to theme, such as fishing, big game hunting, roaming wildlife, and cowboys and Indians, etc. Each theme was segregated from the next by one or more empty nails, thereby breaking
Figure 2.4
Nien Schwarz
Exhibition invitation
Backbone, De Vaalserberg, Rotterdam, 1995
up the work into sections with pauses in between. Appropriately, the shirts in the hunting theme were predominantly red in colour and the shirts in the fishing theme were variations of blue, and so, by grouping the shirts according to theme, I had grouped them according to colour as well.

Working with broader sweeps of colour, I was able to hang the shirts in the form of a modified colour spectrum. I placed the darkest coloured shirts in the centre of the wall, drawing the viewer into the space, and placed progressively lighter shirts towards the large banks of windows that dominated the ends of the gallery. The windows at each end provided an excellent opportunity to literally extend the work outdoors, thereby taking a step further Vancouver's *Backbone 1* arrangement of creating a rapport with the outdoors.

The shirts extended around the window frames and continued outside. At one end, overlooking the back yard and in close proximity to an old large-leaved tree, I hung light green and yellow shirts with green military camouflaged sleeves. At the opposite end, overlooking the street, I placed bright red shirts that picked up the colours of neon signs from adjoining buildings. The outside shirts thus connected the second story exhibition space with its outside environment and brought the exhibition to the attention of the immediate neighbourhood. It occurred to me later that the work was simply passing through the space of the gallery as it entered through one window and exited through the other at the opposite end of the space, a kind of metaphor for my relationship to Holland - as always, just passing through.

The Old World's stereotypes of the New World are more ingrained than I had anticipated. The fabric prints of North American and Australian landscapes were perceived by many European viewers as accurate representations of land. The occasional fur pelt was regarded with alarm and disgust. Almost completely out of context with the European landscape in which it had been placed, the work was labelled as foreign. No one here could identify personally with any of the unaltered or altered shirts. In
Rotterdam, the shirts were simply curiosities: a small taste of some of the last remaining wilderness on Earth.

I thought back to the reception of Backbone 1 in Canada where viewers’ responses to the work had been nostalgic and deeply personal. There the work in its entirety was construed as a kind of visual iconography of what it means to be Canadian, complete with unspoiled constructions of wilderness, a history and national identity constructed on the fur trade, and a league of work shirts ready to chop more timber, work in the mines, and yank salmon out of the ocean. The associations, I believe, reflect the Canadian viewers’ insecurity about their national identity, their subsequent desire to keep intact the notion of nature as wilderness, and yet the need and desire to domesticate and control nature. This is their paradoxical heritage, despite the fact that this construction has little resemblance to their suburban reality. As is the case in Australia, the kinds of rural myths and bush tales with which people identify keeps intact their concept of an ideal land. And indeed, when you look out across that vast land there is plenty of room for paradoxes and multiple histories.

The work brought tears to the eyes of one woman who walked me along the length of shirts pointing out patterns and colours she identified as belonging to past and present members of her family: two miners, a lumberjack, a bush cook, a truck driver (also an ex-husband), and a commercial fisherman. Another woman remarked that the row of shirts was just like her workplace. Her job was to clean the “dry”, or miners’ changing room, while the men were on their shifts underground. In the dry, the neatly hung plaid shirts waited to be exchanged for soiled ones, at the end of the shift.

**Backbone 3, Canberra, 1995**

With Backbone 3, the association between plaid flannel and the outdoors became more abstracted. In this exhibition, at Canberra Contemporary Art Space, Manuka, there were only 10 shirts, all modified with Australian contexts, such as *Australia Riding the Sheep’s Back* (Figure 2.5) and Koori
Figure 2.5
Nien Schwarz
*Backbone* 3, 1995 (detail “Australia riding the sheep’s back”)
plaid shirt, wool
*Backbone*, De Vaalserberg, Rotterdam, 1995
Figure 2.6
Nien Schwarz
*Backbone* 3, 1995 (detail “Koori shirt”)
plaid shirt, commercially-printed cotton
*Backbone*, Canberra Contemporary Art Space (CCAS), 1995
Shirt (Figure 2.6). Interestingly, the ochres, grey/greens and rust reds of the Australian work shirts are not available in Canada. Still intent on pursuing the intersection of man with land, and place with cultural identity, the work shirts led me to consider a different context in which they are used. Fabric is used often as a metaphor for culture or society and I wanted to reinforce this by combining it with some other materials with the same metaphorical quality.

According to some Canberrans with whom I spoke, plaid flannel shirts are associated sometimes with Sydney’s western suburbs. I started thinking about boundaries: intellectual boundaries, such as stereotypes, and physical boundaries, such as suburb limits. The association of the shirts with a particular suburban context that, in turn, was associated with the working classes, led me to cover bricks in flannel and to build pseudo-architectural constructions that mapped a kind of socially constructed space and landscape.

For me, the idea of covering bricks in flannel seemed a natural extension of the shirt works. The Canberra suburb in which I lived was heavily under construction. I observed that the most prevalent form of work wear was the plaid flannel shirt and the most common building material was brick. During the very hot hours of the day the men would hang their shirts from fences surrounding the sites. In a sense it was a site-specific rehanging of the earlier Backbone works and this fuelled my desire to integrate brick with plaid flannel. This integration I conceived initially as a metaphor for human manipulation and development of the land. The grid of the shirts echoed the grid of stacked bricks on pallets, the gridding of the suburb into rectangular building lots, and the gridding of the city into streets and suburbs. The way we grid the land is even visible from space. The colours I employed to cover the bricks looked as though they could have been taken straight from the earth: dark, sombre and intense. You could almost see the dirt and smell the sweat.

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I have called this shirt Koori Shirt as one viewer, an Aborigine himself, insisted that it was and that I was not to argue with him on this point.
Figure 2.7
Nien Schwarz
*Backbone 3*, 1995
mixed media
Backbone, CCAS, Canberra, 1995
Initially, each brick had an individually-sewn flannel slip cover that enclosed the brick on five of its six sides. After sewing and upholstering more than 200 covers, I decided to quicken production by using masking tape, instead of thread, to attach the pieces of fabric to the bricks. I always wondered how Michelangelo Pistoletti attached fabrics to the bricks in his work *Muro di Stracci*, (1968).

The upholstered bricks were woven together, each layer offset by the layer directly above and below, just as in a regular brick construction. Although mortar-free, the walls were quite solid and I experimented with walls of varying heights and thickness. Eventually, the walls I exhibited for *Backbone 3* in Manuka (Figure 2.7) were of two types: inadvertently socially stratified with the construction of single and double brick walls. Viewers immediately associated the single-thickness walls with more economical constructions (brick as a facade), and the double-walled construction (brick as a structural component) with more affluent homes.
Figure 3.1 (top)
Nien Schwarz
*Backbone 4*
plaid cloth
12th Tamworth Textile Biennial, 1996

Figure 3.2 (bottom)
Nien Schwarz
*Backbone 4*
gingham cloth
12th Tamworth Textile Biennial, 1996


In considering and exploring the so-called masculine qualities of the plaid flannel, synonymous with outdoor activities and traditionally male-dominated enclaves of physical labour, I considered also its antithesis - gingham check (Figures 3.1, 3.2). Backbone 4’s broader theme of addressing gendered architectural spaces stands outside my finalised program of study. However, not to be overlooked is the importance of this work in helping me to explore further the structural and formal possibilities of working with brick and as well, notions pertaining to dichotomous constructs of nature outside and its domestication inside. The work is included here because its physical and conceptual development proved to be crucial in subsequent brick constructions and a version of this work was exhibited in the 12th Tamworth Textile Biennial, the longest-running national exhibition in Australia of textile-based works (Figure 3.3).

Gingham and Plaid: Their Metaphorical Identities.

Gingham check and plaid flannel are two cotton fabrics that possess “culturally prescribed identities” to which we may relate through their patterns and colours, and/or the context in which they are commonly used.¹ Gingham commonly is associated with often-idealised domestic country environments which stereotypically are occupied by women. Plaid flannel is the antithesis of gingham, and typically is associated with outdoor environments and with physical labour commonly performed by men.

In my sculpture, I use these two fabrics metaphorically to represent the masculine and the feminine. In some of my works I address how gingham and plaid are used in the context of commonly occurring gender-specific associations, while in other constructions, using the same materials, I purposely complicate or subvert some of these associations, to suggest a

blurring of boundaries between sexual signifiers and commonly held notions of gender.

The late 19th century Impressionists Mary Cassatt and Berthe Morrisot painted women in socially and physically confined environments. One hundred years later, and although no longer socially and culturally confined to the home, women are still more familiar with domestic spaces and associated activities than are men. Conversely, more men than women are visible in outdoor work environments. What is considered an appropriate division of space and labour according to gender is perpetuated through tradition, advertising, and on a more subtle level, through the choice of fabrics men and women use in their daily lives.

In my work I examine how gingham and plaid can denote physical and intellectual boundaries associated with gender. The use of these two fabrics also addresses issues associated with the unequal value placed on "men's work" and "women's work", in terms of the greater complexity of design in plaid relative to the simplicity of gingham. This difference is reflected also through the colours most commonly used in these fabrics. Plaids tend to contain darker more "serious" colours, whereas gingham consists always of only two colours: usually the combination of white with a light bright colour which gives these fabrics a "frothy" appearance.2 I associate plaid with hard outdoor work; the fuzziness of the flannel ready to absorb sweat. In contrast, gingham fabric is smoother and colder to the touch and is associated with domestic environments that are fresh and hygienic.

My works consist of walls that are constructed of gingham and plaid flannel covered bricks (Figure 3.4). Brick laying is, in a sense, like weaving, and in the centre or at the corners of a wall, the two fabrics are interwoven. Plaid and gingham overlap in the successive layers of the wall as it is built and at the interface of the two fabrics, I have chosen my colours carefully in order to create a visually grey zone. This grey zone represents the blurring of boundaries between "women's work" and "men's work". It also questions

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2 Jill Barker, visitor to the Canberra School of Art, Photomedia Department, March 27th 1995.
Figure 3.3 (top)
Nien Schwarz
*Backbone 4* (work in progress)
brick, cloth
12th Tamworth Textile Biennial, 1996

Figure 3.4 (bottom)
Nien Schwarz
*untitled*, 1995
brick, cloth
the western notions that male and female are defined as diametrically opposed.

Domestic environments, and specifically spaces such as kitchens and laundry rooms, are traditionally associated with "women's work." Walls and doors define these spaces physically, but gender roles are ultimately responsible for the segregation of male and female that occurs in the context of the domestic environment and its related associations.

Some walls I have constructed to represent traditional divisions of labour between male and female. One side of a wall may represent an interior environment, such as a kitchen, and may be built entirely of gingham covered bricks. The other side of the wall, which could conceivably be a garage wall, is constructed of plaid flannel covered bricks. Although such spaces may be separated physically, and intellectually through culturally prescribed gender-specific roles, my goal, in this case, is to represent these different spaces as being equally valid by giving them equal weight.

These particular walls are built so that the two sides are equal in height, width, and length. This is my way of representing the validity of both female and male labour and their equal importance, despite the division of labour that may occur. At the edges or ends of these walls, where the inevitable intercalation of gingham and plaid occurs, the idea of equality is further reinforced. Here both gingham and plaid are depend on each other for further construction; the plaid can be built no higher without the participation of the gingham. An harmonious ideal.

Other wall constructions are built unevenly to emphasise that such ideals are often far from realised. These walls are incomplete. The plaid constructions may tower over gingham bricks which lie stacked in piles at the base of the wall.

My choice of bricks and fabric questions the division of space and labour according to gender. The bricks are hard and heavy and require considerable strength to work with. Strength and hardness of character are considered to be male attributes. In contrast, fabrics are soft and yielding - characteristics commonly attributed to women. Choosing and purchasing lengths of fabric
are usually activities conducted by women. Over the centuries, and on a world scale, women have played a larger role than men in cloth production. In my work, I am combining these two culturally prescribed gender-specific activities.

Formally, the walls are created in a Minimalist fashion - they are composed of simple planes and grids. In some respect I see my walls as grid paintings, which can be appreciated simply for the choice and placement of colour. Grids, according to Rosalind Krauss "in their position as emblems of all that is quintessentially modern in art, ...are like that other symptom of modernity, the large city." Many modern cities are obviously based on grids, and Krauss asserts in her book that grids were used in the fine arts for the first time this century.

The construction of fabric itself is also based on grids. The vertical warp and the horizontal weft provide the framework for the surface. Fabric patterns, such as gingham and plaids, are based on the grid as well. In my work, I repeat this grid on yet another level by using the gridded fabrics to cover bricks. These grid covered bricks are then used as a basic building block to create free standing three-dimensional grids.

In summary, my choice of fabrics and my reasons for working with bricks are connected to gender issues. It is interesting to note that fabric is used also as a metaphor for connectedness. Society is often described as a fabric, woven or knitted together. Through my work I have endeavoured to create a connectedness between the genders by weaving together these two fabrics and their culturally prescribed identities.

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Figure 4.1
Nien Schwarz
X Marks the Spot, 1999 (detail)
laser cut steel, grey tinted mirror
Beyond Familiar Territory, Canberra Museum & Gallery (CMAG), Canberra
4. Brick Geographies

“Before it can be a response for the senses, landscape is the work of the mind. Its scenery is built up as much from strata of memory as from layers of rock.”

Simon Schama

“Oxidation, hydration, carbonisation, and solution (the major processes of rock and mineral disintegration) are four methods that could be turned toward the making of art.”

Robert Smithson

Have you ever been in a mine, perhaps two or three kilometres underground? I have. One occasion in particular remains deeply embedded in my mind, my recollection of it almost as strong as the rock in which the events transpired. I remember feeling simultaneously terrified and exhilarated knowing that I was moving not across the surface of the earth, but actually through it, deep inside the rock. I felt like a parasite, a voyeur, and an adventurer all rolled into one. We hurtled ever further downward, all of us compressed in a gridded steel cage. The miners were stone-faced; not one of them so much as glanced in my direction. The workers got off at Level Five, but we continued, plunging ever deeper into the earth, like a carnival ride gone awry. Later I learned that women underground are considered bad luck. This was in 1989.

Our journey continued and we descended endless wooden ladders, some slippery, others with rungs missing or disconcertingly spaced, through the ceilings of several connected caverns, known as “stopes.” It was pitch black except for our spots of light criss-crossing the darkness and landing on nothing; the vastness and blackness of the underground mine workings were impenetrable, consuming the effort of any individual headlamp. At times, I was forced against the rock so closely that I could feel a chilly dampness issuing forth across my face. The rock face directly in front of me was cold and surprisingly smooth, but painfully hard on my knees and

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2 Robert Smithson, 1968, p. 46.
knuckles. Little space remained in which to position my boots across the rungs of the ladder. It was arduous work. Once we paused to rest, and I nodded my head, slowly, shining the light of my lamp only inches from the rock, up and down, and side to side, scanning for particles of gold. I was too tired to care if I didn’t find anything, the air was thick, I felt lethargic, and my legs were trembling from exertion. But the beauty of the rocks through which we were descending did not escape me. They were spectacular, with subtle gradations of muted colour cross-cut by occasionally strong, assertive bands of black intrusive material. The multiple textures, lustres, and minute particles of detail in the rock were overwhelming. Untouched by weathering and millions of years of scorching sunlight, the minerals were deeply saturated with colour, vibrant and sparkling in the light of my lamp.

It was hard work descending in and into darkness. It took all my concentration not to step on the person below me and to side step safely onto an adjacent ladder when the one I was on ended abruptly, unexpectedly, my foot plunging into nothing. I had to concentrate so closely that I felt compelled to keep my eyes shut and this somehow made the long journey underground seem less dark, less claustrophobic. With my eyes closed, I could visualise the surrounding walls of rock composed of crystal clear and milky quartz, mottled pink and grey feldspar-rich granite, thin black veins and massive intrusions of black dolerite, and tiny flecks of glistening gold. Each shaft or chamber we passed through became a conceptual extravaganza of texture, colour, and refracted and reflected light, as though all the minerals on display at the Geological Survey’s headquarters might be found here. I had full use of only one hand, the other bound rigidly in a splint, two of my fingers numb. I was terrified somebody would tread on my head or shoulder causing me to momentarily lose my balance, to dislodge my impaired grip on the mud-coated ladder, sending me reeling backwards, catapulting into darkness. Finally we reached the bottom, the spot marked with an X on the map. I was so thankful to put my feet onto solid ground - or was it?

Almost ten years have passed, and now, in a darkened area of the gallery, there looms a large cross-like form, like the intersection removed from a
larger grid. The mass glistens and glimmers under the lights and, from across the gallery, it seems to beckon with open arms, inviting an exploration of its form and its unbridled array of lusciously coloured and textured surfaces. It is difficult to discern what this is, whether a monument, symbol, or beacon, but there is something vaguely familiar about its gridded construction. The centre of the grid is removed, hollow, like a very narrow mine shaft. The word mine, is visible, blasted four times through thick steel plate (Figure 4.1). The words glitter, reflecting the viewer’s movements within the very centre of the work. It marks a location, a site, and a form of possession. This X Marks The Spot.

The ceiling of the shaft is mirrored as well thus trapping the viewer in a two-way reflection between above and below.

The form is framed, compressed from above and below, between thick plates of raw steel. Each of the arm-like extensions or walls of this open-centred cross is constructed of bricks. But its construction, with respect to bricklaying, is unconventional; each unit is aligned directly above the other, allowing for no overlapping of brick between each row, forming an orthogonal grid. There is no mortar or other bonding material visible, thus forming a rather tentative wall 26 bricks high, seven bricks wide, and one brick deep. The walls are not particularly architectural in scale or massive in terms of displacement of space, but are human-scale and quite intimate, particularly where the corners of the four walls almost meet.

The plates are cut from industrial 12 mm thick steel, and the hundreds of preformed, standard-size bricks were obtained from a local building supplier. Combined with the simple stacking of modular units, the work recalls Minimalist materials and practices attributable to Carl Andre or Donald Judd. But the bricks here are not entirely of brick - there is, in fact, no brick visible. It is difficult to refrain from touching, to seek assurance that what is perceived as brick is materially true to form.

The bricks are disguised, clad individually in tight-fitting skins. Each is manipulated to resemble something it is not, the literalness of the brick is

3 "X Marks the Spot" is the title of an essay by Rosalind Krauss in Formless, A User's Guide.
suppressed, revealed only through the familiar repetition of form we know so well from architectural environments. These bricks are variably reflective, and colourful. They are upholstered neatly with polyester fabrics in an array of rich and earthy colours, including variegated shades of coppery orange, gold, silver, graphite grey, bronze, malachite green, and azurite blue (Figure 4.2). The colourful skins are distractions from the primal character of the brick shape and render each unit unique despite it being confined within a grid. According to David Batchelor, John Cage valued Andy Warhol’s repetition of painted images arranged in grids because it was by repetition that Warhol demonstrated how “there is no repetition really, that everything we look at is worthy of our attention.”

This attention to detail can be applied to these bricks because, despite their formal placement and collective unity, each one is different in some respect from its neighbours.

The very skin of the bricks is an extraction, a modification of petroleum products pumped from deep within the earth’s crust. Printed on some of the polyester surfaces are fragments of maps, place names and other details referencing particular mine sites including Broken Hill, Mount Isa, and Kalgoorlie. The referencing of mine sites in relation to the earthy and metallic colours of the ingot-like shape of the bricks, brings to the work a poetic mapping between matter and mind, inside and outside, centre and periphery, underground and above ground, and urban geometry in relation to mapping of the land. These associations are compressed collectively between the plates of steel - the material backbone of industry and life as we know it.

I have begun this section by describing X Marks The Spot, the most recent configuration of a work that has evolved radically since its inception three years ago. Over a period of time it has been repeated, almost relentlessly, in various permutations and abstractions of my relationships to the ground and the land in which we live. Sometimes the fabric-clad bricks are more paintings than sculptures, and at other times the position is reversed. This

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Figure 4.2
Nien Schwarz
X Marks the spot (detail) 1999
bricks, polyester fabric, dye
Beyond Familiar Territory, CMAG, Canberra, 1999
section outlines the origins of this work in my experiences underground, interest in geosciences, an unexpected introduction to dying fabrics, my battles with gravity, and its final manifestation at the Canberra Museum and Gallery in 1999.

The brick works originated after years of working as an assistant to geological crews in remote regions of Canada and Australia and being attracted to the beauty of ore minerals and the rock facies in which they occur. I wanted to capture in my works the essence of particular minerals and ore bodies I had come into contact with, and was interested particularly in lead, zinc, silver, gold, iron, and copper deposits because these are the metallic minerals and ores mined most frequently in Australia and which we use every day.

To familiarise myself more fully with geology and the economic exploitation of the ground, I consulted numerous field geologists and explored the drawers of ANU’s Geology Museum. The museum’s curator, Dr Tim Munson, kindly allowed me to borrow beautiful mineral and ore specimens which I took into the studio for reference. To comprehend more fully what I was looking at and how I could relate it to my studio interests, I attended first year geology classes and numerous talks that focused on ore deposits, their historical development into mines, and the economic significance of mineral ores to Australia. I participated also in numerous geological field trips to working and abandoned mine sites.

It was during this period of research that a shift occurred in my studio work. While working on the gingham and plaid brick constructions, I was introduced to the dying and printing of fabrics by hand. The excitement and freedom I found in manipulating colour, designs, and textures, as opposed to relying entirely on readymade textiles, compelled me to experiment with different kinds of fabrics, their physical properties, and culturally prescribed associations. Trained initially as a painter, I welcomed the fluidity of working with dyes and the staining and overprinting onto cloth. Eventually, and after much experimentation, as outlined below, I decided to use satin fabric in my work because of its highly reflective and burnished metallic

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properties, and its association with wealth and luxury (Figure 4.3). I transformed my pallets of gingham and plaid bricks into glistening stacks of metallic-looking ingot forms. These transformed bricks became building blocks through which I sought subsequently to tease out relationships between the familiar construction of the urban architectural environment and geological cross sections or walls of ore in distant mines. I intended the works to allude to how the extraction of mineral wealth is reflected in our comfortable standard of living.

An interest in manipulating fabric was prompted initially by Tasmanian artist Ruth Hadlow's visit to the Textiles Workshop, and by a talk by Western Australian artist Nalda Searles. Hadlow introduced me to the dying of silk with a variety of naturally derived plant materials and chemicals, including iron sulphate, tannin, and caustic soda, while Searles demonstrated staining and colouring by burying cloth in mud and other organic matter. I was intrigued with the colours derived from many of the Australian dye stuffs and became interested in juxtaposing or combining in some way the qualities of fragile fabrics, the earthy colours of the dyes, and references to the land and our dependency on its mineral content. Sensory contradictions such as brick and silk, hard and soft, and dichotomies such as durable and fragile, and gendered associations of males with bricklaying and females with fabric I still found very exciting.

A problem with my plan was the prohibitive cost of silk, its tendency to tear easily, and to dissolve in the acid baths if left unattended too long. Another drawback was that silk absorbed the dyes as deeply saturated colours of oranges, browns, purples and greens, and did not relate visually to the varieties of economically valuable minerals and ores I was endeavouring to explore in my work. I also did not like the tie-dye look of the silk when I tried to layer colours and eventually, most of my experiments turned black or developed burn holes from the sodium hydroxide.

I was keen to explore other fabrics, including synthetics, but was advised that synthetics, especially polyesters, do not absorb dyes unless subjected to heat, pressure, and dyes especially formulated for polyester. Nonetheless, I
Figure 4.3 (top)
metallic mineral samples, polyester, silk

Figure 4.4 (bottom)
dyed and textured polyester
decided to experiment with a variety of acetates, polyesters, interfacing, and nylon. I concluded that polyester satin would meet my needs. Unlike acetate, polyester satins do not wrinkle irreparably and can withstand the harshness of the sodium hydroxide without burning, thereby allowing multiple doses of dye and layering of colour and pattern. Its availability in a broad range of weaves allowed for very different levels of colour absorption from the same dye lot and the radically different reflective properties of each weave provided variation and lots of possibilities for experimentation. Furthermore, because polyesters do not absorb much dye, I learned, to some degree, how to control absorption by monitoring oxidation processes, such as the length of time the fabric was exposed to air and the areas of cloth exposed above the solution. Because of the numerous varieties in weave employed, and hundreds of pieces of fabric, there were too many variables to allow a more detailed and documentary account of my experiments. I quickly abandoned any pretence towards perfecting my ad hoc dying procedures and revelled in the surprises and disappointments each piece of cloth revealed. With these fabrics and dyes, I was able to create endless variations in colours, patterns, and textures, and accordingly, in the finished work, some pieces of satin have been dyed up to nine times. Some even bear the imprints of tools, nuts and bolts, captured in the saturation and oxidation processes.

My apparent negligence in handling these otherwise precious and costly fabrics (reserved customarily for bridal occasions and symbolically marking the advent of a promising future, complete with a comfortable brick home and associated paraphernalia) was an unexpected pleasure. To push the physical material boundaries of the material, by reducing the satins to their elements and forcing the pieces of fabric to decay into small piles of slime, imposed, like a geologist, activities of crushing, cutting, and dissolving of rock in toxic substances to suspend minerals in solution for further analysis. Robert Smithson’s notions of entropy also intrigued me and I was intrigued by the prospect of returning the synthetic cloth back to the ground from which it originated.

But despite all my chemical and physical interventions, my efforts to decompose the fabric were ridiculed. Every time I interfered with the fabric,
despite the layering of toxic substances and imposition of physical stresses, the fabrics became increasingly beautiful and complex, containing rich layers of semi-translucent overprints, mottling of colour, unexpected and impossible-to-recreate colours, and patterns of staining. Each of the 1200 fabric pieces became personalised, a miniature abstract kind of painting and for each I made countless decisions, the final character of the piece moderated ultimately by chance and circumstance. The multiple immersions in dye baths and festering oxidation processes were captured, sealed into the very matrix of the woven grids, my very efforts to deconstruct eluded. Although I was using processes and dyes probably quite similar to those employed by American artist Leonardo Drew, my results were completely different because of the polyester’s resistance to decay, while his medium of cotton is susceptible to the burning effects of sodium hydroxide. The expressive character of the various polyester weaves and differing reactions to the dying processes allowed for aesthetically satisfying accidents to occur.

To explore as much variation in colour, texture, reflectivity, and pattern as possible, I used virtually every type of satin available. Initially, I worked primarily with whites or creams in order to obtain pure colour. As the work progressed, however, I sought to create more subdued pieces to add variation and contrast and thus started the dying process using a few commercially dyed grays and soft golds. For the most part, however, the coloured satins would not take on any additional dye no matter how hard I tried to manipulate them with various mordants. Although my working process was highly experimental and operated on chance as an important factor, I was also intent on capturing the essence of minerals and rocks. To obtain deeply saturated and highly textured fabrics, I used dyes formulated for polyester and applied pressure and heat. These particular satin pieces were subjected relentlessly to multiple sessions of creasing, crumpling, application of powdered pigment or screen printed fabric pigments, and intense heat, resulting in permanent textures in the cloth (Figure 4.4). Fabrics manipulated to resemble brilliantly metallic galena (lead ore) were particularly prone to abuse. I was intent to draw out as much as possible
from the material's physical expressiveness and, in time, the manipulated textiles developed the colours and textures closely similar to several mineral ores such as the more sandy-textured, mottled purple bornite and yellow chalcopyrite (both ores of copper). A few fabric pieces were printed with fragments of geological diagrams and maps. These served to connect that material to the geographic site from which the geological samples originated that I had used as a visual reference to manipulate the material. The printed maps demanded a mental mapping and were intended as a conceptual interface between the site of the mine, the location of the viewer, and the work, thus poetically narrowing the distances and differences in between.

When I first tried to create vertical brick constructions, a problem I encountered immediately was that the stacked bricks were structurally unsound unless I built them against an existing wall for support. This did not suit my ambitions and so I resorted temporarily to using the floor and building lateral constructions that closely hugged the ground.

**Lateral brick installations**

"Gallery floors have been turned into collections of parallels and meridians."

Robert Smithson

The lateral installations of bricks (Figures 4.5, 4.6) involved placing the upholstered bricks into gridded sequences and patterns. The works transected the room diagonally from one corner to another and, like the arrangements of plaid flannel shirts before them, they pushed the architectural boundaries of the space by suggesting that the bricks could conceivably continue beyond the walls, even outside. Initially, compositional ordering according to colour, texture, or map area depicted on some of the bricks was suppressed in favour of a more simple ordering. The bricks were laid out in a grid pattern, with squares measuring (15 x 5 bricks) and a checkerboard pattern was created in two ways. First, by alternating squares of bricks and equivalent sized areas of exposed floor that allowed

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Figure 4.5 (top)
Nien Schwarz
untitled, 1996
brick, fabric, vermiculite

Figure 4.6 (bottom)
Nien Schwarz
untitled, 1996
brick, fabric
viewers to step in amongst the squares of bricks. To this open configuration, I later added a layer of vermiculite to the squares of exposed floor over which viewers were invited to walk and leave an imprint of their journey through the work in the soft compressible material (Figure 4.5). The vermiculite interested me because it is a mineral that belongs to the mica group and consists of hydrated silicates of iron, aluminium, and magnesium - the same metals I was attempting to capture the visual characteristics of in the fabrics. Paradoxically, although derived from rock, its soft-textured appearance was visibly more ephemeral and delicate than the array of satin fabrics stretched over the stone forms. This permutation was the most sensuous I was to create. It was quiet, contemplative, somehow not unlike a Japanese garden.

The second form of checkerboard patterning was the grouping together of the squares of bricks to eliminate completely any exposed floor. In this instance, entire squares of brick were raised slightly from the floor and tipped at an angle to activate the whole work relative to the floor (Figure 4.6). To emphasise the checkerboard pattern, I aligned the nap of the fabric in alternating squares of bricks thereby playing with levels of light reflection and thereby activating further the alternating units of the composition. The direction of the nap allowed some squares to come forward while others became recessive. In an undocumented permutation of this lateral arrangement, the bricks were grouped according to mineral references and assembled according to colour and place. In these closed grids, the arrangement of the bricks created a larger fabric, extending the woven gridded structural properties of the satins beyond each fragment.

For me the floor was not just an abstract plane but the ground we literally walk on and, in a metaphorical sense, the land we modify to suit our needs. I became increasingly conscious of the manner in which I was referencing paving patterns common to brick, ceramic, and vinyl floor-coverings and the manner in which I was weaving together stone and fabric. Moving across the floor of the space on my hands and knees, lugging along heavy bricks too slippery to hold in an assured grasp, I was struck also by the paradoxical forces contained within the work. There was a tension between
the detailed dynamic exterior surfaces of the bricks and their formal arrangement into a static grid and between the insubstantial exterior nature of the soft fabric coverings and the solidity and inertia of their stone interiors. While the expressionistic character of the variegated hand-dyed surfaces necessitated a considered composition of the surface and involved moment-to-moment decision making and rearranging, it was tempered by the internal form of each brick and the rational, systematic, and ordered layout of the bricks into the checkerboard pattern. Furthermore, the laboured manner of construction and the sheer weight and mass of the bricks bearing down over a broad area of space was disguised by a paper-thin veil of fabric covering that rendered the work more like a painting than a three-dimensional construction. It was an odd sensation, working with the sensual fluid patterning of the fabrics, but being restrained by the internal logic of each brick shape. The work became a form of mapping the space, from one end to the other, in a solid three-dimensional formation, blocking the floor one piece at a time. The integration of the fabric and the brick resulted in a material synthesis or dialectic between its parts.

Viewers walking around the work helped to activate the piece; their movements and pace controlled the flickering interplay between the contrasting squares in the grid and the nap of the fabric. The reflectivity was sometimes too high when the work was placed under direct sunlight. At the edges of the work, the squares of the grid were left incomplete, presenting the possibility that the gridding or mapping of the space could extend in all directions, in an infinite network, or alternatively, that parts of the mass had been removed, extracted from the whole.

I became interested in the formal characteristics and conceptual links between this work, my interest in minerals, and Carl Andre's floor work 37 Pieces of work (1969), consisting of thin plates of zinc, aluminium, copper, steel, magnesium, and lead placed in a tight compositional grid on the floor (Figure 4.7). In an effort to better define my own position, I revisited Minimalist conventions and struggled to define my more Baroque layering of mass produced materials and conceptual layering of possible meanings to the Minimalist responses of using geometric forms, modular units, and
Figure 4.7
Carl Andre
37 pieces of work (1968)
zinc, aluminium, copper, steel, magnesium, lead
industrial materials. I wanted to increase my understanding of my labour intensive working processes and my obsession for repetitive tasks and use of multiples. The act of cutting metres and metres of cloth into one shape, the endless sessions of dipping, dyeing and drying, the pinning, sewing or taping of the fabric to fit the bricks, the endless stacking and placing of the bricks in various configurations, and the increasing references to mapping of sites needed better contextualisation. I slowly began to realise, as I realised only much later with the aluminium saucepan work (Section 5), that my working processes and choice of materials were a way to analyse and respond to unfamiliar geographies. By laterally mapping my way, both physically and conceptually, across an enclosed space and always in relation to larger, more expansive geographies outside, I was endeavouring to escape the feeling of confinement in this new place that did not yet feel like home. The repetitive processes and working with the heavy “Canberra Red” bricks helped to ground me to this suburban place, when in fact I felt a bit desperate to leave and head back to familiar country and my familiar routine of working on the land in extremely remote regions and always in relation to mapping and geology. The space between what I was thinking and what I was doing, became a kind of liminal zone.

My compulsive return to grids in several versions compelled me to explore the work closer in relation to mapping and ways of perceiving microscopic details or the large-scale structural formations of the Earth. Referring to topographic maps of areas in Australia in which I had travelled, I increased my use of maps on the bricks. I chose small sections, some of which I enlarged or reduced on the photocopier, and, using a simple method of transfer-printing, extended my experiences to the work. I photocopied onto sheets of acetate the text or images I desired and then copied this in reverse onto regular paper. A mixture of turpentine and methylated spirits was spread over the paper copy and then transferred to the satin by rubbing the back of the copy with a spoon or ironing the wet image onto the fabric. The fragments of various maps in various scales embedded into the matrix of the fabric grounded the work to various perceptions and perspectives of land
and strengthened the viewer's position in relation to familiar ground
underfoot and unfamiliar land elsewhere.

Analysing numerous topographic maps and exploring the vertically-gridded
works of Imants Tiler and John Wolseley whetted my appetite for exploring
my experiences and memories of working on geological crews. I felt ready to
further develop the free-standing stratigraphic cross sections I had
temporarily put aside until I could devise a safer means for stacking the
bricks vertically.

Vertical brick constructions

Like the numerous permutations of the lateral constructions, the vertical
constructions varied as well. In this section, I outline the basic construction
of the free standing walls: the exhibition in 1997 at the Canberra School of
Art of three individual walls titled Possible, Probable, and Proven (Figure
4.13), and, in 1998, during the Canberra National Sculpture Forum, Mining
The Surface⁶ (Figure 4.15), consisting of four walls constructed to form a
cross in front of the National Map Library (from which I obtained many of
the maps used in this work).

Steel and MIG welding techniques allowed the construction of steel frames
on which the cloth covered extruded bricks could be impaled and supported
internally. For the base of the frame I used 12 mm mild steel plate cut to 175
cm x 30 cm. The plate had to be wide enough at the bottom and heavy
enough to act as counterweight to the vertical mass of the wall and prevent
the construction from tipping over. On each of four such plates I welded
seven to nine evenly-spaced 20 mm-square rods, into the top ends of which I
welded a nut. The upholstered bricks were impaled, stacked one above the
other, to form a grid 165 cm long, 200 cm high, and a single brick (7.5 cm) in
width. The columns were anchored together by bolting a strip of steel across
the top of each wall.

⁶ "Mining The Surface" was borrowed from an essay by Paul Carter, Art Monthly, Jan/Dec,
It was at this point that I abandoned the sewing of individual slip covers for each brick. I had learned with the gingham and plaid work travelling across NSW and Queensland in the 12th Tamworth Textile Biennial that Australian standard-size bricks are standard only to a certain degree and that the size of the brick depended in part on the shrinkage of the clay used in each batch. Consequently, many of the sewn slip covers did not fit the bricks provided at different venues of the travelling exhibition. I resorted to using easily removable covers using masking tape and pieces of fabric cut to cover one side of brick. This allowed for snug and easy fitting, but also extended the possibility of leaving the other long side of the brick plain. The use of tape, as opposed to sewn covers, made the work less time consuming and the loss of sewing did not affect my relationship to the work. It was at this point as well that several people suggested that I use blocks of styrofoam instead of bricks to make the work less physically demanding and more versatile in construction. For me, however, the material content of the brick was extremely important and inseparable from the work.

Clay is important because it marks an intersection between old rocks that have eroded to small particles and the creation of possible future sedimentary rocks if the clay is left undisturbed. I use clay bricks in my work to mark metaphorically an intersection between natural strata of rock and architecture. The location of clay deposits are marked on maps, then extracted, shaped, and metamorphosed into bricks, thus returning the clay to a concrete state, similar to the rock from which its particles originated. Bricks are then used to build on top of the earth, effectively reversing its original position of the clay in the ground. This relationship between below ground and above ground, maps a grid of oppositions between the strata of the earth’s crust and vertical architectural constructions which in my work double as geological cross sections of underground ore - the future building blocks for machinery and technology. Furthermore, the physical labour required to work with fired clay bricks and the act of assembling my cross sections, then deconstructing them and moving them to another location, parallels some of the movements of mining and construction sites.
The first wall I built had fabric on one side and red brick on the other. The brick side was bordered on the left and right hand sides by columns of satin covered bricks which wrapped around from the front side of the wall. There was a tremendous contrast between the deep red gritty bricks and the soft, shiny surfaces of the satins. The vertical bands of repeated evenly spaced units of colour reminded me of legends or columns found in the margins of a map to indicate elevation, ground cover, or other colour-coded abstracted systems of knowledge. The accumulation of folded fabric ends on only one long side of each brick affected the balance and structure of the wall, making it dangerous by causing the wall to tilt forward or backward depending on one's perspective. To balance the work I initially used wedges between the layers. Moving on with another permutation of the free-standing vertical wall, I covered both sides of each brick with cloth.

After I covered both sides of each brick with fabric and constructed a wall that was essentially similar on both sides, I realised I could have created a strong contrast between each side of the wall. Working with two sides would provide the means of calling upon the physical and conceptual participation of viewers to compare differences between them and the possibility of synthesising dichotomous themes. It occurred to me that I could create a specific pattern on one side while making the other side random, that one side could relate to a specific geographic site, such as a mine, while the other side could speak about its mineral dispersal through a random arrangement of the same colour. For this kind of construction, I used a different coloured fabric for each long side of the brick. The resulting walls were thus completely different on each side.

Settling on the concept of addressing a specific mine site on one side of a wall and its relocation or dispersal to major urban centres on the reverse side, I set out to design hypothetical geological cross sections and to investigate further the structural relationships between different ore minerals and rocks.

The placement of individual units in relation to the whole occurred in two ways: according to preconceived ideas and patterns created on computer and
based on hand specimens and photographic and images of geological cross sections. The use of stepped diagonal patterns of colour was different for each wall and recalled illustrative diagrams of ore deposits found in mining magazines or the coloured cross sections printed in the margins of geological maps. I was inspired also by images of fractal landscapes in a book by Bill Hirst and Benoit Mandelbrot and in particular of a road cut in Telford, England, that had been decorated using locally produced tiles (Figure 4.8). According to the text, the industrial revolution started in this area because of key deposits of minerals and the tiles were a simplified representation of the area’s fractured geological history; the reason for community’s existence. In other instances, the placing of the units, like the lateral constructions, was more fluid, closer in relation to painting than assembling units into sculpture. In the vertical constructions, the mass, weight and volume of the earth was practically reduced to planes, two-dimensional images, like cut-outs of geological records. Distinct bands of contrasting colours sweep across some walls while in other areas bricks are placed according to more subtle groupings of colour and texture that transcend the boundaries of the inner brick forms and bleed into or conjoin with neighbouring bricks to form whole areas that are more homogenous in appearance. The surfaces are sensually tactile, sometimes highly textured, almost sexy, precious, harbouring luxurious connotations of wealth and urban glamour.

The wall entitled Peacock (the name refers to bornite, a purple and blue ore of copper, often called peacock ore) was the first cross section, made to represent a copper deposit in Mount Isa (Figure 4.9). It was important that the piece referred to an actual deposit or area and that it captured the essence of the deposit through the choice of colour, texture, and pattern. The reddish colours at the top of this wall represent a gossan, or oxidised zone, at the Earth’s surface. Below this is a zone from which the minerals have been leached by groundwater, and then concentrated into a zone of enrichment called a supergene zone, rendered in the sparkling purples and blues of secondary copper minerals. I thought of these constructions as geological

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Figure 4.8
roadcut, ceramic tiles
Figure 4.9
Nien Schwarz
*Peacock ore, Mount Isa (Possible), 1995-6*
bricks, steel, cloth, dye, ink
Canberra School of Art (CSA) Gallery, Canberra, 1997
cut-aways of Earth - abstract representations of natural processes and hidden phenomena.

The second wall depicted lead-zinc deposits and a portion of a typical folded rock face at Broken Hill, with alternating strata of brownish sphalerite (zinc ore), lustrous galena (lead ore), and thick veins of quartz with some smaller areas of pink rhodonite (Figure 4.10). The Kambalda-Eastern Goldfields work was the third wall (Figure 4.11). It was more complicated and represented a combined geological cross-section and aerial interpretation. From the bottom left to the top right run two parallel dolerite dykes. Placed correctly, relative to one another, are the names of over one hundred past and present mines, including the successful and not so successful. The names aptly describe the spirit of prospecting and mining gold including its trials and tribulations (Figure 4.12). Some of the mine names sound victorious and include: *Ives Reward, Victory, Lady Bountiful, Golden Buckle, Liberty, Celebration*, and *Triumph*. Other names associated with this region recall the despair of searching the land for promised wealth. Mines such as *Revenge, Xmas Lone Hand, Last Hope, Missed Chance*, and *Expectation*, that never amounted to much recall the despair of isolation, dwindling fortunes, and the lost dreams of the majority of men who walked away no richer than when they arrived.

In February, 1997, I exhibited the three walls staggered *en echelon* to form an elongated triptych. When viewed obliquely each wall dissolved into the form of its neighbour. I named the them *Possible, Probable, Proven*: three terms used in economic geology to classify ore deposits (Figure 4.13). The walls were exhibited in the same space as the *Groundwork: an illustrated poem in 10 parts* (Section 7), which consisted of several trays made of lead, copper, steel, and aluminium.

In early 1998, in preparation for my site-specific work at the Canberra National Sculpture Forum, I created a fourth wall based on rock specimens from stratiform lead-zinc deposits found in Lower Paleozoic reefs of the Kimberley (Figure 4.14). One specimen, from the Cadjebut lead-zinc mine, had been folded and I chose to represent this in the wall. The map fragments printed on the polyester were obtained from the refuse pile at the National Library's Map Library. I was keen to reintroduce ghost-like traces of
Figure 4.10
Nien Schwarz
*Broken Hill (Probable)*, 1996-7
bricks, steel, cloth, dye, ink
CSA Gallery, Canberra, 1997
Figure 4.11
Nien Schwarz
*Eastern Goldfields, WA (Proven)*, 1995-6
bricks, steel, cloth, dye, ink
CSA Gallery, Canberra, 1997
Figure 4.12 (top)
Nien Schwarz
_Eastern Goldfields_, WA 1995-6 (detail)
bricks, cloth, steel, dye, ink
CSA Gallery, Canberra, 1997

Figure 4.13 (bottom)
Nien Schwarz
_Possible, Probable, Proven_, 1995-7
bricks, steel, cloth, dye, ink
CSA Gallery, Canberra, 1997
Figure 4.14 (top)
Nien Schwarz
*Cadjebut, Kimberley, 1998*
bricks, steel, cloth, dye, ink
*Mining the Surface, Canberra National Sculpture Forum (CNSF), National Library, Canberra, 1998*

Figure 4.15 (bottom)
Nien Schwarz
*Mining the Surface, 1995-98*
bricks, steel, cloth, dye, ink
*Mining the Surface, CNSF, National Library, Canberra, 1998*
the maps back to the site at which they had been housed formerly as part of a treasured national collection. I had intended to bring the four walls into a barely intersecting cross shape, but for safety reasons I decided to close the cross to make the construction more compact and stable (Figure 4.15).

The foyer outside the Map Library was a difficult space to work with, because of its beige and pink carpeting, low suspended ceiling consisting of an open metal grid, recessed fluorescent lighting, and several large columns that dominated the space. I created the work as a response to the architectural components rather than trying to compete against them. I built the cross of bricks along the diagonals between four columns, thereby obstructing normal traffic flow through the space. The colours and textures of my fabrics did not clash with the carpeting or the fibrous treatment of the walls. The low ceiling I used to my advantage by, on the one hand, making the work appear from a distance more monumental, giving it an architectural presence that would not exist with a higher ceiling while, on the other hand, emphasising its more human scale qualities by compressing the space and making the work, especially the corners of the intersecting walls, more intimate.

The last permutation, *X Marks The Spot*, at the Canberra Museum and Gallery, marks the final resting spot - a notional intersection of natural and industrial terrains. The natural terrain is in the middle, it is thicker, more beautiful, but it is flanked top and bottom by icons of heavy industry, slabs of hard steel. The steel plates on the tops of each wall have allowed me to open up the design and to create an interactive space through which viewers can look up into and almost step through (Figure 4.16).

The works, in their various manifestations, reflect aspects of the ground specific to Mount Isa, Kalgoorlie, Broken Hill, and the Kimberley. Geographically they are far removed from major urban areas, and yet, the precious non-renewable mineral wealth that these areas yield is linked so inextricably to our contemporary life styles and economic well-being. In my notes I had scribbled a line from William Logan, who wrote:

"There is a glamour to the study of rock. It is so old, so hard and it has a taken the entire force of the planet to produce it."*

Figure 4.16
Nien Schwarz
X marks the Spot, 1995-99 (detail)
bricks, steel, laser cut steel, text, mirror, fabric, dye
Beyond Familiar Territory, CMAG, Canberra, 1999